TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103877-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/30/2015 4:19:19 PM

Bonnie Stadelmann, Senior Project Manager
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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 23
Receipt Checklists 24
Certification Summary 25

Job ID: 500-103877-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103877-1

Comments
No additional comments.

Receipt
The samples were received on 11/11/2015 4:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103877-1	MW-05	Water	11/11/15 10:55	11/11/15 16:00
500-103877-2	MW-06	Water	11/10/15 11:56	11/11/15 16:00
500-103877-3	MW-09	Water	11/11/15 09:30	11/11/15 16:00
500-103877-4	MW-10	Water	11/10/15 14:55	11/11/15 16:00
500-103877-5	MW-11	Water	11/10/15 16:30	11/11/15 16:00
500-103877-6	MW-12	Water	11/10/15 13:30	11/11/15 16:00
500-103877-7	DUP	Water	11/10/15 00:00	11/11/15 16:00

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Client Sample ID: MW-05

Date Collected: 11/11/15 10:55
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		11/12/15 09:10	11/17/15 22:24	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 11:42	1
Arsenic	**0.0014**		0.0010		mg/L		11/12/15 09:10	11/13/15 16:46	1
Barium	**0.071**		0.0025		mg/L		11/12/15 09:10	11/13/15 16:46	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 11:42	1
Boron	**6.1**		0.50		mg/L		11/12/15 09:10	11/25/15 10:49	10
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:46	1
Calcium	**220**		0.20		mg/L		11/12/15 09:10	11/20/15 11:42	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 16:46	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 16:46	1
Lead	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:46	1
Molybdenum	**0.075**		0.0050		mg/L		11/12/15 09:10	11/24/15 17:21	1
Selenium	**0.031**		0.0025		mg/L		11/12/15 09:10	11/24/15 17:21	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 16:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1900**		10		mg/L			11/12/15 05:42	1
Chloride	**110**		10		mg/L			11/21/15 14:27	5
Fluoride	**0.31**		0.10		mg/L			11/12/15 13:34	1
Sulfate	**770**		250		mg/L			11/15/15 23:16	50

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Client Sample ID: MW-06
Date Collected: 11/10/15 11:56
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		11/12/15 09:10	11/17/15 22:29	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 11:46	1
Arsenic	**0.0016**		0.0010		mg/L		11/12/15 09:10	11/13/15 16:49	1
Barium	**0.048**		0.0025		mg/L		11/12/15 09:10	11/13/15 16:49	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 11:46	1
Boron	**3.0**		0.050		mg/L		11/12/15 09:10	11/20/15 11:46	1
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:49	1
Calcium	**52**		0.20		mg/L		11/12/15 09:10	11/20/15 11:46	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 16:49	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 16:49	1
Lead	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:49	1
Molybdenum	**0.067**		0.0050		mg/L		11/12/15 09:10	11/24/15 17:28	1
Selenium	**0.0039**		0.0025		mg/L		11/12/15 09:10	11/24/15 17:28	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 16:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 13:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**660**		10		mg/L			11/12/15 05:45	1
Chloride	**100**		10		mg/L			11/21/15 14:28	5
Fluoride	**0.55**		0.10		mg/L			11/12/15 13:37	1
Sulfate	**300**		50		mg/L			11/15/15 23:17	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Client Sample ID: MW-09
Date Collected: 11/11/15 09:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/12/15 09:10	11/17/15 22:34	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 11:50	1
Arsenic	**0.0047**		0.0010		mg/L		11/12/15 09:10	11/13/15 16:52	1
Barium	**0.027**		0.0025		mg/L		11/12/15 09:10	11/13/15 16:52	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 11:50	1
Boron	**1.9**		0.050		mg/L		11/12/15 09:10	11/20/15 11:50	1
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:52	1
Calcium	**56**		0.20		mg/L		11/12/15 09:10	11/20/15 11:50	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 16:52	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 16:52	1
Lead	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:52	1
Molybdenum	**0.14**		0.0050		mg/L		11/12/15 09:10	11/24/15 17:39	1
Selenium	<0.0025		0.0025		mg/L		11/12/15 09:10	11/24/15 17:39	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 16:52	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 13:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**750**		10		mg/L			11/12/15 05:47	1
Chloride	**190**		10		mg/L			11/21/15 14:29	5
Fluoride	**0.55**		0.10		mg/L			11/12/15 13:40	1
Sulfate	**460**		100		mg/L			11/15/15 23:18	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Client Sample ID: MW-10
Date Collected: 11/10/15 14:55
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-4
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.018**		0.010		mg/L		11/12/15 09:10	11/17/15 23:06	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 12:17	1
Arsenic	**0.015**		0.0010		mg/L		11/12/15 09:10	11/13/15 17:12	1
Barium	**0.096**		0.0025		mg/L		11/12/15 09:10	11/13/15 17:12	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 12:17	1
Boron	**3.9**		0.050		mg/L		11/12/15 09:10	11/20/15 12:17	1
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 17:12	1
Calcium	**140**		0.20		mg/L		11/12/15 09:10	11/20/15 12:17	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 17:12	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 17:12	1
Lead	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 17:12	1
Molybdenum	**0.068**		0.0050		mg/L		11/12/15 09:10	11/24/15 17:58	1
Selenium	<0.0025		0.0025		mg/L		11/12/15 09:10	11/24/15 17:58	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 17:12	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 13:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**980**		10		mg/L			11/12/15 05:50	1
Chloride	**140**		10		mg/L			11/21/15 14:30	5
Fluoride	**0.77**		0.10		mg/L			11/12/15 13:42	1
Sulfate	**310**		50		mg/L			11/15/15 23:21	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Client Sample ID: MW-11
Date Collected: 11/10/15 16:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/12/15 09:10	11/17/15 23:10	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 12:21	1
Arsenic	**0.0070**		0.0010		mg/L		11/12/15 09:10	11/13/15 17:14	1
Barium	**0.098**		0.0025		mg/L		11/12/15 09:10	11/13/15 17:14	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 12:21	1
Boron	**2.6**		0.050		mg/L		11/12/15 09:10	11/20/15 12:21	1
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 17:14	1
Calcium	**120**		0.20		mg/L		11/12/15 09:10	11/20/15 12:21	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 17:14	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 17:14	1
Lead	**0.00064**		0.00050		mg/L		11/12/15 09:10	11/13/15 17:14	1
Molybdenum	**0.060**		0.0050		mg/L		11/12/15 09:10	11/24/15 18:02	1
Selenium	<0.0025		0.0025		mg/L		11/12/15 09:10	11/24/15 18:02	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 17:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 13:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**620**		10		mg/L			11/12/15 05:52	1
Chloride	**89**		4.0		mg/L			11/21/15 14:34	2
Fluoride	**0.61**		0.10		mg/L			11/12/15 13:45	1
Sulfate	**180**		50		mg/L			11/15/15 23:22	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Client Sample ID: MW-12
Date Collected: 11/10/15 13:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-6
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.012		0.010		mg/L		11/12/15 09:10	11/17/15 23:15	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 12:25	1
Arsenic	0.0016		0.0010		mg/L		11/12/15 09:10	11/13/15 17:17	1
Barium	0.11		0.0025		mg/L		11/12/15 09:10	11/13/15 17:17	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 12:25	1
Boron	2.3		0.050		mg/L		11/12/15 09:10	11/20/15 12:25	1
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 17:17	1
Calcium	150		0.20		mg/L		11/12/15 09:10	11/20/15 12:25	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 17:17	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 17:17	1
Lead	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 17:17	1
Molybdenum	0.034		0.0050		mg/L		11/12/15 09:10	11/24/15 18:05	1
Selenium	<0.0025		0.0025		mg/L		11/12/15 09:10	11/24/15 18:05	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 17:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 13:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			11/12/15 05:55	1
Chloride	160		10		mg/L			11/21/15 14:35	5
Fluoride	0.59		0.10		mg/L			11/12/15 13:55	1
Sulfate	290		50		mg/L			11/15/15 23:23	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Client Sample ID: DUP
Date Collected: 11/10/15 00:00
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-7
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		11/12/15 09:10	11/17/15 23:19	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 12:29	1
Arsenic	**0.0015**		0.0010		mg/L		11/12/15 09:10	11/13/15 17:20	1
Barium	**0.10**		0.0025		mg/L		11/12/15 09:10	11/13/15 17:20	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 12:29	1
Boron	**2.3**		0.050		mg/L		11/12/15 09:10	11/20/15 12:29	1
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 17:20	1
Calcium	**150**		0.20		mg/L		11/12/15 09:10	11/20/15 12:29	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 17:20	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 17:20	1
Lead	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 17:20	1
Molybdenum	**0.035**		0.0050		mg/L		11/12/15 09:10	11/24/15 18:09	1
Selenium	<0.0025		0.0025		mg/L		11/12/15 09:10	11/24/15 18:09	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 17:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 13:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			11/12/15 05:57	1
Chloride	**160**		10		mg/L			11/21/15 14:36	5
Fluoride	**0.59**		0.10		mg/L			11/12/15 13:57	1
Sulfate	**300**		50		mg/L			11/15/15 23:24	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 312340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total Recoverable	Water	3005A	
500-103877-2	MW-06	Total Recoverable	Water	3005A	
500-103877-3	MW-09	Total Recoverable	Water	3005A	
500-103877-3 DU	MW-09	Total Recoverable	Water	3005A	
500-103877-3 MS	MW-09	Total Recoverable	Water	3005A	
500-103877-3 MSD	MW-09	Total Recoverable	Water	3005A	
500-103877-4	MW-10	Total Recoverable	Water	3005A	
500-103877-5	MW-11	Total Recoverable	Water	3005A	
500-103877-6	MW-12	Total Recoverable	Water	3005A	
500-103877-7	DUP	Total Recoverable	Water	3005A	
LCS 500-312340/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-312340/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 312804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total Recoverable	Water	6020A	312340
500-103877-2	MW-06	Total Recoverable	Water	6020A	312340
500-103877-3	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 DU	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 MS	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 MSD	MW-09	Total Recoverable	Water	6020A	312340
500-103877-4	MW-10	Total Recoverable	Water	6020A	312340
500-103877-5	MW-11	Total Recoverable	Water	6020A	312340
500-103877-6	MW-12	Total Recoverable	Water	6020A	312340
500-103877-7	DUP	Total Recoverable	Water	6020A	312340
LCS 500-312340/2-A	Lab Control Sample	Total Recoverable	Water	6020A	312340
MB 500-312340/1-A	Method Blank	Total Recoverable	Water	6020A	312340

Prep Batch: 312878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	7470A	
500-103877-2	MW-06	Total/NA	Water	7470A	
500-103877-3	MW-09	Total/NA	Water	7470A	
500-103877-4	MW-10	Total/NA	Water	7470A	
500-103877-5	MW-11	Total/NA	Water	7470A	
500-103877-6	MW-12	Total/NA	Water	7470A	
500-103877-7	DUP	Total/NA	Water	7470A	
LCS 500-312878/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-312878/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 313045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	7470A	312878
500-103877-2	MW-06	Total/NA	Water	7470A	312878
500-103877-3	MW-09	Total/NA	Water	7470A	312878
500-103877-4	MW-10	Total/NA	Water	7470A	312878
500-103877-5	MW-11	Total/NA	Water	7470A	312878
500-103877-6	MW-12	Total/NA	Water	7470A	312878
500-103877-7	DUP	Total/NA	Water	7470A	312878
LCS 500-312878/13-A	Lab Control Sample	Total/NA	Water	7470A	312878
MB 500-312878/12-A	Method Blank	Total/NA	Water	7470A	312878

Analysis Batch: 313207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total Recoverable	Water	6010C	312340
500-103877-2	MW-06	Total Recoverable	Water	6010C	312340
500-103877-3	MW-09	Total Recoverable	Water	6010C	312340
500-103877-3 DU	MW-09	Total Recoverable	Water	6010C	312340
500-103877-3 MS	MW-09	Total Recoverable	Water	6010C	312340
500-103877-3 MSD	MW-09	Total Recoverable	Water	6010C	312340
500-103877-4	MW-10	Total Recoverable	Water	6010C	312340
500-103877-5	MW-11	Total Recoverable	Water	6010C	312340
500-103877-6	MW-12	Total Recoverable	Water	6010C	312340
500-103877-7	DUP	Total Recoverable	Water	6010C	312340
LCS 500-312340/2-A	Lab Control Sample	Total Recoverable	Water	6010C	312340
MB 500-312340/1-A	Method Blank	Total Recoverable	Water	6010C	312340

Analysis Batch: 313468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total Recoverable	Water	6020A	312340
500-103877-2	MW-06	Total Recoverable	Water	6020A	312340
500-103877-3	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 DU	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 MS	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 MSD	MW-09	Total Recoverable	Water	6020A	312340
500-103877-4	MW-10	Total Recoverable	Water	6020A	312340
500-103877-5	MW-11	Total Recoverable	Water	6020A	312340
500-103877-6	MW-12	Total Recoverable	Water	6020A	312340
500-103877-7	DUP	Total Recoverable	Water	6020A	312340
LCS 500-312340/2-A	Lab Control Sample	Total Recoverable	Water	6020A	312340
MB 500-312340/1-A	Method Blank	Total Recoverable	Water	6020A	312340

Analysis Batch: 314125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total Recoverable	Water	6020A	312340
500-103877-2	MW-06	Total Recoverable	Water	6020A	312340
500-103877-3	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 DU	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 MS	MW-09	Total Recoverable	Water	6020A	312340
500-103877-3 MSD	MW-09	Total Recoverable	Water	6020A	312340
500-103877-4	MW-10	Total Recoverable	Water	6020A	312340
500-103877-5	MW-11	Total Recoverable	Water	6020A	312340
500-103877-6	MW-12	Total Recoverable	Water	6020A	312340
500-103877-7	DUP	Total Recoverable	Water	6020A	312340
LCS 500-312340/2-A	Lab Control Sample	Total Recoverable	Water	6020A	312340
MB 500-312340/1-A	Method Blank	Total Recoverable	Water	6020A	312340

Analysis Batch: 314178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total Recoverable	Water	6020A	312340

General Chemistry

Analysis Batch: 312287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	SM 2540C	
500-103877-2	MW-06	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 312287 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-3	MW-09	Total/NA	Water	SM 2540C	
500-103877-4	MW-10	Total/NA	Water	SM 2540C	
500-103877-5	MW-11	Total/NA	Water	SM 2540C	
500-103877-6	MW-12	Total/NA	Water	SM 2540C	
500-103877-7	DUP	Total/NA	Water	SM 2540C	
LCS 500-312287/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-312287/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 312414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	SM 4500 F C	
500-103877-2	MW-06	Total/NA	Water	SM 4500 F C	
500-103877-3	MW-09	Total/NA	Water	SM 4500 F C	
500-103877-4	MW-10	Total/NA	Water	SM 4500 F C	
500-103877-5	MW-11	Total/NA	Water	SM 4500 F C	
500-103877-6	MW-12	Total/NA	Water	SM 4500 F C	
500-103877-7	DUP	Total/NA	Water	SM 4500 F C	
LCS 500-312414/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-312414/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 312819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-103877-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-103877-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-103877-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-103877-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-103877-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-103877-7	DUP	Total/NA	Water	SM 4500 SO4 E	
LCS 500-312819/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-312819/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 313595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-103877-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-103877-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-103877-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-103877-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-103877-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-103877-7	DUP	Total/NA	Water	SM 4500 Cl- E	
LCS 500-313595/73	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 500-313595/72	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-312340/1-A
Matrix: Water
Analysis Batch: 313207

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/12/15 09:10	11/17/15 22:16	1

Lab Sample ID: LCS 500-312340/2-A
Matrix: Water
Analysis Batch: 313207

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.523		mg/L		105	80 - 120

Lab Sample ID: 500-103877-3 MS
Matrix: Water
Analysis Batch: 313207

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	<0.010		0.500	0.536		mg/L		106	75 - 125

Lab Sample ID: 500-103877-3 MSD
Matrix: Water
Analysis Batch: 313207

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	<0.010		0.500	0.541		mg/L		107	75 - 125	1	20

Lab Sample ID: 500-103877-3 DU
Matrix: Water
Analysis Batch: 313207

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	<0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-312340/1-A
Matrix: Water
Analysis Batch: 312804

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 16:40	1
Barium	<0.0025		0.0025		mg/L		11/12/15 09:10	11/13/15 16:40	1
Cadmium	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:40	1
Chromium	<0.0050		0.0050		mg/L		11/12/15 09:10	11/13/15 16:40	1
Cobalt	<0.0010		0.0010		mg/L		11/12/15 09:10	11/13/15 16:40	1
Lead	<0.00050		0.00050		mg/L		11/12/15 09:10	11/13/15 16:40	1
Thallium	<0.0020		0.0020		mg/L		11/12/15 09:10	11/13/15 16:40	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-312340/1-A
Matrix: Water
Analysis Batch: 313468

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/12/15 09:10	11/20/15 11:34	1
Beryllium	<0.0010		0.0010		mg/L		11/12/15 09:10	11/20/15 11:34	1
Boron	<0.050		0.050		mg/L		11/12/15 09:10	11/20/15 11:34	1
Calcium	<0.20		0.20		mg/L		11/12/15 09:10	11/20/15 11:34	1

Lab Sample ID: MB 500-312340/1-A
Matrix: Water
Analysis Batch: 314125

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	<0.0050		0.0050		mg/L		11/12/15 09:10	11/24/15 17:13	1
Selenium	<0.0025		0.0025		mg/L		11/12/15 09:10	11/24/15 17:13	1

Lab Sample ID: LCS 500-312340/2-A
Matrix: Water
Analysis Batch: 312804

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0951		mg/L		95	80 - 120
Barium	2.00	1.83		mg/L		92	80 - 120
Cadmium	0.0500	0.0518		mg/L		104	80 - 120
Chromium	0.200	0.197		mg/L		99	80 - 120
Cobalt	0.500	0.515		mg/L		103	80 - 120
Lead	0.100	0.111		mg/L		111	80 - 120
Thallium	0.100	0.115		mg/L		115	80 - 120

Lab Sample ID: LCS 500-312340/2-A
Matrix: Water
Analysis Batch: 313468

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.487		mg/L		97	80 - 120
Beryllium	0.0500	0.0519		mg/L		104	80 - 120
Boron	1.00	1.03		mg/L		103	80 - 120
Calcium	10.0	9.72		mg/L		97	80 - 120

Lab Sample ID: LCS 500-312340/2-A
Matrix: Water
Analysis Batch: 314125

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	1.00	0.991		mg/L		99	80 - 120
Selenium	0.100	0.107		mg/L		107	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-103877-3 MS
Matrix: Water
Analysis Batch: 312804

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0047		0.100	0.107		mg/L		102	75 - 125
Barium	0.027		2.00	1.92		mg/L		94	75 - 125
Cadmium	<0.00050		0.0500	0.0485		mg/L		97	75 - 125
Chromium	<0.0050		0.200	0.190		mg/L		95	75 - 125
Cobalt	<0.0010		0.500	0.484		mg/L		97	75 - 125
Lead	<0.00050		0.100	0.103		mg/L		103	75 - 125
Thallium	<0.0020		0.100	0.106		mg/L		106	75 - 125

Lab Sample ID: 500-103877-3 MS
Matrix: Water
Analysis Batch: 313468

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.497		mg/L		99	75 - 125
Beryllium	<0.0010		0.0500	0.0484		mg/L		97	75 - 125
Boron	1.9		1.00	2.87		mg/L		97	75 - 125
Calcium	56		10.0	66.1	4	mg/L		106	75 - 125

Lab Sample ID: 500-103877-3 MS
Matrix: Water
Analysis Batch: 314125

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.14		1.00	1.10		mg/L		95	75 - 125
Selenium	<0.0025		0.100	0.106		mg/L		105	75 - 125

Lab Sample ID: 500-103877-3 MSD
Matrix: Water
Analysis Batch: 312804

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0047		0.100	0.107		mg/L		102	75 - 125	0	20
Barium	0.027		2.00	1.93		mg/L		95	75 - 125	1	20
Cadmium	<0.00050		0.0500	0.0493		mg/L		99	75 - 125	2	20
Chromium	<0.0050		0.200	0.190		mg/L		95	75 - 125	0	20
Cobalt	<0.0010		0.500	0.486		mg/L		97	75 - 125	0	20
Lead	<0.00050		0.100	0.103		mg/L		103	75 - 125	0	20
Thallium	<0.0020		0.100	0.107		mg/L		107	75 - 125	1	20

Lab Sample ID: 500-103877-3 MSD
Matrix: Water
Analysis Batch: 313468

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.502		mg/L		100	75 - 125	1	20
Beryllium	<0.0010		0.0500	0.0503		mg/L		101	75 - 125	4	20
Boron	1.9		1.00	2.93		mg/L		103	75 - 125	2	20
Calcium	56		10.0	66.8	4	mg/L		113	75 - 125	1	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-103877-3 MSD
Matrix: Water
Analysis Batch: 314125

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.14		1.00	1.11		mg/L		97	75 - 125	1	20
Selenium	<0.0025		0.100	0.110		mg/L		108	75 - 125	3	20

Lab Sample ID: 500-103877-3 DU
Matrix: Water
Analysis Batch: 312804

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.0047		0.00476		mg/L		1	20
Barium	0.027		0.0264		mg/L		0.7	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Lab Sample ID: 500-103877-3 DU
Matrix: Water
Analysis Batch: 313468

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	1.9		1.89		mg/L		0.7	20
Calcium	56		56.8		mg/L		2	20

Lab Sample ID: 500-103877-3 DU
Matrix: Water
Analysis Batch: 314125

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 312340

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Molybdenum	0.14		0.149		mg/L		3	20
Selenium	<0.0025		<0.0025		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-312878/12-A
Matrix: Water
Analysis Batch: 313045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312878

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/16/15 17:00	11/17/15 12:58	1

Lab Sample ID: LCS 500-312878/13-A
Matrix: Water
Analysis Batch: 313045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312878

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00199		mg/L		99	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-312287/1
Matrix: Water
Analysis Batch: 312287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/12/15 05:00	1

Lab Sample ID: LCS 500-312287/2
Matrix: Water
Analysis Batch: 312287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	282		mg/L		113	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-313595/72
Matrix: Water
Analysis Batch: 313595

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/21/15 14:23	1

Lab Sample ID: LCS 500-313595/73
Matrix: Water
Analysis Batch: 313595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.3		mg/L		103	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-312414/3
Matrix: Water
Analysis Batch: 312414

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/12/15 12:49	1

Lab Sample ID: LCS 500-312414/4
Matrix: Water
Analysis Batch: 312414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.6		mg/L		106	80 - 120

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-312819/3
Matrix: Water
Analysis Batch: 312819

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/15/15 23:09	1

Lab Sample ID: LCS 500-312819/4
Matrix: Water
Analysis Batch: 312819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.9		mg/L		100	80 - 120

TestAmerica
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TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-103877

Package Sealed	Samples Sealed
Yes (No)	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler 4.6

Within Hold Time	Preserv. Indicated
(Yes) No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	Signature:	# / Cont.														
Ian John Howieson		Volume														
Project Name:	**TestAmerica Project Number:**	Preserv.														
Quarterly Will County CCR	50011609		Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate						
Project Location:	**TAT**															
Romeoville, IL	15 Days															
Lab PM:	Bonnie Stadelmann															

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		~~MW-01~~ MW-05	11-11-15	10:55	W	3	X	X	X	X	X	X	
2		~~MW-02~~ MW-06	11-10-15	11:56	W	3	X	X	X	X	X	X	
3		~~MW-03~~ MW-09	11-11-15	09:30	W	3	X	X	X	X	X	X	
4		~~MW-04~~ MW-10	11-10-15	14:55	W	3	X	X	X	X	X	X	
5		~~MW-05~~ MW-11	11-10-15	16:30	W	3	X	X	X	X	X	X	
6		~~MW-11~~ MW-12	11-10-15	13:30	W	3	X	X	X	X	X	X	
7		~~MW-14~~ DUP	11-10-15	—	W	3	X	X	X	X	X	X	
		~~MW-16~~											
		~~Dup~~											

500-103877 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-11-15	16:00		TA	11/11/15	1600
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/11/15
Courier:
Hand Delivered ✓
Bill of Lading:

1 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103877-1

Login Number: 103877
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103877-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/11/2015 2:13:46 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 17
Receipt Checklists 19
Certification Summary 21
Tracer Carrier Summary 22

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Job ID: 500-103877-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103877-2

Comments
No additional comments.

Receipt
The samples were received on 11/11/2015 4:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6º C.

RAD
Method(s) PrecSep-21, PrecSep_0: Radium-228 Prep Batch 160-222513: The following sample was prepared at a reduced aliquot due to cloudiness: MW-06 (500-103877-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103877-1	MW-05	Water	11/11/15 10:55	11/11/15 16:00
500-103877-2	MW-06	Water	11/10/15 11:56	11/11/15 16:00
500-103877-3	MW-09	Water	11/11/15 09:30	11/11/15 16:00
500-103877-4	MW-10	Water	11/10/15 14:55	11/11/15 16:00
500-103877-5	MW-11	Water	11/10/15 16:30	11/11/15 16:00
500-103877-6	MW-12	Water	11/10/15 13:30	11/11/15 16:00
500-103877-7	DUP	Water	11/10/15 00:00	11/11/15 16:00

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Client Sample ID: MW-05
Date Collected: 11/11/15 10:55
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-1
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.243**		0.131	0.133	0.187	pCi/L	11/17/15 16:50	12/09/15 07:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.2*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:19*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.411	U	0.463	0.465	0.896	pCi/L	11/17/15 15:54	11/20/15 13:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.9*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*
Y Carrier	*93.5*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**-0.168**		0.481	0.484	0.896	pCi/L		12/10/15 14:35	1

Client Sample ID: MW-06

Date Collected: 11/10/15 11:56
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.158**		0.107	0.107	0.158	pCi/L	11/17/15 16:50	12/09/15 07:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:19*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.541	U	0.427	0.430	0.840	pCi/L	11/17/15 15:54	11/20/15 13:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*
Y Carrier	*94.2*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**-0.383**		0.440	0.443	0.840	pCi/L		12/10/15 14:35	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Client Sample ID: MW-09
Date Collected: 11/11/15 09:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-3
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0712	U	0.102	0.103	0.173	pCi/L	11/17/15 16:50	12/09/15 07:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:19*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.292	U	0.489	0.490	0.911	pCi/L	11/17/15 15:54	11/20/15 13:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*
Y Carrier	*91.2*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**-0.2208**		0.500	0.501	0.911	pCi/L		12/10/15 14:35	1

Client Sample ID: MW-10

Date Collected: 11/10/15 14:55
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.484**		0.145	0.151	0.158	pCi/L	11/17/15 16:50	12/09/15 07:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:19*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.857	U	0.568	0.573	0.883	pCi/L	11/17/15 15:54	11/20/15 13:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*
Y Carrier	*90.8*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:25*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.341**		0.586	0.593	0.883	pCi/L		12/10/15 14:35	1

Client Sample ID: MW-11

Date Collected: 11/10/15 16:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.431**		0.138	0.144	0.157	pCi/L	11/17/15 16:50	12/09/15 07:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:19*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.305	U	0.473	0.474	0.795	pCi/L	11/17/15 15:54	11/20/15 13:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:26*	*1*
Y Carrier	*90.5*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:26*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.736**		0.493	0.495	0.795	pCi/L		12/10/15 14:35	1

Client Sample ID: MW-12

Date Collected: 11/10/15 13:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0999	U	0.0878	0.0883	0.136	pCi/L	11/17/15 16:50	12/09/15 07:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.4*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:20*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.714	U	0.515	0.519	0.806	pCi/L	11/17/15 15:54	11/20/15 13:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.4*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:26*	*1*
Y Carrier	*90.8*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:26*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.8139**		0.522	0.526	0.806	pCi/L		12/10/15 14:35	1

Client Sample ID: DUP

Date Collected: 11/10/15 00:00
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103877-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.226**		0.110	0.112	0.144	pCi/L	11/17/15 16:50	12/09/15 07:20	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:20*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.523	U	0.463	0.465	0.742	pCi/L	11/17/15 15:54	11/20/15 13:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:26*	*1*
Y Carrier	*92.0*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:26*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.749**		0.476	0.478	0.742	pCi/L		12/10/15 14:35	1

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Rad

Prep Batch: 222513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	PrecSep_0	
500-103877-2	MW-06	Total/NA	Water	PrecSep_0	
500-103877-3	MW-09	Total/NA	Water	PrecSep_0	
500-103877-4	MW-10	Total/NA	Water	PrecSep_0	
500-103877-5	MW-11	Total/NA	Water	PrecSep_0	
500-103877-6	MW-12	Total/NA	Water	PrecSep_0	
500-103877-7	DUP	Total/NA	Water	PrecSep_0	
LCS 160-222513/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-222513/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-222513/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 222515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103877-1	MW-05	Total/NA	Water	PrecSep-21	
500-103877-2	MW-06	Total/NA	Water	PrecSep-21	
500-103877-3	MW-09	Total/NA	Water	PrecSep-21	
500-103877-4	MW-10	Total/NA	Water	PrecSep-21	
500-103877-5	MW-11	Total/NA	Water	PrecSep-21	
500-103877-6	MW-12	Total/NA	Water	PrecSep-21	
500-103877-7	DUP	Total/NA	Water	PrecSep-21	
LCS 160-222515/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-222515/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	
MB 160-222515/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-222515/1-A
Matrix: Water
Analysis Batch: 226173

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222515

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08674		0.0578	0.0583	0.0862	pCi/L	11/17/15 16:50	12/09/15 07:18	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/17/15 16:50*	*12/09/15 07:18*	*1*

Lab Sample ID: LCS 160-222515/2-A
Matrix: Water
Analysis Batch: 226173

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222515

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	11.89		1.15		0.0957	pCi/L	106	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.4*		*40 - 110*

Lab Sample ID: LCSD 160-222515/3-A
Matrix: Water
Analysis Batch: 226173

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 222515

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.2	12.64		1.23		0.0586	pCi/L	113	68 - 137	0.32	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-222513/1-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 222513

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2209	U	0.224	0.225	0.365	pCi/L	11/17/15 15:54	11/20/15 13:17	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:17*	*1*
Y Carrier	*92.0*		*40 - 110*	*11/17/15 15:54*	*11/20/15 13:17*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-222513/2-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 222513

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			3.21	2.873		0.502		0.408	pCi/L	89	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.4*		*40 - 110*
Y Carrier	*92.7*		*40 - 110*

Lab Sample ID: LCSD 160-222513/3-A
Matrix: Water
Analysis Batch: 222924

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 222513

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			3.21	2.851		0.478		0.375	pCi/L	89	56 - 140	0.02	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*
Y Carrier	*92.7*		*40 - 110*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-103877

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler 4.6

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree
Yes No COC not present

Sampler Name: Ian John Howieson
Signature:
Project Name: Quarterly Will County CCR
TestAmerica Project Number: 50011609
Project Location: Romeoville, IL
TAT 15 Days
Lab PM: Bonnie Stadelmann

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	# / Cont. / Volume / Preserv.	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		~~MW-01~~ MW-05	11-11-15	10:55	W	3		X	X	X	X	X	X	
2		~~MW-02~~ MW-06	11-10-15	11:56	W	3		X	X	X	X	X	X	
3		~~MW-03~~ MW-09	11-11-15	09:30	W	3		X	X	X	X	X	X	
4		~~MW-04~~ MW-10	11-10-15	14:55	W	3		X	X	X	X	X	X	
5		~~MW-05~~ MW-11	11-10-15	16:30	W	3		X	X	X	X	X	X	
6		~~MW-11~~ MW-12	11-10-15	13:30	W	3		X	X	X	X	X	X	
7		~~MW-14~~ DUP	11-10-15	—	W	3		X	X	X	X	X	X	
		~~MW-16~~												
		~~DUP~~												

500-103877 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-11-15	16:00		TA	11/11/15	1600
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, SE = Sediment, W = Water, SO = Solid, S = Soil, DL = Drum Liquid, SL = Sludge, DS = Drum Solid, MS = Miscellaneous, L = Leachate, OL = Oil, W = Wipe, A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/11/15
Courier:
Hand Delivered ✓
Bill of Lading:

1 of 2

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-67337.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-103877-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/23/2015			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226_Ra228	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-05 (500-103877-1)	11/11/15	10:55 Central		Water			X	X	X	1	
MW-06 (500-103877-2)	11/10/15	11:56 Central		Water			X	X	X	1	
MW-09 (500-103877-3)	11/11/15	09:30 Central		Water			X	X	X	1	
MW-10 (500-103877-4)	11/10/15	14:55 Central		Water			X	X	X	1	
MW-11 (500-103877-5)	11/10/15	16:30 Central		Water			X	X	X	1	
MW-12 (500-103877-6)	11/10/15	13:30 Central		Water			X	X	X	1	
DUP (500-103877-7)	11/10/15	Central		Water			X	X	X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 11/11/15 1700	Company TAL	Received by:	Date/Time: 11.12.15 0435	Company TASR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11.12.15	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103877-2

Login Number: 103877
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103877-2

Login Number: 103877
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 11/12/15 04:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-16
California	ELAP	9	2886	03-31-16
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-16
Illinois	NELAP	5	003757	11-30-16
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	01-31-16 *
Kentucky (DW)	State Program	4	90125	12-31-15 *
L-A-B	DoD ELAP		L2305	01-10-16 *
Louisiana	NELAP	6	04080	06-30-16
Louisiana (DW)	NELAP	6	LA160008	12-31-16
Maryland	State Program	3	310	09-30-16
Missouri	State Program	7	780	06-30-16
Nevada	State Program	9	MO000542016-1	07-31-16
New Jersey	NELAP	2	MO002	06-30-16
New York	NELAP	2	11616	03-31-16
North Dakota	State Program	8	R207	06-30-16
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-16
Pennsylvania	NELAP	3	68-00540	02-28-16
South Carolina	State Program	4	85002001	06-30-16
Texas	NELAP	6	T104704193-15-9	07-31-16
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542015-7	07-31-16
Virginia	NELAP	3	460230	06-14-16
Washington	State Program	10	C592	08-30-16
West Virginia DEP	State Program	3	381	08-31-16

* Certification renewal pending - certification considered valid.

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-103877-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
500-103877-1	MW-05	88.2
500-103877-2	MW-06	96.5
500-103877-3	MW-09	91.7
500-103877-4	MW-10	89.1
500-103877-5	MW-11	94.4
500-103877-6	MW-12	91.4
500-103877-7	DUP	92.3
LCS 160-222515/2-A	Lab Control Sample	84.4
LCSD 160-222515/3-A	Lab Control Sample Dup	94.7
MB 160-222515/1-A	Method Blank	93.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
500-103877-1	MW-05	82.9	93.5
500-103877-2	MW-06	96.5	94.2
500-103877-3	MW-09	91.7	91.2
500-103877-4	MW-10	89.1	90.8
500-103877-5	MW-11	94.4	90.5
500-103877-6	MW-12	91.4	90.8
500-103877-7	DUP	92.3	92.0
LCS 160-222513/2-A	Lab Control Sample	84.4	92.7
LCSD 160-222513/3-A	Lab Control Sample Dup	94.7	92.7
MB 160-222513/1-A	Method Blank	93.5	92.0

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-107760-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
3/2/2016 1:29:13 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 23
Receipt Checklists 24
Certification Summary 25

Job ID: 500-107760-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-107760-1

Comments
No additional comments.

Receipt
The samples were received on 2/18/2016 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.4º C, 3.0º C and 3.6º C.

Metals
Method(s) 6020A: The low level continuing calibration verification (CCVL) associated with batch 500-323700, at line112, recovered above the upper control limit for Beryllium. The samples associated with this CCVL were non-detects for the affected analyte; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-107760-1	MW-05	Water	02/18/16 10:00	02/18/16 15:45
500-107760-2	MW-06	Water	02/18/16 11:40	02/18/16 15:45
500-107760-3	MW-09	Water	02/17/16 13:30	02/18/16 15:45
500-107760-4	MW-10	Water	02/16/16 15:30	02/18/16 15:45
500-107760-5	MW-11	Water	02/16/16 12:25	02/18/16 15:45
500-107760-6	MW-12	Water	02/16/16 14:00	02/18/16 15:45
500-107760-7	DUPLICATE	Water	02/16/16 00:00	02/18/16 15:45

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Client Sample ID: MW-05
Date Collected: 02/18/16 10:00
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.017**		0.010		mg/L		03/01/16 08:30	03/01/16 13:54	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 17:37	1
Arsenic	**0.0021**		0.0010		mg/L		02/19/16 08:23	02/19/16 17:37	1
Barium	**0.058**		0.0025		mg/L		02/19/16 08:23	02/19/16 17:37	1
Beryllium	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 17:37	1
Boron	**4.4**		0.050		mg/L		02/19/16 08:23	02/24/16 13:57	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 17:37	1
Calcium	**230**		0.20		mg/L		02/19/16 08:23	02/19/16 17:37	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 17:37	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 17:37	1
Lead	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 17:37	1
Molybdenum	**0.079**		0.0050		mg/L		02/19/16 08:23	02/24/16 13:57	1
Selenium	**0.019**		0.0025		mg/L		02/19/16 08:23	02/19/16 17:37	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 17:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 11:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1600**		10		mg/L			02/21/16 23:03	1
Chloride	**120**		10		mg/L			02/22/16 17:41	5
Fluoride	**0.31**		0.10		mg/L			02/23/16 14:21	1
Sulfate	**730**		250		mg/L			02/22/16 06:23	50

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Client Sample ID: MW-06
Date Collected: 02/18/16 11:40
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.015**		0.010		mg/L		03/01/16 08:30	03/01/16 13:59	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 17:41	1
Arsenic	**0.0014**		0.0010		mg/L		02/19/16 08:23	02/19/16 17:41	1
Barium	**0.068**		0.0025		mg/L		02/19/16 08:23	02/19/16 17:41	1
Beryllium	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 17:41	1
Boron	**2.5**		0.050		mg/L		02/19/16 08:23	02/24/16 14:01	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 17:41	1
Calcium	**74**		0.20		mg/L		02/19/16 08:23	02/19/16 17:41	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 17:41	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 17:41	1
Lead	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 17:41	1
Molybdenum	**0.063**		0.0050		mg/L		02/19/16 08:23	02/24/16 14:01	1
Selenium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 17:41	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 17:41	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 11:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**650**		10		mg/L			02/21/16 23:11	1
Chloride	**150**		10		mg/L			02/22/16 17:41	5
Fluoride	**0.47**		0.10		mg/L			02/23/16 14:19	1
Sulfate	**280**		50		mg/L			02/22/16 06:24	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Client Sample ID: MW-09
Date Collected: 02/17/16 13:30
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		03/01/16 08:30	03/01/16 14:03	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 18:11	1
Arsenic	**0.0051**		0.0010		mg/L		02/19/16 08:23	02/19/16 18:11	1
Barium	**0.027**		0.0025		mg/L		02/19/16 08:23	02/19/16 18:11	1
Beryllium	<0.0010	^	0.0010		mg/L		02/19/16 08:23	02/19/16 18:11	1
Boron	**1.8**		0.050		mg/L		02/19/16 08:23	02/24/16 14:39	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:11	1
Calcium	**47**		0.20		mg/L		02/19/16 08:23	02/19/16 18:11	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 18:11	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 18:11	1
Lead	**0.00065**		0.00050		mg/L		02/19/16 08:23	02/19/16 18:11	1
Molybdenum	**0.089**		0.0050		mg/L		02/19/16 08:23	02/24/16 14:39	1
Selenium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 18:11	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 18:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 11:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**600**		10		mg/L			02/21/16 23:13	1
Chloride	**160**		10		mg/L			02/22/16 17:42	5
Fluoride	**0.55**		0.10		mg/L			02/23/16 14:24	1
Sulfate	**250**		50		mg/L			02/22/16 06:25	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Client Sample ID: MW-10

Date Collected: 02/16/16 15:30
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.021**		0.010		mg/L		03/01/16 08:30	03/01/16 14:07	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 18:15	1
Arsenic	**0.014**		0.0010		mg/L		02/19/16 08:23	02/19/16 18:15	1
Barium	**0.098**		0.0025		mg/L		02/19/16 08:23	02/19/16 18:15	1
Beryllium	<0.0010	^	0.0010		mg/L		02/19/16 08:23	02/19/16 18:15	1
Boron	**3.6**		0.050		mg/L		02/19/16 08:23	02/24/16 14:43	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:15	1
Calcium	**150**		0.20		mg/L		02/19/16 08:23	02/19/16 18:15	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 18:15	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 18:15	1
Lead	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:15	1
Molybdenum	**0.075**		0.0050		mg/L		02/19/16 08:23	02/24/16 14:43	1
Selenium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 18:15	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 18:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**950**		10		mg/L			02/21/16 23:16	1
Chloride	**240**		10		mg/L			02/22/16 17:42	5
Fluoride	**0.79**		0.10		mg/L			02/23/16 14:34	1
Sulfate	**290**		50		mg/L			02/22/16 06:26	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Client Sample ID: MW-11

Date Collected: 02/16/16 12:25
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		03/01/16 08:30	03/01/16 14:12	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 18:18	1
Arsenic	**0.0059**		0.0010		mg/L		02/19/16 08:23	02/19/16 18:18	1
Barium	**0.11**		0.0025		mg/L		02/19/16 08:23	02/19/16 18:18	1
Beryllium	<0.0010	^	0.0010		mg/L		02/19/16 08:23	02/19/16 18:18	1
Boron	**3.0**		0.050		mg/L		02/19/16 08:23	02/24/16 14:48	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:18	1
Calcium	**100**		0.20		mg/L		02/19/16 08:23	02/19/16 18:18	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 18:18	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 18:18	1
Lead	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:18	1
Molybdenum	**0.078**		0.0050		mg/L		02/19/16 08:23	02/24/16 14:48	1
Selenium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 18:18	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 18:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 11:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**640**		10		mg/L			02/21/16 23:19	1
Chloride	**88**		10		mg/L			02/22/16 17:43	5
Fluoride	**0.68**		0.10		mg/L			02/23/16 14:42	1
Sulfate	**170**		50		mg/L			02/22/16 06:27	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Client Sample ID: MW-12

Date Collected: 02/16/16 14:00
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-6

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.015**		0.010		mg/L		03/01/16 08:30	03/01/16 14:16	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 18:22	1
Arsenic	**0.0013**		0.0010		mg/L		02/19/16 08:23	02/19/16 18:22	1
Barium	**0.084**		0.0025		mg/L		02/19/16 08:23	02/19/16 18:22	1
Beryllium	<0.0010	^	0.0010		mg/L		02/19/16 08:23	02/19/16 18:22	1
Boron	**1.8**		0.050		mg/L		02/19/16 08:23	02/24/16 14:53	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:22	1
Calcium	**130**		0.20		mg/L		02/19/16 08:23	02/19/16 18:22	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 18:22	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 18:22	1
Lead	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:22	1
Molybdenum	**0.031**		0.0050		mg/L		02/19/16 08:23	02/24/16 14:53	1
Selenium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 18:22	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 18:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 11:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**850**		10		mg/L			02/21/16 23:21	1
Chloride	**140**		10		mg/L			02/22/16 17:43	5
Fluoride	**0.52**		0.10		mg/L			02/23/16 14:53	1
Sulfate	**220**		50		mg/L			02/24/16 05:18	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Client Sample ID: DUPLICATE
Date Collected: 02/16/16 00:00
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-7
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		03/01/16 08:30	03/01/16 14:20	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 18:26	1
Arsenic	**0.0054**		0.0010		mg/L		02/19/16 08:23	02/19/16 18:26	1
Barium	**0.094**		0.0025		mg/L		02/19/16 08:23	02/19/16 18:26	1
Beryllium	<0.0010	^	0.0010		mg/L		02/19/16 08:23	02/19/16 18:26	1
Boron	**2.9**		0.050		mg/L		02/19/16 08:23	02/24/16 14:57	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:26	1
Calcium	**94**		0.20		mg/L		02/19/16 08:23	02/19/16 18:26	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 18:26	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 18:26	1
Lead	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 18:26	1
Molybdenum	**0.075**		0.0050		mg/L		02/19/16 08:23	02/24/16 14:57	1
Selenium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 18:26	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 18:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 12:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**650**		10		mg/L			02/21/16 23:24	1
Chloride	**86**		10		mg/L			02/22/16 17:45	5
Fluoride	**0.64**		0.10		mg/L			02/23/16 14:55	1
Sulfate	**150**		50		mg/L			02/24/16 05:19	10

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 323529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total Recoverable	Water	3005A	
500-107760-2	MW-06	Total Recoverable	Water	3005A	
500-107760-2 DU	MW-06	Total Recoverable	Water	3005A	
500-107760-2 MS	MW-06	Total Recoverable	Water	3005A	
500-107760-2 MSD	MW-06	Total Recoverable	Water	3005A	
500-107760-3	MW-09	Total Recoverable	Water	3005A	
500-107760-4	MW-10	Total Recoverable	Water	3005A	
500-107760-5	MW-11	Total Recoverable	Water	3005A	
500-107760-6	MW-12	Total Recoverable	Water	3005A	
500-107760-7	DUPLICATE	Total Recoverable	Water	3005A	
LCS 500-323529/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-323529/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 323656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	7470A	
500-107760-2	MW-06	Total/NA	Water	7470A	
500-107760-3	MW-09	Total/NA	Water	7470A	
500-107760-4	MW-10	Total/NA	Water	7470A	
500-107760-5	MW-11	Total/NA	Water	7470A	
500-107760-6	MW-12	Total/NA	Water	7470A	
500-107760-7	DUPLICATE	Total/NA	Water	7470A	
LCS 500-323656/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-323656/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 323700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total Recoverable	Water	6020A	323529
500-107760-2	MW-06	Total Recoverable	Water	6020A	323529
500-107760-2 DU	MW-06	Total Recoverable	Water	6020A	323529
500-107760-2 MS	MW-06	Total Recoverable	Water	6020A	323529
500-107760-2 MSD	MW-06	Total Recoverable	Water	6020A	323529
500-107760-3	MW-09	Total Recoverable	Water	6020A	323529
500-107760-4	MW-10	Total Recoverable	Water	6020A	323529
500-107760-5	MW-11	Total Recoverable	Water	6020A	323529
500-107760-6	MW-12	Total Recoverable	Water	6020A	323529
500-107760-7	DUPLICATE	Total Recoverable	Water	6020A	323529
LCS 500-323529/2-A	Lab Control Sample	Total Recoverable	Water	6020A	323529
MB 500-323529/1-A	Method Blank	Total Recoverable	Water	6020A	323529

Analysis Batch: 323974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	7470A	323656
500-107760-2	MW-06	Total/NA	Water	7470A	323656
500-107760-3	MW-09	Total/NA	Water	7470A	323656
500-107760-4	MW-10	Total/NA	Water	7470A	323656
500-107760-5	MW-11	Total/NA	Water	7470A	323656
500-107760-6	MW-12	Total/NA	Water	7470A	323656
500-107760-7	DUPLICATE	Total/NA	Water	7470A	323656
LCS 500-323656/13-A	Lab Control Sample	Total/NA	Water	7470A	323656
MB 500-323656/12-A	Method Blank	Total/NA	Water	7470A	323656

Analysis Batch: 324392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total Recoverable	Water	6020A	323529
500-107760-2	MW-06	Total Recoverable	Water	6020A	323529
500-107760-2 DU	MW-06	Total Recoverable	Water	6020A	323529
500-107760-2 MS	MW-06	Total Recoverable	Water	6020A	323529
500-107760-2 MSD	MW-06	Total Recoverable	Water	6020A	323529
500-107760-3	MW-09	Total Recoverable	Water	6020A	323529
500-107760-4	MW-10	Total Recoverable	Water	6020A	323529
500-107760-5	MW-11	Total Recoverable	Water	6020A	323529
500-107760-6	MW-12	Total Recoverable	Water	6020A	323529
500-107760-7	DUPLICATE	Total Recoverable	Water	6020A	323529
LCS 500-323529/2-A	Lab Control Sample	Total Recoverable	Water	6020A	323529
MB 500-323529/1-A	Method Blank	Total Recoverable	Water	6020A	323529

Prep Batch: 324975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total Recoverable	Water	3005A	
500-107760-2	MW-06	Total Recoverable	Water	3005A	
500-107760-3	MW-09	Total Recoverable	Water	3005A	
500-107760-4	MW-10	Total Recoverable	Water	3005A	
500-107760-5	MW-11	Total Recoverable	Water	3005A	
500-107760-6	MW-12	Total Recoverable	Water	3005A	
500-107760-7	DUPLICATE	Total Recoverable	Water	3005A	
LCS 500-324975/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 500-324975/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 500-324975/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 325040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total Recoverable	Water	6010C	324975
500-107760-2	MW-06	Total Recoverable	Water	6010C	324975
500-107760-3	MW-09	Total Recoverable	Water	6010C	324975
500-107760-4	MW-10	Total Recoverable	Water	6010C	324975
500-107760-5	MW-11	Total Recoverable	Water	6010C	324975
500-107760-6	MW-12	Total Recoverable	Water	6010C	324975
500-107760-7	DUPLICATE	Total Recoverable	Water	6010C	324975
LCS 500-324975/2-A	Lab Control Sample	Total Recoverable	Water	6010C	324975
LCSD 500-324975/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	324975
MB 500-324975/1-A	Method Blank	Total Recoverable	Water	6010C	324975

General Chemistry

Analysis Batch: 323843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	SM 2540C	
500-107760-1 DU	MW-05	Total/NA	Water	SM 2540C	
500-107760-1 MS	MW-05	Total/NA	Water	SM 2540C	
500-107760-2	MW-06	Total/NA	Water	SM 2540C	
500-107760-3	MW-09	Total/NA	Water	SM 2540C	
500-107760-4	MW-10	Total/NA	Water	SM 2540C	
500-107760-5	MW-11	Total/NA	Water	SM 2540C	
500-107760-6	MW-12	Total/NA	Water	SM 2540C	
500-107760-7	DUPLICATE	Total/NA	Water	SM 2540C	
LCS 500-323843/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 323843 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-323843/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 323847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-107760-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-107760-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-107760-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-107760-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
LCS 500-323847/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-323847/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 324016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-107760-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-107760-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-107760-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-107760-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-107760-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-107760-6 MS	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-107760-6 MSD	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-107760-7	DUPLICATE	Total/NA	Water	SM 4500 Cl- E	
LCS 500-324016/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 500-324016/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 324160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	SM 4500 F C	
500-107760-2	MW-06	Total/NA	Water	SM 4500 F C	
500-107760-3	MW-09	Total/NA	Water	SM 4500 F C	
500-107760-4	MW-10	Total/NA	Water	SM 4500 F C	
500-107760-4 MS	MW-10	Total/NA	Water	SM 4500 F C	
500-107760-4 MSD	MW-10	Total/NA	Water	SM 4500 F C	
500-107760-5	MW-11	Total/NA	Water	SM 4500 F C	
500-107760-6	MW-12	Total/NA	Water	SM 4500 F C	
500-107760-7	DUPLICATE	Total/NA	Water	SM 4500 F C	
LCS 500-324160/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-324160/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-324160/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-324160/31	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 324202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-107760-7	DUPLICATE	Total/NA	Water	SM 4500 SO4 E	
LCS 500-324202/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-324202/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-324975/1-A
Matrix: Water
Analysis Batch: 325040

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 324975

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		03/01/16 08:30	03/01/16 13:41	1

Lab Sample ID: LCS 500-324975/2-A
Matrix: Water
Analysis Batch: 325040

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 324975

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.538		mg/L		108	80 - 120

Lab Sample ID: LCSD 500-324975/3-A
Matrix: Water
Analysis Batch: 325040

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 324975

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.500	0.531		mg/L		106	80 - 120	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-323529/1-A
Matrix: Water
Analysis Batch: 323700

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/19/16 08:23	02/19/16 17:26	1
Arsenic	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 17:26	1
Barium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 17:26	1
Beryllium	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 17:26	1
Cadmium	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 17:26	1
Calcium	<0.20		0.20		mg/L		02/19/16 08:23	02/19/16 17:26	1
Chromium	<0.0050		0.0050		mg/L		02/19/16 08:23	02/19/16 17:26	1
Cobalt	<0.0010		0.0010		mg/L		02/19/16 08:23	02/19/16 17:26	1
Lead	<0.00050		0.00050		mg/L		02/19/16 08:23	02/19/16 17:26	1
Selenium	<0.0025		0.0025		mg/L		02/19/16 08:23	02/19/16 17:26	1
Thallium	<0.0020		0.0020		mg/L		02/19/16 08:23	02/19/16 17:26	1

Lab Sample ID: MB 500-323529/1-A
Matrix: Water
Analysis Batch: 324392

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		02/19/16 08:23	02/24/16 13:47	1
Molybdenum	<0.0050		0.0050		mg/L		02/19/16 08:23	02/24/16 13:47	1

Lab Sample ID: LCS 500-323529/2-A
Matrix: Water
Analysis Batch: 323700

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.536		mg/L		107	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-323529/2-A
Matrix: Water
Analysis Batch: 323700

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.101		mg/L		101	80 - 120
Barium	0.500	0.513		mg/L		103	80 - 120
Beryllium	0.0500	0.0524		mg/L		105	80 - 120
Cadmium	0.0500	0.0520		mg/L		104	80 - 120
Calcium	10.0	11.1		mg/L		111	80 - 120
Chromium	0.200	0.203		mg/L		102	80 - 120
Cobalt	0.500	0.541		mg/L		108	80 - 120
Lead	0.100	0.101		mg/L		101	80 - 120
Selenium	0.100	0.102		mg/L		102	80 - 120
Thallium	0.100	0.0997		mg/L		100	80 - 120

Lab Sample ID: LCS 500-323529/2-A
Matrix: Water
Analysis Batch: 324392

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120
Molybdenum	1.00	0.934		mg/L		93	80 - 120

Lab Sample ID: 500-107760-2 MS
Matrix: Water
Analysis Batch: 323700

Client Sample ID: MW-06
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.551		mg/L		110	75 - 125
Arsenic	0.0014		0.100	0.107		mg/L		106	75 - 125
Barium	0.068		0.500	0.567		mg/L		100	75 - 125
Beryllium	<0.0010		0.0500	0.0514	^	mg/L		103	75 - 125
Cadmium	<0.00050		0.0500	0.0523		mg/L		105	75 - 125
Calcium	74		10.0	83.4	4	mg/L		91	75 - 125
Chromium	<0.0050		0.200	0.201		mg/L		100	75 - 125
Cobalt	<0.0010		0.500	0.533		mg/L		107	75 - 125
Lead	<0.00050		0.100	0.103		mg/L		103	75 - 125
Selenium	<0.0025		0.100	0.107		mg/L		105	75 - 125
Thallium	<0.0020		0.100	0.102		mg/L		102	75 - 125

Lab Sample ID: 500-107760-2 MS
Matrix: Water
Analysis Batch: 324392

Client Sample ID: MW-06
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.5		1.00	3.52		mg/L		105	75 - 125
Molybdenum	0.063		1.00	1.03		mg/L		96	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-107760-2 MSD
Matrix: Water
Analysis Batch: 323700

Client Sample ID: MW-06
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.547		mg/L		109	75 - 125	1	20
Arsenic	0.0014		0.100	0.106		mg/L		105	75 - 125	1	20
Barium	0.068		0.500	0.561		mg/L		99	75 - 125	1	20
Beryllium	<0.0010		0.0500	0.0470	^	mg/L		94	75 - 125	9	20
Cadmium	<0.00050		0.0500	0.0512		mg/L		102	75 - 125	2	20
Calcium	74		10.0	82.1	4	mg/L		79	75 - 125	2	20
Chromium	<0.0050		0.200	0.197		mg/L		99	75 - 125	2	20
Cobalt	<0.0010		0.500	0.523		mg/L		105	75 - 125	2	20
Lead	<0.00050		0.100	0.101		mg/L		101	75 - 125	2	20
Selenium	<0.0025		0.100	0.106		mg/L		104	75 - 125	1	20
Thallium	<0.0020		0.100	0.100		mg/L		100	75 - 125	1	20

Lab Sample ID: 500-107760-2 MSD
Matrix: Water
Analysis Batch: 324392

Client Sample ID: MW-06
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.5		1.00	3.48		mg/L		101	75 - 125	1	20
Molybdenum	0.063		1.00	1.03		mg/L		97	75 - 125	1	20

Lab Sample ID: 500-107760-2 DU
Matrix: Water
Analysis Batch: 323700

Client Sample ID: MW-06
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	0.0014			0.00135		mg/L				5	20
Barium	0.068			0.0637		mg/L				7	20
Beryllium	<0.0010			<0.0010		mg/L				NC	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Calcium	74			71.3		mg/L				4	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	<0.0010			<0.0010		mg/L				NC	20
Lead	<0.00050			<0.00050		mg/L				NC	20
Selenium	<0.0025			<0.0025		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20

Lab Sample ID: 500-107760-2 DU
Matrix: Water
Analysis Batch: 324392

Client Sample ID: MW-06
Prep Type: Total Recoverable
Prep Batch: 323529

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	2.5			2.44		mg/L				1	20
Molybdenum	0.063			0.0603		mg/L				4	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-323656/12-A
Matrix: Water
Analysis Batch: 323974

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 323656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/20/16 12:00	02/22/16 11:09	1

Lab Sample ID: LCS 500-323656/13-A
Matrix: Water
Analysis Batch: 323974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 323656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00182		mg/L		91	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-323843/1
Matrix: Water
Analysis Batch: 323843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/21/16 22:55	1

Lab Sample ID: LCS 500-323843/2
Matrix: Water
Analysis Batch: 323843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	252		mg/L		101	80 - 120

Lab Sample ID: 500-107760-1 MS
Matrix: Water
Analysis Batch: 323843

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1600		250	1920	4	mg/L		121	75 - 125

Lab Sample ID: 500-107760-1 DU
Matrix: Water
Analysis Batch: 323843

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1600		1670		mg/L		3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-324016/12
Matrix: Water
Analysis Batch: 324016

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			02/22/16 16:54	1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 500-324016/13
Matrix: Water
Analysis Batch: 324016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: 500-107760-6 MS
Matrix: Water
Analysis Batch: 324016

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	140		50.0	177		mg/L		82	75 - 125

Lab Sample ID: 500-107760-6 MSD
Matrix: Water
Analysis Batch: 324016

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	140		50.0	179		mg/L		86	75 - 125	1	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-324160/3
Matrix: Water
Analysis Batch: 324160

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			02/23/16 13:11	1

Lab Sample ID: MB 500-324160/31
Matrix: Water
Analysis Batch: 324160

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			02/23/16 14:29	1

Lab Sample ID: LCS 500-324160/32
Matrix: Water
Analysis Batch: 324160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.7		mg/L		107	80 - 120

Lab Sample ID: LCS 500-324160/4
Matrix: Water
Analysis Batch: 324160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.7		mg/L		107	80 - 120

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-107760-4 MS
Matrix: Water
Analysis Batch: 324160

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.79		5.00	6.08		mg/L		106	75 - 125

Lab Sample ID: 500-107760-4 MSD
Matrix: Water
Analysis Batch: 324160

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.79		5.00	6.08		mg/L		106	75 - 125	0	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-323847/3
Matrix: Water
Analysis Batch: 323847

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			02/22/16 06:06	1

Lab Sample ID: LCS 500-323847/4
Matrix: Water
Analysis Batch: 323847

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.7		mg/L		99	80 - 120

Lab Sample ID: MB 500-324202/3
Matrix: Water
Analysis Batch: 324202

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			02/24/16 04:59	1

Lab Sample ID: LCS 500-324202/4
Matrix: Water
Analysis Batch: 324202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.1		mg/L		96	80 - 120

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	500-107760 COC	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 6302906850 : ianh@kprginc.com	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG & Associates Inc.				Job #: 500- 107760
Address: 14665 W. Lisbon Rd	Due Date Requested:			
City: Brookfield	TAT Requested (days): 15 days			
State, Zip: WI, 53005				
Phone: 262-781-0475	PO #:			
Email:	WO #:			
Project Name: Quarterly MWG Will Co CCR	Project #: 50011609			
Site: Romeoville, Illinois	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A Total Metals	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E, TDS,F1,C1,So4	903.0, 904.0 Radium	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-05	2-18-16	10:00		Water	N	N	X	X	X		
2	MW-06	2-18-16	11:40		Water	N	N	X	X	X		
3	MW-09	2-17-16	13:30		Water	N	N	X	X	X		
4	MW-10	2-16-16	15:30		Water	N	N	X	X	X		
5	MW-11	2-16-16	12:25		Water	N	N	X	X	X		
6	MW-12	2-16-16	14:00		Water	N	N	X	X	X		
7	DUPLICATE	2-16-16	—		Water	N	N	X	X	X		

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by: Ian John Howieson	2-18-16 15:45	KPRG		02/18/16 1545	TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: (3.6)(3.0)(2.4)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-107760-1

Login Number: 107760
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.6)(3.0)(2.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-107760-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
3/20/2016 1:17:27 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 16
Receipt Checklists 18
Certification Summary 20
Tracer Carrier Summary 21

Job ID: 500-107760-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-107760-2

Comments
No additional comments.

Receipt
The samples were received on 2/18/2016 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.4º C, 3.0º C and 3.6º C.

RAD
Method(s) 903.0: Radium-226 Prep Batch 160-237411:
The following sample has a barium carrier recovery above the 110% QC limit; (500-107760-B-6-A; 115%). Matrix interference is suspected; a native barium result was entered bringing the recovery down from 116% to 115%. The LCS(laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples associated with the batch have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported. MW-05 (500-107760-1), MW-06 (500-107760-2), MW-09 (500-107760-3), MW-10 (500-107760-4), MW-11 (500-107760-5), MW-12 (500-107760-6), DUPLICATE (500-107760-7), (LCS 160-237411/2-A), (MB 160-237411/1-A), (280-79804-F-1-J) and (280-79804-H-1-J DU).

Method(s) 904.0: Radium-228 Prep Batch 160-237748:
The following sample has a barium carrier recovery above the 110% QC limit; (500-107760-B-6-B; 115%). Matrix interference is suspected; a native barium result was entered bringing the recovery down from 116% to 115%. The LCS(laboratory control sample) has an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples associated with the batch have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported. MW-05 (500-107760-1), MW-06 (500-107760-2), MW-09 (500-107760-3), MW-10 (500-107760-4), MW-11 (500-107760-5), MW-12 (500-107760-6), DUPLICATE (500-107760-7), (LCS 160-237748/2-A), (MB 160-237748/1-A), (280-79804-F-1-I) and (280-79804-H-1-I DU).

Method(s) PrecSep_0: Radium-228 Prep Batch 160-237748:
The barium carrier recovery is outside the upper control limit (110%) for the following sample: MW-12 (500-107760-6). The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.

Method(s) PrecSep-21: Radium-226 Prep Batch 160-237411:
The barium carrier recovery is outside the upper control limit (110%) for the following sample: MW-12 (500-107760-6). The QC samples associated with the batch have acceptable carrier recovery indicating the presence of matrix interference.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-107760-1	MW-05	Water	02/18/16 10:00	02/18/16 15:45
500-107760-2	MW-06	Water	02/18/16 11:40	02/18/16 15:45
500-107760-3	MW-09	Water	02/17/16 13:30	02/18/16 15:45
500-107760-4	MW-10	Water	02/16/16 15:30	02/18/16 15:45
500-107760-5	MW-11	Water	02/16/16 12:25	02/18/16 15:45
500-107760-6	MW-12	Water	02/16/16 14:00	02/18/16 15:45
500-107760-7	DUPLICATE	Water	02/16/16 00:00	02/18/16 15:45

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Client Sample ID: MW-05
Date Collected: 02/18/16 10:00
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-1
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.0935**		0.0564	0.0570	1.00	0.0760	pCi/L	02/22/16 12:13	03/17/16 07:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*02/22/16 12:13*	*03/17/16 07:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.374	U	0.281	0.284	1.00	0.445	pCi/L	02/23/16 12:32	03/09/16 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*
Y Carrier	*88.2*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.468**		0.287	0.289	5.00	0.445	pCi/L		03/17/16 22:54	1

Client Sample ID: MW-06

Date Collected: 02/18/16 11:40
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.219**		0.0713	0.0740	1.00	0.0659	pCi/L	02/22/16 12:13	03/17/16 07:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*02/22/16 12:13*	*03/17/16 07:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.194	U	0.244	0.245	1.00	0.405	pCi/L	02/23/16 12:32	03/09/16 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*
Y Carrier	*90.8*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.412**		0.254	0.256	5.00	0.405	pCi/L		03/17/16 22:54	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Client Sample ID: MW-09
Date Collected: 02/17/16 13:30
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-3
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0786	U	0.0684	0.0688	1.00	0.107	pCi/L	02/22/16 12:13	03/17/16 07:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*02/22/16 12:13*	*03/17/16 07:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.190	U	0.226	0.227	1.00	0.373	pCi/L	02/23/16 12:32	03/09/16 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*
Y Carrier	*93.1*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.269	U	0.236	0.237	5.00	0.373	pCi/L		03/17/16 22:54	1

Client Sample ID: MW-10

Date Collected: 02/16/16 15:30
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.235		0.0803	0.0830	1.00	0.0788	pCi/L	02/22/16 12:13	03/17/16 07:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*02/22/16 12:13*	*03/17/16 07:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.718		0.334	0.340	1.00	0.489	pCi/L	02/23/16 12:32	03/09/16 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*
Y Carrier	*90.8*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.952		0.343	0.350	5.00	0.489	pCi/L		03/17/16 22:54	1

Client Sample ID: MW-11

Date Collected: 02/16/16 12:25
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.298		0.0939	0.0976	1.00	0.107	pCi/L	02/22/16 12:13	03/17/16 07:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*02/22/16 12:13*	*03/17/16 07:22*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.847		0.300	0.310	1.00	0.409	pCi/L	02/23/16 12:32	03/09/16 11:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*
Y Carrier	*88.2*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:55*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.14		0.314	0.325	5.00	0.409	pCi/L		03/17/16 22:54	1

Client Sample ID: MW-12

Date Collected: 02/16/16 14:00
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.113		0.0698	0.0705	1.00	0.101	pCi/L	02/22/16 12:13	03/17/16 07:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*115*	*X*	*40 - 110*	*02/22/16 12:13*	*03/17/16 07:29*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.216	U	0.247	0.248	1.00	0.407	pCi/L	02/23/16 12:32	03/09/16 11:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*115*	*X*	*40 - 110*	*02/23/16 12:32*	*03/09/16 11:56*	*1*
Y Carrier	*90.8*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:56*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.329	U	0.257	0.258	5.00	0.407	pCi/L		03/17/16 22:54	1

Client Sample ID: DUPLICATE

Date Collected: 02/16/16 00:00
Date Received: 02/18/16 15:45

Lab Sample ID: 500-107760-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.286		0.0883	0.0920	1.00	0.0996	pCi/L	02/22/16 12:13	03/17/16 07:29	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*02/22/16 12:13*	*03/17/16 07:29*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.618		0.274	0.279	1.00	0.397	pCi/L	02/23/16 12:32	03/09/16 11:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*104*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:56*	*1*
Y Carrier	*95.3*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:56*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.904		0.288	0.294	5.00	0.397	pCi/L		03/17/16 22:54	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Rad

Prep Batch: 237411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	PrecSep-21	
500-107760-2	MW-06	Total/NA	Water	PrecSep-21	
500-107760-3	MW-09	Total/NA	Water	PrecSep-21	
500-107760-4	MW-10	Total/NA	Water	PrecSep-21	
500-107760-5	MW-11	Total/NA	Water	PrecSep-21	
500-107760-6	MW-12	Total/NA	Water	PrecSep-21	
500-107760-7	DUPLICATE	Total/NA	Water	PrecSep-21	
LCS 160-237411/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-237411/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 237748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-107760-1	MW-05	Total/NA	Water	PrecSep_0	
500-107760-2	MW-06	Total/NA	Water	PrecSep_0	
500-107760-3	MW-09	Total/NA	Water	PrecSep_0	
500-107760-4	MW-10	Total/NA	Water	PrecSep_0	
500-107760-5	MW-11	Total/NA	Water	PrecSep_0	
500-107760-6	MW-12	Total/NA	Water	PrecSep_0	
500-107760-7	DUPLICATE	Total/NA	Water	PrecSep_0	
LCS 160-237748/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-237748/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-237411/1-A
Matrix: Water
Analysis Batch: 240883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237411

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02630	U	0.0348	0.0349	1.00	0.0582	pCi/L	02/22/16 12:13	03/17/16 07:21	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*02/22/16 12:13*	*03/17/16 07:21*	*1*

Lab Sample ID: LCS 160-237411/2-A
Matrix: Water
Analysis Batch: 240883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237411

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	12.15		1.18	1.00	0.0619	pCi/L	109	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*99.1*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-237748/1-A
Matrix: Water
Analysis Batch: 239757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237748

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3960		0.237	0.240	1.00	0.363	pCi/L	02/23/16 12:32	03/09/16 11:54	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:54*	*1*
Y Carrier	*89.3*		*40 - 110*	*02/23/16 12:32*	*03/09/16 11:54*	*1*

Lab Sample ID: LCS 160-237748/2-A
Matrix: Water
Analysis Batch: 239757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237748

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.30	9.953		1.13	1.00	0.382	pCi/L	107	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*99.1*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Ian John Howieson	Lab PM: Eric Lang	500-107760 COC	COC No: 500-40303-20793.1
Client Contact: Rich Gnat	Phone: 6302906850 : ianh@kprginc.com	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG & Associates Inc.				Job #: 500- 107760
Address: 14665 W. Lisbon Rd	Due Date Requested:			
City: Brookfield	TAT Requested (days): 15 days			
State, Zip: WI, 53005				
Phone: 262-781-0475	PO #:			
Email:	WO #:			
Project Name: Quarterly MWG Will Co CCR	Project #: 50011609			
Site: Romeoville, Illinois	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 6020A, 7470A Total Metals	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E, TDS,F1,C1,So4	903.0, 904.0 Radium	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N	D		
1	MW-05	2-18-16	10:00		Water	N	N	X	X	X		
2	MW-06	2-18-16	11:40		Water	N	N	X	X	X		
3	MW-09	2-17-16	13:30		Water	N	N	X	X	X		
4	MW-10	2-16-16	15:30		Water	N	N	X	X	X		
5	MW-11	2-16-16	12:25		Water	N	N	X	X	X		
6	MW-12	2-16-16	14:00		Water	N	N	X	X	X		
7	DUPLICATE	2-16-16	—		Water	N	N	X	X	X		

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) - Level IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company	Received by:	Date/Time:	Company
Relinquished by: Ian John Howieson	2-18-16 15:45	KPRG		02/18/16 1545	TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: (3.6)(3.0)(2.4)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-70631.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-107760-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 3/1/2016			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County CCR	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-05 (500-107760-1)	2/18/16	10:00 Central		Water			X	X	3	
MW-06 (500-107760-2)	2/18/16	11:40 Central		Water			X	X	3	
MW-09 (500-107760-3)	2/17/16	13:30 Central		Water			X	X	3	
MW-10 (500-107760-4)	2/16/16	15:30 Central		Water			X	X	3	
MW-11 (500-107760-5)	2/16/16	12:25 Central		Water			X	X	3	
MW-12 (500-107760-6)	2/16/16	14:00 Central		Water			X	X	3	
DUPLICATE (500-107760-7)	2/16/16	Central		Water			X	X	3	

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		02/18/16 1630	TAL	Ali Clark	2.19.16 0910	TASTL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-107760-2

Login Number: 107760
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.6)(3.0)(2.4)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-107760-2

Login Number: 107760
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 02/19/16 12:51 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

Laboratory: TestAmerica St. Louis

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	003757	11-30-16

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-107760-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-107760-1	MW-05	101
500-107760-2	MW-06	105
500-107760-3	MW-09	103
500-107760-4	MW-10	90.6
500-107760-5	MW-11	103
500-107760-6	MW-12	115 X
500-107760-7	DUPLICATE	104
LCS 160-237411/2-A	Lab Control Sample	99.1
MB 160-237411/1-A	Method Blank	101

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-107760-1	MW-05	101	88.2
500-107760-2	MW-06	105	90.8
500-107760-3	MW-09	103	93.1
500-107760-4	MW-10	90.6	90.8
500-107760-5	MW-11	103	88.2
500-107760-6	MW-12	115 X	90.8
500-107760-7	DUPLICATE	104	95.3
LCS 160-237748/2-A	Lab Control Sample	99.1	88.2
MB 160-237748/1-A	Method Blank	101	89.3

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-112198-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
6/17/2016 9:49:43 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 18
Chain of Custody 23
Receipt Checklists 24
Certification Summary 25

Job ID: 500-112198-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-112198-1

Comments
No additional comments.

Receipt
The samples were received on 5/26/2016 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.4º C and 2.9º C.

Metals
Method(s) 6020A: The ICVL associated with batch 500-339572 recovered outside control limits for Beryllium. All mid range CCV's and the initial CCVL were within control limits. The final bracketing CCVL recovered above the control limits for Beryllium. The samples associated with these CCVL were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-112198-1	MW-05	Water	05/26/16 09:30	05/26/16 15:15
500-112198-2	MW-06	Water	05/26/16 10:56	05/26/16 15:15
500-112198-3	MW-09	Water	05/24/16 15:12	05/26/16 15:15
500-112198-4	MW-10	Water	05/25/16 12:20	05/26/16 15:15
500-112198-5	MW-11	Water	05/25/16 10:56	05/26/16 15:15
500-112198-6	MW-12	Water	05/25/16 09:20	05/26/16 15:15
500-112198-7	DUP	Water	05/25/16 00:00	05/26/16 15:15

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Client Sample ID: MW-05
Date Collected: 05/26/16 09:30
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		05/31/16 08:23	05/31/16 22:38	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 18:53	1
Arsenic	**0.0023**		0.0010		mg/L		05/27/16 15:08	06/08/16 18:53	1
Barium	**0.055**		0.0025		mg/L		05/27/16 15:08	06/08/16 18:53	1
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:36	1
Boron	**3.7**		0.25		mg/L		05/27/16 15:08	06/13/16 19:01	5
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:36	1
Calcium	**170**		0.20		mg/L		05/27/16 15:08	06/10/16 22:36	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 18:53	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 18:53	1
Lead	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:36	1
Molybdenum	**0.077**		0.0050		mg/L		05/27/16 15:08	06/10/16 22:36	1
Selenium	**0.019**		0.0025		mg/L		05/27/16 15:08	06/08/16 18:53	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:36	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 21:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1500**		10		mg/L			05/27/16 20:44	1
Chloride	**110**		10		mg/L			06/02/16 18:54	5
Fluoride	**0.33**		0.10		mg/L			06/07/16 14:01	1
Sulfate	**670**		250		mg/L			06/06/16 07:16	50

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Client Sample ID: MW-06

Date Collected: 05/26/16 10:56
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-2

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		05/31/16 08:23	05/31/16 22:43	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 18:56	1
Arsenic	**0.0020**		0.0010		mg/L		05/27/16 15:08	06/08/16 18:56	1
Barium	**0.068**		0.0025		mg/L		05/27/16 15:08	06/08/16 18:56	1
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:39	1
Boron	**2.7**		0.25		mg/L		05/27/16 15:08	06/13/16 19:09	5
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:39	1
Calcium	**86**		0.20		mg/L		05/27/16 15:08	06/10/16 22:39	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 18:56	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 18:56	1
Lead	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:39	1
Molybdenum	**0.042**		0.0050		mg/L		05/27/16 15:08	06/10/16 22:39	1
Selenium	<0.0025		0.0025		mg/L		05/27/16 15:08	06/08/16 18:56	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 21:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**800**		10		mg/L			05/27/16 20:50	1
Chloride	**92**		10		mg/L			06/02/16 18:55	5
Fluoride	**0.44**		0.10		mg/L			06/12/16 21:46	1
Sulfate	**350**		50		mg/L			06/06/16 07:17	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Client Sample ID: MW-09

Date Collected: 05/24/16 15:12
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/31/16 08:23	05/31/16 22:55	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 18:58	1
Arsenic	**0.0043**		0.0010		mg/L		05/27/16 15:08	06/08/16 18:58	1
Barium	**0.027**		0.0025		mg/L		05/27/16 15:08	06/08/16 18:58	1
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:43	1
Boron	**1.6**		0.25		mg/L		05/27/16 15:08	06/13/16 19:13	5
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:43	1
Calcium	**48**		0.20		mg/L		05/27/16 15:08	06/10/16 22:43	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 18:58	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 18:58	1
Lead	**0.00071**		0.00050		mg/L		05/27/16 15:08	06/10/16 22:43	1
Molybdenum	**0.079**		0.0050		mg/L		05/27/16 15:08	06/10/16 22:43	1
Selenium	<0.0025		0.0025		mg/L		05/27/16 15:08	06/08/16 18:58	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:43	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 21:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**640**		10		mg/L			05/27/16 20:54	1
Chloride	**180**		10		mg/L			06/02/16 18:58	5
Fluoride	**0.51**		0.10		mg/L			06/12/16 21:54	1
Sulfate	**240**		50		mg/L			06/06/16 07:18	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Client Sample ID: MW-10
Date Collected: 05/25/16 12:20
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-4
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.016**		0.010		mg/L		05/31/16 08:23	05/31/16 23:00	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 19:01	1
Arsenic	**0.034**		0.0010		mg/L		05/27/16 15:08	06/08/16 19:01	1
Barium	**0.096**		0.0025		mg/L		05/27/16 15:08	06/08/16 19:01	1
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:47	1
Boron	**3.6**		0.25		mg/L		05/27/16 15:08	06/13/16 19:16	5
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:47	1
Calcium	**120**		0.20		mg/L		05/27/16 15:08	06/10/16 22:47	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 19:01	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 19:01	1
Lead	**0.00055**		0.00050		mg/L		05/27/16 15:08	06/10/16 22:47	1
Molybdenum	**0.065**		0.0050		mg/L		05/27/16 15:08	06/10/16 22:47	1
Selenium	<0.0025		0.0025		mg/L		05/27/16 15:08	06/08/16 19:01	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:47	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 22:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			05/27/16 20:57	1
Chloride	**140**		10		mg/L			06/02/16 18:59	5
Fluoride	**0.83**		0.10		mg/L			06/12/16 21:56	1
Sulfate	**260**		50		mg/L			06/06/16 07:19	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Client Sample ID: MW-11
Date Collected: 05/25/16 10:56
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/31/16 08:23	05/31/16 23:04	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 19:04	1
Arsenic	**0.0073**		0.0010		mg/L		05/27/16 15:08	06/08/16 19:04	1
Barium	**0.093**		0.0025		mg/L		05/27/16 15:08	06/08/16 19:04	1
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:51	1
Boron	**2.8**		0.25		mg/L		05/27/16 15:08	06/13/16 19:20	5
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:51	1
Calcium	**82**		0.20		mg/L		05/27/16 15:08	06/10/16 22:51	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 19:04	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 19:04	1
Lead	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:51	1
Molybdenum	**0.083**		0.0050		mg/L		05/27/16 15:08	06/10/16 22:51	1
Selenium	<0.0025		0.0025		mg/L		05/27/16 15:08	06/08/16 19:04	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 22:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**640**		10		mg/L			05/27/16 21:00	1
Chloride	**98**		10		mg/L			06/02/16 18:59	5
Fluoride	**0.75**		0.10		mg/L			06/12/16 21:58	1
Sulfate	**170**		25		mg/L			06/06/16 07:20	5

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Client Sample ID: MW-12
Date Collected: 05/25/16 09:20
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-6
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.014		0.010		mg/L		05/31/16 08:23	05/31/16 23:08	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 19:06	1
Arsenic	0.0013		0.0010		mg/L		05/27/16 15:08	06/08/16 19:06	1
Barium	0.12		0.0025		mg/L		05/27/16 15:08	06/08/16 19:06	1
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:55	1
Boron	1.9		0.25		mg/L		05/27/16 15:08	06/13/16 19:24	5
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:55	1
Calcium	130		0.20		mg/L		05/27/16 15:08	06/10/16 22:55	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 19:06	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 19:06	1
Lead	0.00063		0.00050		mg/L		05/27/16 15:08	06/10/16 22:55	1
Molybdenum	0.030		0.0050		mg/L		05/27/16 15:08	06/10/16 22:55	1
Selenium	0.0026		0.0025		mg/L		05/27/16 15:08	06/08/16 19:06	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:55	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 22:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	890		10		mg/L			05/27/16 21:03	1
Chloride	150		10		mg/L			06/02/16 19:00	5
Fluoride	0.54		0.10		mg/L			06/12/16 22:01	1
Sulfate	250		50		mg/L			06/06/16 07:23	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Client Sample ID: DUP
Date Collected: 05/25/16 00:00
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-7
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.014		0.010		mg/L		05/31/16 08:23	05/31/16 23:13	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 19:14	1
Arsenic	0.0016		0.0010		mg/L		05/27/16 15:08	06/08/16 19:14	1
Barium	0.17		0.0025		mg/L		05/27/16 15:08	06/08/16 19:14	1
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:58	1
Boron	1.8		0.25		mg/L		05/27/16 15:08	06/13/16 19:28	5
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:58	1
Calcium	130		0.20		mg/L		05/27/16 15:08	06/10/16 22:58	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 19:14	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 19:14	1
Lead	0.0011		0.00050		mg/L		05/27/16 15:08	06/10/16 22:58	1
Molybdenum	0.034		0.025		mg/L		05/27/16 15:08	06/13/16 19:28	5
Selenium	0.0029		0.0025		mg/L		05/27/16 15:08	06/08/16 19:14	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 22:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	950		10		mg/L			05/27/16 21:06	1
Chloride	150		10		mg/L			06/02/16 19:00	5
Fluoride	0.54		0.10		mg/L			06/12/16 22:03	1
Sulfate	250		50		mg/L			06/06/16 07:26	10

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 337525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total Recoverable	Water	3005A	
500-112198-2	MW-06	Total Recoverable	Water	3005A	
500-112198-3	MW-09	Total Recoverable	Water	3005A	
500-112198-4	MW-10	Total Recoverable	Water	3005A	
500-112198-5	MW-11	Total Recoverable	Water	3005A	
500-112198-6	MW-12	Total Recoverable	Water	3005A	
500-112198-7	DUP	Total Recoverable	Water	3005A	
LCS 500-337525/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-337525/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 337709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total Recoverable	Water	3005A	
500-112198-2	MW-06	Total Recoverable	Water	3005A	
500-112198-3	MW-09	Total Recoverable	Water	3005A	
500-112198-4	MW-10	Total Recoverable	Water	3005A	
500-112198-5	MW-11	Total Recoverable	Water	3005A	
500-112198-6	MW-12	Total Recoverable	Water	3005A	
500-112198-7	DUP	Total Recoverable	Water	3005A	
LCS 500-337709/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 500-337709/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 500-337709/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 337890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total Recoverable	Water	6010C	337709
500-112198-2	MW-06	Total Recoverable	Water	6010C	337709
500-112198-3	MW-09	Total Recoverable	Water	6010C	337709
500-112198-4	MW-10	Total Recoverable	Water	6010C	337709
500-112198-5	MW-11	Total Recoverable	Water	6010C	337709
500-112198-6	MW-12	Total Recoverable	Water	6010C	337709
500-112198-7	DUP	Total Recoverable	Water	6010C	337709
LCS 500-337709/2-A	Lab Control Sample	Total Recoverable	Water	6010C	337709
LCSD 500-337709/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	337709
MB 500-337709/1-A	Method Blank	Total Recoverable	Water	6010C	337709

Prep Batch: 338187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	7470A	
500-112198-2	MW-06	Total/NA	Water	7470A	
500-112198-3	MW-09	Total/NA	Water	7470A	
500-112198-4	MW-10	Total/NA	Water	7470A	
500-112198-5	MW-11	Total/NA	Water	7470A	
500-112198-6	MW-12	Total/NA	Water	7470A	
500-112198-7	DUP	Total/NA	Water	7470A	
LCS 500-338187/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-338187/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 338501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	7470A	338187

Metals (Continued)

Analysis Batch: 338501 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-2	MW-06	Total/NA	Water	7470A	338187
500-112198-3	MW-09	Total/NA	Water	7470A	338187
500-112198-4	MW-10	Total/NA	Water	7470A	338187
500-112198-5	MW-11	Total/NA	Water	7470A	338187
500-112198-6	MW-12	Total/NA	Water	7470A	338187
500-112198-7	DUP	Total/NA	Water	7470A	338187
LCS 500-338187/13-A	Lab Control Sample	Total/NA	Water	7470A	338187
MB 500-338187/12-A	Method Blank	Total/NA	Water	7470A	338187

Analysis Batch: 339137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total Recoverable	Water	6020A	337525
500-112198-2	MW-06	Total Recoverable	Water	6020A	337525
500-112198-3	MW-09	Total Recoverable	Water	6020A	337525
500-112198-4	MW-10	Total Recoverable	Water	6020A	337525
500-112198-5	MW-11	Total Recoverable	Water	6020A	337525
500-112198-6	MW-12	Total Recoverable	Water	6020A	337525
500-112198-7	DUP	Total Recoverable	Water	6020A	337525
LCS 500-337525/2-A	Lab Control Sample	Total Recoverable	Water	6020A	337525
MB 500-337525/1-A	Method Blank	Total Recoverable	Water	6020A	337525

Analysis Batch: 339572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total Recoverable	Water	6020A	337525
500-112198-2	MW-06	Total Recoverable	Water	6020A	337525
500-112198-3	MW-09	Total Recoverable	Water	6020A	337525
500-112198-4	MW-10	Total Recoverable	Water	6020A	337525
500-112198-5	MW-11	Total Recoverable	Water	6020A	337525
500-112198-6	MW-12	Total Recoverable	Water	6020A	337525
500-112198-7	DUP	Total Recoverable	Water	6020A	337525
LCS 500-337525/2-A	Lab Control Sample	Total Recoverable	Water	6020A	337525
MB 500-337525/1-A	Method Blank	Total Recoverable	Water	6020A	337525

Analysis Batch: 339726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total Recoverable	Water	6020A	337525
500-112198-2	MW-06	Total Recoverable	Water	6020A	337525
500-112198-3	MW-09	Total Recoverable	Water	6020A	337525
500-112198-4	MW-10	Total Recoverable	Water	6020A	337525
500-112198-5	MW-11	Total Recoverable	Water	6020A	337525
500-112198-6	MW-12	Total Recoverable	Water	6020A	337525
500-112198-7	DUP	Total Recoverable	Water	6020A	337525
LCS 500-337525/2-A	Lab Control Sample	Total Recoverable	Water	6020A	337525
MB 500-337525/1-A	Method Blank	Total Recoverable	Water	6020A	337525

General Chemistry

Analysis Batch: 337569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 337569 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1 DU	MW-05	Total/NA	Water	SM 2540C	
500-112198-2	MW-06	Total/NA	Water	SM 2540C	
500-112198-3	MW-09	Total/NA	Water	SM 2540C	
500-112198-4	MW-10	Total/NA	Water	SM 2540C	
500-112198-5	MW-11	Total/NA	Water	SM 2540C	
500-112198-6	MW-12	Total/NA	Water	SM 2540C	
500-112198-7	DUP	Total/NA	Water	SM 2540C	
LCS 500-337569/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-337569/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 338216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-112198-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-112198-2 MS	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-112198-2 MSD	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-112198-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-112198-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-112198-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-112198-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-112198-7	DUP	Total/NA	Water	SM 4500 Cl- E	
LCS 500-338216/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
MB 500-338216/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 338529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-112198-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-112198-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-112198-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-112198-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-112198-5 MS	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-112198-5 MSD	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-112198-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-112198-7	DUP	Total/NA	Water	SM 4500 SO4 E	
LCS 500-338529/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MB 500-338529/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 338807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	SM 4500 F C	
500-112198-1 MS	MW-05	Total/NA	Water	SM 4500 F C	
500-112198-1 MSD	MW-05	Total/NA	Water	SM 4500 F C	
LCS 500-338807/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-338807/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 339574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-2	MW-06	Total/NA	Water	SM 4500 F C	
500-112198-2 MS	MW-06	Total/NA	Water	SM 4500 F C	
500-112198-2 MSD	MW-06	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 339574 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-3	MW-09	Total/NA	Water	SM 4500 F C	
500-112198-4	MW-10	Total/NA	Water	SM 4500 F C	
500-112198-5	MW-11	Total/NA	Water	SM 4500 F C	
500-112198-6	MW-12	Total/NA	Water	SM 4500 F C	
500-112198-7	DUP	Total/NA	Water	SM 4500 F C	
LCS 500-339574/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-339574/3	Method Blank	Total/NA	Water	SM 4500 F C	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-337709/1-A
Matrix: Water
Analysis Batch: 337890

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 337709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/31/16 08:23	05/31/16 22:25	1

Lab Sample ID: LCS 500-337709/2-A
Matrix: Water
Analysis Batch: 337890

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 337709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.535		mg/L		107	80 - 120

Lab Sample ID: LCSD 500-337709/3-A
Matrix: Water
Analysis Batch: 337890

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 337709

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.500	0.518		mg/L		104	80 - 120	3	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-337525/1-A
Matrix: Water
Analysis Batch: 339137

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 337525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/27/16 15:08	06/08/16 18:48	1
Arsenic	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 18:48	1
Barium	<0.0025		0.0025		mg/L		05/27/16 15:08	06/08/16 18:48	1
Chromium	<0.0050		0.0050		mg/L		05/27/16 15:08	06/08/16 18:48	1
Cobalt	<0.0010		0.0010		mg/L		05/27/16 15:08	06/08/16 18:48	1
Selenium	<0.0025		0.0025		mg/L		05/27/16 15:08	06/08/16 18:48	1

Lab Sample ID: MB 500-337525/1-A
Matrix: Water
Analysis Batch: 339572

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 337525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010	^	0.0010		mg/L		05/27/16 15:08	06/10/16 22:28	1
Cadmium	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:28	1
Calcium	<0.20		0.20		mg/L		05/27/16 15:08	06/10/16 22:28	1
Lead	<0.00050		0.00050		mg/L		05/27/16 15:08	06/10/16 22:28	1
Molybdenum	<0.0050		0.0050		mg/L		05/27/16 15:08	06/10/16 22:28	1
Thallium	<0.0020		0.0020		mg/L		05/27/16 15:08	06/10/16 22:28	1

Lab Sample ID: MB 500-337525/1-A
Matrix: Water
Analysis Batch: 339726

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 337525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/27/16 15:08	06/13/16 18:53	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-337525/2-A
Matrix: Water
Analysis Batch: 339137

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 337525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.476		mg/L		95	80 - 120
Arsenic	0.100	0.0967		mg/L		97	80 - 120
Barium	0.500	0.460		mg/L		92	80 - 120
Chromium	0.200	0.183		mg/L		92	80 - 120
Cobalt	0.500	0.486		mg/L		97	80 - 120
Selenium	0.100	0.103		mg/L		103	80 - 120

Lab Sample ID: LCS 500-337525/2-A
Matrix: Water
Analysis Batch: 339572

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 337525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0466	^	mg/L		93	80 - 120
Cadmium	0.0500	0.0484		mg/L		97	80 - 120
Calcium	10.0	11.0		mg/L		110	80 - 120
Lead	0.100	0.0996		mg/L		100	80 - 120
Molybdenum	1.00	0.959		mg/L		96	80 - 120
Thallium	0.100	0.103		mg/L		103	80 - 120

Lab Sample ID: LCS 500-337525/2-A
Matrix: Water
Analysis Batch: 339726

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 337525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-338187/12-A
Matrix: Water
Analysis Batch: 338501

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 338187

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/02/16 17:00	06/05/16 21:04	1

Lab Sample ID: LCS 500-338187/13-A
Matrix: Water
Analysis Batch: 338501

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 338187

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00218		mg/L		109	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-337569/1
Matrix: Water
Analysis Batch: 337569

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/27/16 20:04	1

Lab Sample ID: LCS 500-337569/2
Matrix: Water
Analysis Batch: 337569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	296		mg/L		118	80 - 120

Lab Sample ID: 500-112198-1 DU
Matrix: Water
Analysis Batch: 337569

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1500		1460		mg/L		1	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-338216/4
Matrix: Water
Analysis Batch: 338216

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/02/16 18:16	1

Lab Sample ID: LCS 500-338216/5
Matrix: Water
Analysis Batch: 338216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.6		mg/L		97	80 - 120

Lab Sample ID: 500-112198-2 MS
Matrix: Water
Analysis Batch: 338216

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	92		50.0	135		mg/L		86	75 - 125

Lab Sample ID: 500-112198-2 MSD
Matrix: Water
Analysis Batch: 338216

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	92		50.0	135		mg/L		86	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-338807/3
Matrix: Water
Analysis Batch: 338807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/07/16 13:53	1

Lab Sample ID: LCS 500-338807/4
Matrix: Water
Analysis Batch: 338807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.7		mg/L		107	80 - 120

Lab Sample ID: 500-112198-1 MS
Matrix: Water
Analysis Batch: 338807

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.33		5.00	5.48		mg/L		103	75 - 125

Lab Sample ID: 500-112198-1 MSD
Matrix: Water
Analysis Batch: 338807

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.33		5.00	5.46		mg/L		103	75 - 125	0	20

Lab Sample ID: MB 500-339574/3
Matrix: Water
Analysis Batch: 339574

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/12/16 21:42	1

Lab Sample ID: LCS 500-339574/4
Matrix: Water
Analysis Batch: 339574

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.7		mg/L		107	80 - 120

Lab Sample ID: 500-112198-2 MS
Matrix: Water
Analysis Batch: 339574

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.44		5.00	5.75		mg/L		106	75 - 125

Lab Sample ID: 500-112198-2 MSD
Matrix: Water
Analysis Batch: 339574

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.44		5.00	5.78		mg/L		107	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-338529/3
Matrix: Water
Analysis Batch: 338529

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			06/06/16 07:14	1

Lab Sample ID: LCS 500-338529/4
Matrix: Water
Analysis Batch: 338529

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	20.9		mg/L		105	80 - 120		

Lab Sample ID: 500-112198-5 MS
Matrix: Water
Analysis Batch: 338529

Client Sample ID: MW-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	170		200	365		mg/L		99	75 - 125		

Lab Sample ID: 500-112198-5 MSD
Matrix: Water
Analysis Batch: 338529

Client Sample ID: MW-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	170		200	365		mg/L		99	75 - 125	0	20

TestAmerica
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TestAmerica Chicago
2417 Bond St.
University Park, IL 6041
708-534-5200
Fax. 708-534-5211

500-112198 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-112198

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A
Temperature °C of Cooler: 2.4 2.9	
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No — COC not present	

Sampler Name: Ian John Howieson	**Signature:**
Project Name: Quarterly Will County CCR	**TestAmerica Project Number:** 50011609
Project Location: Romeoville, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	# / Cont. / Volume / Preserv.	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		[redacted] MW-05	5-26-16	09:30	W	5		X	X	X	X	X	X	
2		MW-06	5-26-16	10:56	W	5		X	X	X	X	X	X	
3		MW-09	5-24-16	15:12	W	5		X	X	X	X	X	X	
4		MW-10	5-25-16	12:20	W	5		X	X	X	X	X	X	
5		MW-11	5-25-16	10:56	W	5		X	X	X	X	X	X	
6		MW-12	5-25-16	09:20	W	5		X	X	X	X	X	X	
7		DUP	5-25-16	—	W	5		X	X	X	X	X	X	

RELINQUISHED BY:		COMPANY: KPRG	DATE: 5-26-16	TIME: 15:15	RECEIVED BY:	COMPANY: TA-CHI	DATE: 5/26/16 TIME: 1515
RELINQUISHED BY:		COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE: TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

___ of ___

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-112198-1

Login Number: 112198
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4,2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-112198-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
6/28/2016 11:01:51 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 17
Receipt Checklists 20
Certification Summary 22
Tracer Carrier Summary 23

Job ID: 500-112198-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-112198-2

Comments
No additional comments.

Receipt
The samples were received on 5/26/2016 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.4º C and 2.9º C.

RAD
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-112198-1	MW-05	Water	05/26/16 09:30	05/26/16 15:15
500-112198-2	MW-06	Water	05/26/16 10:56	05/26/16 15:15
500-112198-3	MW-09	Water	05/24/16 15:12	05/26/16 15:15
500-112198-4	MW-10	Water	05/25/16 12:20	05/26/16 15:15
500-112198-5	MW-11	Water	05/25/16 10:56	05/26/16 15:15
500-112198-6	MW-12	Water	05/25/16 09:20	05/26/16 15:15
500-112198-7	DUP	Water	05/25/16 00:00	05/26/16 15:15

Client Sample ID: MW-05

Date Collected: 05/26/16 09:30
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.150**		0.0821	0.0832	1.00	0.108	pCi/L	06/01/16 14:38	06/24/16 17:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*06/01/16 14:38*	*06/24/16 17:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.00917	U	0.224	0.224	1.00	0.402	pCi/L	06/01/16 17:32	06/21/16 13:32	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.0*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:32*	*1*
Y Carrier	*89.0*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:32*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.159	U	0.239	0.239	5.00	0.402	pCi/L		06/27/16 15:40	1

Client Sample ID: MW-06

Date Collected: 05/26/16 10:56
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.154		0.0798	0.0810	1.00	0.103	pCi/L	06/01/16 14:38	06/24/16 17:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*06/01/16 14:38*	*06/24/16 17:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.257	U	0.259	0.260	1.00	0.422	pCi/L	06/01/16 17:32	06/21/16 13:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.2*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*
Y Carrier	*87.1*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.411	U	0.271	0.272	5.00	0.422	pCi/L		06/27/16 15:40	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-2

Client Sample ID: MW-09

Date Collected: 05/24/16 15:12
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.160**		0.0795	0.0807	1.00	0.0985	pCi/L	06/01/16 14:38	06/24/16 17:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*06/01/16 14:38*	*06/24/16 17:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.348	U	0.258	0.260	1.00	0.405	pCi/L	06/01/16 17:32	06/21/16 13:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*
Y Carrier	*86.4*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.508**		0.270	0.272	5.00	0.405	pCi/L		06/27/16 15:40	1

Client Sample ID: MW-10

Date Collected: 05/25/16 12:20
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.264**		0.104	0.106	1.00	0.120	pCi/L	06/01/16 14:38	06/24/16 17:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/01/16 14:38*	*06/24/16 17:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.249	U	0.260	0.261	1.00	0.425	pCi/L	06/01/16 17:32	06/21/16 13:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*
Y Carrier	*85.2*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.513**		0.280	0.282	5.00	0.425	pCi/L		06/27/16 15:40	1

Client Sample ID: MW-11

Date Collected: 05/25/16 10:56
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.407		0.112	0.117	1.00	0.0987	pCi/L	06/01/16 14:38	06/24/16 17:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*06/01/16 14:38*	*06/24/16 17:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.367		0.237	0.239	1.00	0.365	pCi/L	06/01/16 17:32	06/21/16 13:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*
Y Carrier	*92.7*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.775		0.262	0.267	5.00	0.365	pCi/L		06/27/16 15:40	1

Client Sample ID: MW-12

Date Collected: 05/25/16 09:20
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.148**		0.0872	0.0882	1.00	0.122	pCi/L	06/01/16 14:38	06/24/16 17:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.7*		*40 - 110*	*06/01/16 14:38*	*06/24/16 17:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.258	U	0.198	0.199	1.00	0.309	pCi/L	06/01/16 17:32	06/21/16 13:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.7*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*
Y Carrier	*90.5*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.406**		0.216	0.218	5.00	0.309	pCi/L		06/27/16 15:40	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-2

Client Sample ID: DUP
Date Collected: 05/25/16 00:00
Date Received: 05/26/16 15:15

Lab Sample ID: 500-112198-7
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.103	U	0.0859	0.0864	1.00	0.133	pCi/L	06/01/16 14:38	06/24/16 17:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*06/01/16 14:38*	*06/24/16 17:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.247	U	0.210	0.211	1.00	0.334	pCi/L	06/01/16 17:32	06/21/16 13:33	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*
Y Carrier	*92.0*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:33*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.350**		0.227	0.228	5.00	0.334	pCi/L		06/27/16 15:40	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Rad

Prep Batch: 254139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	PrecSep-21	
500-112198-1 DU	MW-05	Total/NA	Water	PrecSep-21	
500-112198-2	MW-06	Total/NA	Water	PrecSep-21	
500-112198-3	MW-09	Total/NA	Water	PrecSep-21	
500-112198-4	MW-10	Total/NA	Water	PrecSep-21	
500-112198-5	MW-11	Total/NA	Water	PrecSep-21	
500-112198-6	MW-12	Total/NA	Water	PrecSep-21	
500-112198-7	DUP	Total/NA	Water	PrecSep-21	
LCS 160-254139/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
MB 160-254139/1-A	Method Blank	Total/NA	Water	PrecSep-21	

Prep Batch: 254160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-112198-1	MW-05	Total/NA	Water	PrecSep_0	
500-112198-1 DU	MW-05	Total/NA	Water	PrecSep_0	
500-112198-2	MW-06	Total/NA	Water	PrecSep_0	
500-112198-3	MW-09	Total/NA	Water	PrecSep_0	
500-112198-4	MW-10	Total/NA	Water	PrecSep_0	
500-112198-5	MW-11	Total/NA	Water	PrecSep_0	
500-112198-6	MW-12	Total/NA	Water	PrecSep_0	
500-112198-7	DUP	Total/NA	Water	PrecSep_0	
LCS 160-254160/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
MB 160-254160/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-254139/1-A
Matrix: Water
Analysis Batch: 257878

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254139

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.05532	U	0.0688	0.0689	1.00	0.114	pCi/L	06/01/16 14:38	06/24/16 06:16	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.5*		*40 - 110*	*06/01/16 14:38*	*06/24/16 06:16*	*1*

Lab Sample ID: LCS 160-254139/2-A
Matrix: Water
Analysis Batch: 257974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254139

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	13.81		1.36	1.00	0.0689	pCi/L	124	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.4*		*40 - 110*

Lab Sample ID: 500-112198-1 DU
Matrix: Water
Analysis Batch: 257881

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 254139

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.150			0.1511		0.0842	1.00	0.108	pCi/L			0.01	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*79.8*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-254160/1-A
Matrix: Water
Analysis Batch: 257291

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 254160

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2591	U	0.238	0.239	1.00	0.383	pCi/L	06/01/16 17:32	06/21/16 13:26	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.5*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:26*	*1*
Y Carrier	*88.2*		*40 - 110*	*06/01/16 17:32*	*06/21/16 13:26*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-254160/2-A
Matrix: Water
Analysis Batch: 257291

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 254160

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			15.0	18.24		1.91	1.00	0.350	pCi/L	122	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.4*		*40 - 110*
Y Carrier	*86.0*		*40 - 110*

Lab Sample ID: 500-112198-1 DU
Matrix: Water
Analysis Batch: 257290

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 254160

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.00917	U		0.1984	U	0.252	1.00	0.417	pCi/L			0.40	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*79.8*		*40 - 110*
Y Carrier	*86.7*		*40 - 110*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 6041
708-534-5200
Fax. 708-534-5211

500-112198 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-112198

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A
Temperature °C of Cooler: 2.4 2.9	
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No	COC not present

Sampler Name: Ian John Howieson	**Signature:**
Project Name: Quarterly Will County CCR	**TestAmerica Project Number:** 50011609
Project Location: Romeoville, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	# / Cont. / Volume / Preserv.	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		[redacted] MW-05	5-26-16	09:30	W	5		X	X	X	X	X	X	
2		MW-06	5-26-16	10:56	W	5		X	X	X	X	X	X	
3		MW-09	5-24-16	15:12	W	5		X	X	X	X	X	X	
4		MW-10	5-25-16	12:20	W	5		X	X	X	X	X	X	
5		MW-11	5-25-16	10:56	W	5		X	X	X	X	X	X	
6		MW-12	5-25-16	09:20	W	5		X	X	X	X	X	X	
7		DUP	5-25-16	—	W	5		X	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
[signature]	KPRG	5-26-16	15:15	[signature]	TA-CHI	5/26/16	1515
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

___ of ___

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-73814.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-112198-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/8/2016			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-05 (500-112198-1)	5/26/16	09:30 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-06 (500-112198-2)	5/26/16	10:56 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-09 (500-112198-3)	5/24/16	15:12 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-112198-4)	5/25/16	12:20 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-11 (500-112198-5)	5/25/16	10:56 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-12 (500-112198-6)	5/25/16	09:20 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
DUP (500-112198-7)	5/25/16	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	05/26/16 1600	TAL	[signature]	052716 0820	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Page 18 of 23

6/28/2016

TestAmerica
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TestAmerica Chicago
2417 Bond St.
University Park, IL 604[illegible]
708-534-5200
Fax. 708-534-5211

500-112198 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-112198

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A
Temperature °C of Cooler: 2.4 2.9	
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No	COC not present

Sampler Name: Ian John Howieson	**Signature:**
Project Name: Quarterly Will County CCR	**TestAmerica Project Number:** 50011609
Project Location: Romeoville, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# / Cont. / Volume / Preserv. Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		[redacted] MW-05	5-26-16	09:30	W	5	X	X	X	X	X	X	
2		MW-06	5-26-16	10:56	W	5	X	X	X	X	X	X	
3		MW-09	5-24-16	15:12	W	5	X	X	X	X	X	X	
4		MW-10	5-25-16	12:20	W	5	X	X	X	X	X	X	
5		MW-11	5-25-16	10:56	W	5	X	X	X	X	X	X	
6		MW-12	5-25-16	09:20	W	5	X	X	X	X	X	X	
7		DUP	5-25-16	—	W	5	X	X	X	X	X	X	

RELINQUISHED BY:	COMPANY: KPRG	DATE: 5-26-16	TIME: 15:15	RECEIVED BY:	COMPANY: TA-CHI	DATE: 5/26/16	TIME: 1515
RELINQUISHED BY:	COMPANY: TA-CHI	DATE: 5/26/16	TIME: 1600	RECEIVED BY:	COMPANY: TA STL	DATE: 052716	TIME: 0820

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

___ of ___

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-112198-2

Login Number: 112198
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4,2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-112198-2

Login Number: 112198
List Number: 2
Creator: McKinney, Gerrod E

List Source: TestAmerica St. Louis
List Creation: 05/27/16 12:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	15.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-2

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17

Laboratory: TestAmerica St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	003757	11-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-112198-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
500-112198-1	MW-05	86.0
500-112198-1 DU	MW-05	79.8
500-112198-2	MW-06	95.2
500-112198-3	MW-09	89.7
500-112198-4	MW-10	85.5
500-112198-5	MW-11	94.9
500-112198-6	MW-12	95.7
500-112198-7	DUP	92.6
LCS 160-254139/2-A	Lab Control Sample	93.4
MB 160-254139/1-A	Method Blank	89.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
500-112198-1	MW-05	86.0	89.0
500-112198-1 DU	MW-05	79.8	86.7
500-112198-2	MW-06	95.2	87.1
500-112198-3	MW-09	89.7	86.4
500-112198-4	MW-10	85.5	85.2
500-112198-5	MW-11	94.9	92.7
500-112198-6	MW-12	95.7	90.5
500-112198-7	DUP	92.6	92.0
LCS 160-254160/2-A	Lab Control Sample	93.4	86.0
MB 160-254160/1-A	Method Blank	89.5	88.2

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-115612-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
8/24/2016 3:59:10 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 24
Receipt Checklists 25
Certification Summary 26

Job ID: 500-115612-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-115612-1

Comments
No additional comments.

Receipt
The samples were received on 8/11/2016 4:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.4º C and 5.7º C.

Metals
Method(s) 6020A: The internal standard (Tb) was used to report the elements Lead and Thallium in batch 500-347758. This was due to the LCS being spiked with the trace digestion spike which contains Bismuth.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-115612-1	MW-05 CCR	Water	08/10/16 14:14	08/11/16 16:25
500-115612-2	MW-06 CCR	Water	08/11/16 08:28	08/11/16 16:25
500-115612-3	MW-09 CCR	Water	08/09/16 16:39	08/11/16 16:25
500-115612-4	MW-10 CCR	Water	08/10/16 12:17	08/11/16 16:25
500-115612-5	MW-11 CCR	Water	08/10/16 11:11	08/11/16 16:25
500-115612-6	MW-12 CCR	Water	08/10/16 10:06	08/11/16 16:25
500-115612-7	DUPLICATE	Water	08/10/16 00:00	08/11/16 16:25

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Client Sample ID: MW-05 CCR

Date Collected: 08/10/16 14:14
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/12/16 07:54	08/13/16 01:37	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 14:45	1
Arsenic	**0.0044**		0.0010		mg/L		08/12/16 07:54	08/12/16 14:45	1
Barium	**0.043**		0.0025		mg/L		08/12/16 07:54	08/12/16 14:45	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:45	1
Boron	**3.6**		0.25		mg/L		08/12/16 07:54	08/15/16 11:01	5
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:45	1
Calcium	**67**		0.20		mg/L		08/12/16 07:54	08/12/16 14:45	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 14:45	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:45	1
Lead	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:45	1
Molybdenum	**0.14**		0.0050		mg/L		08/12/16 07:54	08/12/16 14:45	1
Selenium	**0.0049**		0.0025		mg/L		08/12/16 07:54	08/12/16 14:45	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 14:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020	F1	0.00020		mg/L		08/12/16 12:45	08/15/16 11:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**970**		10		mg/L			08/12/16 05:27	1
Chloride	**120**		10		mg/L			08/14/16 21:18	5
Fluoride	**0.72**		0.10		mg/L			08/16/16 15:32	1
Sulfate	**480**		100		mg/L			08/22/16 09:47	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Client Sample ID: MW-06 CCR
Date Collected: 08/11/16 08:28
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.017**		0.010		mg/L		08/12/16 07:54	08/13/16 01:43	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 14:49	1
Arsenic	**0.0029**		0.0010		mg/L		08/12/16 07:54	08/12/16 14:49	1
Barium	**0.086**		0.0025		mg/L		08/12/16 07:54	08/12/16 14:49	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:49	1
Boron	**3.6**		0.25		mg/L		08/12/16 07:54	08/15/16 11:04	5
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:49	1
Calcium	**110**		0.20		mg/L		08/12/16 07:54	08/12/16 14:49	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 14:49	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:49	1
Lead	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:49	1
Molybdenum	**0.038**		0.0050		mg/L		08/12/16 07:54	08/12/16 14:49	1
Selenium	<0.0025		0.0025		mg/L		08/12/16 07:54	08/12/16 14:49	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 14:49	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/12/16 12:45	08/15/16 11:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**840**		10		mg/L			08/12/16 05:34	1
Chloride	**58**		2.0		mg/L			08/14/16 20:56	1
Fluoride	**0.35**		0.10		mg/L			08/16/16 15:34	1
Sulfate	**330**		100		mg/L			08/22/16 09:48	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Client Sample ID: MW-09 CCR

Date Collected: 08/09/16 16:39
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/12/16 07:54	08/13/16 01:47	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 14:53	1
Arsenic	**0.0052**		0.0010		mg/L		08/12/16 07:54	08/12/16 14:53	1
Barium	**0.031**		0.0025		mg/L		08/12/16 07:54	08/12/16 14:53	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:53	1
Boron	**2.2**		0.25		mg/L		08/12/16 07:54	08/15/16 11:08	5
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:53	1
Calcium	**53**		0.20		mg/L		08/12/16 07:54	08/12/16 14:53	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 14:53	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:53	1
Lead	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:53	1
Molybdenum	**0.14**		0.0050		mg/L		08/12/16 07:54	08/12/16 14:53	1
Selenium	<0.0025		0.0025		mg/L		08/12/16 07:54	08/12/16 14:53	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 14:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/12/16 12:45	08/15/16 11:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**750**		10		mg/L			08/12/16 05:37	1
Chloride	**140**		10		mg/L			08/14/16 21:19	5
Fluoride	**0.48**		0.10		mg/L			08/16/16 15:37	1
Sulfate	**280**		50		mg/L			08/22/16 09:49	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Client Sample ID: MW-10 CCR

Date Collected: 08/10/16 12:17
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.021**		0.010		mg/L		08/12/16 07:54	08/13/16 01:52	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 14:57	1
Arsenic	**0.017**		0.0010		mg/L		08/12/16 07:54	08/12/16 14:57	1
Barium	**0.11**		0.0025		mg/L		08/12/16 07:54	08/12/16 14:57	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:57	1
Boron	**4.3**		0.25		mg/L		08/12/16 07:54	08/15/16 11:12	5
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:57	1
Calcium	**150**		0.20		mg/L		08/12/16 07:54	08/12/16 14:57	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 14:57	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:57	1
Lead	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:57	1
Molybdenum	**0.082**		0.0050		mg/L		08/12/16 07:54	08/12/16 14:57	1
Selenium	<0.0025		0.0025		mg/L		08/12/16 07:54	08/12/16 14:57	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 14:57	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/12/16 12:45	08/15/16 11:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**970**		10		mg/L			08/12/16 05:41	1
Chloride	**120**		10		mg/L			08/14/16 21:19	5
Fluoride	**0.78**		0.10		mg/L			08/16/16 15:39	1
Sulfate	**230**		50		mg/L			08/22/16 09:50	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Client Sample ID: MW-11 CCR
Date Collected: 08/10/16 11:11
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/12/16 07:54	08/13/16 01:57	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 15:00	1
Arsenic	**0.0072**		0.0010		mg/L		08/12/16 07:54	08/12/16 15:00	1
Barium	**0.12**		0.0025		mg/L		08/12/16 07:54	08/12/16 15:00	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 15:00	1
Boron	**3.1**		0.25		mg/L		08/12/16 07:54	08/15/16 11:16	5
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 15:00	1
Calcium	**96**		0.20		mg/L		08/12/16 07:54	08/12/16 15:00	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 15:00	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 15:00	1
Lead	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 15:00	1
Molybdenum	**0.087**		0.0050		mg/L		08/12/16 07:54	08/12/16 15:00	1
Selenium	<0.0025		0.0025		mg/L		08/12/16 07:54	08/12/16 15:00	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 15:00	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/12/16 12:45	08/15/16 11:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**660**		10		mg/L			08/12/16 05:44	1
Chloride	**86**		10		mg/L			08/14/16 21:21	5
Fluoride	**0.72**		0.10		mg/L			08/16/16 18:18	1
Sulfate	**150**		50		mg/L			08/22/16 09:55	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Client Sample ID: MW-12 CCR
Date Collected: 08/10/16 10:06
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-6
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.017		0.010		mg/L		08/12/16 07:54	08/13/16 02:01	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 15:04	1
Arsenic	0.0017		0.0010		mg/L		08/12/16 07:54	08/12/16 15:04	1
Barium	0.12		0.0025		mg/L		08/12/16 07:54	08/12/16 15:04	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 15:04	1
Boron	2.4		0.25		mg/L		08/12/16 07:54	08/15/16 11:19	5
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 15:04	1
Calcium	170		0.20		mg/L		08/12/16 07:54	08/12/16 15:04	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 15:04	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 15:04	1
Lead	0.00060		0.00050		mg/L		08/12/16 07:54	08/12/16 15:04	1
Molybdenum	0.040		0.0050		mg/L		08/12/16 07:54	08/12/16 15:04	1
Selenium	0.0077		0.0025		mg/L		08/12/16 07:54	08/12/16 15:04	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 15:04	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/12/16 12:45	08/15/16 11:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			08/12/16 05:47	1
Chloride	140		10		mg/L			08/14/16 21:22	5
Fluoride	0.49		0.10		mg/L			08/16/16 15:51	1
Sulfate	280		50		mg/L			08/22/16 09:57	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Client Sample ID: DUPLICATE
Date Collected: 08/10/16 00:00
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-7
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/12/16 07:54	08/13/16 02:05	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 15:16	1
Arsenic	**0.0041**		0.0010		mg/L		08/12/16 07:54	08/12/16 15:16	1
Barium	**0.042**		0.0025		mg/L		08/12/16 07:54	08/12/16 15:16	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 15:16	1
Boron	**3.3**	**F1**	0.25		mg/L		08/12/16 07:54	08/15/16 11:31	5
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 15:16	1
Calcium	**64**		0.20		mg/L		08/12/16 07:54	08/12/16 15:16	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 15:16	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 15:16	1
Lead	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 15:16	1
Molybdenum	**0.14**		0.0050		mg/L		08/12/16 07:54	08/12/16 15:16	1
Selenium	**0.0051**		0.0025		mg/L		08/12/16 07:54	08/12/16 15:16	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 15:16	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00022**		0.00020		mg/L		08/12/16 12:45	08/15/16 11:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			08/12/16 05:51	1
Chloride	**130**		10		mg/L			08/14/16 21:22	5
Fluoride	**0.67**		0.10		mg/L			08/16/16 15:53	1
Sulfate	**540**		100		mg/L			08/22/16 09:58	20

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 347544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total Recoverable	Water	3005A	
500-115612-2	MW-06 CCR	Total Recoverable	Water	3005A	
500-115612-3	MW-09 CCR	Total Recoverable	Water	3005A	
500-115612-4	MW-10 CCR	Total Recoverable	Water	3005A	
500-115612-5	MW-11 CCR	Total Recoverable	Water	3005A	
500-115612-6	MW-12 CCR	Total Recoverable	Water	3005A	
500-115612-7	DUPLICATE	Total Recoverable	Water	3005A	
MB 500-347544/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-347544/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-115612-7 MS	DUPLICATE	Total Recoverable	Water	3005A	
500-115612-7 MSD	DUPLICATE	Total Recoverable	Water	3005A	
500-115612-7 DU	DUPLICATE	Total Recoverable	Water	3005A	

Prep Batch: 347607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	7470A	
500-115612-2	MW-06 CCR	Total/NA	Water	7470A	
500-115612-3	MW-09 CCR	Total/NA	Water	7470A	
500-115612-4	MW-10 CCR	Total/NA	Water	7470A	
500-115612-5	MW-11 CCR	Total/NA	Water	7470A	
500-115612-6	MW-12 CCR	Total/NA	Water	7470A	
500-115612-7	DUPLICATE	Total/NA	Water	7470A	
MB 500-347607/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-347607/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-115612-1 MS	MW-05 CCR	Total/NA	Water	7470A	
500-115612-1 MSD	MW-05 CCR	Total/NA	Water	7470A	
500-115612-1 DU	MW-05 CCR	Total/NA	Water	7470A	

Analysis Batch: 347665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total Recoverable	Water	6010C	347544
500-115612-2	MW-06 CCR	Total Recoverable	Water	6010C	347544
500-115612-3	MW-09 CCR	Total Recoverable	Water	6010C	347544
500-115612-4	MW-10 CCR	Total Recoverable	Water	6010C	347544
500-115612-5	MW-11 CCR	Total Recoverable	Water	6010C	347544
500-115612-6	MW-12 CCR	Total Recoverable	Water	6010C	347544
500-115612-7	DUPLICATE	Total Recoverable	Water	6010C	347544
MB 500-347544/1-A	Method Blank	Total Recoverable	Water	6010C	347544
LCS 500-347544/2-A	Lab Control Sample	Total Recoverable	Water	6010C	347544
500-115612-7 MS	DUPLICATE	Total Recoverable	Water	6010C	347544
500-115612-7 MSD	DUPLICATE	Total Recoverable	Water	6010C	347544
500-115612-7 DU	DUPLICATE	Total Recoverable	Water	6010C	347544

Analysis Batch: 347758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total Recoverable	Water	6020A	347544
500-115612-2	MW-06 CCR	Total Recoverable	Water	6020A	347544
500-115612-3	MW-09 CCR	Total Recoverable	Water	6020A	347544
500-115612-4	MW-10 CCR	Total Recoverable	Water	6020A	347544
500-115612-5	MW-11 CCR	Total Recoverable	Water	6020A	347544
500-115612-6	MW-12 CCR	Total Recoverable	Water	6020A	347544

Metals (Continued)

Analysis Batch: 347758 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-7	DUPLICATE	Total Recoverable	Water	6020A	347544
MB 500-347544/1-A	Method Blank	Total Recoverable	Water	6020A	347544
LCS 500-347544/2-A	Lab Control Sample	Total Recoverable	Water	6020A	347544
500-115612-7 MS	DUPLICATE	Total Recoverable	Water	6020A	347544
500-115612-7 MSD	DUPLICATE	Total Recoverable	Water	6020A	347544
500-115612-7 DU	DUPLICATE	Total Recoverable	Water	6020A	347544

Analysis Batch: 347804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	7470A	347607
500-115612-2	MW-06 CCR	Total/NA	Water	7470A	347607
500-115612-3	MW-09 CCR	Total/NA	Water	7470A	347607
500-115612-4	MW-10 CCR	Total/NA	Water	7470A	347607
500-115612-5	MW-11 CCR	Total/NA	Water	7470A	347607
500-115612-6	MW-12 CCR	Total/NA	Water	7470A	347607
500-115612-7	DUPLICATE	Total/NA	Water	7470A	347607
MB 500-347607/12-A	Method Blank	Total/NA	Water	7470A	347607
LCS 500-347607/13-A	Lab Control Sample	Total/NA	Water	7470A	347607
500-115612-1 MS	MW-05 CCR	Total/NA	Water	7470A	347607
500-115612-1 MSD	MW-05 CCR	Total/NA	Water	7470A	347607
500-115612-1 DU	MW-05 CCR	Total/NA	Water	7470A	347607

Analysis Batch: 347831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total Recoverable	Water	6020A	347544
500-115612-2	MW-06 CCR	Total Recoverable	Water	6020A	347544
500-115612-3	MW-09 CCR	Total Recoverable	Water	6020A	347544
500-115612-4	MW-10 CCR	Total Recoverable	Water	6020A	347544
500-115612-5	MW-11 CCR	Total Recoverable	Water	6020A	347544
500-115612-6	MW-12 CCR	Total Recoverable	Water	6020A	347544
500-115612-7	DUPLICATE	Total Recoverable	Water	6020A	347544
MB 500-347544/1-A	Method Blank	Total Recoverable	Water	6020A	347544
LCS 500-347544/2-A	Lab Control Sample	Total Recoverable	Water	6020A	347544
500-115612-7 MS	DUPLICATE	Total Recoverable	Water	6020A	347544
500-115612-7 MSD	DUPLICATE	Total Recoverable	Water	6020A	347544
500-115612-7 DU	DUPLICATE	Total Recoverable	Water	6020A	347544

General Chemistry

Analysis Batch: 347518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	SM 2540C	
500-115612-2	MW-06 CCR	Total/NA	Water	SM 2540C	
500-115612-3	MW-09 CCR	Total/NA	Water	SM 2540C	
500-115612-4	MW-10 CCR	Total/NA	Water	SM 2540C	
500-115612-5	MW-11 CCR	Total/NA	Water	SM 2540C	
500-115612-6	MW-12 CCR	Total/NA	Water	SM 2540C	
500-115612-7	DUPLICATE	Total/NA	Water	SM 2540C	
MB 500-347518/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-347518/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 347518 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1 DU	MW-05 CCR	Total/NA	Water	SM 2540C	

Analysis Batch: 347721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	SM 4500 Cl- E	
500-115612-2	MW-06 CCR	Total/NA	Water	SM 4500 Cl- E	
500-115612-3	MW-09 CCR	Total/NA	Water	SM 4500 Cl- E	
500-115612-4	MW-10 CCR	Total/NA	Water	SM 4500 Cl- E	
500-115612-5	MW-11 CCR	Total/NA	Water	SM 4500 Cl- E	
500-115612-6	MW-12 CCR	Total/NA	Water	SM 4500 Cl- E	
500-115612-7	DUPLICATE	Total/NA	Water	SM 4500 Cl- E	
MB 500-347721/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-347721/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-115612-4 MS	MW-10 CCR	Total/NA	Water	SM 4500 Cl- E	
500-115612-4 MSD	MW-10 CCR	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 348019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	SM 4500 F C	
500-115612-2	MW-06 CCR	Total/NA	Water	SM 4500 F C	
500-115612-3	MW-09 CCR	Total/NA	Water	SM 4500 F C	
500-115612-4	MW-10 CCR	Total/NA	Water	SM 4500 F C	
500-115612-6	MW-12 CCR	Total/NA	Water	SM 4500 F C	
500-115612-7	DUPLICATE	Total/NA	Water	SM 4500 F C	
MB 500-348019/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-348019/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 348036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-5	MW-11 CCR	Total/NA	Water	SM 4500 F C	
MB 500-348036/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-348036/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 348702

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-2	MW-06 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-3	MW-09 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-4	MW-10 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-5	MW-11 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-6	MW-12 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-7	DUPLICATE	Total/NA	Water	SM 4500 SO4 E	
MB 500-348702/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-348702/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-115612-4 MS	MW-10 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-4 MSD	MW-10 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-5 MS	MW-11 CCR	Total/NA	Water	SM 4500 SO4 E	
500-115612-5 MSD	MW-11 CCR	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-347544/1-A
Matrix: Water
Analysis Batch: 347665

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		08/12/16 07:54	08/13/16 01:29	1

Lab Sample ID: LCS 500-347544/2-A
Matrix: Water
Analysis Batch: 347665

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.565		mg/L		113	80 - 120

Lab Sample ID: 500-115612-7 MS
Matrix: Water
Analysis Batch: 347665

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	<0.010		0.500	0.551		mg/L		109	75 - 125

Lab Sample ID: 500-115612-7 MSD
Matrix: Water
Analysis Batch: 347665

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	<0.010		0.500	0.531		mg/L		105	75 - 125	4	20

Lab Sample ID: 500-115612-7 DU
Matrix: Water
Analysis Batch: 347665

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	<0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-347544/1-A
Matrix: Water
Analysis Batch: 347758

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		08/12/16 07:54	08/12/16 14:30	1
Arsenic	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:30	1
Barium	<0.0025		0.0025		mg/L		08/12/16 07:54	08/12/16 14:30	1
Beryllium	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:30	1
Cadmium	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:30	1
Calcium	<0.20		0.20		mg/L		08/12/16 07:54	08/12/16 14:30	1
Chromium	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 14:30	1
Cobalt	<0.0010		0.0010		mg/L		08/12/16 07:54	08/12/16 14:30	1
Lead	<0.00050		0.00050		mg/L		08/12/16 07:54	08/12/16 14:30	1
Molybdenum	<0.0050		0.0050		mg/L		08/12/16 07:54	08/12/16 14:30	1
Selenium	<0.0025		0.0025		mg/L		08/12/16 07:54	08/12/16 14:30	1
Thallium	<0.0020		0.0020		mg/L		08/12/16 07:54	08/12/16 14:30	1

Lab Sample ID: MB 500-347544/1-A
Matrix: Water
Analysis Batch: 347831

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		08/12/16 07:54	08/15/16 10:53	1

Lab Sample ID: LCS 500-347544/2-A
Matrix: Water
Analysis Batch: 347758

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.512		mg/L		102	80 - 120
Arsenic	0.100	0.104		mg/L		104	80 - 120
Barium	2.00	2.09		mg/L		105	80 - 120
Beryllium	0.0500	0.0506		mg/L		101	80 - 120
Cadmium	0.0500	0.0526		mg/L		105	80 - 120
Calcium	10.0	11.7		mg/L		117	80 - 120
Chromium	0.200	0.207		mg/L		103	80 - 120
Cobalt	0.500	0.522		mg/L		104	80 - 120
Lead	0.100	0.106		mg/L		106	80 - 120
Molybdenum	1.00	1.02		mg/L		102	80 - 120
Selenium	0.100	0.105		mg/L		105	80 - 120
Thallium	0.100	0.108		mg/L		108	80 - 120

Lab Sample ID: LCS 500-347544/2-A
Matrix: Water
Analysis Batch: 347831

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.01		mg/L		101	80 - 120

Lab Sample ID: 500-115612-7 MS
Matrix: Water
Analysis Batch: 347758

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.531		mg/L		106	75 - 125
Arsenic	0.0041		0.100	0.117		mg/L		113	75 - 125
Barium	0.042		2.00	2.19		mg/L		107	75 - 125
Beryllium	<0.0010		0.0500	0.0534		mg/L		107	75 - 125
Cadmium	<0.00050		0.0500	0.0525		mg/L		105	75 - 125
Calcium	64		10.0	79.7	4	mg/L		161	75 - 125
Chromium	<0.0050		0.200	0.204		mg/L		102	75 - 125
Cobalt	<0.0010		0.500	0.516		mg/L		103	75 - 125
Lead	<0.00050		0.100	0.104		mg/L		104	75 - 125
Molybdenum	0.14		1.00	1.19		mg/L		105	75 - 125
Selenium	0.0051		0.100	0.118		mg/L		113	75 - 125
Thallium	<0.0020		0.100	0.104		mg/L		104	75 - 125

Lab Sample ID: 500-115612-7 MS
Matrix: Water
Analysis Batch: 347831

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.3	F1	1.00	4.68	F1	mg/L		134	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-115612-7 MSD
Matrix: Water
Analysis Batch: 347758

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.503		mg/L		101	75 - 125	5	20
Arsenic	0.0041		0.100	0.112		mg/L		107	75 - 125	5	20
Barium	0.042		2.00	2.12		mg/L		104	75 - 125	3	20
Beryllium	<0.0010		0.0500	0.0487		mg/L		97	75 - 125	9	20
Cadmium	<0.00050		0.0500	0.0508		mg/L		102	75 - 125	3	20
Calcium	64		10.0	75.0	4	mg/L		114	75 - 125	6	20
Chromium	<0.0050		0.200	0.194		mg/L		97	75 - 125	5	20
Cobalt	<0.0010		0.500	0.493		mg/L		99	75 - 125	5	20
Lead	<0.00050		0.100	0.101		mg/L		101	75 - 125	3	20
Molybdenum	0.14		1.00	1.14		mg/L		100	75 - 125	5	20
Selenium	0.0051		0.100	0.112		mg/L		107	75 - 125	6	20
Thallium	<0.0020		0.100	0.101		mg/L		101	75 - 125	2	20

Lab Sample ID: 500-115612-7 MSD
Matrix: Water
Analysis Batch: 347831

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	3.3	F1	1.00	4.41		mg/L		107	75 - 125	6	20

Lab Sample ID: 500-115612-7 DU
Matrix: Water
Analysis Batch: 347758

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	0.0041			0.00427		mg/L				3	20
Barium	0.042			0.0426		mg/L				2	20
Beryllium	<0.0010			<0.0010		mg/L				NC	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Calcium	64			66.0		mg/L				4	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	<0.0010			<0.0010		mg/L				NC	20
Lead	<0.00050			<0.00050		mg/L				NC	20
Molybdenum	0.14			0.145		mg/L				4	20
Selenium	0.0051			0.00532		mg/L				4	20
Thallium	<0.0020			<0.0020		mg/L				NC	20

Lab Sample ID: 500-115612-7 DU
Matrix: Water
Analysis Batch: 347831

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 347544

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	3.3	F1		3.48		mg/L				4	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-347607/12-A
Matrix: Water
Analysis Batch: 347804

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 347607

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/12/16 12:45	08/15/16 11:08	1

Lab Sample ID: LCS 500-347607/13-A
Matrix: Water
Analysis Batch: 347804

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 347607

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00195		mg/L		97	80 - 120

Lab Sample ID: 500-115612-1 MS
Matrix: Water
Analysis Batch: 347804

Client Sample ID: MW-05 CCR
Prep Type: Total/NA
Prep Batch: 347607

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020	F1	0.00100	0.00127	F1	mg/L		127	75 - 125

Lab Sample ID: 500-115612-1 MSD
Matrix: Water
Analysis Batch: 347804

Client Sample ID: MW-05 CCR
Prep Type: Total/NA
Prep Batch: 347607

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020	F1	0.00100	0.00122		mg/L		122	75 - 125	4	20

Lab Sample ID: 500-115612-1 DU
Matrix: Water
Analysis Batch: 347804

Client Sample ID: MW-05 CCR
Prep Type: Total/NA
Prep Batch: 347607

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020	F1	<0.00020		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-347518/1
Matrix: Water
Analysis Batch: 347518

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			08/12/16 04:36	1

Lab Sample ID: LCS 500-347518/2
Matrix: Water
Analysis Batch: 347518

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	286		mg/L		114	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 500-115612-1 DU
Matrix: Water
Analysis Batch: 347518

Client Sample ID: MW-05 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	970			984		mg/L				1	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-347721/12
Matrix: Water
Analysis Batch: 347721

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			08/14/16 20:41	1

Lab Sample ID: LCS 500-347721/13
Matrix: Water
Analysis Batch: 347721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	50.6		mg/L		101	80 - 120		

Lab Sample ID: 500-115612-4 MS
Matrix: Water
Analysis Batch: 347721

Client Sample ID: MW-10 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	120		50.0	159		mg/L		78	75 - 125		

Lab Sample ID: 500-115612-4 MSD
Matrix: Water
Analysis Batch: 347721

Client Sample ID: MW-10 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	120		50.0	161		mg/L		83	75 - 125	2	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-348019/3
Matrix: Water
Analysis Batch: 348019

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			08/16/16 14:39	1

Lab Sample ID: LCS 500-348019/4
Matrix: Water
Analysis Batch: 348019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.2		mg/L		102	80 - 120		

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: MB 500-348036/3
Matrix: Water
Analysis Batch: 348036

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			08/16/16 17:01	1

Lab Sample ID: LCS 500-348036/4
Matrix: Water
Analysis Batch: 348036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-348702/3
Matrix: Water
Analysis Batch: 348702

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/22/16 09:44	1

Lab Sample ID: LCS 500-348702/4
Matrix: Water
Analysis Batch: 348702

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.7		mg/L		99	80 - 120

Lab Sample ID: 500-115612-4 MS
Matrix: Water
Analysis Batch: 348702

Client Sample ID: MW-10 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	230		400	620		mg/L		97	75 - 125

Lab Sample ID: 500-115612-4 MSD
Matrix: Water
Analysis Batch: 348702

Client Sample ID: MW-10 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	230		400	627		mg/L		99	75 - 125	1	20

Lab Sample ID: 500-115612-5 MS
Matrix: Water
Analysis Batch: 348702

Client Sample ID: MW-11 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	150		400	560		mg/L		103	75 - 125

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-115612-5 MSD
Matrix: Water
Analysis Batch: 348702

Client Sample ID: MW-11 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	150		400	564		mg/L		104	75 - 125	1	20

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TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-115612

Package Sealed: (Yes) No	Samples Sealed: (Yes) No
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 5.4, 5.7	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res Cl_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name: Ian John Howleson	**Signature:**
Project Name: Quarterly Will County: CCR	**TestAmerica Project Number:** 50011609
Project Location: Romeoville, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	# / Cont. / Volume / Preserv.	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate
1		MW-05 CCR	8-10-16	14:14	W	G		X	X	X	X	X	X
2		MW-06 CCR	8-11-16	08:28	W			X	X	X	X	X	X
3		MW-09 CCR	8-9-16	16:39	W			X	X	X	X	X	X
4		MW-10 CCR	8-10-16	12:17	W			X	X	X	X	X	X
5		MW-11 CCR	8-10-16	11:11	W			X	X	X	X	X	X
6		MW-12 CCR	8-10-16	10:06	W			X	X	X	X	X	X
7		DUPLICATE	8-10-16	—	W			X	X	X	X	X	X

Additional A

500-115612 COC

RELINQUISHED BY: ISH	COMPANY: KPRG	DATE: 8-11-16	TIME: 16:25	RECEIVED BY:	COMPANY: TA	DATE: 08/11/16	TIME: 1625
RELINQUISHED BY	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

eservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 08/11/16
Courier:
Hand Delivered
Bill of Lading:

1 of 1

STL-8208 (0600)

8/24/2016

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-115612-1

Login Number: 115612
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.4,5.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-115612-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
9/8/2016 1:01:46 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 17
Receipt Checklists 19
Certification Summary 21
Tracer Carrier Summary 22

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Job ID: 500-115612-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-115612-2

Comments
No additional comments.

Receipt
The samples were received on 8/11/2016 4:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.4° C and 5.7° C.

RAD
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-115612-1	MW-05 CCR	Water	08/10/16 14:14	08/11/16 16:25
500-115612-2	MW-06 CCR	Water	08/11/16 08:28	08/11/16 16:25
500-115612-3	MW-09 CCR	Water	08/09/16 16:39	08/11/16 16:25
500-115612-4	MW-10 CCR	Water	08/10/16 12:17	08/11/16 16:25
500-115612-5	MW-11 CCR	Water	08/10/16 11:11	08/11/16 16:25
500-115612-6	MW-12 CCR	Water	08/10/16 10:06	08/11/16 16:25
500-115612-7	DUPLICATE	Water	08/10/16 00:00	08/11/16 16:25

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Client Sample ID: MW-05 CCR

Date Collected: 08/10/16 14:14
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0825	U	0.0602	0.0606	1.00	0.0903	pCi/L	08/16/16 20:05	09/07/16 07:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.9*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.124	U	0.231	0.231	1.00	0.394	pCi/L	08/16/16 20:36	08/30/16 17:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.9*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:27*	*1*
Y Carrier	*78.5*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:27*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.206	U	0.239	0.239	5.00	0.394	pCi/L		09/08/16 05:40	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Client Sample ID: MW-06 CCR
Date Collected: 08/11/16 08:28
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-2
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.136		0.0569	0.0583	1.00	0.0635	pCi/L	08/16/16 20:05	09/07/16 07:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.6*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.189	U	0.207	0.208	1.00	0.339	pCi/L	08/16/16 20:36	08/30/16 17:27	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.6*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:27*	*1*
Y Carrier	*83.7*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:27*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.325	U	0.215	0.216	5.00	0.339	pCi/L		09/08/16 05:40	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Client Sample ID: MW-09 CCR

Date Collected: 08/09/16 16:39
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0695		0.0479	0.0483	1.00	0.0672	pCi/L	08/16/16 20:05	09/07/16 07:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.7*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.570		0.303	0.308	1.00	0.458	pCi/L	08/16/16 20:36	08/30/16 17:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.7*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*
Y Carrier	*86.4*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.639		0.307	0.312	5.00	0.458	pCi/L		09/08/16 05:40	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Client Sample ID: MW-10 CCR

Date Collected: 08/10/16 12:17
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.464**		0.110	0.118	1.00	0.112	pCi/L	08/16/16 20:05	09/07/16 07:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.9*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.400	U	0.338	0.340	1.00	0.538	pCi/L	08/16/16 20:36	08/30/16 17:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.9*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*
Y Carrier	*73.6*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.864**		0.355	0.359	5.00	0.538	pCi/L		09/08/16 05:40	1

Client Sample ID: MW-11 CCR

Date Collected: 08/10/16 11:11
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.410**		0.0912	0.0984	1.00	0.0660	pCi/L	08/16/16 20:05	09/07/16 07:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.397	U	0.269	0.272	1.00	0.416	pCi/L	08/16/16 20:36	08/30/16 17:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.3*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*
Y Carrier	*83.0*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.807**		0.284	0.289	5.00	0.416	pCi/L		09/08/16 05:40	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Client Sample ID: MW-12 CCR
Date Collected: 08/10/16 10:06
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-6
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0865	U	0.0633	0.0638	1.00	0.0954	pCi/L	08/16/16 20:05	09/07/16 07:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.292	U	0.265	0.267	1.00	0.426	pCi/L	08/16/16 20:36	08/30/16 17:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*
Y Carrier	*81.1*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.379	U	0.273	0.274	5.00	0.426	pCi/L		09/08/16 05:40	1

Client Sample ID: DUPLICATE

Date Collected: 08/10/16 00:00
Date Received: 08/11/16 16:25

Lab Sample ID: 500-115612-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.109**		0.0719	0.0725	1.00	0.107	pCi/L	08/16/16 20:05	09/07/16 07:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.257	U	0.254	0.255	1.00	0.411	pCi/L	08/16/16 20:36	08/30/16 17:28	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*
Y Carrier	*83.0*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:28*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.366	U	0.264	0.265	5.00	0.411	pCi/L		09/08/16 05:40	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Rad

Prep Batch: 265108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	PrecSep-21	
500-115612-2	MW-06 CCR	Total/NA	Water	PrecSep-21	
500-115612-3	MW-09 CCR	Total/NA	Water	PrecSep-21	
500-115612-4	MW-10 CCR	Total/NA	Water	PrecSep-21	
500-115612-5	MW-11 CCR	Total/NA	Water	PrecSep-21	
500-115612-6	MW-12 CCR	Total/NA	Water	PrecSep-21	
500-115612-7	DUPLICATE	Total/NA	Water	PrecSep-21	
MB 160-265108/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-265108/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-115612-3 DU	MW-09 CCR	Total/NA	Water	PrecSep-21	

Prep Batch: 265109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-115612-1	MW-05 CCR	Total/NA	Water	PrecSep_0	
500-115612-2	MW-06 CCR	Total/NA	Water	PrecSep_0	
500-115612-3	MW-09 CCR	Total/NA	Water	PrecSep_0	
500-115612-4	MW-10 CCR	Total/NA	Water	PrecSep_0	
500-115612-5	MW-11 CCR	Total/NA	Water	PrecSep_0	
500-115612-6	MW-12 CCR	Total/NA	Water	PrecSep_0	
500-115612-7	DUPLICATE	Total/NA	Water	PrecSep_0	
MB 160-265109/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-265109/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-115612-3 DU	MW-09 CCR	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-265108/1-A
Matrix: Water
Analysis Batch: 268304

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 265108

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.02186	U	0.0432	0.0433	1.00	0.0769	pCi/L	08/16/16 20:05	09/07/16 07:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.3*		*40 - 110*	*08/16/16 20:05*	*09/07/16 07:45*	*1*

Lab Sample ID: LCS 160-265108/2-A
Matrix: Water
Analysis Batch: 268304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 265108

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.2	14.27		1.38	1.00	0.0993	pCi/L	128	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.3*		*40 - 110*

Lab Sample ID: 500-115612-3 DU
Matrix: Water
Analysis Batch: 268308

Client Sample ID: MW-09 CCR
Prep Type: Total/NA
Prep Batch: 265108

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.0695			0.08365		0.0526	1.00	0.0706	pCi/L			0.14	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*88.9*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-265109/1-A
Matrix: Water
Analysis Batch: 267348

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 265109

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2684	U	0.277	0.278	1.00	0.451	pCi/L	08/16/16 20:36	08/30/16 17:12	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.3*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:12*	*1*
Y Carrier	*87.1*		*40 - 110*	*08/16/16 20:36*	*08/30/16 17:12*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-265109/2-A
Matrix: Water
Analysis Batch: 267348

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 265109

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			14.6	16.49		1.78	1.00	0.420	pCi/L	113	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*92.3*		*40 - 110*
Y Carrier	*77.4*		*40 - 110*

Lab Sample ID: 500-115612-3 DU
Matrix: Water
Analysis Batch: 267264

Client Sample ID: MW-09 CCR
Prep Type: Total/NA
Prep Batch: 265109

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.570			0.2528	U	0.255	1.00	0.413	pCi/L			0.56	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*88.9*		*40 - 110*
Y Carrier	*78.5*		*40 - 110*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-115612

Package Sealed: (Yes) No	Samples Sealed: (Yes) No
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 5.4, 5.7	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res Cl_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name: Ian John Howleson	**Signature:**
Project Name: Quarterly Will County: CCR	**TestAmerica Project Number:** 50011609
Project Location: Romeoville, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate
1		MW-05 CCR	8-10-16	14:14	W	G	X	X	X	X	X	X
2		MW-06 CCR	8-11-16	08:28	W		X	X	X	X	X	X
3		MW-09 CCR	8-9-16	16:39	W		X	X	X	X	X	X
4		MW-10 CCR	8-10-16	12:17	W		X	X	X	X	X	X
5		MW-11 CCR	8-10-16	11:11	W		X	X	X	X	X	X
6		MW-12 CCR	8-10-16	10:06	W		X	X	X	X	X	X
7		DUPLICATE	8-10-16	—	W		X	X	X	X	X	X

Additional A

500-115612 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
ISH	KPRG	8-11-16	16:25		TA	08/11/16	1625
RELINQUISHED BY	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

eservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 08/11/16
Courier:
Hand Delivered
Bill of Lading:

1 of 1

STL-8208 (0600)

9/8/2016

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-115612 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	COC No: 500-76758.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		**Analysis Requested**	Job #: 500-115612-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/9/2016		**Preservation Codes:**
City: Earth City	TAT Requested (days):		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: MO, 63045			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		Other:
Email:	WO #:		
Project Name: Will County CCR	Project #: 50011609		
Site: NRG Midwest Generation Will County	SSOW#:		

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	904.0/PrecSep_0 Standard Target List	903.0/PrecSep_21 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-05 CCR (500-115612-1)	8/10/16	14:14 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-06 CCR (500-115612-2)	8/11/16	08:28 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-09 CCR (500-115612-3)	8/9/16	16:39 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 CCR (500-115612-4)	8/10/16	12:17 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-11 CCR (500-115612-5)	8/10/16	11:11 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-12 CCR (500-115612-6)	8/10/16	10:06 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
DUPLICATE (500-115612-7)	8/10/16	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:	Date/Time: 08/12/16 1600	Company TA	Received by:	Date/Time: 8/13/16 0830	Company TA STL		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-115612-2

Login Number: 115612
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.4,5.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-115612-2

Login Number: 115612
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 08/13/16 09:39 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	19.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17

Laboratory: TestAmerica St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	003757	11-30-16 *

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

* Certification renewal pending - certification considered valid.

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-115612-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
500-115612-1	MW-05 CCR	98.9
500-115612-2	MW-06 CCR	96.6
500-115612-3	MW-09 CCR	95.7
500-115612-3 DU	MW-09 CCR	88.9
500-115612-4	MW-10 CCR	84.9
500-115612-5	MW-11 CCR	90.3
500-115612-6	MW-12 CCR	92.9
500-115612-7	DUPLICATE	92.3
LCS 160-265108/2-A	Lab Control Sample	92.3
MB 160-265108/1-A	Method Blank	84.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
500-115612-1	MW-05 CCR	98.9	78.5
500-115612-2	MW-06 CCR	96.6	83.7
500-115612-3	MW-09 CCR	95.7	86.4
500-115612-3 DU	MW-09 CCR	88.9	78.5
500-115612-4	MW-10 CCR	84.9	73.6
500-115612-5	MW-11 CCR	90.3	83.0
500-115612-6	MW-12 CCR	92.9	81.1
500-115612-7	DUPLICATE	92.3	83.0
LCS 160-265109/2-A	Lab Control Sample	92.3	77.4
MB 160-265109/1-A	Method Blank	84.3	87.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-119293-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/9/2016 12:38:16 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 23
Receipt Checklists 24
Certification Summary 25

Job ID: 500-119293-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-119293-1

Comments
No additional comments.

Receipt
The samples were received on 10/28/2016 11:08 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.2º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-119293-1	MW-05 CCR	Water	10/26/16 16:44	10/28/16 11:08
500-119293-2	MW-06 CCR	Water	10/26/16 09:38	10/28/16 11:08
500-119293-3	MW-09 CCR	Water	10/26/16 14:50	10/28/16 11:08
500-119293-4	MW-10 CCR	Water	10/26/16 13:36	10/28/16 11:08
500-119293-5	MW-11 CCR	Water	10/26/16 15:20	10/28/16 11:08
500-119293-6	MW-12 CCR	Water	10/26/16 11:39	10/28/16 11:08
500-119293-7	DUPLICATE	Water	10/26/16 00:00	10/28/16 11:08

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Client Sample ID: MW-05 CCR

Date Collected: 10/26/16 16:44
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/04/16 14:18	11/05/16 16:47	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 17:39	1
Arsenic	**0.0047**		0.0010		mg/L		10/29/16 10:56	10/31/16 17:39	1
Barium	**0.033**		0.0025		mg/L		10/29/16 10:56	10/31/16 17:39	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 17:39	1
Boron	**3.6**		0.50		mg/L		10/29/16 10:56	11/01/16 17:48	10
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 17:39	1
Calcium	**44**		0.20		mg/L		10/29/16 10:56	10/31/16 17:39	1
Chromium	<0.0050		0.0050		mg/L		10/29/16 10:56	10/31/16 17:39	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 17:39	1
Lead	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 17:39	1
Molybdenum	**0.12**		0.0050		mg/L		10/29/16 10:56	10/31/16 17:39	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 17:39	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 17:39	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 09:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**920**		10		mg/L			11/02/16 02:42	1
Chloride	**120**		10		mg/L			11/02/16 01:19	5
Fluoride	**0.70**		0.10		mg/L			11/05/16 15:33	1
Sulfate	**410**		100		mg/L			11/07/16 06:13	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Client Sample ID: MW-06 CCR

Date Collected: 10/26/16 09:38
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-2

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.013**		0.010		mg/L		11/04/16 14:18	11/05/16 16:50	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 17:58	1
Arsenic	**0.0030**		0.0010		mg/L		10/29/16 10:56	10/31/16 17:58	1
Barium	**0.074**		0.0025		mg/L		10/29/16 10:56	10/31/16 17:58	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 17:58	1
Boron	**3.8**		0.50		mg/L		10/29/16 10:56	11/01/16 18:15	10
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 17:58	1
Calcium	**86**		0.20		mg/L		10/29/16 10:56	10/31/16 17:58	1
Chromium	<0.0050		0.0050		mg/L		10/29/16 10:56	10/31/16 17:58	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 17:58	1
Lead	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 17:58	1
Molybdenum	**0.043**		0.0050		mg/L		10/29/16 10:56	10/31/16 17:58	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 17:58	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 17:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 09:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**800**		10		mg/L			11/02/16 02:47	1
Chloride	**74**		2.0		mg/L			11/02/16 00:44	1
Fluoride	**0.40**		0.10		mg/L			11/05/16 15:36	1
Sulfate	**220**		50		mg/L			11/07/16 06:14	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Client Sample ID: MW-09 CCR

Lab Sample ID: 500-119293-3

Date Collected: 10/26/16 14:50

Matrix: Water

Date Received: 10/28/16 11:08

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/04/16 14:18	11/05/16 16:54	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 18:02	1
Arsenic	**0.0069**		0.0010		mg/L		10/29/16 10:56	10/31/16 18:02	1
Barium	**0.019**		0.0025		mg/L		10/29/16 10:56	10/31/16 18:02	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:02	1
Boron	**2.2**		0.50		mg/L		10/29/16 10:56	11/01/16 18:18	10
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:02	1
Calcium	**33**		0.20		mg/L		10/29/16 10:56	10/31/16 18:02	1
Chromium	<0.0050		0.0050		mg/L		10/29/16 10:56	10/31/16 18:02	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:02	1
Lead	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:02	1
Molybdenum	**0.11**		0.0050		mg/L		10/29/16 10:56	10/31/16 18:02	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 18:02	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 18:02	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 09:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**660**		10		mg/L			11/02/16 02:51	1
Chloride	**130**		10		mg/L			11/02/16 01:19	5
Fluoride	**0.81**		0.10		mg/L			11/05/16 15:40	1
Sulfate	**230**		50		mg/L			11/07/16 06:17	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Client Sample ID: MW-10 CCR

Date Collected: 10/26/16 13:36
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.021**		0.010		mg/L		11/04/16 14:18	11/05/16 16:58	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 18:06	1
Arsenic	**0.022**		0.0010		mg/L		10/29/16 10:56	10/31/16 18:06	1
Barium	**0.11**		0.0025		mg/L		10/29/16 10:56	10/31/16 18:06	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:06	1
Boron	**3.0**		0.50		mg/L		10/29/16 10:56	11/01/16 18:22	10
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:06	1
Calcium	**160**		0.20		mg/L		10/29/16 10:56	10/31/16 18:06	1
Chromium	<0.0050		0.0050		mg/L		10/29/16 10:56	10/31/16 18:06	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:06	1
Lead	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:06	1
Molybdenum	**0.030**		0.0050		mg/L		10/29/16 10:56	10/31/16 18:06	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 18:06	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 18:06	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 09:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			11/02/16 23:25	1
Chloride	**74**		10		mg/L			11/02/16 01:20	5
Fluoride	**0.52**		0.10		mg/L			11/05/16 15:42	1
Sulfate	**220**		50		mg/L			11/07/16 06:18	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Client Sample ID: MW-11 CCR
Date Collected: 10/26/16 15:20
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/04/16 14:18	11/05/16 17:02	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 18:17	1
Arsenic	**0.0082**		0.0010		mg/L		10/29/16 10:56	10/31/16 18:17	1
Barium	**0.096**		0.0025		mg/L		10/29/16 10:56	10/31/16 18:17	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:17	1
Boron	**2.5**		0.50		mg/L		10/29/16 10:56	11/01/16 18:26	10
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:17	1
Calcium	**110**		0.20		mg/L		10/29/16 10:56	10/31/16 18:17	1
Chromium	<0.0050		0.0050		mg/L		10/29/16 10:56	10/31/16 18:17	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:17	1
Lead	**0.00052**		0.00050		mg/L		10/29/16 10:56	10/31/16 18:17	1
Molybdenum	**0.043**		0.0050		mg/L		10/29/16 10:56	10/31/16 18:17	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 18:17	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 18:17	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 09:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**630**		10		mg/L			11/02/16 23:33	1
Chloride	**67**		2.0		mg/L			11/02/16 00:47	1
Fluoride	**0.53**		0.10		mg/L			11/05/16 15:45	1
Sulfate	**120**		50		mg/L			11/07/16 06:19	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Client Sample ID: MW-12 CCR
Date Collected: 10/26/16 11:39
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-6
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.013		0.010		mg/L		11/04/16 14:18	11/05/16 17:05	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 18:21	1
Arsenic	0.0016		0.0010		mg/L		10/29/16 10:56	10/31/16 18:21	1
Barium	0.11		0.0025		mg/L		10/29/16 10:56	10/31/16 18:21	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:21	1
Boron	2.6		0.50		mg/L		10/29/16 10:56	11/01/16 18:30	10
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:21	1
Calcium	140		0.20		mg/L		10/29/16 10:56	10/31/16 18:21	1
Chromium	0.025		0.0050		mg/L		10/29/16 10:56	10/31/16 18:21	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:21	1
Lead	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:21	1
Molybdenum	0.036		0.0050		mg/L		10/29/16 10:56	10/31/16 18:21	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 18:21	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 18:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 09:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	980		10		mg/L			11/02/16 23:38	1
Chloride	120		10		mg/L			11/02/16 01:20	5
Fluoride	0.49		0.10		mg/L			11/05/16 15:48	1
Sulfate	220		50		mg/L			11/07/16 06:20	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Client Sample ID: DUPLICATE
Date Collected: 10/26/16 00:00
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-7
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		11/04/16 14:18	11/05/16 17:09	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 18:24	1
Arsenic	**0.0016**		0.0010		mg/L		10/29/16 10:56	10/31/16 18:24	1
Barium	**0.11**		0.0025		mg/L		10/29/16 10:56	10/31/16 18:24	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:24	1
Boron	**2.5**		0.50		mg/L		10/29/16 10:56	11/01/16 18:33	10
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:24	1
Calcium	**140**		0.20		mg/L		10/29/16 10:56	10/31/16 18:24	1
Chromium	**0.031**		0.0050		mg/L		10/29/16 10:56	10/31/16 18:24	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 18:24	1
Lead	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 18:24	1
Molybdenum	**0.035**		0.0050		mg/L		10/29/16 10:56	10/31/16 18:24	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 18:24	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 18:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 10:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**940**		10		mg/L			11/02/16 23:42	1
Chloride	**120**		10		mg/L			11/02/16 01:21	5
Fluoride	**0.54**		0.10		mg/L			11/05/16 16:01	1
Sulfate	**210**		50		mg/L			11/07/16 06:23	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 358414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total Recoverable	Water	3005A	
500-119293-2	MW-06 CCR	Total Recoverable	Water	3005A	
500-119293-3	MW-09 CCR	Total Recoverable	Water	3005A	
500-119293-4	MW-10 CCR	Total Recoverable	Water	3005A	
500-119293-5	MW-11 CCR	Total Recoverable	Water	3005A	
500-119293-6	MW-12 CCR	Total Recoverable	Water	3005A	
500-119293-7	DUPLICATE	Total Recoverable	Water	3005A	
MB 500-358414/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-358414/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-119293-1 MS	MW-05 CCR	Total Recoverable	Water	3005A	
500-119293-1 MSD	MW-05 CCR	Total Recoverable	Water	3005A	
500-119293-1 DU	MW-05 CCR	Total Recoverable	Water	3005A	

Prep Batch: 358597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	7470A	
500-119293-2	MW-06 CCR	Total/NA	Water	7470A	
500-119293-3	MW-09 CCR	Total/NA	Water	7470A	
500-119293-4	MW-10 CCR	Total/NA	Water	7470A	
500-119293-5	MW-11 CCR	Total/NA	Water	7470A	
500-119293-6	MW-12 CCR	Total/NA	Water	7470A	
500-119293-7	DUPLICATE	Total/NA	Water	7470A	
MB 500-358597/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-358597/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 358729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total Recoverable	Water	6020A	358414
500-119293-2	MW-06 CCR	Total Recoverable	Water	6020A	358414
500-119293-3	MW-09 CCR	Total Recoverable	Water	6020A	358414
500-119293-4	MW-10 CCR	Total Recoverable	Water	6020A	358414
500-119293-5	MW-11 CCR	Total Recoverable	Water	6020A	358414
500-119293-6	MW-12 CCR	Total Recoverable	Water	6020A	358414
500-119293-7	DUPLICATE	Total Recoverable	Water	6020A	358414
MB 500-358414/1-A	Method Blank	Total Recoverable	Water	6020A	358414
LCS 500-358414/2-A	Lab Control Sample	Total Recoverable	Water	6020A	358414
500-119293-1 MS	MW-05 CCR	Total Recoverable	Water	6020A	358414
500-119293-1 MSD	MW-05 CCR	Total Recoverable	Water	6020A	358414
500-119293-1 DU	MW-05 CCR	Total Recoverable	Water	6020A	358414

Analysis Batch: 358757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	7470A	358597
500-119293-2	MW-06 CCR	Total/NA	Water	7470A	358597
500-119293-3	MW-09 CCR	Total/NA	Water	7470A	358597
500-119293-4	MW-10 CCR	Total/NA	Water	7470A	358597
500-119293-5	MW-11 CCR	Total/NA	Water	7470A	358597
500-119293-6	MW-12 CCR	Total/NA	Water	7470A	358597
500-119293-7	DUPLICATE	Total/NA	Water	7470A	358597
MB 500-358597/12-A	Method Blank	Total/NA	Water	7470A	358597
LCS 500-358597/13-A	Lab Control Sample	Total/NA	Water	7470A	358597

Analysis Batch: 358885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total Recoverable	Water	6020A	358414
500-119293-2	MW-06 CCR	Total Recoverable	Water	6020A	358414
500-119293-3	MW-09 CCR	Total Recoverable	Water	6020A	358414
500-119293-4	MW-10 CCR	Total Recoverable	Water	6020A	358414
500-119293-5	MW-11 CCR	Total Recoverable	Water	6020A	358414
500-119293-6	MW-12 CCR	Total Recoverable	Water	6020A	358414
500-119293-7	DUPLICATE	Total Recoverable	Water	6020A	358414
MB 500-358414/1-A	Method Blank	Total Recoverable	Water	6020A	358414
LCS 500-358414/2-A	Lab Control Sample	Total Recoverable	Water	6020A	358414
500-119293-1 MS	MW-05 CCR	Total Recoverable	Water	6020A	358414
500-119293-1 MSD	MW-05 CCR	Total Recoverable	Water	6020A	358414
500-119293-1 DU	MW-05 CCR	Total Recoverable	Water	6020A	358414

Prep Batch: 359395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total Recoverable	Water	3005A	
500-119293-2	MW-06 CCR	Total Recoverable	Water	3005A	
500-119293-3	MW-09 CCR	Total Recoverable	Water	3005A	
500-119293-4	MW-10 CCR	Total Recoverable	Water	3005A	
500-119293-5	MW-11 CCR	Total Recoverable	Water	3005A	
500-119293-6	MW-12 CCR	Total Recoverable	Water	3005A	
500-119293-7	DUPLICATE	Total Recoverable	Water	3005A	
MB 500-359395/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-359395/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-119293-7 MS	DUPLICATE	Total Recoverable	Water	3005A	
500-119293-7 MSD	DUPLICATE	Total Recoverable	Water	3005A	
500-119293-7 DU	DUPLICATE	Total Recoverable	Water	3005A	

Analysis Batch: 359483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total Recoverable	Water	6010C	359395
500-119293-2	MW-06 CCR	Total Recoverable	Water	6010C	359395
500-119293-3	MW-09 CCR	Total Recoverable	Water	6010C	359395
500-119293-4	MW-10 CCR	Total Recoverable	Water	6010C	359395
500-119293-5	MW-11 CCR	Total Recoverable	Water	6010C	359395
500-119293-6	MW-12 CCR	Total Recoverable	Water	6010C	359395
500-119293-7	DUPLICATE	Total Recoverable	Water	6010C	359395
MB 500-359395/1-A	Method Blank	Total Recoverable	Water	6010C	359395
LCS 500-359395/2-A	Lab Control Sample	Total Recoverable	Water	6010C	359395
500-119293-7 MS	DUPLICATE	Total Recoverable	Water	6010C	359395
500-119293-7 MSD	DUPLICATE	Total Recoverable	Water	6010C	359395
500-119293-7 DU	DUPLICATE	Total Recoverable	Water	6010C	359395

General Chemistry

Analysis Batch: 358861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	SM 2540C	
500-119293-2	MW-06 CCR	Total/NA	Water	SM 2540C	
500-119293-3	MW-09 CCR	Total/NA	Water	SM 2540C	
MB 500-358861/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-358861/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 358864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-4	MW-10 CCR	Total/NA	Water	SM 2540C	
500-119293-5	MW-11 CCR	Total/NA	Water	SM 2540C	
500-119293-6	MW-12 CCR	Total/NA	Water	SM 2540C	
500-119293-7	DUPLICATE	Total/NA	Water	SM 2540C	
MB 500-358864/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-358864/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-119293-4 DU	MW-10 CCR	Total/NA	Water	SM 2540C	

Analysis Batch: 359178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	SM 4500 Cl- E	
500-119293-2	MW-06 CCR	Total/NA	Water	SM 4500 Cl- E	
500-119293-3	MW-09 CCR	Total/NA	Water	SM 4500 Cl- E	
500-119293-4	MW-10 CCR	Total/NA	Water	SM 4500 Cl- E	
500-119293-5	MW-11 CCR	Total/NA	Water	SM 4500 Cl- E	
500-119293-6	MW-12 CCR	Total/NA	Water	SM 4500 Cl- E	
500-119293-7	DUPLICATE	Total/NA	Water	SM 4500 Cl- E	
MB 500-359178/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-359178/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 359576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	SM 4500 SO4 E	
500-119293-2	MW-06 CCR	Total/NA	Water	SM 4500 SO4 E	
500-119293-3	MW-09 CCR	Total/NA	Water	SM 4500 SO4 E	
500-119293-4	MW-10 CCR	Total/NA	Water	SM 4500 SO4 E	
500-119293-5	MW-11 CCR	Total/NA	Water	SM 4500 SO4 E	
500-119293-6	MW-12 CCR	Total/NA	Water	SM 4500 SO4 E	
500-119293-7	DUPLICATE	Total/NA	Water	SM 4500 SO4 E	
MB 500-359576/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-359576/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-119293-2 MS	MW-06 CCR	Total/NA	Water	SM 4500 SO4 E	
500-119293-2 MSD	MW-06 CCR	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 359614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	SM 4500 F C	
500-119293-2	MW-06 CCR	Total/NA	Water	SM 4500 F C	
500-119293-3	MW-09 CCR	Total/NA	Water	SM 4500 F C	
500-119293-4	MW-10 CCR	Total/NA	Water	SM 4500 F C	
500-119293-5	MW-11 CCR	Total/NA	Water	SM 4500 F C	
500-119293-6	MW-12 CCR	Total/NA	Water	SM 4500 F C	
500-119293-7	DUPLICATE	Total/NA	Water	SM 4500 F C	
MB 500-359614/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-359614/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-359395/1-A
Matrix: Water
Analysis Batch: 359483

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		11/04/16 14:18	11/05/16 16:39	1

Lab Sample ID: LCS 500-359395/2-A
Matrix: Water
Analysis Batch: 359483

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.500		mg/L		100	80 - 120

Lab Sample ID: 500-119293-7 MS
Matrix: Water
Analysis Batch: 359483

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 359395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.012		0.500	0.516		mg/L		101	75 - 125

Lab Sample ID: 500-119293-7 MSD
Matrix: Water
Analysis Batch: 359483

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 359395

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.012		0.500	0.516		mg/L		101	75 - 125	0	20

Lab Sample ID: 500-119293-7 DU
Matrix: Water
Analysis Batch: 359483

Client Sample ID: DUPLICATE
Prep Type: Total Recoverable
Prep Batch: 359395

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	0.012		0.0110		mg/L		6	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-358414/1-A
Matrix: Water
Analysis Batch: 358729

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/29/16 10:56	10/31/16 17:32	1
Arsenic	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 17:32	1
Barium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 17:32	1
Beryllium	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 17:32	1
Cadmium	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 17:32	1
Calcium	<0.20		0.20		mg/L		10/29/16 10:56	10/31/16 17:32	1
Chromium	<0.0050		0.0050		mg/L		10/29/16 10:56	10/31/16 17:32	1
Cobalt	<0.0010		0.0010		mg/L		10/29/16 10:56	10/31/16 17:32	1
Lead	<0.00050		0.00050		mg/L		10/29/16 10:56	10/31/16 17:32	1
Molybdenum	<0.0050		0.0050		mg/L		10/29/16 10:56	10/31/16 17:32	1
Selenium	<0.0025		0.0025		mg/L		10/29/16 10:56	10/31/16 17:32	1
Thallium	<0.0020		0.0020		mg/L		10/29/16 10:56	10/31/16 17:32	1

Lab Sample ID: MB 500-358414/1-A
Matrix: Water
Analysis Batch: 358885

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		10/29/16 10:56	11/01/16 17:41	1

Lab Sample ID: LCS 500-358414/2-A
Matrix: Water
Analysis Batch: 358729

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.476		mg/L		95	80 - 120
Arsenic	0.100	0.0927		mg/L		93	80 - 120
Barium	0.500	0.484		mg/L		97	80 - 120
Beryllium	0.0500	0.0460		mg/L		92	80 - 120
Cadmium	0.0500	0.0479		mg/L		96	80 - 120
Calcium	10.0	11.2		mg/L		112	80 - 120
Chromium	0.200	0.194		mg/L		97	80 - 120
Cobalt	0.500	0.497		mg/L		99	80 - 120
Lead	0.100	0.0978		mg/L		98	80 - 120
Molybdenum	1.00	0.951		mg/L		95	80 - 120
Selenium	0.100	0.0937		mg/L		94	80 - 120
Thallium	0.100	0.0966		mg/L		97	80 - 120

Lab Sample ID: LCS 500-358414/2-A
Matrix: Water
Analysis Batch: 358885

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.991		mg/L		99	80 - 120

Lab Sample ID: 500-119293-1 MS
Matrix: Water
Analysis Batch: 358729

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.486		mg/L		97	75 - 125
Arsenic	0.0047		0.100	0.100		mg/L		96	75 - 125
Barium	0.033		0.500	0.495		mg/L		92	75 - 125
Beryllium	<0.0010		0.0500	0.0444		mg/L		89	75 - 125
Cadmium	<0.00050		0.0500	0.0472		mg/L		94	75 - 125
Calcium	44		10.0	56.1	4	mg/L		118	75 - 125
Chromium	<0.0050		0.200	0.186		mg/L		93	75 - 125
Cobalt	<0.0010		0.500	0.477		mg/L		95	75 - 125
Lead	<0.00050		0.100	0.0916		mg/L		91	75 - 125
Molybdenum	0.12		1.00	1.03		mg/L		91	75 - 125
Selenium	<0.0025		0.100	0.0967		mg/L		95	75 - 125
Thallium	<0.0020		0.100	0.0894		mg/L		89	75 - 125

Lab Sample ID: 500-119293-1 MS
Matrix: Water
Analysis Batch: 358885

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.6		1.00	4.44		mg/L		84	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-119293-1 MSD
Matrix: Water
Analysis Batch: 358729

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.491		mg/L		98	75 - 125	1	20
Arsenic	0.0047		0.100	0.102		mg/L		97	75 - 125	1	20
Barium	0.033		0.500	0.509		mg/L		95	75 - 125	3	20
Beryllium	<0.0010		0.0500	0.0439		mg/L		88	75 - 125	1	20
Cadmium	<0.00050		0.0500	0.0482		mg/L		96	75 - 125	2	20
Calcium	44		10.0	56.6	4	mg/L		123	75 - 125	1	20
Chromium	<0.0050		0.200	0.191		mg/L		95	75 - 125	3	20
Cobalt	<0.0010		0.500	0.487		mg/L		97	75 - 125	2	20
Lead	<0.00050		0.100	0.0934		mg/L		93	75 - 125	2	20
Molybdenum	0.12		1.00	1.06		mg/L		94	75 - 125	3	20
Selenium	<0.0025		0.100	0.0991		mg/L		98	75 - 125	2	20
Thallium	<0.0020		0.100	0.0915		mg/L		91	75 - 125	2	20

Lab Sample ID: 500-119293-1 MSD
Matrix: Water
Analysis Batch: 358885

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	3.6		1.00	4.61		mg/L		101	75 - 125	4	20

Lab Sample ID: 500-119293-1 DU
Matrix: Water
Analysis Batch: 358729

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	0.0047			0.00491		mg/L				5	20
Barium	0.033			0.0334		mg/L				2	20
Beryllium	<0.0010			<0.0010		mg/L				NC	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Calcium	44			46.2		mg/L				4	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	<0.0010			<0.0010		mg/L				NC	20
Lead	<0.00050			<0.00050		mg/L				NC	20
Molybdenum	0.12			0.123		mg/L				2	20
Selenium	<0.0025			<0.0025		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20

Lab Sample ID: 500-119293-1 DU
Matrix: Water
Analysis Batch: 358885

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 358414

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	3.6			3.64		mg/L				1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-358597/12-A
Matrix: Water
Analysis Batch: 358757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358597

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/31/16 13:45	11/01/16 09:25	1

Lab Sample ID: LCS 500-358597/13-A
Matrix: Water
Analysis Batch: 358757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00184		mg/L		92	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-358861/1
Matrix: Water
Analysis Batch: 358861

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/02/16 01:10	1

Lab Sample ID: LCS 500-358861/2
Matrix: Water
Analysis Batch: 358861

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	256		mg/L		102	80 - 120

Lab Sample ID: MB 500-358864/1
Matrix: Water
Analysis Batch: 358864

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/02/16 23:17	1

Lab Sample ID: LCS 500-358864/2
Matrix: Water
Analysis Batch: 358864

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	240		mg/L		96	80 - 120

Lab Sample ID: 500-119293-4 DU
Matrix: Water
Analysis Batch: 358864

Client Sample ID: MW-10 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1000		1010		mg/L		1	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-359178/4
Matrix: Water
Analysis Batch: 359178

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/02/16 00:41	1

Lab Sample ID: LCS 500-359178/5
Matrix: Water
Analysis Batch: 359178

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.7		mg/L		101	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-359614/3
Matrix: Water
Analysis Batch: 359614

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/05/16 14:45	1

Lab Sample ID: LCS 500-359614/4
Matrix: Water
Analysis Batch: 359614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-359576/3
Matrix: Water
Analysis Batch: 359576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/07/16 06:11	1

Lab Sample ID: LCS 500-359576/4
Matrix: Water
Analysis Batch: 359576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.7		mg/L		104	80 - 120

Lab Sample ID: 500-119293-2 MS
Matrix: Water
Analysis Batch: 359576

Client Sample ID: MW-06 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	220		400	613		mg/L		99	75 - 125

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-119293-2 MSD
Matrix: Water
Analysis Batch: 359576

Client Sample ID: MW-06 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	220		400	631		mg/L		103	75 - 125	3	20

TestAmerica

THE LEADER IN ENVIR

TestAmerica Chicag
2417 Bond St.
University Park, IL 60
708-534-5200
Fax. 708-534-5211

500-119293 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-119293

Package Sealed: Yes (No)	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 3.2, 2.8	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res Cl_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name: Ian John Howieson	**Signature:**
Project Name: Quarterly Will County: CCR	**TestAmerica Project Number:** 50011609
Project Location: Romeoville, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate				Total # Containers	Additional Analyses / Remarks
					Preserv.												
1		MW-05 CCR	10-26-16	16:44	W	G	X	X	X	X	X	X				5	
2		MW-06 CCR	10-26-16	09:38	W	G	X	X	X	X	X	X				5	
3		MW-09 CCR	10-25-16	14:50	W	G	X	X	X	X	X	X				5	
4		MW-10 CCR	10-26-16	13:36	W	G	X	X	X	X	X	X				5	
5		MW-11 CCR	10-26-16	15:20	W	G	X	X	X	X	X	X				5	
6		MW-12 CCR	10-26-16	11:39	W	G	X	X	X	X	X	X				5	
7		DUPLICATE	10-26-16	—	W	G	X	X	X	X	X	X				5	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
ISH	KPRG	10-28-16	11:08		TACHT	10/28/16	11:08
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received: 10/28/16

Courier:

Hand Delivered: X

Bill of Lading:

1 of 1

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-119293-1

Login Number: 119293
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2,2.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-119293-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/29/2016 2:07:54 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 16
Receipt Checklists 18
Certification Summary 20
Tracer Carrier Summary 21

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Job ID: 500-119293-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-119293-2

Comments
No additional comments.

Receipt
The samples were received on 10/28/2016 11:08 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 3.2º C.

RAD
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-119293-1	MW-05 CCR	Water	10/26/16 16:44	10/28/16 11:08
500-119293-2	MW-06 CCR	Water	10/26/16 09:38	10/28/16 11:08
500-119293-3	MW-09 CCR	Water	10/26/16 14:50	10/28/16 11:08
500-119293-4	MW-10 CCR	Water	10/26/16 13:36	10/28/16 11:08
500-119293-5	MW-11 CCR	Water	10/26/16 15:20	10/28/16 11:08
500-119293-6	MW-12 CCR	Water	10/26/16 11:39	10/28/16 11:08
500-119293-7	DUPLICATE	Water	10/26/16 00:00	10/28/16 11:08

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Client Sample ID: MW-05 CCR

Date Collected: 10/26/16 16:44
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.340	U	0.266	0.267	1.00	0.387	pCi/L	10/31/16 13:31	11/28/16 06:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.252	U	0.264	0.265	1.00	0.430	pCi/L	10/31/16 13:31	11/25/16 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.8*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*
Y Carrier	*78.9*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.592**		0.375	0.377	5.00	0.430	pCi/L		11/29/16 11:15	1

Client Sample ID: MW-06 CCR

Date Collected: 10/26/16 09:38
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.244	U	0.254	0.255	1.00	0.402	pCi/L	10/31/16 13:31	11/28/16 06:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0550	U	0.298	0.298	1.00	0.531	pCi/L	10/31/16 13:31	11/25/16 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.3*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*
Y Carrier	*71.0*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.299	U	0.391	0.392	5.00	0.531	pCi/L		11/29/16 11:15	1

Client Sample ID: MW-09 CCR

Date Collected: 10/26/16 14:50
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.227	U	0.249	0.250	1.00	0.400	pCi/L	10/31/16 13:31	11/28/16 06:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.6*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:53*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.381	U	0.321	0.323	1.00	0.512	pCi/L	10/31/16 13:31	11/25/16 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.6*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*
Y Carrier	*80.0*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.608**		0.406	0.408	5.00	0.512	pCi/L		11/29/16 11:15	1

Client Sample ID: MW-10 CCR

Date Collected: 10/26/16 13:36
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.155	U	0.205	0.206	1.00	0.344	pCi/L	10/31/16 13:31	11/28/16 06:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:54*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.304	U	0.282	0.283	1.00	0.454	pCi/L	10/31/16 13:31	11/25/16 18:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:01*	*1*
Y Carrier	*81.5*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.458**		0.349	0.350	5.00	0.454	pCi/L		11/29/16 11:15	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Client Sample ID: MW-11 CCR
Date Collected: 10/26/16 15:20
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-5
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.221	U	0.240	0.241	1.00	0.384	pCi/L	10/31/16 13:31	11/28/16 06:54	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.2*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:54*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.289	U	0.289	0.290	1.00	0.469	pCi/L	10/31/16 13:31	11/25/16 18:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.2*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:01*	*1*
Y Carrier	*83.0*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.510**		0.376	0.377	5.00	0.469	pCi/L		11/29/16 11:15	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Client Sample ID: MW-12 CCR
Date Collected: 10/26/16 11:39
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-6
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.132	U	0.225	0.225	1.00	0.391	pCi/L	10/31/16 13:31	11/28/16 06:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:55*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.143	U	0.388	0.388	1.00	0.664	pCi/L	10/31/16 13:31	11/25/16 18:01	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:01*	*1*
Y Carrier	*71.8*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:01*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.275	U	0.448	0.449	5.00	0.664	pCi/L		11/29/16 11:15	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Client Sample ID: DUPLICATE
Date Collected: 10/26/16 00:00
Date Received: 10/28/16 11:08

Lab Sample ID: 500-119293-7
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.292	U	0.251	0.252	1.00	0.379	pCi/L	10/31/16 13:31	11/28/16 06:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.3*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:55*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.00997	U	0.229	0.229	1.00	0.415	pCi/L	10/31/16 13:31	11/25/16 18:00	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.3*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*
Y Carrier	*86.0*		*40 - 110*	*10/31/16 13:31*	*11/25/16 18:00*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.282	U	0.339	0.340	5.00	0.415	pCi/L		11/29/16 11:15	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Rad

Prep Batch: 276867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	PrecSep-21	
500-119293-2	MW-06 CCR	Total/NA	Water	PrecSep-21	
500-119293-3	MW-09 CCR	Total/NA	Water	PrecSep-21	
500-119293-4	MW-10 CCR	Total/NA	Water	PrecSep-21	
500-119293-5	MW-11 CCR	Total/NA	Water	PrecSep-21	
500-119293-6	MW-12 CCR	Total/NA	Water	PrecSep-21	
500-119293-7	DUPLICATE	Total/NA	Water	PrecSep-21	
MB 160-276867/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-276867/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 276984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-119293-1	MW-05 CCR	Total/NA	Water	PrecSep_0	
500-119293-2	MW-06 CCR	Total/NA	Water	PrecSep_0	
500-119293-3	MW-09 CCR	Total/NA	Water	PrecSep_0	
500-119293-4	MW-10 CCR	Total/NA	Water	PrecSep_0	
500-119293-5	MW-11 CCR	Total/NA	Water	PrecSep_0	
500-119293-6	MW-12 CCR	Total/NA	Water	PrecSep_0	
500-119293-7	DUPLICATE	Total/NA	Water	PrecSep_0	
MB 160-276984/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-276984/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-276867/1-A
Matrix: Water
Analysis Batch: 280975

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276867

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08823	U	0.199	0.199	1.00	0.361	pCi/L	10/31/16 13:31	11/28/16 06:47	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.2*		*40 - 110*	*10/31/16 13:31*	*11/28/16 06:47*	*1*

Lab Sample ID: LCS 160-276867/2-A
Matrix: Water
Analysis Batch: 280975

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 276867

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.1	13.53		1.73	1.00	0.479	pCi/L	122	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*81.8*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-276984/1-A
Matrix: Water
Analysis Batch: 280921

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 276984

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.05251	U	0.232	0.232	1.00	0.423	pCi/L	10/31/16 13:31	11/25/16 17:58	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.2*		*40 - 110*	*10/31/16 13:31*	*11/25/16 17:58*	*1*
Y Carrier	*87.1*		*40 - 110*	*10/31/16 13:31*	*11/25/16 17:58*	*1*

Lab Sample ID: LCS 160-276984/2-A
Matrix: Water
Analysis Batch: 280921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 276984

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			14.2	16.36		1.79	1.00	0.505	pCi/L	115	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*81.8*		*40 - 110*
Y Carrier	*86.4*		*40 - 110*

TestAmerica

THE LEADER IN ENVIR

TestAmerica Chicag
2417 Bond St.
University Park, IL 60
708-534-5200
Fax. 708-534-5211

500-119293 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-119293

Package Sealed: Yes (No)	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 3.2, 2.8	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res Cl_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No COC not present	

Sampler Name: Ian John Howieson	**Signature:**
Project Name: Quarterly Will County: CCR	**TestAmerica Project Number:** 50011609
Project Location: Romeoville, IL	**TAT** 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate				Total # Containers	Additional Analyses / Remarks
					Preserv.												
1		MW-05 CCR	10-26-16	16:44	W	G	X	X	X	X	X	X				5	
2		MW-06 CCR	10-26-16	09:38	W	G	X	X	X	X	X	X				5	
3		MW-09 CCR	10-25-16	14:50	W	G	X	X	X	X	X	X				5	
4		MW-10 CCR	10-26-16	13:36	W	G	X	X	X	X	X	X				5	
5		MW-11 CCR	10-26-16	15:20	W	G	X	X	X	X	X	X				5	
6		MW-12 CCR	10-26-16	11:39	W	G	X	X	X	X	X	X				5	
7		DUPLICATE	10-26-16	—	W	G	X	X	X	X	X	X				5	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
ISH	KPRG	10-28-16	11:08		TACHT	10/28/16	11:08
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received: 10/28/16

Courier:

Hand Delivered: X

Bill of Lading:

1 of 1

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record


500-119293 Chain of Custody

TestAmerica
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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	COC No: 500-79801.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois	Job #: 500-119293-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 11/25/2016		
City: Earth City	TAT Requested (days):		
State, Zip: MO, 63045			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:		
Email:	WO #:		
Project Name: Will County CCR	Project #: 50011609		
Site: NRG Midwest Generation Will County	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226_Ra228	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
MW-05 CCR (500-119293-1)	10/26/16	16:44 Central		Water			X	X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-06 CCR (500-119293-2)	10/26/16	09:38 Central		Water			X	X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-09 CCR (500-119293-3)	10/26/16	14:50 Central		Water			X	X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 CCR (500-119293-4)	10/26/16	13:36 Central		Water			X	X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-11 CCR (500-119293-5)	10/26/16	15:20 Central		Water			X	X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-12 CCR (500-119293-6)	10/26/16	11:39 Central		Water			X	X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
DUPLICATE (500-119293-7)	10/26/16	Central		Water			X	X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 10/28/16 1600	Company TA	Received by:	Date/Time: 10.29.16 0815	Company TASTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

11/29/2016

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-119293-2

Login Number: 119293
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2,2.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-119293-2

Login Number: 119293
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 10/31/16 10:04 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17

Laboratory: TestAmerica St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	003757	11-30-16 *

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

* Certification renewal pending - certification considered valid.

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-119293-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
500-119293-1	MW-05 CCR	81.8
500-119293-2	MW-06 CCR	80.3
500-119293-3	MW-09 CCR	80.6
500-119293-4	MW-10 CCR	90.6
500-119293-5	MW-11 CCR	85.2
500-119293-6	MW-12 CCR	92.6
500-119293-7	DUPLICATE	88.3
LCS 160-276867/2-A	Lab Control Sample	81.8
MB 160-276867/1-A	Method Blank	97.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
500-119293-1	MW-05 CCR	81.8	78.9
500-119293-2	MW-06 CCR	80.3	71.0
500-119293-3	MW-09 CCR	80.6	80.0
500-119293-4	MW-10 CCR	90.6	81.5
500-119293-5	MW-11 CCR	85.2	83.0
500-119293-6	MW-12 CCR	92.6	71.8
500-119293-7	DUPLICATE	88.3	86.0
LCS 160-276984/2-A	Lab Control Sample	81.8	86.4
MB 160-276984/1-A	Method Blank	97.2	87.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-123394-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
2/14/2017 2:59:32 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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Have a Question? Ask The Expert

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 22
Receipt Checklists 23
Certification Summary 24

Job ID: 500-123394-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-123394-1

Comments
No additional comments.

Receipt
The samples were received on 2/2/2017 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were -0.9º C and 0.8º C.

Metals
Method(s) 6020A: The laboratory control sample (LCS) for prep batch 370761 recovered above the control limits for Iron. The associated samples were non-detects and therefore reported.

Method(s) 7470A: The continuing calibration verification (CCV) associated with batch 500-370955 recovered above the upper control limit for Hg. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-123394-1	MW-05	Water	02/01/17 12:15	02/02/17 17:30
500-123394-2	MW-06	Water	02/01/17 13:56	02/02/17 17:30
500-123394-3	MW-09	Water	01/31/17 14:08	02/02/17 17:30
500-123394-4	MW-10	Water	02/02/17 13:05	02/02/17 17:30
500-123394-5	MW-11	Water	02/01/17 16:32	02/02/17 17:30
500-123394-6	MW-12	Water	02/01/17 15:45	02/02/17 17:30
500-123394-7	Duplicate	Water	02/01/17 00:00	02/02/17 17:30

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Client Sample ID: MW-05
Date Collected: 02/01/17 12:15
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.016**		0.010		mg/L		02/03/17 08:49	02/03/17 16:21	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 17:38	1
Arsenic	**0.0015**		0.0010		mg/L		02/03/17 08:49	02/03/17 17:38	1
Barium	**0.058**		0.0025		mg/L		02/03/17 08:49	02/03/17 17:38	1
Beryllium	<0.0010	*	0.0010		mg/L		02/03/17 08:49	02/03/17 17:38	1
Boron	**4.6**		0.50		mg/L		02/03/17 08:49	02/06/17 12:14	10
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:38	1
Calcium	**250**		2.0		mg/L		02/03/17 08:49	02/06/17 12:14	10
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 17:38	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:38	1
Lead	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:38	1
Molybdenum	**0.048**		0.0050		mg/L		02/03/17 08:49	02/03/17 17:38	1
Selenium	**0.029**		0.0025		mg/L		02/03/17 08:49	02/03/17 17:38	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 17:38	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020	^	0.00020		mg/L		02/03/17 12:00	02/06/17 10:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1600**		10		mg/L			02/07/17 04:45	1
Chloride	**48**		2.0		mg/L			02/09/17 23:22	1
Fluoride	**0.35**		0.10		mg/L			02/07/17 15:30	1
Sulfate	**530**		100		mg/L			02/07/17 10:05	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Client Sample ID: MW-06

Date Collected: 02/01/17 13:56
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-2

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.012**		0.010		mg/L		02/03/17 08:49	02/03/17 16:24	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 17:42	1
Arsenic	**0.0043**		0.0010		mg/L		02/03/17 08:49	02/03/17 17:42	1
Barium	**0.068**		0.0025		mg/L		02/03/17 08:49	02/03/17 17:42	1
Beryllium	<0.0010	*	0.0010		mg/L		02/03/17 08:49	02/03/17 17:42	1
Boron	**3.4**		0.50		mg/L		02/03/17 08:49	02/06/17 12:17	10
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:42	1
Calcium	**70**		2.0		mg/L		02/03/17 08:49	02/06/17 12:17	10
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 17:42	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:42	1
Lead	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:42	1
Molybdenum	**0.050**		0.0050		mg/L		02/03/17 08:49	02/03/17 17:42	1
Selenium	**0.0035**		0.0025		mg/L		02/03/17 08:49	02/03/17 17:42	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 17:42	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020	^	0.00020		mg/L		02/03/17 12:00	02/06/17 10:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**700**		10		mg/L			02/07/17 04:50	1
Chloride	**83**		10		mg/L			02/10/17 00:19	5
Fluoride	**0.41**		0.10		mg/L			02/07/17 15:33	1
Sulfate	**260**		50		mg/L			02/07/17 10:08	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Client Sample ID: MW-09

Date Collected: 01/31/17 14:08
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-3

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		02/03/17 08:49	02/03/17 16:28	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 17:46	1
Arsenic	**0.0063**		0.0010		mg/L		02/03/17 08:49	02/03/17 17:46	1
Barium	**0.038**		0.0025		mg/L		02/03/17 08:49	02/03/17 17:46	1
Beryllium	<0.0010	*	0.0010		mg/L		02/03/17 08:49	02/03/17 17:46	1
Boron	**2.0**		0.25		mg/L		02/03/17 08:49	02/06/17 12:21	5
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:46	1
Calcium	**61**		1.0		mg/L		02/03/17 08:49	02/06/17 12:21	5
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 17:46	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:46	1
Lead	**0.0014**		0.00050		mg/L		02/03/17 08:49	02/03/17 17:46	1
Molybdenum	**0.090**		0.0050		mg/L		02/03/17 08:49	02/03/17 17:46	1
Selenium	<0.0025		0.0025		mg/L		02/03/17 08:49	02/03/17 17:46	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 17:46	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020	^	0.00020		mg/L		02/03/17 12:00	02/06/17 10:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**710**		10		mg/L			02/07/17 04:52	1
Chloride	**250**		10		mg/L			02/10/17 00:19	5
Fluoride	**0.57**		0.10		mg/L			02/07/17 15:36	1
Sulfate	**180**		50		mg/L			02/07/17 10:09	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Client Sample ID: MW-10

Date Collected: 02/02/17 13:05
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-4

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.020**		0.010		mg/L		02/03/17 08:49	02/03/17 16:32	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 17:50	1
Arsenic	**0.050**		0.0010		mg/L		02/03/17 08:49	02/03/17 17:50	1
Barium	**0.14**		0.0025		mg/L		02/03/17 08:49	02/03/17 17:50	1
Beryllium	<0.0010	*	0.0010		mg/L		02/03/17 08:49	02/03/17 17:50	1
Boron	**3.7**		0.50		mg/L		02/03/17 08:49	02/06/17 12:25	10
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:50	1
Calcium	**180**		2.0		mg/L		02/03/17 08:49	02/06/17 12:25	10
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 17:50	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:50	1
Lead	**0.0013**		0.00050		mg/L		02/03/17 08:49	02/03/17 17:50	1
Molybdenum	**0.031**		0.0050		mg/L		02/03/17 08:49	02/03/17 17:50	1
Selenium	<0.0025		0.0025		mg/L		02/03/17 08:49	02/03/17 17:50	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 17:50	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020	^	0.00020		mg/L		02/03/17 12:00	02/06/17 10:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**930**		10		mg/L			02/07/17 04:54	1
Chloride	**81**		10		mg/L			02/10/17 00:20	5
Fluoride	**0.54**		0.10		mg/L			02/07/17 15:39	1
Sulfate	**160**		50		mg/L			02/07/17 10:10	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Client Sample ID: MW-11

Date Collected: 02/01/17 16:32
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		02/03/17 08:49	02/03/17 16:35	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 17:53	1
Arsenic	**0.011**		0.0010		mg/L		02/03/17 08:49	02/03/17 17:53	1
Barium	**0.15**		0.0025		mg/L		02/03/17 08:49	02/03/17 17:53	1
Beryllium	<0.0010	*	0.0010		mg/L		02/03/17 08:49	02/03/17 17:53	1
Boron	**3.9**		0.50		mg/L		02/03/17 08:49	02/06/17 12:29	10
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:53	1
Calcium	**110**		2.0		mg/L		02/03/17 08:49	02/06/17 12:29	10
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 17:53	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:53	1
Lead	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:53	1
Molybdenum	**0.076**		0.0050		mg/L		02/03/17 08:49	02/03/17 17:53	1
Selenium	<0.0025		0.0025		mg/L		02/03/17 08:49	02/03/17 17:53	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 17:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/03/17 12:00	02/06/17 10:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**600**		10		mg/L			02/07/17 04:57	1
Chloride	**72**		2.0		mg/L			02/09/17 23:26	1
Fluoride	**0.65**		0.10		mg/L			02/07/17 15:41	1
Sulfate	**110**		25		mg/L			02/07/17 10:11	5

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Client Sample ID: MW-12
Date Collected: 02/01/17 15:45
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-6
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.013		0.010		mg/L		02/03/17 08:49	02/03/17 17:00	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 18:20	1
Arsenic	0.0017		0.0010		mg/L		02/03/17 08:49	02/03/17 18:20	1
Barium	0.11		0.0025		mg/L		02/03/17 08:49	02/03/17 18:20	1
Beryllium	<0.0010	*	0.0010		mg/L		02/03/17 08:49	02/03/17 18:20	1
Boron	2.0		0.25		mg/L		02/03/17 08:49	02/06/17 12:55	5
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 18:20	1
Calcium	160		1.0		mg/L		02/03/17 08:49	02/06/17 12:55	5
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 18:20	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 18:20	1
Lead	0.00065		0.00050		mg/L		02/03/17 08:49	02/03/17 18:20	1
Molybdenum	0.023		0.0050		mg/L		02/03/17 08:49	02/03/17 18:20	1
Selenium	<0.0025		0.0025		mg/L		02/03/17 08:49	02/03/17 18:20	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 18:20	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/03/17 12:00	02/06/17 10:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	900		10		mg/L			02/07/17 04:59	1
Chloride	120		10		mg/L			02/10/17 00:20	5
Fluoride	0.48		0.10		mg/L			02/07/17 15:43	1
Sulfate	150		50		mg/L			02/07/17 10:12	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Client Sample ID: Duplicate
Date Collected: 02/01/17 00:00
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-7
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.016**		0.010		mg/L		02/03/17 08:49	02/03/17 17:03	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 18:24	1
Arsenic	**0.0015**		0.0010		mg/L		02/03/17 08:49	02/03/17 18:24	1
Barium	**0.056**		0.0025		mg/L		02/03/17 08:49	02/03/17 18:24	1
Beryllium	<0.0010	*	0.0010		mg/L		02/03/17 08:49	02/03/17 18:24	1
Boron	**4.7**		0.50		mg/L		02/03/17 08:49	02/06/17 13:22	10
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 18:24	1
Calcium	**260**		2.0		mg/L		02/03/17 08:49	02/06/17 13:22	10
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 18:24	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 18:24	1
Lead	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 18:24	1
Molybdenum	**0.046**		0.0050		mg/L		02/03/17 08:49	02/03/17 18:24	1
Selenium	**0.030**		0.0025		mg/L		02/03/17 08:49	02/03/17 18:24	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 18:24	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/03/17 12:00	02/06/17 10:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1600**		10		mg/L			02/07/17 05:01	1
Chloride	**49**		2.0		mg/L			02/09/17 23:30	1
Fluoride	**0.35**		0.10		mg/L			02/07/17 15:46	1
Sulfate	**510**		100		mg/L			02/07/17 10:13	20

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Qualifiers

Metals

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 370761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total Recoverable	Water	3005A	
500-123394-2	MW-06	Total Recoverable	Water	3005A	
500-123394-3	MW-09	Total Recoverable	Water	3005A	
500-123394-4	MW-10	Total Recoverable	Water	3005A	
500-123394-5	MW-11	Total Recoverable	Water	3005A	
500-123394-6	MW-12	Total Recoverable	Water	3005A	
500-123394-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-370761/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-370761/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-123394-5 MS	MW-11	Total Recoverable	Water	3005A	
500-123394-5 MSD	MW-11	Total Recoverable	Water	3005A	
500-123394-5 DU	MW-11	Total Recoverable	Water	3005A	

Prep Batch: 370801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	7470A	
500-123394-2	MW-06	Total/NA	Water	7470A	
500-123394-3	MW-09	Total/NA	Water	7470A	
500-123394-4	MW-10	Total/NA	Water	7470A	
500-123394-5	MW-11	Total/NA	Water	7470A	
500-123394-6	MW-12	Total/NA	Water	7470A	
500-123394-7	Duplicate	Total/NA	Water	7470A	
MB 500-370801/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-370801/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 370845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total Recoverable	Water	6010C	370761
500-123394-2	MW-06	Total Recoverable	Water	6010C	370761
500-123394-3	MW-09	Total Recoverable	Water	6010C	370761
500-123394-4	MW-10	Total Recoverable	Water	6010C	370761
500-123394-5	MW-11	Total Recoverable	Water	6010C	370761
500-123394-6	MW-12	Total Recoverable	Water	6010C	370761
500-123394-7	Duplicate	Total Recoverable	Water	6010C	370761
MB 500-370761/1-A	Method Blank	Total Recoverable	Water	6010C	370761
LCS 500-370761/2-A	Lab Control Sample	Total Recoverable	Water	6010C	370761
500-123394-5 MS	MW-11	Total Recoverable	Water	6010C	370761
500-123394-5 MSD	MW-11	Total Recoverable	Water	6010C	370761
500-123394-5 DU	MW-11	Total Recoverable	Water	6010C	370761

Analysis Batch: 370946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total Recoverable	Water	6020A	370761
500-123394-2	MW-06	Total Recoverable	Water	6020A	370761
500-123394-3	MW-09	Total Recoverable	Water	6020A	370761
500-123394-4	MW-10	Total Recoverable	Water	6020A	370761
500-123394-5	MW-11	Total Recoverable	Water	6020A	370761
500-123394-6	MW-12	Total Recoverable	Water	6020A	370761
500-123394-7	Duplicate	Total Recoverable	Water	6020A	370761
MB 500-370761/1-A	Method Blank	Total Recoverable	Water	6020A	370761
LCS 500-370761/2-A	Lab Control Sample	Total Recoverable	Water	6020A	370761

Metals (Continued)

Analysis Batch: 370946 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-5 MS	MW-11	Total Recoverable	Water	6020A	370761
500-123394-5 MSD	MW-11	Total Recoverable	Water	6020A	370761
500-123394-5 DU	MW-11	Total Recoverable	Water	6020A	370761

Analysis Batch: 370955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	7470A	370801
500-123394-2	MW-06	Total/NA	Water	7470A	370801
500-123394-3	MW-09	Total/NA	Water	7470A	370801
500-123394-4	MW-10	Total/NA	Water	7470A	370801
500-123394-5	MW-11	Total/NA	Water	7470A	370801
500-123394-6	MW-12	Total/NA	Water	7470A	370801
500-123394-7	Duplicate	Total/NA	Water	7470A	370801
MB 500-370801/12-A	Method Blank	Total/NA	Water	7470A	370801
LCS 500-370801/13-A	Lab Control Sample	Total/NA	Water	7470A	370801

Analysis Batch: 371005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total Recoverable	Water	6020A	370761
500-123394-2	MW-06	Total Recoverable	Water	6020A	370761
500-123394-3	MW-09	Total Recoverable	Water	6020A	370761
500-123394-4	MW-10	Total Recoverable	Water	6020A	370761
500-123394-5	MW-11	Total Recoverable	Water	6020A	370761
500-123394-6	MW-12	Total Recoverable	Water	6020A	370761
500-123394-7	Duplicate	Total Recoverable	Water	6020A	370761
MB 500-370761/1-A	Method Blank	Total Recoverable	Water	6020A	370761
LCS 500-370761/2-A	Lab Control Sample	Total Recoverable	Water	6020A	370761
500-123394-5 MS	MW-11	Total Recoverable	Water	6020A	370761
500-123394-5 MSD	MW-11	Total Recoverable	Water	6020A	370761
500-123394-5 DU	MW-11	Total Recoverable	Water	6020A	370761

General Chemistry

Analysis Batch: 371039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	SM 2540C	
500-123394-2	MW-06	Total/NA	Water	SM 2540C	
500-123394-3	MW-09	Total/NA	Water	SM 2540C	
500-123394-4	MW-10	Total/NA	Water	SM 2540C	
500-123394-5	MW-11	Total/NA	Water	SM 2540C	
500-123394-6	MW-12	Total/NA	Water	SM 2540C	
500-123394-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-371039/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-371039/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-123394-1 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 371088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-123394-2	MW-06	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 371088 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-123394-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-123394-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-123394-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-123394-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-371088/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-371088/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 371143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	SM 4500 F C	
500-123394-2	MW-06	Total/NA	Water	SM 4500 F C	
500-123394-3	MW-09	Total/NA	Water	SM 4500 F C	
500-123394-4	MW-10	Total/NA	Water	SM 4500 F C	
500-123394-5	MW-11	Total/NA	Water	SM 4500 F C	
500-123394-6	MW-12	Total/NA	Water	SM 4500 F C	
500-123394-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-371143/45	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-371143/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 371646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-123394-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-123394-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-123394-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-123394-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-123394-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-123394-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-371646/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-371646/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-370761/1-A
Matrix: Water
Analysis Batch: 370845

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		02/03/17 08:49	02/03/17 16:14	1

Lab Sample ID: LCS 500-370761/2-A
Matrix: Water
Analysis Batch: 370845

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.562		mg/L		112	80 - 120

Lab Sample ID: 500-123394-5 MS
Matrix: Water
Analysis Batch: 370845

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	<0.010		0.500	0.548		mg/L		108	75 - 125

Lab Sample ID: 500-123394-5 MSD
Matrix: Water
Analysis Batch: 370845

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	<0.010		0.500	0.568		mg/L		112	75 - 125	3	20

Lab Sample ID: 500-123394-5 DU
Matrix: Water
Analysis Batch: 370845

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	<0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-370761/1-A
Matrix: Water
Analysis Batch: 370946

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		02/03/17 08:49	02/03/17 17:31	1
Arsenic	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:31	1
Barium	<0.0025		0.0025		mg/L		02/03/17 08:49	02/03/17 17:31	1
Beryllium	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:31	1
Cadmium	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:31	1
Chromium	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 17:31	1
Cobalt	<0.0010		0.0010		mg/L		02/03/17 08:49	02/03/17 17:31	1
Lead	<0.00050		0.00050		mg/L		02/03/17 08:49	02/03/17 17:31	1
Molybdenum	<0.0050		0.0050		mg/L		02/03/17 08:49	02/03/17 17:31	1
Selenium	<0.0025		0.0025		mg/L		02/03/17 08:49	02/03/17 17:31	1
Thallium	<0.0020		0.0020		mg/L		02/03/17 08:49	02/03/17 17:31	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-370761/1-A
Matrix: Water
Analysis Batch: 371005

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		02/03/17 08:49	02/06/17 12:06	1
Calcium	<0.20		0.20		mg/L		02/03/17 08:49	02/06/17 12:06	1

Lab Sample ID: LCS 500-370761/2-A
Matrix: Water
Analysis Batch: 370946

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.551		mg/L		110	80 - 120
Arsenic	0.100	0.105		mg/L		105	80 - 120
Barium	2.00	2.21		mg/L		111	80 - 120
Beryllium	0.0500	0.0610	*	mg/L		122	80 - 120
Cadmium	0.0500	0.0564		mg/L		113	80 - 120
Chromium	0.200	0.232		mg/L		116	80 - 120
Cobalt	0.500	0.591		mg/L		118	80 - 120
Lead	0.100	0.116		mg/L		116	80 - 120
Molybdenum	1.00	1.10		mg/L		110	80 - 120
Selenium	0.100	0.105		mg/L		105	80 - 120
Thallium	0.100	0.117		mg/L		117	80 - 120

Lab Sample ID: LCS 500-370761/2-A
Matrix: Water
Analysis Batch: 371005

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.08		mg/L		108	80 - 120
Calcium	10.0	9.89		mg/L		99	80 - 120

Lab Sample ID: 500-123394-5 MS
Matrix: Water
Analysis Batch: 370946

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.546		mg/L		109	75 - 125
Arsenic	0.011		0.100	0.117		mg/L		106	75 - 125
Barium	0.15		2.00	2.24		mg/L		104	75 - 125
Beryllium	<0.0010	*	0.0500	0.0527		mg/L		105	75 - 125
Cadmium	<0.00050		0.0500	0.0526		mg/L		105	75 - 125
Chromium	<0.0050		0.200	0.217		mg/L		108	75 - 125
Cobalt	<0.0010		0.500	0.539		mg/L		108	75 - 125
Lead	<0.00050		0.100	0.106		mg/L		106	75 - 125
Molybdenum	0.076		1.00	0.942		mg/L		87	75 - 125
Selenium	<0.0025		0.100	0.105		mg/L		105	75 - 125
Thallium	<0.0020		0.100	0.106		mg/L		106	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-123394-5 MS
Matrix: Water
Analysis Batch: 371005

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.9		1.00	4.99		mg/L		106	75 - 125
Calcium	110		10.0	114	4	mg/L		70	75 - 125

Lab Sample ID: 500-123394-5 MSD
Matrix: Water
Analysis Batch: 370946

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.562		mg/L		112	75 - 125	3	20
Arsenic	0.011		0.100	0.119		mg/L		108	75 - 125	2	20
Barium	0.15		2.00	2.33		mg/L		109	75 - 125	4	20
Beryllium	<0.0010	*	0.0500	0.0534		mg/L		107	75 - 125	1	20
Cadmium	<0.00050		0.0500	0.0543		mg/L		109	75 - 125	3	20
Chromium	<0.0050		0.200	0.218		mg/L		108	75 - 125	0	20
Cobalt	<0.0010		0.500	0.541		mg/L		108	75 - 125	0	20
Lead	<0.00050		0.100	0.110		mg/L		110	75 - 125	4	20
Molybdenum	0.076		1.00	0.933		mg/L		86	75 - 125	1	20
Selenium	<0.0025		0.100	0.110		mg/L		110	75 - 125	4	20
Thallium	<0.0020		0.100	0.111		mg/L		111	75 - 125	4	20

Lab Sample ID: 500-123394-5 MSD
Matrix: Water
Analysis Batch: 371005

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	3.9		1.00	5.09		mg/L		116	75 - 125	2	20
Calcium	110		10.0	113	4	mg/L		57	75 - 125	1	20

Lab Sample ID: 500-123394-5 DU
Matrix: Water
Analysis Batch: 370946

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	0.011		0.0101		mg/L		6	20
Barium	0.15		0.144		mg/L		6	20
Beryllium	<0.0010	*	<0.0010	*	mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Molybdenum	0.076		0.0715		mg/L		6	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-123394-5 DU
Matrix: Water
Analysis Batch: 371005

Client Sample ID: MW-11
Prep Type: Total Recoverable
Prep Batch: 370761

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	3.9			3.75		mg/L				5	20
Calcium	110			103		mg/L				4	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-370801/12-A
Matrix: Water
Analysis Batch: 370955

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 370801

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		02/03/17 12:00	02/06/17 10:30	1

Lab Sample ID: LCS 500-370801/13-A
Matrix: Water
Analysis Batch: 370955

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 370801

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00200	0.00214		mg/L		107	80 - 120		

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-371039/1
Matrix: Water
Analysis Batch: 371039

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/07/17 04:31	1

Lab Sample ID: LCS 500-371039/2
Matrix: Water
Analysis Batch: 371039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			250	294		mg/L		118	80 - 120		

Lab Sample ID: 500-123394-1 DU
Matrix: Water
Analysis Batch: 371039

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1600			1570		mg/L				0.5	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-371646/12
Matrix: Water
Analysis Batch: 371646

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			02/09/17 23:19	1

Lab Sample ID: LCS 500-371646/13
Matrix: Water
Analysis Batch: 371646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	47.0		mg/L		94	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-371143/45
Matrix: Water
Analysis Batch: 371143

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			02/07/17 16:45	1

Lab Sample ID: LCS 500-371143/4
Matrix: Water
Analysis Batch: 371143

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-371088/3
Matrix: Water
Analysis Batch: 371088

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			02/07/17 09:56	1

Lab Sample ID: LCS 500-371088/4
Matrix: Water
Analysis Batch: 371088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.5		mg/L		97	80 - 120

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicag
2417 Bond St.
University Park, IL 60
708-534-5200
Fax. 708-534-5211

500-123394 COC

Report To:

Contact:	Richard Gnat
Company:	KPRG and Associates, Inc
Address:	14665 W. Lisbon Rd., Suite 2B
	Brookfield, WI 53005
Phone:	262-781-0475
Email:	richardg@kprginc.com

Bill To:

Contact:	Accounts Payable
Company:	NRG Energy
Address:	112 Telly St
	New Roads, LA 70760
Phone:	713 465-4113
Email	invoices@nrg.com
PO #:	4501569118

Lab Lot # 500-123394

Package Sealed: Yes (No)	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 0.9, 0.8	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res Cl_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name: Ian John Howieson	Signature:
Project Name: Quarterly Will County: CCR	TestAmerica Project Number: 50011609
Project Location: Romeoville, IL	TAT: 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05	2-1-17	12:15	W	G	X	X	X	X	X	X	
2		MW-06	2-1-17	13:56	W	G	X	X	X	X	X	X	
3		MW-09	1-31-17	14:08	W	G	X	X	X	X	X	X	
4		MW-10	2-2-17	13:05	W	G	X	X	X	X	X	X	
5		MW-11	2-1-17	16:32	W	G	X	X	X	X	X	X	
6		MW-12	2-1-17	15:45	W	G	X	X	X	X	X	X	
7		DUPLICATE	2-1-17	—	W	G	X	X	X	X	X	X	

RELINQUISHED BY:	IJH	COMPANY:	KPRG	DATE:	2-2-17	TIME:	17:30
RECEIVED BY:		COMPANY:	TA CHI	DATE:	02/02/17	TIME:	1730
RELINQUISHED BY:		COMPANY:		DATE:		TIME:	
RECEIVED BY:		COMPANY:		DATE:		TIME:	

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___

Courier:

Hand Delivered [X]

Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-123394-1

Login Number: 123394
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.9,0.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-123394-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
3/3/2017 11:35:17 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 17
Receipt Checklists 19
Certification Summary 21
Tracer Carrier Summary 22

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Job ID: 500-123394-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-123394-2

Comments
No additional comments.

Receipt
The samples were received on 2/2/2017 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were -0.9º C and 0.8º C.

RAD
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-123394-1	MW-05	Water	02/01/17 12:15	02/02/17 17:30
500-123394-2	MW-06	Water	02/01/17 13:56	02/02/17 17:30
500-123394-3	MW-09	Water	01/31/17 14:08	02/02/17 17:30
500-123394-4	MW-10	Water	02/02/17 13:05	02/02/17 17:30
500-123394-5	MW-11	Water	02/01/17 16:32	02/02/17 17:30
500-123394-6	MW-12	Water	02/01/17 15:45	02/02/17 17:30
500-123394-7	Duplicate	Water	02/01/17 00:00	02/02/17 17:30

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Client Sample ID: MW-05

Date Collected: 02/01/17 12:15
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.138		0.0888	0.0896	1.00	0.116	pCi/L	02/07/17 13:36	03/01/17 06:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:51*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.235	U	0.259	0.259	1.00	0.424	pCi/L	02/07/17 14:23	02/24/17 14:56	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:56*	*1*
Y Carrier	*90.5*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:56*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.373	U	0.273	0.274	5.00	0.424	pCi/L		03/02/17 16:34	1

Client Sample ID: MW-06

Date Collected: 02/01/17 13:56
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-2

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.269		0.121	0.124	1.00	0.140	pCi/L	02/07/17 13:36	03/01/17 06:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.142	U	0.301	0.301	1.00	0.511	pCi/L	02/07/17 14:23	02/24/17 14:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.5*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:57*	*1*
Y Carrier	*87.5*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:57*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.411	U	0.324	0.325	5.00	0.511	pCi/L		03/02/17 16:34	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Client Sample ID: MW-09

Date Collected: 01/31/17 14:08
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0832	U	0.0827	0.0831	1.00	0.129	pCi/L	02/07/17 13:36	03/01/17 06:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.4*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.114	U	0.263	0.264	1.00	0.450	pCi/L	02/07/17 14:23	02/24/17 14:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.4*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:57*	*1*
Y Carrier	*90.1*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:57*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.197	U	0.276	0.276	5.00	0.450	pCi/L		03/02/17 16:34	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Client Sample ID: MW-10

Date Collected: 02/02/17 13:05
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-4

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.183		0.113	0.114	1.00	0.152	pCi/L	02/07/17 13:36	03/01/17 06:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.175	U	0.276	0.277	1.00	0.464	pCi/L	02/07/17 14:23	02/24/17 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.1*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:49*	*1*
Y Carrier	*88.6*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:49*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.358	U	0.298	0.299	5.00	0.464	pCi/L		03/02/17 16:34	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Client Sample ID: MW-11

Date Collected: 02/01/17 16:32
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.321		0.127	0.131	1.00	0.135	pCi/L	02/07/17 13:36	03/01/17 06:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:52*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.587		0.314	0.319	1.00	0.476	pCi/L	02/07/17 14:23	02/24/17 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:49*	*1*
Y Carrier	*89.0*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:49*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.909		0.339	0.344	5.00	0.476	pCi/L		03/02/17 16:34	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Client Sample ID: MW-12

Date Collected: 02/01/17 15:45
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-6

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.500		0.158	0.164	1.00	0.150	pCi/L	02/07/17 13:36	03/01/17 06:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:55*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.449		0.246	0.249	1.00	0.365	pCi/L	02/07/17 14:23	02/24/17 14:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.9*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:49*	*1*
Y Carrier	*88.6*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:49*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.949		0.292	0.298	5.00	0.365	pCi/L		03/02/17 16:34	1

Client Sample ID: Duplicate

Date Collected: 02/01/17 00:00
Date Received: 02/02/17 17:30

Lab Sample ID: 500-123394-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.343**		0.134	0.138	1.00	0.139	pCi/L	02/07/17 13:36	03/01/17 06:55	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.2*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:55*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0980	U	0.245	0.245	1.00	0.449	pCi/L	02/07/17 14:23	02/24/17 14:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.2*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:57*	*1*
Y Carrier	*90.1*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:57*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.245	U	0.280	0.281	5.00	0.449	pCi/L		03/02/17 16:34	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Rad

Prep Batch: 291377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	PrecSep-21	
500-123394-2	MW-06	Total/NA	Water	PrecSep-21	
500-123394-3	MW-09	Total/NA	Water	PrecSep-21	
500-123394-4	MW-10	Total/NA	Water	PrecSep-21	
500-123394-5	MW-11	Total/NA	Water	PrecSep-21	
500-123394-6	MW-12	Total/NA	Water	PrecSep-21	
500-123394-7	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-291377/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-291377/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-123394-1 DU	MW-05	Total/NA	Water	PrecSep-21	

Prep Batch: 291385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-123394-1	MW-05	Total/NA	Water	PrecSep_0	
500-123394-2	MW-06	Total/NA	Water	PrecSep_0	
500-123394-3	MW-09	Total/NA	Water	PrecSep_0	
500-123394-4	MW-10	Total/NA	Water	PrecSep_0	
500-123394-5	MW-11	Total/NA	Water	PrecSep_0	
500-123394-6	MW-12	Total/NA	Water	PrecSep_0	
500-123394-7	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-291385/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-291385/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-123394-1 DU	MW-05	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-291377/1-A
Matrix: Water
Analysis Batch: 295283

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 291377

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2137		0.141	0.142	1.00	0.198	pCi/L	02/07/17 13:36	03/01/17 06:49	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.4*		*40 - 110*	*02/07/17 13:36*	*03/01/17 06:49*	*1*

Lab Sample ID: LCS 160-291377/2-A
Matrix: Water
Analysis Batch: 295283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291377

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			8.01	9.864		1.10	1.00	0.164	pCi/L	123	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*

Lab Sample ID: 500-123394-1 DU
Matrix: Water
Analysis Batch: 295283

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 291377

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.138			0.07791	U	0.0775	1.00	0.121	pCi/L			0.36	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-291385/1-A
Matrix: Water
Analysis Batch: 294367

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 291385

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5283		0.329	0.333	1.00	0.503	pCi/L	02/07/17 14:23	02/24/17 14:44	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.4*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:44*	*1*
Y Carrier	*87.9*		*40 - 110*	*02/07/17 14:23*	*02/24/17 14:44*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-291385/2-A
Matrix: Water
Analysis Batch: 294367

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291385

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			18.4	19.65		2.06	1.00	0.410	pCi/L	107	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*100*		*40 - 110*
Y Carrier	*94.6*		*40 - 110*

Lab Sample ID: 500-123394-1 DU
Matrix: Water
Analysis Batch: 294329

Client Sample ID: MW-05
Prep Type: Total/NA
Prep Batch: 291385

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.235	U		0.5581		0.278	1.00	0.410	pCi/L			0.60	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*
Y Carrier	*91.6*		*40 - 110*

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TestAmerica Chicag
2417 Bond St.
University Park, IL 60
708-534-5200
Fax. 708-534-5211

500-123394 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-123394

Package Sealed: Yes (No) — Samples Sealed: Yes (No)

Received on Ice: (Yes) No — Samples Intact: (Yes) No N/A

Temperature °C of Cooler: 0.9, 0.8

Within Hold Time: (Yes) No — Preserv. Indicated: (Yes) No N/A

pH Check OK: (Yes) No — Res Cl_2 Check OK: Yes No (N/A)

Sample Labels and COC Agree: (Yes) No — COC not present

Sampler Name: Ian John Howieson

Signature:

Project Name: Quarterly Will County: CCR

TestAmerica Project Number: 50011609

Project Location: Romeoville, IL

TAT: 15 Days

Lab PM: Eric Lang

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05	2-1-17	12:15	W	G	X	X	X	X	X	X	
2		MW-06	2-1-17	13:56	W	G	X	X	X	X	X	X	
3		MW-09	1-31-17	14:08	W	G	X	X	X	X	X	X	
4		MW-10	2-2-17	13:05	W	G	X	X	X	X	X	X	
5		MW-11	2-1-17	16:32	W	G	X	X	X	X	X	X	
6		MW-12	2-1-17	15:45	W	G	X	X	X	X	X	X	
7		DUPLICATE	2-1-17	—	W	G	X	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	2-2-17	17:30		TA CHI	02/02/17	1730
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___

Courier:

Hand Delivered [X]

Bill of Lading:

2 of 2

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-123394 Chain of Custody

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Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving	Company: TestAmerica Laboratories, Inc.
Address: 13715 Rider Trail North, ,	City: Earth City
State, Zip: MO, 63045	Phone: 314-298-8566(Tel) 314-298-8757(Fax)
Email:	Project Name: Will County CCR
Site: NRG Midwest Generation Will County	

Sampler:
Phone:
Lab PM: Lang, Eric A.
E-Mail: eric.lang@testamericainc.com
State of Origin: Illinois
Accreditations Required (See note): NELAP - Illinois
Due Date Requested: 2/14/2017
TAT Requested (days):
PO #:
WO #:
Project #: 50011609
SSOW#:

COC No: 500-83470.1
Page: Page 1 of 1
Job #: 500-123394-2

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-05 (500-123394-1)	2/1/17	12:15 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-06 (500-123394-2)	2/1/17	13:56 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-09 (500-123394-3)	1/31/17	14:08 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-123394-4)	2/2/17	13:05 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-11 (500-123394-5)	2/1/17	16:32 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-12 (500-123394-6)	2/1/17	15:45 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Duplicate (500-123394-7)	2/1/17	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by: Sherri Scott	Date/Time: 2/3/17 1520	Company: TA-CHI	Received by: Kristen Taylor	Date/Time: 2/4/17 0830	Company: TAL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-123394-2

Login Number: 123394
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.9,0.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-123394-2

Login Number: 123394
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 02/04/17 11:33 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0,20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-17 *

Laboratory: TestAmerica St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	200023	11-30-17

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

* Certification renewal pending - certification considered valid.

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-123394-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
500-123394-1	MW-05	91.7
500-123394-1 DU	MW-05	99.4
500-123394-2	MW-06	88.5
500-123394-3	MW-09	89.4
500-123394-4	MW-10	81.1
500-123394-5	MW-11	89.1
500-123394-6	MW-12	92.9
500-123394-7	Duplicate	93.2
LCS 160-291377/2-A	Lab Control Sample	100
MB 160-291377/1-A	Method Blank	91.4

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water

Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
500-123394-1	MW-05	91.7	90.5
500-123394-1 DU	MW-05	99.4	91.6
500-123394-2	MW-06	88.5	87.5
500-123394-3	MW-09	89.4	90.1
500-123394-4	MW-10	81.1	88.6
500-123394-5	MW-11	89.1	89.0
500-123394-6	MW-12	92.9	88.6
500-123394-7	Duplicate	93.2	90.1
LCS 160-291385/2-A	Lab Control Sample	100	94.6
MB 160-291385/1-A	Method Blank	91.4	87.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-128040-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
5/24/2017 12:43:02 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 23
Receipt Checklists 24
Certification Summary 25

Job ID: 500-128040-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-128040-1

Comments
No additional comments.

Receipt
The samples were received on 5/11/2017 4:18 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.7º C and 3.2º C.

Metals
Method(s) 6020A: The internal standard Terbium (Tb) was used to report the element Lead (Pb) and Thallium in batch 500-385728. This was due, to the LCS and ms/msd, being spiked with the trace digestion spike which contains Bismuth.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-128040-1	MW-05 CCR	Water	05/11/17 11:05	05/11/17 16:18
500-128040-2	MW-06 CCR	Water	05/11/17 12:50	05/11/17 16:18
500-128040-3	MW-09 CCR	Water	05/09/17 15:43	05/11/17 16:18
500-128040-4	MW-10 CCR	Water	05/10/17 12:11	05/11/17 16:18
500-128040-5	MW-11 CCR	Water	05/10/17 10:51	05/11/17 16:18
500-128040-6	MW-12 CCR	Water	05/10/17 09:39	05/11/17 16:18
500-128040-7	DUPLICATE	Water	05/10/17 00:00	05/11/17 16:18

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Client Sample ID: MW-05 CCR

Date Collected: 05/11/17 11:05
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-1

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/16/17 07:36	05/18/17 03:28	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 16:45	1
Arsenic	**0.0035**		0.0010		mg/L		05/16/17 07:36	05/17/17 16:45	1
Barium	**0.053**		0.0025		mg/L		05/16/17 07:36	05/17/17 16:45	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 16:45	1
Boron	**4.0**		0.50		mg/L		05/16/17 07:36	05/18/17 11:23	10
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 16:45	1
Calcium	**140**		0.20		mg/L		05/16/17 07:36	05/17/17 16:45	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 16:45	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 16:45	1
Lead	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 16:45	1
Molybdenum	**0.093**		0.0050		mg/L		05/16/17 07:36	05/17/17 16:45	1
Selenium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 16:45	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 16:45	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1200**		10		mg/L			05/13/17 14:11	1
Chloride	**85**		10		mg/L			05/19/17 20:40	5
Fluoride	**0.31**		0.10		mg/L			05/18/17 20:10	1
Sulfate	**610**		100		mg/L			05/17/17 04:58	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Client Sample ID: MW-06 CCR
Date Collected: 05/11/17 12:50
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.011**		0.010		mg/L		05/16/17 07:36	05/18/17 03:48	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 17:03	1
Arsenic	**0.0020**		0.0010		mg/L		05/16/17 07:36	05/17/17 17:03	1
Barium	**0.054**		0.0025		mg/L		05/16/17 07:36	05/17/17 17:03	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:03	1
Boron	**3.0**		0.25		mg/L		05/16/17 07:36	05/18/17 11:42	5
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:03	1
Calcium	**75**		0.20		mg/L		05/16/17 07:36	05/17/17 17:03	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 17:03	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:03	1
Lead	**0.00054**		0.00050		mg/L		05/16/17 07:36	05/17/17 17:03	1
Molybdenum	**0.054**		0.0050		mg/L		05/16/17 07:36	05/17/17 17:03	1
Selenium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 17:03	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 17:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**570**		10		mg/L			05/13/17 14:18	1
Chloride	**84**		10		mg/L			05/19/17 20:41	5
Fluoride	**0.28**		0.10		mg/L			05/18/17 20:13	1
Sulfate	**330**		50		mg/L			05/17/17 04:59	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Client Sample ID: MW-09 CCR
Date Collected: 05/09/17 15:43
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/16/17 07:36	05/18/17 03:52	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 17:15	1
Arsenic	**0.0052**		0.0010		mg/L		05/16/17 07:36	05/17/17 17:15	1
Barium	**0.038**		0.0025		mg/L		05/16/17 07:36	05/17/17 17:15	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:15	1
Boron	**1.8**		0.25		mg/L		05/16/17 07:36	05/18/17 11:46	5
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:15	1
Calcium	**66**		0.20		mg/L		05/16/17 07:36	05/17/17 17:15	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 17:15	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:15	1
Lead	**0.00054**		0.00050		mg/L		05/16/17 07:36	05/17/17 17:15	1
Molybdenum	**0.093**		0.0050		mg/L		05/16/17 07:36	05/17/17 17:15	1
Selenium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 17:15	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 17:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**900**		10		mg/L			05/13/17 14:21	1
Chloride	**340**		10		mg/L			05/19/17 20:42	5
Fluoride	**0.38**		0.10		mg/L			05/18/17 20:16	1
Sulfate	**250**		50		mg/L			05/17/17 05:02	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Client Sample ID: MW-10 CCR
Date Collected: 05/10/17 12:11
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-4
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.015**		0.010		mg/L		05/16/17 07:36	05/18/17 04:04	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 17:18	1
Arsenic	**0.020**		0.0010		mg/L		05/16/17 07:36	05/17/17 17:18	1
Barium	**0.11**		0.0025		mg/L		05/16/17 07:36	05/17/17 17:18	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:18	1
Boron	**3.0**		0.25		mg/L		05/16/17 07:36	05/18/17 11:50	5
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:18	1
Calcium	**150**		0.20		mg/L		05/16/17 07:36	05/17/17 17:18	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 17:18	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:18	1
Lead	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:18	1
Molybdenum	**0.066**		0.0050		mg/L		05/16/17 07:36	05/17/17 17:18	1
Selenium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 17:18	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 17:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**860**		10		mg/L			05/13/17 14:24	1
Chloride	**100**		10		mg/L			05/19/17 20:43	5
Fluoride	**0.44**		0.10		mg/L			05/18/17 20:18	1
Sulfate	**340**		100		mg/L			05/17/17 05:05	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Client Sample ID: MW-11 CCR

Date Collected: 05/10/17 10:51
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-5

Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/16/17 07:36	05/18/17 04:08	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 17:22	1
Arsenic	**0.014**		0.0010		mg/L		05/16/17 07:36	05/17/17 17:22	1
Barium	**0.14**		0.0025		mg/L		05/16/17 07:36	05/17/17 17:22	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:22	1
Boron	**3.1**		0.25		mg/L		05/16/17 07:36	05/18/17 12:05	5
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:22	1
Calcium	**95**		0.20		mg/L		05/16/17 07:36	05/17/17 17:22	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 17:22	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:22	1
Lead	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:22	1
Molybdenum	**0.074**		0.0050		mg/L		05/16/17 07:36	05/17/17 17:22	1
Selenium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 17:22	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 17:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**590**		10		mg/L			05/13/17 14:26	1
Chloride	**84**		10		mg/L			05/19/17 20:45	5
Fluoride	**0.46**		0.10		mg/L			05/18/17 20:30	1
Sulfate	**170**		50		mg/L			05/17/17 05:07	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Client Sample ID: MW-12 CCR
Date Collected: 05/10/17 09:39
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-6
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.012		0.010		mg/L		05/16/17 07:36	05/18/17 04:12	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 17:26	1
Arsenic	0.0013		0.0010		mg/L		05/16/17 07:36	05/17/17 17:26	1
Barium	0.13		0.0025		mg/L		05/16/17 07:36	05/17/17 17:26	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:26	1
Boron	2.3		0.25		mg/L		05/16/17 07:36	05/18/17 12:09	5
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:26	1
Calcium	200		0.20		mg/L		05/16/17 07:36	05/17/17 17:26	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 17:26	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:26	1
Lead	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:26	1
Molybdenum	0.029		0.0050		mg/L		05/16/17 07:36	05/17/17 17:26	1
Selenium	0.017		0.0025		mg/L		05/16/17 07:36	05/17/17 17:26	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 17:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10		mg/L			05/13/17 14:29	1
Chloride	240		10		mg/L			05/19/17 20:45	5
Fluoride	0.30		0.10		mg/L			05/18/17 20:32	1
Sulfate	260		100		mg/L			05/17/17 05:08	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Client Sample ID: DUPLICATE
Date Collected: 05/10/17 00:00
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-7
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		05/16/17 07:36	05/18/17 04:16	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 17:30	1
Arsenic	**0.013**		0.0010		mg/L		05/16/17 07:36	05/17/17 17:30	1
Barium	**0.11**		0.0025		mg/L		05/16/17 07:36	05/17/17 17:30	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:30	1
Boron	**3.1**		0.25		mg/L		05/16/17 07:36	05/18/17 12:12	5
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:30	1
Calcium	**150**		0.20		mg/L		05/16/17 07:36	05/17/17 17:30	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 17:30	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 17:30	1
Lead	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 17:30	1
Molybdenum	**0.065**		0.0050		mg/L		05/16/17 07:36	05/17/17 17:30	1
Selenium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 17:30	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 17:30	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**960**		10		mg/L			05/13/17 14:31	1
Chloride	**100**		10		mg/L			05/19/17 20:46	5
Fluoride	**0.47**		0.10		mg/L			05/18/17 20:35	1
Sulfate	**280**		100		mg/L			05/17/17 05:09	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 385316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total Recoverable	Water	3005A	
500-128040-2	MW-06 CCR	Total Recoverable	Water	3005A	
500-128040-3	MW-09 CCR	Total Recoverable	Water	3005A	
500-128040-4	MW-10 CCR	Total Recoverable	Water	3005A	
500-128040-5	MW-11 CCR	Total Recoverable	Water	3005A	
500-128040-6	MW-12 CCR	Total Recoverable	Water	3005A	
500-128040-7	DUPLICATE	Total Recoverable	Water	3005A	
MB 500-385316/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-385316/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-128040-1 MS	MW-05 CCR	Total Recoverable	Water	3005A	
500-128040-1 MSD	MW-05 CCR	Total Recoverable	Water	3005A	
500-128040-1 DU	MW-05 CCR	Total Recoverable	Water	3005A	

Prep Batch: 385379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	7470A	
500-128040-2	MW-06 CCR	Total/NA	Water	7470A	
500-128040-3	MW-09 CCR	Total/NA	Water	7470A	
500-128040-4	MW-10 CCR	Total/NA	Water	7470A	
500-128040-5	MW-11 CCR	Total/NA	Water	7470A	
500-128040-6	MW-12 CCR	Total/NA	Water	7470A	
500-128040-7	DUPLICATE	Total/NA	Water	7470A	
MB 500-385379/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-385379/13-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 385553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	7470A	385379
500-128040-2	MW-06 CCR	Total/NA	Water	7470A	385379
500-128040-3	MW-09 CCR	Total/NA	Water	7470A	385379
500-128040-4	MW-10 CCR	Total/NA	Water	7470A	385379
500-128040-5	MW-11 CCR	Total/NA	Water	7470A	385379
500-128040-6	MW-12 CCR	Total/NA	Water	7470A	385379
500-128040-7	DUPLICATE	Total/NA	Water	7470A	385379
MB 500-385379/12-A	Method Blank	Total/NA	Water	7470A	385379
LCS 500-385379/13-A	Lab Control Sample	Total/NA	Water	7470A	385379

Analysis Batch: 385701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total Recoverable	Water	6010C	385316
500-128040-2	MW-06 CCR	Total Recoverable	Water	6010C	385316
500-128040-3	MW-09 CCR	Total Recoverable	Water	6010C	385316
500-128040-4	MW-10 CCR	Total Recoverable	Water	6010C	385316
500-128040-5	MW-11 CCR	Total Recoverable	Water	6010C	385316
500-128040-6	MW-12 CCR	Total Recoverable	Water	6010C	385316
500-128040-7	DUPLICATE	Total Recoverable	Water	6010C	385316
MB 500-385316/1-A	Method Blank	Total Recoverable	Water	6010C	385316
LCS 500-385316/2-A	Lab Control Sample	Total Recoverable	Water	6010C	385316
500-128040-1 MS	MW-05 CCR	Total Recoverable	Water	6010C	385316
500-128040-1 MSD	MW-05 CCR	Total Recoverable	Water	6010C	385316
500-128040-1 DU	MW-05 CCR	Total Recoverable	Water	6010C	385316

Analysis Batch: 385728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total Recoverable	Water	6020A	385316
500-128040-2	MW-06 CCR	Total Recoverable	Water	6020A	385316
500-128040-3	MW-09 CCR	Total Recoverable	Water	6020A	385316
500-128040-4	MW-10 CCR	Total Recoverable	Water	6020A	385316
500-128040-5	MW-11 CCR	Total Recoverable	Water	6020A	385316
500-128040-6	MW-12 CCR	Total Recoverable	Water	6020A	385316
500-128040-7	DUPLICATE	Total Recoverable	Water	6020A	385316
MB 500-385316/1-A	Method Blank	Total Recoverable	Water	6020A	385316
LCS 500-385316/2-A	Lab Control Sample	Total Recoverable	Water	6020A	385316
500-128040-1 MS	MW-05 CCR	Total Recoverable	Water	6020A	385316
500-128040-1 MSD	MW-05 CCR	Total Recoverable	Water	6020A	385316
500-128040-1 DU	MW-05 CCR	Total Recoverable	Water	6020A	385316

Analysis Batch: 385765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total Recoverable	Water	6020A	385316
500-128040-2	MW-06 CCR	Total Recoverable	Water	6020A	385316
500-128040-3	MW-09 CCR	Total Recoverable	Water	6020A	385316
500-128040-4	MW-10 CCR	Total Recoverable	Water	6020A	385316
500-128040-5	MW-11 CCR	Total Recoverable	Water	6020A	385316
500-128040-6	MW-12 CCR	Total Recoverable	Water	6020A	385316
500-128040-7	DUPLICATE	Total Recoverable	Water	6020A	385316
MB 500-385316/1-A	Method Blank	Total Recoverable	Water	6020A	385316
LCS 500-385316/2-A	Lab Control Sample	Total Recoverable	Water	6020A	385316
500-128040-1 MS	MW-05 CCR	Total Recoverable	Water	6020A	385316
500-128040-1 MSD	MW-05 CCR	Total Recoverable	Water	6020A	385316
500-128040-1 DU	MW-05 CCR	Total Recoverable	Water	6020A	385316

General Chemistry

Analysis Batch: 385074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	SM 2540C	
500-128040-2	MW-06 CCR	Total/NA	Water	SM 2540C	
500-128040-3	MW-09 CCR	Total/NA	Water	SM 2540C	
500-128040-4	MW-10 CCR	Total/NA	Water	SM 2540C	
500-128040-5	MW-11 CCR	Total/NA	Water	SM 2540C	
500-128040-6	MW-12 CCR	Total/NA	Water	SM 2540C	
500-128040-7	DUPLICATE	Total/NA	Water	SM 2540C	
MB 500-385074/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-385074/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-128040-1 MS	MW-05 CCR	Total/NA	Water	SM 2540C	
500-128040-1 DU	MW-05 CCR	Total/NA	Water	SM 2540C	

Analysis Batch: 385466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	SM 4500 SO4 E	
500-128040-2	MW-06 CCR	Total/NA	Water	SM 4500 SO4 E	
500-128040-3	MW-09 CCR	Total/NA	Water	SM 4500 SO4 E	
500-128040-4	MW-10 CCR	Total/NA	Water	SM 4500 SO4 E	
500-128040-5	MW-11 CCR	Total/NA	Water	SM 4500 SO4 E	
500-128040-6	MW-12 CCR	Total/NA	Water	SM 4500 SO4 E	
500-128040-7	DUPLICATE	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 385466 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-385466/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-385466/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-128040-3 MS	MW-09 CCR	Total/NA	Water	SM 4500 SO4 E	
500-128040-3 MSD	MW-09 CCR	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 385934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	SM 4500 F C	
500-128040-2	MW-06 CCR	Total/NA	Water	SM 4500 F C	
500-128040-3	MW-09 CCR	Total/NA	Water	SM 4500 F C	
500-128040-4	MW-10 CCR	Total/NA	Water	SM 4500 F C	
500-128040-5	MW-11 CCR	Total/NA	Water	SM 4500 F C	
500-128040-6	MW-12 CCR	Total/NA	Water	SM 4500 F C	
500-128040-7	DUPLICATE	Total/NA	Water	SM 4500 F C	
MB 500-385934/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-385934/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 386082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	SM 4500 Cl- E	
500-128040-2	MW-06 CCR	Total/NA	Water	SM 4500 Cl- E	
500-128040-3	MW-09 CCR	Total/NA	Water	SM 4500 Cl- E	
500-128040-4	MW-10 CCR	Total/NA	Water	SM 4500 Cl- E	
500-128040-5	MW-11 CCR	Total/NA	Water	SM 4500 Cl- E	
500-128040-6	MW-12 CCR	Total/NA	Water	SM 4500 Cl- E	
500-128040-7	DUPLICATE	Total/NA	Water	SM 4500 Cl- E	
MB 500-386082/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-386082/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-128040-2 MS	MW-06 CCR	Total/NA	Water	SM 4500 Cl- E	
500-128040-2 MSD	MW-06 CCR	Total/NA	Water	SM 4500 Cl- E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-385316/1-A
Matrix: Water
Analysis Batch: 385701

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		05/16/17 07:36	05/18/17 03:21	1

Lab Sample ID: LCS 500-385316/2-A
Matrix: Water
Analysis Batch: 385701

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.535		mg/L		107	80 - 120

Lab Sample ID: 500-128040-1 MS
Matrix: Water
Analysis Batch: 385701

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	<0.010		0.500	0.540		mg/L		107	75 - 125

Lab Sample ID: 500-128040-1 MSD
Matrix: Water
Analysis Batch: 385701

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	<0.010		0.500	0.535		mg/L		106	75 - 125	1	20

Lab Sample ID: 500-128040-1 DU
Matrix: Water
Analysis Batch: 385701

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lithium	<0.010		<0.010		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-385316/1-A
Matrix: Water
Analysis Batch: 385728

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		05/16/17 07:36	05/17/17 16:37	1
Arsenic	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 16:37	1
Barium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 16:37	1
Beryllium	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 16:37	1
Cadmium	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 16:37	1
Calcium	<0.20		0.20		mg/L		05/16/17 07:36	05/17/17 16:37	1
Chromium	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 16:37	1
Cobalt	<0.0010		0.0010		mg/L		05/16/17 07:36	05/17/17 16:37	1
Lead	<0.00050		0.00050		mg/L		05/16/17 07:36	05/17/17 16:37	1
Molybdenum	<0.0050		0.0050		mg/L		05/16/17 07:36	05/17/17 16:37	1
Selenium	<0.0025		0.0025		mg/L		05/16/17 07:36	05/17/17 16:37	1
Thallium	<0.0020		0.0020		mg/L		05/16/17 07:36	05/17/17 16:37	1

Lab Sample ID: MB 500-385316/1-A
Matrix: Water
Analysis Batch: 385765

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/16/17 07:36	05/18/17 11:15	1

Lab Sample ID: LCS 500-385316/2-A
Matrix: Water
Analysis Batch: 385728

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.510		mg/L		102	80 - 120
Arsenic	0.100	0.0995		mg/L		100	80 - 120
Barium	2.00	2.07		mg/L		103	80 - 120
Beryllium	0.0500	0.0505		mg/L		101	80 - 120
Cadmium	0.0500	0.0524		mg/L		105	80 - 120
Calcium	10.0	10.4		mg/L		104	80 - 120
Chromium	0.200	0.205		mg/L		102	80 - 120
Cobalt	0.500	0.513		mg/L		103	80 - 120
Lead	0.100	0.106		mg/L		106	80 - 120
Molybdenum	1.00	0.983		mg/L		98	80 - 120
Selenium	0.100	0.103		mg/L		103	80 - 120
Thallium	0.100	0.106		mg/L		106	80 - 120

Lab Sample ID: LCS 500-385316/2-A
Matrix: Water
Analysis Batch: 385765

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: 500-128040-1 MS
Matrix: Water
Analysis Batch: 385728

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.522		mg/L		104	75 - 125
Arsenic	0.0035		0.100	0.107		mg/L		103	75 - 125
Barium	0.053		2.00	2.12		mg/L		103	75 - 125
Beryllium	<0.0010		0.0500	0.0455		mg/L		91	75 - 125
Cadmium	<0.00050		0.0500	0.0502		mg/L		100	75 - 125
Calcium	140		10.0	141	4	mg/L		42	75 - 125
Chromium	<0.0050		0.200	0.195		mg/L		97	75 - 125
Cobalt	<0.0010		0.500	0.486		mg/L		97	75 - 125
Lead	<0.00050		0.100	0.103		mg/L		103	75 - 125
Molybdenum	0.093		1.00	1.00		mg/L		91	75 - 125
Selenium	<0.0025		0.100	0.108		mg/L		106	75 - 125
Thallium	<0.0020		0.100	0.103		mg/L		103	75 - 125

Lab Sample ID: 500-128040-1 MS
Matrix: Water
Analysis Batch: 385765

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	4.0		1.00	4.95	4	mg/L		94	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-128040-1 MSD
Matrix: Water
Analysis Batch: 385728

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.522		mg/L		104	75 - 125	0	20
Arsenic	0.0035		0.100	0.107		mg/L		103	75 - 125	0	20
Barium	0.053		2.00	2.10		mg/L		102	75 - 125	1	20
Beryllium	<0.0010		0.0500	0.0469		mg/L		94	75 - 125	3	20
Cadmium	<0.00050		0.0500	0.0511		mg/L		102	75 - 125	2	20
Calcium	140		10.0	136	4	mg/L		-3	75 - 125	3	20
Chromium	<0.0050		0.200	0.192		mg/L		96	75 - 125	1	20
Cobalt	<0.0010		0.500	0.477		mg/L		95	75 - 125	2	20
Lead	<0.00050		0.100	0.100		mg/L		100	75 - 125	2	20
Molybdenum	0.093		1.00	1.00		mg/L		91	75 - 125	0	20
Selenium	<0.0025		0.100	0.108		mg/L		106	75 - 125	0	20
Thallium	<0.0020		0.100	0.100		mg/L		100	75 - 125	2	20

Lab Sample ID: 500-128040-1 MSD
Matrix: Water
Analysis Batch: 385765

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	4.0		1.00	4.79	4	mg/L		78	75 - 125	3	20

Lab Sample ID: 500-128040-1 DU
Matrix: Water
Analysis Batch: 385728

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	0.0035			0.00341		mg/L				2	20
Barium	0.053			0.0519		mg/L				3	20
Beryllium	<0.0010			<0.0010		mg/L				NC	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Calcium	140			132		mg/L				4	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	<0.0010			<0.0010		mg/L				NC	20
Lead	<0.00050			<0.00050		mg/L				NC	20
Molybdenum	0.093			0.0874		mg/L				6	20
Selenium	<0.0025			<0.0025		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20

Lab Sample ID: 500-128040-1 DU
Matrix: Water
Analysis Batch: 385765

Client Sample ID: MW-05 CCR
Prep Type: Total Recoverable
Prep Batch: 385316

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	4.0			3.90		mg/L				3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-385379/12-A
Matrix: Water
Analysis Batch: 385553

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 385379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		05/16/17 13:00	05/17/17 09:29	1

Lab Sample ID: LCS 500-385379/13-A
Matrix: Water
Analysis Batch: 385553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 385379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00206		mg/L		103	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-385074/1
Matrix: Water
Analysis Batch: 385074

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/13/17 14:06	1

Lab Sample ID: LCS 500-385074/2
Matrix: Water
Analysis Batch: 385074

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

Lab Sample ID: 500-128040-1 MS
Matrix: Water
Analysis Batch: 385074

Client Sample ID: MW-05 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1200		250	1460	4	mg/L		118	75 - 125

Lab Sample ID: 500-128040-1 DU
Matrix: Water
Analysis Batch: 385074

Client Sample ID: MW-05 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1200		1130		mg/L		3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-386082/12
Matrix: Water
Analysis Batch: 386082

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/19/17 19:45	1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 500-386082/13
Matrix: Water
Analysis Batch: 386082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.2		mg/L		104	80 - 120

Lab Sample ID: 500-128040-2 MS
Matrix: Water
Analysis Batch: 386082

Client Sample ID: MW-06 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	84		50.0	131		mg/L		94	75 - 125

Lab Sample ID: 500-128040-2 MSD
Matrix: Water
Analysis Batch: 386082

Client Sample ID: MW-06 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	84		50.0	132		mg/L		95	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-385934/3
Matrix: Water
Analysis Batch: 385934

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/18/17 19:12	1

Lab Sample ID: LCS 500-385934/4
Matrix: Water
Analysis Batch: 385934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-385466/3
Matrix: Water
Analysis Batch: 385466

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/17/17 04:51	1

Lab Sample ID: LCS 500-385466/4
Matrix: Water
Analysis Batch: 385466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.2		mg/L		101	80 - 120

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: 500-128040-3 MS
Matrix: Water
Analysis Batch: 385466

Client Sample ID: MW-09 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	250		400	658		mg/L		102	75 - 125		

Lab Sample ID: 500-128040-3 MSD
Matrix: Water
Analysis Batch: 385466

Client Sample ID: MW-09 CCR
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	250		400	673		mg/L		106	75 - 125	2	20

TestAmerica

THE LEADER IN ENVIRON

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

500-128040 COC

Report To:

Contact:	Richard Gnat
Company:	KPRG and Associates, Inc
Address:	14665 W. Lisbon Rd., Suite 2B
	Brookfield, WI 53005
Phone:	262-781-0475
Email:	richardg@kprginc.com

Bill To:

Contact:	Accounts Payable
Company:	NRG Energy
Address:	112 Telly St
	New Roads, LA 70760
Phone:	713 465-4113
Email	invoices@nrg.com
PO #:	4501569118

Lab Lot # 500-128040

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A
Temperature °C of Cooler: 3.2, 2.7	
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res Cl_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No / COC not present	

Sampler Name: Ian John Howieson	Signature:
Project Name: Quarterly Will County: CCR	TestAmerica Project Number: 50011609
Project Location: Romeoville, IL	TAT: 15 Days
Lab PM: Eric Lang	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# / Cont.	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05 CCR	5-11-17	11:05	W	5		X	X	X	X	X	X	
2		MW-06 CCR	5-11-17	12:50	W	5		X	X	X	X	X	X	
3		MW-09 CCR	5-9-17	15:43	W	5		X	X	X	X	X	X	
4		MW-10 CCR	5-10-17	12:11	W	5		X	X	X	X	X	X	
5		MW-11 CCR	5-10-17	10:51	W	5		X	X	X	X	X	X	
6		MW-12 CCR	5-10-17	09:39	W	5		X	X	X	X	X	X	
7		DUPLICATE	5-10-17	—	W	5		X	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
ISIA	KPRG	5-11-17	16:18	Ellen Scott	TA-CHI	5/11/17	1618
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-128040-1

Login Number: 128040
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2,2.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-1

Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-18

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-128040-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
6/12/2017 1:56:51 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 17
Receipt Checklists 20
Certification Summary 22
Tracer Carrier Summary 23

Job ID: 500-128040-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-128040-2

Comments
No additional comments.

Receipt
The samples were received on 5/11/2017 4:18 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.7º C and 3.2º C.

RAD
Method(s) 903.0, 9315: Radium-226 Prep Batch 160-308611:
The following samples have barium carrier recoveries above the 110% QC limit; (500-128040-2; 135%, 500-128040-3; 113%, 500-128040-4; 129%, 240-79337-2; 112%, and 240-79337-3; 117%). See prep NCM 112394. The LCS (laboratory control sample) had an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples associated with the batch have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported. MW-05 CCR (500-128040-1), MW-06 CCR (500-128040-2), MW-09 CCR (500-128040-3), MW-10 CCR (500-128040-4), MW-11 CCR (500-128040-5), MW-12 CCR (500-128040-6), DUPLICATE (500-128040-7), (LCS 160-308611/2-A), (MB 160-308611/1-A) and (500-128040-E-1-B DU)

Method(s) 904.0, 9320: Radium-228 Prep Batch 160-308613:
The following samples have barium carrier recoveries above the 110% QC limit; (500-128040-2; 135%, 500-128040-3; 113%, 500-128040-4; 129%, 240-79337-2; 112%, and 240-79337-3; 117%). See prep NCM 112393. The LCS (laboratory control sample) had an acceptable spike recovery demonstrating acceptable sample preparation and instrument performance. The samples associated with the batch have been truncated to 100% to reduce any potential bias a high carrier recovery may have. The data have been qualified and reported. MW-05 CCR (500-128040-1), MW-06 CCR (500-128040-2), MW-09 CCR (500-128040-3), MW-10 CCR (500-128040-4), MW-11 CCR (500-128040-5), MW-12 CCR (500-128040-6), DUPLICATE (500-128040-7), (LCS 160-308613/2-A), (MB 160-308613/1-A) and (500-128040-E-1-C DU)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-128040-1	MW-05 CCR	Water	05/11/17 11:05	05/11/17 16:18
500-128040-2	MW-06 CCR	Water	05/11/17 12:50	05/11/17 16:18
500-128040-3	MW-09 CCR	Water	05/09/17 15:43	05/11/17 16:18
500-128040-4	MW-10 CCR	Water	05/10/17 12:11	05/11/17 16:18
500-128040-5	MW-11 CCR	Water	05/10/17 10:51	05/11/17 16:18
500-128040-6	MW-12 CCR	Water	05/10/17 09:39	05/11/17 16:18
500-128040-7	DUPLICATE	Water	05/10/17 00:00	05/11/17 16:18

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-2

Client Sample ID: MW-05 CCR

Date Collected: 05/11/17 11:05
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-1

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0496	U	0.0589	0.0591	1.00	0.0958	pCi/L	05/16/17 07:36	06/07/17 05:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*05/16/17 07:36*	*06/07/17 05:48*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.287	U	0.244	0.245	1.00	0.388	pCi/L	05/16/17 08:12	05/30/17 14:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:52*	*1*
Y Carrier	*74.8*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:52*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.336	U	0.251	0.252	5.00	0.388	pCi/L		06/09/17 09:20	1

Client Sample ID: MW-06 CCR
Date Collected: 05/11/17 12:50
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-2
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0635	U	0.0722	0.0724	1.00	0.117	pCi/L	05/16/17 07:36	06/07/17 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*135*	*X*	*40 - 110*	*05/16/17 07:36*	*06/07/17 05:49*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.131	U	0.229	0.229	1.00	0.388	pCi/L	05/16/17 08:12	05/30/17 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*135*	*X*	*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*
Y Carrier	*81.1*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.195	U	0.240	0.240	5.00	0.388	pCi/L		06/09/17 09:20	1

Client Sample ID: MW-09 CCR

Date Collected: 05/09/17 15:43
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0934	U	0.0733	0.0738	1.00	0.106	pCi/L	05/16/17 07:36	06/07/17 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*113*	*X*	*40 - 110*	*05/16/17 07:36*	*06/07/17 05:49*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.158	U	0.216	0.216	1.00	0.361	pCi/L	05/16/17 08:12	05/30/17 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*113*	*X*	*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*
Y Carrier	*88.6*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.251	U	0.228	0.229	5.00	0.361	pCi/L		06/09/17 09:20	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-2

Client Sample ID: MW-10 CCR
Date Collected: 05/10/17 12:11
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-4
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.206		0.0894	0.0913	1.00	0.0880	pCi/L	05/16/17 07:36	06/07/17 05:49	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*129*	*X*	*40 - 110*	*05/16/17 07:36*	*06/07/17 05:49*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.676		0.289	0.295	1.00	0.412	pCi/L	05/16/17 08:12	05/30/17 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*129*	*X*	*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*
Y Carrier	*80.0*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.882		0.302	0.309	5.00	0.412	pCi/L		06/09/17 09:20	1

Client Sample ID: MW-11 CCR

Date Collected: 05/10/17 10:51
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-5

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.343		0.117	0.121	1.00	0.117	pCi/L	05/16/17 07:36	06/07/17 05:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*05/16/17 07:36*	*06/07/17 05:50*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.684		0.370	0.375	1.00	0.565	pCi/L	05/16/17 08:12	05/30/17 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.9*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*
Y Carrier	*78.1*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.03		0.388	0.395	5.00	0.565	pCi/L		06/09/17 09:20	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-2

Client Sample ID: MW-12 CCR
Date Collected: 05/10/17 09:39
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-6
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0550	U	0.0667	0.0669	1.00	0.110	pCi/L	05/16/17 07:36	06/07/17 05:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.5*		*40 - 110*	*05/16/17 07:36*	*06/07/17 05:50*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.216	U	0.279	0.280	1.00	0.464	pCi/L	05/16/17 08:12	05/30/17 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.5*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*
Y Carrier	*78.1*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.271	U	0.287	0.288	5.00	0.464	pCi/L		06/09/17 09:20	1

Client Sample ID: DUPLICATE

Date Collected: 05/10/17 00:00
Date Received: 05/11/17 16:18

Lab Sample ID: 500-128040-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.266		0.103	0.105	1.00	0.103	pCi/L	05/16/17 07:36	06/07/17 05:50	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*05/16/17 07:36*	*06/07/17 05:50*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.572		0.314	0.319	1.00	0.471	pCi/L	05/16/17 08:12	05/30/17 14:53	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*
Y Carrier	*75.1*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:53*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.839		0.331	0.336	5.00	0.471	pCi/L		06/09/17 09:20	1

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Rad

Prep Batch: 308611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	PrecSep-21	
500-128040-2	MW-06 CCR	Total/NA	Water	PrecSep-21	
500-128040-3	MW-09 CCR	Total/NA	Water	PrecSep-21	
500-128040-4	MW-10 CCR	Total/NA	Water	PrecSep-21	
500-128040-5	MW-11 CCR	Total/NA	Water	PrecSep-21	
500-128040-6	MW-12 CCR	Total/NA	Water	PrecSep-21	
500-128040-7	DUPLICATE	Total/NA	Water	PrecSep-21	
MB 160-308611/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-308611/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-128040-1 DU	MW-05 CCR	Total/NA	Water	PrecSep-21	

Prep Batch: 308613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-128040-1	MW-05 CCR	Total/NA	Water	PrecSep_0	
500-128040-2	MW-06 CCR	Total/NA	Water	PrecSep_0	
500-128040-3	MW-09 CCR	Total/NA	Water	PrecSep_0	
500-128040-4	MW-10 CCR	Total/NA	Water	PrecSep_0	
500-128040-5	MW-11 CCR	Total/NA	Water	PrecSep_0	
500-128040-6	MW-12 CCR	Total/NA	Water	PrecSep_0	
500-128040-7	DUPLICATE	Total/NA	Water	PrecSep_0	
MB 160-308613/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-308613/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-128040-1 DU	MW-05 CCR	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-308611/1-A
Matrix: Water
Analysis Batch: 312164

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308611

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0007231	U	0.0402	0.0402	1.00	0.0882	pCi/L	05/16/17 07:36	06/07/17 05:48	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*05/16/17 07:36*	*06/07/17 05:48*	*1*

Lab Sample ID: LCS 160-308611/2-A
Matrix: Water
Analysis Batch: 312164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308611

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.4	10.56		1.10	1.00	0.105	pCi/L	93	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*

Lab Sample ID: 500-128040-1 DU
Matrix: Water
Analysis Batch: 312164

Client Sample ID: MW-05 CCR
Prep Type: Total/NA
Prep Batch: 308611

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.0496	U		0.04183	U	0.0536	1.00	0.0884	pCi/L			0.07	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-308613/1-A
Matrix: Water
Analysis Batch: 311127

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308613

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.1461	U	0.273	0.273	1.00	0.516	pCi/L	05/16/17 08:12	05/30/17 14:52	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*105*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:52*	*1*
Y Carrier	*63.6*		*40 - 110*	*05/16/17 08:12*	*05/30/17 14:52*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-308613/2-A
Matrix: Water
Analysis Batch: 311127

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308613

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			13.4	15.68		1.71	1.00	0.425	pCi/L	117	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*101*		*40 - 110*
Y Carrier	*72.1*		*40 - 110*

Lab Sample ID: 500-128040-1 DU
Matrix: Water
Analysis Batch: 311127

Client Sample ID: MW-05 CCR
Prep Type: Total/NA
Prep Batch: 308613

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.287	U		0.2235	U	0.257	1.00	0.422	pCi/L			0.13	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*80.4*		*40 - 110*

TestAmerica

THE LEADER IN ENVIRON

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

500-128040 COC

Report To:

Contact:	Richard Gnat
Company:	KPRG and Associates, Inc
Address:	14665 W. Lisbon Rd., Suite 2B
	Brookfield, WI 53005
Phone:	262-781-0475
Email:	richardg@kprginc.com

Bill To:

Contact:	Accounts Payable
Company:	NRG Energy
Address:	112 Telly St
	New Roads, LA 70760
Phone:	713 465-4113
Email	invoices@nrg.com
PO #:	4501569118

Lab Lot # 500-128040

Package Sealed: Yes / No — Samples Sealed: Yes / No
Received on Ice: Yes / No — Samples Intact: Yes / No / N/A
Temperature °C of Cooler: 3.2, 2.7
Within Hold Time: Yes / No — Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No — Res Cl_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No / COC not present

Sampler Name:	Ian John Howieson
Signature:	
Project Name:	Quarterly Will County: CCR
TestAmerica Project Number:	50011609
Project Location:	Romeoville, IL
TAT	15 Days
Lab PM:	Eric Lang

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# / Cont.	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05 CCR	5-11-17	11:05	W	5	X	X	X	X	X	X	
2		MW-06 CCR	5-11-17	12:50	W	5	X	X	X	X	X	X	
3		MW-09 CCR	5-9-17	15:43	W	5	X	X	X	X	X	X	
4		MW-10 CCR	5-10-17	12:11	W	5	X	X	X	X	X	X	
5		MW-11 CCR	5-10-17	10:51	W	5	X	X	X	X	X	X	
6		MW-12 CCR	5-10-17	09:39	W	5	X	X	X	X	X	X	
7		DUPLICATE	5-10-17	—	W	5	X	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
ISH	KPRG	5-11-17	16:18	Ellen Scott	TA-CHI	5/11/17	1618
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

500-128040 Chain of Custody

TestAmerica
LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.		No: 87225.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-128040-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/9/2017			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-05 CCR (500-128040-1)	5/11/17	11:05 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-06 CCR (500-128040-2)	5/11/17	12:50 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-09 CCR (500-128040-3)	5/9/17	15:43 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 CCR (500-128040-4)	5/10/17	12:11 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-11 CCR (500-128040-5)	5/10/17	10:51 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-12 CCR (500-128040-6)	5/10/17	09:39 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
DUPLICATE (500-128040-7)	5/10/17	Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Sherri Scott	5/12/17 1515	TA-CHI	Qu Clark	5.13.17 1115	TASR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

6/12/2017

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

500-128040 COC

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	Accounts Payable
Company:	KPRG and Associates, Inc	Company:	NRG Energy
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	112 Telly St
	Brookfield, WI 53005		New Roads, LA 70760
Phone:	262-781-0475	Phone:	713 465-4113
Email:	richardg@kprginc.com	Email	invoices@nrg.com
		PO #:	4501569118

Lab Lot # 500-128040

Package Sealed: (Yes) No	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 3.2, 2.7	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res CL_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name:	Signature:	# / Cont.													
Ian John Howieson		Volume													
Project Name:	TestAmerica Project Number:	Preserv.													
Quarterly Will County: CCR	50011609														
Project Location:	TAT	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate						
Romeoville, IL	15 Days														
Lab PM: Eric Lang															

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05 CCR	5-11-17	11:05	W	5	X	X	X	X	X	X	
2		MW-06 CCR	5-11-17	12:50	W	5	X	X	X	X	X	X	
3		MW-09 CCR	5-9-17	15:43	W	5	X	X	X	X	X	X	
4		MW-10 CCR	5-10-17	12:11	W	5	X	X	X	X	X	X	
5		MW-11 CCR	5-10-17	10:51	W	5	X	X	X	X	X	X	
6		MW-12 CCR	5-10-17	09:39	W	5	X	X	X	X	X	X	
7		DUPLICATE	5-10-17	—	W	5	X	X	X	X	X	X	

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
IGH	KPRG	5-11-17	16:18	Sherri Scott	TA CHI	5/11/17	1618
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-128040-2

Login Number: 128040
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2,2.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-128040-2

Login Number: 128040
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 05/15/17 08:07 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	22.0, 22.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-2

Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-18

Laboratory: TestAmerica St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200023	11-30-17

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-128040-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)							
		Ba							
Lab Sample ID	Client Sample ID	(40-110)							
500-128040-1	MW-05 CCR	106							
500-128040-1 DU	MW-05 CCR	103							
500-128040-2	MW-06 CCR	135 X							
500-128040-3	MW-09 CCR	113 X							
500-128040-4	MW-10 CCR	129 X							
500-128040-5	MW-11 CCR	94.9							
500-128040-6	MW-12 CCR	95.5							
500-128040-7	DUPLICATE	93.5							
LCS 160-308611/2-A	Lab Control Sample	101							
MB 160-308611/1-A	Method Blank	105							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)							
		Ba	Y						
Lab Sample ID	Client Sample ID	(40-110)	(40-110)						
500-128040-1	MW-05 CCR	106	74.8						
500-128040-1 DU	MW-05 CCR	103	80.4						
500-128040-2	MW-06 CCR	135 X	81.1						
500-128040-3	MW-09 CCR	113 X	88.6						
500-128040-4	MW-10 CCR	129 X	80.0						
500-128040-5	MW-11 CCR	94.9	78.1						
500-128040-6	MW-12 CCR	95.5	78.1						
500-128040-7	DUPLICATE	93.5	75.1						
LCS 160-308613/2-A	Lab Control Sample	101	72.1						
MB 160-308613/1-A	Method Blank	105	63.6						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-133645-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
9/20/2017 12:53:06 PM

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LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 18
Chain of Custody 26
Receipt Checklists 28
Certification Summary 29

Job ID: 500-133645-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-133645-1

Comments
No additional comments.

Receipt
The samples were received on 9/7/2017 11:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.1º C, 2.4º C, 3.9º C and 4.6º C.

Metals
Method(s) 6020A: The internal standard Terbium (Tb) was used to report the elements Lead and Thallium in batch 500-401018. This was due to the LCS being spiked with the trace digestion spike which contains Bismuth.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-133645-1	MW-09	Water	09/06/17 15:55	09/07/17 11:05
500-133645-2	MW-05	Water	09/08/17 11:05	09/08/17 17:23
500-133645-3	MW-06	Water	09/07/17 10:45	09/08/17 17:23
500-133645-4	MW-10	Water	09/07/17 12:10	09/08/17 17:23
500-133645-5	MW-11	Water	09/07/17 13:30	09/08/17 17:23
500-133645-6	MW-12	Water	09/06/17 11:55	09/08/17 17:23
500-133645-7	Duplicate	Water	09/06/17 11:55	09/08/17 17:23

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Client Sample ID: MW-09
Date Collected: 09/06/17 15:55
Date Received: 09/07/17 11:05

Lab Sample ID: 500-133645-1
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		09/08/17 07:59	09/08/17 20:01	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/08/17 07:59	09/11/17 11:25	1
Arsenic	**0.0047**		0.0010		mg/L		09/08/17 07:59	09/11/17 11:25	1
Barium	**0.038**		0.0025		mg/L		09/08/17 07:59	09/11/17 11:25	1
Beryllium	<0.0010		0.0010		mg/L		09/08/17 07:59	09/11/17 11:25	1
Boron	**1.8**		0.050		mg/L		09/08/17 07:59	09/11/17 11:25	1
Cadmium	<0.00050		0.00050		mg/L		09/08/17 07:59	09/11/17 11:25	1
Calcium	**59**		0.20		mg/L		09/08/17 07:59	09/11/17 11:25	1
Chromium	<0.0050		0.0050		mg/L		09/08/17 07:59	09/11/17 11:25	1
Cobalt	<0.0010		0.0010		mg/L		09/08/17 07:59	09/11/17 11:25	1
Lead	<0.00050		0.00050		mg/L		09/08/17 07:59	09/11/17 11:25	1
Molybdenum	**0.10**		0.0050		mg/L		09/08/17 07:59	09/11/17 11:25	1
Selenium	<0.0025		0.0025		mg/L		09/08/17 07:59	09/11/17 11:25	1
Thallium	<0.0020		0.0020		mg/L		09/08/17 07:59	09/11/17 11:25	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/08/17 11:12	09/11/17 09:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**890**		10		mg/L			09/08/17 05:06	1
Chloride	**310**		10		mg/L			09/10/17 22:11	5
Fluoride	**0.51**		0.10		mg/L			09/09/17 14:27	1
Sulfate	**240**		50		mg/L			09/11/17 08:00	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Client Sample ID: MW-05
Date Collected: 09/08/17 11:05
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-2
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		09/13/17 15:39	09/14/17 22:14	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/09/17 12:07	09/11/17 12:37	1
Arsenic	**0.0038**		0.0010		mg/L		09/09/17 12:07	09/11/17 12:37	1
Barium	**0.069**	**V**	0.0025		mg/L		09/09/17 12:07	09/11/17 12:37	1
Beryllium	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 12:37	1
Boron	**4.8**		1.0		mg/L		09/09/17 12:07	09/12/17 11:12	20
Cadmium	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 12:37	1
Calcium	**89**		0.20		mg/L		09/09/17 12:07	09/11/17 12:37	1
Chromium	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 12:37	1
Cobalt	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 12:37	1
Lead	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 12:37	1
Molybdenum	**0.095**		0.0050		mg/L		09/09/17 12:07	09/11/17 12:37	1
Selenium	**0.0047**		0.0025		mg/L		09/09/17 12:07	09/11/17 12:37	1
Thallium	<0.0020		0.0020		mg/L		09/09/17 12:07	09/11/17 12:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/11/17 14:15	09/12/17 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1000**		10		mg/L			09/11/17 04:54	1
Chloride	**78**		10		mg/L			09/10/17 22:12	5
Fluoride	**0.52**		0.10		mg/L			09/09/17 14:31	1
Sulfate	**490**		100		mg/L			09/11/17 08:01	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Client Sample ID: MW-06
Date Collected: 09/07/17 10:45
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-3
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.013		0.010		mg/L		09/13/17 15:39	09/14/17 22:18	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/09/17 12:07	09/11/17 13:03	1
Arsenic	0.0025		0.0010		mg/L		09/09/17 12:07	09/11/17 13:03	1
Barium	0.077		0.0025		mg/L		09/09/17 12:07	09/11/17 13:03	1
Beryllium	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:03	1
Boron	3.5		1.0		mg/L		09/09/17 12:07	09/12/17 11:38	20
Cadmium	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:03	1
Calcium	75		0.20		mg/L		09/09/17 12:07	09/11/17 13:03	1
Chromium	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 13:03	1
Cobalt	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:03	1
Lead	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:03	1
Molybdenum	0.044		0.0050		mg/L		09/09/17 12:07	09/11/17 13:03	1
Selenium	<0.0025		0.0025		mg/L		09/09/17 12:07	09/11/17 13:03	1
Thallium	<0.0020		0.0020		mg/L		09/09/17 12:07	09/11/17 13:03	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/11/17 14:15	09/12/17 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	740		10		mg/L			09/11/17 05:02	1
Chloride	67		2.0		mg/L			09/10/17 21:10	1
Fluoride	0.40		0.10		mg/L			09/09/17 14:34	1
Sulfate	300		100		mg/L			09/11/17 08:02	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Client Sample ID: MW-10
Date Collected: 09/07/17 12:10
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-4
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		09/13/17 15:39	09/14/17 22:22	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/09/17 12:07	09/11/17 13:07	1
Arsenic	**0.0076**		0.0010		mg/L		09/09/17 12:07	09/11/17 13:07	1
Barium	**0.086**		0.0025		mg/L		09/09/17 12:07	09/11/17 13:07	1
Beryllium	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:07	1
Boron	**2.8**		0.50		mg/L		09/09/17 12:07	09/12/17 11:50	10
Cadmium	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:07	1
Calcium	**120**		0.20		mg/L		09/09/17 12:07	09/11/17 13:07	1
Chromium	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 13:07	1
Cobalt	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:07	1
Lead	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:07	1
Molybdenum	**0.096**		0.0050		mg/L		09/09/17 12:07	09/11/17 13:07	1
Selenium	<0.0025		0.0025		mg/L		09/09/17 12:07	09/11/17 13:07	1
Thallium	<0.0020		0.0020		mg/L		09/09/17 12:07	09/11/17 13:07	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00058**		0.00020		mg/L		09/11/17 14:15	09/12/17 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**920**		10		mg/L			09/11/17 05:05	1
Chloride	**120**		10		mg/L			09/10/17 22:12	5
Fluoride	**0.77**		0.10		mg/L			09/09/17 14:38	1
Sulfate	**290**		100		mg/L			09/11/17 08:03	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Client Sample ID: MW-11
Date Collected: 09/07/17 13:30
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-5
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		09/13/17 15:39	09/14/17 22:34	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/09/17 12:07	09/11/17 13:11	1
Arsenic	**0.0074**		0.0010		mg/L		09/09/17 12:07	09/11/17 13:11	1
Barium	**0.11**		0.0025		mg/L		09/09/17 12:07	09/11/17 13:11	1
Beryllium	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:11	1
Boron	**2.8**		0.50		mg/L		09/09/17 12:07	09/12/17 11:54	10
Cadmium	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:11	1
Calcium	**90**		0.20		mg/L		09/09/17 12:07	09/11/17 13:11	1
Chromium	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 13:11	1
Cobalt	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:11	1
Lead	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:11	1
Molybdenum	**0.067**		0.0050		mg/L		09/09/17 12:07	09/11/17 13:11	1
Selenium	<0.0025		0.0025		mg/L		09/09/17 12:07	09/11/17 13:11	1
Thallium	<0.0020		0.0020		mg/L		09/09/17 12:07	09/11/17 13:11	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/11/17 14:15	09/12/17 12:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**730**		10		mg/L			09/11/17 05:07	1
Chloride	**94**		10		mg/L			09/10/17 22:15	5
Fluoride	**0.58**		0.10		mg/L			09/09/17 14:50	1
Sulfate	**150**		50		mg/L			09/11/17 08:04	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Client Sample ID: MW-12
Date Collected: 09/06/17 11:55
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-6
Matrix: Water

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		09/13/17 15:39	09/14/17 22:39	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/09/17 12:07	09/11/17 13:15	1
Arsenic	**0.0017**		0.0010		mg/L		09/09/17 12:07	09/11/17 13:15	1
Barium	**0.13**		0.0025		mg/L		09/09/17 12:07	09/11/17 13:15	1
Beryllium	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:15	1
Boron	**2.6**		0.50		mg/L		09/09/17 12:07	09/12/17 11:58	10
Cadmium	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:15	1
Calcium	**190**		0.20		mg/L		09/09/17 12:07	09/11/17 13:15	1
Chromium	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 13:15	1
Cobalt	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:15	1
Lead	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:15	1
Molybdenum	**0.032**		0.0050		mg/L		09/09/17 12:07	09/11/17 13:15	1
Selenium	**0.0043**		0.0025		mg/L		09/09/17 12:07	09/11/17 13:15	1
Thallium	<0.0020		0.0020		mg/L		09/09/17 12:07	09/11/17 13:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/11/17 14:15	09/12/17 12:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1400**		10		mg/L			09/11/17 05:10	1
Chloride	**270**		10		mg/L			09/10/17 22:16	5
Fluoride	**0.49**		0.10		mg/L			09/09/17 14:59	1
Sulfate	**260**		100		mg/L			09/11/17 08:05	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Client Sample ID: Duplicate

Lab Sample ID: 500-133645-7

Date Collected: 09/06/17 11:55

Matrix: Water

Date Received: 09/08/17 17:23

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	**0.014**		0.010		mg/L		09/13/17 15:39	09/14/17 22:43	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/09/17 12:07	09/11/17 13:18	1
Arsenic	**0.0017**		0.0010		mg/L		09/09/17 12:07	09/11/17 13:18	1
Barium	**0.13**		0.0025		mg/L		09/09/17 12:07	09/11/17 13:18	1
Beryllium	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:18	1
Boron	**2.6**		0.50		mg/L		09/09/17 12:07	09/12/17 12:02	10
Cadmium	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:18	1
Calcium	**180**		0.20		mg/L		09/09/17 12:07	09/11/17 13:18	1
Chromium	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 13:18	1
Cobalt	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 13:18	1
Lead	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 13:18	1
Molybdenum	**0.030**		0.0050		mg/L		09/09/17 12:07	09/11/17 13:18	1
Selenium	**0.0037**		0.0025		mg/L		09/09/17 12:07	09/11/17 13:18	1
Thallium	<0.0020		0.0020		mg/L		09/09/17 12:07	09/11/17 13:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/11/17 14:15	09/12/17 12:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1300**		10		mg/L			09/11/17 05:12	1
Chloride	**280**		10		mg/L			09/10/17 22:16	5
Fluoride	**0.49**		0.10		mg/L			09/09/17 15:13	1
Sulfate	**280**		100		mg/L			09/11/17 08:06	20

Qualifiers

Metals

Qualifier	Qualifier Description
V	Serial Dilution exceeds the control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 400649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total Recoverable	Water	3005A	
MB 500-400649/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-400649/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 400691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	7470A	
MB 500-400691/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-400691/13-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 400795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-2	MW-05	Total Recoverable	Water	3005A	
500-133645-3	MW-06	Total Recoverable	Water	3005A	
500-133645-4	MW-10	Total Recoverable	Water	3005A	
500-133645-5	MW-11	Total Recoverable	Water	3005A	
500-133645-6	MW-12	Total Recoverable	Water	3005A	
500-133645-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-400795/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-400795/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-133645-2 MS	MW-05	Total Recoverable	Water	3005A	
500-133645-2 MSD	MW-05	Total Recoverable	Water	3005A	
500-133645-2 DU	MW-05	Total Recoverable	Water	3005A	

Analysis Batch: 400849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total Recoverable	Water	6010C	400649
MB 500-400649/1-A	Method Blank	Total Recoverable	Water	6010C	400649
LCS 500-400649/2-A	Lab Control Sample	Total Recoverable	Water	6010C	400649

Analysis Batch: 400915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	7470A	400691
MB 500-400691/12-A	Method Blank	Total/NA	Water	7470A	400691
LCS 500-400691/13-A	Lab Control Sample	Total/NA	Water	7470A	400691

Prep Batch: 400960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-2	MW-05	Total/NA	Water	7470A	
500-133645-3	MW-06	Total/NA	Water	7470A	
500-133645-4	MW-10	Total/NA	Water	7470A	
500-133645-5	MW-11	Total/NA	Water	7470A	
500-133645-6	MW-12	Total/NA	Water	7470A	
500-133645-7	Duplicate	Total/NA	Water	7470A	
MB 500-400960/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-400960/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-133645-7 MS	Duplicate	Total/NA	Water	7470A	
500-133645-7 MSD	Duplicate	Total/NA	Water	7470A	
500-133645-7 DU	Duplicate	Total/NA	Water	7470A	

Metals (Continued)

Analysis Batch: 401018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total Recoverable	Water	6020A	400649
500-133645-2	MW-05	Total Recoverable	Water	6020A	400795
500-133645-3	MW-06	Total Recoverable	Water	6020A	400795
500-133645-4	MW-10	Total Recoverable	Water	6020A	400795
500-133645-5	MW-11	Total Recoverable	Water	6020A	400795
500-133645-6	MW-12	Total Recoverable	Water	6020A	400795
500-133645-7	Duplicate	Total Recoverable	Water	6020A	400795
MB 500-400649/1-A	Method Blank	Total Recoverable	Water	6020A	400649
MB 500-400795/1-A	Method Blank	Total Recoverable	Water	6020A	400795
LCS 500-400649/2-A	Lab Control Sample	Total Recoverable	Water	6020A	400649
LCS 500-400795/2-A	Lab Control Sample	Total Recoverable	Water	6020A	400795
500-133645-2 MS	MW-05	Total Recoverable	Water	6020A	400795
500-133645-2 MSD	MW-05	Total Recoverable	Water	6020A	400795
500-133645-2 DU	MW-05	Total Recoverable	Water	6020A	400795

Analysis Batch: 401097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-2	MW-05	Total/NA	Water	7470A	400960
500-133645-3	MW-06	Total/NA	Water	7470A	400960
500-133645-4	MW-10	Total/NA	Water	7470A	400960
500-133645-5	MW-11	Total/NA	Water	7470A	400960
500-133645-6	MW-12	Total/NA	Water	7470A	400960
500-133645-7	Duplicate	Total/NA	Water	7470A	400960
MB 500-400960/12-A	Method Blank	Total/NA	Water	7470A	400960
LCS 500-400960/13-A	Lab Control Sample	Total/NA	Water	7470A	400960
500-133645-7 MS	Duplicate	Total/NA	Water	7470A	400960
500-133645-7 MSD	Duplicate	Total/NA	Water	7470A	400960
500-133645-7 DU	Duplicate	Total/NA	Water	7470A	400960

Analysis Batch: 401226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-2	MW-05	Total Recoverable	Water	6020A	400795
500-133645-3	MW-06	Total Recoverable	Water	6020A	400795
500-133645-4	MW-10	Total Recoverable	Water	6020A	400795
500-133645-5	MW-11	Total Recoverable	Water	6020A	400795
500-133645-6	MW-12	Total Recoverable	Water	6020A	400795
500-133645-7	Duplicate	Total Recoverable	Water	6020A	400795
MB 500-400795/1-A	Method Blank	Total Recoverable	Water	6020A	400795
LCS 500-400795/2-A	Lab Control Sample	Total Recoverable	Water	6020A	400795
500-133645-2 MS	MW-05	Total Recoverable	Water	6020A	400795
500-133645-2 MSD	MW-05	Total Recoverable	Water	6020A	400795
500-133645-2 DU	MW-05	Total Recoverable	Water	6020A	400795

Prep Batch: 401276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-2	MW-05	Total Recoverable	Water	3005A	
500-133645-3	MW-06	Total Recoverable	Water	3005A	
500-133645-4	MW-10	Total Recoverable	Water	3005A	
500-133645-5	MW-11	Total Recoverable	Water	3005A	
500-133645-6	MW-12	Total Recoverable	Water	3005A	
500-133645-7	Duplicate	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 401276 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-401276/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-401276/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 401503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-2	MW-05	Total Recoverable	Water	6010C	401276
500-133645-3	MW-06	Total Recoverable	Water	6010C	401276
500-133645-4	MW-10	Total Recoverable	Water	6010C	401276
500-133645-5	MW-11	Total Recoverable	Water	6010C	401276
500-133645-6	MW-12	Total Recoverable	Water	6010C	401276
500-133645-7	Duplicate	Total Recoverable	Water	6010C	401276
MB 500-401276/1-A	Method Blank	Total Recoverable	Water	6010C	401276
LCS 500-401276/2-A	Lab Control Sample	Total Recoverable	Water	6010C	401276

General Chemistry

Analysis Batch: 400631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	SM 2540C	
MB 500-400631/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-400631/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 400802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	SM 4500 F C	
500-133645-2	MW-05	Total/NA	Water	SM 4500 F C	
500-133645-3	MW-06	Total/NA	Water	SM 4500 F C	
500-133645-4	MW-10	Total/NA	Water	SM 4500 F C	
500-133645-5	MW-11	Total/NA	Water	SM 4500 F C	
500-133645-6	MW-12	Total/NA	Water	SM 4500 F C	
500-133645-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-400802/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-400802/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-400802/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-400802/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-133645-5 MS	MW-11	Total/NA	Water	SM 4500 F C	
500-133645-5 MSD	MW-11	Total/NA	Water	SM 4500 F C	

Analysis Batch: 400839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-133645-2	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-133645-3	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-133645-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-133645-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-133645-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-133645-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-400839/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-400839/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-133645-4 MS	MW-10	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 400839 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-4 MSD	MW-10	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 400846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-2	MW-05	Total/NA	Water	SM 2540C	
500-133645-3	MW-06	Total/NA	Water	SM 2540C	
500-133645-4	MW-10	Total/NA	Water	SM 2540C	
500-133645-5	MW-11	Total/NA	Water	SM 2540C	
500-133645-6	MW-12	Total/NA	Water	SM 2540C	
500-133645-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-400846/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-400846/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-133645-2 MS	MW-05	Total/NA	Water	SM 2540C	
500-133645-2 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 400868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-133645-2	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-133645-3	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-133645-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-133645-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-133645-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-133645-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-400868/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-400868/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-400649/1-A
Matrix: Water
Analysis Batch: 400849

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 400649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		09/08/17 07:59	09/08/17 19:53	1

Lab Sample ID: LCS 500-400649/2-A
Matrix: Water
Analysis Batch: 400849

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 400649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.513		mg/L		103	80 - 120

Lab Sample ID: MB 500-401276/1-A
Matrix: Water
Analysis Batch: 401503

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 401276

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	<0.010		0.010		mg/L		09/13/17 15:39	09/14/17 22:06	1

Lab Sample ID: LCS 500-401276/2-A
Matrix: Water
Analysis Batch: 401503

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 401276

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.533		mg/L		107	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-400649/1-A
Matrix: Water
Analysis Batch: 401018

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 400649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/08/17 07:59	09/11/17 11:17	1
Arsenic	<0.0010		0.0010		mg/L		09/08/17 07:59	09/11/17 11:17	1
Barium	<0.0025		0.0025		mg/L		09/08/17 07:59	09/11/17 11:17	1
Beryllium	<0.0010		0.0010		mg/L		09/08/17 07:59	09/11/17 11:17	1
Boron	<0.050		0.050		mg/L		09/08/17 07:59	09/11/17 11:17	1
Cadmium	<0.00050		0.00050		mg/L		09/08/17 07:59	09/11/17 11:17	1
Calcium	<0.20		0.20		mg/L		09/08/17 07:59	09/11/17 11:17	1
Chromium	<0.0050		0.0050		mg/L		09/08/17 07:59	09/11/17 11:17	1
Cobalt	<0.0010		0.0010		mg/L		09/08/17 07:59	09/11/17 11:17	1
Lead	<0.00050		0.00050		mg/L		09/08/17 07:59	09/11/17 11:17	1
Molybdenum	<0.0050		0.0050		mg/L		09/08/17 07:59	09/11/17 11:17	1
Selenium	<0.0025		0.0025		mg/L		09/08/17 07:59	09/11/17 11:17	1
Thallium	<0.0020		0.0020		mg/L		09/08/17 07:59	09/11/17 11:17	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-400649/2-A
Matrix: Water
Analysis Batch: 401018

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 400649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.497		mg/L		99	80 - 120
Arsenic	0.100	0.102		mg/L		102	80 - 120
Barium	2.00	2.03		mg/L		101	80 - 120
Beryllium	0.0500	0.0496		mg/L		99	80 - 120
Boron	1.00	0.932		mg/L		93	80 - 120
Cadmium	0.0500	0.0509		mg/L		102	80 - 120
Calcium	10.0	8.91		mg/L		89	80 - 120
Chromium	0.200	0.197		mg/L		99	80 - 120
Cobalt	0.500	0.478		mg/L		96	80 - 120
Lead	0.100	0.101		mg/L		101	80 - 120
Molybdenum	1.00	0.947		mg/L		95	80 - 120
Selenium	0.100	0.101		mg/L		101	80 - 120
Thallium	0.100	0.103		mg/L		103	80 - 120

Lab Sample ID: MB 500-400795/1-A
Matrix: Water
Analysis Batch: 401018

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		09/09/17 12:07	09/11/17 12:29	1
Arsenic	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 12:29	1
Barium	<0.0025		0.0025		mg/L		09/09/17 12:07	09/11/17 12:29	1
Beryllium	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 12:29	1
Cadmium	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 12:29	1
Calcium	<0.20		0.20		mg/L		09/09/17 12:07	09/11/17 12:29	1
Chromium	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 12:29	1
Cobalt	<0.0010		0.0010		mg/L		09/09/17 12:07	09/11/17 12:29	1
Lead	<0.00050		0.00050		mg/L		09/09/17 12:07	09/11/17 12:29	1
Molybdenum	<0.0050		0.0050		mg/L		09/09/17 12:07	09/11/17 12:29	1
Selenium	<0.0025		0.0025		mg/L		09/09/17 12:07	09/11/17 12:29	1
Thallium	<0.0020		0.0020		mg/L		09/09/17 12:07	09/11/17 12:29	1

Lab Sample ID: MB 500-400795/1-A
Matrix: Water
Analysis Batch: 401226

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		09/09/17 12:07	09/12/17 11:04	1

Lab Sample ID: LCS 500-400795/2-A
Matrix: Water
Analysis Batch: 401018

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.504		mg/L		101	80 - 120
Arsenic	0.100	0.0998		mg/L		100	80 - 120
Barium	0.500	0.520		mg/L		104	80 - 120
Beryllium	0.0500	0.0515		mg/L		103	80 - 120
Cadmium	0.0500	0.0516		mg/L		103	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-400795/2-A
Matrix: Water
Analysis Batch: 401018

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.15		mg/L		91	80 - 120
Chromium	0.200	0.205		mg/L		103	80 - 120
Cobalt	0.500	0.509		mg/L		102	80 - 120
Lead	0.100	0.107		mg/L		107	80 - 120
Molybdenum	1.00	0.969		mg/L		97	80 - 120
Selenium	0.100	0.0998		mg/L		100	80 - 120
Thallium	0.100	0.109		mg/L		109	80 - 120

Lab Sample ID: LCS 500-400795/2-A
Matrix: Water
Analysis Batch: 401226

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: 500-133645-2 MS
Matrix: Water
Analysis Batch: 401018

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.499		mg/L		100	75 - 125
Arsenic	0.0038		0.100	0.103		mg/L		100	75 - 125
Barium	0.069	V	0.500	0.576		mg/L		101	75 - 125
Beryllium	<0.0010		0.0500	0.0458		mg/L		92	75 - 125
Cadmium	<0.00050		0.0500	0.0498		mg/L		100	75 - 125
Calcium	89		10.0	96.5	4	mg/L		73	75 - 125
Chromium	<0.0050		0.200	0.194		mg/L		97	75 - 125
Cobalt	<0.0010		0.500	0.483		mg/L		97	75 - 125
Lead	<0.00050		0.100	0.102		mg/L		102	75 - 125
Molybdenum	0.095		1.00	1.04		mg/L		94	75 - 125
Selenium	0.0047		0.100	0.105		mg/L		101	75 - 125
Thallium	<0.0020		0.100	0.104		mg/L		104	75 - 125

Lab Sample ID: 500-133645-2 MS
Matrix: Water
Analysis Batch: 401226

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	4.8		1.00	5.66	4	mg/L		88	75 - 125

Lab Sample ID: 500-133645-2 MSD
Matrix: Water
Analysis Batch: 401018

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 400795

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.507		mg/L		101	75 - 125	1	20
Arsenic	0.0038		0.100	0.105		mg/L		101	75 - 125	2	20
Barium	0.069	V	0.500	0.586		mg/L		103	75 - 125	2	20
Beryllium	<0.0010		0.0500	0.0514		mg/L		103	75 - 125	12	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-133645-2 MSD — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 401018 — **Prep Batch: 400795**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	<0.00050		0.0500	0.0498		mg/L		100	75 - 125	0	20
Calcium	89		10.0	97.4	4	mg/L		82	75 - 125	1	20
Chromium	<0.0050		0.200	0.196		mg/L		98	75 - 125	1	20
Cobalt	<0.0010		0.500	0.486		mg/L		97	75 - 125	1	20
Lead	<0.00050		0.100	0.104		mg/L		104	75 - 125	1	20
Molybdenum	0.095		1.00	1.05		mg/L		95	75 - 125	1	20
Selenium	0.0047		0.100	0.107		mg/L		102	75 - 125	1	20
Thallium	<0.0020		0.100	0.105		mg/L		105	75 - 125	1	20

Lab Sample ID: 500-133645-2 MSD — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 401226 — **Prep Batch: 400795**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	4.8		1.00	5.70	4	mg/L		92	75 - 125	1	20

Lab Sample ID: 500-133645-2 DU — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 401018 — **Prep Batch: 400795**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	0.0038		0.00399		mg/L		6	20
Barium	0.069	V	0.0715		mg/L		3	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Calcium	89		89.7		mg/L		0.6	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Molybdenum	0.095		0.0957		mg/L		0.5	20
Selenium	0.0047		0.00475		mg/L		1	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Lab Sample ID: 500-133645-2 DU — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 401226 — **Prep Batch: 400795**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	4.8		4.77		mg/L		0.3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-400691/12-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400915 — **Prep Batch: 400691**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/08/17 11:12	09/11/17 09:14	1

Lab Sample ID: LCS 500-400691/13-A
Matrix: Water
Analysis Batch: 400915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 400691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00185		mg/L		93	80 - 120

Lab Sample ID: MB 500-400960/12-A
Matrix: Water
Analysis Batch: 401097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 400960

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		09/11/17 14:15	09/12/17 12:48	1

Lab Sample ID: LCS 500-400960/13-A
Matrix: Water
Analysis Batch: 401097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 400960

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00201		mg/L		101	80 - 120

Lab Sample ID: 500-133645-7 MS
Matrix: Water
Analysis Batch: 401097

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 400960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.000797		mg/L		80	75 - 125

Lab Sample ID: 500-133645-7 MSD
Matrix: Water
Analysis Batch: 401097

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 400960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.000769		mg/L		77	75 - 125	4	20

Lab Sample ID: 500-133645-7 DU
Matrix: Water
Analysis Batch: 401097

Client Sample ID: Duplicate
Prep Type: Total/NA
Prep Batch: 400960

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-400631/1
Matrix: Water
Analysis Batch: 400631

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			09/08/17 04:40	1

Lab Sample ID: LCS 500-400631/2
Matrix: Water
Analysis Batch: 400631

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120

Lab Sample ID: MB 500-400846/1
Matrix: Water
Analysis Batch: 400846

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			09/11/17 04:29	1

Lab Sample ID: LCS 500-400846/2
Matrix: Water
Analysis Batch: 400846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	276		mg/L		110	80 - 120

Lab Sample ID: 500-133645-2 MS
Matrix: Water
Analysis Batch: 400846

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000		250	1240	4	mg/L		82	75 - 125

Lab Sample ID: 500-133645-2 DU
Matrix: Water
Analysis Batch: 400846

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1000		992		mg/L		4	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-400839/4
Matrix: Water
Analysis Batch: 400839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			09/10/17 20:53	1

Lab Sample ID: LCS 500-400839/5
Matrix: Water
Analysis Batch: 400839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.9		mg/L		102	85 - 115

Lab Sample ID: 500-133645-4 MS
Matrix: Water
Analysis Batch: 400839

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	120		50.0	158		mg/L		78	75 - 125

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 500-133645-4 MSD — **Client Sample ID: MW-10**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400839

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	120		50.0	158		mg/L		78	75 - 125	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-400802/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			09/09/17 12:54	1

Lab Sample ID: MB 500-400802/31 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400802

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			09/09/17 14:44	1

Lab Sample ID: LCS 500-400802/32 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Lab Sample ID: LCS 500-400802/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: 500-133645-5 MS — **Client Sample ID: MW-11**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.58		5.00	5.65		mg/L		101	75 - 125

Lab Sample ID: 500-133645-5 MSD — **Client Sample ID: MW-11**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 400802

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.58		5.00	5.65		mg/L		101	75 - 125	0	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-400868/3
Matrix: Water
Analysis Batch: 400868

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			09/11/17 07:45	1

Lab Sample ID: LCS 500-400868/4
Matrix: Water
Analysis Batch: 400868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	18.7		mg/L		94	80 - 120		

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Rich Gnat
Company: KPRG and Assoc.
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-133645
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 4.6, 2.3-T2A, 2.0, 2.1

Client: KPRG and Assoc.
Client Project #:
Project Name: NRG Will Co. - CCR
Project Location/State: Romeoville, IL
Lab Project #:
Sampler: Mark Wilson
Lab PM: Eric Lang

Preservative Key
1. HCL. Cool to 4°
Cool to 4°
ool to 4°
ool to 4°
, Cool to 4°
°

500-133645 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Parameter: 904.0 Radium 226/228	6020A Total 6010C Metals 7470A	SM4500-Cl 4500-F1	SM 4500 SO4 2540C TDS	Comments
2		MW-05	9-8-17	1105	5	W	X	X	X	X	
3		MW-06	9-7-17	1045	5	W	X	X	X	X	
1		MW-09	9-6-17	1555	5	W	X	X	X	X	
4		MW-10	9-7-17	1210	5	W	X	X	X	X	
5		MW-11	9-7-17	1330	5	W	X	X	X	X	
6		MW-12	9-6-17	1155	5	W	X	X	X	X	
7		Duplicate	9-6-17	1155	5	W	X	X	X	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

	Company	Date	Time		Company	Date	Time
Relinquished By: Mark Wilson	KPRG	9-8-17	1620	Received By: J. Neal	TA	9/8/17	1620
Relinquished By: J. Neal	TA	9/8/17	1723	Received By:	TACHS	09/08/17	1723
Relinquished By:	Company	Date	Time	Received By:	Company	Date	Time

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

9/20/2017

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-92911.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-133645-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/19/2017			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-09 (500-133645-1)	9/6/17	15:55 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		09/07/17 @ 1600	TA		9/8/17 0730	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Page 27 of 29

9/20/2017

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-133645-1

Login Number: 133645
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.9c,4.6, 2.4, 2.1
COC is present.	False	Refer to Job Narrative for details.
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Accreditation/Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-1

Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-133645-2
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
10/6/2017 8:31:42 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 15
Chain of Custody 17
Receipt Checklists 20
Certification Summary 23
Tracer Carrier Summary 24

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Job ID: 500-133645-2

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-133645-2

Comments
No additional comments.

Receipt
The samples were received on 9/7/2017 11:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.1° C, 2.4° C, 3.9° C and 4.6° C.

RAD
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Method	Method Description	Protocol	Laboratory
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-133645-1	MW-09	Water	09/06/17 15:55	09/07/17 11:05
500-133645-2	MW-05	Water	09/08/17 11:05	09/08/17 17:23
500-133645-3	MW-06	Water	09/07/17 10:45	09/08/17 17:23
500-133645-4	MW-10	Water	09/07/17 12:10	09/08/17 17:23
500-133645-5	MW-11	Water	09/07/17 13:30	09/08/17 17:23
500-133645-6	MW-12	Water	09/06/17 11:55	09/08/17 17:23
500-133645-7	Duplicate	Water	09/06/17 11:55	09/08/17 17:23

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Client Sample ID: MW-09
Date Collected: 09/06/17 15:55
Date Received: 09/07/17 11:05

Lab Sample ID: 500-133645-1
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.134**		0.0653	0.0664	1.00	0.0674	pCi/L	09/12/17 10:41	10/04/17 06:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.7*		*40 - 110*	*09/12/17 10:41*	*10/04/17 06:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.320	U	0.215	0.217	1.00	0.333	pCi/L	09/12/17 10:52	09/18/17 16:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.7*		*40 - 110*	*09/12/17 10:52*	*09/18/17 16:17*	*1*
Y Carrier	*97.2*		*40 - 110*	*09/12/17 10:52*	*09/18/17 16:17*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.454**		0.225	0.227	5.00	0.333	pCi/L		10/05/17 16:36	1

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Client Sample ID: MW-05
Date Collected: 09/08/17 11:05
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-2
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.150**		0.0668	0.0681	1.00	0.0640	pCi/L	09/12/17 12:02	10/04/17 06:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*09/12/17 12:02*	*10/04/17 06:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.336	U	0.235	0.237	1.00	0.369	pCi/L	09/12/17 12:18	09/18/17 16:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*99.1*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*
Y Carrier	*92.7*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.486**		0.245	0.247	5.00	0.369	pCi/L		10/05/17 16:36	1

Client Sample ID: MW-06

Date Collected: 09/07/17 10:45
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-3

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.173**		0.0775	0.0790	1.00	0.0834	pCi/L	09/12/17 12:02	10/04/17 06:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*09/12/17 12:02*	*10/04/17 06:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.223	U	0.222	0.223	1.00	0.361	pCi/L	09/12/17 12:18	09/18/17 16:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.2*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*
Y Carrier	*91.2*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.397**		0.235	0.237	5.00	0.361	pCi/L		10/05/17 16:36	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Client Sample ID: MW-10
Date Collected: 09/07/17 12:10
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-4
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.270		0.0905	0.0938	1.00	0.0761	pCi/L	09/12/17 12:02	10/04/17 06:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*09/12/17 12:02*	*10/04/17 06:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.651		0.260	0.267	1.00	0.365	pCi/L	09/12/17 12:18	09/18/17 16:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*
Y Carrier	*88.2*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.921		0.275	0.283	5.00	0.365	pCi/L		10/05/17 16:36	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Client Sample ID: MW-11
Date Collected: 09/07/17 13:30
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-5
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.274		0.0951	0.0982	1.00	0.0961	pCi/L	09/12/17 12:02	10/04/17 06:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*09/12/17 12:02*	*10/04/17 06:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.402		0.211	0.214	1.00	0.311	pCi/L	09/12/17 12:18	09/18/17 16:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*
Y Carrier	*93.1*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:17*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.676		0.231	0.235	5.00	0.311	pCi/L		10/05/17 16:36	1

Client Sample ID: MW-12
Date Collected: 09/06/17 11:55
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-6
Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0403	U	0.0473	0.0474	1.00	0.0763	pCi/L	09/12/17 12:02	10/04/17 06:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*09/12/17 12:02*	*10/04/17 06:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.197	U	0.195	0.196	1.00	0.317	pCi/L	09/12/17 12:18	09/18/17 16:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:18*	*1*
Y Carrier	*94.6*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:18*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.237	U	0.201	0.202	5.00	0.317	pCi/L		10/05/17 16:36	1

Client Sample ID: Duplicate

Date Collected: 09/06/17 11:55
Date Received: 09/08/17 17:23

Lab Sample ID: 500-133645-7

Matrix: Water

Method: 903.0 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0711	U	0.0559	0.0562	1.00	0.0783	pCi/L	09/12/17 12:02	10/04/17 06:12	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*09/12/17 12:02*	*10/04/17 06:12*	*1*

Method: 904.0 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.179	U	0.217	0.217	1.00	0.358	pCi/L	09/12/17 12:18	09/18/17 16:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:18*	*1*
Y Carrier	*90.5*		*40 - 110*	*09/12/17 12:18*	*09/18/17 16:18*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.250	U	0.224	0.224	5.00	0.358	pCi/L		10/05/17 16:36	1

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Rad

Prep Batch: 326916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	PrecSep-21	
500-133645-2	MW-05	Total/NA	Water	PrecSep-21	
500-133645-3	MW-06	Total/NA	Water	PrecSep-21	
500-133645-4	MW-10	Total/NA	Water	PrecSep-21	
500-133645-5	MW-11	Total/NA	Water	PrecSep-21	
500-133645-6	MW-12	Total/NA	Water	PrecSep-21	
500-133645-7	Duplicate	Total/NA	Water	PrecSep-21	
MB 160-326916/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-326916/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
500-133645-1 DU	MW-09	Total/NA	Water	PrecSep-21	

Prep Batch: 326918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-133645-1	MW-09	Total/NA	Water	PrecSep_0	
500-133645-2	MW-05	Total/NA	Water	PrecSep_0	
500-133645-3	MW-06	Total/NA	Water	PrecSep_0	
500-133645-4	MW-10	Total/NA	Water	PrecSep_0	
500-133645-5	MW-11	Total/NA	Water	PrecSep_0	
500-133645-6	MW-12	Total/NA	Water	PrecSep_0	
500-133645-7	Duplicate	Total/NA	Water	PrecSep_0	
MB 160-326918/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-326918/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
500-133645-1 DU	MW-09	Total/NA	Water	PrecSep_0	

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-326916/1-A
Matrix: Water
Analysis Batch: 330233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 326916

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07156	U	0.0536	0.0540	1.00	0.0723	pCi/L	09/12/17 10:41	10/04/17 06:10	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*09/12/17 10:41*	*10/04/17 06:10*	*1*

Lab Sample ID: LCS 160-326916/2-A
Matrix: Water
Analysis Batch: 330233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 326916

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			9.60	9.332		0.973	1.00	0.0884	pCi/L	97	68 - 137		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.1*		*40 - 110*

Lab Sample ID: 500-133645-1 DU
Matrix: Water
Analysis Batch: 330233

Client Sample ID: MW-09
Prep Type: Total/NA
Prep Batch: 326916

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.134			0.04218	U	0.0466	1.00	0.0734	pCi/L			0.81	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.1*		*40 - 110*

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-326918/1-A
Matrix: Water
Analysis Batch: 327618

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 326918

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2591	U	0.201	0.202	1.00	0.316	pCi/L	09/12/17 10:52	09/18/17 16:16	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*09/12/17 10:52*	*09/18/17 16:16*	*1*
Y Carrier	*93.5*		*40 - 110*	*09/12/17 10:52*	*09/18/17 16:16*	*1*

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-326918/2-A
Matrix: Water
Analysis Batch: 327618

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 326918

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.9	12.50		1.36	1.00	0.333	pCi/L	97	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*97.1*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Lab Sample ID: 500-133645-1 DU
Matrix: Water
Analysis Batch: 327618

Client Sample ID: MW-09
Prep Type: Total/NA
Prep Batch: 326918

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-228	0.320	U		0.2378	U	0.251	1.00	0.408	pCi/L			0.18	1

Carrier	*DU %Yield*	*DU Qualifier*	*Limits*
Ba Carrier	*97.1*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Rich Gnat
Company: KPRG and Assoc.
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-133645
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 4.6, 2.3-T24, 2.0, 2.1

Client: KPRG and Assoc. | Client Project #:
Project Name: NRG Will Co. - CCR
Project Location/State: Romeoville, IL | Lab Project #:
Sampler: Mark Wilson | Lab PM: Eric Lang

Preservative Key
1. HCL. Cool to 4°
Cool to 4°
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ool to 4°
, Cool to 4°
°

500-133645 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Parameter: 904.0 Radium 226/228	6020A Total 6010C Metals 7470A	SM4500-Cl 4500-F	SM 4500 SO4 2540C TDS	Comments
2		MW-05	9-8-17	1105	5	W	X	X	X	X	
3		MW-06	9-7-17	1045	5	W	X	X	X	X	
1		MW-09	9-6-17	1555	5	W	X	X	X	X	
4		MW-10	9-7-17	1210	5	W	X	X	X	X	
5		MW-11	9-7-17	1330	5	W	X	X	X	X	
6		MW-12	9-6-17	1155	5	W	X	X	X	X	
7		Duplicate	9-6-17	1155	5	W	X	X	X	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1	Mark Wilson	KPRG	9-8-17	1620	J. Neal	TA	9/8/17	1620
2	J. Neal	TA	9/8/17	1723	[illegible]	TACHS	09/08/17	1723
3								

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

10/6/2017

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-92911.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-133645-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/19/2017			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-09 (500-133645-1)	9/6/17	15:55 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by:	09/07/17 @ 1600	TA	Received by:	9/8/17 0730	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

10/6/2017

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-92975.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-133645-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 10/5/2017			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226Ra228_GFPC	903.0/PrecSep_21 Standard Target List	904.0/PrecSep_0 Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-05 (500-133645-2)	9/8/17	11:05 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-06 (500-133645-3)	9/7/17	10:45 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-10 (500-133645-4)	9/7/17	12:10 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-11 (500-133645-5)	9/7/17	13:30 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
MW-12 (500-133645-6)	9/6/17	11:55 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;
Duplicate (500-133645-7)	9/6/17	11:55 Central		Water			X	X	X	3	Batch QC must be performed (dup, spikes, etc) - no NCMs concerning limited volume;

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	09/11/17 @ 1600	TA	[signature]	9/12/17 0900	TASL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-133645-2

Login Number: 133645
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.9c,4.6, 2.4, 2.1
COC is present.	False	Refer to Job Narrative for details.
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-133645-2

Login Number: 133645
List Number: 2
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 09/08/17 04:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-133645-2

Login Number: 133645
List Number: 3
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis
List Creation: 09/12/17 11:32 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-19

Laboratory: TestAmerica St. Louis

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200023	11-30-17

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
903.0	PrecSep-21	Water	Radium-226
904.0	PrecSep_0	Water	Radium-228
Ra226_Ra228		Water	Combined Radium 226 + 228

Tracer/Carrier Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-133645-2

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
500-133645-1	MW-09	94.7
500-133645-1 DU	MW-09	97.1
500-133645-2	MW-05	99.1
500-133645-3	MW-06	96.2
500-133645-4	MW-10	94.4
500-133645-5	MW-11	97.1
500-133645-6	MW-12	94.4
500-133645-7	Duplicate	93.5
LCS 160-326916/2-A	Lab Control Sample	97.1
MB 160-326916/1-A	Method Blank	97.1

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
500-133645-1	MW-09	94.7	97.2
500-133645-1 DU	MW-09	97.1	90.8
500-133645-2	MW-05	99.1	92.7
500-133645-3	MW-06	96.2	91.2
500-133645-4	MW-10	94.4	88.2
500-133645-5	MW-11	97.1	93.1
500-133645-6	MW-12	94.4	94.6
500-133645-7	Duplicate	93.5	90.5
LCS 160-326918/2-A	Lab Control Sample	97.1	88.2
MB 160-326918/1-A	Method Blank	97.1	93.5

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-144853-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Therese Hargraves

Authorized for release by:
5/17/2018 12:33:58 PM
Therese Hargraves, Project Manager I
therese.hargraves@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 21
Receipt Checklists 22
Chronicle 23

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Job ID: 500-144853-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-144853-1

Comments
No additional comments.

Receipt
The samples were received on 5/3/2018 3:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.2º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-144853-1	MW-05	Water	05/02/18 15:42	05/03/18 15:40
500-144853-2	MW-06	Water	05/03/18 10:04	05/03/18 15:40
500-144853-3	MW-09	Water	05/01/18 14:35	05/03/18 15:40
500-144853-4	MW-10	Water	05/01/18 16:17	05/03/18 15:40
500-144853-5	MW-11	Water	05/03/18 11:25	05/03/18 15:40
500-144853-6	MW-12	Water	05/03/18 12:17	05/03/18 15:40
500-144853-7	Duplicate	Water	05/03/18 00:00	05/03/18 15:40

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-05
Date Collected: 05/02/18 15:42
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-1
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.6		0.50		mg/L		05/04/18 07:13	05/07/18 11:30	10
Calcium	200		0.20		mg/L		05/04/18 07:13	05/04/18 17:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10		mg/L			05/08/18 04:43	1
Chloride	32		2.0		mg/L			05/13/18 19:37	1
Fluoride	0.39		0.10		mg/L			05/11/18 23:05	1
Sulfate	510		100		mg/L			05/12/18 06:06	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-06
Date Collected: 05/03/18 10:04
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-2
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.50		mg/L		05/04/18 07:13	05/07/18 11:33	10
Calcium	91		0.20		mg/L		05/04/18 07:13	05/04/18 17:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		10		mg/L			05/10/18 05:35	1
Chloride	52		2.0		mg/L			05/13/18 19:38	1
Fluoride	0.26		0.10		mg/L			05/11/18 23:09	1
Sulfate	530		100		mg/L			05/12/18 06:07	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-09
Date Collected: 05/01/18 14:35
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-3
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.25		mg/L		05/04/18 07:13	05/07/18 11:37	5
Calcium	49		0.20		mg/L		05/04/18 07:13	05/04/18 17:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	820		10		mg/L			05/07/18 04:58	1
Chloride	200		10		mg/L			05/13/18 20:16	5
Fluoride	0.52		0.10		mg/L			05/11/18 23:14	1
Sulfate	430		100		mg/L			05/12/18 06:08	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-10
Date Collected: 05/01/18 16:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-4
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.2		0.50		mg/L		05/04/18 07:13	05/07/18 11:41	10
Calcium	150		0.20		mg/L		05/04/18 07:13	05/04/18 17:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	990		10		mg/L			05/07/18 05:01	1
Chloride	130		10		mg/L			05/13/18 20:17	5
Fluoride	0.65		0.10		mg/L			05/11/18 23:18	1
Sulfate	280		50		mg/L			05/12/18 06:09	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-11
Date Collected: 05/03/18 11:25
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-5
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.8		0.50		mg/L		05/04/18 07:13	05/07/18 11:45	10
Calcium	73		0.20		mg/L		05/04/18 07:13	05/04/18 17:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	670		10		mg/L			05/10/18 05:37	1
Chloride	110		10		mg/L			05/13/18 20:18	5
Fluoride	0.69		0.10		mg/L			05/11/18 23:22	1
Sulfate	190		50		mg/L			05/12/18 06:10	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-12
Date Collected: 05/03/18 12:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-6
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.25		mg/L		05/04/18 07:13	05/07/18 11:48	5
Calcium	140		0.20		mg/L		05/04/18 07:13	05/04/18 17:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/10/18 05:40	1
Chloride	170		10		mg/L			05/13/18 20:18	5
Fluoride	0.47		0.10		mg/L			05/11/18 23:26	1
Sulfate	170		50		mg/L			05/12/18 06:11	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: Duplicate

Lab Sample ID: 500-144853-7

Date Collected: 05/03/18 00:00

Matrix: Water

Date Received: 05/03/18 15:40

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.9	F1	0.50		mg/L		05/04/18 07:13	05/07/18 12:00	10
Calcium	68		0.20		mg/L		05/04/18 07:13	05/04/18 18:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	670		10		mg/L			05/10/18 05:43	1
Chloride	110		10		mg/L			05/13/18 20:19	5
Fluoride	0.70		0.10		mg/L			05/11/18 23:30	1
Sulfate	180		25		mg/L			05/12/18 06:12	5

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 430640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	3005A	
500-144853-2	MW-06	Total Recoverable	Water	3005A	
500-144853-3	MW-09	Total Recoverable	Water	3005A	
500-144853-4	MW-10	Total Recoverable	Water	3005A	
500-144853-5	MW-11	Total Recoverable	Water	3005A	
500-144853-6	MW-12	Total Recoverable	Water	3005A	
500-144853-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-144853-7 MS	Duplicate	Total Recoverable	Water	3005A	
500-144853-7 MSD	Duplicate	Total Recoverable	Water	3005A	
500-144853-7 DU	Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 430950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	6020A	430640
500-144853-2	MW-06	Total Recoverable	Water	6020A	430640
500-144853-3	MW-09	Total Recoverable	Water	6020A	430640
500-144853-4	MW-10	Total Recoverable	Water	6020A	430640
500-144853-5	MW-11	Total Recoverable	Water	6020A	430640
500-144853-6	MW-12	Total Recoverable	Water	6020A	430640
500-144853-7	Duplicate	Total Recoverable	Water	6020A	430640
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	6020A	430640
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	6020A	430640
500-144853-7 MS	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 MSD	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 DU	Duplicate	Total Recoverable	Water	6020A	430640

Analysis Batch: 431132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	6020A	430640
500-144853-2	MW-06	Total Recoverable	Water	6020A	430640
500-144853-3	MW-09	Total Recoverable	Water	6020A	430640
500-144853-4	MW-10	Total Recoverable	Water	6020A	430640
500-144853-5	MW-11	Total Recoverable	Water	6020A	430640
500-144853-6	MW-12	Total Recoverable	Water	6020A	430640
500-144853-7	Duplicate	Total Recoverable	Water	6020A	430640
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	6020A	430640
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	6020A	430640
500-144853-7 MS	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 MSD	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 DU	Duplicate	Total Recoverable	Water	6020A	430640

General Chemistry

Analysis Batch: 430893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-3	MW-09	Total/NA	Water	SM 2540C	
500-144853-4	MW-10	Total/NA	Water	SM 2540C	
MB 500-430893/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 430893 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-430893/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 431082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 2540C	
MB 500-431082/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-431082/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 431535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-2	MW-06	Total/NA	Water	SM 2540C	
500-144853-5	MW-11	Total/NA	Water	SM 2540C	
500-144853-6	MW-12	Total/NA	Water	SM 2540C	
500-144853-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-431535/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-431535/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 431959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 F C	
500-144853-2	MW-06	Total/NA	Water	SM 4500 F C	
500-144853-3	MW-09	Total/NA	Water	SM 4500 F C	
500-144853-4	MW-10	Total/NA	Water	SM 4500 F C	
500-144853-5	MW-11	Total/NA	Water	SM 4500 F C	
500-144853-6	MW-12	Total/NA	Water	SM 4500 F C	
500-144853-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-431959/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-431959/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-144853-7 MS	Duplicate	Total/NA	Water	SM 4500 F C	
500-144853-7 MSD	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 431994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-144853-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-144853-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-144853-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-144853-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-144853-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-144853-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-431994/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-431994/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 432035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-144853-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-144853-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-144853-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-144853-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-144853-6	MW-12	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 432035 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-432035/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-432035/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-144853-3 MS	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-144853-3 MSD	MW-09	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-430640/1-A
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/04/18 07:13	05/04/18 16:43	1

Lab Sample ID: MB 500-430640/1-A
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/04/18 07:13	05/07/18 11:22	1

Lab Sample ID: LCS 500-430640/2-A
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.63		mg/L		96	80 - 120

Lab Sample ID: LCS 500-430640/2-A
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: 500-144853-7 MS
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	68		10.0	77.6	4	mg/L		96	75 - 125

Lab Sample ID: 500-144853-7 MS
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.9	F1	1.00	5.09		mg/L		123	75 - 125

Lab Sample ID: 500-144853-7 MSD
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	68		10.0	79.4	4	mg/L		114	75 - 125	2	20

Lab Sample ID: 500-144853-7 MSD
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	3.9	F1	1.00	5.18	F1	mg/L		132	75 - 125	2	20

Lab Sample ID: 500-144853-7 DU
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	68		69.8		mg/L		3	20

Lab Sample ID: 500-144853-7 DU
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	3.9	F1	3.98		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-430893/1
Matrix: Water
Analysis Batch: 430893

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/07/18 04:02	1

Lab Sample ID: LCS 500-430893/2
Matrix: Water
Analysis Batch: 430893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120

Lab Sample ID: MB 500-431082/1
Matrix: Water
Analysis Batch: 431082

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/08/18 03:49	1

Lab Sample ID: LCS 500-431082/2
Matrix: Water
Analysis Batch: 431082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120

Lab Sample ID: MB 500-431535/1
Matrix: Water
Analysis Batch: 431535

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/10/18 05:12	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-431535/2
Matrix: Water
Analysis Batch: 431535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-432035/4
Matrix: Water
Analysis Batch: 432035

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/13/18 19:35	1

Lab Sample ID: LCS 500-432035/5
Matrix: Water
Analysis Batch: 432035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.0		mg/L		104	85 - 115

Lab Sample ID: 500-144853-3 MS
Matrix: Water
Analysis Batch: 432035

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200		50.0	230	4	mg/L		58	75 - 125

Lab Sample ID: 500-144853-3 MSD
Matrix: Water
Analysis Batch: 432035

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	200		50.0	238	4	mg/L		75	75 - 125	4	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-431959/3
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/11/18 21:56	1

Lab Sample ID: LCS 500-431959/4
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-144853-7 MS
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.70		5.00	5.84		mg/L		103	75 - 125		

Lab Sample ID: 500-144853-7 MSD
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.70		5.00	5.87		mg/L		103	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-431994/3
Matrix: Water
Analysis Batch: 431994

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/12/18 05:51	1

Lab Sample ID: LCS 500-431994/4
Matrix: Water
Analysis Batch: 431994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	18.4		mg/L		92	80 - 120		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-144853

Package Sealed	Samples Sealed
Yes (No)	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler (3.2) (2.9)

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res CL_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	COMPANY:	# / Cont.
Ian John Howieson	KPRG and Associates Inc.	Volume
Project Name:	**TestAmerica Project Number:**	Preserv.
Quarterly- Will County CCR	50011609	
Project Location:	**TAT**	
Romeoville, IL	15 Days	
Lab PM: Eric Lang	eric.lang@testamerica.com	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B,Ca)	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05	5-2-18	15:42	W	2	X	X	X	X	X	
2		MW-06	5-3-18	10:04	W	2	X	X	X	X	X	
3		MW-09	5-1-18	14:35	W	2	X	X	X	X	X	
4		MW-10	5-1-18	16:17	W	2	X	X	X	X	X	
5		MW-11	5-3-18	11:25	W	2	X	X	X	X	X	
6		MW-12	5-3-18	12:17	W	2	X	X	X	X	X	
7		Duplicate	5-3-18	N/A	W	2	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	5-3-18	15:40		TA-CHI	5/3/18	1540
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

500-144853 COC

Date Received 5/3/18
Courier: UPS
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-144853-1

Login Number: 144853
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.2)(2.9)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Client Sample ID: MW-05

Lab Sample ID: 500-144853-1

Date Collected: 05/02/18 15:42

Matrix: Water

Date Received: 05/03/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:30	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431082	05/08/18 04:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	432035	05/13/18 19:37	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
						(Start) 05/12/18 06:06		
						(End) 05/12/18 06:07		

Client Sample ID: MW-06

Lab Sample ID: 500-144853-2

Date Collected: 05/03/18 10:04

Matrix: Water

Date Received: 05/03/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:39	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:33	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	432035	05/13/18 19:38	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:09	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
						(Start) 05/12/18 06:07		
						(End) 05/12/18 06:08		

Client Sample ID: MW-09

Lab Sample ID: 500-144853-3

Date Collected: 05/01/18 14:35

Matrix: Water

Date Received: 05/03/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:43	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		5	431132	05/07/18 11:37	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430893	05/07/18 04:58	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:16	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:14	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
						(Start) 05/12/18 06:08		
						(End) 05/12/18 06:09		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-10

Date Collected: 05/01/18 16:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:47	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:41	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430893	05/07/18 05:01	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:17	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:18	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:09		
						(End) 05/12/18 06:10		

Client Sample ID: MW-11

Date Collected: 05/03/18 11:25
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:51	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:45	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:37	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:18	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:22	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:10		
						(End) 05/12/18 06:11		

Client Sample ID: MW-12

Date Collected: 05/03/18 12:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:54	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		5	431132	05/07/18 11:48	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:40	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:18	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:11		
						(End) 05/12/18 06:12		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: Duplicate

Date Collected: 05/03/18 00:00
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 18:06	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 12:00	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:19	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:30	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431994		CLB	TAL CHI
					(Start)	05/12/18 06:12		
					(End)	05/12/18 06:13		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-149021-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
8/3/2018 4:47:52 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 8
QC Association 9
QC Sample Results 10
Chain of Custody 11
Receipt Checklists 12
Chronicle 13

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Job ID: 500-149021-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-149021-1

Comments
No additional comments.

Receipt
The samples were received on 7/26/2018 11:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.6º C.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Method	Method Description	Protocol	Laboratory
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-149021-1	MW-06	Water	07/25/18 16:16	07/26/18 11:20
500-149021-2	MW-09	Water	07/25/18 12:10	07/26/18 11:20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Client Sample ID: MW-06
Date Collected: 07/25/18 16:16
Date Received: 07/26/18 11:20

Lab Sample ID: 500-149021-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	280		50		mg/L			08/02/18 11:50	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Client Sample ID: MW-09
Date Collected: 07/25/18 12:10
Date Received: 07/26/18 11:20

Lab Sample ID: 500-149021-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	320		50		mg/L			08/02/18 11:51	10

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

General Chemistry

Analysis Batch: 443674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149021-1	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-149021-2	MW-09	Total/NA	Water	SM 4500 SO4 E	
MB 500-443674/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-443674/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-443674/3
Matrix: Water
Analysis Batch: 443674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/02/18 11:31	1

Lab Sample ID: LCS 500-443674/4
Matrix: Water
Analysis Batch: 443674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.0		mg/L		100	80 - 120

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TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-149021

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler 5.6

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree
Yes No COC not present

Sampler Name:	COMPANY:
Ian John Howieson	KPRG and Associates Inc.
Project Name:	**TestAmerica Project Number:**
Quarterly- Will County CCR	50011609
Project Location:	**TAT**
Romeoville, IL	15 Days
Lab PM: Eric Lang	eric.lang@testamerica.com

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate, pH
		MW-05	—	—	W							
1		MW-06	7-25-18	16:16	W	1	—	—	—	—	—	X
2		MW-09	7-25-18	12:10	W	1	—	—	—	—	—	X
		MW-10	—	—	W							
		MW-11	—	—	W							
		MW-12	—	—	W							
		Duplicate	—	—	W							

Additional Analyses / Remarks

500-149021 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	7-26-18	11:20	Anna Scott	TA-CHI	7/26/18	1120
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 07,26,18
Courier:
Hand Delivered X
Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-149021-1

Login Number: 149021
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Client Sample ID: MW-06

Lab Sample ID: 500-149021-1

Date Collected: 07/25/18 16:16

Matrix: Water

Date Received: 07/26/18 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	443674		CLB	TAL CHI
					(Start)	08/02/18 11:50		
					(End)	08/02/18 11:51		

Client Sample ID: MW-09

Lab Sample ID: 500-149021-2

Date Collected: 07/25/18 12:10

Matrix: Water

Date Received: 07/26/18 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	443674		CLB	TAL CHI
					(Start)	08/02/18 11:51		
					(End)	08/02/18 11:52		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-144853-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Therese Hargraves

Authorized for release by:
5/17/2018 12:33:58 PM
Therese Hargraves, Project Manager I
therese.hargraves@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 21
Receipt Checklists 22
Chronicle 23

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Job ID: 500-144853-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-144853-1

Comments
No additional comments.

Receipt
The samples were received on 5/3/2018 3:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.9º C and 3.2º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-144853-1	MW-05	Water	05/02/18 15:42	05/03/18 15:40
500-144853-2	MW-06	Water	05/03/18 10:04	05/03/18 15:40
500-144853-3	MW-09	Water	05/01/18 14:35	05/03/18 15:40
500-144853-4	MW-10	Water	05/01/18 16:17	05/03/18 15:40
500-144853-5	MW-11	Water	05/03/18 11:25	05/03/18 15:40
500-144853-6	MW-12	Water	05/03/18 12:17	05/03/18 15:40
500-144853-7	Duplicate	Water	05/03/18 00:00	05/03/18 15:40

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-05
Date Collected: 05/02/18 15:42
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-1
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.6		0.50		mg/L		05/04/18 07:13	05/07/18 11:30	10
Calcium	200		0.20		mg/L		05/04/18 07:13	05/04/18 17:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1300		10		mg/L			05/08/18 04:43	1
Chloride	32		2.0		mg/L			05/13/18 19:37	1
Fluoride	0.39		0.10		mg/L			05/11/18 23:05	1
Sulfate	510		100		mg/L			05/12/18 06:06	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-06
Date Collected: 05/03/18 10:04
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-2
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.50		mg/L		05/04/18 07:13	05/07/18 11:33	10
Calcium	91		0.20		mg/L		05/04/18 07:13	05/04/18 17:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		10		mg/L			05/10/18 05:35	1
Chloride	52		2.0		mg/L			05/13/18 19:38	1
Fluoride	0.26		0.10		mg/L			05/11/18 23:09	1
Sulfate	530		100		mg/L			05/12/18 06:07	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-09
Date Collected: 05/01/18 14:35
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-3
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.25		mg/L		05/04/18 07:13	05/07/18 11:37	5
Calcium	49		0.20		mg/L		05/04/18 07:13	05/04/18 17:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	820		10		mg/L			05/07/18 04:58	1
Chloride	200		10		mg/L			05/13/18 20:16	5
Fluoride	0.52		0.10		mg/L			05/11/18 23:14	1
Sulfate	430		100		mg/L			05/12/18 06:08	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-10
Date Collected: 05/01/18 16:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-4
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.2		0.50		mg/L		05/04/18 07:13	05/07/18 11:41	10
Calcium	150		0.20		mg/L		05/04/18 07:13	05/04/18 17:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	990		10		mg/L			05/07/18 05:01	1
Chloride	130		10		mg/L			05/13/18 20:17	5
Fluoride	0.65		0.10		mg/L			05/11/18 23:18	1
Sulfate	280		50		mg/L			05/12/18 06:09	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-11
Date Collected: 05/03/18 11:25
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-5
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.8		0.50		mg/L		05/04/18 07:13	05/07/18 11:45	10
Calcium	73		0.20		mg/L		05/04/18 07:13	05/04/18 17:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	670		10		mg/L			05/10/18 05:37	1
Chloride	110		10		mg/L			05/13/18 20:18	5
Fluoride	0.69		0.10		mg/L			05/11/18 23:22	1
Sulfate	190		50		mg/L			05/12/18 06:10	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-12
Date Collected: 05/03/18 12:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-6
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.25		mg/L		05/04/18 07:13	05/07/18 11:48	5
Calcium	140		0.20		mg/L		05/04/18 07:13	05/04/18 17:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	960		10		mg/L			05/10/18 05:40	1
Chloride	170		10		mg/L			05/13/18 20:18	5
Fluoride	0.47		0.10		mg/L			05/11/18 23:26	1
Sulfate	170		50		mg/L			05/12/18 06:11	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: Duplicate

Lab Sample ID: 500-144853-7

Date Collected: 05/03/18 00:00

Matrix: Water

Date Received: 05/03/18 15:40

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.9	F1	0.50		mg/L		05/04/18 07:13	05/07/18 12:00	10
Calcium	68		0.20		mg/L		05/04/18 07:13	05/04/18 18:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	670		10		mg/L			05/10/18 05:43	1
Chloride	110		10		mg/L			05/13/18 20:19	5
Fluoride	0.70		0.10		mg/L			05/11/18 23:30	1
Sulfate	180		25		mg/L			05/12/18 06:12	5

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 430640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	3005A	
500-144853-2	MW-06	Total Recoverable	Water	3005A	
500-144853-3	MW-09	Total Recoverable	Water	3005A	
500-144853-4	MW-10	Total Recoverable	Water	3005A	
500-144853-5	MW-11	Total Recoverable	Water	3005A	
500-144853-6	MW-12	Total Recoverable	Water	3005A	
500-144853-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-144853-7 MS	Duplicate	Total Recoverable	Water	3005A	
500-144853-7 MSD	Duplicate	Total Recoverable	Water	3005A	
500-144853-7 DU	Duplicate	Total Recoverable	Water	3005A	

Analysis Batch: 430950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	6020A	430640
500-144853-2	MW-06	Total Recoverable	Water	6020A	430640
500-144853-3	MW-09	Total Recoverable	Water	6020A	430640
500-144853-4	MW-10	Total Recoverable	Water	6020A	430640
500-144853-5	MW-11	Total Recoverable	Water	6020A	430640
500-144853-6	MW-12	Total Recoverable	Water	6020A	430640
500-144853-7	Duplicate	Total Recoverable	Water	6020A	430640
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	6020A	430640
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	6020A	430640
500-144853-7 MS	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 MSD	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 DU	Duplicate	Total Recoverable	Water	6020A	430640

Analysis Batch: 431132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total Recoverable	Water	6020A	430640
500-144853-2	MW-06	Total Recoverable	Water	6020A	430640
500-144853-3	MW-09	Total Recoverable	Water	6020A	430640
500-144853-4	MW-10	Total Recoverable	Water	6020A	430640
500-144853-5	MW-11	Total Recoverable	Water	6020A	430640
500-144853-6	MW-12	Total Recoverable	Water	6020A	430640
500-144853-7	Duplicate	Total Recoverable	Water	6020A	430640
MB 500-430640/1-A	Method Blank	Total Recoverable	Water	6020A	430640
LCS 500-430640/2-A	Lab Control Sample	Total Recoverable	Water	6020A	430640
500-144853-7 MS	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 MSD	Duplicate	Total Recoverable	Water	6020A	430640
500-144853-7 DU	Duplicate	Total Recoverable	Water	6020A	430640

General Chemistry

Analysis Batch: 430893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-3	MW-09	Total/NA	Water	SM 2540C	
500-144853-4	MW-10	Total/NA	Water	SM 2540C	
MB 500-430893/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 430893 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-430893/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 431082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 2540C	
MB 500-431082/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-431082/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 431535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-2	MW-06	Total/NA	Water	SM 2540C	
500-144853-5	MW-11	Total/NA	Water	SM 2540C	
500-144853-6	MW-12	Total/NA	Water	SM 2540C	
500-144853-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-431535/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-431535/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 431959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 F C	
500-144853-2	MW-06	Total/NA	Water	SM 4500 F C	
500-144853-3	MW-09	Total/NA	Water	SM 4500 F C	
500-144853-4	MW-10	Total/NA	Water	SM 4500 F C	
500-144853-5	MW-11	Total/NA	Water	SM 4500 F C	
500-144853-6	MW-12	Total/NA	Water	SM 4500 F C	
500-144853-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-431959/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-431959/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-144853-7 MS	Duplicate	Total/NA	Water	SM 4500 F C	
500-144853-7 MSD	Duplicate	Total/NA	Water	SM 4500 F C	

Analysis Batch: 431994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-144853-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-144853-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-144853-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-144853-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-144853-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-144853-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-431994/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-431994/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 432035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-144853-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-144853-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-144853-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-144853-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-144853-6	MW-12	Total/NA	Water	SM 4500 Cl- E	

General Chemistry (Continued)

Analysis Batch: 432035 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-144853-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-432035/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-432035/5	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-144853-3 MS	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-144853-3 MSD	MW-09	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-430640/1-A
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/04/18 07:13	05/04/18 16:43	1

Lab Sample ID: MB 500-430640/1-A
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/04/18 07:13	05/07/18 11:22	1

Lab Sample ID: LCS 500-430640/2-A
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.63		mg/L		96	80 - 120

Lab Sample ID: LCS 500-430640/2-A
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: 500-144853-7 MS
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	68		10.0	77.6	4	mg/L		96	75 - 125

Lab Sample ID: 500-144853-7 MS
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.9	F1	1.00	5.09		mg/L		123	75 - 125

Lab Sample ID: 500-144853-7 MSD
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	68		10.0	79.4	4	mg/L		114	75 - 125	2	20

Lab Sample ID: 500-144853-7 MSD
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	3.9	F1	1.00	5.18	F1	mg/L		132	75 - 125	2	20

Lab Sample ID: 500-144853-7 DU
Matrix: Water
Analysis Batch: 430950

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	68		69.8		mg/L		3	20

Lab Sample ID: 500-144853-7 DU
Matrix: Water
Analysis Batch: 431132

Client Sample ID: Duplicate
Prep Type: Total Recoverable
Prep Batch: 430640

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	3.9	F1	3.98		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-430893/1
Matrix: Water
Analysis Batch: 430893

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/07/18 04:02	1

Lab Sample ID: LCS 500-430893/2
Matrix: Water
Analysis Batch: 430893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120

Lab Sample ID: MB 500-431082/1
Matrix: Water
Analysis Batch: 431082

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/08/18 03:49	1

Lab Sample ID: LCS 500-431082/2
Matrix: Water
Analysis Batch: 431082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	292		mg/L		117	80 - 120

Lab Sample ID: MB 500-431535/1
Matrix: Water
Analysis Batch: 431535

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/10/18 05:12	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-431535/2
Matrix: Water
Analysis Batch: 431535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	288		mg/L		115	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-432035/4
Matrix: Water
Analysis Batch: 432035

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			05/13/18 19:35	1

Lab Sample ID: LCS 500-432035/5
Matrix: Water
Analysis Batch: 432035

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.0		mg/L		104	85 - 115

Lab Sample ID: 500-144853-3 MS
Matrix: Water
Analysis Batch: 432035

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200		50.0	230	4	mg/L		58	75 - 125

Lab Sample ID: 500-144853-3 MSD
Matrix: Water
Analysis Batch: 432035

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	200		50.0	238	4	mg/L		75	75 - 125	4	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-431959/3
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			05/11/18 21:56	1

Lab Sample ID: LCS 500-431959/4
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-144853-7 MS
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.70		5.00	5.84		mg/L		103	75 - 125		

Lab Sample ID: 500-144853-7 MSD
Matrix: Water
Analysis Batch: 431959

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.70		5.00	5.87		mg/L		103	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-431994/3
Matrix: Water
Analysis Batch: 431994

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/12/18 05:51	1

Lab Sample ID: LCS 500-431994/4
Matrix: Water
Analysis Batch: 431994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	18.4		mg/L		92	80 - 120		

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-144853

Package Sealed	Samples Sealed
Yes (No)	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler (3.2) (2.9)

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res CL_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	COMPANY:	# / Cont.
Ian John Howieson	KPRG and Associates Inc.	Volume
Project Name:	**TestAmerica Project Number:**	Preserv.
Quarterly- Will County CCR	50011609	
Project Location:	**TAT**	
Romeoville, IL	15 Days	
Lab PM: Eric Lang	eric.lang@testamerica.com	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	6020A - Total Metals (B,Ca)	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05	5-2-18	15:42	W	2	X	X	X	X	X	
2		MW-06	5-3-18	10:04	W	2	X	X	X	X	X	
3		MW-09	5-1-18	14:35	W	2	X	X	X	X	X	
4		MW-10	5-1-18	16:17	W	2	X	X	X	X	X	
5		MW-11	5-3-18	11:25	W	2	X	X	X	X	X	
6		MW-12	5-3-18	12:17	W	2	X	X	X	X	X	
7		Duplicate	5-3-18	N/A	W	2	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	5-3-18	15:40		TA-CHI	5/3/18	1540
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

500-144853 COC

Date Received 5/3/18
Courier: UPS
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-144853-1

Login Number: 144853
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.2)(2.9)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Client Sample ID: MW-05

Lab Sample ID: 500-144853-1

Date Collected: 05/02/18 15:42

Matrix: Water

Date Received: 05/03/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:30	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431082	05/08/18 04:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	432035	05/13/18 19:37	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
						(Start) 05/12/18 06:06		
						(End) 05/12/18 06:07		

Client Sample ID: MW-06

Lab Sample ID: 500-144853-2

Date Collected: 05/03/18 10:04

Matrix: Water

Date Received: 05/03/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:39	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:33	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:35	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	432035	05/13/18 19:38	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:09	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
						(Start) 05/12/18 06:07		
						(End) 05/12/18 06:08		

Client Sample ID: MW-09

Lab Sample ID: 500-144853-3

Date Collected: 05/01/18 14:35

Matrix: Water

Date Received: 05/03/18 15:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:43	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		5	431132	05/07/18 11:37	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430893	05/07/18 04:58	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:16	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:14	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	431994		CLB	TAL CHI
						(Start) 05/12/18 06:08		
						(End) 05/12/18 06:09		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: MW-10

Date Collected: 05/01/18 16:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:47	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:41	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	430893	05/07/18 05:01	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:17	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:18	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:09		
						(End) 05/12/18 06:10		

Client Sample ID: MW-11

Date Collected: 05/03/18 11:25
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:51	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 11:45	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:37	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:18	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:22	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:10		
						(End) 05/12/18 06:11		

Client Sample ID: MW-12

Date Collected: 05/03/18 12:17
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 17:54	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		5	431132	05/07/18 11:48	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:40	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:18	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	431994		CLB	TAL CHI
						(Start) 05/12/18 06:11		
						(End) 05/12/18 06:12		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-144853-1

Client Sample ID: Duplicate

Date Collected: 05/03/18 00:00
Date Received: 05/03/18 15:40

Lab Sample ID: 500-144853-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		1	430950	05/04/18 18:06	FXG	TAL CHI
Total Recoverable	Prep	3005A			430640	05/04/18 07:13	JEF	TAL CHI
Total Recoverable	Analysis	6020A		10	431132	05/07/18 12:00	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	431535	05/10/18 05:43	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	432035	05/13/18 20:19	HMW	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	431959	05/11/18 23:30	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	431994		CLB	TAL CHI
					(Start)	05/12/18 06:12		
					(End)	05/12/18 06:13		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-149021-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
8/3/2018 4:47:52 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 8
QC Association 9
QC Sample Results 10
Chain of Custody 11
Receipt Checklists 12
Chronicle 13

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Job ID: 500-149021-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-149021-1

Comments
No additional comments.

Receipt
The samples were received on 7/26/2018 11:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.6º C.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Method	Method Description	Protocol	Laboratory
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-149021-1	MW-06	Water	07/25/18 16:16	07/26/18 11:20
500-149021-2	MW-09	Water	07/25/18 12:10	07/26/18 11:20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Client Sample ID: MW-06
Date Collected: 07/25/18 16:16
Date Received: 07/26/18 11:20

Lab Sample ID: 500-149021-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	280		50		mg/L			08/02/18 11:50	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Client Sample ID: MW-09
Date Collected: 07/25/18 12:10
Date Received: 07/26/18 11:20

Lab Sample ID: 500-149021-2
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	320		50		mg/L			08/02/18 11:51	10

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

General Chemistry

Analysis Batch: 443674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-149021-1	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-149021-2	MW-09	Total/NA	Water	SM 4500 SO4 E	
MB 500-443674/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-443674/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-443674/3
Matrix: Water
Analysis Batch: 443674

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			08/02/18 11:31	1

Lab Sample ID: LCS 500-443674/4
Matrix: Water
Analysis Batch: 443674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.0		mg/L		100	80 - 120

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TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Richard Gnat	Contact:	
Company:	KPRG and Associates, Inc	Company:	
Address:	14665 W. Lisbon Rd., Suite 2B	Address:	
	Brookfield, WI 53005		
Phone:	262-781-0475	Phone:	
Email:	richardg@kprginc.com	Email	
		PO #:	

Lab Lot # 500-149021

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler 5.6

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree
Yes No COC not present

Sampler Name:	COMPANY:
Ian John Howieson	KPRG and Associates Inc.
Project Name:	**TestAmerica Project Number:**
Quarterly- Will County CCR	50011609
Project Location:	**TAT**
Romeoville, IL	15 Days
Lab PM: Eric Lang	eric.lang@testamerica.com

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C -TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate, pH
		MW-05	—	—	W							
1		MW-06	7-25-18	16:16	W	1	—	—	—	—	—	X
2		MW-09	7-25-18	12:10	W	1	—	—	—	—	—	X
		MW-10	—	—	W							
		MW-11	—	—	W							
		MW-12	—	—	W							
		Duplicate	—	—	W							

Additional Analyses / Remarks

500-149021 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	7-26-18	11:20	Anna Scott	TA-CHI	7/26/18	1120
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 07,26,18
Courier:
Hand Delivered X
Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-149021-1

Login Number: 149021
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-149021-1

Client Sample ID: MW-06

Lab Sample ID: 500-149021-1

Date Collected: 07/25/18 16:16

Matrix: Water

Date Received: 07/26/18 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	443674		CLB	TAL CHI
					(Start)	08/02/18 11:50		
					(End)	08/02/18 11:51		

Client Sample ID: MW-09

Lab Sample ID: 500-149021-2

Date Collected: 07/25/18 12:10

Matrix: Water

Date Received: 07/26/18 11:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 SO4 E		10	443674		CLB	TAL CHI
					(Start)	08/02/18 11:51		
					(End)	08/02/18 11:52		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-152628-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
10/22/2018 3:05:36 PM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

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Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 16
Chain of Custody 19
Receipt Checklists 20
Chronicle 21

Job ID: 500-152628-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-152628-1

Comments
No additional comments.

Receipt
The samples were received on 10/4/2018 1:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9º C.

Metals
Method(s) 6020A: The matrix spike duplicate (MSD) recovery for sample (500-152628-A-6-D MSD ^5) were outside control limits for Boron. The associated laboratory control sample (LCS) recovery was within acceptance limits, therefore the data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-152628-1	MW-05	Water	10/03/18 09:18	10/04/18 13:25
500-152628-2	MW-06	Water	10/03/18 10:44	10/04/18 13:25
500-152628-3	MW-09	Water	10/02/18 14:10	10/04/18 13:25
500-152628-4	MW-10	Water	10/03/18 12:52	10/04/18 13:25
500-152628-5	MW-11	Water	10/03/18 15:05	10/04/18 13:25
500-152628-6	MW-12	Water	10/03/18 11:56	10/04/18 13:25
500-152628-7	Duplicate	Water	10/03/18 00:00	10/04/18 13:25

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-05
Date Collected: 10/03/18 09:18
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-1
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.9		0.50		mg/L		10/08/18 08:49	10/10/18 14:31	10
Calcium	150		0.20		mg/L		10/08/18 08:49	10/09/18 21:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10		mg/L			10/08/18 00:03	1
Chloride	55		2.0		mg/L			10/19/18 11:30	1
Fluoride	0.48		0.10		mg/L			10/05/18 23:31	1
Sulfate	430		100		mg/L			10/12/18 08:00	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-06
Date Collected: 10/03/18 10:44
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-2
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.5		0.50		mg/L		10/08/18 08:49	10/10/18 14:35	10
Calcium	93		0.20		mg/L		10/08/18 08:49	10/09/18 22:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	720		10		mg/L			10/08/18 00:08	1
Chloride	44		2.0		mg/L			10/19/18 11:31	1
Fluoride	0.31		0.10		mg/L			10/05/18 23:35	1
Sulfate	240		50		mg/L			10/12/18 08:01	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-09
Date Collected: 10/02/18 14:10
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-3
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.25		mg/L		10/08/18 08:49	10/10/18 14:45	5
Calcium	49		0.20		mg/L		10/08/18 08:49	10/09/18 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	820		10		mg/L			10/08/18 00:11	1
Chloride	170		10		mg/L			10/19/18 11:32	5
Fluoride	0.55		0.10		mg/L			10/05/18 23:40	1
Sulfate	270		100		mg/L			10/12/18 08:02	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-10
Date Collected: 10/03/18 12:52
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-4
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.25		mg/L		10/08/18 08:49	10/10/18 14:49	5
Calcium	110		0.20		mg/L		10/08/18 08:49	10/09/18 22:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	860		10		mg/L			10/08/18 00:14	1
Chloride	140		10		mg/L			10/19/18 11:33	5
Fluoride	0.89		0.10		mg/L			10/05/18 23:42	1
Sulfate	200		100		mg/L			10/12/18 08:05	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-11
Date Collected: 10/03/18 15:05
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-5
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.1		0.50		mg/L		10/08/18 08:49	10/10/18 14:52	10
Calcium	78		0.20		mg/L		10/08/18 08:49	10/09/18 22:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	680		10		mg/L			10/08/18 00:16	1
Chloride	110		10		mg/L			10/19/18 11:34	5
Fluoride	0.66		0.10		mg/L			10/05/18 23:46	1
Sulfate	120		50		mg/L			10/12/18 08:06	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-12
Date Collected: 10/03/18 11:56
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-6
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2	F1	0.25		mg/L		10/08/18 08:49	10/10/18 14:56	5
Calcium	150		0.20		mg/L		10/08/18 08:49	10/09/18 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			10/08/18 00:19	1
Chloride	160		10		mg/L			10/19/18 11:35	5
Fluoride	0.49		0.10		mg/L			10/06/18 00:02	1
Sulfate	170		50		mg/L			10/12/18 08:07	10

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: Duplicate
Date Collected: 10/03/18 00:00
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-7
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.0		0.50		mg/L		10/08/18 08:49	10/10/18 15:22	10
Calcium	140		0.20		mg/L		10/08/18 08:49	10/09/18 22:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10		mg/L			10/08/18 00:21	1
Chloride	56		2.0		mg/L			10/19/18 11:40	1
Fluoride	0.47		0.10		mg/L			10/06/18 00:06	1
Sulfate	400		100		mg/L			10/12/18 08:08	20

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 453720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total Recoverable	Water	3005A	
500-152628-2	MW-06	Total Recoverable	Water	3005A	
500-152628-3	MW-09	Total Recoverable	Water	3005A	
500-152628-4	MW-10	Total Recoverable	Water	3005A	
500-152628-5	MW-11	Total Recoverable	Water	3005A	
500-152628-6	MW-12	Total Recoverable	Water	3005A	
500-152628-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-453720/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-453720/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-152628-6 MS	MW-12	Total Recoverable	Water	3005A	
500-152628-6 MSD	MW-12	Total Recoverable	Water	3005A	
500-152628-6 DU	MW-12	Total Recoverable	Water	3005A	

Analysis Batch: 454115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total Recoverable	Water	6020A	453720
500-152628-2	MW-06	Total Recoverable	Water	6020A	453720
500-152628-3	MW-09	Total Recoverable	Water	6020A	453720
500-152628-4	MW-10	Total Recoverable	Water	6020A	453720
500-152628-5	MW-11	Total Recoverable	Water	6020A	453720
500-152628-6	MW-12	Total Recoverable	Water	6020A	453720
500-152628-7	Duplicate	Total Recoverable	Water	6020A	453720
MB 500-453720/1-A	Method Blank	Total Recoverable	Water	6020A	453720
LCS 500-453720/2-A	Lab Control Sample	Total Recoverable	Water	6020A	453720
500-152628-6 MS	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 MSD	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 DU	MW-12	Total Recoverable	Water	6020A	453720

Analysis Batch: 454359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total Recoverable	Water	6020A	453720
500-152628-2	MW-06	Total Recoverable	Water	6020A	453720
500-152628-3	MW-09	Total Recoverable	Water	6020A	453720
500-152628-4	MW-10	Total Recoverable	Water	6020A	453720
500-152628-5	MW-11	Total Recoverable	Water	6020A	453720
500-152628-6	MW-12	Total Recoverable	Water	6020A	453720
500-152628-7	Duplicate	Total Recoverable	Water	6020A	453720
MB 500-453720/1-A	Method Blank	Total Recoverable	Water	6020A	453720
LCS 500-453720/2-A	Lab Control Sample	Total Recoverable	Water	6020A	453720
500-152628-6 MS	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 MSD	MW-12	Total Recoverable	Water	6020A	453720
500-152628-6 DU	MW-12	Total Recoverable	Water	6020A	453720

General Chemistry

Analysis Batch: 453606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 4500 F C	
500-152628-2	MW-06	Total/NA	Water	SM 4500 F C	
500-152628-3	MW-09	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 453606 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-4	MW-10	Total/NA	Water	SM 4500 F C	
500-152628-5	MW-11	Total/NA	Water	SM 4500 F C	
500-152628-6	MW-12	Total/NA	Water	SM 4500 F C	
500-152628-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-453606/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-453606/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 453675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 2540C	
500-152628-2	MW-06	Total/NA	Water	SM 2540C	
500-152628-3	MW-09	Total/NA	Water	SM 2540C	
500-152628-4	MW-10	Total/NA	Water	SM 2540C	
500-152628-5	MW-11	Total/NA	Water	SM 2540C	
500-152628-6	MW-12	Total/NA	Water	SM 2540C	
500-152628-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-453675/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-453675/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-152628-1 DU	MW-05	Total/NA	Water	SM 2540C	

Analysis Batch: 454555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-152628-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-152628-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-152628-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-152628-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-152628-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-152628-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	
MB 500-454555/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-454555/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 455858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-152628-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-152628-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-152628-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-152628-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-152628-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-152628-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-152628-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-455858/39	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-455858/40	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-152628-6 MS	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-152628-6 MSD	MW-12	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-453720/1-A
Matrix: Water
Analysis Batch: 454115

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		10/08/18 08:49	10/09/18 21:28	1

Lab Sample ID: MB 500-453720/1-A
Matrix: Water
Analysis Batch: 454359

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		10/08/18 08:49	10/10/18 14:24	1

Lab Sample ID: LCS 500-453720/2-A
Matrix: Water
Analysis Batch: 454115

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	10.6		mg/L		106	80 - 120

Lab Sample ID: LCS 500-453720/2-A
Matrix: Water
Analysis Batch: 454359

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.869		mg/L		87	80 - 120

Lab Sample ID: 500-152628-6 MS
Matrix: Water
Analysis Batch: 454115

Client Sample ID: MW-12
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	150		10.0	151	4	mg/L		30	75 - 125

Lab Sample ID: 500-152628-6 MS
Matrix: Water
Analysis Batch: 454359

Client Sample ID: MW-12
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.2	F1	1.00	3.03		mg/L		80	75 - 125

Lab Sample ID: 500-152628-6 MSD
Matrix: Water
Analysis Batch: 454115

Client Sample ID: MW-12
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	150		10.0	156	4	mg/L		81	75 - 125	3	20

Lab Sample ID: 500-152628-6 MSD
Matrix: Water
Analysis Batch: 454359

Client Sample ID: MW-12
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.2	F1	1.00	2.97	F1	mg/L		74	75 - 125	2	20

Lab Sample ID: 500-152628-6 DU
Matrix: Water
Analysis Batch: 454115

Client Sample ID: MW-12
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	150		147		mg/L		1	20

Lab Sample ID: 500-152628-6 DU
Matrix: Water
Analysis Batch: 454359

Client Sample ID: MW-12
Prep Type: Total Recoverable
Prep Batch: 453720

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	2.2	F1	2.17		mg/L		3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-453675/1
Matrix: Water
Analysis Batch: 453675

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/07/18 23:25	1

Lab Sample ID: LCS 500-453675/2
Matrix: Water
Analysis Batch: 453675

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	252		mg/L		101	80 - 120

Lab Sample ID: 500-152628-1 DU
Matrix: Water
Analysis Batch: 453675

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1200		1240		mg/L		2	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-455858/39
Matrix: Water
Analysis Batch: 455858

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			10/19/18 11:28	1

Lab Sample ID: LCS 500-455858/40
Matrix: Water
Analysis Batch: 455858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.5		mg/L		97	85 - 115

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: 500-152628-6 MS
Matrix: Water
Analysis Batch: 455858

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	160		50.0	207		mg/L		86	75 - 125

Lab Sample ID: 500-152628-6 MSD
Matrix: Water
Analysis Batch: 455858

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	160		50.0	212		mg/L		97	75 - 125	3	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-453606/3
Matrix: Water
Analysis Batch: 453606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			10/05/18 22:17	1

Lab Sample ID: LCS 500-453606/4
Matrix: Water
Analysis Batch: 453606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.6		mg/L		106	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-454555/3
Matrix: Water
Analysis Batch: 454555

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/12/18 07:53	1

Lab Sample ID: LCS 500-454555/4
Matrix: Water
Analysis Batch: 454555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.3		mg/L		97	80 - 120

TestAmerica

THE LEADER IN ENVIRONMENTAL

TestAmerica Chic.
2417 Bond St.
University Park, IL 6
708-534-5200
Fax. 708-534-5211

500-152628 COC

Report To:		Bill To:
Contact:	Richard Gnat	Contact:
Company:	KPRG and Associates, Inc	Company:
Address:	14665 W. Lisbon Rd., Suite 2B	Address:
	Brookfield, WI 53005	
Phone:	262-781-0475	Phone:
Email:	richardg@kprginc.com	Email
		PO #:

Lab Lot # 500-152628

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler 4.9

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res Cl_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree
Yes No COC not present

Sampler Name:	COMPANY:
Ian John Howieson	KPRG and Associates Inc.
Project Name:	**TestAmerica Project Number:**
Quarterly- Will County CCR	50011609
Project Location:	**TAT**
Romeoville, IL	15 Days
Lab PM: Eric Lang	eric.lang@testamerica.com

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Cont	903.0, 904.0 Radium 226/228	6010C, 6020A, 7470A - Total Metals	2540C - TDS	4500_F_C - Fluoride	SM4500_Cl_E Chloride	SM4500_SO4_E - Sulfate	Additional Analyses / Remarks
1		MW-05	10-3-18	09:18	W	2	—	X	X	X	X	X	
2		MW-06	10-3-18	10:44	W	2	—	X	X	X	X	X	
3		MW-09	10-2-18	14:10	W	2	—	X	X	X	X	X	
4		MW-10	10-3-18	12:52	W	2	—	X	X	X	X	X	
5		MW-11	10-3-18	15:05	W	2	—	X	X	X	X	X	
6		MW-12	10-3-18	11:56	W	2	—	X	X	X	X	X	
7		Duplicate	10-3-18	—	W	2	—	X	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	10-4-18	13:25	[signature]	TA-CHI	10/4/18	1325
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ___/___/___
Courier:
Hand Delivered ☐
Bill of Lading:

2 of 2

STL-8208 (0600)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-152628-1

Login Number: 152628
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-05

Date Collected: 10/03/18 09:18
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 21:59	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 14:31	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:03	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	455858	10/19/18 11:30	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:31	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
						(Start) 10/12/18 08:00		
						(End) 10/12/18 08:01		

Client Sample ID: MW-06

Date Collected: 10/03/18 10:44
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:03	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 14:35	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:08	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	455858	10/19/18 11:31	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:35	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	454555		CLB	TAL CHI
						(Start) 10/12/18 08:01		
						(End) 10/12/18 08:02		

Client Sample ID: MW-09

Date Collected: 10/02/18 14:10
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:14	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	454359	10/10/18 14:45	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:11	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	455858	10/19/18 11:32	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:40	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
						(Start) 10/12/18 08:02		
						(End) 10/12/18 08:03		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: MW-10

Date Collected: 10/03/18 12:52
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:18	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	454359	10/10/18 14:49	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:14	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	455858	10/19/18 11:33	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:42	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
						(Start) 10/12/18 08:05		
						(End) 10/12/18 08:06		

Client Sample ID: MW-11

Date Collected: 10/03/18 15:05
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:22	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 14:52	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:16	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	455858	10/19/18 11:34	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/05/18 23:46	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	454555		CLB	TAL CHI
						(Start) 10/12/18 08:06		
						(End) 10/12/18 08:07		

Client Sample ID: MW-12

Date Collected: 10/03/18 11:56
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:26	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	454359	10/10/18 14:56	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:19	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	455858	10/19/18 11:35	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/06/18 00:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	454555		CLB	TAL CHI
						(Start) 10/12/18 08:07		
						(End) 10/12/18 08:08		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-152628-1

Client Sample ID: Duplicate

Date Collected: 10/03/18 00:00
Date Received: 10/04/18 13:25

Lab Sample ID: 500-152628-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	454115	10/09/18 22:45	FXG	TAL CHI
Total Recoverable	Prep	3005A			453720	10/08/18 08:49	SAH	TAL CHI
Total Recoverable	Analysis	6020A		10	454359	10/10/18 15:22	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	453675	10/08/18 00:21	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	455858	10/19/18 11:40	CCK	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	453606	10/06/18 00:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	454555		CLB	TAL CHI
					(Start)	10/12/18 08:08		
					(End)	10/12/18 08:09		

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

APPENDIX B
Alternate Source Demonstration April 12, 2018

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-139618-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
1/26/2018 2:20:29 PM
Richard Wright, Senior Project Manager
richard.wright@testamericainc.com

Designee for

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 7
QC Association 8
QC Sample Results 9
Chain of Custody 12
Receipt Checklists 13
Certification Summary 14

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Job ID: 500-139618-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-139618-1

Comments
No additional comments.

Receipt
The sample was received on 1/12/2018 9:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 4.3º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
9040C	pH	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-139618-1	AP 3-S	Water	01/10/18 09:55	01/12/18 09:40

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Client Sample ID: AP 3-S
Date Collected: 01/10/18 09:55
Date Received: 01/12/18 09:40

Lab Sample ID: 500-139618-1
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.18		0.050		mg/L		01/12/18 14:46	01/15/18 13:05	1
Calcium	56		0.20		mg/L		01/12/18 14:46	01/15/18 13:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.2		SU			01/12/18 15:56	1
Total Dissolved Solids	540		10		mg/L			01/14/18 23:49	1
Chloride	140		10		mg/L			01/15/18 00:54	5
Fluoride	0.52		0.10		mg/L			01/25/18 11:25	1
Sulfate	100		25		mg/L			01/16/18 04:24	5

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Metals

Prep Batch: 416709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total Recoverable	Water	3005A	
MB 500-416709/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-416709/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-139618-1 MS	AP 3-S	Total Recoverable	Water	3005A	
500-139618-1 MSD	AP 3-S	Total Recoverable	Water	3005A	
500-139618-1 DU	AP 3-S	Total Recoverable	Water	3005A	

Analysis Batch: 416965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total Recoverable	Water	6020A	416709
MB 500-416709/1-A	Method Blank	Total Recoverable	Water	6020A	416709
LCS 500-416709/2-A	Lab Control Sample	Total Recoverable	Water	6020A	416709
500-139618-1 MS	AP 3-S	Total Recoverable	Water	6020A	416709
500-139618-1 MSD	AP 3-S	Total Recoverable	Water	6020A	416709
500-139618-1 DU	AP 3-S	Total Recoverable	Water	6020A	416709

General Chemistry

Analysis Batch: 416763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 2540C	
MB 500-416763/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-416763/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 416921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 4500 Cl- E	
MB 500-416921/4	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-416921/37	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 416927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 4500 SO4 E	
MB 500-416927/3	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-416927/4	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 416975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	9040C	
500-139618-1 DU	AP 3-S	Total/NA	Water	9040C	

Analysis Batch: 418006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-139618-1	AP 3-S	Total/NA	Water	SM 4500 F C	
MB 500-418006/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-418006/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-139618-1 MS	AP 3-S	Total/NA	Water	SM 4500 F C	
500-139618-1 MSD	AP 3-S	Total/NA	Water	SM 4500 F C	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-416709/1-A
Matrix: Water
Analysis Batch: 416965

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 416709

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		01/12/18 14:46	01/15/18 12:57	1
Calcium	<0.20		0.20		mg/L		01/12/18 14:46	01/15/18 12:57	1

Lab Sample ID: LCS 500-416709/2-A
Matrix: Water
Analysis Batch: 416965

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 416709

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.988		mg/L		99	80 - 120
Calcium	10.0	9.54		mg/L		95	80 - 120

Lab Sample ID: 500-139618-1 MS
Matrix: Water
Analysis Batch: 416965

Client Sample ID: AP 3-S
Prep Type: Total Recoverable
Prep Batch: 416709

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.18		1.00	1.19		mg/L		101	75 - 125
Calcium	56		10.0	65.5	4	mg/L		93	75 - 125

Lab Sample ID: 500-139618-1 MSD
Matrix: Water
Analysis Batch: 416965

Client Sample ID: AP 3-S
Prep Type: Total Recoverable
Prep Batch: 416709

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.18		1.00	1.18		mg/L		100	75 - 125	2	20
Calcium	56		10.0	64.3	4	mg/L		81	75 - 125	2	20

Lab Sample ID: 500-139618-1 DU
Matrix: Water
Analysis Batch: 416965

Client Sample ID: AP 3-S
Prep Type: Total Recoverable
Prep Batch: 416709

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.18		0.174		mg/L		4	20
Calcium	56		56.5		mg/L		0.4	20

Method: 9040C - pH

Lab Sample ID: 500-139618-1 DU
Matrix: Water
Analysis Batch: 416975

Client Sample ID: AP 3-S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0.3	

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-416763/1
Matrix: Water
Analysis Batch: 416763

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			01/14/18 22:56	1

Lab Sample ID: LCS 500-416763/2
Matrix: Water
Analysis Batch: 416763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	278		mg/L		111	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-416921/4
Matrix: Water
Analysis Batch: 416921

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			01/15/18 00:10	1

Lab Sample ID: LCS 500-416921/37
Matrix: Water
Analysis Batch: 416921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.5		mg/L		105	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-418006/3
Matrix: Water
Analysis Batch: 418006

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			01/25/18 11:20	1

Lab Sample ID: LCS 500-418006/4
Matrix: Water
Analysis Batch: 418006

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: 500-139618-1 MS
Matrix: Water
Analysis Batch: 418006

Client Sample ID: AP 3-S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.52		5.00	5.51		mg/L		100	75 - 125

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-139618-1 MSD
Matrix: Water
Analysis Batch: 418006

Client Sample ID: AP 3-S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.52		5.00	5.46		mg/L		99	75 - 125	1	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-416927/3
Matrix: Water
Analysis Batch: 416927

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			01/16/18 04:04	1

Lab Sample ID: LCS 500-416927/4
Matrix: Water
Analysis Batch: 416927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.4		mg/L		97	80 - 120

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-139618

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 4.3

Client	Client Project #	Preservative	3	8							
KPRG & Assoc.	23517										
Project Name: NRG		Parameter	B, Ca	Cl, FX, pH, SO4, TDS							
Project Location/State: IL	Lab Project #										
Sampler: LR/MW	Lab PM										

500-139618 COC

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix			Comments
1		AP 3-S	1/10/18	0955	2	W	X	X	

Turnaround Time Required (Business Days)
__ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	1/11/18	1630		TA	1-11-18	2320
	TA	1-11-18	1700		TA	01/12/18	0940

Lab Courier
Shipped: FX Priority
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-506 (1209)

1/26/2018

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-139618-1

Login Number: 139618
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Accreditation/Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

TestAmerica Job ID: 500-139618-1

Laboratory: TestAmerica Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-18

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

TestAmerica Job ID: 180-74122-1
Client Project/Site: Midwest Generation

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
2/28/2018 5:01:06 PM

Carrie Gamber, Senior Project Manager
(412)963-2428
carrie.gamber@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Definitions/Glossary 4
Certification Summary 5
Sample Summary 6
Method Summary 7
Lab Chronicle 8
Client Sample Results 22
QC Sample Results 31
QC Association Summary 43
Chain of Custody 54
Receipt Checklists 56

Job ID: 180-74122-1

Laboratory: TestAmerica Pittsburgh

Narrative

CASE NARRATIVE

Client: KPRG and Associates, Inc.

Project: Midwest Generation

Report Number: 180-74122-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 01/12/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.8 C.

IC
Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) were provided. Dilutions were based on conductivity pre-screen of samples.

METALS
Several samples were diluted due to the nature of the sample matrix. Elevated reporting limits (RLs) are provided.

GENERAL CHEMISTRY
Due to the matrix, the initial volumes used for several samples deviated from the standard procedure for TDS.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Laboratory: TestAmerica Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	200005	06-30-18

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
SM 2510B		Solid	Specific Conductance
SM 2540C		Solid	Total Dissolved Solids

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
SM 2580B		Solid	Oxidation Reduction Potential

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-74122-1	AP 3-S - PRETEST	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-2	AP 3-S - PH 13.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-3	AP 3-S - PH 12.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-4	AP 3-S - PH 10.5	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-6	AP 3-S - PH 8.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-7	AP 3-S - PH 7.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-8	AP 3-S - PH 5.5	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-9	AP 3-S - PH 4.0	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-10	AP 3-S - PH 2.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-11	AP 3-S - NATURAL	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-12	AP 2-S - PRETEST	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-13	AP 2-S - PH 13.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-14	AP 2-S - PH 12.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-15	AP 2-S - PH 10.5	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-17	AP 2-S - PH 8.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-18	AP 2-S - PH 7.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-19	AP 2-S - PH 5.5	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-20	AP 2-S - PH 4.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-21	AP 2-S - PH 2.0	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-22	AP 2-S - NATURAL	Solid	01/10/18 10:50	01/12/18 09:10
180-74122-23	AP 3-S - AIR DIED	Solid	01/10/18 10:20	01/12/18 09:10
180-74122-24	AP 2-S - AIR DRIED	Solid	01/10/18 10:50	01/12/18 09:10

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2510B	Conductivity, Specific Conductance	SM	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
SM 2580B	Reduction-Oxidation (REDOX) Potential	SM	TAL PIT

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM22 = SM22

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Client Sample ID: AP 3-S - PRETEST

Lab Sample ID: 180-74122-1

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234952	01/24/18 06:29	CLL	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:36	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:21	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:24	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:27	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:33	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:10	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 13.0

Lab Sample ID: 180-74122-2

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236377	02/08/18 20:09	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:33	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 03:33	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:43	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Client Sample ID: AP 3-S - PH 13.0

Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Lab Sample ID: 180-74122-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:25	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:21	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 12.0

Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Lab Sample ID: 180-74122-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			237859	02/26/18 16:14	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			237859	02/26/18 16:30	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:14	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:21	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 12:54	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237752	02/16/18 12:48	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 12:53	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 10.5

Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Lab Sample ID: 180-74122-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1	1 mL	1.0 mL	237598	02/22/18 12:20	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10	1 mL	1.0 mL	237598	02/22/18 12:35	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237821	02/23/18 11:40	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			238052	02/26/18 21:29	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:12	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:18	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:13	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 8.0

Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Lab Sample ID: 180-74122-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 11:30	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 14:33	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 22:34	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:39	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 8.0

Lab Sample ID: 180-74122-6

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:19	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:17	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 7.0

Lab Sample ID: 180-74122-7

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 12:00	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 14:49	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:33	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:36	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:14	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:10	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 5.5

Lab Sample ID: 180-74122-8

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT

Client Sample ID: AP 3-S - PH 5.5

Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Lab Sample ID: 180-74122-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 9056A		25			237859	02/26/18 08:57	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:59	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237772	02/23/18 10:12	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237776	02/23/18 10:12	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	5 mL	100 mL	238055	02/27/18 15:07	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237774	02/23/18 10:12	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 4.0

Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Lab Sample ID: 180-74122-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236732	02/13/18 13:32	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			236891	02/14/18 15:04	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:29	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:18	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 13:58	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

Client Sample ID: AP 3-S - PH 4.0

Lab Sample ID: 180-74122-9

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2580B		1			237422	02/12/18 13:57	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - PH 2.0

Lab Sample ID: 180-74122-10

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100	1 mL	1.0 mL	237598	02/22/18 11:16	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237942	02/24/18 17:13	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:46	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:38	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:36	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	2 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:34	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - NATURAL

Lab Sample ID: 180-74122-11

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 10:43	MJH	TAL PIT
	Instrument ID: CHICS2100B									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236373	02/08/18 10:59	MJH	TAL PIT
	Instrument ID: CHICS2100B									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT

Client Sample ID: AP 3-S - NATURAL

Lab Sample ID: 180-74122-11

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 23:06	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 01:06	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 14:13	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 14:38	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.5 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 14:38	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PRETEST

Lab Sample ID: 180-74122-12

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			234952	01/24/18 06:29	CLL	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:49	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:43	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:46	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:58	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	950 mL	237107	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 15:01	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:16	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237733	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:27	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 13.0

Lab Sample ID: 180-74122-13

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236377	02/08/18 20:40	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/10/18 00:36	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	236440	02/08/18 11:28	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 03:38	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 11:30	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 11:10	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	236788	02/13/18 11:04	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 11:08	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 12.0

Lab Sample ID: 180-74122-14

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			237859	02/26/18 13:03	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237590	02/21/18 01:17	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237311	02/19/18 13:03	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237713	02/22/18 04:26	WTR	TAL PIT
	Instrument ID: M									

Client Sample ID: AP 2-S - PH 12.0

Lab Sample ID: 180-74122-14

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237737	02/16/18 13:21	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237752	02/16/18 13:09	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	10 mL	100 mL	237329	02/19/18 15:41	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237165	02/14/18 08:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237751	02/16/18 13:09	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 10.5

Lab Sample ID: 180-74122-15

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1	1 mL	1.0 mL	237598	02/22/18 12:51	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		10	1 mL	1.0 mL	237598	02/22/18 13:07	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237821	02/23/18 11:43	RSK	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237537	02/21/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			238052	02/26/18 21:33	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:19	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:24	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:20	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 8.0

Lab Sample ID: 180-74122-17

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 14:03	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 15:20	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 23:01	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:55	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:35	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	50 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:36	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 7.0

Lab Sample ID: 180-74122-18

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		2.5			236732	02/13/18 14:34	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236891	02/14/18 15:36	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			237198	02/15/18 22:39	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:49	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:24	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Midwest Generation

TestAmerica Job ID: 180-74122-1

Client Sample ID: AP 2-S - PH 7.0

Lab Sample ID: 180-74122-18
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	SM 2540C		1	25 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:23	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 5.5

Lab Sample ID: 180-74122-19
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		25			237859	02/26/18 09:13	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 10:17	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237772	02/23/18 10:18	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237776	02/23/18 10:17	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	5 mL	100 mL	238055	02/27/18 15:07	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237761	02/21/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237774	02/23/18 10:18	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 4.0

Lab Sample ID: 180-74122-20
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		50			236732	02/13/18 16:40	MJH	TAL PIT
	Instrument ID: CHIC2100A									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100			236891	02/14/18 15:52	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236807	02/13/18 13:38	KA	TAL PIT

Client Sample ID: AP 2-S - PH 4.0

Lab Sample ID: 180-74122-20

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Analysis	EPA 6020A		10			237323	02/16/18 20:38	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237380	02/12/18 14:52	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237425	02/12/18 14:29	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	3 mL	100 mL	237078	02/15/18 14:59	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236722	02/10/18 08:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237422	02/12/18 14:29	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - PH 2.0

Lab Sample ID: 180-74122-21

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9056A		100	1 mL	1.0 mL	237598	02/22/18 11:48	MJH	TAL PIT
	Instrument ID: CHICS2000									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			237942	02/24/18 17:16	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Prep	3010A			5 mL	50 mL	237767	02/23/18 12:01	KA	TAL PIT
Leach	Analysis	EPA 6020A		10			238052	02/27/18 09:50	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			237531	02/19/18 10:44	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			237553	02/19/18 10:42	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	2 mL	100 mL	237940	02/26/18 14:33	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	237381	02/17/18 10:00	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			237550	02/19/18 10:40	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - NATURAL

Lab Sample ID: 180-74122-22

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		1			236373	02/08/18 11:15	MJH	TAL PIT
	Instrument ID: CHICS2100B									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9056A		5			236373	02/08/18 11:31	MJH	TAL PIT
	Instrument ID: CHICS2100B									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236729	02/09/18 23:09	WTR	TAL PIT
	Instrument ID: A									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Prep	3010A			50 mL	50 mL	236437	02/08/18 11:22	KA	TAL PIT
Leach	Analysis	EPA 6020A		1			236828	02/13/18 01:11	WTR	TAL PIT
	Instrument ID: M									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	EPA 9040C		1			236465	02/07/18 14:16	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2510B		1			236475	02/07/18 14:41	MTW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2540C		1	100 mL	100 mL	236785	02/13/18 10:45	KXW	TAL PIT
	Instrument ID: NOEQUIP									
Leach	Leach	1313			40.9 g	400 mL	236165	02/05/18 11:30	LWM	TAL PIT
Leach	Analysis	SM 2580B		1			236472	02/07/18 14:43	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 3-S - AIR DIED

Lab Sample ID: 180-74122-23

Date Collected: 01/10/18 10:20

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235859	02/02/18 11:37	SES	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: AP 2-S - AIR DRIED

Lab Sample ID: 180-74122-24

Date Collected: 01/10/18 10:50

Matrix: Solid

Date Received: 01/12/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			235859	02/02/18 11:37	SES	TAL PIT
	Instrument ID: NOEQUIP									

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Leach

LWM = Larry Matko

Batch Type: Prep

KA = Kayla Kalamasz

Batch Type: Analysis

CLL = Cheryl Loheyde

KXW = Kaitlyn White

MJH = Matthew Hartman

MTW = Michael Wesoloski

RSK = Robert Kurtz

SES = Samantha Strauser

WTR = Bill Reinheimer

Client Sample ID: AP 3-S - PRETEST

Lab Sample ID: 180-74122-1
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28.6		0.1		%			01/24/18 06:29	1
Percent Solids	71.4		0.1		%			01/24/18 06:29	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	4.6		0.1		SU			02/07/18 11:36	1
pH	12.6		0.1		SU			02/12/18 14:21	1
pH	12.7		0.1		SU			02/12/18 14:24	1
pH	4.4		0.1		SU			02/12/18 14:27	1
pH	6.2		0.1		SU			02/12/18 14:33	1
pH	12.4		0.1		SU			02/16/18 13:05	1
pH	3.2		0.1		SU			02/16/18 13:10	1

Client Sample ID: AP 3-S - PH 13.0

Lab Sample ID: 180-74122-2
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/08/18 20:09	50
Fluoride	<5.0		5.0		mg/L			02/08/18 20:09	50
Sulfate	380		50		mg/L			02/08/18 20:09	50

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6300		80		ug/L		02/08/18 11:28	02/13/18 03:33	1
Calcium	4700		500		ug/L		02/08/18 11:28	02/10/18 00:33	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.7		0.1		SU			02/07/18 11:43	1
Specific Conductance	45000		1.0		umhos/cm			02/07/18 11:25	1
Total Dissolved Solids	14000		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	- 59		10		millivolts			02/07/18 11:21	1

Client Sample ID: AP 3-S - PH 12.0

Lab Sample ID: 180-74122-3
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		5.0		mg/L			02/26/18 16:14	5
Fluoride	1.0		0.50		mg/L			02/26/18 16:14	5
Sulfate	340		50		mg/L			02/26/18 16:30	50

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5500		80		ug/L		02/19/18 13:03	02/22/18 04:21	1
Calcium	3600		500		ug/L		02/19/18 13:03	02/21/18 01:14	1

Client Sample ID: AP 3-S - PH 12.0

Lab Sample ID: 180-74122-3
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	11.9		0.1		SU			02/16/18 12:54	1
Specific Conductance	3200		1.0		umhos/cm			02/16/18 12:48	1
Total Dissolved Solids	1500		40		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	30		10		millivolts			02/16/18 12:53	1

Client Sample ID: AP 3-S - PH 10.5

Lab Sample ID: 180-74122-4
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		1.0		mg/L			02/22/18 12:20	1
Fluoride	0.47		0.10		mg/L			02/22/18 12:20	1
Sulfate	330		10		mg/L			02/22/18 12:35	10

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3900		80		ug/L		02/21/18 11:22	02/26/18 21:29	1
Calcium	37000		500		ug/L		02/21/18 11:22	02/23/18 11:40	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.2		0.1		SU			02/19/18 10:12	1
Specific Conductance	1100		1.0		umhos/cm			02/19/18 10:18	1
Total Dissolved Solids	670		10		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	150		10		millivolts			02/19/18 10:13	1

Client Sample ID: AP 3-S - PH 8.0

Lab Sample ID: 180-74122-6
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		2.5		mg/L			02/13/18 11:30	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 14:33	5
Sulfate	400		2.5		mg/L			02/13/18 11:30	2.5

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5200		80		ug/L		02/13/18 13:38	02/15/18 22:34	1
Calcium	730000		500		ug/L		02/13/18 13:38	02/15/18 22:34	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1		SU			02/12/18 14:39	1
Specific Conductance	5100		1.0		umhos/cm			02/12/18 14:19	1
Total Dissolved Solids	4300		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	270		10		millivolts			02/12/18 14:17	1

Client Sample ID: AP 3-S - PH 7.0

Lab Sample ID: 180-74122-7
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**16**		2.5		mg/L			02/13/18 12:00	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 14:49	5
Sulfate	<2.5		2.5		mg/L			02/13/18 12:00	2.5

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**6800**		800		ug/L		02/13/18 13:38	02/16/18 20:33	10
Calcium	**1600000**		5000		ug/L		02/13/18 13:38	02/16/18 20:33	10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.0**		0.1		SU			02/12/18 14:36	1
Specific Conductance	**8900**		1.0		umhos/cm			02/12/18 14:14	1
Total Dissolved Solids	**7500**		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	**290**		10		millivolts			02/12/18 14:10	1

Client Sample ID: AP 3-S - PH 5.5

Lab Sample ID: 180-74122-8
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<25		25		mg/L			02/26/18 08:57	25
Fluoride	<2.5		2.5		mg/L			02/26/18 08:57	25
Sulfate	**480**		25		mg/L			02/26/18 08:57	25

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**11000**		800		ug/L		02/23/18 12:01	02/27/18 09:59	10
Calcium	**3900000**		5000		ug/L		02/23/18 12:01	02/27/18 09:59	10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.0**		0.1		SU			02/23/18 10:12	1
Specific Conductance	**20000**		1.0		umhos/cm			02/23/18 10:12	1
Total Dissolved Solids	**19000**		200		mg/L			02/27/18 15:07	1
Oxidation Reduction Potential	**180**		10		millivolts			02/23/18 10:12	1

Client Sample ID: AP 3-S - PH 4.0

Lab Sample ID: 180-74122-9
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<50		50		mg/L			02/13/18 13:32	50
Fluoride	**11**		10		mg/L			02/14/18 15:04	100
Sulfate	**400**		50		mg/L			02/13/18 13:32	50

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**18000**		800		ug/L		02/13/18 13:38	02/16/18 20:29	10

Client Sample ID: AP 3-S - PH 4.0

Lab Sample ID: 180-74122-9
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	7300000		5000		ug/L		02/13/18 13:38	02/16/18 20:29	10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	3.8		0.1		SU			02/12/18 14:18	1
Specific Conductance	43000		1.0		umhos/cm			02/12/18 13:58	1
Total Dissolved Solids	50000		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	370		10		millivolts			02/12/18 13:57	1

Client Sample ID: AP 3-S - PH 2.0

Lab Sample ID: 180-74122-10
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/22/18 11:16	100
Fluoride	<10		10		mg/L			02/22/18 11:16	100
Sulfate	620		100		mg/L			02/22/18 11:16	100

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	33000		8000		ug/L		02/23/18 12:01	02/27/18 09:46	10
Calcium	12000000		50000		ug/L		02/23/18 12:01	02/24/18 17:13	10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	2.3		0.1		SU			02/19/18 10:38	1
Specific Conductance	71000		1.0		umhos/cm			02/19/18 10:36	1
Total Dissolved Solids	83000		500		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	620		10		millivolts			02/19/18 10:34	1

Client Sample ID: AP 3-S - NATURAL

Lab Sample ID: 180-74122-11
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15		1.0		mg/L			02/08/18 10:43	1
Fluoride	0.31		0.10		mg/L			02/08/18 10:43	1
Sulfate	390		5.0		mg/L			02/08/18 10:59	5

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3300		80		ug/L		02/08/18 11:22	02/13/18 01:06	1
Calcium	95000		500		ug/L		02/08/18 11:22	02/09/18 23:06	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	9.3		0.1		SU			02/07/18 14:13	1
Specific Conductance	870		1.0		umhos/cm			02/07/18 14:38	1
Total Dissolved Solids	610		10		mg/L			02/13/18 10:45	1

Client Sample ID: AP 3-S - NATURAL

Lab Sample ID: 180-74122-11
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

General Chemistry - Leach (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oxidation Reduction Potential	180		10		millivolts			02/07/18 14:38	1

Client Sample ID: AP 2-S - PRETEST

Lab Sample ID: 180-74122-12
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	31.6		0.1		%			01/24/18 06:29	1
Percent Solids	68.4		0.1		%			01/24/18 06:29	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	4.9		0.1		SU			02/07/18 11:49	1
pH	12.5		0.1		SU			02/12/18 14:43	1
pH	6.3		0.1		SU			02/12/18 14:46	1
pH	4.7		0.1		SU			02/12/18 14:58	1
pH	12.7		0.1		SU			02/12/18 15:01	1
pH	11.3		0.1		SU			02/16/18 13:16	1
pH	3.4		0.1		SU			02/16/18 13:27	1

Client Sample ID: AP 2-S - PH 13.0

Lab Sample ID: 180-74122-13
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63		50		mg/L			02/08/18 20:40	50
Fluoride	<5.0		5.0		mg/L			02/08/18 20:40	50
Sulfate	300		50		mg/L			02/08/18 20:40	50

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	83000		800		ug/L		02/08/18 11:28	02/13/18 03:38	1
Calcium	34000		5000		ug/L		02/08/18 11:28	02/10/18 00:36	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.9		0.1		SU			02/07/18 11:30	1
Specific Conductance	45000		1.0		umhos/cm			02/07/18 11:10	1
Total Dissolved Solids	14000		330		mg/L			02/13/18 11:04	1
Oxidation Reduction Potential	- 20		10		millivolts			02/07/18 11:08	1

Client Sample ID: AP 2-S - PH 12.0

Lab Sample ID: 180-74122-14
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	210		100		mg/L			02/26/18 13:03	100
Fluoride	<10		10		mg/L			02/26/18 13:03	100

Client Sample ID: AP 2-S - PH 12.0

Lab Sample ID: 180-74122-14
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	1100		100		mg/L			02/26/18 13:03	100

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	8500		80		ug/L		02/19/18 13:03	02/22/18 04:26	1
Calcium	2500		500		ug/L		02/19/18 13:03	02/21/18 01:17	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	12.4		0.1		SU			02/16/18 13:21	1
Specific Conductance	12000		1.0		umhos/cm			02/16/18 13:09	1
Total Dissolved Solids	4300		100		mg/L			02/19/18 15:41	1
Oxidation Reduction Potential	- 19		10		millivolts			02/16/18 13:09	1

Client Sample ID: AP 2-S - PH 10.5

Lab Sample ID: 180-74122-15
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63		1.0		mg/L			02/22/18 12:51	1
Fluoride	0.42		0.10		mg/L			02/22/18 12:51	1
Sulfate	240		10		mg/L			02/22/18 13:07	10

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5500		80		ug/L		02/21/18 11:22	02/26/18 21:33	1
Calcium	13000		500		ug/L		02/21/18 11:22	02/23/18 11:43	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	10.0		0.1		SU			02/19/18 10:19	1
Specific Conductance	1100		1.0		umhos/cm			02/19/18 10:24	1
Total Dissolved Solids	670		10		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	160		10		millivolts			02/19/18 10:20	1

Client Sample ID: AP 2-S - PH 8.0

Lab Sample ID: 180-74122-17
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69		2.5		mg/L			02/13/18 14:03	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 15:20	5
Sulfate	270		2.5		mg/L			02/13/18 14:03	2.5

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5500		80		ug/L		02/13/18 13:38	02/15/18 23:01	1
Calcium	390000		500		ug/L		02/13/18 13:38	02/15/18 23:01	1

Client Sample ID: AP 2-S - PH 8.0

Lab Sample ID: 180-74122-17
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8		0.1		SU			02/12/18 14:55	1
Specific Conductance	3300		1.0		umhos/cm			02/12/18 14:35	1
Total Dissolved Solids	2600		20		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	260		10		millivolts			02/12/18 14:36	1

Client Sample ID: AP 2-S - PH 7.0

Lab Sample ID: 180-74122-18
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69		2.5		mg/L			02/13/18 14:34	2.5
Fluoride	<0.50		0.50		mg/L			02/14/18 15:36	5
Sulfate	280		2.5		mg/L			02/13/18 14:34	2.5

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6400		80		ug/L		02/13/18 13:38	02/15/18 22:39	1
Calcium	700000		500		ug/L		02/13/18 13:38	02/15/18 22:39	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1		SU			02/12/18 14:49	1
Specific Conductance	5200		1.0		umhos/cm			02/12/18 14:24	1
Total Dissolved Solids	4200		40		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	270		10		millivolts			02/12/18 14:23	1

Client Sample ID: AP 2-S - PH 5.5

Lab Sample ID: 180-74122-19
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		25		mg/L			02/26/18 09:13	25
Fluoride	<2.5		2.5		mg/L			02/26/18 09:13	25
Sulfate	380		25		mg/L			02/26/18 09:13	25

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	12000		800		ug/L		02/23/18 12:01	02/27/18 10:17	10
Calcium	5100000		5000		ug/L		02/23/18 12:01	02/27/18 10:17	10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.6		0.1		SU			02/23/18 10:18	1
Specific Conductance	25000		1.0		umhos/cm			02/23/18 10:17	1
Total Dissolved Solids	26000		200		mg/L			02/27/18 15:07	1
Oxidation Reduction Potential	240		10		millivolts			02/23/18 10:18	1

Client Sample ID: AP 2-S - PH 4.0

Lab Sample ID: 180-74122-20
Date Collected: 01/10/18 10:50
Matrix: Solid
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**57**		50		mg/L			02/13/18 16:40	50
Fluoride	<10		10		mg/L			02/14/18 15:52	100
Sulfate	**290**		50		mg/L			02/13/18 16:40	50

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**19000**		800		ug/L		02/13/18 13:38	02/16/18 20:38	10
Calcium	**7900000**		5000		ug/L		02/13/18 13:38	02/16/18 20:38	10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**3.8**		0.1		SU			02/12/18 14:52	1
Specific Conductance	**43000**		1.0		umhos/cm			02/12/18 14:29	1
Total Dissolved Solids	**51000**		330		mg/L			02/15/18 14:59	1
Oxidation Reduction Potential	**370**		10		millivolts			02/12/18 14:29	1

Client Sample ID: AP 2-S - PH 2.0

Lab Sample ID: 180-74122-21
Date Collected: 01/10/18 10:50
Matrix: Solid
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<100		100		mg/L			02/22/18 11:48	100
Fluoride	<10		10		mg/L			02/22/18 11:48	100
Sulfate	**440**		100		mg/L			02/22/18 11:48	100

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**30000**		8000		ug/L		02/23/18 12:01	02/27/18 09:50	10
Calcium	**12000000**		50000		ug/L		02/23/18 12:01	02/24/18 17:16	10

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**2.3**		0.1		SU			02/19/18 10:44	1
Specific Conductance	**69000**		1.0		umhos/cm			02/19/18 10:42	1
Total Dissolved Solids	**82000**		500		mg/L			02/26/18 14:33	1
Oxidation Reduction Potential	**630**		10		millivolts			02/19/18 10:40	1

Client Sample ID: AP 2-S - NATURAL

Lab Sample ID: 180-74122-22
Date Collected: 01/10/18 10:50
Matrix: Solid
Date Received: 01/12/18 09:10

Method: EPA 9056A - Anions, Ion Chromatography - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**69**		1.0		mg/L			02/08/18 11:15	1
Fluoride	<0.10		0.10		mg/L			02/08/18 11:15	1
Sulfate	**310**		5.0		mg/L			02/08/18 11:31	5

Method: EPA 6020A - Metals (ICP/MS) - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4600**		80		ug/L		02/08/18 11:22	02/13/18 01:11	1

Client Sample ID: AP 2-S - NATURAL

Lab Sample ID: 180-74122-22
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

Method: EPA 6020A - Metals (ICP/MS) - Leach (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	59000		500		ug/L		02/08/18 11:22	02/09/18 23:09	1

General Chemistry - Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.8		0.1		SU			02/07/18 14:16	1
Specific Conductance	930		1.0		umhos/cm			02/07/18 14:41	1
Total Dissolved Solids	590		10		mg/L			02/13/18 10:45	1
Oxidation Reduction Potential	190		10		millivolts			02/07/18 14:43	1

Client Sample ID: AP 3-S - AIR DIED

Lab Sample ID: 180-74122-23
Matrix: Solid
Date Collected: 01/10/18 10:20
Date Received: 01/12/18 09:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.2		0.1		%			02/02/18 11:37	1
Percent Solids	98.8		0.1		%			02/02/18 11:37	1

Client Sample ID: AP 2-S - AIR DRIED

Lab Sample ID: 180-74122-24
Matrix: Solid
Date Collected: 01/10/18 10:50
Date Received: 01/12/18 09:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.1		0.1		%			02/02/18 11:37	1
Percent Solids	97.9		0.1		%			02/02/18 11:37	1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-236373/6
Matrix: Solid
Analysis Batch: 236373

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 06:17	1
Fluoride	<0.10		0.10		mg/L			02/08/18 06:17	1
Sulfate	<1.0		1.0		mg/L			02/08/18 06:17	1

Lab Sample ID: LCS 180-236373/5
Matrix: Solid
Analysis Batch: 236373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.0		mg/L		100	80 - 120
Fluoride	1.25	1.02		mg/L		82	80 - 120
Sulfate	25.0	24.0		mg/L		96	80 - 120

Lab Sample ID: MB 180-236377/17
Matrix: Solid
Analysis Batch: 236377

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/08/18 09:27	1
Fluoride	<0.10		0.10		mg/L			02/08/18 09:27	1
Sulfate	<1.0		1.0		mg/L			02/08/18 09:27	1

Lab Sample ID: LCS 180-236377/16
Matrix: Solid
Analysis Batch: 236377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.0		mg/L		100	80 - 120
Fluoride	1.25	1.18		mg/L		94	80 - 120
Sulfate	25.0	24.1		mg/L		96	80 - 120

Lab Sample ID: MB 180-236732/6
Matrix: Solid
Analysis Batch: 236732

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/13/18 05:33	1
Sulfate	<1.0		1.0		mg/L			02/13/18 05:33	1

Lab Sample ID: LCS 180-236732/5
Matrix: Solid
Analysis Batch: 236732

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.9		mg/L		103	80 - 120
Sulfate	25.0	25.1		mg/L		100	80 - 120

Method: EPA 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 180-236891/6
Matrix: Solid
Analysis Batch: 236891

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/14/18 11:05	1
Fluoride	<0.10		0.10		mg/L			02/14/18 11:05	1
Sulfate	<1.0		1.0		mg/L			02/14/18 11:05	1

Lab Sample ID: LCS 180-236891/5
Matrix: Solid
Analysis Batch: 236891

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.9		mg/L		104	80 - 120
Fluoride	2.50	2.58		mg/L		103	80 - 120
Sulfate	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: MB 180-237598/6
Matrix: Solid
Analysis Batch: 237598

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/22/18 08:13	1
Fluoride	<0.10		0.10		mg/L			02/22/18 08:13	1
Sulfate	<1.0		1.0		mg/L			02/22/18 08:13	1

Lab Sample ID: LCS 180-237598/5
Matrix: Solid
Analysis Batch: 237598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.4		mg/L		102	80 - 120
Fluoride	1.25	1.20		mg/L		96	80 - 120
Sulfate	25.0	21.2		mg/L		85	80 - 120

Lab Sample ID: MB 180-237859/6
Matrix: Solid
Analysis Batch: 237859

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<1.0		1.0		mg/L			02/26/18 08:06	1
Fluoride	<0.10		0.10		mg/L			02/26/18 08:06	1
Sulfate	<1.0		1.0		mg/L			02/26/18 08:06	1

Lab Sample ID: LCS 180-237859/5
Matrix: Solid
Analysis Batch: 237859

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.4		mg/L		106	80 - 120
Fluoride	1.25	1.23		mg/L		99	80 - 120
Sulfate	25.0	22.5		mg/L		90	80 - 120

Method: EPA 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-236437/1-A
Matrix: Solid
Analysis Batch: 236729

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:22	02/09/18 22:43	1

Lab Sample ID: MB 180-236437/1-A
Matrix: Solid
Analysis Batch: 236828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:22	02/13/18 00:25	1

Lab Sample ID: LCS 180-236437/2-A
Matrix: Solid
Analysis Batch: 236729

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	53100		ug/L		106	80 - 120

Lab Sample ID: LCS 180-236437/2-A
Matrix: Solid
Analysis Batch: 236828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236437

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-236437/3-A
Matrix: Solid
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 236437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	52500		ug/L		105	80 - 120	1	20

Lab Sample ID: LCSD 180-236437/3-A
Matrix: Solid
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 236437

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1030		ug/L		103	80 - 120	2	20

Lab Sample ID: MB 180-236440/1-A
Matrix: Solid
Analysis Batch: 236729

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/08/18 11:28	02/10/18 00:04	1

Lab Sample ID: MB 180-236440/1-A
Matrix: Solid
Analysis Batch: 236828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/08/18 11:28	02/13/18 02:47	1

Lab Sample ID: LCS 180-236440/2-A
Matrix: Solid
Analysis Batch: 236729

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	52800		ug/L		106	80 - 120

Lab Sample ID: LCS 180-236440/2-A
Matrix: Solid
Analysis Batch: 236828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236440

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	916		ug/L		92	80 - 120

Lab Sample ID: LCSD 180-236440/3-A
Matrix: Solid
Analysis Batch: 236729

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 236440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	51500		ug/L		103	80 - 120	2	20

Lab Sample ID: LCSD 180-236440/3-A
Matrix: Solid
Analysis Batch: 236828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 236440

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	917		ug/L		92	80 - 120	0	20

Lab Sample ID: MB 180-236807/1-A
Matrix: Solid
Analysis Batch: 237198

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 236807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/13/18 13:38	02/15/18 21:43	1
Calcium	<500		500		ug/L		02/13/18 13:38	02/15/18 21:43	1

Lab Sample ID: LCS 180-236807/2-A
Matrix: Solid
Analysis Batch: 237198

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 236807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	866		ug/L		87	80 - 120
Calcium	50000	46700		ug/L		93	80 - 120

Lab Sample ID: LCSD 180-236807/3-A
Matrix: Solid
Analysis Batch: 237198

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 236807

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	879		ug/L		88	80 - 120	1	20
Calcium	50000	46500		ug/L		93	80 - 120	1	20

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-237311/1-A
Matrix: Solid
Analysis Batch: 237590

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/19/18 13:03	02/21/18 00:31	1

Lab Sample ID: MB 180-237311/1-A
Matrix: Solid
Analysis Batch: 237713

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/19/18 13:03	02/22/18 03:08	1

Lab Sample ID: LCS 180-237311/2-A
Matrix: Solid
Analysis Batch: 237590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	48400		ug/L		97	80 - 120

Lab Sample ID: LCS 180-237311/2-A
Matrix: Solid
Analysis Batch: 237713

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-237311/3-A
Matrix: Solid
Analysis Batch: 237590

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	48200		ug/L		96	80 - 120	0	20

Lab Sample ID: LCSD 180-237311/3-A
Matrix: Solid
Analysis Batch: 237713

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 237311

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1020		ug/L		102	80 - 120	0	20

Lab Sample ID: MB 180-237537/1-A
Matrix: Solid
Analysis Batch: 237821

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/21/18 11:22	02/23/18 11:29	1

Lab Sample ID: MB 180-237537/1-A
Matrix: Solid
Analysis Batch: 238052

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/21/18 11:22	02/26/18 21:10	1

Lab Sample ID: LCS 180-237537/2-A
Matrix: Solid
Analysis Batch: 237821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	55300		ug/L		111	80 - 120

Lab Sample ID: LCS 180-237537/2-A
Matrix: Solid
Analysis Batch: 238052

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	1010		ug/L		101	80 - 120

Lab Sample ID: LCSD 180-237537/3-A
Matrix: Solid
Analysis Batch: 237821

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 237537

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	55200		ug/L		110	80 - 120	0	20

Lab Sample ID: LCSD 180-237537/3-A
Matrix: Solid
Analysis Batch: 238052

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 237537

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1060		ug/L		106	80 - 120	5	20

Lab Sample ID: MB 180-237767/1-A
Matrix: Solid
Analysis Batch: 237942

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<500		500		ug/L		02/23/18 12:01	02/24/18 16:45	1

Lab Sample ID: MB 180-237767/1-A
Matrix: Solid
Analysis Batch: 238052

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 237767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<80		80		ug/L		02/23/18 12:01	02/27/18 09:22	1

Lab Sample ID: LCS 180-237767/2-A
Matrix: Solid
Analysis Batch: 237942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50000	51800		ug/L		104	80 - 120

Lab Sample ID: LCS 180-237767/2-A
Matrix: Solid
Analysis Batch: 238052

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 237767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1000	970		ug/L		97	80 - 120

Method: EPA 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-237767/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 237942 — **Prep Batch: 237767**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	50000	52100		ug/L		104	80 - 120	1	20

Lab Sample ID: LCSD 180-237767/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 238052 — **Prep Batch: 237767**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1000	1000		ug/L		100	80 - 120	3	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-74122-12 DU — **Client Sample ID: AP 2-S - PRETEST**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 234952

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	31.6		32.9		%		4	20
Percent Solids	68.4		67.1		%		2	20

Lab Sample ID: 180-74122-23 DU — **Client Sample ID: AP 3-S - AIR DIED**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 235859

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.2		1.2		%		0.4	20
Percent Solids	98.8		98.8		%		0	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-236465/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-236465/47 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 236465

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237380/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 237380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237531/1
Matrix: Solid
Analysis Batch: 237531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237737/1
Matrix: Solid
Analysis Batch: 237737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 180-237772/1
Matrix: Solid
Analysis Batch: 237772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 180-236475/2
Matrix: Solid
Analysis Batch: 236475

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 11:03	1

Lab Sample ID: MB 180-236475/43
Matrix: Solid
Analysis Batch: 236475

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/07/18 13:32	1

Lab Sample ID: LCS 180-236475/1
Matrix: Solid
Analysis Batch: 236475

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

Lab Sample ID: LCS 180-236475/42
Matrix: Solid
Analysis Batch: 236475

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

Lab Sample ID: MB 180-237425/2
Matrix: Solid
Analysis Batch: 237425

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/12/18 10:05	1

Lab Sample ID: LCS 180-237425/1
Matrix: Solid
Analysis Batch: 237425

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.0		umhos/cm		101	90 - 110

Lab Sample ID: MB 180-237553/2
Matrix: Solid
Analysis Batch: 237553

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/19/18 10:06	1

Lab Sample ID: LCS 180-237553/1
Matrix: Solid
Analysis Batch: 237553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	88.6		umhos/cm		105	90 - 110

Lab Sample ID: MB 180-237752/2
Matrix: Solid
Analysis Batch: 237752

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/16/18 08:07	1

Lab Sample ID: LCS 180-237752/1
Matrix: Solid
Analysis Batch: 237752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	85.1		umhos/cm		101	90 - 110

Lab Sample ID: MB 180-237776/2
Matrix: Solid
Analysis Batch: 237776

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	<1.0		1.0		umhos/cm			02/23/18 10:04	1

Lab Sample ID: LCS 180-237776/1
Matrix: Solid
Analysis Batch: 237776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	84.0	88.5		umhos/cm		105	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 180-236785/2
Matrix: Solid
Analysis Batch: 236785

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 10:45	1

Lab Sample ID: LCS 180-236785/1
Matrix: Solid
Analysis Batch: 236785

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	388		mg/L		114	80 - 120

Lab Sample ID: MB 180-236788/2
Matrix: Solid
Analysis Batch: 236788

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/13/18 11:04	1

Lab Sample ID: LCS 180-236788/1
Matrix: Solid
Analysis Batch: 236788

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	360		mg/L		106	80 - 120

Lab Sample ID: MB 180-237078/2
Matrix: Solid
Analysis Batch: 237078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/15/18 14:59	1

Lab Sample ID: LCS 180-237078/1
Matrix: Solid
Analysis Batch: 237078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	342		mg/L		101	80 - 120

Lab Sample ID: MB 180-237329/2
Matrix: Solid
Analysis Batch: 237329

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/19/18 15:41	1

Lab Sample ID: LCS 180-237329/1
Matrix: Solid
Analysis Batch: 237329

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	339	330		mg/L		97	80 - 120

Lab Sample ID: MB 180-237940/2
Matrix: Solid
Analysis Batch: 237940

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/26/18 14:33	1

Lab Sample ID: LCS 180-237940/1
Matrix: Solid
Analysis Batch: 237940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			339	338		mg/L		100	80 - 120		

Lab Sample ID: MB 180-238055/2
Matrix: Solid
Analysis Batch: 238055

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			02/27/18 15:07	1

Lab Sample ID: LCS 180-238055/1
Matrix: Solid
Analysis Batch: 238055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			339	360		mg/L		106	80 - 120		

Lab Sample ID: 180-74122-13 DU
Matrix: Solid
Analysis Batch: 236788

Client Sample ID: AP 2-S - PH 13.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	14000			13800		mg/L				3	10

Lab Sample ID: 180-74122-2 DU
Matrix: Solid
Analysis Batch: 237078

Client Sample ID: AP 3-S - PH 13.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	14000			13800		mg/L				1	10

Lab Sample ID: 180-74122-10 DU
Matrix: Solid
Analysis Batch: 237940

Client Sample ID: AP 3-S - PH 2.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	83000			83300		mg/L				0.8	10

Lab Sample ID: 180-74122-21 DU
Matrix: Solid
Analysis Batch: 237940

Client Sample ID: AP 2-S - PH 2.0
Prep Type: Leach

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	82000			79400		mg/L				4	10

Method: SM 2580B - Reduction-Oxidation (REDOX) Potential

Lab Sample ID: LCS 180-236472/1
Matrix: Solid
Analysis Batch: 236472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

Lab Sample ID: LCS 180-236472/36
Matrix: Solid
Analysis Batch: 236472

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	463		millivolts		97	90 - 110

Lab Sample ID: LCS 180-237422/1
Matrix: Solid
Analysis Batch: 237422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	466		millivolts		98	90 - 110

Lab Sample ID: LCS 180-237550/1
Matrix: Solid
Analysis Batch: 237550

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	469		millivolts		99	90 - 110

Lab Sample ID: LCS 180-237751/1
Matrix: Solid
Analysis Batch: 237751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	467		millivolts		98	90 - 110

Lab Sample ID: LCS 180-237774/1
Matrix: Solid
Analysis Batch: 237774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Oxidation Reduction Potential	475	473		millivolts		100	90 - 110

HPLC/IC

Leach Batch: 236165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-11	AP 3-S - NATURAL	Leach	Solid	1313	
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	1313	
180-74122-22	AP 2-S - NATURAL	Leach	Solid	1313	

Analysis Batch: 236373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 9056A	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 9056A	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 9056A	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 9056A	236165
MB 180-236373/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236373/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Analysis Batch: 236377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 9056A	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 9056A	236165
MB 180-236377/17	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236377/16	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Leach Batch: 236722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	1313	
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	1313	
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	1313	
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	1313	
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	1313	
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	1313	

Analysis Batch: 236732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 9056A	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 9056A	236722
MB 180-236732/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236732/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Analysis Batch: 236891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 9056A	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 9056A	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 9056A	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 9056A	236722
MB 180-236891/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-236891/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Leach Batch: 237165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	1313	
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	1313	

Leach Batch: 237381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	1313	
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	1313	
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	1313	

Analysis Batch: 237598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 9056A	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 9056A	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 9056A	237381
MB 180-237598/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237598/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Leach Batch: 237761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	1313	
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	1313	

Analysis Batch: 237859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	EPA 9056A	237761
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 9056A	237165
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	EPA 9056A	237761
MB 180-237859/6	Method Blank	Total/NA	Solid	EPA 9056A	
LCS 180-237859/5	Lab Control Sample	Total/NA	Solid	EPA 9056A	

Metals

Leach Batch: 236165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-11	AP 3-S - NATURAL	Leach	Solid	1313	
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	1313	
180-74122-22	AP 2-S - NATURAL	Leach	Solid	1313	

Prep Batch: 236437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-11	AP 3-S - NATURAL	Leach	Solid	3010A	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	3010A	236165
MB 180-236437/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

Metals (Continued)

Prep Batch: 236440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	3010A	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	3010A	236165
MB 180-236440/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

Leach Batch: 236722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	1313	
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	1313	
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	1313	
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	1313	
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	1313	
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	1313	

Analysis Batch: 236729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 6020A	236437
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

Prep Batch: 236807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	3010A	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	3010A	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	3010A	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	3010A	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	3010A	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	3010A	236722
MB 180-236807/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

Analysis Batch: 236828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 6020A	236437
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 6020A	236440
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 6020A	236437
MB 180-236437/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236437
MB 180-236440/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236440
LCS 180-236437/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236437
LCS 180-236440/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236440
LCSD 180-236437/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236437

Metals (Continued)

Analysis Batch: 236828 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 180-236440/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236440

Leach Batch: 237165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	1313	
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	1313	

Analysis Batch: 237198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 6020A	236807
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 6020A	236807
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 6020A	236807
MB 180-236807/1-A	Method Blank	Total/NA	Solid	EPA 6020A	236807
LCS 180-236807/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	236807
LCSD 180-236807/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	236807

Prep Batch: 237311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	3010A	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	3010A	237165
MB 180-237311/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

Analysis Batch: 237323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 6020A	236807
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 6020A	236807
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 6020A	236807

Leach Batch: 237381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	1313	
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	1313	
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	1313	

Prep Batch: 237537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	3010A	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	3010A	237381
MB 180-237537/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

Analysis Batch: 237590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 6020A	237311
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311

Metals (Continued)

Analysis Batch: 237590 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311

Analysis Batch: 237713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 6020A	237311
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 6020A	237311
MB 180-237311/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237311
LCS 180-237311/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237311
LCSD 180-237311/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237311

Leach Batch: 237761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	1313	
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	1313	

Prep Batch: 237767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	3010A	237761
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	3010A	237381
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	3010A	237761
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	3010A	237381
MB 180-237767/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	

Analysis Batch: 237821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 6020A	237537
MB 180-237537/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237537
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237537
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237537

Analysis Batch: 237942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 6020A	237767
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 6020A	237767
MB 180-237767/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237767
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237767
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237767

Analysis Batch: 238052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	EPA 6020A	237767
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 6020A	237767
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 6020A	237537
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	EPA 6020A	237767
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 6020A	237767
MB 180-237537/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237537
MB 180-237767/1-A	Method Blank	Total/NA	Solid	EPA 6020A	237767

Metals (Continued)

Analysis Batch: 238052 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-237537/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237537
LCS 180-237767/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	237767
LCSD 180-237537/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237537
LCSD 180-237767/3-A	Lab Control Sample Dup	Total/NA	Solid	EPA 6020A	237767

General Chemistry

Analysis Batch: 234952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Total/NA	Solid	2540G	
180-74122-12	AP 2-S - PRETEST	Total/NA	Solid	2540G	
180-74122-12 DU	AP 2-S - PRETEST	Total/NA	Solid	2540G	

Analysis Batch: 235859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-23	AP 3-S - AIR DIED	Total/NA	Solid	2540G	
180-74122-24	AP 2-S - AIR DRIED	Total/NA	Solid	2540G	
180-74122-23 DU	AP 3-S - AIR DIED	Total/NA	Solid	2540G	

Leach Batch: 236165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-11	AP 3-S - NATURAL	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	1313	
180-74122-22	AP 2-S - NATURAL	Leach	Solid	1313	
180-74122-2 DU	AP 3-S - PH 13.0	Leach	Solid	1313	
180-74122-13 DU	AP 2-S - PH 13.0	Leach	Solid	1313	

Analysis Batch: 236465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	236165
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	EPA 9040C	236165
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	EPA 9040C	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	EPA 9040C	236165
LCS 180-236465/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	
LCS 180-236465/47	Lab Control Sample	Total/NA	Solid	EPA 9040C	

Analysis Batch: 236472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	SM 2580B	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	SM 2580B	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	SM 2580B	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	SM 2580B	236165
LCS 180-236472/1	Lab Control Sample	Total/NA	Solid	SM 2580B	
LCS 180-236472/36	Lab Control Sample	Total/NA	Solid	SM 2580B	

General Chemistry (Continued)

Analysis Batch: 236475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	SM 2510B	236165
180-74122-11	AP 3-S - NATURAL	Leach	Solid	SM 2510B	236165
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	SM 2510B	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	SM 2510B	236165
MB 180-236475/2	Method Blank	Total/NA	Solid	SM 2510B	
MB 180-236475/43	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-236475/1	Lab Control Sample	Total/NA	Solid	SM 2510B	
LCS 180-236475/42	Lab Control Sample	Total/NA	Solid	SM 2510B	

Leach Batch: 236722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	1313	
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	1313	
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	1313	
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	1313	
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	1313	
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	1313	

Analysis Batch: 236785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-11	AP 3-S - NATURAL	Leach	Solid	SM 2540C	236165
180-74122-22	AP 2-S - NATURAL	Leach	Solid	SM 2540C	236165
MB 180-236785/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236785/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

Analysis Batch: 236788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-13	AP 2-S - PH 13.0	Leach	Solid	SM 2540C	236165
MB 180-236788/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-236788/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74122-13 DU	AP 2-S - PH 13.0	Leach	Solid	SM 2540C	236165

Analysis Batch: 237078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-2	AP 3-S - PH 13.0	Leach	Solid	SM 2540C	236165
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	SM 2540C	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	SM 2540C	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	SM 2540C	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	SM 2540C	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	SM 2540C	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	SM 2540C	236722
MB 180-237078/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237078/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74122-2 DU	AP 3-S - PH 13.0	Leach	Solid	SM 2540C	236165

Leach Batch: 237107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	

General Chemistry (Continued)

Leach Batch: 237107 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	

Leach Batch: 237165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	1313	
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	1313	

Analysis Batch: 237329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	SM 2540C	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	SM 2540C	237165
MB 180-237329/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237329/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

Analysis Batch: 237380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	EPA 9040C	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	EPA 9040C	236722
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237107
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	EPA 9040C	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	EPA 9040C	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	EPA 9040C	236722
LCS 180-237380/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

Leach Batch: 237381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	1313	
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	1313	
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	1313	
180-74122-10 DU	AP 3-S - PH 2.0	Leach	Solid	1313	
180-74122-21 DU	AP 2-S - PH 2.0	Leach	Solid	1313	

Analysis Batch: 237422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	SM 2580B	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	SM 2580B	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	SM 2580B	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	SM 2580B	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	SM 2580B	236722

General Chemistry (Continued)

Analysis Batch: 237422 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	SM 2580B	236722
LCS 180-237422/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

Analysis Batch: 237425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-6	AP 3-S - PH 8.0	Leach	Solid	SM 2510B	236722
180-74122-7	AP 3-S - PH 7.0	Leach	Solid	SM 2510B	236722
180-74122-9	AP 3-S - PH 4.0	Leach	Solid	SM 2510B	236722
180-74122-17	AP 2-S - PH 8.0	Leach	Solid	SM 2510B	236722
180-74122-18	AP 2-S - PH 7.0	Leach	Solid	SM 2510B	236722
180-74122-20	AP 2-S - PH 4.0	Leach	Solid	SM 2510B	236722
MB 180-237425/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237425/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

Analysis Batch: 237531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	EPA 9040C	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	EPA 9040C	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	EPA 9040C	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	EPA 9040C	237381
LCS 180-237531/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

Analysis Batch: 237550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	SM 2580B	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	SM 2580B	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	SM 2580B	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	SM 2580B	237381
LCS 180-237550/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

Analysis Batch: 237553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	SM 2510B	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	SM 2510B	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	SM 2510B	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	SM 2510B	237381
MB 180-237553/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237553/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

Leach Batch: 237733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-1	AP 3-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	
180-74122-12	AP 2-S - PRETEST	Leach	Solid	1313	

Analysis Batch: 237737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-1	AP 3-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	EPA 9040C	237165

General Chemistry (Continued)

Analysis Batch: 237737 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-12	AP 2-S - PRETEST	Leach	Solid	EPA 9040C	237733
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	EPA 9040C	237165
LCS 180-237737/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

Analysis Batch: 237751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	SM 2580B	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	SM 2580B	237165
LCS 180-237751/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

Analysis Batch: 237752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-3	AP 3-S - PH 12.0	Leach	Solid	SM 2510B	237165
180-74122-14	AP 2-S - PH 12.0	Leach	Solid	SM 2510B	237165
MB 180-237752/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237752/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

Leach Batch: 237761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	1313	
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	1313	

Analysis Batch: 237772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	EPA 9040C	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	EPA 9040C	237761
LCS 180-237772/1	Lab Control Sample	Total/NA	Solid	EPA 9040C	

Analysis Batch: 237774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	SM 2580B	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	SM 2580B	237761
LCS 180-237774/1	Lab Control Sample	Total/NA	Solid	SM 2580B	

Analysis Batch: 237776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	SM 2510B	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	SM 2510B	237761
MB 180-237776/2	Method Blank	Total/NA	Solid	SM 2510B	
LCS 180-237776/1	Lab Control Sample	Total/NA	Solid	SM 2510B	

Analysis Batch: 237940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-4	AP 3-S - PH 10.5	Leach	Solid	SM 2540C	237381
180-74122-10	AP 3-S - PH 2.0	Leach	Solid	SM 2540C	237381
180-74122-15	AP 2-S - PH 10.5	Leach	Solid	SM 2540C	237381
180-74122-21	AP 2-S - PH 2.0	Leach	Solid	SM 2540C	237381
MB 180-237940/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-237940/1	Lab Control Sample	Total/NA	Solid	SM 2540C	
180-74122-10 DU	AP 3-S - PH 2.0	Leach	Solid	SM 2540C	237381

General Chemistry (Continued)

Analysis Batch: 237940 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-21 DU	AP 2-S - PH 2.0	Leach	Solid	SM 2540C	237381

Analysis Batch: 238055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-74122-8	AP 3-S - PH 5.5	Leach	Solid	SM 2540C	237761
180-74122-19	AP 2-S - PH 5.5	Leach	Solid	SM 2540C	237761
MB 180-238055/2	Method Blank	Total/NA	Solid	SM 2540C	
LCS 180-238055/1	Lab Control Sample	Total/NA	Solid	SM 2540C	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)

Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)

Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #:
Chain of Custody Number:
Page _____ of _____
Temperature °C of Cooler:

Client: KPRG & Assoc. | Client Project #: 23517
Project Name: NRG
Project Location/State: IL | Lab Project #:
Sampler: LR / MW | Lab PM:

Preservative
Parameter

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	LEAF Method 1313									Comments
		AP 3-S	1/10/18	1020	2	SE	X									
		AP 2-S	1/10/18	1050	2	SE	X									



Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	1/11/18	1630		TA	1-11-18	430
	TA	1-11-18	1645			1/12/18	0910

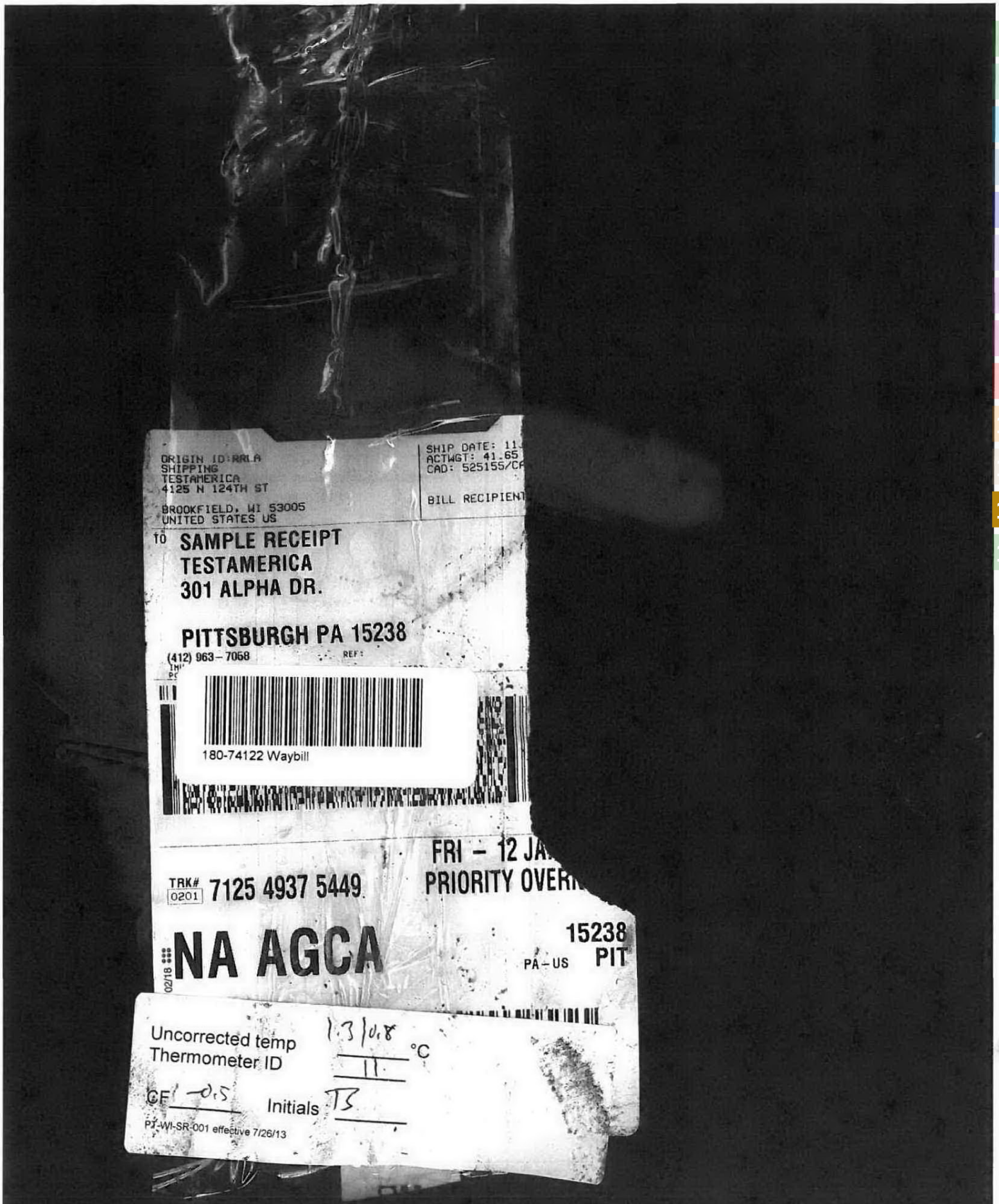
Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments
LEAF Method 1313 CCR Appendix 3
→ B, Ca, Cl, Fl, pH, SO4, TDS

Lab Comments:

TAL-4124-500 (1209)


ORIGIN ID:RRLA
SHIPPING
TESTAMERICA
4125 N 124TH ST
BROOKFIELD, WI 53005
UNITED STATES US
SHIP DATE: 11
ACTWGT: 41.65
CAD: 525155/CA
BILL RECIPIENT
TO SAMPLE RECEIPT
TESTAMERICA
301 ALPHA DR.
PITTSBURGH PA 15238
(412) 963-7058
REF:
180-74122 Waybill
FRI - 12 JA
TRK# 0201 7125 4937 5449
PRIORITY OVERN
NA AGCA
15238
PA-US
PIT
02/18
Uncorrected temp 1.3 | 0.8 °C
Thermometer ID 11
CF -0.5 Initials TB
PT-WI-SR-001 effective 7/26/13

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 180-74122-1

Login Number: 74122
List Number: 1
Creator: Neri, Tom

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Job Number: 500-164188-1

Job Description: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, WI 53005

Attention: Richard Gnat



Approved for release.
Eric A. Lang
Manager of Project Management
6/14/2019 7:39 AM

Eric A. Lang, Manager of Project Management
2417 Bond Street, University Park, IL, 60484
(708)534-5200
eric.lang@testamericainc.com
06/14/2019

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Table of Contents

Cover Title Page 1

Data Summaries 4

- Definitions 4
- Case Narrative 5
- Detection Summary 6
- Client Sample Results 8
- Default Detection Limits 15
- QC Sample Results 16
- QC Association 20
- Chronicle 22
- Certification Summary 25
- Method Summary 26
- Sample Summary 27
- Reagent Traceability 28
  - COAs 28

Inorganic Sample Data 32

- Metals Data 32
  - Met Cover Page 33
  - Met Sample Data 34
  - Met QC Data 41
    - Met ICV/CCV 41
    - Met CRQL 47
    - Met Blanks 49
    - Met ICSA/ICSAB 54
    - Met LCS/LCSD 58
  - Met MDL 60

Table of Contents

Met Linear Ranges 64
Met Preparation Log 66
Met Analysis Run Log 67
Met Internal Standards 72
Met Prep Data 75
Met Raw Data 76
General Chemistry Data 493
Gen Chem Cover Page 494
Gen Chem Sample Data 496
Gen Chem QC Data 510
Gen Chem ICV/CCV 510
Gen Chem Blanks 514
Gen Chem MS/MSD/PDS 516
Gen Chem LCS/LCSD 520
Gen Chem MDL 523
Gen Chem Linear Ranges 531
Gen Chem Analysis Run Log 533
Gen Chem Prep Data 543
Gen Chem Raw Data 551
Shipping and Receiving Documents 592
Client Chain of Custody 592
Sample Receipt Checklist 596

Qualifiers

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
500-164188-1

Comments
No additional comments.

Receipt
The samples were received on 5/29/2019 5:37 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Client Sample ID: MW-05 — Lab Sample ID: 500-164188-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.1		0.50		mg/L	10		6020A	Total Recoverable
Calcium	61		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	870		10		mg/L	1		SM 2540C	Total/NA
Chloride	91		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.59		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	380		150		mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-06 — Lab Sample ID: 500-164188-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.3		0.50		mg/L	10		6020A	Total Recoverable
Calcium	120		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Total/NA
Chloride	38		2.0		mg/L	1		SM 4500 Cl- E	Total/NA
Fluoride	0.21		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	350		150		mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-09 — Lab Sample ID: 500-164188-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.5		0.25		mg/L	5		6020A	Total Recoverable
Calcium	48		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	750		10		mg/L	1		SM 2540C	Total/NA
Chloride	280		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.29		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	150		100		mg/L	20		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 500-164188-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.8		0.25		mg/L	5		6020A	Total Recoverable
Calcium	100		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	860		10		mg/L	1		SM 2540C	Total/NA
Chloride	140		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.82		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	260		150		mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-11 — Lab Sample ID: 500-164188-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.25		mg/L	5		6020A	Total Recoverable
Calcium	86		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	610		10		mg/L	1		SM 2540C	Total/NA
Chloride	110		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.49		0.10		mg/L	1		SM 4500 F C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-11 (Continued)

Lab Sample ID: 500-164188-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	120		100		mg/L	20		SM 4500 SO4 E	Total/NA

Client Sample ID: MW-12

Lab Sample ID: 500-164188-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.25		mg/L	5		6020A	Total Recoverable
Calcium	140		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	930		10		mg/L	1		SM 2540C	Total/NA
Chloride	140		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.42		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	190		150		mg/L	30		SM 4500 SO4 E	Total/NA

Client Sample ID: Duplicate

Lab Sample ID: 500-164188-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.3		0.25		mg/L	5		6020A	Total Recoverable
Calcium	82		0.20		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	600		10		mg/L	1		SM 2540C	Total/NA
Chloride	110		10		mg/L	5		SM 4500 Cl- E	Total/NA
Fluoride	0.53		0.10		mg/L	1		SM 4500 F C	Total/NA
Sulfate	110		50		mg/L	10		SM 4500 SO4 E	Total/NA

This Detection Summary does not include radiochemical test results.

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Client Sample ID: MW-05

Date Collected: 05/29/19 13:46
Date Received: 05/29/19 17:37

Lab Sample ID: 500-164188-1

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.1		0.50		mg/L		05/30/19 16:49	06/03/19 12:03	10
Calcium	61		0.20		mg/L		05/30/19 16:49	05/31/19 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	870		10		mg/L			05/31/19 06:18	1
Chloride	91		10		mg/L			06/11/19 16:31	5
Fluoride	0.59		0.10		mg/L			06/08/19 16:26	1
Sulfate	380		150		mg/L			06/10/19 10:52	30

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Client Sample ID: MW-06

Date Collected: 05/29/19 13:05
Date Received: 05/29/19 17:37

Lab Sample ID: 500-164188-2

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.3		0.50		mg/L		05/30/19 16:49	06/03/19 12:07	10
Calcium	120		0.20		mg/L		05/30/19 16:49	05/31/19 16:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10		mg/L			05/31/19 06:21	1
Chloride	38		2.0		mg/L			06/11/19 15:50	1
Fluoride	0.21		0.10		mg/L			06/08/19 16:39	1
Sulfate	350		150		mg/L			06/10/19 10:55	30

Client Sample ID: MW-09

Date Collected: 05/29/19 08:33
Date Received: 05/29/19 17:37

Lab Sample ID: 500-164188-3

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.5		0.25		mg/L		05/30/19 16:49	06/03/19 12:11	5
Calcium	48		0.20		mg/L		05/30/19 16:49	05/31/19 16:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		10		mg/L			05/31/19 06:23	1
Chloride	280		10		mg/L			06/11/19 16:34	5
Fluoride	0.29		0.10		mg/L			06/08/19 16:43	1
Sulfate	150		100		mg/L			06/10/19 10:55	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Client Sample ID: MW-10

Date Collected: 05/29/19 10:02
Date Received: 05/29/19 17:37

Lab Sample ID: 500-164188-4

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.8		0.25		mg/L		05/30/19 16:49	06/03/19 12:14	5
Calcium	100		0.20		mg/L		05/30/19 16:49	05/31/19 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	860		10		mg/L			05/31/19 06:26	1
Chloride	140		10		mg/L			06/11/19 16:35	5
Fluoride	0.82		0.10		mg/L			06/08/19 16:47	1
Sulfate	260		150		mg/L			06/11/19 20:05	30

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Client Sample ID: MW-11

Date Collected: 05/29/19 09:20
Date Received: 05/29/19 17:37

Lab Sample ID: 500-164188-5

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.25		mg/L		05/30/19 16:49	06/03/19 12:18	5
Calcium	86		0.20		mg/L		05/30/19 16:49	05/31/19 16:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	610		10		mg/L			05/31/19 06:29	1
Chloride	110		10		mg/L			06/11/19 16:36	5
Fluoride	0.49		0.10		mg/L			06/08/19 16:51	1
Sulfate	120		100		mg/L			06/11/19 20:05	20

Client Sample ID: MW-12

Date Collected: 05/29/19 11:01
Date Received: 05/29/19 17:37

Lab Sample ID: 500-164188-6

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.25		mg/L		05/30/19 16:49	06/03/19 12:22	5
Calcium	140		0.20		mg/L		05/30/19 16:49	05/31/19 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		10		mg/L			05/31/19 06:31	1
Chloride	140		10		mg/L			06/11/19 16:36	5
Fluoride	0.42		0.10		mg/L			06/08/19 17:08	1
Sulfate	190		150		mg/L			06/11/19 20:09	30

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Client Sample ID: Duplicate

Date Collected: 05/29/19 00:00
Date Received: 05/29/19 17:37

Lab Sample ID: 500-164188-7

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.25		mg/L		05/30/19 16:49	06/03/19 12:26	5
Calcium	82		0.20		mg/L		05/30/19 16:49	05/31/19 16:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	600		10		mg/L			05/31/19 06:34	1
Chloride	110		10		mg/L			06/11/19 16:37	5
Fluoride	0.53		0.10		mg/L			06/08/19 17:20	1
Sulfate	110		50		mg/L			06/11/19 20:09	10

Default Detection Limits

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Prep: 3005A

Analyte	RL	MDL	Units
Boron	0.050	0.013	mg/L
Calcium	0.20	0.044	mg/L

General Chemistry

Analyte	RL	MDL	Units
Total Dissolved Solids	10	4.3	mg/L
Chloride	2.0	1.0	mg/L
Fluoride	0.10	0.056	mg/L
Sulfate	5.0	1.4	mg/L

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-487972/1-A
Matrix: Water
Analysis Batch: 488367

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 487972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/30/19 16:49	05/31/19 10:46	1

Lab Sample ID: MB 500-487972/1-A
Matrix: Water
Analysis Batch: 488416

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 487972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/30/19 16:49	06/03/19 11:56	1

Lab Sample ID: LCS 500-487972/2-A
Matrix: Water
Analysis Batch: 488367

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 487972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	8.93		mg/L		89	80 - 120

Lab Sample ID: LCS 500-487972/2-A
Matrix: Water
Analysis Batch: 488416

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 487972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.987		mg/L		99	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-488006/1
Matrix: Water
Analysis Batch: 488006

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/31/19 05:58	1

Lab Sample ID: LCS 500-488006/2
Matrix: Water
Analysis Batch: 488006

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	260		mg/L		104	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-489759/12
Matrix: Water
Analysis Batch: 489759

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/11/19 15:43	1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 500-489759/13
Matrix: Water
Analysis Batch: 489759

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	52.2		mg/L		104	85 - 115		

Lab Sample ID: 500-164188-2 MS
Matrix: Water
Analysis Batch: 489759

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	38		50.0	86.9		mg/L		98	75 - 125		

Lab Sample ID: 500-164188-2 MSD
Matrix: Water
Analysis Batch: 489759

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	38		50.0	85.1		mg/L		95	75 - 125	2	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-489354/3
Matrix: Water
Analysis Batch: 489354

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/08/19 14:52	1

Lab Sample ID: MB 500-489354/31
Matrix: Water
Analysis Batch: 489354

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/08/19 16:58	1

Lab Sample ID: LCS 500-489354/32
Matrix: Water
Analysis Batch: 489354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.4		mg/L		104	80 - 120		

Lab Sample ID: LCS 500-489354/4
Matrix: Water
Analysis Batch: 489354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.3		mg/L		103	80 - 120		

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-164188-6 MS
Matrix: Water
Analysis Batch: 489354

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.42		5.00	5.56		mg/L		103	75 - 125

Lab Sample ID: 500-164188-6 MSD
Matrix: Water
Analysis Batch: 489354

Client Sample ID: MW-12
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.42		5.00	5.43		mg/L		100	75 - 125	2	20

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-443937/6
Matrix: Water
Analysis Batch: 443937

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			06/10/19 10:21	1

Lab Sample ID: LCS 400-443937/7
Matrix: Water
Analysis Batch: 443937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.7		mg/L		98	90 - 110

Lab Sample ID: MRL 400-443937/3
Matrix: Water
Analysis Batch: 443937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	<5.0		mg/L		90	50 - 150

Lab Sample ID: MB 400-444124/6
Matrix: Water
Analysis Batch: 444124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			06/11/19 19:04	1

Lab Sample ID: LCS 400-444124/7
Matrix: Water
Analysis Batch: 444124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	15.7		mg/L		105	90 - 110

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-444124/3
Matrix: Water
Analysis Batch: 444124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.16		mg/L		103	50 - 150		

Lab Sample ID: 500-164188-4 MS
Matrix: Water
Analysis Batch: 444124

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate	260		9.90	260	4	mg/L		-4	77 - 128		

Lab Sample ID: 500-164188-4 MSD
Matrix: Water
Analysis Batch: 444124

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	260		9.90	253	4	mg/L		-74	77 - 128	3	5

Metals

Prep Batch: 487972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-1	MW-05	Total Recoverable	Water	3005A	
500-164188-2	MW-06	Total Recoverable	Water	3005A	
500-164188-3	MW-09	Total Recoverable	Water	3005A	
500-164188-4	MW-10	Total Recoverable	Water	3005A	
500-164188-5	MW-11	Total Recoverable	Water	3005A	
500-164188-6	MW-12	Total Recoverable	Water	3005A	
500-164188-7	Duplicate	Total Recoverable	Water	3005A	
MB 500-487972/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-487972/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 488367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-1	MW-05	Total Recoverable	Water	6020A	487972
500-164188-2	MW-06	Total Recoverable	Water	6020A	487972
500-164188-3	MW-09	Total Recoverable	Water	6020A	487972
500-164188-4	MW-10	Total Recoverable	Water	6020A	487972
500-164188-5	MW-11	Total Recoverable	Water	6020A	487972
500-164188-6	MW-12	Total Recoverable	Water	6020A	487972
500-164188-7	Duplicate	Total Recoverable	Water	6020A	487972
MB 500-487972/1-A	Method Blank	Total Recoverable	Water	6020A	487972
LCS 500-487972/2-A	Lab Control Sample	Total Recoverable	Water	6020A	487972

Analysis Batch: 488416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-1	MW-05	Total Recoverable	Water	6020A	487972
500-164188-2	MW-06	Total Recoverable	Water	6020A	487972
500-164188-3	MW-09	Total Recoverable	Water	6020A	487972
500-164188-4	MW-10	Total Recoverable	Water	6020A	487972
500-164188-5	MW-11	Total Recoverable	Water	6020A	487972
500-164188-6	MW-12	Total Recoverable	Water	6020A	487972
500-164188-7	Duplicate	Total Recoverable	Water	6020A	487972
MB 500-487972/1-A	Method Blank	Total Recoverable	Water	6020A	487972
LCS 500-487972/2-A	Lab Control Sample	Total Recoverable	Water	6020A	487972

General Chemistry

Analysis Batch: 443937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-164188-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-164188-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
MB 400-443937/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-443937/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-443937/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 444124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-164188-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-164188-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-164188-7	Duplicate	Total/NA	Water	SM 4500 SO4 E	

General Chemistry (Continued)

Analysis Batch: 444124 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-444124/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-444124/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-444124/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
500-164188-4 MS	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-164188-4 MSD	MW-10	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 488006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-1	MW-05	Total/NA	Water	SM 2540C	
500-164188-2	MW-06	Total/NA	Water	SM 2540C	
500-164188-3	MW-09	Total/NA	Water	SM 2540C	
500-164188-4	MW-10	Total/NA	Water	SM 2540C	
500-164188-5	MW-11	Total/NA	Water	SM 2540C	
500-164188-6	MW-12	Total/NA	Water	SM 2540C	
500-164188-7	Duplicate	Total/NA	Water	SM 2540C	
MB 500-488006/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-488006/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 489354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-1	MW-05	Total/NA	Water	SM 4500 F C	
500-164188-2	MW-06	Total/NA	Water	SM 4500 F C	
500-164188-3	MW-09	Total/NA	Water	SM 4500 F C	
500-164188-4	MW-10	Total/NA	Water	SM 4500 F C	
500-164188-5	MW-11	Total/NA	Water	SM 4500 F C	
500-164188-6	MW-12	Total/NA	Water	SM 4500 F C	
500-164188-7	Duplicate	Total/NA	Water	SM 4500 F C	
MB 500-489354/3	Method Blank	Total/NA	Water	SM 4500 F C	
MB 500-489354/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-489354/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCS 500-489354/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
500-164188-6 MS	MW-12	Total/NA	Water	SM 4500 F C	
500-164188-6 MSD	MW-12	Total/NA	Water	SM 4500 F C	

Analysis Batch: 489759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164188-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-164188-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-164188-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-164188-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-164188-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-164188-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-164188-7	Duplicate	Total/NA	Water	SM 4500 Cl- E	
MB 500-489759/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-489759/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-164188-2 MS	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-164188-2 MSD	MW-06	Total/NA	Water	SM 4500 Cl- E	

Client Sample ID: MW-05 — Lab Sample ID: 500-164188-1

Date Collected: 05/29/19 13:46 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	488416	06/03/19 12:03	FXG	TAL CHI
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	488367	05/31/19 16:02	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	488006	05/31/19 06:18	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	489759	06/11/19 16:31	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	489354	06/08/19 16:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		30	443937	06/10/19 10:52	RRC	TAL PEN

Client Sample ID: MW-06 — Lab Sample ID: 500-164188-2

Date Collected: 05/29/19 13:05 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	488416	06/03/19 12:07	FXG	TAL CHI
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	488367	05/31/19 16:07	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	488006	05/31/19 06:21	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	489759	06/11/19 15:50	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	489354	06/08/19 16:39	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		30	443937	06/10/19 10:55	RRC	TAL PEN

Client Sample ID: MW-09 — Lab Sample ID: 500-164188-3

Date Collected: 05/29/19 08:33 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	488416	06/03/19 12:11	FXG	TAL CHI
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	488367	05/31/19 16:12	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	488006	05/31/19 06:23	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	489759	06/11/19 16:34	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	489354	06/08/19 16:43	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	443937	06/10/19 10:55	RRC	TAL PEN

Client Sample ID: MW-10 — Lab Sample ID: 500-164188-4

Date Collected: 05/29/19 10:02 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	488416	06/03/19 12:14	FXG	TAL CHI

Client Sample ID: MW-10 — Lab Sample ID: 500-164188-4

Date Collected: 05/29/19 10:02 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	488367	05/31/19 16:16	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	488006	05/31/19 06:26	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	489759	06/11/19 16:35	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	489354	06/08/19 16:47	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		30	444124	06/11/19 20:05	RRC	TAL PEN

Client Sample ID: MW-11 — Lab Sample ID: 500-164188-5

Date Collected: 05/29/19 09:20 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	488416	06/03/19 12:18	FXG	TAL CHI
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	488367	05/31/19 16:20	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	488006	05/31/19 06:29	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	489759	06/11/19 16:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	489354	06/08/19 16:51	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	444124	06/11/19 20:05	RRC	TAL PEN

Client Sample ID: MW-12 — Lab Sample ID: 500-164188-6

Date Collected: 05/29/19 11:01 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	488416	06/03/19 12:22	FXG	TAL CHI
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	488367	05/31/19 16:24	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	488006	05/31/19 06:31	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	489759	06/11/19 16:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	489354	06/08/19 17:08	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		30	444124	06/11/19 20:09	RRC	TAL PEN

Client Sample ID: Duplicate — Lab Sample ID: 500-164188-7

Date Collected: 05/29/19 00:00 — **Matrix: Water**
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	488416	06/03/19 12:26	FXG	TAL CHI
Total Recoverable	Prep	3005A			487972	05/30/19 16:49	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	488367	05/31/19 16:28	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Job ID: 500-164188-1
Project/Site: Will County CCR

Client Sample ID: Duplicate
Lab Sample ID: 500-164188-7
Date Collected: 05/29/19 00:00
Matrix: Water
Date Received: 05/29/19 17:37

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	488006	05/31/19 06:34	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	489759	06/11/19 16:37	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	489354	06/08/19 17:20	EAT	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	444124	06/11/19 20:09	RRC	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: KPRG and Associates, Inc. Job ID: 500-164188-1
Project/Site: Will County CCR

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	06-30-19 *

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-20
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-19
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-19
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA017	12-31-19
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-19
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-20
Rhode Island	State Program	1	LAO00307	12-30-19
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-15	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-20
West Virginia DEP	State Program	3	136	07-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: KPRG and Associates, Inc. Job ID: 500-164188-1
Project/Site: Will County CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-164188-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-164188-1	MW-05	Water	05/29/19 13:46	05/29/19 17:37	
500-164188-2	MW-06	Water	05/29/19 13:05	05/29/19 17:37	
500-164188-3	MW-09	Water	05/29/19 08:33	05/29/19 17:37	
500-164188-4	MW-10	Water	05/29/19 10:02	05/29/19 17:37	
500-164188-5	MW-11	Water	05/29/19 09:20	05/29/19 17:37	
500-164188-6	MW-12	Water	05/29/19 11:01	05/29/19 17:37	
500-164188-7	Duplicate	Water	05/29/19 00:00	05/29/19 17:37	

Reagent

SO4-Cal-Stock_00013

RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Sulfate Standard, 1000 ppm SO_4^{2-}

Lot Number: 2809B22 **Product Number:** 8112

Manufacture Date: SEP 14, 2018
Expiration Date: MAR 2020

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Sulfate Anhydrous	7757-82-6	ACS

Test	Specification	Result
Appearance	Colorless liquid	Passed
Sulfate (SO_4)	995-1005 ppm	1000 ppm

Specification	Reference
Sulfate Solution Stock (1.00 mL = 1.00 mg SO4)	ASTM (D 5542)
Sulfate Stock Solution, 1 mL = 1 mg SO4	EPA (SW-846) (9036)
Sulfate Stock Solution (1.00 mL = 1.00 mg SO42-)	EPA (SW-846) (9056)
Sulfate solution (1000 ppm)	TAPPI (T 699 om-87)
Sulfate Stock Solution, 1 mL = 1 mg SO42	EPA (375.2)
Sulfate Solution, Stock (1.00 mL = 1.00 mg SO4)	ASTM (D 5996)
Sulfate Stock Solution (1.00 mL = 1.00 mg SO42-)	ASTM (D 4327)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
8112-16	500 mL natural poly	18 months
8112-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Andy Baumgartner (09/14/2018)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Sulfate ICV

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Reagent

SO4-CCV-C-S_00016

RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Sulfate Standard, 1000 ppm SO_4^{2-}

Lot Number: 1810H42 **Product Number:** 8112

Manufacture Date: OCT 23, 2018
Expiration Date: APR 2020

The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is based upon the volumetric method of preparation.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Sulfate Anhydrous	7757-82-6	ACS

Test	Specification	Result
Appearance	Colorless liquid	Passed
Sulfate (SO_4)	995-1005 ppm	1000 ppm

Specification	Reference
Sulfate Solution Stock (1.00 mL = 1.00 mg SO4)	ASTM (D 5542)
Sulfate Stock Solution, 1 mL = 1 mg SO4	EPA (SW-846) (9036)
Sulfate Stock Solution (1.00 mL = 1.00 mg SO42-)	EPA (SW-846) (9056)
Sulfate solution (1000 ppm)	TAPPI (T 699 om-87)
Sulfate Stock Solution, 1 mL = 1 mg SO42	EPA (375.2)
Sulfate Solution, Stock (1.00 mL = 1.00 mg SO4)	ASTM (D 5996)
Sulfate Stock Solution (1.00 mL = 1.00 mg SO42-)	ASTM (D 4327)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
8112-16	500 mL natural poly	18 months
8112-4	120 mL natural poly	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Sulfate CCV

Israel Alamudun (10/23/2018)
Quality Control Supervisor
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG No.:

Project: Will County CCR

Client Sample ID	Lab Sample ID
MW-05	500-164188-1
MW-06	500-164188-2
MW-09	500-164188-3
MW-10	500-164188-4
MW-11	500-164188-5
MW-12	500-164188-6
Duplicate	500-164188-7

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-05 Lab Sample ID: 500-164188-1

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 13:46

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	4.1	0.50		mg/L			10	6020A
7440-70-2	Calcium	61	0.20		mg/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-06 Lab Sample ID: 500-164188-2

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 13:05

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	4.3	0.50		mg/L			10	6020A
7440-70-2	Calcium	120	0.20		mg/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-09 Lab Sample ID: 500-164188-3

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 08:33

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	1.5	0.25		mg/L			5	6020A
7440-70-2	Calcium	48	0.20		mg/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-10 Lab Sample ID: 500-164188-4

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 10:02

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	2.8	0.25		mg/L			5	6020A
7440-70-2	Calcium	100	0.20		mg/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-11 Lab Sample ID: 500-164188-5

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 09:20

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	2.2	0.25		mg/L			5	6020A
7440-70-2	Calcium	86	0.20		mg/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-12 Lab Sample ID: 500-164188-6

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 11:01

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	1.9	0.25		mg/L			5	6020A
7440-70-2	Calcium	140	0.20		mg/L			1	6020A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: Duplicate
Lab Sample ID: 500-164188-7
Lab Name: Eurofins TestAmerica, Chicago
Job No.: 500-164188-1
SDG ID.:
Matrix: Water
Date Sampled: 05/29/2019 00:00
Reporting Basis: WET
Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	2.3	0.25		mg/L			5	6020A
7440-70-2	Calcium	82	0.20		mg/L			1	6020A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICV Source: M19EICVMS_00003 Concentration Units: ug/L

CCV Source: M19DCCVMS_00006

Analyte	ICV 500-488416/7 06/03/2019 10:38				CCV 500-488416/25 06/03/2019 11:48				CCV 500-488416/36 06/03/2019 12:30			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Boron	206		200	103	265		250	106	265		250	106
Calcium	20300		20000	102	25400		25000	102	25400		25000	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICV Source: M19EMRLMS_00001 Concentration Units: ug/L

CCV Source: M19EMRLMS_00001

Analyte	ICVL 500-488416/9 06/03/2019 10:46				CCVL 500-488416/48 06/03/2019 13:15							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Boron	58.4		50.0	117	55.5		50.0	111				
Calcium	<200		200	95	201		200	100				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICV Source: M19EICVMS_00003 Concentration Units: ug/L

CCV Source: M19DCCVMS_00006

Analyte	ICV 500-488367/6 05/31/2019 09:59				CCV 500-488367/13 05/31/2019 10:30				CCV 500-488367/24 05/31/2019 11:23			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	19100		20000	96	24600		25000	98	24400		25000	98
Boron	207		200	103	264		250	106				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICV Source: M19EICVMS_00003 Concentration Units: ug/L

CCV Source: M19DCCVMS_00006

Analyte	CCV 500-488367/69 05/31/2019 15:53				CCV 500-488367/78 05/31/2019 16:32							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	23800		25000	95	25000		25000	100				
Boron	250		250	100								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICV Source: M19EMRLMS_00001 Concentration Units: ug/L

CCV Source: M19EMRLMS_00001

Analyte	ICVL 500-488367/9 05/31/2019 10:13				CCVL 500-488367/26 05/31/2019 11:32				CCVL 500-488367/58 05/31/2019 13:44			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	<200		200	96	190	J	200	95	186	J	200	93
Boron	<50		50.0	97	58.9		50.0	118	46.3	J	50.0	93

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICV Source: M19EMRLMS_00001 Concentration Units: ug/L

CCV Source: M19EMRLMS_00001

Analyte	CCVL 500-488367/80 05/31/2019 16:41											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	192	J	200	96								
Boron	59.6		50.0	119								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Method: 6020A Instrument ID: ICPMS4

Lab Sample ID: CRI 500-488416/12 Concentration Units: ug/L

CRQL Check Standard Source: M19ECRIMS_00005

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Boron	100	101		101	50-150
Calcium	400	395		99	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Method: 6020A Instrument ID: ICPMS5

Lab Sample ID: CRI 500-488367/10 Concentration Units: ug/L

CRQL Check Standard Source: M19ECRIMS_00005

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Boron	100	99.8		100	50-150
Calcium	400	369		92	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 500-488416/8 06/03/2019 10:42		CCB 500-488416/26 06/03/2019 11:52		CCB 500-488416/37 06/03/2019 12:33			
		Found	C	Found	C	Found	C	Found	C
Boron	50	<50		<50		<50			
Calcium	200	<200		<200		<200			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 500-488367/7 05/31/2019 10:03		CCB 500-488367/14 05/31/2019 10:34		CCB 500-488367/25 05/31/2019 11:27		CCB 500-488367/70 05/31/2019 15:57	
		Found	C	Found	C	Found	C	Found	C
Calcium	200	<200		<200		<200		<200	
Boron	50	<50		<50		<50		<50	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 500-488367/79 05/31/2019 16:37							
		Found	C	Found	C	Found	C	Found	C
Calcium	200	<200							
Boron	50	<50							

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 500-487972/1-A

Instrument Code: ICPMS5 Batch No.: 488367

CAS No.	Analyte	Concentration	C	Q	Method
7440-70-2	Calcium	<0.20			6020A

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 500-487972/1-A

Instrument Code: ICPMS4 Batch No.: 488416

CAS No.	Analyte	Concentration	C	Q	Method
7440-42-8	Boron	<0.050			6020A

FORM III-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Lab Sample ID: ICSA 500-488416/10 Instrument ID: ICPMS4

Lab File ID: 010ICSA.d ICS Source: M19EICSAMS_00004

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Boron		**0.990**	
Aluminum	*100000*	*99525*	*100*
Antimony		*0.152*	
Arsenic		*-0.132*	
Barium		*0.750*	
Beryllium		*-0.0290*	
Cadmium		*0.243*	
Calcium	*100000*	*100814*	*101*
Chromium		*0.468*	
Cobalt		*0.393*	
Copper		*0.0710*	
Iron	*100000*	*98349*	*98*
Lead		*0.326*	
Lithium		*-0.211*	
Magnesium	*100000*	*102049*	*102*
Manganese		*0.778*	
Molybdenum	*2000*	*2064*	*103*
Nickel		*0.290*	
Potassium	*100000*	*99922*	*100*
Selenium		*0.315*	
Silver		*0.139*	
Sodium	*100000*	*101572*	*102*
Strontium		*1.89*	
Thallium		*0.0500*	
Tin		*0.0400*	
Titanium	*2000*	*2011*	*101*
Vanadium		*-1.55*	
Zinc		*0.961*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Lab Sample ID: ICSAB 500-488416/11 Instrument ID: ICPMS4

Lab File ID: 011ICSB.d ICS Source: M19EICSABMS_00005

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Boron	**50.0**	**49.0**	**98**
Aluminum	*100000*	*100903*	*101*
Antimony	*10.0*	*10.0*	*100*
Arsenic	*20.0*	*21.0*	*105*
Barium	*20.0*	*20.1*	*101*
Beryllium	*20.0*	*18.6*	*93*
Cadmium	*20.0*	*21.0*	*105*
Calcium	*100000*	*102156*	*102*
Chromium	*20.0*	*19.6*	*98*
Cobalt	*20.0*	*19.3*	*96*
Copper	*20.0*	*20.2*	*101*
Iron	*100000*	*98876*	*99*
Lead	*20.0*	*19.4*	*97*
Lithium	*20.0*	*17.8*	*89*
Magnesium	*100000*	*102845*	*103*
Manganese	*20.0*	*20.1*	*100*
Molybdenum	*2000*	*2082*	*104*
Nickel	*20.0*	*19.0*	*95*
Potassium	*100000*	*100685*	*101*
Selenium	*20.0*	*22.2*	*111*
Silver	*20.0*	*20.7*	*104*
Sodium	*100000*	*102403*	*102*
Strontium	*20.0*	*22.8*	*114*
Thallium	*10.0*	*9.77*	*98*
Tin	*20.0*	*21.0*	*105*
Titanium	*2000*	*2039*	*102*
Vanadium	*20.0*	*17.9*	*89*
Zinc	*20.0*	*22.2*	*111*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Lab Sample ID: ICSA 500-488367/11 Instrument ID: ICPMS5

Lab File ID: MS5053119AB2.csv ICS Source: M19EICSAMS_00004

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Calcium	**100000**	**98560**	**99**
Aluminum	*100000*	*102300*	*102*
Antimony		*0.0820*	
Arsenic		*0.0900*	
Barium		*0.713*	
Beryllium		*0.0000*	
Boron		*1.75*	
Chromium		*1.33*	
Cobalt		*0.393*	
Copper		*-0.0130*	
Iron	*100000*	*100900*	*101*
Lead		*0.272*	
Lithium		*0.0000*	
Magnesium	*100000*	*100600*	*101*
Manganese		*-0.590*	
Molybdenum	*2000*	*2046*	*102*
Nickel		*0.189*	
Potassium	*100000*	*101900*	*102*
Selenium		*0.0490*	
Silver		*0.128*	
Sodium	*100000*	*100300*	*100*
Strontium		*1.80*	
Thallium		*0.0800*	
Tin		*-0.0060*	
Titanium	*2000*	*1985*	*99*
Vanadium		*-0.156*	
Zinc		*0.363*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Lab Sample ID: ICSAB 500-488367/12 Instrument ID: ICPMS5

Lab File ID: MS5053119AB2.csv ICS Source: M19EICSABMS_00005

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Calcium	**100000**	**96470**	**96**
Aluminum	*100000*	*101300*	*101*
Antimony	*10.0*	*9.44*	*94*
Arsenic	*20.0*	*21.1*	*105*
Barium	*20.0*	*19.9*	*100*
Beryllium	*20.0*	*17.2*	*86*
Boron	*50.0*	*43.9*	*88*
Cadmium	*20.0*	*18.6*	*93*
Chromium	*20.0*	*19.8*	*99*
Cobalt	*20.0*	*18.7*	*93*
Copper	*20.0*	*18.8*	*94*
Iron	*100000*	*99400*	*99*
Lead	*20.0*	*19.5*	*97*
Magnesium	*100000*	*98490*	*98*
Manganese	*20.0*	*18.5*	*93*
Molybdenum	*2000*	*2071*	*104*
Nickel	*20.0*	*18.8*	*94*
Potassium	*100000*	*99290*	*99*
Selenium	*20.0*	*21.2*	*106*
Silver	*20.0*	*19.1*	*96*
Sodium	*100000*	*97630*	*98*
Strontium	*20.0*	*21.9*	*110*
Thallium	*10.0*	*9.48*	*95*
Tin	*20.0*	*20.6*	*103*
Titanium	*2000*	*1931*	*97*
Vanadium	*20.0*	*18.7*	*94*
Zinc	*20.0*	*20.3*	*101*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 500-487972/2-A

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

Sample Matrix: Water LCS Source: M19ESPKIC_00001

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	10.0	8.93		89	80	120		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 500-487972/2-A

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

Sample Matrix: Water LCS Source: M19ESPKIC_00001

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Boron	1.00	0.987		99	80	120		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 6020A MDL Date: 03/29/2017 10:17

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Boron		50	12.7

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 6020A XMDL Date: 03/29/2017 10:18

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Boron		50	12.7

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 6020A MDL Date: 03/29/2017 10:17

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Calcium		200	44.3

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: ICPMS5

Method: 6020A XMDL Date: 03/29/2017 10:18

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Calcium		200	44.3

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No: 500-164188-1

SDG No.:

Instrument ID: ICPMS4 Date: 05/31/2016 14:50

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Boron		5000	6020A

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No: 500-164188-1

SDG No.:

Instrument ID: ICPMS5 Date: 08/30/2018 08:43

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Calcium		250000	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 500-487972/1-A	05/30/2019 16:49	487972		50	50
LCS 500-487972/2-A	05/30/2019 16:49	487972		50	50
500-164188-1	05/30/2019 16:49	487972		50	50
500-164188-2	05/30/2019 16:49	487972		50	50
500-164188-3	05/30/2019 16:49	487972		50	50
500-164188-4	05/30/2019 16:49	487972		50	50
500-164188-5	05/30/2019 16:49	487972		50	50
500-164188-6	05/30/2019 16:49	487972		50	50
500-164188-7	05/30/2019 16:49	487972		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 6020A

Start Date: 06/03/2019 10:16 End Date: 06/03/2019 14:38

Lab Sample Id	D/F	Type	Time	Analytes
				B
ZZZZZZ			10:16	
ICIS 500-488416/2			10:19	X
STD1 500-488416/3 IC	1		10:23	X
STD2 500-488416/4 IC	1		10:27	X
STD3 500-488416/5 IC	1		10:31	X
ZZZZZZ			10:35	
ICV 500-488416/7	1		10:38	X
ICB 500-488416/8	1		10:42	X
ICVL 500-488416/9	1		10:46	X
ICSA 500-488416/10	1		10:50	X
ICSAB 500-488416/11	1		10:54	X
CRI 500-488416/12	1		10:57	X
CCV 500-488416/13			11:01	
CCB 500-488416/14			11:05	
ZZZZZZ			11:10	
ZZZZZZ			11:14	
ZZZZZZ			11:18	
ZZZZZZ			11:22	
ZZZZZZ			11:25	
ZZZZZZ			11:29	
ZZZZZZ			11:33	
ZZZZZZ			11:37	
ZZZZZZ			11:41	
ZZZZZZ			11:44	
CCV 500-488416/25	1		11:48	X
CCB 500-488416/26	1		11:52	X
MB 500-487972/1-A	1	R	11:56	X
LCS 500-487972/2-A	1	R	11:59	X
500-164188-1	10	R	12:03	X
500-164188-2	10	R	12:07	X
500-164188-3	5	R	12:11	X
500-164188-4	5	R	12:14	X
500-164188-5	5	R	12:18	X
500-164188-6	5	R	12:22	X
500-164188-7	5	R	12:26	X
CCV 500-488416/36	1		12:30	X
CCB 500-488416/37	1		12:33	X
ZZZZZZ			12:37	
ZZZZZZ			12:41	
ZZZZZZ			12:45	
ZZZZZZ			12:48	
ZZZZZZ			12:52	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 6020A

Start Date: 06/03/2019 10:16 End Date: 06/03/2019 14:38

Lab Sample Id	D/F	Type	Time	Analytes																								
				B																								
ZZZZZZ			12:56																									
ZZZZZZ			13:00																									
ZZZZZZ			13:03																									
CCV 500-488416/46			13:07																									
CCB 500-488416/47			13:11																									
CCVL 500-488416/48	1		13:15	X																								
ZZZZZZ			13:18																									
ZZZZZZ			13:22																									
ZZZZZZ			13:26																									
ZZZZZZ			13:30																									
ZZZZZZ			13:34																									
ZZZZZZ			13:37																									
ZZZZZZ			13:41																									
ZZZZZZ			13:45																									
ZZZZZZ			13:49																									
ZZZZZZ			13:52																									
ZZZZZZ			13:56																									
ZZZZZZ			14:00																									
CCV 500-488416/61			14:04																									
CCB 500-488416/62			14:07																									
ZZZZZZ			14:11																									
ZZZZZZ			14:15																									
ZZZZZZ			14:19																									
ZZZZZZ			14:23																									
ZZZZZZ			14:26																									
CCV 500-488416/68			14:30																									
CCB 500-488416/69			14:34																									
CCVL 500-488416/70			14:38																									

Prep Types:
R = Total Recoverable

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: ICPMS5 Analysis Method: 6020A

Start Date: 05/31/2019 09:38 End Date: 05/31/2019 18:50

Lab Sample Id	D/F	Type	Time	Analytes
				Ca
STD0 500-488367/1 IC	1		09:38	X
STD1 500-488367/2 IC	1		09:42	X
STD2 500-488367/3 IC	1		09:47	X
STD3 500-488367/4 IC	1		09:51	X
ZZZZZZ			09:55	
ICV 500-488367/6	1		09:59	X
ICB 500-488367/7	1		10:03	X
ZZZZZZ			10:07	
ICVL 500-488367/9	1		10:13	X
CRI 500-488367/10	1		10:17	X
ICSA 500-488367/11	1		10:22	X
ICSAB 500-488367/12	1		10:26	X
CCV 500-488367/13	1		10:30	X
CCB 500-488367/14	1		10:34	X
MB 500-487972/1-A	1	R	10:46	X
LCS 500-487972/2-A	1	R	10:50	X
ZZZZZZ			10:54	
ZZZZZZ			10:58	
ZZZZZZ			11:03	
ZZZZZZ			11:07	
ZZZZZZ			11:11	
ZZZZZZ			11:15	
ZZZZZZ			11:19	
CCV 500-488367/24	1		11:23	X
CCB 500-488367/25	1		11:27	X
CCVL 500-488367/26	1		11:32	X
ZZZZZZ			11:36	
ZZZZZZ			11:40	
ZZZZZZ			11:44	
ZZZZZZ			11:48	
ZZZZZZ			11:52	
ZZZZZZ			11:56	
ZZZZZZ			12:01	
ZZZZZZ			12:05	
ZZZZZZ			12:09	
ZZZZZZ			12:13	
CCV 500-488367/37			12:17	
CCB 500-488367/38			12:21	
ZZZZZZ			12:26	
ZZZZZZ			12:30	
ZZZZZZ			12:34	
ZZZZZZ			12:38	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: ICPMS5 Analysis Method: 6020A

Start Date: 05/31/2019 09:38 End Date: 05/31/2019 18:50

Lab Sample Id	D/F	Type	Time	Analytes
				Ca
ZZZZZZ			12:42	
CCV 500-488367/44			12:46	
CCB 500-488367/45			12:50	
CCVL 500-488367/46			12:55	
ZZZZZZ			12:59	
ZZZZZZ			13:03	
ZZZZZZ			13:07	
ZZZZZZ			13:11	
ZZZZZZ			13:15	
ZZZZZZ			13:19	
ZZZZZZ			13:24	
ZZZZZZ			13:28	
ZZZZZZ			13:32	
CCV 500-488367/56			13:36	
CCB 500-488367/57			13:40	
CCVL 500-488367/58	1		13:44	X
ZZZZZZ			15:07	
ZZZZZZ			15:11	
ZZZZZZ			15:15	
ZZZZZZ			15:19	
ZZZZZZ			15:23	
ZZZZZZ			15:28	
ZZZZZZ			15:32	
ZZZZZZ			15:36	
ZZZZZZ			15:45	
ZZZZZZ			15:49	
CCV 500-488367/69	1		15:53	X
CCB 500-488367/70	1		15:57	X
500-164188-1	1	R	16:02	X
500-164188-2	1	R	16:07	X
500-164188-3	1	R	16:12	X
500-164188-4	1	R	16:16	X
500-164188-5	1	R	16:20	X
500-164188-6	1	R	16:24	X
500-164188-7	1	R	16:28	X
CCV 500-488367/78	1		16:32	X
CCB 500-488367/79	1		16:37	X
CCVL 500-488367/80	1		16:41	X
ZZZZZZ			16:45	
ZZZZZZ			16:49	
ZZZZZZ			16:53	
ZZZZZZ			16:57	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: ICPMS5 Analysis Method: 6020A

Start Date: 05/31/2019 09:38 End Date: 05/31/2019 18:50

Lab Sample Id	D/F	Type	Time	Analytes																										
				Ca																										
CCV 500-488367/85			17:02																											
CCB 500-488367/86			17:06																											
CCVL 500-488367/87			17:10																											
ZZZZZZ			17:14																											
ZZZZZZ			17:18																											
ZZZZZZ			17:22																											
ZZZZZZ			17:27																											
ZZZZZZ			17:31																											
ZZZZZZ			17:35																											
ZZZZZZ			17:39																											
ZZZZZZ			17:43																											
ZZZZZZ			17:47																											
ZZZZZZ			17:51																											
CCV 500-488367/98			17:56																											
CCB 500-488367/99			18:00																											
ZZZZZZ			18:04																											
ZZZZZZ			18:08																											
ZZZZZZ			18:12																											
ZZZZZZ			18:16																											
ZZZZZZ			18:21																											
ZZZZZZ			18:25																											
ZZZZZZ			18:29																											
ZZZZZZ			18:33																											
ZZZZZZ			18:37																											
ZZZZZZ			18:41																											
CCV 500-488367/110			18:45																											
CCB 500-488367/111			18:50																											

Prep Types:
R = Total Recoverable

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICP-MS Instrument ID: ICPMS4 Start Date: 06/03/2019 End Date: 06/03/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc	Q	Element Y-89	Q	Element Rh-103	Q	Element Tb	Q	Element Bi	Q
STD1 500-488416/3 IC	10:23	101		100		98		101		99	
STD2 500-488416/4 IC	10:27	99		98		95		99		97	
STD3 500-488416/5 IC	10:31	99		96		92		97		92	
ICV 500-488416/7	10:38	99		98		95		100		95	
ICB 500-488416/8	10:42	97		96		98		98		100	
ICVL 500-488416/9	10:46	100		100		99		102		103	
ICSA 500-488416/10	10:50	105		99		91		100		94	
ICSAB 500-488416/11	10:54	104		99		89		99		93	
CRI 500-488416/12	10:57	103		103		101		102		104	
CCV 500-488416/25	11:48	97		96		93		98		95	
CCB 500-488416/26	11:52	98		97		98		98		101	
MB 500-487972/1-A	11:56	102		101		101		101		104	
LCS 500-487972/2-A	11:59	101		97		97		99			
500-164188-1	12:03	99		98		96		98		99	
500-164188-2	12:07	102		100		97		99		100	
500-164188-3	12:11	101		100		97		99		97	
500-164188-4	12:14	99		96		93		96		95	
500-164188-5	12:18	98		97		93		94		93	
500-164188-6	12:22	96		98		91		93		92	
500-164188-7	12:26	98		95		91		94		94	
CCV 500-488416/36	12:30	94		91		89		92		90	
CCB 500-488416/37	12:33	94		93		94		94		97	
CCVL 500-488416/48	13:15	95		95		93		93		96	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICP-MS Instrument ID: ICPMS5 Start Date: 05/31/2019 End Date: 05/31/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc	Q	Element Y-89	Q	Element Rh-103	Q	Element In	Q	Element Tb	Q
STD0 500-488367/1 IC	09:38	100		100		100		100		100	
STD1 500-488367/2 IC	09:42	110		103		101		102		101	
STD2 500-488367/3 IC	09:47	109		104		98		101		103	
STD3 500-488367/4 IC	09:51	100		100		92		96		100	
ICV 500-488367/6	09:59	106		105		100		102		107	
ICB 500-488367/7	10:03	104		101		104		106		105	
ICVL 500-488367/9	10:13	107		102		104		105		108	
CRI 500-488367/10	10:17	111		105		105		105		109	
ICSA 500-488367/11	10:22	97		94		86		91		99	
ICSAB 500-488367/12	10:26	101		96		88		95		102	
CCV 500-488367/13	10:30	104		104		99		103		110	
CCB 500-488367/14	10:34	106		103		104		105		108	
MB 500-487972/1-A	10:46	105		103		105		106		108	
LCS 500-487972/2-A	10:50	108		106		99		103		109	
CCV 500-488367/24	11:23	103		102		96		99		105	
CCB 500-488367/25	11:27	104		103		104		105		106	
CCVL 500-488367/26	11:32	109		104		104		106		107	
CCVL 500-488367/58	13:44	115		103		97		102		96	
CCV 500-488367/69	15:53	113		98		90		96		95	
CCB 500-488367/70	15:57	112		99		97		99		97	
500-164188-1	16:02	110		94		86		93		94	
500-164188-2	16:07	102		93		83		92		93	
500-164188-3	16:12	103		94		86		92		93	
500-164188-4	16:16	103		96		85		93		94	
500-164188-5	16:20	104		97		86		93		95	
500-164188-6	16:24	105		97		85		93		96	
500-164188-7	16:28	105		98		87		96		95	
CCV 500-488367/78	16:32	107		101		92		98		98	
CCB 500-488367/79	16:37	110		100		99		101		98	
CCVL 500-488367/80	16:41	111		100		98		102		98	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

ICP-MS Instrument ID: ICPMS5 Start Date: 05/31/2019 End Date: 05/31/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
STD0 500-488367/1 IC	09:38	100									
STD1 500-488367/2 IC	09:42	100									
STD2 500-488367/3 IC	09:47	99									
STD3 500-488367/4 IC	09:51	93									
ICV 500-488367/6	09:59	100									
ICB 500-488367/7	10:03	108									
ICVL 500-488367/9	10:13	106									
CRI 500-488367/10	10:17	105									
ICSA 500-488367/11	10:22	91									
ICSAB 500-488367/12	10:26	93									
CCV 500-488367/13	10:30	103									
CCB 500-488367/14	10:34	107									
MB 500-487972/1-A	10:46	108									
LCS 500-487972/2-A	10:50										
CCV 500-488367/24	11:23	100									
CCB 500-488367/25	11:27	104									
CCVL 500-488367/26	11:32	103									
CCVL 500-488367/58	13:44	92									
CCV 500-488367/69	15:53	86									
CCB 500-488367/70	15:57	94									
500-164188-1	16:02	84									
500-164188-2	16:07	83									
500-164188-3	16:12	84									
500-164188-4	16:16	85									
500-164188-5	16:20	86									
500-164188-6	16:24	84									
500-164188-7	16:28	86									
CCV 500-488367/78	16:32	91									
CCB 500-488367/79	16:37	96									
CCVL 500-488367/80	16:41	95									

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Batch Number: 487972 Batch Start Date: 05/30/19 16:49 Batch Analyst: Edwards, Benjamin D

Batch Method: 3005A Batch End Date: 05/30/19 17:19

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	M19ESPKIC 00001			
MB 500-487972/1		3005A, 6020A		50 mL	50 mL				
LCS 500-487972/2		3005A, 6020A		50 mL	50 mL	0.5 mL			
500-164188-A-1	MW-05	3005A, 6020A	R	50 mL	50 mL				
500-164188-A-2	MW-06	3005A, 6020A	R	50 mL	50 mL				
500-164188-A-3	MW-09	3005A, 6020A	R	50 mL	50 mL				
500-164188-A-4	MW-10	3005A, 6020A	R	50 mL	50 mL				
500-164188-A-5	MW-11	3005A, 6020A	R	50 mL	50 mL				
500-164188-A-6	MW-12	3005A, 6020A	R	50 mL	50 mL				
500-164188-A-7	Duplicate	3005A, 6020A	R	50 mL	50 mL				

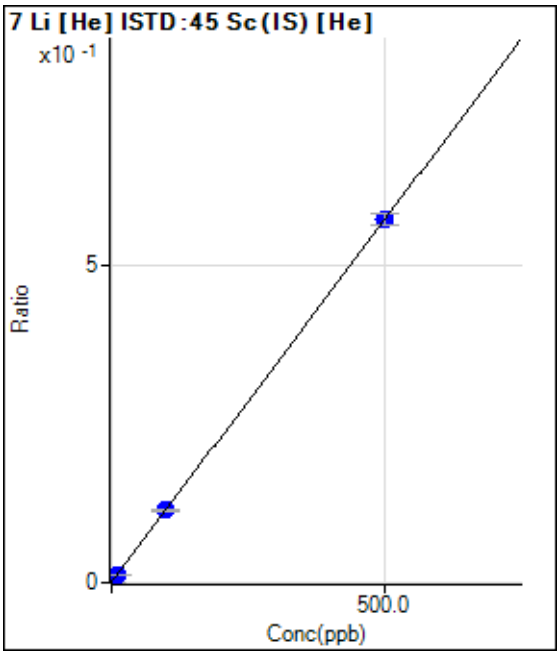
Batch Notes	
Batch Comment	80831760
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion End Time	05/30/2019 17:19
Digestion Start Time	05/30/2019 16:49
Digestion Unit ID	1567
Hydrochloric Acid ID	217157
Nitric Acid ID	216908
Pipette/Syringe/Dispenser ID	2850
Thermometer ID	m62169
Digestion Tube/Cup ID	1812117
Temperature - Uncorrected - End	95 Degrees C
Temperature - Uncorrected - Start	95 Degrees C

Basis	Basis Description
R	Total Recoverable

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Batch Folder: C:\Agilent\ICPMH\1\DATA\MS4060319He-1.b\
Analysis File: MS4060319He-1.batch.bin
DA Date-Time: 6/3/2019 2:02:25 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

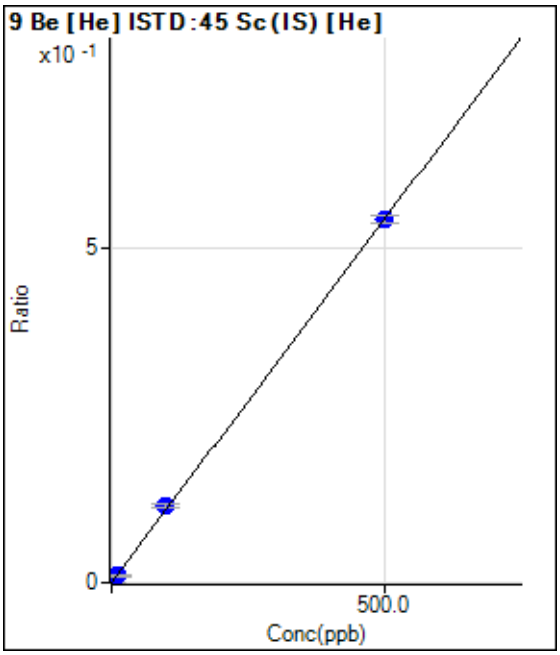
Level	Standard Data File	Sample Name	Acq. Date-Time
1	002CALB.d	ICIS	6/3/2019 10:19:58 AM
2	003CALS.d	Std1	6/3/2019 10:23:44 AM
3	004CALS.d	Std2	6/3/2019 10:27:41 AM
4	005CALS.d	Std3	6/3/2019 10:31:26 AM



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66.67	0.0006	P	74.7
2	☐	10.000	10.427	1336.77	0.0125	P	9.0
3	☐	100.000	99.580	11971.20	0.1142	P	2.6
4	☐	500.000	500.076	59514.57	0.5711	P	3.2

y = 0.0011 * x + 6.2831E-004
R = 1.0000
DL = 1.234
BEC = 0.5508

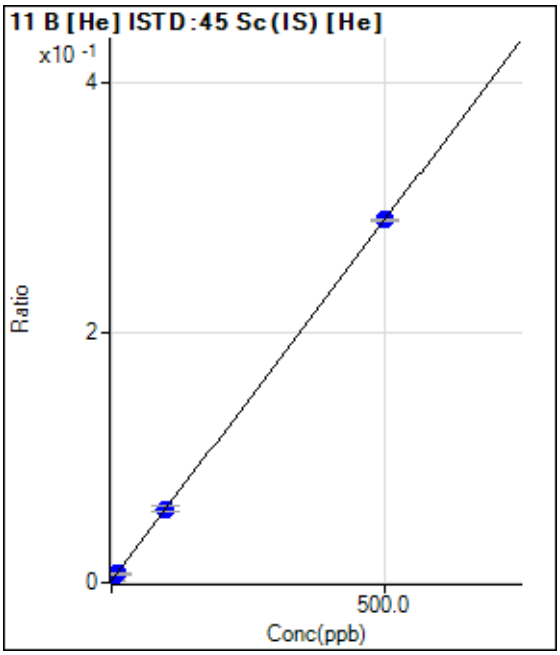
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	10.000	9.334	1083.41	0.0102	P	11.2
3	☐	100.000	104.731	11897.81	0.1136	P	5.0
4	☐	500.000	499.067	56404.16	0.5411	P	2.0

y = 0.0011 * x + 3.1484E-005
R = 0.9999
DL = 0.1509
BEC = 0.02904

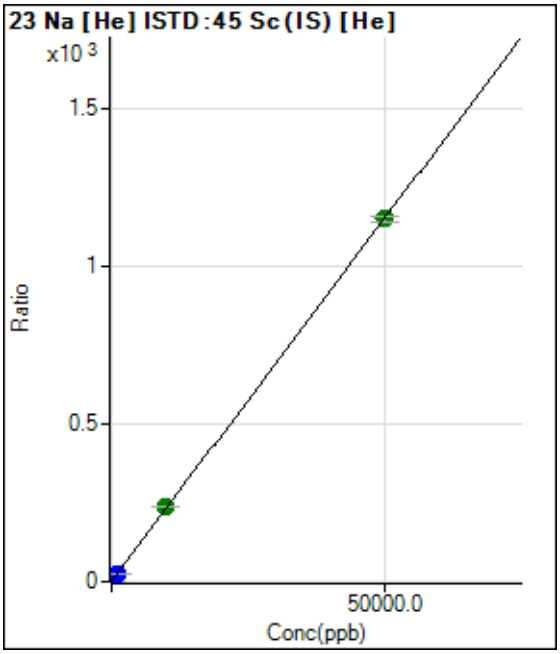
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0018	P	24.0
2	☐	10.000	9.057	750.04	0.0070	P	2.9
3	☐	100.000	98.916	6171.33	0.0589	P	8.1
4	☐	500.000	500.236	30296.71	0.2906	P	0.5

y = 5.7735E-004 * x + 0.0018
R = 1.0000
DL = 2.24
BEC = 3.115

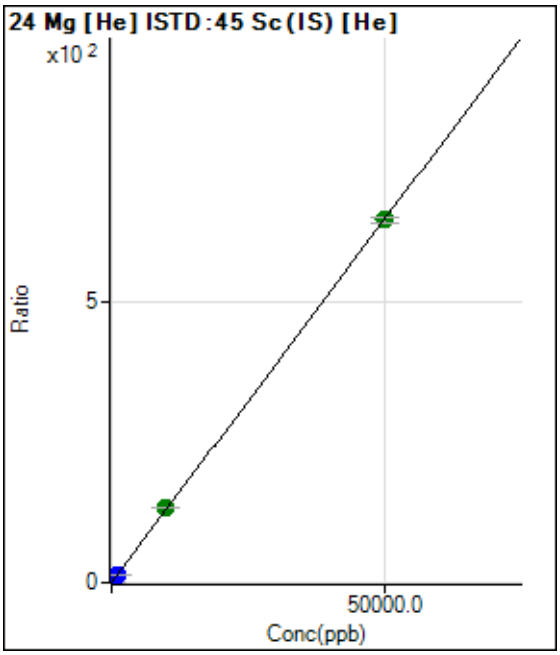
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	135373.43	1.2796	P	1.4
2	☐	1000.000	1055.270	2723324.64	25.5138	P	0.9
3	☐	10000.00	10253.70	24802399.63	236.7553	A	1.7
4	☐	50000.00	49948.15	119694034.8	1,148.336	A	1.4

y = 0.0230 * x + 1.2796
R = 1.0000
DL = 2.281
BEC = 55.72

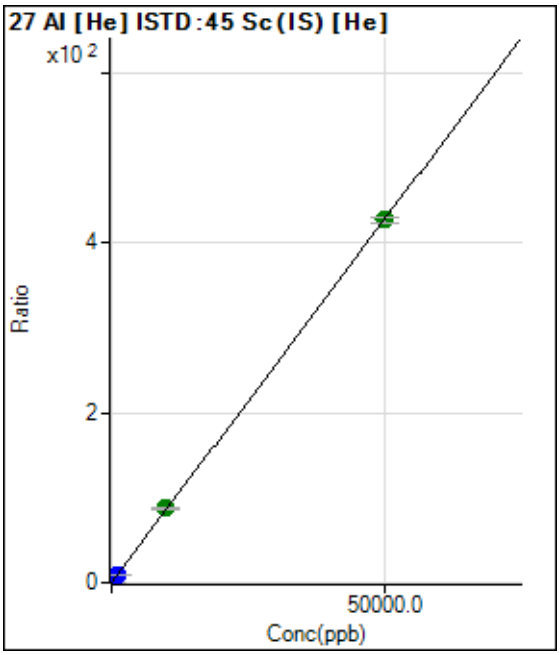
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13118.76	0.1240	P	4.2
2	☐	1000.000	1077.885	1500171.28	14.0548	P	1.0
3	☐	10000.00	10291.64	13948193.12	133.1360	A	1.1
4	☐	50000.00	49940.11	67288337.33	645.5637	A	1.4

y = 0.0129 * x + 0.1240
R = 1.0000
DL = 1.201
BEC = 9.591

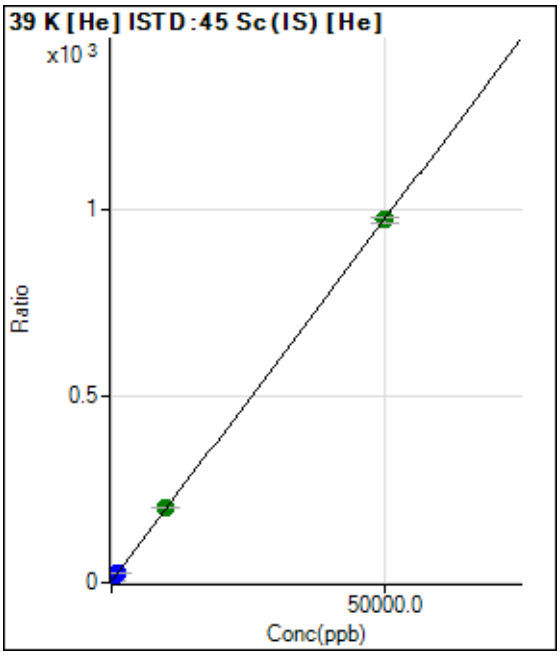
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1236.77	0.0117	P	10.6
2	☐	1000.000	1041.322	951049.60	8.9100	P	1.0
3	☐	10000.00	10218.03	9148948.19	87.3267	A	1.1
4	☐	50000.00	49955.56	44496192.67	426.8913	A	1.3

y = 0.0085 * x + 0.0117
R = 1.0000
DL = 0.4353
BEC = 1.367

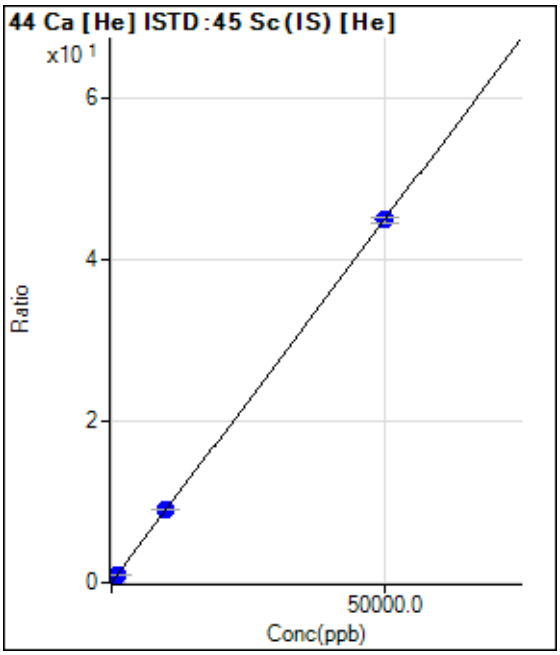
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	375819.23	3.5521	P	0.5
2	☐	1000.000	1047.326	2551784.65	23.9070	P	0.9
3	☐	10000.00	10211.81	21165005.52	202.0195	A	1.0
4	☐	50000.00	49956.69	101571245.1	974.4641	A	1.4

y = 0.0194 * x + 3.5521
R = 1.0000
DL = 2.472
BEC = 182.8

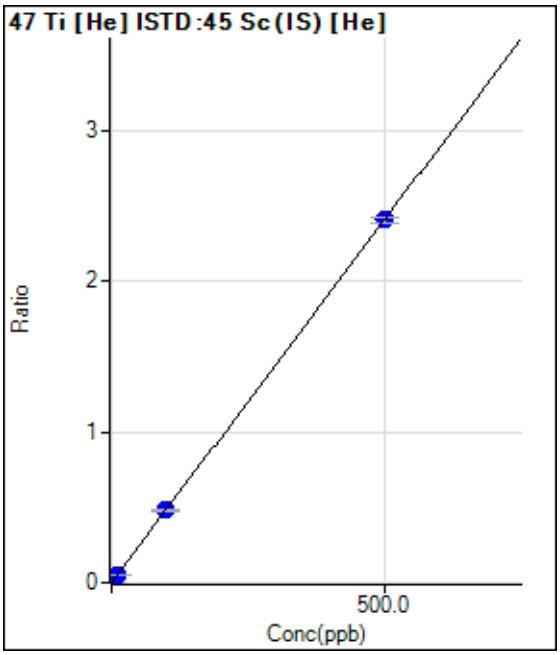
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2610.63	0.0247	P	5.0
2	☐	1000.000	1019.466	100178.55	0.9386	P	2.2
3	☐	10000.00	10040.89	945590.87	9.0259	P	1.3
4	☐	50000.00	49991.43	4673685.59	44.8400	P	1.6

y = 8.9646E-004 * x + 0.0247
R = 1.0000
DL = 4.155
BEC = 27.53

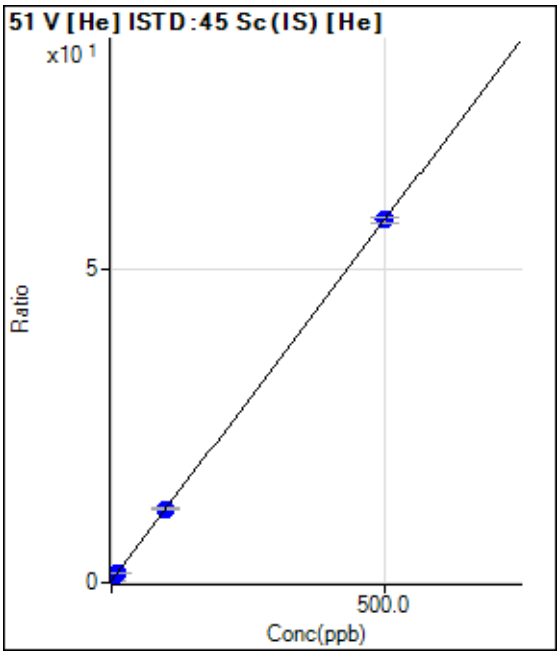
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0002	P	33.9
2	☐	10.000	10.390	5357.71	0.0502	P	5.5
3	☐	100.000	99.993	50478.96	0.4817	P	2.1
4	☐	500.000	499.994	250983.88	2.4079	P	1.7

y = 0.0048 * x + 1.5719E-004
R = 1.0000
DL = 0.03324
BEC = 0.03264

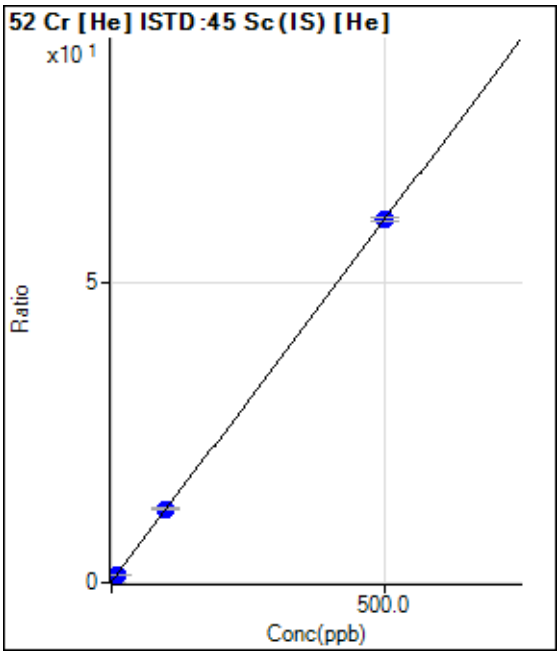
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31964.24	0.3021	P	1.9
2	☐	10.000	9.727	151791.03	1.4222	P	2.5
3	☐	100.000	99.745	1234855.29	11.7879	P	2.2
4	☐	500.000	500.057	6033418.87	57.8845	P	1.5

y = 0.1152 * x + 0.3021
R = 1.0000
DL = 0.1477
BEC = 2.624

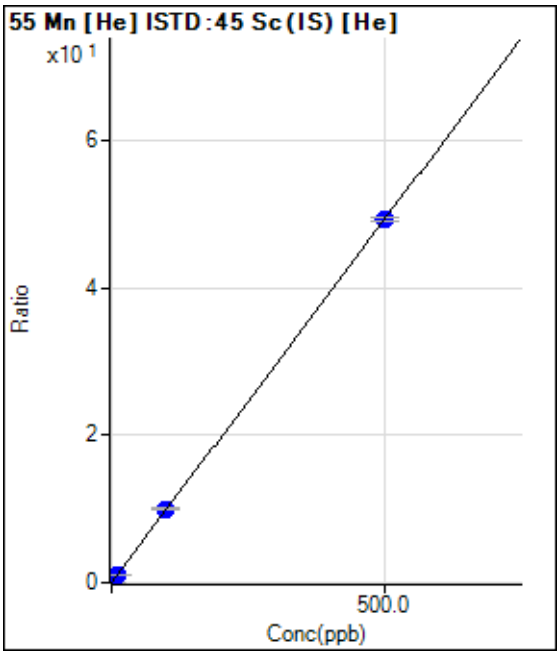
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16325.00	0.1543	P	4.7
2	☐	10.000	10.145	146879.90	1.3761	P	1.9
3	☐	100.000	100.908	1289268.16	12.3067	P	1.6
4	☐	500.000	499.816	6290293.87	60.3474	P	1.2

y = 0.1204 * x + 0.1543
R = 1.0000
DL = 0.1793
BEC = 1.282

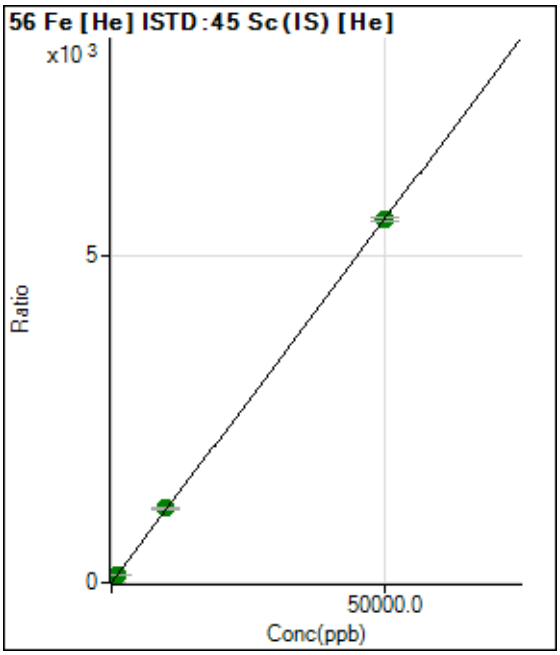
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	576.70	0.0055	P	1.5
2	☐	10.000	10.319	109215.75	1.0233	P	2.5
3	☐	100.000	101.840	1052923.24	10.0504	P	1.3
4	☐	500.000	499.626	5137366.80	49.2859	P	1.1

y = 0.0986 * x + 0.0055
R = 1.0000
DL = 0.00253
BEC = 0.05527

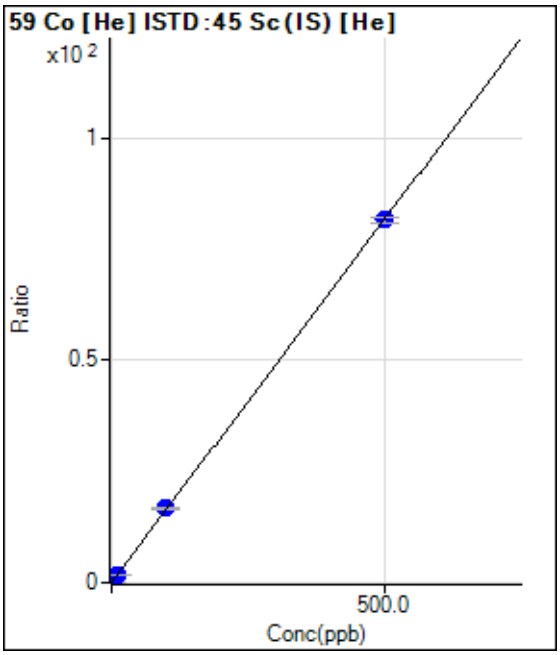
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44940.45	0.4248	P	1.1
2	☐	1000.000	1060.610	12605413.98	118.0940	A	1.0
3	☐	10000.00	10226.51	118902921.5	1,135.004	A	1.7
4	☐	50000.00	49953.48	577726951.3	5,542.507	A	1.2

y = 0.1109 * x + 0.4248
R = 1.0000
DL = 0.1285
BEC = 3.829

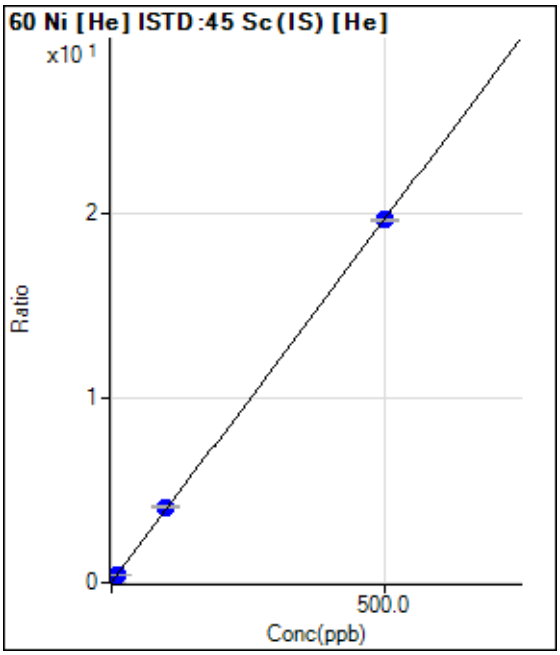
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.68	0.0020	P	22.5
2	☐	10.000	10.521	183653.51	1.7205	P	0.8
3	☐	100.000	102.305	1750939.09	16.7134	P	1.4
4	☐	500.000	499.529	8505208.83	81.5997	P	1.5

y = 0.1633 * x + 0.0020
R = 1.0000
DL = 0.008068
BEC = 0.01197

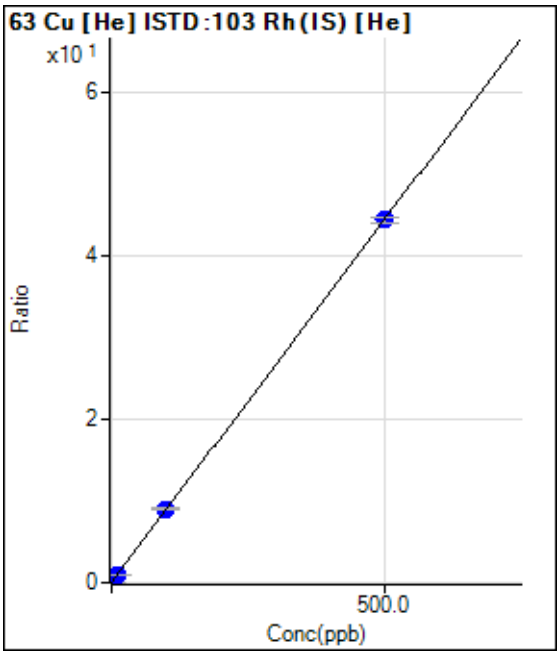
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1646.82	0.0156	P	4.9
2	☐	10.000	10.695	46655.27	0.4371	P	2.5
3	☐	100.000	103.339	428309.28	4.0887	P	2.0
4	☐	500.000	499.318	2053129.60	19.6962	P	0.8

y = 0.0394 * x + 0.0156
R = 1.0000
DL = 0.05752
BEC = 0.395

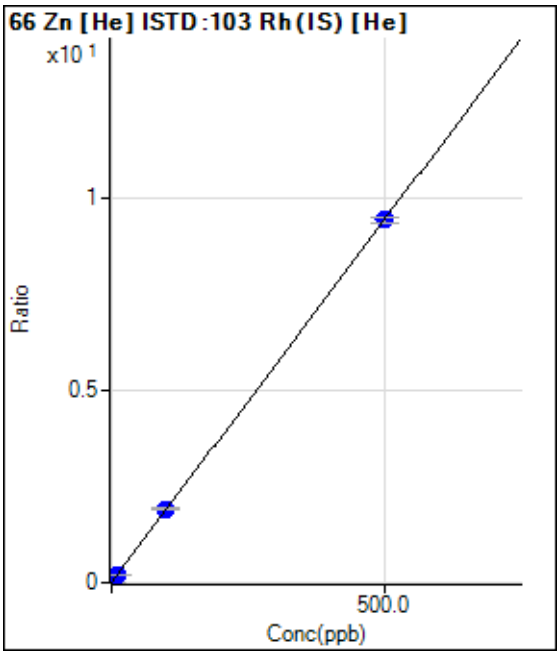
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4117.21	0.0322	P	2.4
2	☐	10.000	10.354	119501.10	0.9515	P	1.3
3	☐	100.000	100.977	1093481.83	8.9971	P	2.1
4	☐	500.000	499.798	5206442.85	44.4051	P	1.4

y = 0.0888 * x + 0.0322
R = 1.0000
DL = 0.02656
BEC = 0.3627

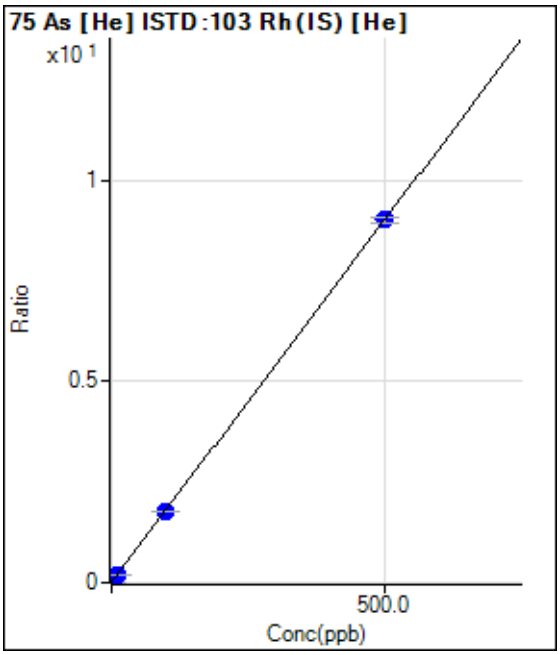
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	780.05	0.0061	P	1.5
2	☐	10.000	9.633	23547.24	0.1875	P	1.1
3	☐	100.000	100.830	231471.21	1.9045	P	2.0
4	☐	500.000	499.841	1104126.08	9.4170	P	1.6

y = 0.0188 * x + 0.0061
R = 1.0000
DL = 0.01413
BEC = 0.324

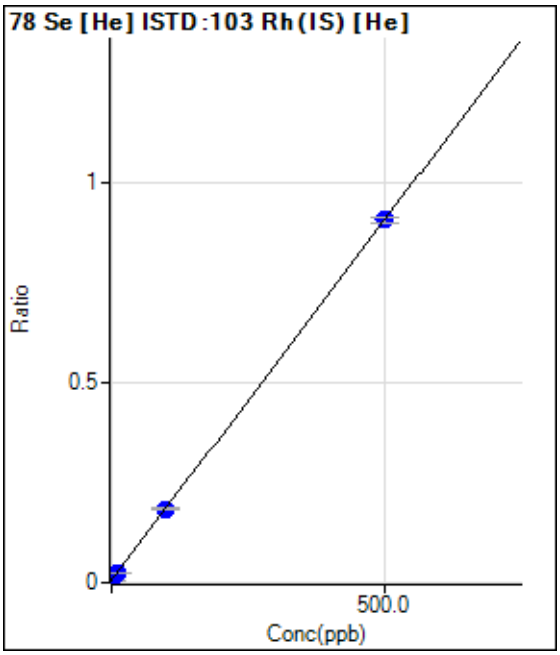
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1004.03	0.0079	P	3.9
2	☐	10.000	9.707	22940.55	0.1827	P	3.1
3	☐	100.000	97.537	214461.06	1.7645	P	1.9
4	☐	500.000	500.499	1057799.59	9.0220	P	1.6

y = 0.0180 * x + 0.0079
R = 1.0000
DL = 0.05153
BEC = 0.4361

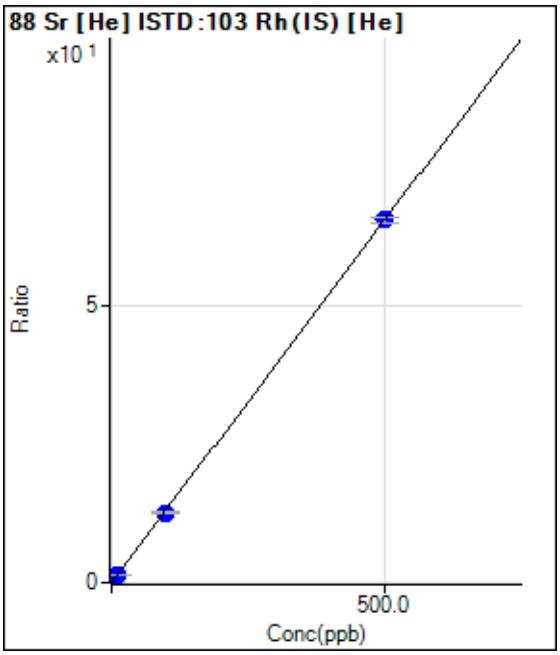
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	762.02	0.0060	P	3.1
2	☐	10.000	9.936	2998.61	0.0239	P	1.3
3	☐	100.000	98.481	22305.72	0.1835	P	2.1
4	☐	500.000	500.305	106465.08	0.9081	P	1.9

y = 0.0018 * x + 0.0060
R = 1.0000
DL = 0.3118
BEC = 3.305

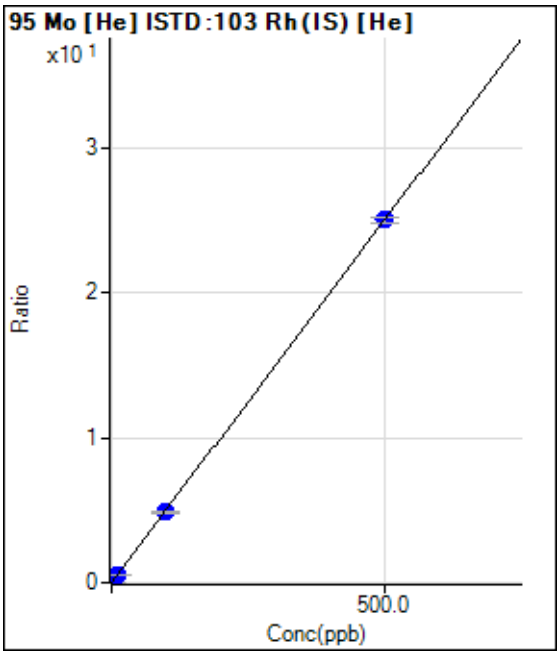
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.68	0.0015	P	24.3
2	☐	10.000	9.799	160676.77	1.2793	P	1.8
3	☐	100.000	96.834	1534967.37	12.6284	P	1.5
4	☐	500.000	500.637	7654178.01	65.2833	P	1.8

y = 0.1304 * x + 0.0015
R = 1.0000
DL = 0.008614
BEC = 0.01182

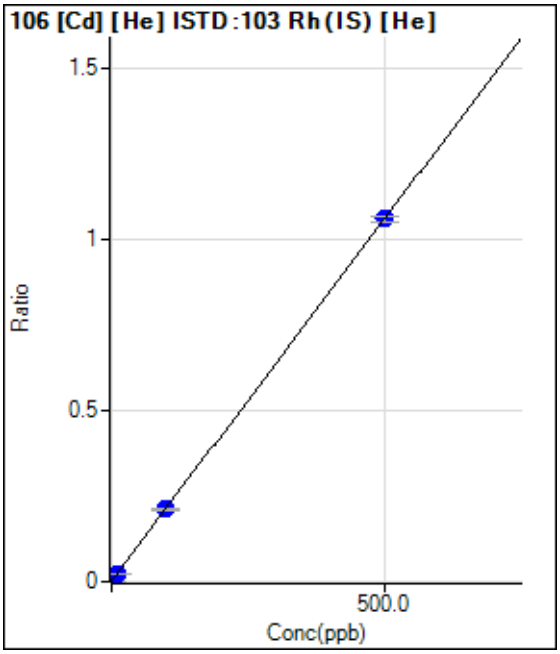
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0005	P	32.4
2	☐	10.000	9.538	59973.16	0.4776	P	2.8
3	☐	100.000	97.418	592204.32	4.8730	P	2.8
4	☐	500.000	500.526	2935339.12	25.0350	P	1.4

y = 0.0500 * x + 4.9421E-004
R = 1.0000
DL = 0.009591
BEC = 0.009881

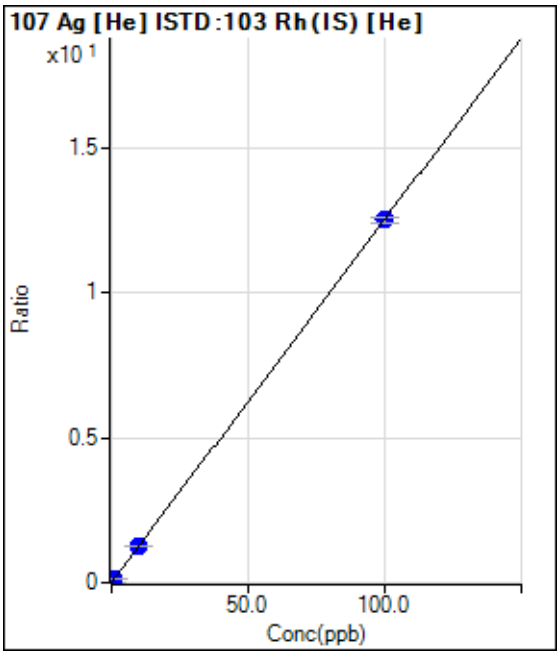
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0022	P	47.1
2	☐	10.000	10.196	2980.41	0.0237	P	4.1
3	☐	100.000	99.722	25874.67	0.2129	P	2.6
4	☐	500.000	500.052	124147.45	1.0589	P	1.8

y = 0.0021 * x + 0.0022
R = 1.0000
DL = 1.455
BEC = 1.03

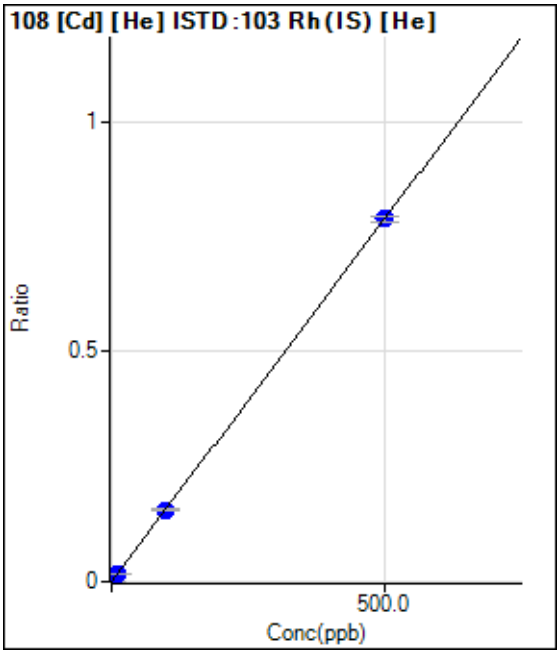
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0002	P	51.0
2	☐	1.000	1.023	16091.79	0.1282	P	4.0
3	☐	10.000	10.174	154657.19	1.2725	P	2.2
4	☐	100.000	99.982	1466036.49	12.5037	P	1.5

y = 0.1251 * x + 1.5666E-004
R = 1.0000
DL = 0.001918
BEC = 0.001253

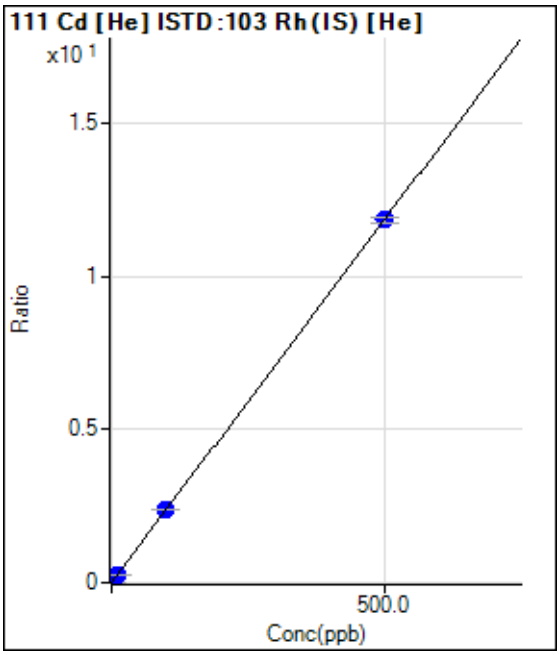
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6.67	0.0001	P	173.
2	☐	10.000	10.383	2060.22	0.0164	P	1.1
3	☐	100.000	98.694	18891.63	0.1555	P	3.3
4	☐	500.000	500.253	92367.44	0.7878	P	1.6

y = 0.0016 * x + 5.2994E-005
R = 1.0000
DL = 0.1749
BEC = 0.03365

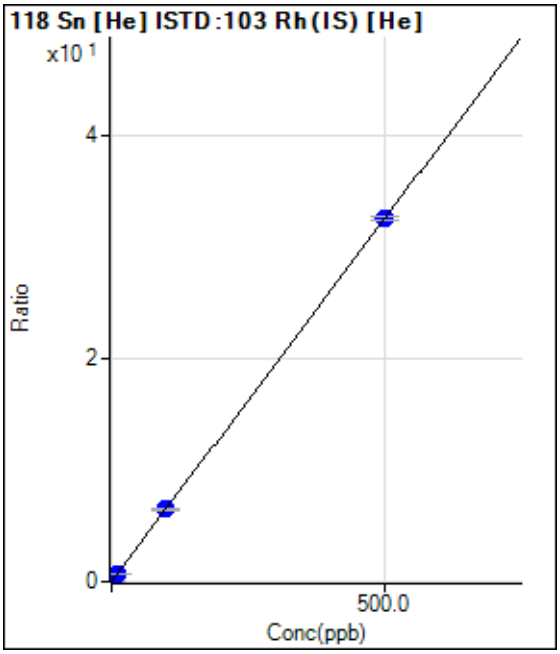
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.90	0.0017	P	44.2
2	☐	10.000	10.153	30432.35	0.2423	P	2.2
3	☐	100.000	100.306	289213.58	2.3792	P	1.0
4	☐	500.000	499.936	1389587.06	11.8518	P	1.7

y = 0.0237 * x + 0.0017
R = 1.0000
DL = 0.09274
BEC = 0.06997

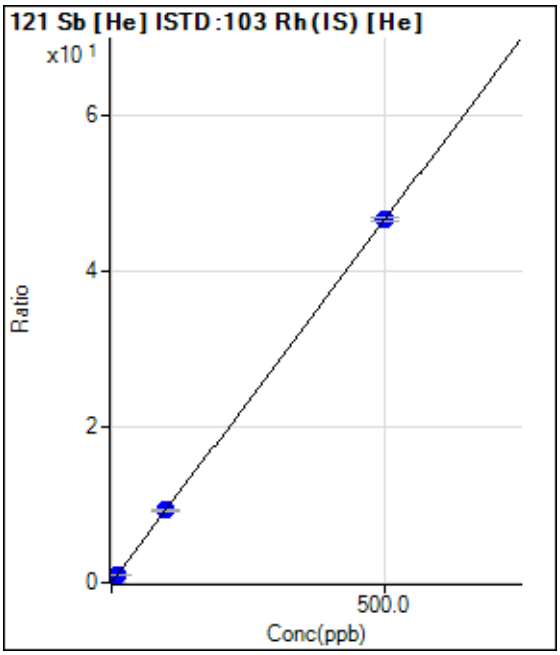
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	820.06	0.0064	P	17.9
2	☐	10.000	9.889	81575.49	0.6497	P	3.8
3	☐	100.000	99.573	787945.77	6.4832	P	2.1
4	☐	500.000	500.088	3814770.05	32.5349	P	1.1

y = 0.0650 * x + 0.0064
R = 1.0000
DL = 0.05298
BEC = 0.09844

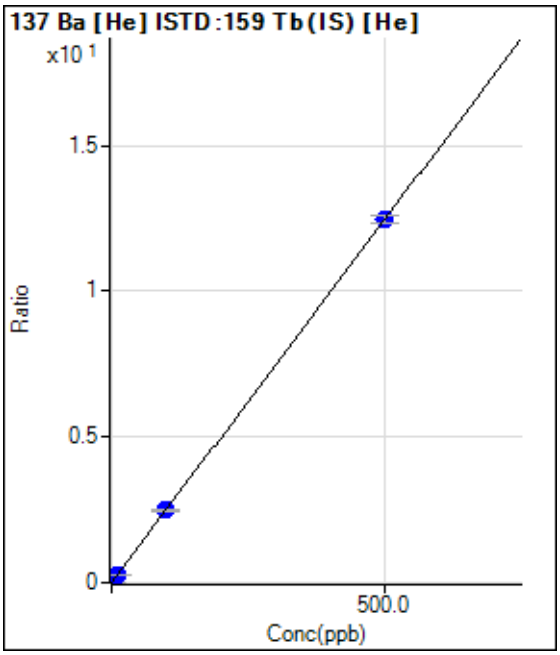
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	656.71	0.0051	P	24.9
2	☐	10.000	9.659	113539.53	0.9041	P	2.8
3	☐	100.000	99.578	1127073.97	9.2733	P	2.0
4	☐	500.000	500.091	5458193.04	46.5506	P	0.9

y = 0.0931 * x + 0.0051
R = 1.0000
DL = 0.04115
BEC = 0.05505

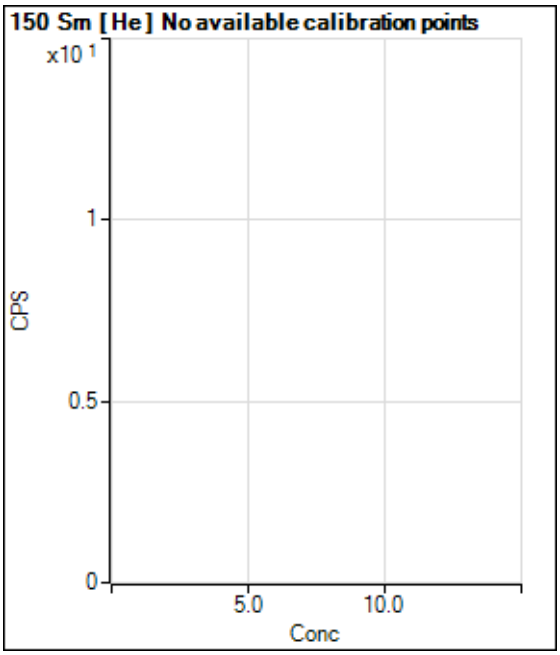
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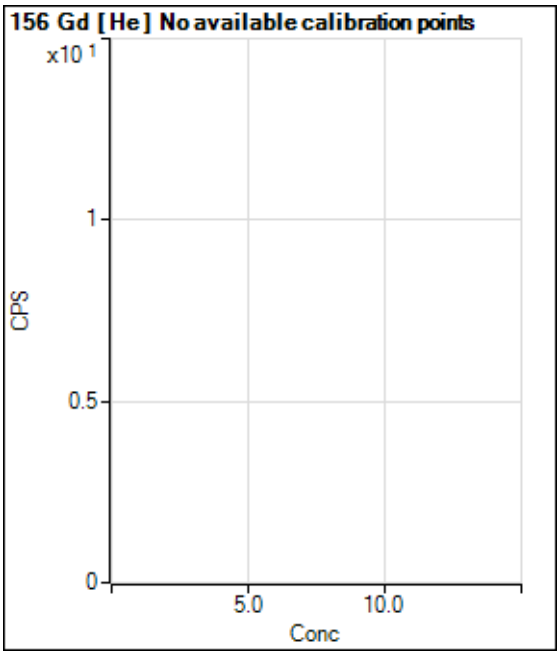
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0003	P	43.7
2	☐	10.000	10.058	39229.15	0.2507	P	1.2
3	☐	100.000	99.887	381825.65	2.4875	P	1.4
4	☐	500.000	500.021	1874597.89	12.4508	P	2.0

y = 0.0249 * x + 3.0086E-004
R = 1.0000
DL = 0.01582
BEC = 0.01208

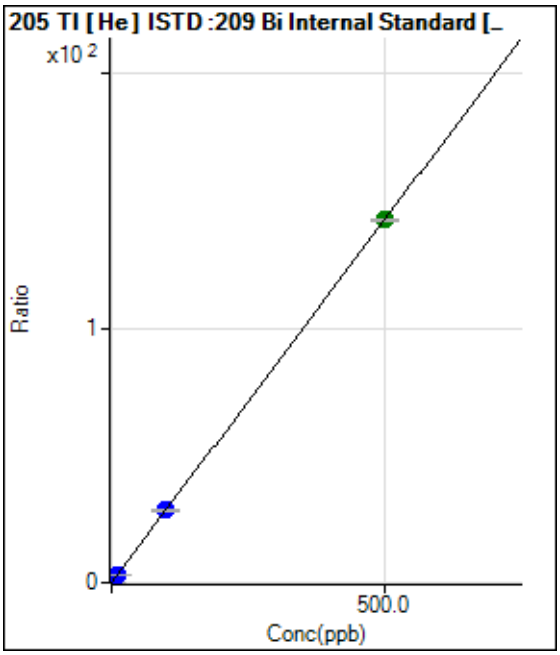
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						



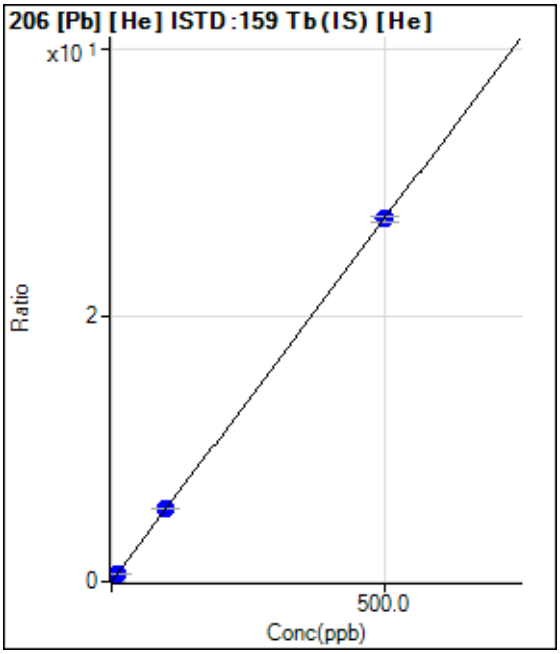
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.34	0.0012	P	28.2
2	☐	10.000	9.986	259364.98	2.8450	P	1.9
3	☐	100.000	99.610	2535595.43	28.3681	P	0.6
4	☐	500.000	500.078	12113710.24	142.4133	A	0.7

y = 0.2848 * x + 0.0012
R = 1.0000
DL = 0.003657
BEC = 0.004324

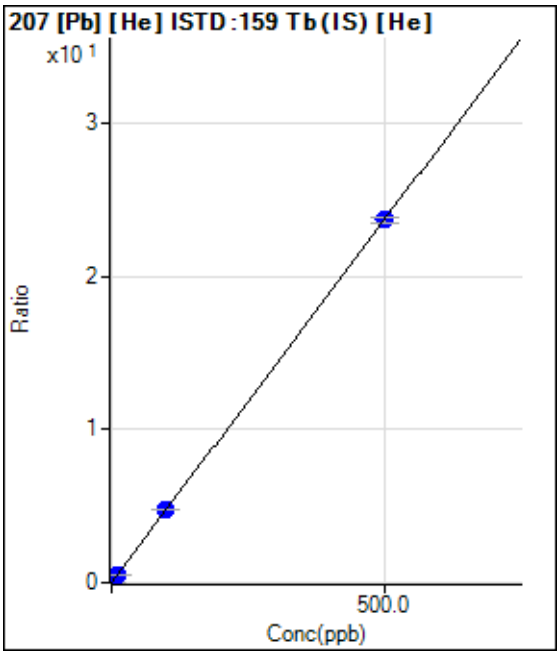
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0005	P	85.6
2	☐	10.000	10.192	87092.19	0.5567	P	1.9
3	☐	100.000	101.239	848138.84	5.5252	P	0.8
4	☐	500.000	499.748	4106235.46	27.2720	P	1.7

y = 0.0546 * x + 4.9892E-004
R = 1.0000
DL = 0.02348
BEC = 0.009143

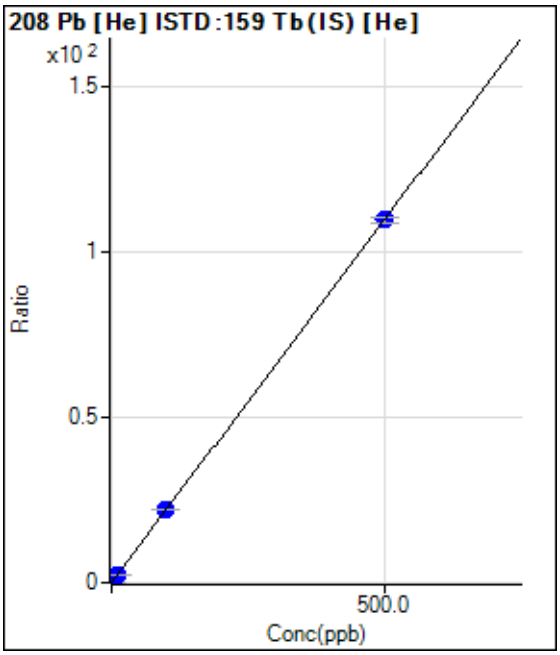
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0004	P	44.6
2	☐	10.000	10.298	76389.81	0.4882	P	0.7
3	☐	100.000	101.082	735129.44	4.7891	P	1.2
4	☐	500.000	499.778	3564921.82	23.6770	P	1.7

y = 0.0474 * x + 3.6675E-004
R = 1.0000
DL = 0.01035
BEC = 0.007742

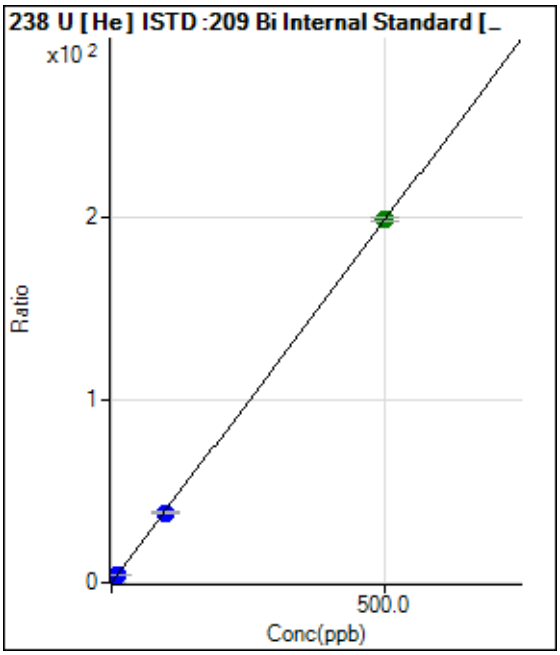
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.68	0.0015	P	44.0
2	☐	10.000	10.175	349699.28	2.2353	P	1.4
3	☐	100.000	100.230	3377841.33	22.0053	P	1.2
4	☐	500.000	499.950	16525460.48	109.7568	P	1.8

y = 0.2195 * x + 0.0015
R = 1.0000
DL = 0.009214
BEC = 0.006988

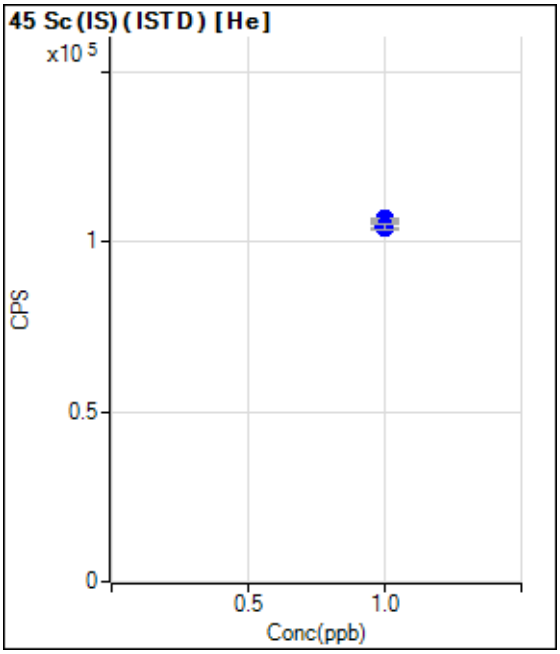
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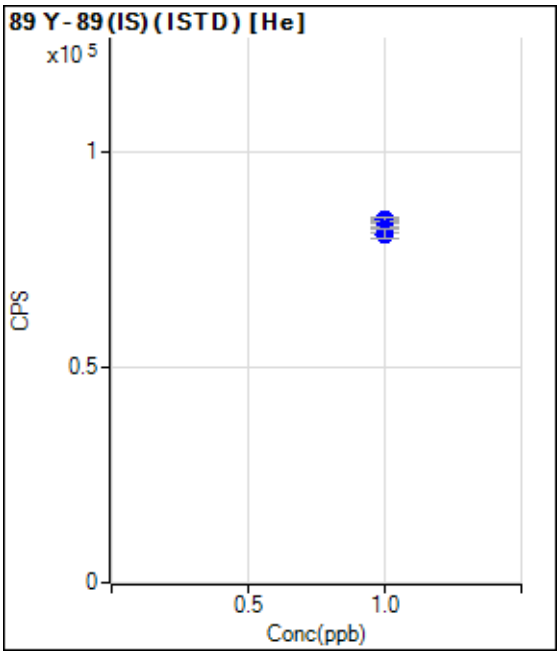
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0003	P	57.8
2	☐	10.000	9.442	341476.48	3.7453	P	1.4
3	☐	100.000	96.441	3418877.35	38.2515	P	0.9
4	☐	500.000	500.723	16892443.08	198.6021	A	0.9

y = 0.3966 * x + 2.9067E-004
R = 1.0000
DL = 0.001271
BEC = 0.0007329

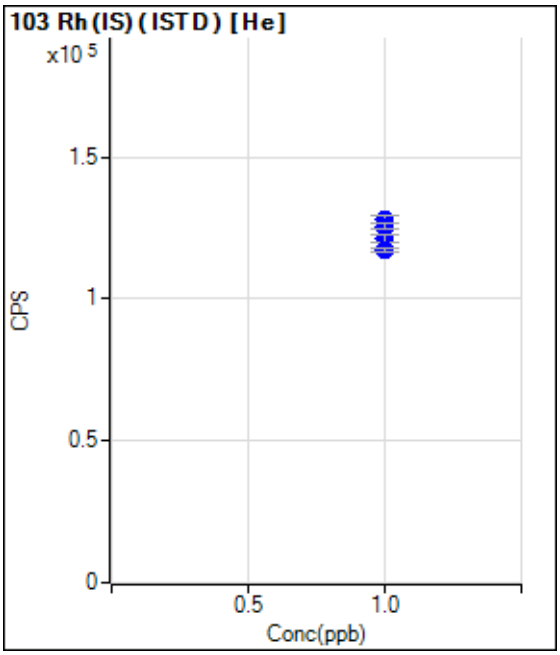
Weight: <None>
Min Conc: 0



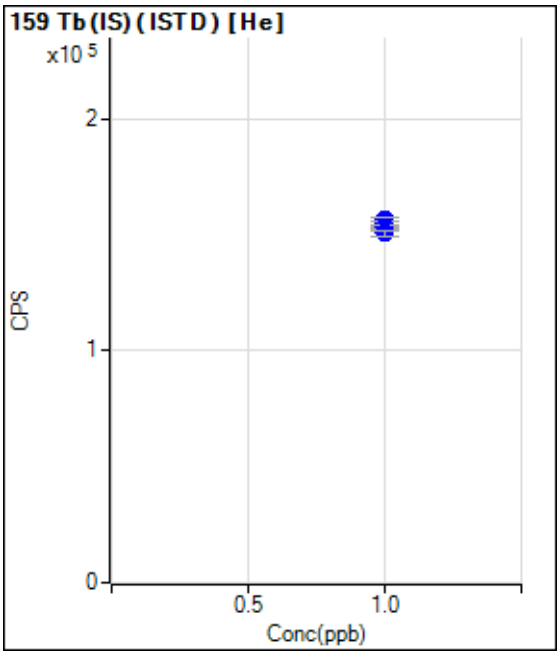
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		105802.11		P	1.1
2	☐	1.000		106740.93		P	0.6
3	☐	1.000		104778.66		P	1.6
4	☐	1.000		104249.22		P	1.7



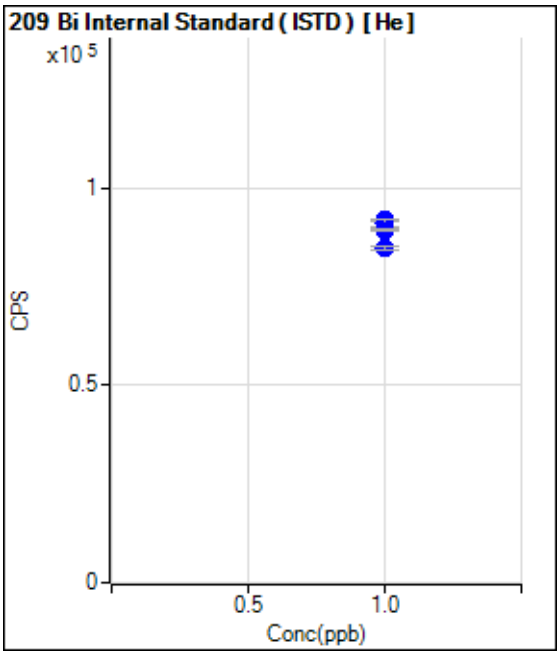
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		83950.07		P	0.7
2	☐	1.000		84294.41		P	1.2
3	☐	1.000		82023.03		P	1.8
4	☐	1.000		80934.40		P	2.6



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		127902.67		P	2.1
2	☐	1.000		125610.79		P	1.4
3	☐	1.000		121573.39		P	2.1
4	☐	1.000		117260.57		P	1.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		154786.76		P	1.3
2	☐	1.000		156460.85		P	1.1
3	☐	1.000		153511.79		P	0.9
4	☐	1.000		150590.36		P	1.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		92008.89		P	0.8
2	☐	1.000		91194.46		P	2.6
3	☐	1.000		89383.10		P	0.8
4	☐	1.000		85061.35		P	1.1

Batch Summary Report

Batch Folder: C:\Agilent\ICPMH\1\DATA\MS4060319He-1.b\
Analysis File: MS4060319He-1.batch.bin
Tune Step: #1 He

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		6/3/2019 10:16:13 AM	001CALB.d	blk I.S /tune	CalBlk	1	1.0000
2		6/3/2019 10:19:58 AM	002CALB.d	ICIS	CalBlk	1	1.0000
3		6/3/2019 10:23:44 AM	003CALS.d	Std1	CalStd	2	1.0000
4		6/3/2019 10:27:41 AM	004CALS.d	Std2	CalStd	3	1.0000
5		6/3/2019 10:31:26 AM	005CALS.d	Std3	CalStd	4	1.0000
6		6/3/2019 10:35:11 AM	006_QCS.d	S1	QCS		1.0000
7		6/3/2019 10:38:58 AM	007_ICV.d	ICV	ICV		1.0000
8		6/3/2019 10:42:43 AM	008_ICB.d	ICB	ICB		1.0000
9		6/3/2019 10:46:28 AM	009LICV.d	ICVL	LLICV		1.0000
10		6/3/2019 10:50:15 AM	010ICSA.d	icsa	ICSA		1.0000
11		6/3/2019 10:54:01 AM	011ICSB.d	icsab	ICSB		1.0000
12		6/3/2019 10:57:48 AM	012SMPL.d	CRI	Sample		1.0000
13		6/3/2019 11:01:33 AM	013_CCV.d	CCV	CCV		1.0000
14		6/3/2019 11:05:18 AM	014_CCB.d	CCB	CCB		1.0000
15		6/3/2019 11:10:53 AM	015_PB.d	mb 500-488174/1-a	PB		1.0000
16		6/3/2019 11:14:40 AM	016_LCS.d	lcs 500-488174/2-a	LCS		1.0000
17		6/3/2019 11:18:25 AM	017SMPL.d	500-164190-b-1-a	Sample		1.0000
18		6/3/2019 11:22:10 AM	018SMPL.d	500-164190-b-1-b du	Sample		1.0000
19		6/3/2019 11:25:55 AM	019SMPL.d	500-164190-b-1-c ms	Sample		1.0000
20		6/3/2019 11:29:42 AM	020SMPL.d	500-164190-b-1-a SD@5	Sample		1.0000
21		6/3/2019 11:33:28 AM	021SMPL.d	500-164225-a-1-a	Sample		1.0000
22		6/3/2019 11:37:16 AM	022SMPL.d	310-155977-a-5-d	Sample		1.0000
23		6/3/2019 11:41:00 AM	023SMPL.d	500-164077-a-61-a	Sample		1.0000
24		6/3/2019 11:44:46 AM	024SMPL.d	500-164077-a-62-a	Sample		1.0000
25		6/3/2019 11:48:32 AM	025_CCV.d	CCV	CCV		1.0000
26		6/3/2019 11:52:17 AM	026_CCB.d	CCB	CCB		1.0000
27		6/3/2019 11:56:02 AM	027_PB.d	mb 500-487972/1-a	PB		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
28		6/3/2019 11:59:49 AM	028_LCS.d	lcs 500-487972/2-a	LCS		1.0000
29		6/3/2019 12:03:35 PM	029SMPL.d	500-164188-a-1-a @10	Sample		1.0000
30		6/3/2019 12:07:20 PM	030SMPL.d	500-164188-a-2-a @10	Sample		1.0000
31		6/3/2019 12:11:06 PM	031SMPL.d	500-164188-a-3-a @5	Sample		1.0000
32		6/3/2019 12:14:50 PM	032SMPL.d	500-164188-a-4-a @5	Sample		1.0000
33		6/3/2019 12:18:35 PM	033SMPL.d	500-164188-a-5-a @5	Sample		1.0000
34		6/3/2019 12:22:32 PM	034SMPL.d	500-164188-a-6-a @5	Sample		1.0000
35		6/3/2019 12:26:17 PM	035SMPL.d	500-164188-a-7-a @5	Sample		1.0000
36		6/3/2019 12:30:04 PM	036_CCV.d	CCV	CCV		1.0000
37		6/3/2019 12:33:48 PM	037_CCB.d	CCB	CCB		1.0000
38		6/3/2019 12:37:33 PM	038SMPL.d	500-164208-b-1-a	Sample		1.0000
39		6/3/2019 12:41:18 PM	039SMPL.d	500-164208-b-2-a	Sample		1.0000
40		6/3/2019 12:45:03 PM	040SMPL.d	500-164208-b-3-a	Sample		1.0000
41		6/3/2019 12:48:49 PM	041SMPL.d	500-164208-f-4-a	Sample		1.0000
42		6/3/2019 12:52:36 PM	042_PB.d	mb 500-488039/1-a	PB		1.0000
43		6/3/2019 12:56:22 PM	043_LCS.d	lcs 500-488039/2-a	LCS		1.0000
44		6/3/2019 1:00:06 PM	044SMPL.d	500-162180-l-1-a	Sample		1.0000
45		6/3/2019 1:03:52 PM	045SMPL.d	500-162180-l-2-a	Sample		1.0000
46		6/3/2019 1:07:38 PM	046_CCV.d	CCV	CCV		1.0000
47		6/3/2019 1:11:23 PM	047_CCB.d	CCB	CCB		1.0000
48		6/3/2019 1:15:08 PM	048LCCV.d	CCVL	LLCCV		1.0000
49		6/3/2019 1:18:55 PM	049_PB.d	mb 500-487353/1-a	PB		1.0000
50		6/3/2019 1:22:42 PM	050_LCS.d	lcs 500-487353/2-a	LCS		1.0000
51		6/3/2019 1:26:29 PM	051_LCS.d	lcsd 500-487353/3-a	LCS		1.0000
52		6/3/2019 1:30:17 PM	052SMPL.d	310-155929-a-1-a	Sample		1.0000
53		6/3/2019 1:34:04 PM	053SMPL.d	310-155929-a-2-a	Sample		1.0000
54		6/3/2019 1:37:50 PM	054SMPL.d	310-155929-a-3-a	Sample		1.0000
55		6/3/2019 1:41:36 PM	055SMPL.d	310-155929-a-4-a	Sample		1.0000
56		6/3/2019 1:45:23 PM	056SMPL.d	310-155929-a-5-a	Sample		1.0000
57		6/3/2019 1:49:10 PM	057SMPL.d	310-155929-a-6-a	Sample		1.0000
58		6/3/2019 1:52:55 PM	058SMPL.d	310-155929-a-7-a @5	Sample		1.0000
59	On	6/3/2019 1:56:40 PM	059_CCV.d	/CCV	CCV		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
60	On	6/3/2019 2:00:25 PM	060_CCB.d	/CCB	CCB		1.0000
61		6/3/2019 2:04:10 PM	061_CCV.d	CCV	CCV		1.0000
62		6/3/2019 2:07:57 PM	062_CCB.d	CCB	CCB		1.0000
63		6/3/2019 2:11:43 PM	063SMPL.d	310-155929-a-7-a	Sample		1.0000
64		6/3/2019 2:15:29 PM	064SMPL.d	310-155929-a-8-a	Sample		1.0000
65		6/3/2019 2:19:15 PM	065SMPL.d	310-155929-a-9-a	Sample		1.0000
66		6/3/2019 2:23:00 PM	066SMPL.d	310-155929-a-10-a	Sample		1.0000
67		6/3/2019 2:26:45 PM	067SMPL.d	310-155929-a-11-a	Sample		1.0000
68		6/3/2019 2:30:33 PM	068_CCV.d	CCV	CCV		1.0000
69		6/3/2019 2:34:19 PM	069_CCB.d	CCB	CCB		1.0000
70		6/3/2019 2:38:04 PM	070LCCV.d	CCVL	LLCCV		1.0000

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	<0.000	66.67	N/A	0.086	13.33	153.247	<0.000	166.67	N/A
2	ICIS	0.000	66.67	N/A	0.000	3.33	N/A	0.000	190.01	N/A
3	Std1	10.427	1336.77	9.469	9.334	1083.41	11.193	9.057	750.04	3.839
4	Std2	99.580	11971.20	2.633	104.731	11897.81	4.983	98.916	6171.33	8.389
5	Std3	500.076	59514.57	3.168	499.067	56404.16	2.016	500.236	30296.71	0.524
6	S1	506.824	59922.12	2.162	515.221	57835.15	1.148	511.252	30747.51	1.984
7	ICV	200.622	24134.10	1.736	199.415	22751.92	2.123	206.468	12715.12	7.022
8	ICB	0.507	123.34	113.084	0.211	26.67	106.523	2.848	353.35	15.064
9	ICVL	11.224	1416.78	7.651	1.137	133.34	18.552	58.373	3740.55	0.509
10	icsa	<0.000	43.33	N/A	<0.000	0.00	0.000	0.990	263.35	169.095
11	icsab	17.784	2293.57	12.999	18.583	2210.22	1.555	48.956	3290.46	9.263
12	CRI	19.644	2513.62	11.482	2.087	250.01	17.081	101.161	6564.79	3.769
13	CCV	252.251	31208.32	0.871	254.334	29822.84	6.272	255.289	16151.32	3.967
14	CCB	0.167	86.67	146.590	0.349	43.33	76.358	1.621	290.01	62.335
15	mb 500-48817...	0.477	123.34	106.295	<0.000	0.00	0.000	1.002	250.01	107.226
16	lcs 500-488174...	102.951	12634.88	3.711	49.711	5771.17	2.705	1023.367	63421.24	0.904
17	500-164190-b-...	47.261	5917.86	3.894	0.141	20.00	60.788	199.003	12661.66	2.572
18	500-164190-b-...	46.375	5791.19	7.946	0.055	10.00	150.195	204.766	12978.58	7.814
19	500-164190-b-...	144.809	18066.55	0.860	50.666	5987.89	4.983	1163.138	73349.57	2.694
20	500-164190-b-...	10.904	1420.12	3.637	0.028	6.67	177.111	48.334	3227.09	0.713
21	500-164225-a-...	3.899	543.37	13.515	0.172	23.33	76.269	2881.923	178549.63	1.368
22	310-155977-a-...	5.043	703.38	4.117	0.138	20.00	104.685	38.266	2633.63	5.430
23	500-164077-a-...	11.072	1373.44	3.449	0.001	3.33	8516.728	144.527	8829.19	0.827
24	500-164077-a-...	9.591	1220.09	7.636	0.058	10.00	259.647	125.758	7842.04	2.634
25	CCV	262.134	30817.73	1.539	260.185	29011.17	2.807	265.239	15931.15	3.310
26	CCB	0.037	70.00	810.554	0.089	13.33	114.879	4.927	483.36	6.628

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	0.211	93.34	66.843	0.057	10.00	149.572	6.169	576.70	10.812
28	lcs 500-487972...	485.984	59008.87	0.376	48.013	5537.74	4.449	987.462	60802.21	1.254
29	500-164188-a-...	0.882	170.01	64.235	0.001	3.33	7145.525	413.949	25132.17	0.720
30	500-164188-a-...	2.599	390.02	17.047	0.057	10.00	151.255	427.511	26941.48	1.347
31	500-164188-a-...	1.385	236.68	57.651	0.057	10.00	150.773	296.160	18523.62	3.018
32	500-164188-a-...	2.668	383.35	24.245	0.000	3.33	29899.292	553.249	33569.11	3.489
33	500-164188-a-...	1.685	263.34	9.544	0.091	13.33	114.219	432.930	25976.48	2.836
34	500-164188-a-...	2.723	380.02	28.826	0.060	10.00	146.177	375.464	22295.04	3.039
35	500-164188-a-...	1.403	230.01	52.869	0.031	6.67	337.094	455.934	27375.51	3.023
36	CCV	265.568	30273.36	2.722	261.383	28270.06	0.631	265.374	15464.04	2.837
37	CCB	<0.000	50.00	N/A	0.188	23.33	103.683	6.433	550.03	7.203
38	500-164208-b-...	0.475	123.34	42.056	0.088	13.33	58.336	10.756	843.39	8.144
39	500-164208-b-...	0.867	170.01	36.831	0.146	20.00	59.226	16.392	1186.76	6.095
40	500-164208-b-...	1.007	180.01	36.506	0.031	6.67	336.747	6.433	556.69	33.019
41	500-164208-f-4-a	0.336	103.34	153.123	0.121	16.67	113.992	12.078	893.40	16.108
42	mb 500-48803...	0.122	80.00	243.464	0.001	3.33	7385.504	3.704	410.02	47.828
43	lcs 500-488039...	106.797	12401.36	0.942	49.910	5481.07	5.308	1069.491	62712.04	0.828
44	500-162180-l-1-a	2.788	403.36	21.376	<0.000	3.33	N/A	20.179	1423.45	11.038
45	500-162180-l-2-a	2.816	400.02	42.192	<0.000	0.00	0.000	19.038	1336.77	3.439
46	CCV	264.775	29762.41	2.956	260.916	27825.96	0.964	270.381	15530.68	5.698
47	CCB	<0.000	53.33	N/A	0.221	26.67	65.102	5.386	483.36	13.610
48	CCVL	11.007	1316.77	17.911	1.265	140.01	23.264	55.479	3383.81	3.189
49	mb 500-48735...	<0.000	60.00	N/A	0.061	10.00	146.901	3.469	386.69	46.953
50	lcs 500-487353...	111.623	12828.39	1.781	54.815	5957.92	6.556	1088.203	63163.83	1.149
51	lcsd 500-48735...	109.424	12778.33	4.098	52.775	5834.52	4.564	1086.218	64066.95	2.784
52	310-155929-a-...	14.986	1903.51	17.682	0.057	10.00	2.467	1192.710	74149.51	2.205
53	310-155929-a-...	18.474	2213.56	11.417	0.121	16.67	112.287	725.703	42876.51	2.909
54	310-155929-a-...	16.572	2010.19	5.425	0.032	6.67	330.967	713.359	42562.37	2.210
55	310-155929-a-...	24.874	2887.03	1.044	0.033	6.67	325.971	201.139	11737.58	2.047
56	310-155929-a-...	20.529	2356.91	6.459	0.099	13.33	111.994	677.791	38603.29	1.957

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	16.964	1780.16	5.225	0.074	10.00	137.672	912.988	47147.30	2.059
58	310-155929-a-...	2.781	350.02	6.125	0.004	3.33	1322.263	558.910	29859.35	4.635
59	/CCV									
60	/CCB									
61	CCV	269.680	29916.09	0.665	274.764	28914.39	1.919	274.459	15547.44	4.629
62	CCB	0.407	103.34	88.359	0.133	16.67	110.881	9.050	663.37	26.350
63	310-155929-a-...	15.811	1876.85	3.532	0.030	6.67	340.109	2562.562	148968.48	1.742
64	310-155929-a-...	15.493	2076.87	4.036	0.079	13.33	118.484	354.986	23452.96	1.748
65	310-155929-a-...	14.021	1766.83	11.425	0.059	10.00	151.526	863.694	53140.84	1.119
66	310-155929-a-...	10.468	1360.11	8.290	<0.000	3.33	N/A	870.509	54558.79	2.598
67	310-155929-a-...	14.790	2006.86	4.280	0.079	13.33	118.413	735.987	48908.75	1.587
68	CCV	269.730	33635.92	1.979	273.465	32347.04	1.676	283.871	18076.55	2.593
69	CCB	<0.000	66.67	N/A	0.113	16.67	115.740	10.933	880.06	24.086
70	CCVL	11.167	1490.13	5.826	1.491	183.34	22.481	67.669	4570.84	29.975

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.643	138655.13	30.164	<0.000	12888.49	N/A	0.338	1560.14	49.650
2	ICIS	0.000	135373.43	N/A	0.000	13118.76	N/A	0.000	1236.77	N/A
3	Std1	1055.270	2723324.64	0.996	1077.885	1500171.28	1.024	1041.322	951049.60	1.050
4	Std2	10253.702	24802399.63	1.699	10291.642	13948193.12	1.070	10218.036	9148948.19	1.067
5	Std3	49948.154	1.19694E+08	1.392	49940.114	67288337.33	1.438	49955.566	44496192.67	1.340
6	S1	50952.678	1.21277E+08	0.326	51534.632	68967640.64	0.802	51488.638	45551179.32	0.936
7	ICV	20762.635	50273019.25	2.066	20889.277	28403659.58	1.739	20558.725	18474821.39	1.997
8	ICB	2.008	136121.67	65.940	<0.000	5877.88	N/A	0.186	1363.44	60.187
9	ICVL	213.204	650659.55	2.008	213.692	304007.61	1.981	103.450	94361.58	2.283
10	icsa	101572.331	2.59218E+08	1.035	102049.264	1.46495E+08	1.422	99525.294	94461698.59	0.793
11	icsab	102402.889	2.57719E+08	0.907	102844.682	1.45609E+08	0.185	100903.233	94445835.26	0.415
12	CRI	435.163	1229354.33	1.018	432.065	622466.06	1.227	211.394	198266.85	0.772
13	CCV	26112.631	65015170.70	2.244	26221.519	36676947.79	2.250	25864.475	23912535.47	2.110
14	CCB	<0.000	133341.00	N/A	<0.000	8735.84	N/A	0.469	1663.48	54.144
15	mb 500-48817...	32.772	213697.02	1.850	4.567	19241.26	4.835	6.428	7005.05	0.858
16	lcs 500-488174...	10429.200	25767328.78	0.918	10533.800	14582308.11	0.774	2058.491	1883640.49	0.739
17	500-164190-b-...	41097.087	1.02556E+08	0.842	27350.688	38371638.60	1.165	70.151	66320.56	1.661
18	500-164190-b-...	42641.443	1.06141E+08	1.916	28376.308	39711374.41	2.038	80.341	75595.21	0.996
19	500-164190-b-...	50723.761	1.27045E+08	1.190	36861.423	51917295.89	0.725	1996.268	1859727.89	1.017
20	500-164190-b-...	8730.484	21919703.01	1.457	5857.519	8237472.79	1.377	15.223	15397.29	4.241
21	500-164225-a-...	326475.240	8.03773E+08	0.641	12193.422	16905070.17	0.679	1074.709	985613.06	0.750
22	310-155977-a-...	7667.816	19547614.29	1.710	21382.825	30470512.88	1.033	1013.772	955962.22	2.270
23	500-164077-a-...	53389.740	1.27120E+08	1.099	15389.725	20613685.94	0.756	133.818	119649.40	1.335
24	500-164077-a-...	47990.895	1.16300E+08	1.866	14338.299	19546358.04	1.198	84.000	76885.03	2.845
25	CCV	26508.130	62737965.73	0.853	26560.453	35315502.80	0.877	26303.309	23115433.82	1.544
26	CCB	2.727	139686.71	60.720	<0.000	8198.93	N/A	0.284	1470.13	73.543

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	42.880	243737.91	3.521	2.874	17349.33	15.226	7.753	8389.00	2.643
28	lcs 500-487972...	10357.944	25423045.45	1.511	10484.200	14419036.87	0.729	1995.327	1813895.55	0.988
29	500-164188-a-...	22887.606	54994750.85	0.384	1148.140	1561655.29	0.915	38.027	35139.77	2.953
30	500-164188-a-...	16390.477	40920113.56	2.405	4655.655	6533245.95	1.726	4.242	5191.06	7.282
31	500-164188-a-...	46575.230	1.14821E+08	0.310	1037.321	1450782.06	0.166	58.841	55165.17	3.530
32	500-164188-a-...	34753.733	83553475.42	1.534	3665.641	4964689.93	1.709	8.961	9226.24	5.448
33	500-164188-a-...	24059.446	57142834.15	1.790	3523.025	4711103.05	1.419	26.200	24304.96	2.592
34	500-164188-a-...	28033.605	65806660.69	1.930	8359.198	11034277.33	1.904	152.935	134502.55	2.394
35	500-164188-a-...	23937.603	56905975.82	1.261	3498.582	4682829.82	0.394	36.822	33703.71	2.914
36	CCV	26665.889	61204830.75	0.841	26848.261	34621458.65	0.658	26310.515	22425241.33	0.805
37	CCB	<0.000	122303.93	N/A	<0.000	8095.51	N/A	0.514	1603.49	24.021
38	500-164208-b-...	1004.262	2562390.64	0.698	904.745	1243938.16	0.462	156.420	141926.91	1.282
39	500-164208-b-...	2392.251	5920631.58	1.039	1162.519	1595368.36	1.281	749.414	675669.83	0.923
40	500-164208-b-...	1480.363	3568220.05	1.790	1200.205	1581554.04	1.783	25.779	23463.31	2.325
41	500-164208-f-4-a	2036.623	4890306.28	1.746	1309.429	1735005.91	1.539	51.695	46155.32	0.895
42	mb 500-48803...	22.256	186218.05	4.521	0.970	14196.39	75.444	4.081	4840.87	4.956
43	lcs 500-488039...	10704.084	25020615.46	1.105	10829.471	14184468.12	1.305	2043.453	1769212.00	1.572
44	500-162180-l-1-a	4717.600	11601884.41	0.565	10169.562	13923316.04	1.223	19.127	18537.25	2.424
45	500-162180-l-2-a	4904.967	11907261.07	1.161	10601.834	14335628.54	0.513	21.713	20622.90	3.409
46	CCV	27109.484	61350534.09	0.781	27240.894	34634743.65	1.108	26568.998	22328251.34	0.994
47	CCB	<0.000	109873.11	N/A	<0.000	7972.16	N/A	0.422	1506.80	35.504
48	CCVL	210.812	612169.38	1.531	219.836	296564.74	0.857	106.903	92532.32	0.980
49	mb 500-48735...	15.369	166204.97	7.348	0.133	12795.17	118.019	12.453	12024.62	3.591
50	lcs 500-487353...	10747.098	24869534.63	0.962	10944.139	14190913.12	1.095	2065.587	1770418.62	1.505
51	lcsd 500-48735...	10879.119	25582520.45	1.411	10988.624	14481241.45	0.947	2086.143	1817294.35	1.102
52	310-155929-a-...	67942.786	1.67691E+08	1.736	7329.695	10185712.97	2.070	62.426	58539.56	1.781
53	310-155929-a-...	59947.779	1.40435E+08	1.332	14832.873	19546528.46	2.226	18.081	16919.03	8.477
54	310-155929-a-...	77106.711	1.82330E+08	2.347	14630.346	19466646.38	3.250	34.772	31766.63	4.686
55	310-155929-a-...	91022.536	2.08188E+08	1.907	16305.654	20988062.19	1.809	61.262	53266.28	4.169
56	310-155929-a-...	64126.533	1.44640E+08	1.468	13864.335	17597286.40	1.176	539.037	453195.40	1.182

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	62975.620	1.29005E+08	0.868	13024.030	15012260.61	1.122	73.650	57129.26	0.186
58	310-155929-a-...	18909.017	40090506.90	2.218	2123.510	2537742.25	2.143	5.416	5337.69	1.728
59	/CCV									
60	/CCB									
61	CCV	27360.384	61097302.42	1.034	27615.449	34646061.15	1.196	26936.760	22337452.17	1.212
62	CCB	2.026	124994.33	57.919	<0.000	9829.84	N/A	1.099	1986.87	10.987
63	310-155929-a-...	87551.828	2.02298E+08	2.378	10206.236	13277014.80	2.255	25.682	23226.29	6.508
64	310-155929-a-...	59842.265	1.56060E+08	0.734	14342.761	21043398.44	1.044	48.901	48735.88	1.697
65	310-155929-a-...	69277.285	1.69087E+08	0.222	12078.825	16592499.75	0.378	7.817	8338.95	4.680
66	310-155929-a-...	56302.134	1.40019E+08	0.719	7892.663	11047458.17	1.051	6.897	7632.06	10.857
67	310-155929-a-...	77012.217	2.02823E+08	1.444	14465.791	21440004.68	1.325	34.607	35226.45	1.967
68	CCV	27436.334	68875020.64	0.267	27419.545	38672481.09	0.576	26954.130	25127466.30	0.770
69	CCB	0.686	140445.41	31.928	<0.000	10136.72	N/A	1.083	2270.24	6.237
70	CCVL	217.531	699454.03	2.294	221.688	333185.65	1.701	106.627	102872.15	1.412

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	<0.000	376689.24	N/A	4.464	3072.96	16.829	0.122	80.00	68.745
2	ICIS	0.000	375819.23	N/A	0.000	2610.63	N/A	0.000	16.67	N/A
3	Std1	1047.326	2551784.65	1.018	1019.466	100178.55	2.219	10.390	5357.71	5.483
4	Std2	10211.814	21165005.52	1.050	10040.891	945590.87	1.311	99.993	50478.96	2.067
5	Std3	49956.691	1.01571E+08	1.360	49991.433	4673685.59	1.609	499.994	250983.88	1.661
6	S1	51181.840	1.03352E+08	0.372	51014.449	4737188.17	0.916	513.114	255818.69	1.814
7	ICV	20617.632	42513107.70	1.433	20313.418	1917559.01	1.684	204.978	103816.61	1.754
8	ICB	<0.000	356974.25	N/A	<0.000	1721.44	N/A	0.021	26.67	51.536
9	ICVL	517.295	1433410.19	1.814	189.901	20533.65	2.229	5.193	2650.32	4.154
10	icsa	99921.641	2.16083E+08	1.099	100813.600	10040577.67	0.932	2010.923	1075661.47	0.221
11	icsab	100685.375	2.14717E+08	1.003	102155.731	10032896.97	1.261	2038.999	1075452.77	1.175
12	CRI	1059.418	2632707.46	1.288	394.834	41292.01	0.404	10.483	5524.45	5.286
13	CCV	26046.106	55149220.85	2.194	25410.567	2467063.62	2.340	255.056	132885.22	2.869
14	CCB	<0.000	364863.59	N/A	<0.000	1900.90	N/A	0.065	50.00	29.477
15	mb 500-48817...	2.189	378009.83	23.811	40.198	6384.81	1.062	0.185	110.00	0.584
16	lcs 500-488174...	10242.455	21682592.18	0.394	8706.737	837915.69	1.107	1002.476	516628.87	1.010
17	500-164190-b-...	18773.019	39977531.90	1.015	85069.862	8277966.55	1.424	1.304	700.08	31.677
18	500-164190-b-...	19549.395	41510643.55	2.154	88197.983	8561620.26	1.724	1.285	683.38	34.088
19	500-164190-b-...	28275.804	60258075.77	0.845	93453.724	9129981.90	0.683	951.969	499430.15	1.583
20	500-164190-b-...	4019.033	8870979.87	2.040	17422.191	1699325.03	1.606	0.267	156.68	23.337
21	500-164225-a-...	158063.806	3.29669E+08	0.630	59314.363	5701844.22	1.032	0.491	270.01	15.478
22	310-155977-a-...	2172.042	5043705.86	1.699	73225.218	7236995.65	1.602	29.419	15600.01	48.686
23	500-164077-a-...	9111.643	18709003.05	1.218	21022.071	1954362.87	1.464	0.689	360.02	18.797
24	500-164077-a-...	7814.855	16384004.34	1.128	20957.343	1982973.19	0.895	0.322	180.01	25.392
25	CCV	26141.154	52615064.22	0.655	25405.398	2344698.20	1.213	255.030	126329.55	0.722
26	CCB	<0.000	354046.25	N/A	<0.000	1648.19	N/A	0.001	16.67	3822.388

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	1.501	385486.86	230.969	22.846	4862.02	1.692	0.135	86.67	23.350
28	lcs 500-487972...	10143.170	21334031.35	1.637	8538.160	816351.88	1.101	978.114	500735.27	1.490
29	500-164188-a-...	1482.388	3377638.38	0.723	6480.282	608878.29	0.804	0.213	123.34	31.040
30	500-164188-a-...	1493.249	3529616.61	1.659	12154.838	1183262.90	2.200	0.153	96.67	41.992
31	500-164188-a-...	2644.606	5891682.62	0.855	9808.117	945367.64	1.429	0.368	206.68	17.689
32	500-164188-a-...	1965.590	4364230.15	1.490	21777.672	2043127.08	1.467	0.346	190.02	30.067
33	500-164188-a-...	1522.048	3418794.12	1.938	17664.821	1636562.65	1.547	1.014	520.03	17.584
34	500-164188-a-...	1718.455	3769564.63	2.019	29134.244	2667203.99	1.334	6.589	3253.79	0.222
35	500-164188-a-...	1459.159	3295706.93	0.885	17000.024	1576459.36	0.937	0.933	480.04	52.989
36	CCV	26239.041	51217254.24	0.493	25408.207	2274260.37	0.519	253.365	121702.04	1.012
37	CCB	<0.000	340516.62	N/A	<0.000	1625.12	N/A	0.002	16.67	1820.626
38	500-164208-b-...	855.743	2124625.33	0.701	1786.049	171133.63	1.220	1.308	680.06	17.860
39	500-164208-b-...	1853.580	4168121.50	0.961	2624.462	250388.90	0.861	4.873	2487.04	7.453
40	500-164208-b-...	1945.828	4184842.33	1.131	2500.112	229217.55	1.202	0.638	326.69	19.907
41	500-164208-f-4-a	2362.645	5034710.34	1.998	2650.972	244376.92	1.702	0.620	320.02	10.910
42	mb 500-48803...	<0.000	366449.47	N/A	12.692	3747.50	48.690	0.053	43.33	117.854
43	lcs 500-488039...	10396.923	20820247.61	1.243	8659.737	788561.12	1.181	1001.622	488408.53	1.361
44	500-162180-l-1-a	723.242	1863538.46	1.746	27310.526	2593785.77	0.811	1.623	843.39	9.519
45	500-162180-l-2-a	756.737	1908445.34	1.839	28328.437	2656928.73	1.307	1.363	703.38	22.406
46	CCV	26536.290	51066524.24	1.206	25664.982	2265081.51	0.553	259.220	122766.17	1.845
47	CCB	<0.000	333111.62	N/A	<0.000	1730.22	N/A	0.023	26.67	101.284
48	CCVL	526.705	1379021.17	1.858	200.769	20469.70	2.391	5.019	2433.62	2.922
49	mb 500-48735...	<0.000	356950.29	N/A	23.242	4632.34	17.794	0.055	43.33	147.339
50	lcs 500-487353...	10478.338	20770710.52	0.852	8688.325	783181.97	1.605	1010.020	487555.56	1.214
51	lcsd 500-48735...	10638.900	21426653.85	1.166	8816.253	807713.47	0.778	1017.513	499188.47	1.490
52	310-155929-a-...	6290.572	13509571.47	2.448	43457.317	4186344.73	1.751	2.292	1200.10	17.661
53	310-155929-a-...	9008.323	18202512.65	1.937	103295.553	9437891.41	2.315	1.067	540.03	25.558
54	310-155929-a-...	8774.972	17912361.40	2.766	91995.516	8487585.43	3.099	1.474	746.72	6.043
55	310-155929-a-...	8790.103	17357520.16	1.983	108786.774	9709459.20	1.479	2.527	1226.76	14.224
56	310-155929-a-...	7836.074	15291985.61	1.980	72374.398	6369730.77	1.357	14.119	6712.54	12.184

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	8401.993	14868571.86	1.006	86833.089	6939968.26	1.498	2.261	983.40	11.033
58	310-155929-a-...	1619.659	3224760.16	1.990	11090.866	917432.65	2.624	0.246	123.34	23.914
59	/CCV									
60	/CCB									
61	CCV	26905.488	51086220.91	1.476	25684.110	2236742.46	0.923	258.214	120688.99	0.335
62	CCB	<0.000	323281.99	N/A	<0.000	1624.02	N/A	0.027	26.67	210.419
63	310-155929-a-...	7979.668	15954039.77	2.020	53112.656	4790958.08	1.719	1.204	596.70	18.024
64	310-155929-a-...	8902.109	20029791.37	1.353	96731.691	9839650.56	1.621	1.401	783.38	7.880
65	310-155929-a-...	7656.743	16180324.76	0.232	75822.183	7221480.94	0.483	0.838	446.69	27.573
66	310-155929-a-...	6783.182	14644742.28	1.050	52115.062	5057597.83	0.315	0.757	413.36	21.931
67	310-155929-a-...	8689.748	19762624.70	0.901	91835.681	9437770.36	1.331	1.506	850.06	7.853
68	CCV	26902.283	57423914.15	1.052	25830.010	2528747.65	0.384	259.283	136226.01	0.587
69	CCB	<0.000	371990.57	N/A	<0.000	1915.88	N/A	<0.000	10.00	N/A
70	CCVL	534.867	1554637.42	2.371	194.656	22203.88	2.200	5.350	2890.37	7.871

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.027	32695.61	82.655	0.058	17286.10	66.584	0.013	720.05	49.562
2	ICIS	0.000	31964.24	N/A	0.000	16325.00	N/A	0.000	576.70	N/A
3	Std1	9.727	151791.03	3.150	10.145	146879.90	2.109	10.319	109215.75	2.504
4	Std2	99.745	1234855.29	2.210	100.908	1289268.16	1.595	101.840	1052923.24	1.306
5	Std3	500.057	6033418.87	1.500	499.816	6290293.87	1.211	499.626	5137366.80	1.097
6	S1	511.247	6126038.03	0.960	507.404	6342488.65	0.567	512.914	5238183.05	0.676
7	ICV	199.601	2448720.12	1.920	201.583	2569295.48	1.297	204.585	2122582.11	1.743
8	ICB	<0.000	25817.16	N/A	<0.000	15307.33	N/A	0.008	643.38	101.337
9	ICVL	4.611	87775.27	3.532	5.078	80684.23	1.700	2.619	27776.98	4.693
10	icsa	<0.000	13689.33	N/A	0.468	23403.40	3.105	0.778	9122.81	2.796
11	icsab	17.867	258451.33	0.580	19.563	274974.43	0.172	20.088	217642.85	0.381
12	CRI	10.483	164593.70	1.524	10.507	154812.27	1.498	5.264	57223.41	1.307
13	CCV	252.439	3177559.33	2.231	253.035	3313365.79	2.491	255.792	2730083.40	2.323
14	CCB	<0.000	31122.58	N/A	<0.000	15814.60	N/A	0.008	656.71	111.725
15	mb 500-48817...	<0.000	29990.46	N/A	0.439	21791.35	11.917	0.457	5317.72	6.615
16	lcs 500-488174...	501.160	6207997.82	0.452	204.671	2654273.92	0.632	516.113	5448280.54	0.404
17	500-164190-b-...	2.225	60604.66	6.706	1.184	32218.11	4.000	33.575	359983.02	0.443
18	500-164190-b-...	3.141	71815.12	10.756	1.203	32388.24	4.413	34.804	372179.85	2.115
19	500-164190-b-...	479.793	6052049.91	0.885	192.268	2539349.49	1.686	516.656	5552415.33	1.024
20	500-164190-b-...	1.454	51010.44	7.166	0.206	19461.77	11.987	7.072	76368.11	1.339
21	500-164225-a-...	1.415	49853.74	10.722	19.171	263993.64	1.353	26.445	280156.65	0.942
22	310-155977-a-...	3.852	82191.11	2.999	1.960	43021.70	2.781	63.665	692678.97	0.966
23	500-164077-a-...	1.109	44515.34	1.912	4.981	78112.57	2.557	27.794	284489.68	2.096
24	500-164077-a-...	1.214	46591.37	4.141	1.888	40225.69	8.998	7.418	77691.68	3.396
25	CCV	251.805	3012945.58	1.424	253.634	3157186.41	1.074	254.787	2585025.48	1.338
26	CCB	<0.000	26851.81	N/A	<0.000	15841.28	N/A	0.017	746.72	50.061

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	<0.000	27185.83	N/A	0.141	18440.74	5.202	0.236	3093.74	10.080
28	lcs 500-487972...	483.812	5954887.62	1.044	195.502	2519514.65	0.766	495.378	5194898.05	1.503
29	500-164188-a-...	2.042	56079.64	2.406	<0.000	15547.74	N/A	6.773	70292.25	1.212
30	500-164188-a-...	0.440	38233.93	6.238	0.384	21731.27	27.779	12.338	132424.05	3.290
31	500-164188-a-...	1.733	53799.07	0.160	0.045	17129.30	92.746	1.920	20890.13	5.106
32	500-164188-a-...	0.523	37876.57	3.495	0.087	17226.02	23.081	33.729	348287.74	1.775
33	500-164188-a-...	0.499	37104.52	15.884	0.062	16692.13	32.878	36.502	372049.29	1.877
34	500-164188-a-...	1.589	49475.66	8.107	0.155	17649.81	36.345	848.121	8535629.66	1.871
35	500-164188-a-...	0.432	36339.40	18.984	0.020	16188.23	217.786	35.895	366228.85	0.346
36	CCV	254.251	2950146.41	0.957	255.598	3085572.03	0.990	255.640	2515386.21	0.906
37	CCB	<0.000	25543.26	N/A	0.023	15667.75	313.090	0.004	576.70	419.265
38	500-164208-b-...	0.269	35053.49	58.075	0.678	24842.25	13.129	22.403	233178.87	0.662
39	500-164208-b-...	1.768	53247.43	10.931	2.412	46833.34	4.820	90.339	938933.11	1.930
40	500-164208-b-...	0.497	36353.17	5.652	0.525	22008.24	9.952	3.828	38748.41	3.265
41	500-164208-f-4-a	0.795	40078.02	21.081	0.451	21233.98	13.286	73.102	734345.67	2.236
42	mb 500-48803...	0.282	34799.49	12.204	0.196	18510.67	11.879	0.125	1846.85	3.936
43	lcs 500-488039...	504.311	5910626.79	1.542	205.056	2516132.10	1.201	517.016	5164119.40	1.255
44	500-162180-l-1-a	1.355	48489.66	5.535	1.179	31353.10	7.159	3.516	37268.33	4.633
45	500-162180-l-2-a	2.306	59323.47	4.338	1.565	35835.51	3.613	3.657	38280.54	0.092
46	CCV	256.375	2932933.19	0.992	258.023	3071045.79	0.935	257.112	2494467.41	1.063
47	CCB	<0.000	27346.03	N/A	0.063	15954.62	49.079	0.011	643.37	86.129
48	CCVL	4.897	86599.04	3.596	5.222	78333.46	2.196	2.682	27002.09	1.765
49	mb 500-48735...	<0.000	28417.76	N/A	0.127	17262.73	42.685	0.307	3637.21	10.764
50	lcs 500-487353...	503.430	5841240.75	1.337	205.073	2491045.54	1.351	516.339	5105734.61	1.074
51	lcsd 500-48735...	509.330	6005673.45	1.493	206.506	2549340.38	1.184	521.027	5236213.88	0.979
52	310-155929-a-...	7.732	128052.85	4.014	28.253	382004.28	0.906	1.474	16198.35	3.203
53	310-155929-a-...	5.904	100059.05	3.003	13.295	178882.46	2.509	2.545	26154.32	1.721
54	310-155929-a-...	7.259	117088.48	3.456	11.935	163776.82	2.964	1.105	11781.18	2.339
55	310-155929-a-...	8.581	128422.33	4.054	4.732	72092.56	0.706	3.423	34148.70	2.406
56	310-155929-a-...	10.729	150883.11	1.901	9.235	124253.46	2.846	18.049	175278.70	1.800

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	6.068	89196.00	1.122	21.504	244558.05	1.069	2.737	24538.53	2.256
58	310-155929-a-...	2.145	50552.19	5.095	7.131	93270.93	1.735	0.156	1916.87	2.369
59	/CCV									
60	/CCB									
61	CCV	258.660	2919750.58	0.638	257.955	3029518.18	1.426	259.847	2487691.73	0.824
62	CCB	<0.000	23857.42	N/A	0.105	15741.12	65.117	0.007	580.04	162.013
63	310-155929-a-...	9.800	143941.64	1.371	33.829	425241.92	2.126	0.623	6731.66	4.827
64	310-155929-a-...	5.639	107945.92	1.258	6.628	108057.12	1.444	0.948	11230.75	3.562
65	310-155929-a-...	7.768	127096.55	1.085	11.496	163431.12	0.817	0.258	3273.79	12.668
66	310-155929-a-...	7.794	129778.96	1.726	27.054	369185.64	0.438	0.424	5114.30	1.863
67	310-155929-a-...	7.317	131199.65	1.773	11.890	181789.72	1.468	0.954	11404.27	4.875
68	CCV	259.126	3288042.14	0.766	260.808	3443213.39	0.949	260.230	2800646.94	0.827
69	CCB	<0.000	32615.15	N/A	0.069	17639.82	44.148	0.019	793.39	56.341
70	CCVL	5.320	101956.67	3.265	5.488	90871.16	3.093	2.737	30698.42	3.336

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.586	52465.20	4.951	<0.000	170.01	N/A	0.065	1943.53	27.789
2	ICIS	0.000	44940.45	N/A	0.000	206.68	N/A	0.000	1646.82	N/A
3	Std1	1060.610	12605413.98	0.957	10.521	183653.51	0.798	10.695	46655.27	2.541
4	Std2	10226.514	1.18903E+08	1.673	102.305	1750939.09	1.400	103.339	428309.28	2.055
5	Std3	49953.485	5.77727E+08	1.151	499.529	8505208.83	1.523	499.318	2053129.60	0.788
6	S1	51102.722	5.87012E+08	0.523	505.846	8554961.54	0.047	506.286	2067544.66	0.783
7	ICV	20663.544	2.41127E+08	1.577	201.018	3453051.30	2.030	204.457	849025.61	2.207
8	ICB	0.469	48958.22	23.033	0.016	466.69	25.112	<0.000	1473.46	N/A
9	ICVL	107.360	1299510.63	1.998	1.052	18317.10	3.044	2.206	10797.19	3.585
10	icsa	98349.324	1.21187E+09	1.567	0.393	7348.54	3.010	0.290	2997.06	16.513
11	icsab	98875.760	1.20159E+09	0.574	19.272	345037.20	0.633	18.958	83555.18	1.545
12	CRI	219.811	2705768.92	0.914	2.072	37128.36	1.884	4.229	19875.63	0.971
13	CCV	26081.090	3.13095E+08	2.065	254.630	4500160.66	2.090	255.257	1090127.48	2.327
14	CCB	1.717	65225.60	5.097	0.012	423.36	39.427	<0.000	1420.12	N/A
15	mb 500-48817...	16.763	240241.05	0.707	0.113	2140.22	5.088	0.575	4020.63	1.141
16	lcs 500-488174...	1083.211	12905922.31	0.708	513.515	8976716.12	0.905	519.600	2193319.55	0.745
17	500-164190-b-...	669.856	8110724.46	0.726	0.495	8979.47	0.393	4.698	21781.41	6.280
18	500-164190-b-...	769.668	9290070.07	1.649	0.469	8499.12	1.127	4.721	21831.40	3.902
19	500-164190-b-...	1682.734	20384938.45	1.372	471.722	8394921.54	1.308	480.108	2063371.69	0.466
20	500-164190-b-...	140.893	1744181.59	1.794	0.116	2263.58	8.078	0.944	5734.56	4.925
21	500-164225-a-...	345.663	4156025.98	0.698	29.786	521698.03	0.993	10.986	48075.72	1.711
22	310-155977-a-...	1245.717	15277637.69	2.090	0.536	9866.54	2.494	2.150	11053.98	3.354
23	500-164077-a-...	3547.853	40812499.39	0.610	1.126	19244.91	3.027	1916.481	7825528.21	0.450
24	500-164077-a-...	2312.589	27088892.10	1.415	0.533	9389.59	1.751	81.195	338953.20	2.291
25	CCV	26325.178	3.00399E+08	1.449	255.192	4287039.83	1.622	256.766	1042377.93	1.411
26	CCB	0.533	50372.21	15.480	0.012	403.36	23.881	<0.000	1200.09	N/A

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	9.521	159425.97	2.301	0.032	783.39	16.934	1.078	6248.04	1.451
28	lcs 500-487972...	1042.394	12339173.57	1.582	497.055	8630629.66	2.755	504.008	2113482.83	1.467
29	500-164188-a-...	12.455	188550.95	1.146	0.036	820.06	17.838	0.192	2413.61	11.016
30	500-164188-a-...	33.432	447886.20	2.515	0.039	900.06	9.854	0.074	2000.22	32.821
31	500-164188-a-...	29.790	399896.09	1.322	0.068	1393.45	20.018	0.523	3877.28	8.545
32	500-164188-a-...	323.205	3792350.99	1.496	0.055	1146.75	25.385	0.522	3777.26	7.709
33	500-164188-a-...	435.868	5033443.99	1.804	0.085	1626.82	14.215	0.327	2933.71	16.990
34	500-164188-a-...	152.289	1766998.93	1.905	0.488	8335.70	4.890	0.609	4037.28	3.443
35	500-164188-a-...	520.472	6007442.41	1.267	0.092	1756.84	5.938	0.351	3037.07	13.047
36	CCV	26505.632	2.93340E+08	0.596	257.370	4193323.58	0.707	256.432	1009615.22	0.848
37	CCB	0.416	46965.74	13.134	0.008	326.68	88.599	<0.000	1036.74	N/A
38	500-164208-b-...	98.979	1200624.98	0.967	6.057	104343.10	3.452	3.494	16134.85	2.887
39	500-164208-b-...	1973.377	23102181.32	1.244	19.618	337716.05	1.381	3.561	16418.50	4.826
40	500-164208-b-...	16.983	233564.63	1.307	0.464	7865.45	4.092	1.826	8852.66	5.997
41	500-164208-f-4-a	25.696	333340.96	3.083	10.615	176684.54	1.670	4.605	20055.87	2.761
42	mb 500-48803...	7.988	136328.14	2.208	0.026	640.05	18.454	<0.000	1393.46	N/A
43	lcs 500-488039...	1090.943	12298249.40	1.577	512.185	8471288.00	1.751	523.619	2091234.81	1.714
44	500-162180-l-1-a	53.170	669265.77	1.165	0.161	2990.39	2.719	0.210	2526.96	26.204
45	500-162180-l-2-a	69.080	845427.51	1.678	0.173	3153.76	5.891	0.191	2416.94	40.242
46	CCV	26848.764	2.92968E+08	1.256	258.999	4160588.38	1.531	261.206	1013984.85	1.128
47	CCB	0.394	46157.07	22.637	0.008	323.35	40.502	<0.000	860.06	N/A
48	CCVL	108.723	1248816.49	1.566	1.066	17609.76	1.972	2.086	9779.83	1.090
49	mb 500-48735...	14.654	208748.31	3.081	0.093	1746.85	13.536	0.013	1636.81	243.167
50	lcs 500-487353...	1100.315	12278981.07	1.386	518.126	8485144.25	1.482	524.011	2071909.71	1.231
51	lcsd 500-48735...	1102.939	12510035.23	0.537	532.187	8856564.45	1.064	529.444	2127581.74	0.851
52	310-155929-a-...	54.779	698285.12	1.793	0.202	3760.55	4.167	1.547	8222.39	3.631
53	310-155929-a-...	15.912	223149.56	3.223	0.409	7008.36	5.092	0.561	3837.26	5.161
54	310-155929-a-...	32.790	417989.30	3.660	0.312	5451.11	6.236	0.799	4840.89	8.948
55	310-155929-a-...	69.033	804580.20	2.792	0.477	7945.49	3.744	1.276	6554.87	6.353
56	310-155929-a-...	506.855	5560992.62	0.863	0.676	11027.38	5.512	6.829	27960.64	1.305

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	142.657	1448495.76	2.122	0.311	4700.86	9.851	1.794	7692.03	2.141
58	310-155929-a-...	5.689	97206.34	3.143	0.069	1220.10	21.288	0.015	1486.80	240.222
59	/CCV									
60	/CCB									
61	CCV	27132.136	2.92137E+08	1.545	259.573	4114738.80	1.203	261.245	1000736.08	0.952
62	CCB	1.035	50853.70	16.727	0.013	376.69	30.473	<0.000	820.05	N/A
63	310-155929-a-...	28.257	358010.65	1.801	0.314	5341.07	9.886	0.594	3920.62	4.305
64	310-155929-a-...	39.973	551320.58	1.090	0.281	5441.11	6.252	1.839	9996.69	7.247
65	310-155929-a-...	8.794	148745.24	2.004	0.150	2817.02	3.562	0.552	3963.98	11.254
66	310-155929-a-...	18.288	265465.07	0.423	0.149	2843.69	7.178	0.379	3303.79	10.611
67	310-155929-a-...	29.915	429000.28	2.042	0.221	4357.39	7.287	0.512	4094.00	10.686
68	CCV	27544.157	3.33402E+08	1.352	264.593	4715044.20	1.333	264.968	1141004.72	0.475
69	CCB	1.242	60986.89	9.349	0.015	476.69	42.550	<0.000	1150.08	N/A
70	CCVL	111.912	1431209.66	2.422	1.122	20649.93	2.820	2.118	11034.01	9.732

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.043	4641.81	23.157	0.152	1153.42	55.533	0.009	1033.37	257.979
2	ICIS	0.000	4117.21	N/A	0.000	780.05	N/A	0.000	1004.03	N/A
3	Std1	10.354	119501.10	1.325	9.633	23547.24	1.147	9.707	22940.55	3.199
4	Std2	100.977	1093481.83	2.142	100.830	231471.21	2.046	97.537	214461.06	1.917
5	Std3	499.798	5206442.85	1.448	499.841	1104126.08	1.563	500.499	1057799.59	1.635
6	S1	502.863	5262281.60	0.967	501.157	1112124.83	0.598	501.241	1064229.54	1.050
7	ICV	199.483	2148890.33	0.447	197.921	452020.28	1.811	195.749	427931.75	0.668
8	ICB	<0.000	3719.34	N/A	0.002	770.05	1640.345	<0.000	900.03	N/A
9	ICVL	1.992	26495.22	2.152	19.701	47785.39	2.045	0.905	3061.96	6.530
10	icsa	0.071	4469.54	27.536	0.961	2810.36	5.605	<0.000	637.02	N/A
11	icsab	20.207	207722.48	1.340	22.157	48143.10	3.781	21.023	43961.50	0.870
12	CRI	4.143	51719.54	2.885	40.355	99039.90	1.517	1.889	5414.55	0.584
13	CCV	253.192	2779295.72	0.823	253.465	589947.00	0.467	248.495	553527.25	0.743
14	CCB	<0.000	3217.02	N/A	0.039	873.39	227.008	<0.000	842.36	N/A
15	mb 500-48817...	0.489	9687.30	3.170	4.813	12395.03	4.728	<0.000	844.70	N/A
16	lcs 500-488174...	252.459	2811857.18	0.424	504.310	1190200.50	1.008	97.638	221272.78	0.185
17	500-164190-b-...	2.820	34099.83	1.075	14.208	33019.82	2.532	2.289	5924.05	1.470
18	500-164190-b-...	2.978	35994.81	1.300	21.065	48875.11	1.151	2.421	6243.84	1.916
19	500-164190-b-...	245.475	2643205.87	0.993	497.035	1134033.58	1.058	100.184	219458.72	1.242
20	500-164190-b-...	0.559	10357.72	2.906	3.027	7985.53	6.553	0.495	2122.48	3.724
21	500-164225-a-...	1.627	20144.33	3.791	194.149	417495.85	1.941	0.663	2257.16	5.876
22	310-155977-a-...	2.724	32340.84	0.595	12.692	28922.32	0.623	1.544	4208.54	1.514
23	500-164077-a-...	139.877	1449015.01	1.272	1311.837	2875197.77	1.191	0.637	2249.83	0.267
24	500-164077-a-...	233.712	2445557.82	0.782	303.420	672927.70	1.709	0.248	1450.40	2.716
25	CCV	252.316	2657976.70	1.107	251.684	562164.90	1.471	245.634	525093.18	1.140
26	CCB	<0.000	3191.46	N/A	0.085	963.41	6.002	<0.000	925.70	N/A

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	0.154	5904.43	7.273	4.871	12601.81	1.757	<0.000	927.36	N/A
28	lcs 500-487972...	245.511	2696774.13	0.924	492.530	1146426.65	0.133	94.690	211657.25	0.704
29	500-164188-a-...	<0.000	3893.84	N/A	1.490	4187.36	6.684	0.392	1827.44	11.570
30	500-164188-a-...	0.056	4615.14	19.088	0.690	2366.93	14.093	0.279	1599.08	8.186
31	500-164188-a-...	<0.000	3933.85	N/A	2.199	5867.94	1.487	0.756	2651.55	3.183
32	500-164188-a-...	<0.000	3759.36	N/A	1.279	3587.19	3.404	1.752	4684.67	1.044
33	500-164188-a-...	0.510	9170.37	4.275	1.451	3953.97	12.897	1.867	4909.07	1.880
34	500-164188-a-...	0.638	10374.39	1.925	2.940	7178.47	3.301	0.362	1678.76	4.113
35	500-164188-a-...	0.260	6426.86	5.958	1.651	4320.72	13.241	2.219	5559.26	1.190
36	CCV	256.629	2589461.08	0.514	253.677	542745.17	0.725	249.286	510443.71	0.618
37	CCB	<0.000	2649.12	N/A	0.045	836.72	150.650	<0.000	917.03	N/A
38	500-164208-b-...	12.094	132022.16	1.663	18.361	42006.52	1.495	0.242	1458.07	8.984
39	500-164208-b-...	7.569	84135.26	1.826	11.234	25994.23	3.933	0.544	2109.14	5.713
40	500-164208-b-...	2.850	33771.39	2.082	9.447	21778.06	2.070	0.080	1100.04	11.116
41	500-164208-f-4-a	4.613	52544.28	1.988	11.413	26287.95	1.444	0.158	1271.72	25.027
42	mb 500-48803...	0.542	9787.37	0.979	4.380	10783.95	3.952	0.021	1002.03	43.824
43	lcs 500-488039...	254.806	2684189.47	1.017	507.275	1132314.20	1.554	97.616	209230.54	1.322
44	500-162180-l-1-a	1.170	15963.18	1.453	8.168	18747.80	4.587	0.243	1433.40	15.156
45	500-162180-l-2-a	1.488	19067.49	2.915	7.250	16545.44	2.031	0.454	1861.11	3.652
46	CCV	255.676	2587286.50	1.137	252.824	542468.52	1.635	248.105	509483.03	1.259
47	CCB	<0.000	2763.60	N/A	0.060	866.73	139.827	0.017	980.70	102.902
48	CCVL	1.978	24814.97	0.998	19.959	45599.23	0.893	1.015	3119.97	1.900
49	mb 500-48735...	0.121	5167.51	7.710	6.808	16171.67	3.829	0.034	1019.37	12.869
50	lcs 500-487353...	252.793	2652785.31	0.695	506.842	1127045.66	0.383	97.472	208130.31	0.224
51	lcsd 500-48735...	254.735	2718568.30	0.717	510.689	1154871.26	1.063	97.795	212360.23	1.020
52	310-155929-a-...	0.562	9303.76	9.980	5.496	12418.38	4.846	2.516	6027.10	4.058
53	310-155929-a-...	1.272	15873.09	0.979	4.013	8932.71	2.330	2.688	6155.48	3.410
54	310-155929-a-...	0.699	10281.00	6.139	6.027	13028.81	3.425	2.937	6620.31	1.003
55	310-155929-a-...	1.258	14863.35	2.311	6.088	12468.47	3.699	4.047	8339.07	0.915
56	310-155929-a-...	4.799	47291.33	1.677	7.458	15117.30	3.338	4.940	9995.32	0.517

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	2.221	21862.02	2.522	8.260	15397.47	1.922	2.286	4669.32	2.586
58	310-155929-a-...	0.308	6136.76	8.428	1.366	3280.47	6.839	0.683	2076.47	1.650
59	/CCV									
60	/CCB									
61	CCV	252.540	2555416.15	0.627	249.407	535135.58	0.921	243.652	500322.54	0.690
62	CCB	<0.000	2518.00	N/A	0.074	860.06	10.337	<0.000	869.03	N/A
63	310-155929-a-...	1.037	13297.55	0.884	6.092	12918.82	3.580	3.632	7841.17	3.366
64	310-155929-a-...	0.608	10407.74	1.529	13.021	30354.94	0.523	2.727	6882.42	1.391
65	310-155929-a-...	0.515	8906.86	3.170	6.718	15167.37	2.196	2.844	6756.70	1.283
66	310-155929-a-...	0.559	9625.05	7.064	6.154	14359.96	2.879	2.499	6221.83	1.206
67	310-155929-a-...	2.543	31652.90	1.815	3.707	9312.97	4.576	2.957	7499.69	3.176
68	CCV	258.259	2907898.43	0.939	258.445	617020.59	0.886	251.452	574549.63	0.170
69	CCB	<0.000	2691.36	N/A	0.093	1046.74	43.348	0.026	1108.37	16.032
70	CCVL	1.965	27779.50	0.873	20.514	52739.46	1.441	1.034	3559.05	2.091

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	<0.000	745.69	N/A	0.004	270.01	61.694	0.029	250.01	8.577
2	ICIS	0.000	762.02	N/A	0.000	196.68	N/A	0.000	63.33	N/A
3	Std1	9.936	2998.61	1.696	9.799	160676.77	1.769	9.538	59973.16	2.820
4	Std2	98.481	22305.72	2.172	96.834	1534967.37	1.467	97.418	592204.32	2.772
5	Std3	500.305	106465.08	1.929	500.637	7654178.01	1.847	500.526	2935339.12	1.362
6	S1	502.434	107406.14	1.106	502.580	7719036.34	1.179	501.196	2952546.83	1.502
7	ICV	197.544	43860.43	0.765	195.467	3087060.79	1.081	195.354	1183368.84	1.551
8	ICB	<0.000	726.35	N/A	0.010	353.35	17.777	0.038	300.01	11.457
9	ICVL	2.274	1275.05	3.345	3.826	63431.77	1.681	3.792	24101.68	4.031
10	icsa	0.315	758.02	49.923	1.885	28722.32	3.754	2064.287	11995646.07	0.731
11	icsab	22.232	5237.50	2.362	22.848	339055.42	1.016	2082.036	11844986.90	0.867
12	CRI	4.737	1874.78	2.525	7.677	129629.03	1.896	8.022	51946.06	0.309
13	CCV	248.213	55991.06	1.146	247.993	3992758.48	0.144	248.953	1537406.96	0.320
14	CCB	<0.000	711.02	N/A	0.012	390.02	8.113	0.072	520.03	41.588
15	mb 500-48817...	<0.000	712.69	N/A	0.237	4154.04	2.743	0.160	1086.74	14.606
16	lcs 500-488174...	98.067	22897.51	1.155	963.387	15737139.35	0.400	958.901	6008275.33	0.152
17	500-164190-b-...	2.399	1241.38	4.581	244.389	3846570.47	0.843	38.697	233686.71	0.921
18	500-164190-b-...	2.028	1166.71	11.172	249.325	3946067.76	0.791	39.619	240573.02	0.984
19	500-164190-b-...	100.854	22745.99	0.245	1212.459	19146943.05	1.008	1004.454	6084490.12	0.585
20	500-164190-b-...	0.371	838.69	62.202	48.062	793394.99	0.612	7.677	48659.32	1.578
21	500-164225-a-...	0.967	878.03	17.508	141.512	2104294.19	1.309	29.771	169838.46	1.912
22	310-155977-a-...	1.159	949.70	21.978	142.322	2190209.66	0.741	1.127	6714.94	7.705
23	500-164077-a-...	0.500	798.35	25.601	448.539	6806981.98	1.358	0.948	5571.18	8.040
24	500-164077-a-...	0.309	766.69	24.688	432.063	6630195.32	0.865	0.549	3293.82	8.705
25	CCV	245.753	53207.42	1.262	245.373	3791259.84	0.951	248.831	1474648.83	1.235
26	CCB	<0.000	674.69	N/A	0.009	346.69	55.579	0.052	386.68	16.594

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	<0.000	715.02	N/A	0.101	1893.53	4.630	0.041	330.02	25.444
28	lcs 500-487972...	93.980	21670.90	0.677	942.217	15179233.52	0.439	942.039	5821013.87	0.728
29	500-164188-a-...	0.410	821.02	48.781	209.854	3355551.82	1.067	9.057	55601.06	1.516
30	500-164188-a-...	3.270	1470.74	6.464	418.809	6776755.52	1.095	3.432	21357.92	1.900
31	500-164188-a-...	0.301	803.02	50.505	334.142	5381721.17	1.093	13.338	82463.16	1.213
32	500-164188-a-...	<0.000	699.69	N/A	458.203	7103215.10	1.157	25.206	149934.02	1.953
33	500-164188-a-...	0.083	722.69	190.303	377.449	5823656.79	0.339	10.670	63201.73	1.283
34	500-164188-a-...	2.152	1148.71	7.544	578.029	8801935.07	1.085	8.009	46817.57	5.036
35	500-164188-a-...	0.053	703.69	218.590	369.716	5603828.25	1.453	11.494	66876.17	2.860
36	CCV	247.280	51278.47	0.834	248.428	3676602.55	1.008	251.224	1426116.96	1.085
37	CCB	0.113	741.69	64.678	0.009	330.02	23.977	0.054	386.69	16.106
38	500-164208-b-...	0.266	768.35	63.055	13.736	214031.70	0.103	0.065	446.69	28.837
39	500-164208-b-...	0.143	742.69	67.191	17.390	271121.75	1.873	0.115	746.72	6.665
40	500-164208-b-...	0.036	713.02	148.575	6.637	102636.85	1.969	0.041	300.01	47.052
41	500-164208-f-4-a	0.128	736.35	130.065	14.877	230957.81	0.756	0.231	1430.13	16.404
42	mb 500-48803...	0.073	741.69	49.991	0.097	1730.16	5.934	0.026	220.01	23.002
43	lcs 500-488039...	97.032	21435.27	1.298	979.313	15130524.77	1.078	962.913	5706278.04	1.311
44	500-162180-l-1-a	0.392	781.69	23.818	32.971	504376.36	1.653	0.172	1066.74	1.871
45	500-162180-l-2-a	0.385	772.02	15.560	33.637	509117.92	1.295	0.070	466.69	24.128
46	CCV	244.671	50893.29	0.917	244.801	3633347.97	1.496	249.763	1421909.04	1.337
47	CCB	<0.000	677.02	N/A	0.016	433.36	31.303	0.056	393.36	7.954
48	CCVL	2.378	1223.38	9.074	3.824	59734.63	1.206	3.917	23450.73	2.777
49	mb 500-48735...	<0.000	706.02	N/A	0.065	1210.09	17.750	0.023	200.01	18.705
50	lcs 500-487353...	96.837	21312.78	0.854	976.557	15030235.19	0.603	963.077	5685447.83	0.595
51	lcsd 500-48735...	97.904	21905.20	0.586	984.563	15410581.02	1.109	970.557	5827113.87	0.413
52	310-155929-a-...	56.436	12208.77	3.700	179.696	2656331.63	2.503	21.136	119902.78	2.463
53	310-155929-a-...	28.905	6353.88	1.629	520.866	7430062.39	1.108	3.876	21257.78	2.945
54	310-155929-a-...	37.550	8025.94	2.981	365.356	5190851.59	1.427	11.272	61472.34	2.093
55	310-155929-a-...	15.830	3563.39	1.975	543.672	7321723.22	0.564	3.414	17683.40	1.323
56	310-155929-a-...	35.127	7149.87	2.377	311.766	4195790.67	1.220	16.363	84502.77	1.820

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	51.276	9374.97	0.981	386.271	4798645.24	0.309	7.686	36671.79	4.083
58	310-155929-a-...	24.325	5131.80	2.907	74.556	1001749.85	1.102	19.586	100967.50	1.971
59	/CCV									
60	/CCB									
61	CCV	239.417	49808.80	1.091	242.984	3606226.61	0.520	248.853	1416645.97	0.287
62	CCB	0.057	696.35	137.447	0.030	620.04	17.440	0.053	360.02	0.757
63	310-155929-a-...	122.813	24332.19	1.402	383.558	5351467.00	1.330	101.587	543619.06	1.942
64	310-155929-a-...	20.103	5097.45	3.023	469.826	7400950.72	0.745	2.038	12378.44	3.640
65	310-155929-a-...	41.471	9234.89	1.862	335.364	5002390.34	0.226	12.535	71783.82	1.440
66	310-155929-a-...	44.321	10107.05	1.653	226.534	3477261.93	1.638	18.319	107891.54	1.734
67	310-155929-a-...	37.558	9041.78	2.776	360.343	5766237.83	0.614	11.018	67685.74	0.769
68	CCV	250.196	57886.64	1.325	248.723	4107692.96	0.808	256.054	1621996.96	0.872
69	CCB	<0.000	663.68	N/A	0.030	720.04	26.972	0.055	433.36	33.941
70	CCVL	1.814	1240.38	12.689	4.014	70567.25	1.939	3.985	26856.06	0.553

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	<0.000	246.68	N/A	0.001	43.33	150.121	<0.000	0.00	N/A
2	ICIS	0.000	276.68	N/A	0.000	20.00	N/A	0.000	6.67	N/A
3	Std1	10.196	2980.41	4.471	1.023	16091.79	3.961	10.383	2060.22	1.111
4	Std2	99.722	25874.67	2.593	10.174	154657.19	2.153	98.694	18891.63	3.344
5	Std3	500.052	124147.45	1.790	99.982	1466036.49	1.529	500.253	92367.44	1.650
6	S1	501.471	125068.47	1.122	100.201	1475951.07	1.020	506.987	94037.19	1.226
7	ICV	198.159	50980.39	1.767	40.562	614376.93	0.955	199.353	38025.27	1.751
8	ICB	<0.000	220.02	N/A	0.003	60.00	138.562	<0.000	0.00	N/A
9	ICVL	0.414	386.69	44.423	0.515	8185.70	2.468	0.468	100.00	60.282
10	icsa	0.246	313.35	226.843	0.139	2040.21	9.228	15.017	2753.69	0.809
11	icsab	20.707	5224.39	3.943	20.729	294880.12	0.649	37.440	6711.68	3.445
12	CRI	0.621	450.03	104.524	1.032	16709.13	4.385	1.163	243.35	27.874
13	CCV	249.302	65311.21	1.669	52.463	810051.71	0.784	251.294	48863.84	0.796
14	CCB	<0.000	260.02	N/A	0.006	113.34	40.108	0.016	10.00	313.558
15	mb 500-48817...	0.322	366.69	193.148	0.006	113.34	37.257	0.049	16.67	153.997
16	lcs 500-488174...	49.868	13472.76	1.757	51.337	804279.65	0.237	58.676	11581.16	0.834
17	500-164190-b-...	0.240	323.35	152.136	0.018	283.35	29.121	0.177	40.00	1.098
18	500-164190-b-...	<0.000	203.34	N/A	0.015	246.68	41.743	0.297	63.33	35.588
19	500-164190-b-...	50.274	13132.47	2.168	49.894	755721.08	0.348	54.594	10417.10	3.987
20	500-164190-b-...	<0.000	273.35	N/A	0.006	120.01	26.469	<0.000	3.33	N/A
21	500-164225-a-...	0.227	303.35	197.964	0.025	380.02	15.215	0.357	70.00	31.668
22	310-155977-a-...	0.331	340.02	101.076	0.027	413.35	16.075	0.147	33.33	58.284
23	500-164077-a-...	1.912	723.38	4.036	0.017	266.68	16.239	2.020	376.69	11.377
24	500-164077-a-...	0.997	503.37	36.152	0.021	333.36	30.627	0.957	183.34	20.801
25	CCV	248.406	62433.49	3.817	52.586	779146.55	1.765	247.587	46186.41	4.475
26	CCB	<0.000	266.68	N/A	0.003	66.67	95.111	0.001	6.67	9481.661

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	0.097	306.68	121.014	0.003	70.00	53.010	<0.000	0.00	N/A
28	lcs 500-487972...	47.793	12745.45	3.128	50.343	777825.33	0.625	54.175	10547.12	3.207
29	500-164188-a-...	<0.000	193.35	N/A	0.007	123.34	31.894	0.087	23.34	190.100
30	500-164188-a-...	0.126	303.35	177.834	0.008	143.34	19.879	0.001	6.67	6974.609
31	500-164188-a-...	0.043	280.01	410.736	0.003	73.34	74.271	0.069	20.00	196.104
32	500-164188-a-...	<0.000	250.01	N/A	0.002	50.00	30.884	0.055	16.67	55.252
33	500-164188-a-...	<0.000	256.68	N/A	0.002	50.00	55.484	0.109	26.67	75.070
34	500-164188-a-...	0.228	310.02	84.244	0.010	166.68	40.083	0.201	43.34	86.336
35	500-164188-a-...	0.097	276.68	31.500	0.004	80.00	15.280	0.112	26.67	57.215
36	CCV	246.251	59308.43	2.783	53.361	757368.40	0.574	252.848	45193.71	2.068
37	CCB	0.110	290.01	230.966	0.006	110.00	48.921	0.019	10.00	478.032
38	500-164208-b-...	0.820	466.70	29.067	0.008	136.68	18.582	0.090	23.33	135.720
39	500-164208-b-...	1.118	543.36	25.263	0.008	136.67	22.967	0.234	50.00	63.155
40	500-164208-b-...	<0.000	243.35	N/A	0.005	96.67	38.115	0.039	13.33	324.330
41	500-164208-f-4-a	0.137	293.35	151.092	0.004	73.33	45.408	0.038	13.33	327.648
42	mb 500-48803...	<0.000	233.34	N/A	0.001	40.00	49.902	<0.000	0.00	N/A
43	lcs 500-488039...	48.217	12335.18	3.944	51.305	760159.65	1.829	55.800	10420.40	2.247
44	500-162180-l-1-a	0.246	316.69	84.466	0.003	66.67	30.125	<0.000	3.33	N/A
45	500-162180-l-2-a	<0.000	240.01	N/A	0.005	83.34	98.627	0.021	10.00	260.277
46	CCV	246.267	59482.44	0.566	52.797	751538.64	0.805	249.788	44772.54	2.431
47	CCB	<0.000	223.34	N/A	0.004	80.00	29.021	0.019	10.00	475.297
48	CCVL	0.371	353.35	136.147	0.518	7758.84	3.581	0.516	103.34	25.546
49	mb 500-48735...	<0.000	196.68	N/A	0.003	70.00	52.106	<0.000	3.33	N/A
50	lcs 500-487353...	48.290	12298.38	4.189	51.597	761620.51	0.266	57.910	10770.63	6.219
51	lcsd 500-48735...	49.770	12885.50	1.221	51.845	778291.58	0.390	56.842	10750.58	1.865
52	310-155929-a-...	0.140	280.01	163.980	0.009	146.67	23.532	0.171	36.67	47.721
53	310-155929-a-...	<0.000	230.01	N/A	0.006	103.34	107.832	0.005	6.67	1241.249
54	310-155929-a-...	0.098	260.01	223.207	0.014	213.35	23.423	0.006	6.67	595.107
55	310-155929-a-...	<0.000	213.34	N/A	0.006	93.34	51.657	<0.000	3.33	N/A
56	310-155929-a-...	0.236	276.68	146.959	0.026	356.68	18.472	0.177	33.33	125.977

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	0.081	223.35	199.006	0.100	1206.77	2.181	<0.000	0.00	N/A
58	310-155929-a-...	<0.000	216.68	N/A	0.003	53.33	54.749	0.110	23.33	63.926
59	/CCV									
60	/CCB									
61	CCV	240.404	58060.74	2.734	52.569	748246.79	0.506	248.939	44618.80	1.407
62	CCB	<0.000	246.68	N/A	0.007	123.34	36.455	<0.000	0.00	N/A
63	310-155929-a-...	0.459	336.69	7.695	0.006	100.00	50.656	0.841	146.67	48.056
64	310-155929-a-...	<0.000	243.34	N/A	0.004	80.00	43.229	<0.000	3.33	N/A
65	310-155929-a-...	0.017	253.35	931.389	0.004	76.67	41.487	0.132	30.00	40.601
66	310-155929-a-...	0.132	290.02	217.181	0.005	90.01	46.061	0.180	40.00	47.262
67	310-155929-a-...	0.050	280.01	406.854	0.007	130.01	31.001	0.070	20.00	74.005
68	CCV	254.677	68433.54	0.357	54.256	859341.55	0.395	256.233	51111.05	1.626
69	CCB	<0.000	276.68	N/A	0.005	103.34	84.115	0.014	10.00	575.470
70	CCVL	0.356	393.35	57.558	0.570	9609.82	2.133	0.612	136.67	19.268

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	<0.000	195.13	N/A	0.184	2366.96	8.989	0.246	3618.92	14.995
2	ICIS	0.000	210.90	N/A	0.000	820.06	N/A	0.000	656.71	N/A
3	Std1	10.153	30432.35	2.235	9.889	81575.49	3.872	9.659	113539.53	2.829
4	Std2	100.306	289213.58	1.003	99.573	787945.77	2.127	99.578	1127073.97	1.999
5	Std3	499.936	1389587.06	1.694	500.088	3814770.05	1.068	500.091	5458193.04	0.936
6	S1	498.744	1392548.40	1.642	502.388	3849926.40	0.379	503.300	5518234.71	0.694
7	ICV	198.992	571454.96	0.942	197.854	1559391.38	1.074	200.503	2260727.31	0.953
8	ICB	<0.000	201.42	N/A	0.127	1843.52	13.620	0.193	2903.72	13.519
9	ICVL	0.491	1684.93	2.835	4.922	41390.31	2.285	2.855	34330.97	0.236
10	icsa	0.243	868.57	96.651	0.040	1043.40	20.244	0.152	2240.25	15.019
11	icsab	20.988	56774.30	0.566	20.984	155985.78	1.226	10.030	106760.48	2.025
12	CRI	0.896	2959.76	8.472	9.801	83260.39	3.558	5.815	70648.09	1.274
13	CCV	250.620	733642.47	0.723	249.986	2008385.80	1.175	248.411	2855192.35	0.670
14	CCB	0.008	237.92	271.365	0.108	1716.84	18.493	0.198	3017.08	14.147
15	mb 500-48817...	0.029	302.27	111.547	0.180	2316.92	15.924	0.101	1860.19	20.971
16	lcs 500-488174...	49.992	148647.50	0.942	979.192	7979534.88	0.511	496.000	5783760.95	0.363
17	500-164190-b-...	0.075	414.13	24.574	0.536	4980.94	9.086	1.506	17530.16	1.827
18	500-164190-b-...	0.016	247.41	90.200	0.392	3870.64	11.678	1.457	17079.60	3.833
19	500-164190-b-...	49.170	141359.48	0.114	974.359	7675788.43	1.559	491.996	5546160.54	1.292
20	500-164190-b-...	0.010	238.59	210.620	0.317	3423.86	11.425	0.326	4494.14	4.049
21	500-164225-a-...	0.014	226.65	377.703	1.093	8832.76	8.721	1.634	17920.49	3.222
22	310-155977-a-...	0.056	354.01	46.339	0.282	2917.04	7.484	0.128	2010.21	5.446
23	500-164077-a-...	1.862	5329.57	5.082	0.702	6058.06	6.671	1.126	12785.55	5.158
24	500-164077-a-...	1.109	3288.29	8.869	0.380	3663.90	4.229	0.155	2303.61	11.222
25	CCV	249.890	701892.28	2.463	249.393	1922765.39	1.201	247.483	2729714.96	1.412
26	CCB	0.010	236.59	164.429	0.105	1660.16	31.854	0.189	2843.70	7.461

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	0.008	237.64	85.567	0.078	1476.79	6.564	0.054	1310.12	48.846
28	lcs 500-487972...	48.448	142074.43	2.079	964.856	7754120.30	1.005	487.625	5607540.13	0.872
29	500-164188-a-...	<0.000	162.67	N/A	0.190	2300.28	2.989	0.078	1520.13	2.259
30	500-164188-a-...	0.021	267.94	71.517	0.081	1446.79	9.088	0.078	1536.81	9.677
31	500-164188-a-...	0.012	239.14	174.289	0.040	1110.09	68.274	0.131	2133.57	12.395
32	500-164188-a-...	0.015	239.80	89.685	0.029	983.41	30.116	0.005	660.04	81.649
33	500-164188-a-...	0.002	200.82	1476.121	0.022	923.40	17.382	<0.000	563.37	N/A
34	500-164188-a-...	0.076	403.70	12.462	0.042	1063.41	21.207	0.115	1850.18	3.418
35	500-164188-a-...	0.006	209.44	36.130	0.027	950.07	31.581	<0.000	436.69	N/A
36	CCV	252.683	679918.01	1.618	250.972	1853483.88	0.653	250.068	2642158.97	0.518
37	CCB	0.013	237.51	112.725	0.095	1513.46	16.342	0.190	2740.36	8.697
38	500-164208-b-...	0.103	488.20	26.273	0.099	1533.47	9.640	0.076	1460.13	20.335
39	500-164208-b-...	0.085	438.15	12.232	0.094	1500.14	45.125	0.084	1550.14	23.482
40	500-164208-b-...	0.036	298.28	27.001	0.067	1276.76	12.190	0.038	1026.74	27.208
41	500-164208-f-4-a	0.054	349.82	25.889	0.065	1266.79	57.701	0.043	1090.09	33.036
42	mb 500-48803...	<0.000	188.28	N/A	0.028	1003.41	41.854	0.030	970.08	68.632
43	lcs 500-488039...	49.691	139751.20	1.362	973.775	7505379.05	1.253	495.847	5468481.79	1.505
44	500-162180-l-1-a	0.023	258.37	53.967	0.165	2010.21	21.083	0.058	1236.78	25.402
45	500-162180-l-2-a	<0.000	189.31	N/A	0.096	1470.14	12.686	0.034	963.40	24.366
46	CCV	250.618	676349.03	0.773	248.167	1838021.80	1.183	248.928	2637506.00	1.828
47	CCB	<0.000	196.57	N/A	0.103	1576.81	15.530	0.190	2743.69	11.447
48	CCVL	0.467	1519.18	14.392	4.947	39188.40	2.482	2.846	32239.66	2.158
49	mb 500-48735...	<0.000	156.69	N/A	0.071	1326.78	6.366	0.036	1020.08	40.771
50	lcs 500-487353...	48.875	136927.90	1.411	968.666	7437591.55	0.218	492.747	5413720.75	0.284
51	lcsd 500-48735...	50.062	142632.40	1.884	973.751	7603584.89	0.702	495.645	5537954.92	1.007
52	310-155929-a-...	0.030	267.92	120.762	0.348	3290.44	13.047	0.159	2250.25	14.467
53	310-155929-a-...	0.025	245.25	119.944	0.256	2523.64	1.599	0.134	1923.53	6.702
54	310-155929-a-...	0.035	271.50	13.350	0.163	1850.19	22.708	0.147	2046.89	13.723
55	310-155929-a-...	0.010	196.09	70.348	0.142	1613.49	11.761	0.203	2476.97	3.914
56	310-155929-a-...	0.030	245.62	70.082	0.327	2850.37	10.226	0.259	3020.39	13.126

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	0.034	233.97	32.381	0.471	3523.99	12.718	0.155	1863.52	14.600
58	310-155929-a-...	0.015	207.18	62.266	0.042	940.06	22.022	0.034	856.73	33.384
59	/CCV									
60	/CCB									
61	CCV	247.642	668244.85	0.933	245.941	1821385.76	0.800	246.297	2609540.43	0.891
62	CCB	0.016	235.13	159.438	0.135	1746.83	8.780	0.210	2838.70	4.819
63	310-155929-a-...	0.040	279.85	110.209	0.133	1610.15	15.247	0.248	3020.42	13.307
64	310-155929-a-...	0.023	265.67	63.299	0.084	1433.49	41.545	0.135	2140.24	10.516
65	310-155929-a-...	0.031	274.71	54.088	0.062	1193.43	21.465	0.152	2200.26	9.281
66	310-155929-a-...	0.013	231.99	285.877	0.046	1110.09	48.067	0.152	2273.60	12.434
67	310-155929-a-...	0.021	265.80	54.356	0.236	2673.68	10.617	0.138	2203.58	5.785
68	CCV	259.383	778858.33	0.756	255.177	2102849.40	1.297	254.531	3000895.89	0.911
69	CCB	0.008	247.32	127.163	0.106	1773.53	12.398	0.197	3130.44	10.740
70	CCVL	0.489	1780.69	16.543	5.074	45220.55	1.850	2.993	38135.97	1.495

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
1	blk I.S /tune	0.004	63.33	248.793						
2	ICIS	0.000	46.67	N/A						
3	Std1	10.058	39229.15	1.173						
4	Std2	99.887	381825.65	1.427						
5	Std3	500.021	1874597.89	2.036						
6	S1	503.234	1888587.73	1.932						
7	ICV	199.099	763493.14	0.754						
8	ICB	0.013	96.67	96.318						
9	ICVL	2.422	9563.21	3.810						
10	icsa	0.750	2930.41	10.668						
11	icsab	20.136	76942.12	1.608						
12	CRI	4.939	19536.09	1.582						
13	CCV	252.262	983388.37	0.679						
14	CCB	<0.000	30.00	N/A						
15	mb 500-48817...	0.297	1206.76	14.050						
16	lcs 500-488174...	500.090	1958683.77	1.283						
17	500-164190-b-...	68.783	263797.63	0.366						
18	500-164190-b-...	71.272	273609.67	1.020						
19	500-164190-b-...	559.495	2120429.55	1.456						
20	500-164190-b-...	14.077	54835.02	2.272						
21	500-164225-a-...	1.601	5868.00	7.596						
22	310-155977-a-...	104.098	394586.31	0.669						
23	500-164077-a-...	186.426	674226.26	0.786						
24	500-164077-a-...	172.475	634853.94	2.443						
25	CCV	248.821	936498.58	0.716						
26	CCB	0.003	56.67	290.878						

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
27	mb 500-48797...	0.121	513.36	15.891						
28	lcs 500-487972...	1981.767	7531885.10	1.490						
29	500-164188-a-...	4.011	15217.85	2.796						
30	500-164188-a-...	9.937	37942.91	3.284						
31	500-164188-a-...	6.638	25294.33	2.636						
32	500-164188-a-...	15.385	56745.50	1.710						
33	500-164188-a-...	16.847	60789.78	1.626						
34	500-164188-a-...	31.300	112087.10	0.668						
35	500-164188-a-...	17.676	64122.63	2.445						
36	CCV	255.469	906458.92	0.896						
37	CCB	0.002	50.00	485.751						
38	500-164208-b-...	15.024	57547.73	2.938						
39	500-164208-b-...	20.958	79126.05	0.356						
40	500-164208-b-...	18.348	66174.74	0.586						
41	500-164208-f-4-a	28.792	105259.03	0.950						
42	mb 500-48803...	0.057	253.35	33.849						
43	lcs 500-488039...	510.084	1834222.89	1.626						
44	500-162180-l-1-a	14.222	51420.46	0.658						
45	500-162180-l-2-a	14.588	52447.22	0.838						
46	CCV	254.018	900105.46	1.397						
47	CCB	0.028	140.01	57.314						
48	CCVL	2.562	9263.05	3.958						
49	mb 500-48735...	0.091	373.35	20.820						
50	lcs 500-487353...	503.007	1801900.65	0.910						
51	lcsd 500-48735...	515.852	1876358.88	0.844						
52	310-155929-a-...	68.171	244079.59	1.681						
53	310-155929-a-...	186.401	634344.50	1.023						
54	310-155929-a-...	110.270	384485.47	1.636						
55	310-155929-a-...	103.618	338940.59	1.157						
56	310-155929-a-...	106.627	352580.82	0.813						

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
57	310-155929-a-...	83.613	254074.92	1.049						
58	310-155929-a-...	10.747	33943.59	4.038						
59	/CCV									
60	/CCB									
61	CCV	253.498	892762.28	0.447						
62	CCB	0.016	96.67	102.907						
63	310-155929-a-...	52.387	181751.28	1.886						
64	310-155929-a-...	207.019	793296.24	0.277						
65	310-155929-a-...	175.023	636418.79	1.066						
66	310-155929-a-...	134.313	503829.64	1.841						
67	310-155929-a-...	110.001	426108.26	0.723						
68	CCV	253.444	1028876.96	1.648						
69	CCB	0.008	80.00	118.461						
70	CCVL	2.539	10493.89	5.424						

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.001	143.34	118.588	<0.000	63.33	N/A	<0.000	46.67	N/A
2	ICIS	0.000	113.34	N/A	0.000	76.67	N/A	0.000	56.67	N/A
3	Std1	9.986	259364.98	1.934	10.192	87092.19	1.913	10.298	76389.81	0.685
4	Std2	99.610	2535595.43	0.631	101.239	848138.84	0.812	101.082	735129.44	1.173
5	Std3	500.078	12113710.24	0.668	499.748	4106235.46	1.722	499.778	3564921.82	1.746
6	S1	504.919	12238886.49	1.497	501.731	4127247.44	0.854	500.255	3572333.38	1.341
7	ICV	202.466	5033324.20	0.979	200.378	1684011.85	0.507	198.377	1447316.17	0.715
8	ICB	0.037	1086.76	7.032	0.041	416.69	9.621	0.051	426.69	30.962
9	ICVL	1.959	53183.66	2.198	0.517	4530.87	2.390	0.523	3970.71	0.709
10	icsa	0.050	1326.78	15.592	0.341	2953.74	4.178	0.319	2390.28	12.972
11	icsab	9.773	237883.30	0.514	19.589	164019.41	1.710	19.575	142280.78	1.967
12	CRI	3.940	107124.61	1.770	1.026	8956.28	2.679	1.099	8305.93	3.270
13	CCV	253.907	6506416.57	2.282	253.514	2165839.13	0.419	252.637	1873715.34	0.096
14	CCB	0.024	773.39	9.444	0.032	350.02	59.054	0.037	333.35	17.090
15	mb 500-48817...	0.024	806.73	14.666	0.112	1036.75	12.087	0.105	836.72	12.455
16	lcs 500-488174...	100.567	2640565.69	0.848	104.692	898708.58	1.212	104.934	782011.76	0.412
17	500-164190-b-...	0.389	9900.30	2.721	2.079	17547.38	0.756	1.971	14430.78	5.048
18	500-164190-b-...	0.371	9550.06	3.127	2.173	18351.70	4.383	1.956	14343.92	5.415
19	500-164190-b-...	101.468	2544154.29	1.974	103.983	863741.68	1.235	103.844	748869.81	0.635
20	500-164190-b-...	0.088	2413.63	5.051	0.454	3947.35	7.675	0.418	3153.80	2.740
21	500-164225-a-...	0.061	1526.81	1.669	0.114	980.07	7.972	0.121	886.74	14.879
22	310-155977-a-...	0.020	626.71	14.286	0.828	6958.55	5.240	0.848	6168.22	8.164
23	500-164077-a-...	0.024	2533.66	9.886	25.776	204366.99	0.753	24.930	171578.57	0.733
24	500-164077-a-...	0.007	316.69	25.936	10.927	88225.63	2.097	10.593	74221.77	3.465
25	CCV	251.602	6287390.53	2.841	252.490	2082663.04	0.494	254.049	1819152.68	0.483
26	CCB	0.021	660.04	16.475	0.021	253.35	44.540	0.031	276.68	35.944

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	0.007	303.35	9.144	0.066	636.71	19.971	0.063	520.03	29.028
28	lcs 500-487972...	0.625	2494184.39	0.064	101.453	845148.16	0.643	101.742	735731.37	1.704
29	500-164188-a-...	0.016	516.70	11.302	0.041	416.70	27.929	0.041	346.69	28.717
30	500-164188-a-...	0.011	386.69	20.813	0.029	316.69	12.054	0.031	283.35	33.000
31	500-164188-a-...	0.001	143.34	175.949	0.045	453.36	30.980	0.042	360.03	18.094
32	500-164188-a-...	0.002	160.01	165.191	0.035	353.36	30.675	0.029	256.68	12.959
33	500-164188-a-...	0.003	170.01	74.896	0.091	790.06	12.923	0.089	666.71	26.929
34	500-164188-a-...	0.029	800.05	2.614	0.304	2456.96	2.304	0.286	2000.22	14.329
35	500-164188-a-...	0.001	136.67	100.772	0.109	936.74	14.200	0.100	743.39	10.513
36	CCV	256.709	6067324.49	1.336	260.746	2027563.51	0.614	259.972	1754963.31	0.619
37	CCB	0.022	663.38	15.236	0.026	280.01	30.116	0.028	246.68	39.948
38	500-164208-b-...	0.023	710.05	21.550	0.135	1210.11	15.115	0.134	1033.42	8.740
39	500-164208-b-...	0.023	710.05	29.171	0.176	1530.14	7.740	0.154	1156.76	15.817
40	500-164208-b-...	0.019	586.70	14.773	0.069	620.04	7.295	0.074	560.03	12.970
41	500-164208-f-4-a	0.022	673.38	4.426	0.071	640.04	5.435	0.064	500.03	17.354
42	mb 500-48803...	0.001	150.01	73.844	0.043	420.02	12.898	0.050	400.03	10.521
43	lcs 500-488039...	96.943	2491804.02	0.773	107.739	849111.26	1.786	107.174	733226.97	2.331
44	500-162180-l-1-a	0.014	473.36	13.522	0.084	740.05	10.601	0.078	586.70	32.472
45	500-162180-l-2-a	0.005	233.34	3.052	0.070	620.04	19.011	0.071	536.70	20.154
46	CCV	259.987	6062951.57	1.295	260.625	2023979.45	1.140	261.068	1760010.76	1.317
47	CCB	0.029	816.72	8.946	0.033	326.69	34.862	0.032	266.68	9.462
48	CCVL	1.981	49682.15	1.332	0.543	4357.48	6.874	0.579	4017.37	6.315
49	mb 500-48735...	0.003	183.35	69.813	0.053	490.03	8.168	0.049	390.02	22.903
50	lcs 500-487353...	100.955	2482317.26	1.168	107.297	842467.70	0.225	107.308	731434.55	0.344
51	lcsd 500-48735...	100.730	2548305.17	1.870	108.413	864265.40	1.030	108.391	750161.32	0.652
52	310-155929-a-...	0.016	500.03	9.817	0.797	6324.93	2.827	0.796	5471.20	4.388
53	310-155929-a-...	0.012	370.02	13.750	0.060	516.70	10.075	0.066	476.69	20.949
54	310-155929-a-...	0.008	280.02	31.973	0.061	536.71	24.730	0.055	416.69	4.335
55	310-155929-a-...	0.010	336.69	45.285	0.116	900.07	11.247	0.098	660.04	13.303
56	310-155929-a-...	0.019	526.70	5.494	0.472	3483.89	5.189	0.441	2827.06	11.600

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	0.006	216.68	25.454	3.263	21789.62	4.500	3.362	19479.91	1.862
58	310-155929-a-...	<0.000	80.00	N/A	0.027	250.01	44.819	0.028	216.68	7.812
59	/CCV									
60	/CCB									
61	CCV	257.845	6022167.62	0.954	260.050	2007129.97	0.758	262.268	1757293.57	0.301
62	CCB	0.031	833.40	16.096	0.033	316.68	38.834	0.040	316.68	26.931
63	310-155929-a-...	0.008	286.68	50.951	0.097	806.72	3.933	0.088	633.38	12.605
64	310-155929-a-...	0.004	223.35	42.262	0.125	1130.09	11.844	0.114	886.73	18.581
65	310-155929-a-...	0.004	206.68	75.112	0.026	280.02	32.839	0.048	386.69	5.003
66	310-155929-a-...	0.003	200.01	93.011	0.064	600.04	14.018	0.043	363.35	24.063
67	310-155929-a-...	0.005	243.35	50.897	0.326	2847.05	6.591	0.316	2383.62	5.037
68	CCV	259.651	6970322.40	1.801	260.846	2320745.12	1.494	260.784	2014140.80	1.910
69	CCB	0.029	956.74	11.146	0.026	313.35	8.810	0.029	286.68	14.513
70	CCVL	2.028	58637.05	1.443	0.561	5137.73	1.673	0.544	4317.45	2.695

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.000	243.34	382.833	0.001	70.00	108.812
2	ICIS	0.000	236.68	N/A	0.000	26.67	N/A
3	Std1	10.175	349699.28	1.440	9.442	341476.48	1.374
4	Std2	100.230	3377841.33	1.200	96.441	3418877.35	0.927
5	Std3	499.950	16525460.48	1.771	500.723	16892443.08	0.893
6	S1	499.750	16536707.15	1.388	502.249	16954331.83	2.073
7	ICV	197.787	6686952.97	0.520	199.311	6900748.65	1.243
8	ICB	0.047	1796.79	3.435	0.011	413.36	15.863
9	ICVL	0.518	18201.79	2.553	9.266	349547.16	1.993
10	icsa	0.326	11282.09	4.222	0.022	780.06	7.979
11	icsab	19.381	652783.76	1.515	19.796	670833.11	0.453
12	CRI	1.049	36722.01	2.667	18.604	703688.69	1.593
13	CCV	251.838	8655314.82	0.156	250.796	8950452.16	2.472
14	CCB	0.039	1586.78	11.482	0.010	413.36	14.442
15	mb 500-48817...	0.105	3850.36	4.428	0.005	220.01	34.553
16	lcs 500-488174...	103.597	3577600.72	0.827	97.094	3550552.76	0.764
17	500-164190-b-...	2.000	67858.25	1.440	1.380	48362.99	1.422
18	500-164190-b-...	2.039	69247.35	1.590	1.420	50319.72	2.551
19	500-164190-b-...	103.032	3443077.29	0.650	100.327	3503535.99	1.700
20	500-164190-b-...	0.416	14519.93	4.277	0.274	10017.20	9.422
21	500-164225-a-...	0.115	3913.71	7.041	0.062	2060.22	10.725
22	310-155977-a-...	0.827	27874.46	1.004	1.730	62402.03	0.910
23	500-164077-a-...	25.093	800254.96	0.728	0.002	310.02	49.724
24	500-164077-a-...	10.626	345031.45	2.632	0.009	380.02	0.787
25	CCV	252.068	8364234.93	0.225	249.411	8681123.00	2.421
26	CCB	0.027	1133.40	23.781	0.010	383.36	35.522

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	mb 500-48797...	0.068	2546.87	8.910	0.003	160.01	38.191
28	lcs 500-487972...	101.014	3385102.11	0.956	<0.000	150.01	N/A
29	500-164188-a-...	0.040	1553.44	11.273	0.043	1583.50	15.529
30	500-164188-a-...	0.034	1376.76	7.850	0.402	14647.68	0.558
31	500-164188-a-...	0.047	1813.46	10.707	0.206	7308.80	4.580
32	500-164188-a-...	0.034	1330.08	5.304	0.249	8662.89	3.136
33	500-164188-a-...	0.093	3163.61	3.393	0.129	4380.83	13.990
34	500-164188-a-...	0.299	9644.97	4.847	0.424	14314.08	6.331
35	500-164188-a-...	0.103	3526.98	5.181	0.121	4180.78	7.424
36	CCV	259.085	8104704.57	0.319	254.549	8379545.50	0.820
37	CCB	0.029	1163.40	16.393	0.008	323.35	5.487
38	500-164208-b-...	0.132	4690.53	3.920	0.277	10020.49	1.656
39	500-164208-b-...	0.171	5920.73	3.514	0.268	9670.21	6.034
40	500-164208-b-...	0.066	2310.16	5.828	0.029	1043.41	6.494
41	500-164208-f-4-a	0.071	2523.53	5.546	0.072	2573.66	4.133
42	mb 500-48803...	0.049	1793.46	9.382	0.002	93.34	73.865
43	lcs 500-488039...	106.408	3373626.18	1.755	93.188	3335749.64	1.450
44	500-162180-l-1-a	0.077	2690.20	6.471	0.050	1813.54	15.031
45	500-162180-l-2-a	0.070	2423.52	12.878	0.048	1753.52	6.433
46	CCV	259.134	8095377.64	1.404	255.691	8304763.21	1.082
47	CCB	0.029	1106.74	5.930	0.009	343.36	4.322
48	CCVL	0.534	17174.40	4.026	9.455	329504.98	0.509
49	mb 500-48735...	0.050	1810.11	7.365	0.002	110.01	42.353
50	lcs 500-487353...	106.285	3357080.14	0.408	96.279	3296817.66	2.079
51	lcsd 500-48735...	107.691	3453620.60	1.121	95.784	3374834.64	1.815
52	310-155929-a-...	0.791	25189.24	0.998	0.042	1456.81	7.655
53	310-155929-a-...	0.066	2203.50	14.694	7.996	259885.57	1.887
54	310-155929-a-...	0.063	2160.16	7.745	2.073	68330.95	1.002
55	310-155929-a-...	0.111	3400.30	3.442	8.674	274650.22	2.134
56	310-155929-a-...	0.445	13176.12	1.512	1.377	43337.51	4.004

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	310-155929-a-...	3.267	87698.10	1.144	1.394	41301.77	2.081
58	310-155929-a-...	0.027	943.38	18.544	0.107	3340.53	6.819
59	/CCV						
60	/CCB						
61	CCV	259.628	8061303.16	0.258	254.376	8274793.63	0.425
62	CCB	0.037	1353.41	7.362	0.012	426.69	36.987
63	310-155929-a-...	0.084	2773.55	11.149	0.526	17304.02	3.136
64	310-155929-a-...	0.114	4093.72	8.232	7.727	282183.60	0.164
65	310-155929-a-...	0.040	1496.76	9.398	0.745	25629.55	2.508
66	310-155929-a-...	0.051	1916.79	4.677	0.058	2146.91	8.338
67	310-155929-a-...	0.312	10898.67	1.514	2.055	75217.65	3.560
68	CCV	259.256	9279247.62	1.407	256.012	9572040.90	1.568
69	CCB	0.030	1320.08	9.903	0.015	636.71	9.805
70	CCVL	0.547	20102.73	1.628	9.501	381603.37	3.290

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
1	blk I.S /tune	107125.64	100.0	83906.06	100.0	128890.46	100.0
2	ICIS	105802.11	100.0	83950.07	100.0	127902.67	100.0
3	Std1	106740.93	100.9	84294.41	100.4	125610.79	98.2
4	Std2	104778.66	99.0	82023.03	97.7	121573.39	95.1
5	Std3	104249.22	98.5	80934.40	96.4	117260.57	91.7
6	S1	103531.48	97.9	81674.74	97.3	117793.92	92.1
7	ICV	105184.68	99.4	82535.64	98.3	121117.55	94.7
8	ICB	102705.59	97.1	80639.92	96.1	125596.94	98.2
9	ICVL	105371.96	99.6	84157.03	100.2	126760.79	99.1
10	icsa	111078.18	105.0	83098.22	99.0	116189.43	90.8
11	icsab	109538.29	103.5	83125.13	99.0	113745.57	88.9
12	CRI	109057.73	103.1	86417.76	102.9	129313.16	101.1
13	CCV	108213.55	102.3	84066.54	100.1	123465.31	96.5
14	CCB	106029.54	100.2	83610.72	99.6	127968.65	100.1
15	mb 500-48817...	105157.79	99.4	83449.83	99.4	128169.98	100.2
16	lcs 500-488174...	107013.49	101.1	84917.81	101.2	125272.74	97.9
17	500-164190-b-...	108521.40	102.6	82830.47	98.7	120704.96	94.4
18	500-164190-b-...	108283.63	102.3	83410.60	99.4	121376.55	94.9
19	500-164190-b-...	108950.21	103.0	81035.10	96.5	121114.63	94.7
20	500-164190-b-...	108645.97	102.7	84046.40	100.1	126564.47	99.0
21	500-164225-a-...	107192.97	101.3	79922.67	95.2	114034.44	89.2
22	310-155977-a-...	110212.16	104.2	95024.96	113.2	118016.02	92.3
23	500-164077-a-...	103577.96	97.9	80067.22	95.4	116390.19	91.0
24	500-164077-a-...	105416.01	99.6	80526.14	95.9	117683.37	92.0
25	CCV	102847.01	97.2	80626.11	96.0	118498.84	92.6
26	CCB	104098.11	98.4	81480.37	97.1	125090.91	97.8

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
27	mb 500-48797...	107666.31	101.8	84978.17	101.2	128826.16	100.7
28	lcs 500-487972...	106321.35	100.5	81309.62	96.9	123546.09	96.6
29	500-164188-a-...	104376.19	98.7	82364.74	98.1	122621.40	95.9
30	500-164188-a-...	108380.37	102.4	83976.11	100.0	124096.29	97.0
31	500-164188-a-...	107223.35	101.3	83621.62	99.6	123519.15	96.6
32	500-164188-a-...	104534.09	98.8	80820.57	96.3	118888.25	93.0
33	500-164188-a-...	103198.83	97.5	81476.84	97.1	118320.35	92.5
34	500-164188-a-...	102042.35	96.4	82615.83	98.4	116786.64	91.3
35	500-164188-a-...	103279.83	97.6	80070.02	95.4	116242.31	90.9
36	CCV	99742.23	94.3	76520.18	91.1	113494.91	88.7
37	CCB	99725.76	94.3	78117.28	93.1	120338.40	94.1
38	500-164208-b-...	105268.73	99.5	153742.53	183.1	119392.45	93.3
39	500-164208-b-...	105325.54	99.5	150717.85	179.5	119512.05	93.4
40	500-164208-b-...	101167.30	95.6	78168.13	93.1	118398.03	92.6
41	500-164208-f-4-a	101790.85	96.2	89133.71	106.2	118959.53	93.0
42	mb 500-48803...	104001.18	98.3	79129.03	94.3	121809.08	95.2
43	lcs 500-488039...	101267.31	95.7	78774.07	93.8	118495.76	92.6
44	500-162180-l-1-a	105842.17	100.0	80119.77	95.4	117290.67	91.7
45	500-162180-l-2-a	104533.79	98.8	79125.51	94.3	116041.76	90.7
46	CCV	98347.31	93.0	77313.68	92.1	113827.15	89.0
47	CCB	98529.05	93.1	77133.21	91.9	120086.69	93.9
48	CCVL	100023.98	94.5	79520.87	94.7	119409.47	93.4
49	mb 500-48735...	101821.18	96.2	78542.82	93.6	120449.39	94.2
50	lcs 500-487353...	100249.13	94.8	79189.49	94.3	118032.84	92.3
51	lcsd 500-48735...	101884.37	96.3	79380.69	94.6	120039.18	93.9
52	310-155929-a-...	107405.47	101.5	79604.31	94.8	113403.48	88.7
53	310-155929-a-...	101934.59	96.3	75180.53	89.6	109407.51	85.5
54	310-155929-a-...	102917.25	97.3	75780.65	90.3	108976.69	85.2
55	310-155929-a-...	99541.13	94.1	71772.82	85.5	103273.47	80.7
56	310-155929-a-...	98170.28	92.8	79286.74	94.4	103234.28	80.7

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
57	310-155929-a-...	89121.45	84.2	66935.95	79.7	95264.98	74.5
58	310-155929-a-...	92077.10	87.0	70379.32	83.8	103032.25	80.6
59	/CCV						
60	/CCB						
61	CCV	97047.04	91.7	75824.17	90.3	113813.41	89.0
62	CCB	94275.59	89.1	73851.34	88.0	114873.60	89.8
63	310-155929-a-...	100604.82	95.1	75154.26	89.5	107007.17	83.7
64	310-155929-a-...	113452.91	107.2	83108.39	99.0	120809.36	94.5
65	310-155929-a-...	106197.43	100.4	76520.29	91.1	114384.48	89.4
66	310-155929-a-...	108197.37	102.3	80344.89	95.7	117754.64	92.1
67	310-155929-a-...	114620.69	108.3	84043.51	100.1	122712.49	95.9
68	CCV	109092.22	103.1	86267.31	102.8	126649.19	99.0
69	CCB	108423.81	102.5	86558.99	103.1	133216.62	104.2
70	CCVL	111486.80	105.4	88797.69	105.8	134422.35	105.1

ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
1	blk I.S /tune	156359.89	100.0	95584.04	100.0
2	ICIS	154786.76	100.0	92008.89	100.0
3	Std1	156460.85	101.1	91194.46	99.1
4	Std2	153511.79	99.2	89383.10	97.1
5	Std3	150590.36	97.3	85061.35	92.4
6	S1	150752.70	97.4	85131.58	92.5
7	ICV	154001.85	99.5	87300.17	94.9
8	ICB	152169.85	98.3	92415.06	100.4
9	ICVL	157839.11	102.0	95124.32	103.4
10	icsa	154500.70	99.8	86128.00	93.6
11	icsab	153377.07	99.1	85434.00	92.9
12	CRI	158477.22	102.4	95371.71	103.7
13	CCV	156549.46	101.1	90013.24	97.8
14	CCB	156496.54	101.1	95570.17	103.9
15	mb 500-48817...	157047.39	101.5	98722.89	107.3
16	lcs 500-488174...	157299.05	101.6	92199.49	100.2
17	500-164190-b-...	153996.60	99.5	88289.59	96.0
18	500-164190-b-...	154146.60	99.6	89299.36	97.1
19	500-164190-b-...	152220.55	98.3	88058.73	95.7
20	500-164190-b-...	156354.39	101.0	92059.75	100.1
21	500-164225-a-...	146014.61	94.3	82317.19	89.5
22	310-155977-a-...	152219.83	98.3	90916.22	98.8
23	500-164077-a-...	145237.59	93.8	309252.17	336.1
24	500-164077-a-...	147888.95	95.5	96428.69	104.8
25	CCV	151147.60	97.6	87794.37	95.4
26	CCB	151717.50	98.0	92557.80	100.6

ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
27	mb 500-48797...	155669.31	100.6	95949.74	104.3
28	lcs 500-487972...	152647.43	98.6	13906539.79	15114.3
29	500-164188-a-...	151953.90	98.2	90885.88	98.8
30	500-164188-a-...	153182.65	99.0	91622.38	99.6
31	500-164188-a-...	152794.39	98.7	88960.53	96.7
32	500-164188-a-...	148048.09	95.6	87539.15	95.1
33	500-164188-a-...	144823.46	93.6	85416.48	92.8
34	500-164188-a-...	143767.33	92.9	84907.31	92.3
35	500-164188-a-...	145584.59	94.1	86382.44	93.9
36	CCV	142489.79	92.1	83003.96	90.2
37	CCB	145382.68	93.9	88879.50	96.6
38	500-164208-b-...	153750.68	99.3	90850.91	98.7
39	500-164208-b-...	151539.72	97.9	90881.34	98.8
40	500-164208-b-...	144747.89	93.5	88400.53	96.1
41	500-164208-f-4-a	146769.62	94.8	89127.71	96.9
42	mb 500-48803...	146869.64	94.9	92112.30	100.1
43	lcs 500-488039...	144430.89	93.3	90261.45	98.1
44	500-162180-l-1-a	145076.15	93.7	90888.64	98.8
45	500-162180-l-2-a	144280.36	93.2	91126.77	99.0
46	CCV	142318.84	91.9	81894.20	89.0
47	CCB	140632.45	90.9	86600.20	94.1
48	CCVL	144524.93	93.4	87857.56	95.5
49	mb 500-48735...	144918.74	93.6	90995.47	98.9
50	lcs 500-487353...	143872.06	92.9	86345.35	93.8
51	lcsd 500-48735...	146085.82	94.4	88850.10	96.6
52	310-155929-a-...	143774.93	92.9	85956.10	93.4
53	310-155929-a-...	136669.14	88.3	81950.90	89.1
54	310-155929-a-...	140034.32	90.5	83060.59	90.3
55	310-155929-a-...	131355.60	84.9	79846.61	86.8
56	310-155929-a-...	132783.43	85.8	79405.06	86.3

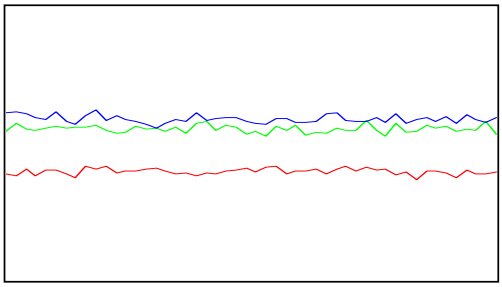
ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
57	310-155929-a-...	122013.29	78.8	74650.64	81.1
58	310-155929-a-...	126734.15	81.9	78272.30	85.1
59	/CCV				
60	/CCB				
61	CCV	141430.33	91.4	82015.58	89.1
62	CCB	139167.45	89.9	83734.80	91.0
63	310-155929-a-...	139305.70	90.0	82843.06	90.0
64	310-155929-a-...	153888.77	99.4	92068.87	100.1
65	310-155929-a-...	146038.52	94.3	86650.98	94.2
66	310-155929-a-...	150682.86	97.3	91968.70	100.0
67	310-155929-a-...	155559.82	100.5	92303.80	100.3
68	CCV	163055.41	105.3	94282.39	102.5
69	CCB	162618.65	105.1	99947.57	108.6
70	CCVL	165225.65	106.7	101314.09	110.1

Tune Report

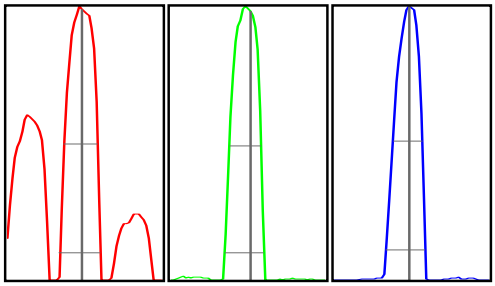
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Acq. Date-Time 6/3/2019 10:03
Report Comment 072015Atune
Instrument Name G3281A JP11040848

[He]



Mass	Range	Count	RSD%	Background
59	5000	1987	2.863	
89	5000	2761	2.424	
205	5000	2942	2.508	

Ratio 156/140 1.385 %
Integration Time [sec] 0.1 **Sampling Period [sec]** 0.31



Mass	Peak Height	Axis	W-50%	W-10%
59	1957.71	59.00	0.62	0.765
89	2727.82	89.05	0.59	0.752
205	2939.42	205.00	0.54	0.745

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.54 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1500 W	Nebulizer Pump	0.10 rps
RF Matching	1.80 V	S/C Temp	2 ℃
Smpl Depth	9.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-50 V
Extract 2	-200.0 V	Cell Exit	-80 V
Omega Bias	-100 V	Deflect	3.0 V
Omega Lens	8.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V

Tune Report

He Flow	3.5 mL/min	OctP RF	190 V
H2 Flow	0.0 mL/min	Energy Discrimination	3.0 V
3rd Gas Flow	0 %		

[no gas]

Mass	Range	Count	RSD%	Background
7	2000	1673	2.443	3.300
89	10000	5937	2.253	5.500
205	5000	3940	2.848	9.500

Ratio 156/140 1.553 % **Ratio** 70/140 23.323 %

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.311

Mass	Peak Height	Axis	W-50%	W-10%
7	1645.58	7.00	0.66	0.805
89	6042.38	89.00	0.59	0.757
205	3938.69	205.00	0.57	0.767

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.74 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.80 V	S/C Temp	2 ℃
Smpl Depth	9.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-34 V
Extract 2	-200.0 V	Cell Exit	-60 V
Omega Bias	-80 V	Deflect	14.2 V
Omega Lens	10.1 V	Plate Bias	-50 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V
He Flow	0.0 mL/min	OctP RF	190 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Fisher\PlasmaLab\TEMPLATES\6020A.tet
Created By User	ThermoFisher
Analyte Database	STL_CCT.tea
Creation Timestamp	10/31/2007 1:09:22 PM
Last Edited By	CHIINSTICPMS5
Last Edit Timestamp	5/31/2019 3:05:35 PM
Instrument Detector	Simultaneous
Database Version	3,51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.
Underlining indicates that a data warning flag is set.

Column headings
- **No flag**
- **Semi Quant**
- **Standard Addition**
- **Multi Element**

Result cells
- Internal Standard
- Excluded
- QC Warning
- QC Failure

Transient TRA only:
- Peak Not Found
- Manually Edited
- Merged Peak

Data warning flags
I - Invalid calibration
T - Tripped
F - Interference correction failed
M - Result over max
V - Valley integration failed
D - Different method used

Setup

Main Run Setup

Main Run	Peak Jumping
Sweeps	15
Dwell Time	10000
Channels Per Mass	1
Acquisition Duration	18892
Channel Spacing	0.02

Peak Jump Regions

Analyte	Channels	Dwell ms	Resolution
7Li	1	10000	Standard
9Be	1	100000	Standard
11B	1	80000	Standard
23Na	1	30000	Standard
24Mg	1	30000	Standard
27Al	1	30000	Standard
39K	1	30000	Standard
44Ca	1	30000	Standard
45Sc	1	10000	Standard
47Ti	1	30000	Standard
51V	1	30000	Standard
52Cr	1	30000	Standard
54Fe	1	30000	Standard
55Mn	1	30000	Standard
59Co	1	30000	Standard
60Ni	1	30000	Standard
63Cu	1	30000	Standard
66Zn	1	30000	Standard
75As	1	100000	Standard
78Se	1	250000	Standard
88Sr	1	30000	Standard
89Y	1	10000	Standard
95Mo	1	10000	Standard
103Rh	1	30000	Standard
107Ag	1	10000	Standard
111Cd	1	10000	Standard
115In	1	10000	Standard
118Sn	1	10000	Standard
121Sb	1	10000	Standard

137Ba	1	10000	Standard
159Tb	1	10000	Standard
205Tl	1	10000	Standard
206Pb	1	10000	Standard
207Pb	1	10000	Standard
208Pb	1	10000	Standard
209Bi	1	10000	Standard
238U	1	10000	Standard

Calibration Technique

Use External Drift Correction - Yes
Calibrate by - Element

Symbol	Interference Correction	RSF	Calibration Method	Line Fit	Weighting	Forcing	Use for Semi-Quant	Max Error	Minimum Correlation
7Li	Yes	1.00	None				No		
9Be	Yes	0.75	Fully-Quantified	Linear	None	Through Blank	Yes		0.000000
11B	Yes	0.58	Fully-Quantified	Linear	None	Through Blank	Yes		0.000000
23Na	Yes	1.00	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
24Mg	Yes	0.98	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
27Al	Yes	0.98	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
39K	Yes	1.00	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
44Ca	Yes	0.99	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
47Ti	Yes	0.99	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
51V	Yes	0.99	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
52Cr	Yes	0.98	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
55Mn	Yes	0.95	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
54Fe	Yes	0.96	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
59Co	Yes	0.93	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
60Ni	No	0.91	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
63Cu	Yes	0.90	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
66Zn	Yes	0.38	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
75As	Yes	0.07	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
78Se	Yes	0.10	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
88Sr	Yes	0.96	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
89Y	Yes	0.98	None				No		
95Mo	Yes	0.98	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
103Rh	Yes	0.94	None				No		
107Ag	Yes	0.93	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
111Cd	Yes	0.57	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
115In	Yes	0.99	None				No		
118Sn	Yes	0.96	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
121Sb	Yes	0.39	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
137Ba	Yes	0.91	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
159Tb	Yes	0.99	None				No		
206Pb	Yes	0.97	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
207Pb	Yes	0.97	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
208Pb	Yes	0.97	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
209Bi	Yes	0.92	None				No		
238U	Yes	1.00	None				No		
205Tl	Yes	1.00	Fully-Quantified	Linear	None	Through Blank	Yes		0.995000
45Sc	Yes	1.00	None				No		

Sample List

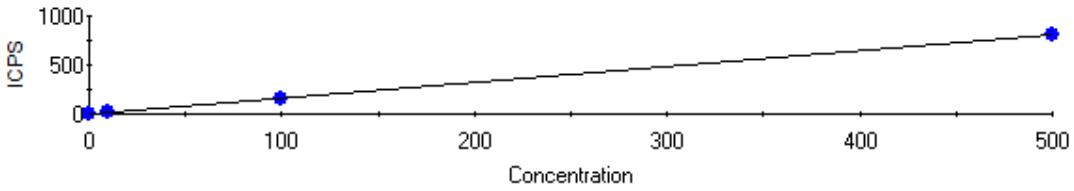
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1	STD0,	Blank	1.000	1	1	1	144
2	STD1,	Fully Quant Standard	1.000	1	1	2	144
3	STD2,	Fully Quant Standard	1.000	1	1	3	144
4	STD3,	Fully Quant Standard	1.000	1	1	4	144
5	S1,	QC Sample	1.000	1	1	4	144
6	ICV,	QC Sample	1.000	1	1	5	144
7	ICB,	QC Sample	1.000	0	1	6	144
8	/ICVL,	Unknown	1.000	0	1	7	144
9	ICVL,	QC Sample	1.000	0	1	7	144
10	CRI,	QC Sample	1.000	1	1	6	144
11	ICSA,	QC Sample	1.000	1	1	7	144
12	ICSAB,	QC Sample	1.000	1	1	8	144
13	CCV,	QC Sample	1.000	0	1	5	144
14	CCB,	QC Sample	1.000	0	1	6	144
15	mb 500-487972/1-a,	QC Sample	1.000	1	1	9	144
16	lcs 500-487972/2-a,	QC Sample	1.000	1	1	10	144
17	500-163871-b-9-a @5,	Unknown	1.000	1	1	11	144
18	mb 500-487234/1-a,	QC Sample	1.000	1	1	12	144

19	lcs 500-487234/2-a,	QC Sample	1.000	1	2	1	144
20	500-164061-a-1-a @10,	Unknown	1.000	1	2	2	144
21	500-163905-f-1-a,	Unknown	1.000	1	2	3	144
22	500-163905-f-2-a @100,	Unknown	1.000	1	2	4	144
23	500-163905-f-3-a @100,	Unknown	1.000	1	2	5	144
24	ccv,	QC Sample	1.000	0	1	5	144
25	ccb,	QC Sample	1.000	0	1	6	144
26	ccvl,	QC Sample	1.000	0	1	7	144
27	mb 500-487817/1-a,	QC Sample	1.000	1	2	6	144
28	lcs 500-487817/2-a,	QC Sample	1.000	1	2	7	144
29	500-164124-c-1-a,	Unknown	1.000	1	2	8	144
30	mb 500-487357/1-a,	QC Sample	1.000	1	2	9	144
31	lcs 500-487357/2-a,	QC Sample	1.000	1	2	10	144
32	500-164003-f-1-a,	Unknown	1.000	1	2	11	144
33	500-164003-f-2-a,	Unknown	1.000	1	2	12	144
34	500-164003-f-3-a,	Unknown	1.000	1	3	1	144
35	500-164003-f-4-a,	Unknown	1.000	1	3	2	144
36	500-164003-f-5-a,	Unknown	1.000	1	3	3	144
37	ccv,	QC Sample	1.000	0	1	5	144
38	ccb,	QC Sample	1.000	0	1	6	144
39	500-164003-f-6-a,	Unknown	1.000	1	3	4	144
40	500-164003-f-7-a,	Unknown	1.000	1	3	5	144
41	500-164003-h-8-a,	Unknown	1.000	1	3	6	144
42	500-164003-f-9-a,	Unknown	1.000	1	3	7	144
43	500-164003-f-12-a,	Unknown	1.000	1	3	8	144
44	ccv,	QC Sample	1.000	0	1	5	144
45	ccb,	QC Sample	1.000	0	1	6	144
46	ccvl,	QC Sample	1.000	0	1	7	144
47	lb 500-487501/1-b,	QC Sample	1.000	1	3	9	144
48	lcs 500-487708/2-a,	QC Sample	1.000	1	3	10	144
49	500-163564-e-3-e,	Unknown	1.000	1	3	11	144
50	500-163564-e-4-e,	Unknown	1.000	1	3	12	144
51	500-163564-e-6-e,	Unknown	1.000	1	4	1	144
52	500-163564-e-8-h,	Unknown	1.000	1	4	2	144
53	500-163564-e-10-e,	Unknown	1.000	1	4	3	144
54	500-163564-e-12-e,	Unknown	1.000	1	4	4	144
55	500-163564-e-17-e,	Unknown	1.000	1	4	5	144
56	ccv,	QC Sample	1.000	0	1	5	144
57	ccb,	QC Sample	1.000	0	1	6	144
58	ccvl,	QC Sample	1.000	0	1	7	144
59	500-162180-l-3-a,	Unknown	1.000	1	4	6	144
60	500-162180-l-4-a,	Unknown	1.000	1	4	7	144
61	500-162180-l-4-b	Unknown	1.000	1	4	8	144
62	500-162180-l-4-c	Unknown	1.000	1	4	9	144
63	500-162180-l-4-d	Unknown	1.000	1	4	10	144
64	500-162180-l-4-a,	Unknown	1.000	1	4	11	144
65	500-162180-l-5-a,	Unknown	1.000	1	4	12	144
66	500-162180-l-6-a,	Unknown	1.000	1	5	1	144
67	500-162180-l-7-a,	Unknown	1.000	1	5	2	144
68	500-162180-l-8-a,	Unknown	1.000	1	5	3	144
69	ccv,	QC Sample	1.000	0	1	5	144
70	ccb,	QC Sample	1.000	0	1	6	144
71	500-164188-a-1-a,	Unknown	1.000	1	5	4	144
72	500-164188-a-2-a,	Unknown	1.000	1	5	5	144
73	500-164188-a-3-a,	Unknown	1.000	1	5	6	144
74	500-164188-a-4-a,	Unknown	1.000	1	5	7	144
75	500-164188-a-5-a,	Unknown	1.000	1	5	8	144
76	500-164188-a-6-a,	Unknown	1.000	1	5	9	144
77	500-164188-a-7-a,	Unknown	1.000	1	5	10	144
78	ccv,	QC Sample	1.000	0	1	5	144
79	ccb,	QC Sample	1.000	0	1	6	144
80	ccvl,	QC Sample	1.000	0	1	7	144
81	500-164208-b-1-a,	Unknown	1.000	1	5	11	144
82	500-164208-b-2-a,	Unknown	1.000	1	5	12	144
83	500-164208-b-3-a,	Unknown	1.000	2	1	1	144
84	500-164208-f-4-a,	Unknown	1.000	2	1	2	144
85	ccv,	QC Sample	1.000	0	1	5	144
86	ccb,	QC Sample	1.000	0	1	6	144
87	ccvl,	QC Sample	1.000	0	1	7	144
88	lb 500-487691/1-b,	QC Sample	1.000	2	1	3	144
89	lcs 500-487948/2-a,	QC Sample	1.000	2	1	4	144
90	500-163607-e-1-f,	Unknown	1.000	2	1	5	144
91	500-163607-e-2-b,	Unknown	1.000	2	1	6	144
92	500-163607-e-3-d,	Unknown	1.000	2	1	7	144
93	500-163607-e-4-d,	Unknown	1.000	2	1	8	144

	500-163607-e-5-b,	Unknown	1.000	2	1	9	144
95	500-163607-e-6-b,	Unknown	1.000	2	1	10	144
96	500-163607-e-7-b,	Unknown	1.000	2	1	11	144
97	500-163607-e-9-d,	Unknown	1.000	2	1	12	144
98	ccv,	QC Sample	1.000	0	1	5	144
99	ccb,	QC Sample	1.000	0	1	6	144
100	500-163607-e-10-d,	Unknown	1.000	2	2	1	144
101	500-163607-e-11-d,	Unknown	1.000	2	2	2	144
102	500-163607-e-12-d,	Unknown	1.000	2	2	3	144
103	500-163607-e-13-d,	Unknown	1.000	2	2	4	144
104	500-163607-e-14-d,	Unknown	1.000	2	2	5	144
105	500-163607-e-15-d,	Unknown	1.000	2	2	6	144
106	500-163607-e-15-e du,	Unknown	1.000	2	2	7	144
107	500-163607-e-15-f ms,	Unknown	1.000	2	2	8	144
108	500-163607-e-15-d SD@5,	Unknown	1.000	2	2	9	144
109	/ccv,	Unknown	1.000	0	1	4	144
110	CCV	QC Sample	1.000	0	1	5	144
111	CCB,	QC Sample	1.000	0	1	6	144

Fully Quant Calibration

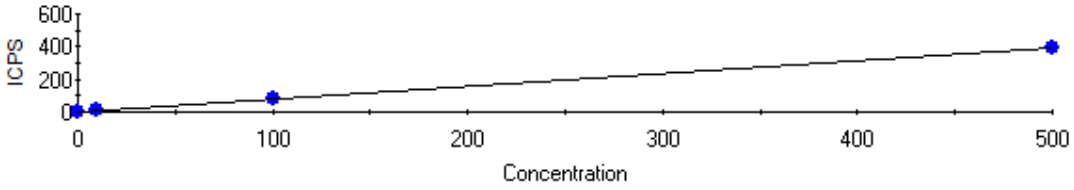
9Be FQ Block 1



Intercept CPS=0.000000 Intercept Conc=0.000000
Sensitivity=1.609870 Correlation Coeff=0.999995

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	0.00	0.00
STD1,	10.000	10.476	0.476	16.87	4.76
STD2,	100.000	98.840	1.160	159.12	1.16
STD3,	500.000	500.222	0.222	805.29	0.04

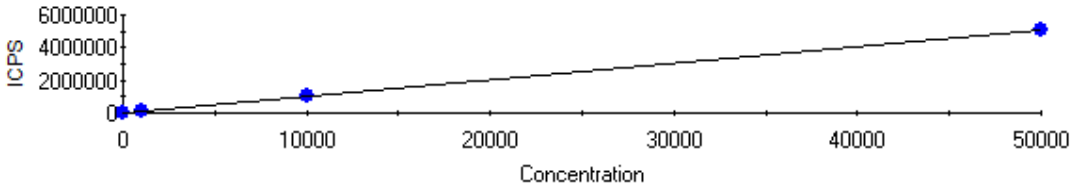
11B FQ Block 1



Intercept CPS=2.228621 Intercept Conc=2.837094
Sensitivity=0.785530 Correlation Coeff=0.999981

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	2.23	0.00
STD1,	10.000	13.224	3.224	12.62	32.24
STD2,	100.000	102.386	2.386	82.66	2.39
STD3,	500.000	499.458	0.542	394.57	0.11

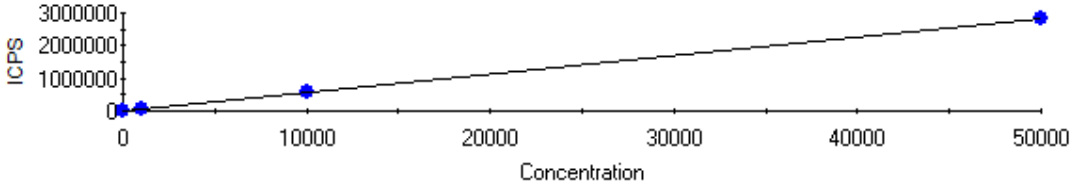
23Na FQ Block 1



Intercept CPS=943.410831 Intercept Conc=9.357868
Sensitivity=100.814719 Correlation Coeff=1.000000

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	943.41	0.00
STD1,	1000.000	1034.341	34.341	105220.19	3.43
STD2,	10000.000	10000.352	0.352	1009126.04	0.00
STD3,	50000.000	49999.243	0.757	5041603.01	0.00

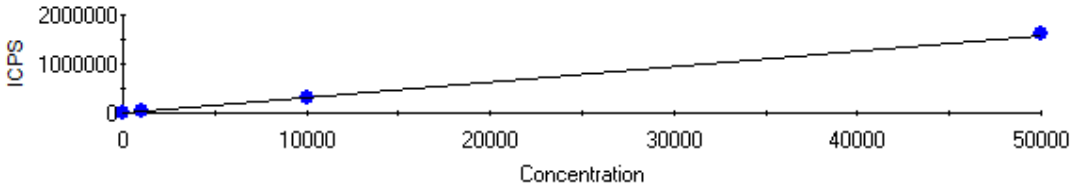
24Mg FQ Block 1



Intercept CPS=42.937106 Intercept Conc=0.758865
Sensitivity=56.580701 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	42.94	0.00
STD1,	1000.000	1057.782	57.782	59892.98	5.78
STD2,	10000.000	10082.835	82.835	570536.83	0.83
STD3,	50000.000	49982.277	17.723	2828075.20	0.04

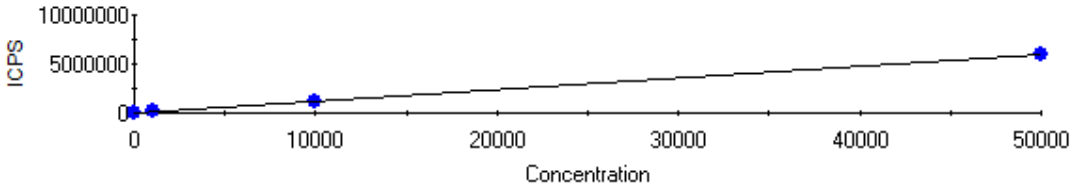
27Al FQ Block 1



Intercept CPS=57.116917 Intercept Conc=1.791345
Sensitivity=31.884930 Correlation Coeff=0.999972

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	57.12	0.00
STD1,	1000.000	1042.119	42.119	33285.02	4.21
STD2,	10000.000	9672.439	327.561	308462.16	3.28
STD3,	50000.000	50064.670	64.670	1596365.59	0.13

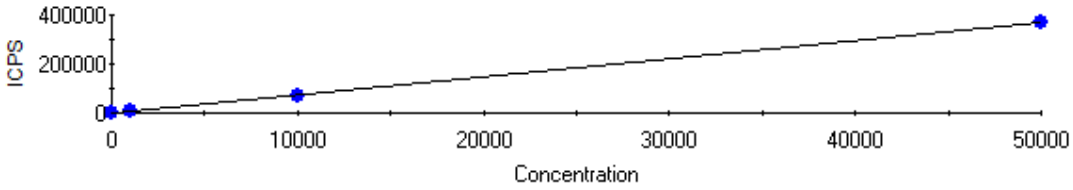
39K FQ Block 1



Intercept CPS=26265.835683 Intercept Conc=221.073647
Sensitivity=118.810342 Correlation Coeff=0.999991

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	26265.84	0.00
STD1,	1000.000	1006.057	6.057	145795.82	0.61
STD2,	10000.000	10191.841	191.841	1237161.96	1.92
STD3,	50000.000	49961.511	38.489	5962210.02	0.08

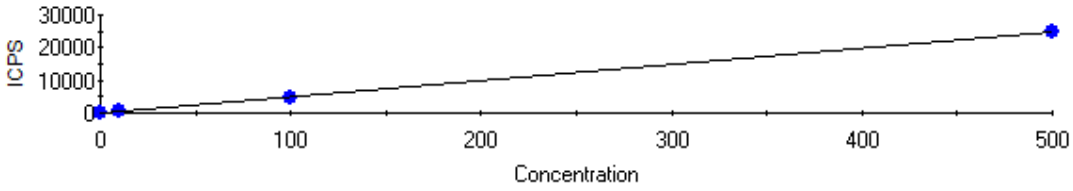
44Ca FQ Block 1



Intercept CPS=51.421478 Intercept Conc=7.029698
Sensitivity=7.314891 Correlation Coeff=0.999969

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	51.42	0.00
STD1,	1000.000	1021.277	21.277	7521.95	2.13
STD2,	10000.000	9643.682	356.318	70593.91	3.56
STD3,	50000.000	50070.838	70.838	366314.17	0.14

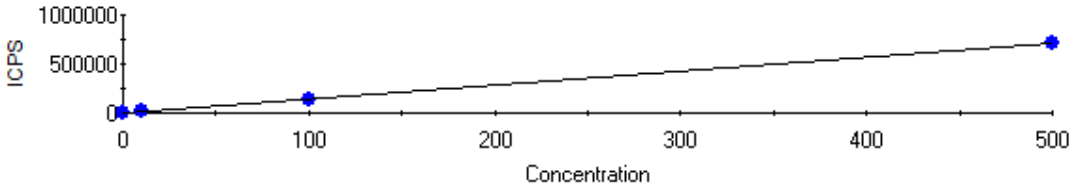
47Ti FQ Block 1



Intercept CPS=2.936294 Intercept Conc=0.059532
Sensitivity=49.323180 Correlation Coeff=0.999998

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	2.94	0.00
STD1,	10.000	9.896	0.104	491.05	1.04
STD2,	100.000	99.151	0.849	4893.38	0.85
STD3,	500.000	500.172	0.172	24673.00	0.03

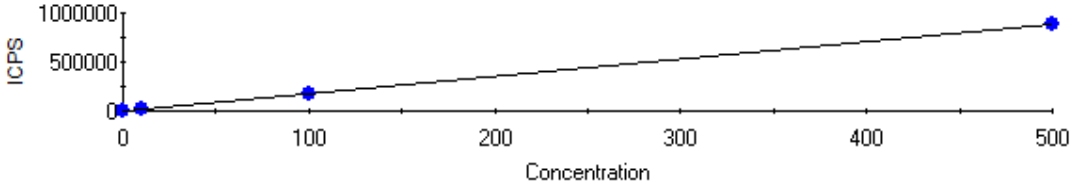
51V FQ Block 1



Intercept CPS=592.121686 Intercept Conc=0.415315
Sensitivity=1425.716836 Correlation Coeff=0.999955

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	592.12	0.00
STD1,	10.000	9.993	0.007	14839.10	0.07
STD2,	100.000	95.601	4.399	136892.45	4.40
STD3,	500.000	500.880	0.880	714705.01	0.18

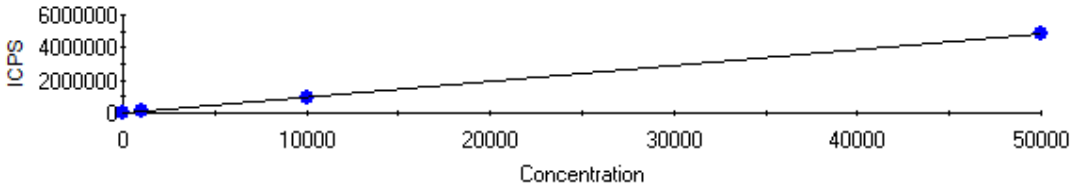
52Cr FQ Block 1



Intercept CPS=366.269111 Intercept Conc=0.206001
Sensitivity=1777.994189 Correlation Coeff=0.999993

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	366.27	0.00
STD1,	10.000	10.367	0.367	18799.59	3.67
STD2,	100.000	98.413	1.587	175343.97	1.59
STD3,	500.000	500.310	0.310	889914.64	0.06

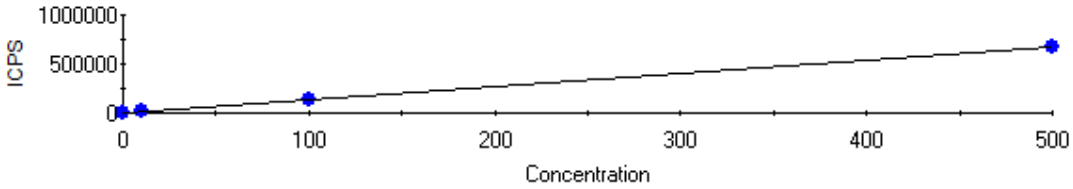
54Fe FQ Block 1



Intercept CPS=213.502479 Intercept Conc=2.198137
Sensitivity=97.128819 Correlation Coeff=0.999984

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	213.50	0.00
STD1,	1000.000	1020.561	20.561	99339.37	2.06
STD2,	10000.000	9745.232	254.768	946756.41	2.55
STD3,	50000.000	50050.542	50.542	4861563.57	0.10

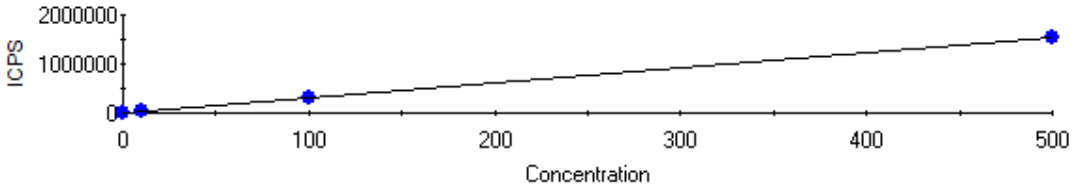
55Mn FQ Block 1



Intercept CPS=144.931271 Intercept Conc=0.107722
Sensitivity=1345.422993 Correlation Coeff=0.999988

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	144.93	0.00
STD1,	10.000	10.254	0.254	13940.44	2.54
STD2,	100.000	97.880	2.120	131834.77	2.12
STD3,	500.000	500.419	0.419	673420.09	0.08

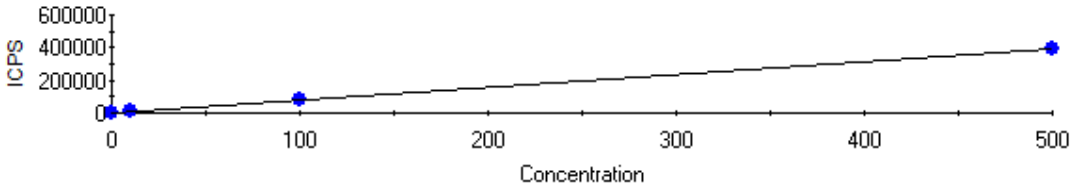
59Co FQ Block 1



Intercept CPS=11.903173 Intercept Conc=0.003882
Sensitivity=3066.013697 Correlation Coeff=0.999989

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	11.90	0.00
STD1,	10.000	10.228	0.228	31372.12	2.28
STD2,	100.000	97.893	2.107	300153.91	2.11
STD3,	500.000	500.417	0.417	1534296.62	0.08

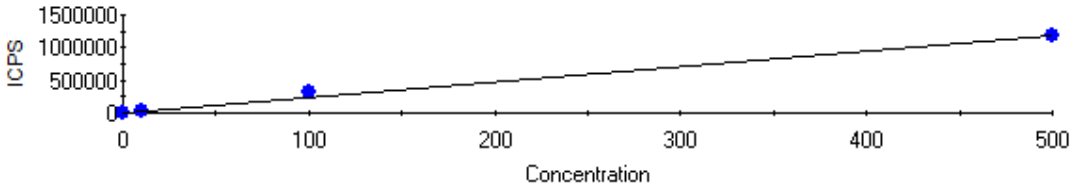
60Ni FQ Block 1



Intercept CPS=123.113315 Intercept Conc=0.155586
Sensitivity=791.286969 Correlation Coeff=0.999993

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	123.11	0.00
STD1,	10.000	10.930	0.930	8771.59	9.30
STD2,	100.000	101.838	1.838	80706.45	1.84
STD3,	500.000	499.614	0.386	395460.96	0.08

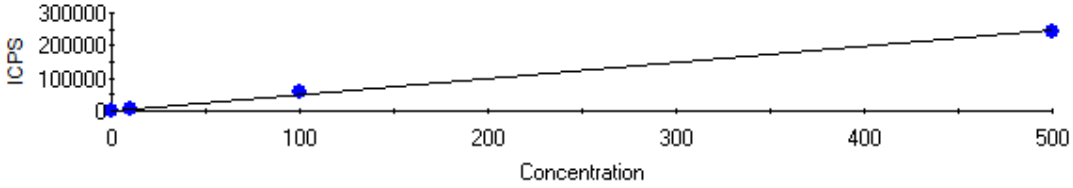
63Cu FQ Block 1



Intercept CPS=411.366283 Intercept Conc=0.172912
Sensitivity=2379.051736 Correlation Coeff=0.996472

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	411.37	0.00
STD1,	10.000	10.421	0.421	25203.70	4.21
STD2,	100.000	137.786	37.786	328210.28	37.79
STD3,	500.000	492.434	7.566	1171938.45	1.51

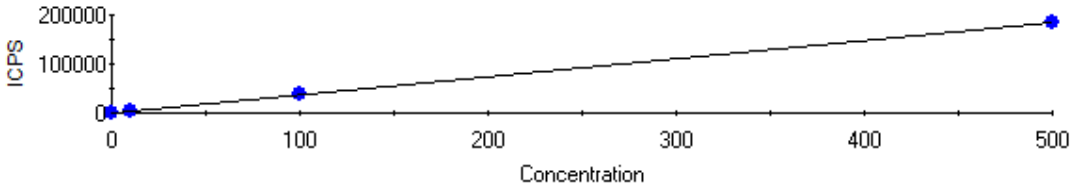
66Zn FQ Block 1



Intercept CPS=324.227726 Intercept Conc=0.658321
Sensitivity=492.507019 Correlation Coeff=0.999439

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	324.23	0.00
STD1,	10.000	9.800	0.200	5150.65	2.00
STD2,	100.000	115.158	15.158	57040.44	15.16
STD3,	500.000	496.972	3.028	245086.61	0.61

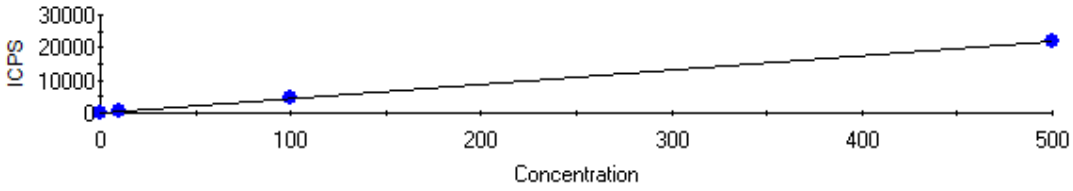
75As FQ Block 1



Intercept CPS=18.702713 Intercept Conc=0.050232
Sensitivity=372.328073 Correlation Coeff=1.000000

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	18.70	0.00
STD1,	10.000	10.044	0.044	3758.27	0.44
STD2,	100.000	99.562	0.438	37088.59	0.44
STD3,	500.000	500.087	0.087	186215.00	0.02

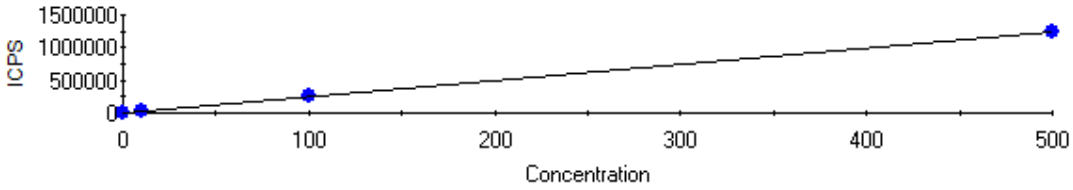
78Se FQ Block 1



Intercept CPS=4.361760 Intercept Conc=0.099100
Sensitivity=44.013893 Correlation Coeff=0.999985

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	4.36	0.00
STD1,	10.000	10.170	0.170	452.00	1.70
STD2,	100.000	102.536	2.536	4517.38	2.54
STD3,	500.000	499.489	0.511	21988.83	0.10

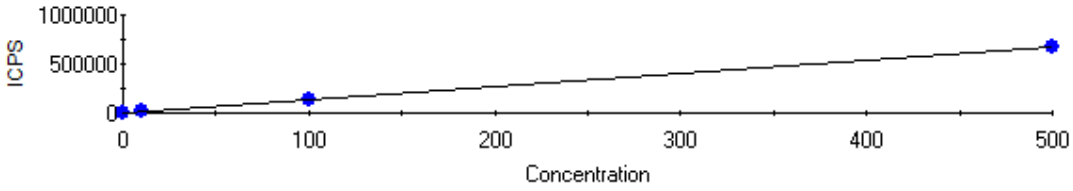
88Sr FQ Block 1



Intercept CPS=40.667142 Intercept Conc=0.016545
Sensitivity=2457.914705 Correlation Coeff=1.000000

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	40.67	0.00
STD1,	10.000	10.317	0.317	25400.20	3.17
STD2,	100.000	99.981	0.019	245785.45	0.02
STD3,	500.000	499.997	0.003	1228991.75	0.00

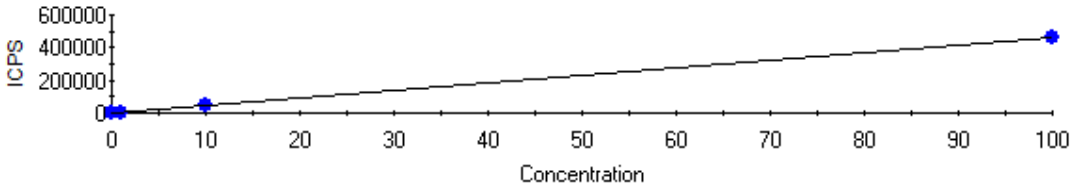
95Mo FQ Block 1



Intercept CPS=51.058006 Intercept Conc=0.037568
Sensitivity=1359.071859 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	51.06	0.00
STD1,	10.000	10.121	0.121	13806.29	1.21
STD2,	100.000	98.505	1.495	133926.02	1.50
STD3,	500.000	500.297	0.297	679990.14	0.06

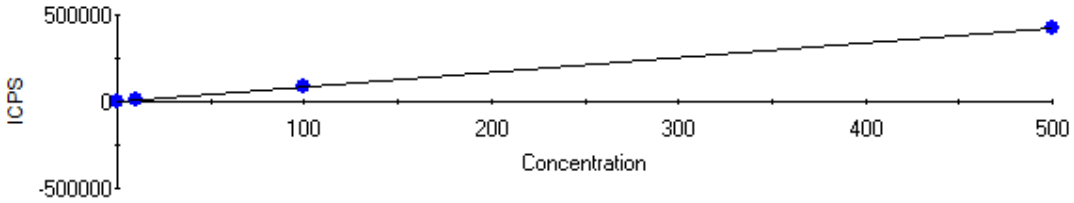
107Ag FQ Block 1



Intercept CPS=8.882057 Intercept Conc=0.001946
Sensitivity=4563.896104 Correlation Coeff=0.999984

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	8.88	0.00
STD1,	1.000	1.077	0.077	4923.53	7.69
STD2,	10.000	10.594	0.594	48359.50	5.94
STD3,	100.000	99.940	0.060	456123.82	0.06

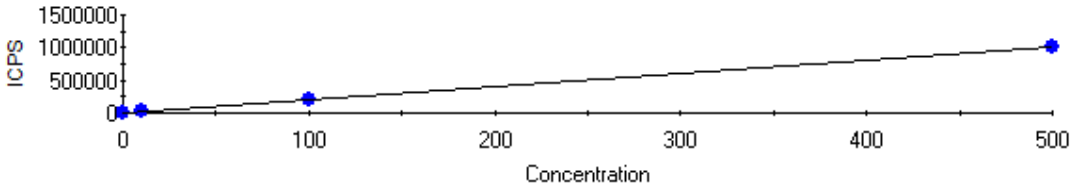
111Cd FQ Block 1



Intercept CPS=2.089924 Intercept Conc=0.002449
Sensitivity=853.464544 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	2.09	0.00
STD1,	10.000	10.173	0.173	8684.54	1.73
STD2,	100.000	101.709	1.709	86807.10	1.71
STD3,	500.000	499.655	0.345	426439.69	0.07

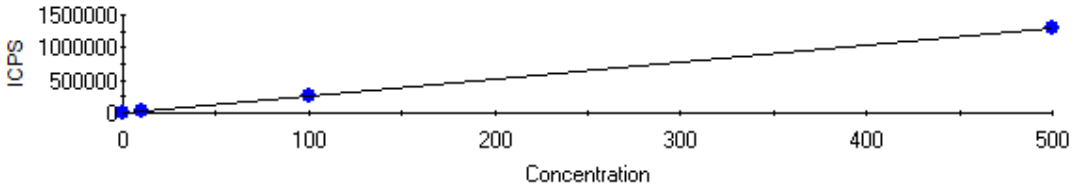
118Sn FQ Block 1



Intercept CPS=141.811084 Intercept Conc=0.071051
Sensitivity=1995.892092 Correlation Coeff=0.999998

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	141.81	0.00
STD1,	10.000	9.502	0.498	19107.76	4.98
STD2,	100.000	98.996	1.004	197726.21	1.00
STD3,	500.000	500.211	0.211	998508.68	0.04

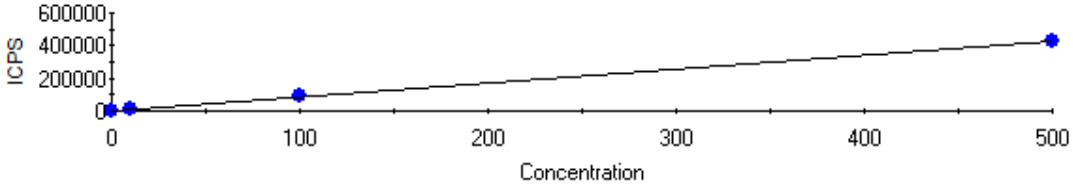
121Sb FQ Block 1



Intercept CPS=109.959675 Intercept Conc=0.042618
Sensitivity=2580.132749 Correlation Coeff=0.999996

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	109.96	0.00
STD1,	10.000	9.981	0.019	25861.71	0.19
STD2,	100.000	98.686	1.314	254733.76	1.31
STD3,	500.000	500.263	0.263	1290855.22	0.05

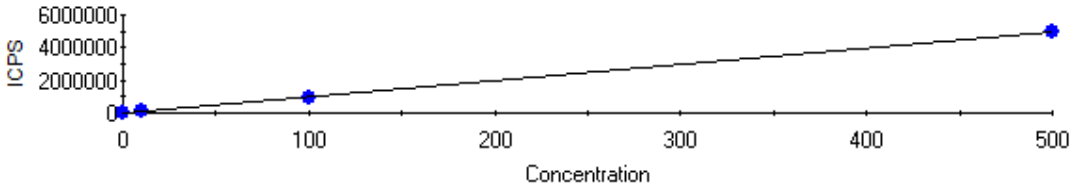
137Ba FQ Block 1



Intercept CPS=20.164407 Intercept Conc=0.023381
Sensitivity=862.419404 Correlation Coeff=0.999998

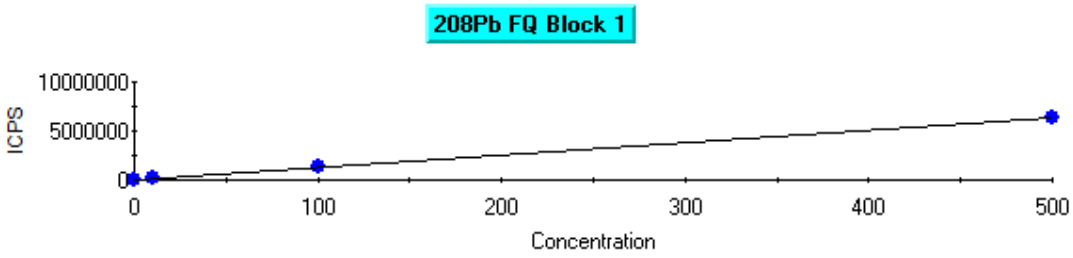
Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	20.16	0.00
STD1,	10.000	10.424	0.424	9009.82	4.24
STD2,	100.000	101.030	1.030	87150.79	1.03
STD3,	500.000	499.785	0.215	431044.82	0.04

205Tl FQ Block 1



Intercept CPS=319.374111 Intercept Conc=0.032287
Sensitivity=9891.825840 Correlation Coeff=0.999988

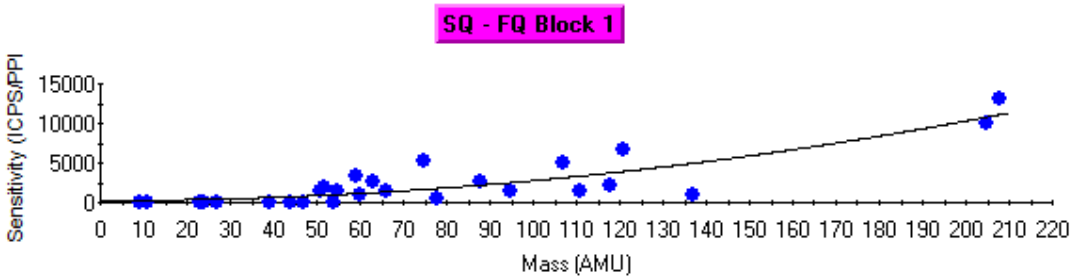
Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	-0.000	0.000	319.37	0.00
STD1,	10.000	9.484	0.516	94129.41	5.16
STD2,	100.000	97.546	2.454	965229.04	2.45
STD3,	500.000	500.501	0.501	4951189.04	0.10



Intercept CPS=201.068147 Intercept Conc=0.015785
Sensitivity=12738.311991 Correlation Coeff=0.999993

Label	Defined	Measured	Error	Mean CPS	% Error
STD0,	0.000	0.000	0.000	201.07	0.00
STD1,	10.000	9.825	0.175	125349.38	1.75
STD2,	100.000	98.226	1.774	1251439.82	1.77
STD3,	500.000	500.358	0.358	6373920.25	0.07

Semi Quant Calibration



Coeff 0=263.246284 Coeff 1=-0.082824 Coeff 2=0.251710

Symbol	Mass	RSF	Available	Excluded	Sensitivity Measured	Corrected	Calculated	%Error
9Be	9.01	0.7500	1	1	1.61	2.15	282.94	13081.7
11B	11.01	0.5800	1	1	0.79	1.67	292.84	17418.3
23Na	22.99	1.0000	1	1	100.81	100.81	394.38	291.2
24Mg	23.99	0.9800	1	1	56.58	73.45	406.06	452.8
27Al	26.98	0.9800	1	1	31.88	32.54	444.26	1265.4
39K	38.96	1.0000	1	1	118.81	127.64	642.16	403.1
44Ca	43.96	0.9900	1	1	7.31	346.89	745.93	115.0
47Ti	46.95	0.9900	1	1	49.32	642.86	814.24	26.7
51V	50.94	0.9900	1	1	1425.72	1443.58	912.29	-36.8
52Cr	51.94	0.9800	1	1	1777.99	2166.05	938.01	-56.7
54Fe	53.94	0.9600	1	1	97.13	1714.84	991.12	-42.2
55Mn	54.94	0.9500	1	1	1345.42	1416.23	1018.40	-28.1
59Co	58.93	0.9300	1	1	3066.01	3296.79	1132.58	-65.6
60Ni	59.93	0.9100	1	1	791.29	3323.95	1162.35	-65.0
63Cu	62.93	0.9000	1	1	2379.05	3826.01	1254.84	-67.2
66Zn	65.93	0.3750	1	1	492.51	4722.59	1351.78	-71.4
75As	74.92	0.0700	1	1	372.33	5318.97	1669.95	-68.6
78Se	77.92	0.1000	1	1	44.01	1864.21	1784.95	-4.3
88Sr	87.91	0.9600	1	1	2457.91	3101.17	2201.03	-29.0
95Mo	94.91	0.9800	1	1	1359.07	9383.00	2522.56	-73.1
107Ag	106.91	0.9300	1	1	4563.90	9556.80	3131.10	-67.2
111Cd	110.90	0.5660	1	1	853.46	11725.41	3350.02	-71.4
118Sn	117.90	0.9600	1	1	1995.89	8659.12	3752.44	-56.7
121Sb	120.90	0.3900	1	1	2580.13	11555.85	3932.65	-66.0
137Ba	136.91	0.9100	1	1	862.42	8372.03	4969.75	-40.6
205Tl	204.97	1.0000	1	1	9891.83	14030.96	10821.47	-22.9
208Pb	207.98	0.9700	1	1	12738.31	25071.17	11133.53	-55.6

Dilution Corrected Concentrations

STD0, 5/31/2019 9:38:48 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:38:48	0.000	0.000	-0.647	0.360	-0.151	0.080	1.544	0.441	96.858%
2	09:39:10	0.000	0.000	1.444	-0.284	0.192	0.037	4.523	-0.360	99.121%
3	09:39:33	0.000	0.000	-0.797	-0.076	-0.041	-0.116	-6.067	-0.080	104.021%
x		0.000	0.000	0.000	-0.000	0.000	0.000	-0.000	-0.000	100.000%
σ		0.000	0.000	1.253	0.329	0.175	0.103	5.462	0.407	3.662%
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.662

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:38:48	-0.013	-0.023	0.000	-0.013	-0.036	0.001	0.010	0.009	-0.008
2	09:39:10	-0.014	0.044	0.011	0.045	0.014	-0.001	-0.003	-0.008	-0.052
3	09:39:33	0.027	-0.021	-0.011	-0.032	0.022	-0.000	-0.007	-0.000	0.060
x		-0.000	-0.000	0.000	0.000	-0.000	0.000	-0.000	0.000	-0.000
σ		0.023	0.038	0.011	0.040	0.032	0.001	0.009	0.009	0.057
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:38:48	0.009	0.013	-0.002	97.134%	-0.007	97.123%	-0.000	-0.002	94.196%
2	09:39:10	-0.009	-0.015	0.002	102.218%	-0.009	100.540%	-0.001	0.005	104.894%
3	09:39:33	0.001	0.002	-0.000	100.648%	0.016	102.338%	0.001	-0.002	100.910%
x		-0.000	-0.000	0.000	100.000%	-0.000	100.000%	-0.000	0.000	100.000%
σ		0.009	0.014	0.002	2.603%	0.014	2.649%	0.001	0.004	5.407%
%RSD		0.000	0.000	0.000	2.603	0.000	2.649	0.000	0.000	5.407

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:38:48	-0.013	0.012	0.009	95.899%	-0.015	0.005	96.283%	0.000
2	09:39:10	0.002	-0.011	-0.001	101.703%	0.013	0.000	102.260%	0.000
3	09:39:33	0.011	-0.002	-0.008	102.397%	0.002	-0.005	101.457%	0.000
x		0.000	-0.000	-0.000	100.000%	-0.000	0.000	100.000%	0.000
σ		0.012	0.012	0.009	3.568%	0.014	0.005	3.244%	0.000
%RSD		0.000	0.000	0.000	3.568	0.000	0.000	3.244	0.000

STD1, 5/31/2019 9:42:57 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:42:57	0.000	12.150	11.220	1044.000	1070.000	1065.000	1060.000	1033.000	105.640%
2	09:43:18	0.000	11.560	13.410	1040.000	1057.000	1066.000	998.000	1044.000	111.029%
3	09:43:40	0.000	7.715	15.040	1020.000	1045.000	995.800	960.500	987.100	112.721%
x		0.000	10.480	13.220	1034.000	1058.000	1042.000	1006.000	1021.000	109.797%
σ		0.000	2.410	1.918	12.970	12.500	40.100	50.060	30.080	3.698%
%RSD		0.000	23.000	14.500	1.254	1.182	3.848	4.976	2.946	3.368

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:42:57	10.480	10.370	10.650	1037.000	10.560	10.340	11.410	10.770	10.020
2	09:43:18	9.720	10.150	10.220	1032.000	10.250	10.150	10.880	10.320	9.604
3	09:43:40	9.494	9.465	10.230	991.800	9.951	10.190	10.500	10.180	9.773
x		9.896	9.993	10.370	1021.000	10.250	10.230	10.930	10.420	9.800
σ		0.514	0.470	0.248	25.070	0.302	0.103	0.459	0.305	0.210
%RSD		5.193	4.705	2.396	2.457	2.948	1.002	4.199	2.932	2.144

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:42:57	10.450	11.050	11.000	95.504%	10.760	95.081%	1.157	11.030	95.203%
2	09:43:18	9.905	9.866	9.790	106.948%	9.441	103.482%	1.031	9.899	105.284%
3	09:43:40	9.772	9.599	10.160	106.770%	10.170	104.709%	1.043	9.592	106.114%
x		10.040	10.170	10.320	103.074%	10.120	101.091%	1.077	10.170	102.200%
σ		0.362	0.770	0.619	6.556%	0.659	5.240%	0.070	0.757	6.074%
%RSD		3.601	7.572	5.996	6.361	6.512	5.184	6.457	7.439	5.943

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:42:57	10.070	10.150	11.140	96.563%	9.729	10.120	94.456%	0.000
2	09:43:18	9.422	9.840	10.150	104.535%	9.504	9.653	101.346%	0.000
3	09:43:40	9.014	9.956	9.980	102.905%	9.218	9.704	104.066%	0.000
x		9.502	9.981	10.420	101.334%	9.484	9.825	99.956%	0.000
σ		0.533	0.155	0.628	4.211%	0.256	0.255	4.953%	0.000
%RSD		5.611	1.549	6.020	4.156	2.699	2.590	4.956	0.000

STD2, 5/31/2019 9:47:04 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:47:04	0.000	104.500	100.300	10290.000	10250.000	9991.000	10540.000	10010.000	107.016%
2	09:47:25	0.000	95.770	94.140	9492.000	10060.000	9357.000	9965.000	9409.000	109.395%
3	09:47:46	0.000	96.270	112.800	10220.000	9934.000	9669.000	10070.000	9514.000	110.126%
x		0.000	98.840	102.400	10000.000	10080.000	9672.000	10190.000	9644.000	108.846%
σ		0.000	4.891	9.492	441.800	160.700	317.000	308.000	319.900	1.626%
%RSD		0.000	4.949	9.271	4.418	1.594	3.277	3.022	3.318	1.494
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:47:04	101.700	98.400	101.300	9949.000	98.430	99.180	103.500	140.300	118.800
2	09:47:25	96.460	94.280	96.500	9687.000	98.140	98.680	103.200	136.100	112.900
3	09:47:46	99.300	94.130	97.390	9599.000	97.060	95.820	98.770	136.900	113.800
x		99.150	95.600	98.410	9745.000	97.880	97.890	101.800	137.800	115.200
σ		2.614	2.423	2.577	182.200	0.721	1.814	2.657	2.241	3.189
%RSD		2.636	2.535	2.619	1.870	0.737	1.853	2.609	1.627	2.769
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:47:04	102.500	106.400	105.200	97.770%	101.800	94.906%	11.230	106.800	94.041%
2	09:47:25	97.350	98.840	95.250	108.962%	95.920	99.818%	10.400	99.200	102.279%
3	09:47:46	98.880	102.300	99.490	105.267%	97.750	99.568%	10.150	99.140	106.475%
x		99.560	102.500	99.980	104.000%	98.500	98.097%	10.590	101.700	100.932%
σ		2.623	3.800	4.994	5.702%	3.035	2.766%	0.569	4.395	6.326%
%RSD		2.635	3.706	4.995	5.483	3.081	2.820	5.372	4.321	6.267
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	09:47:04	101.400	103.300	100.300	99.522%	100.600	101.600	92.539%	0.000	
2	09:47:25	96.570	97.730	99.650	105.278%	94.660	96.280	100.444%	0.000	
3	09:47:46	99.030	95.040	103.100	105.412%	97.400	96.790	103.458%	0.000	
x		99.000	98.690	101.000	103.404%	97.550	98.230	98.814%	0.000	
σ		2.409	4.210	1.824	3.363%	2.958	2.946	5.639%	0.000	
%RSD		2.434	4.266	1.805	3.252	3.033	2.999	5.707	0.000	

STD3, 5/31/2019 9:51:10 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:51:10	0.000	523.200	497.700	T 50780.000	T 50790.000	51150.000	T 51760.000	51150.000	96.643%
2	09:51:32	0.000	505.600	511.300	T 50750.000	T 50710.000	51650.000	T 49200.000	50200.000	100.496%
3	09:51:55	0.000	471.800	489.400	T 48470.000	T 48440.000	47400.000	T 48920.000	48860.000	101.729%
x		0.000	500.200	499.500	T 50000.000	T 49980.000	50060.000	T 49960.000	50070.000	99.623%
σ		0.000	26.120	11.040	T 1327.000	T 1336.000	2325.000	T 1566.000	1148.000	2.653%
%RSD		0.000	5.222	2.210	T 2.655	T 2.673	4.645	T 3.134	2.293	2.663

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:51:10	516.600	499.700	516.400	T 50980.000	524.000	505.700	517.700	512.900	508.800
2	09:51:32	502.300	504.600	499.500	T 49830.000	488.200	503.300	492.900	488.600	493.600
3	09:51:55	481.600	498.400	485.000	T 49330.000	489.000	492.300	488.300	475.700	488.500
x		500.200	500.900	500.300	T 50050.000	500.400	500.400	499.600	492.400	497.000
σ		17.590	3.274	15.700	T 846.500	20.430	7.155	15.830	18.890	10.530
%RSD		3.516	0.654	3.139	T 1.691	4.083	1.430	3.169	3.837	2.119

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:51:10	510.600	514.800	502.100	96.760%	509.400	88.292%	104.200	522.900	89.942%
2	09:51:32	497.000	497.500	493.900	101.921%	482.200	92.717%	98.420	497.800	97.393%
3	09:51:55	492.700	486.200	504.000	100.495%	509.400	94.397%	97.160	478.200	99.586%
x		500.100	499.500	500.000	99.726%	500.300	91.802%	99.940	499.700	95.640%
σ		9.355	14.380	5.358	2.665%	15.690	3.154%	3.777	22.430	5.056%
%RSD		1.871	2.879	1.072	2.672	3.136	3.435	3.779	4.489	5.286

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:51:10	504.200	521.500	500.600	95.310%	T 514.500	510.100	88.241%	T 0.000
2	09:51:32	496.500	486.800	500.900	102.307%	T 471.500	480.000	96.935%	T 0.000
3	09:51:55	499.900	492.500	497.800	103.570%	T 515.500	T 511.000	T 92.273%	T 0.000
x		500.200	500.300	499.800	100.396%	T 500.500	T 500.400	T 92.483%	T 0.000
σ		3.847	18.630	1.726	4.449%	T 25.150	T 17.620	T 4.350%	T 0.000
%RSD		0.769	3.723	0.345	4.432	T 5.025	T 3.522	T 4.704	T 0.000

S1, 5/31/2019 9:55:18 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:55:18	0.000	526.100	518.500	T 49420.000	T 49640.000	50530.000	T 51220.000	48050.000	98.075%
2	09:55:40	0.000	480.400	496.900	T 48790.000	T 50150.000	49650.000	T 49660.000	47370.000	102.330%
3	09:56:01	0.000	467.500	524.000	T 46330.000	T 48020.000	48270.000	T 46560.000	45750.000	105.325%
x		0.000	98.268%	102.624%	T 48180.000	T 49270.000	49480.000	T 49150.000	47060.000	101.910%
σ		0.000	n/a	n/a	T 1631.000	T 1111.000	1138.000	T 2372.000	1180.000	3.643%
%RSD		0.000	6.271	2.794	T 3.385	T 2.254	2.300	T 4.826	2.508	3.575

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:55:18	500.600	502.900	508.100	T 50820.000	499.700	508.900	499.400	501.600	520.200
2	09:55:40	490.100	482.400	502.100	T 48810.000	502.100	496.000	503.000	480.300	486.400
3	09:56:01	467.200	457.800	477.900	T 47770.000	481.800	487.200	484.900	475.500	481.200
x		97.189%	96.205%	99.207%	T 49130.000	98.904%	99.473%	99.157%	97.162%	99.187%
σ		n/a	n/a	n/a	T 1547.000	n/a	n/a	n/a	n/a	n/a
%RSD		3.514	4.696	3.224	T 3.149	2.240	2.188	1.931	2.858	4.275

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:55:18	522.100	520.500	534.600	94.334%	512.800	88.057%	106.500	533.700	89.160%
2	09:55:40	489.500	491.500	506.200	99.290%	496.100	94.953%	94.670	484.000	100.305%
3	09:56:01	482.700	482.100	503.200	102.473%	492.900	96.802%	98.010	497.100	100.064%
x		99.615%	99.609%	102.935%	98.699%	100.114%	93.271%	99.729%	100.987%	96.510%
σ		n/a	n/a	n/a	4.102%	n/a	4.609%	n/a	n/a	6.366%
%RSD		4.229	4.018	3.360	4.156	2.135	4.941	6.123	5.104	6.596

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:55:18	521.000	540.500	501.100	97.684%	T 490.400	508.200	91.262%	T 0.000
2	09:55:40	490.700	485.100	479.800	105.334%	T 478.300	484.400	97.021%	T 0.000
3	09:56:01	494.000	505.300	467.100	108.969%	T 482.700	T 486.000	99.205%	T 0.000
x		100.388%	102.062%	96.529%	103.996%	T 96.760%	T 98.578%	95.829%	T 0.000
σ		n/a	n/a	n/a	5.761%	T n/a	T n/a	4.104%	T 0.000
%RSD		3.310	5.498	3.566	5.539	T 1.267	T 2.698	4.282	T 0.000

ICV, 5/31/2019 9:59:27 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:59:27	0.000	204.000	229.200	T 19660.000	20790.000	20130.000	T 20220.000	19470.000	105.139%
2	09:59:48	0.000	192.900	213.400	20100.000	19830.000	20640.000	T 20070.000	19190.000	106.471%
3	10:00:11	0.000	193.400	177.500	T 19160.000	20040.000	19310.000	T 19740.000	18710.000	107.073%
x		0.000	98.388%	103.350%	T 98.199%	101.104%	100.122%	T 100.047%	95.596%	106.228%
σ		0.000	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	0.990%
%RSD		0.000	3.194	12.830	T 2.399	2.488	3.353	T 1.221	2.008	0.932

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:59:27	193.800	190.800	192.700	19810.000	200.500	199.000	202.800	201.800	206.500
2	09:59:48	200.000	195.200	195.400	20250.000	199.500	196.400	202.700	190.400	193.700
3	10:00:11	195.300	190.100	197.200	19840.000	202.800	195.500	204.600	188.800	194.500
x		98.186%	96.008%	97.540%	99.846%	100.466%	98.492%	101.679%	96.839%	99.130%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.658	1.430	1.158	1.232	0.848	0.932	0.511	3.646	3.615

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:59:27	201.800	208.600	201.300	102.329%	193.400	94.085%	39.770	205.200	98.208%
2	09:59:48	191.000	196.100	200.300	105.267%	198.700	102.528%	39.670	200.100	104.117%
3	10:00:11	191.300	193.100	195.300	105.895%	192.300	102.599%	39.920	202.700	104.421%
x		97.330%	99.632%	99.493%	104.497%	97.401%	99.737%	99.464%	101.332%	102.249%
σ		n/a	n/a	n/a	1.904%	n/a	4.895%	n/a	n/a	3.503%
%RSD		3.160	4.131	1.604	1.822	1.778	4.908	0.328	1.255	3.426

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:59:27	200.400	202.100	208.600	100.710%	204.000	203.200	94.747%	0.000
2	09:59:48	188.900	192.000	191.500	109.857%	192.800	192.600	101.904%	0.000
3	10:00:11	190.700	195.700	188.600	110.714%	193.300	193.000	103.327%	0.000
x		96.661%	98.290%	98.110%	107.094%	98.350%	98.141%	99.992%	0.000
σ		n/a	n/a	n/a	5.545%	n/a	n/a	4.598%	0.000
%RSD		3.201	2.601	5.522	5.178	3.235	3.052	4.599	0.000

ICB, 5/31/2019 10:03:36 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:03:36	0.000	0.000	1.448	-1.211	0.986	-0.032	1.499	-0.079	99.035%
2	10:03:57	0.000	0.392	1.181	-1.947	0.208	-0.537	-6.879	-1.659	105.597%
3	10:04:19	0.000	0.000	0.118	-2.767	0.116	-0.950	-6.946	-1.462	107.689%
x		0.000	0.131	0.916	-1.975	0.437	-0.506	-4.109	-1.067	104.107%
σ		0.000	0.226	0.703	0.778	0.478	0.460	4.856	0.861	4.515%
%RSD		0.000	173.200	76.810	39.390	109.400	90.790	118.200	80.700	4.337

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:03:36	-0.060	0.044	0.046	0.445	-0.058	0.005	-0.073	-0.081	-0.402
2	10:03:57	-0.017	-0.011	-0.015	-0.367	-0.061	0.002	-0.073	-0.115	-0.389
3	10:04:19	-0.018	-0.007	-0.041	-0.434	-0.040	-0.002	-0.077	-0.102	-0.318
x		-0.031	0.009	-0.003	-0.119	-0.053	0.002	-0.075	-0.099	-0.370
σ		0.024	0.031	0.045	0.489	0.011	0.003	0.002	0.017	0.045
%RSD		77.790	352.000	1321.000	411.300	20.930	191.900	3.180	17.090	12.220

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:03:36	0.010	0.042	0.012	93.952%	0.083	98.521%	0.010	0.013	99.819%
2	10:03:57	0.002	-0.009	0.009	103.127%	0.229	107.139%	-0.001	-0.003	110.136%
3	10:04:19	0.031	-0.020	0.003	106.498%	0.248	107.375%	0.003	-0.003	108.107%
x		0.014	0.005	0.008	101.192%	0.186	104.345%	0.004	0.003	106.021%
σ		0.015	0.033	0.005	6.493%	0.091	5.045%	0.005	0.009	5.466%
%RSD		108.300	732.100	58.620	6.417	48.550	4.835	124.500	353.700	5.155

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:03:36	-0.003	0.007	-0.008	98.892%	0.283	-0.001	102.453%	0.000
2	10:03:57	0.007	0.004	-0.002	106.299%	0.536	-0.004	109.669%	0.000
3	10:04:19	0.022	0.017	-0.002	110.221%	0.568	-0.005	110.351%	0.000
x		0.009	0.009	-0.004	105.138%	0.462	-0.003	107.491%	0.000
σ		0.013	0.007	0.003	5.753%	0.156	0.002	4.376%	0.000
%RSD		148.700	73.380	86.700	5.472	33.770	62.350	4.071	0.000

/ICVL, 5/31/2019 10:07:44 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:07:44	0.000	0.392	63.370	210.400	210.200	104.100	508.300	196.000	105.755%
2	10:08:06	0.000	0.763	57.760	210.800	210.100	104.600	509.300	188.600	108.535%
3	10:08:28	0.000	0.768	55.190	209.900	210.800	105.800	522.100	197.300	107.861%
x		0.000	0.641	58.770	210.400	210.400	104.900	513.200	193.900	107.384%
σ		0.000	0.216	4.182	0.412	0.353	0.863	7.713	4.705	1.450%
%RSD		0.000	33.690	7.115	0.196	0.168	0.823	1.503	2.426	1.351

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:07:44	4.456	4.766	5.141	102.100	2.479	1.102	2.070	2.012	20.740
2	10:08:06	4.673	4.852	5.162	103.700	2.647	1.007	2.114	1.778	19.250
3	10:08:28	5.580	4.880	5.132	104.700	2.638	1.037	2.146	1.802	19.110
x		4.903	4.833	5.145	103.500	2.588	1.049	2.110	1.864	19.700
σ		0.596	0.059	0.016	1.341	0.095	0.049	0.038	0.129	0.905
%RSD		12.150	1.231	0.301	1.296	3.653	4.676	1.815	6.900	4.591

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:07:44	1.061	3.013	4.476	96.014%	4.158	99.100%	0.530	0.568	102.119%
2	10:08:06	1.004	2.434	4.054	107.670%	4.178	106.181%	0.545	0.368	112.676%
3	10:08:28	0.940	2.460	4.224	103.993%	3.940	108.685%	0.501	0.580	110.636%
x		1.002	2.636	4.251	102.559%	4.092	104.656%	0.526	0.505	108.477%
σ		0.061	0.327	0.212	5.959%	0.132	4.971%	0.022	0.119	5.600%
%RSD		6.046	12.400	4.989	5.811	3.226	4.750	4.263	23.530	5.162

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:07:44	5.136	2.838	2.727	99.212%	2.095	0.501	99.103%	0.000
2	10:08:06	4.867	2.722	2.601	109.004%	2.112	0.459	108.499%	0.000
3	10:08:28	4.717	2.932	2.463	112.864%	2.035	0.437	111.765%	0.000
x		4.907	2.831	2.597	107.027%	2.081	0.466	106.455%	0.000
σ		0.212	0.105	0.132	7.037%	0.040	0.033	6.574%	0.000
%RSD		4.327	3.715	5.088	6.575	1.944	7.055	6.175	0.000

ICVL, 5/31/2019 10:13:43 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:13:43	0.000	1.607	49.650	209.300	216.000	97.960	533.300	203.300	103.075%
2	10:14:05	0.000	1.475	42.500	191.200	199.800	97.140	480.600	175.600	112.319%
3	10:14:28	0.000	1.565	53.300	205.300	204.800	100.000	519.900	198.500	105.826%
x		0.000	154.902%	96.968%	100.969%	103.425%	98.380%	102.250%	96.232%	107.074%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.746%
%RSD		0.000	4.365	11.330	4.719	4.007	1.523	5.360	7.672	4.433

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:13:43	5.710	4.851	5.388	105.600	2.553	1.018	2.207	2.034	19.830
2	10:14:05	5.075	4.619	4.743	95.200	2.321	0.922	1.992	1.806	18.420
3	10:14:28	4.240	4.870	5.056	99.740	2.490	1.015	2.063	1.742	18.560
x		100.172%	95.598%	101.248%	100.189%	98.174%	98.502%	104.375%	93.050%	94.681%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		14.720	2.926	6.375	5.220	4.892	5.574	5.234	8.243	4.102

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:13:43	0.956	2.603	4.295	96.676%	4.160	98.210%	0.583	0.546	100.488%
2	10:14:05	0.841	2.299	4.140	104.392%	3.737	107.872%	0.475	0.370	108.207%
3	10:14:28	0.990	2.469	4.141	105.182%	3.890	106.876%	0.485	0.452	105.872%
x		92.916%	98.281%	104.799%	102.083%	98.226%	104.319%	102.821%	91.139%	104.856%
σ		n/a	n/a	n/a	4.700%	n/a	5.314%	n/a	n/a	3.959%
%RSD		8.406	6.196	2.134	4.604	5.451	5.094	11.570	19.350	3.775

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:13:43	4.393	3.011	2.813	100.312%	1.868	0.484	100.390%	0.000
2	10:14:05	4.709	2.659	2.239	109.702%	1.921	0.429	107.723%	0.000
3	10:14:28	4.760	2.838	2.284	112.583%	1.817	0.414	110.080%	0.000
x		92.420%	94.539%	97.808%	107.532%	93.430%	88.439%	106.064%	0.000
σ		n/a	n/a	n/a	6.417%	n/a	n/a	5.053%	0.000
%RSD		4.303	6.200	13.050	5.967	2.777	8.322	4.764	0.000

CRI, 5/31/2019 10:17:53 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:17:53	0.000	1.998	89.300	400.700	422.300	204.600	999.400	397.700	103.620%
2	10:18:16	0.000	2.864	115.500	396.000	392.900	182.900	934.600	353.300	115.688%
3	10:18:38	0.000	1.848	94.680	391.800	390.700	183.900	936.800	355.500	112.047%
x		0.000	111.830%	99.815%	99.034%	100.489%	95.241%	95.691%	92.212%	110.452%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.190%
%RSD		0.000	24.510	13.840	1.126	4.397	6.412	3.845	6.787	5.605

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:17:53	9.550	9.784	10.250	202.700	4.920	2.098	4.146	3.838	39.240
2	10:18:16	9.755	8.843	9.641	188.500	4.818	1.868	3.979	3.862	38.420
3	10:18:38	9.310	9.058	9.755	195.400	4.813	2.012	4.028	3.752	38.210
x		95.382%	92.283%	98.832%	97.765%	97.010%	99.636%	101.286%	95.433%	96.556%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.336	5.345	3.302	3.633	1.245	5.829	2.119	1.515	1.402

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:17:53	1.966	5.331	8.185	99.324%	8.452	99.192%	1.079	0.998	98.368%
2	10:18:16	1.858	5.447	7.805	108.639%	7.508	107.175%	1.065	1.003	107.272%
3	10:18:38	1.753	4.843	8.111	106.396%	7.957	107.630%	1.025	0.965	108.264%
x		92.952%	104.140%	100.420%	104.786%	99.656%	104.666%	105.636%	98.867%	104.635%
σ		n/a	n/a	n/a	4.862%	n/a	4.746%	n/a	n/a	5.450%
%RSD		5.729	6.149	2.504	4.640	5.929	4.534	2.657	2.119	5.209

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:17:53	9.681	6.441	4.995	102.763%	3.850	0.972	99.525%	0.000
2	10:18:16	8.899	5.586	5.120	112.307%	3.589	0.886	108.002%	0.000
3	10:18:38	9.346	5.650	4.785	112.243%	3.698	0.949	108.216%	0.000
x		93.085%	98.205%	99.333%	109.105%	92.806%	93.587%	105.248%	0.000
σ		n/a	n/a	n/a	5.492%	n/a	n/a	4.957%	0.000
%RSD		4.218	8.079	3.406	5.033	3.530	4.749	4.710	0.000

ICSA, 5/31/2019 10:22:04 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:22:04	0.000	0.000	4.729	T 113500.000	T 113000.000	T 115000.000	T 114500.000	108100.000	84.128%
2	10:22:26	0.000	0.000	0.190	T 92310.000	T 92260.000	T 93850.000	T 93140.000	91810.000	105.139%
3	10:22:49	0.000	0.000	0.341	T 94920.000	T 96480.000	T 98190.000	T 98010.000	95790.000	100.138%
x		0.000	0.000	1.753	T 100.254%	T 100.592%	T 102.338%	T 101.894%	98.563%	96.468%
σ		0.000	0.000	2.578	T n/a	T n/a	T n/a	T n/a	n/a	10.975%
%RSD		0.000	0.000	147.000	T 11.540	T 10.910	T 10.900	T 11.000	8.614	11.377
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:22:04	2246.000	-0.106	1.547	T 113000.000	-0.677	0.445	0.232	0.001	0.414
2	10:22:26	1809.000	-0.169	1.206	T 92560.000	-0.402	0.356	0.130	-0.010	0.348
3	10:22:49	1899.000	-0.193	1.228	T 97150.000	-0.691	0.378	0.206	-0.031	0.327
x		99.227%	-0.156	1.327	T 100.910%	-0.590	0.393	0.189	-0.013	0.363
σ		n/a	0.045	0.191	T n/a	0.163	0.046	0.053	0.016	0.046
%RSD		11.630	28.800	14.370	T 10.640	27.630	11.780	27.870	120.700	12.540
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:22:04	0.082	0.095	1.893	87.734%	2133.000	81.225%	0.129	-0.829	85.689%
2	10:22:26	0.109	0.017	1.719	99.222%	1936.000	88.777%	0.112	-0.667	93.243%
3	10:22:49	0.080	0.037	1.773	95.080%	2069.000	89.344%	0.143	-0.747	93.894%
x		0.090	0.049	1.795	94.012%	102.301%	86.449%	0.128	-0.748	90.942%
σ		0.016	0.041	0.089	5.818%	n/a	4.533%	0.015	0.081	4.561%
%RSD		17.960	82.000	4.976	6.188	4.904	5.243	11.860	10.820	5.015
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	10:22:04	-0.022	0.072	0.680	93.367%	0.049	0.286	84.397%	0.000	
2	10:22:26	-0.007	0.079	0.699	99.549%	0.091	0.271	91.192%	0.000	
3	10:22:49	0.011	0.095	0.760	102.654%	0.099	0.258	96.267%	0.000	
x		-0.006	0.082	0.713	98.523%	0.080	0.272	90.619%	0.000	
σ		0.016	0.012	0.042	4.727%	0.027	0.014	5.956%	0.000	
%RSD		281.100	14.320	5.830	4.798	33.470	5.041	6.572	0.000	

ICSAB, 5/31/2019 10:26:14 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:26:14	0.000	21.880	43.320	┬101700.000	┬99640.000	┬103900.000	┬101200.000	99610.000	96.528%
2	10:26:36	0.000	12.760	41.080	┬95060.000	┬97410.000	┬100600.000	┬98530.000	92690.000	103.863%
3	10:26:58	0.000	17.070	47.150	┬96090.000	┬98410.000	┬99280.000	┬98090.000	97100.000	101.872%
x		0.000	86.185%	87.702%	┬97.632%	┬98.488%	┬101.261%	┬99.288%	96.466%	100.755%
σ		0.000	n/a	n/a	┬n/a	┬n/a	┬n/a	┬n/a	n/a	3.793%
%RSD		0.000	26.470	6.995	┬3.688	┬1.133	┬2.373	┬1.721	3.635	3.765
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:26:14	1967.000	19.270	20.010	┬102100.000	19.180	19.400	19.060	19.690	20.910
2	10:26:36	1902.000	17.880	19.230	┬97680.000	18.170	18.150	18.710	18.480	20.310
3	10:26:58	1924.000	18.970	20.160	┬98470.000	18.190	18.510	18.710	18.220	19.640
x		96.551%	93.522%	99.010%	┬99.403%	92.569%	93.452%	94.136%	93.979%	101.415%
σ		n/a	n/a	n/a	┬n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.730	3.923	2.511	┬2.346	3.109	3.444	1.065	4.194	3.132
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:26:14	22.100	22.190	22.540	90.287%	2177.000	83.190%	19.380	18.090	91.015%
2	10:26:36	20.850	20.820	21.420	98.857%	1993.000	89.319%	19.210	19.040	95.373%
3	10:26:58	20.250	20.650	21.770	99.561%	2044.000	92.402%	18.840	18.680	98.999%
x		105.343%	106.106%	109.546%	96.235%	103.574%	88.304%	95.715%	93.021%	95.129%
σ		n/a	n/a	n/a	5.163%	n/a	4.689%	n/a	n/a	3.998%
%RSD		4.481	3.964	2.610	5.365	4.585	5.310	1.451	2.572	4.202
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	10:26:14	21.420	9.608	20.160	95.833%	9.891	19.960	87.648%	0.000	
2	10:26:36	20.430	9.503	19.270	104.775%	9.288	19.110	94.313%	0.000	
3	10:26:58	19.950	9.198	20.370	105.524%	9.259	19.410	97.447%	0.000	
x		20.600	94.364%	99.674%	102.044%	94.795%	97.475%	93.136%	0.000	
σ		0.754	n/a	n/a	5.392%	n/a	n/a	5.004%	0.000	
%RSD		3.662	2.254	2.920	5.284	3.766	2.227	5.373	0.000	

CCV, 5/31/2019 10:30:24 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:30:24	0.000	267.700	239.500	T 26100.000	26550.000	27210.000	T 26470.000	26810.000	95.440%
2	10:30:46	0.000	245.200	269.300	T 22270.000	23480.000	23270.000	T 23710.000	22780.000	111.115%
3	10:31:08	0.000	253.700	283.700	T 24850.000	25370.000	24670.000	T 25650.000	24180.000	105.139%
x		0.000	102.215%	105.663%	T 97.637%	100.534%	100.197%	T 101.095%	98.360%	103.898%
σ		0.000	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	7.911%
%RSD		0.000	4.446	8.540	T 8.004	6.170	7.965	T 5.612	8.309	7.614

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:30:24	258.900	260.800	265.000	28060.000	269.900	267.900	274.400	252.600	254.100
2	10:30:46	233.600	228.300	233.600	23390.000	231.100	234.000	236.600	234.000	240.100
3	10:31:08	250.400	243.300	245.800	24940.000	247.500	246.400	252.500	235.400	242.800
x		99.047%	97.656%	99.255%	101.847%	99.803%	99.769%	101.810%	96.265%	98.274%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.187	6.659	6.395	9.346	7.800	6.895	7.451	4.307	3.026

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:30:24	254.100	260.800	265.200	98.237%	248.500	93.907%	52.930	260.800	97.686%
2	10:30:46	240.800	245.600	248.500	106.847%	240.700	101.543%	49.340	249.100	106.081%
3	10:31:08	237.900	240.000	247.200	107.755%	235.500	102.403%	51.980	255.800	103.740%
x		97.715%	99.525%	101.452%	104.280%	96.638%	99.284%	102.836%	102.088%	102.502%
σ		n/a	n/a	n/a	5.253%	n/a	4.677%	n/a	n/a	4.332%
%RSD		3.542	4.310	3.945	5.037	2.712	4.711	3.615	2.304	4.226

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:30:24	257.300	258.900	257.800	102.488%	245.200	247.400	99.086%	0.000
2	10:30:46	237.100	243.900	235.100	111.753%	243.500	242.800	102.941%	0.000
3	10:31:08	251.100	251.600	238.000	115.335%	234.300	239.400	106.651%	0.000
x		99.406%	100.582%	97.464%	109.859%	96.401%	97.284%	102.893%	0.000
σ		n/a	n/a	n/a	6.630%	n/a	n/a	3.783%	0.000
%RSD		4.162	2.975	5.077	6.035	2.425	1.659	3.676	0.000

CCB, 5/31/2019 10:34:33 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:34:33	0.000	0.000	0.324	-1.476	0.919	-0.338	1.397	-1.549	100.683%
2	10:34:54	0.000	0.000	-0.831	-1.168	0.875	-0.605	-9.845	-1.467	105.783%
3	10:35:17	0.000	0.000	-0.909	-1.744	0.919	-0.208	-18.350	-2.214	110.011%
x		0.000	0.000	-0.472	-1.463	0.904	-0.384	-8.934	-1.743	105.492%
σ		0.000	0.000	0.690	0.288	0.025	0.203	9.907	0.410	4.671%
%RSD		0.000	0.000	146.300	19.680	2.812	52.900	110.900	23.510	4.428

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:34:33	-0.060	0.054	0.000	0.173	-0.054	0.005	-0.075	-0.110	-0.357
2	10:34:54	-0.017	-0.022	-0.011	-0.200	-0.053	0.001	-0.063	-0.101	-0.407
3	10:35:17	-0.060	-0.004	-0.016	-0.008	-0.063	0.004	-0.082	-0.090	-0.345
x		-0.045	0.009	-0.009	-0.012	-0.057	0.003	-0.073	-0.100	-0.369
σ		0.025	0.040	0.008	0.187	0.005	0.002	0.010	0.010	0.033
%RSD		54.240	432.700	91.890	1619.000	9.559	63.140	13.100	9.921	8.864

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:34:33	0.017	0.036	0.134	96.633%	0.282	98.812%	-0.000	-0.003	99.361%
2	10:34:54	0.006	-0.036	0.106	105.887%	0.583	105.699%	0.002	-0.003	106.488%
3	10:35:17	0.013	0.030	0.100	106.278%	0.743	107.869%	-0.002	-0.003	108.936%
x		0.012	0.010	0.113	102.932%	0.536	104.127%	-0.000	-0.003	104.928%
σ		0.006	0.040	0.018	5.459%	0.234	4.728%	0.002	0.000	4.974%
%RSD		47.960	401.600	16.150	5.303	43.610	4.541	2472.000	6.946	4.741

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:34:33	-0.000	-0.006	0.029	102.844%	0.233	-0.005	100.284%	0.000
2	10:34:54	0.036	-0.011	0.018	111.504%	0.456	-0.011	108.753%	0.000
3	10:35:17	0.019	-0.002	0.005	110.246%	0.470	-0.005	111.871%	0.000
x		0.018	-0.007	0.017	108.198%	0.386	-0.007	106.970%	0.000
σ		0.018	0.004	0.012	4.679%	0.133	0.004	5.996%	0.000
%RSD		99.300	67.380	70.840	4.325	34.380	53.490	5.606	0.000

mb 500-487972/1-a, 5/31/2019 10:46:32 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:46:32	0.000	0.000	1.488	40.350	4.085	5.525	4.649	28.550	98.118%
2	10:46:54	0.000	0.000	0.115	38.220	4.779	4.932	-7.035	29.520	107.804%
3	10:47:16	0.000	0.000	2.009	34.660	4.193	5.723	-10.940	20.930	109.452%
x		0.000	0.000	1.204	37.740	4.352	5.393	-4.443	26.340	105.125%
σ		0.000	0.000	0.978	2.875	0.374	0.411	8.113	4.704	6.124%
%RSD		0.000	0.000	81.260	7.618	8.581	7.625	182.600	17.860	5.825
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:46:32	-0.060	-0.013	0.101	7.159	0.178	0.020	0.672	0.122	4.705
2	10:46:54	0.024	-0.042	0.149	6.216	0.149	0.014	0.550	0.092	4.219
3	10:47:16	0.064	-0.027	0.135	5.759	0.145	0.019	0.555	0.077	4.424
x		0.009	-0.027	0.128	6.378	0.158	0.017	0.592	0.097	4.449
σ		0.063	0.014	0.025	0.714	0.018	0.003	0.069	0.023	0.244
%RSD		663.800	52.770	19.200	11.190	11.300	18.920	11.590	23.440	5.488
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:46:32	0.018	-0.027	0.070	99.476%	0.224	100.211%	0.002	0.005	100.314%
2	10:46:54	0.020	-0.042	0.080	105.564%	0.320	106.689%	0.003	-0.003	109.620%
3	10:47:16	0.024	-0.020	0.079	104.112%	0.401	106.808%	-0.001	-0.003	107.994%
x		0.020	-0.030	0.076	103.051%	0.315	104.569%	0.002	-0.000	105.976%
σ		0.003	0.012	0.006	3.180%	0.089	3.775%	0.002	0.005	4.971%
%RSD		14.350	39.310	7.465	3.085	28.120	3.610	119.400	2883.000	4.690
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	10:46:32	0.039	-0.004	0.075	101.639%	0.094	0.042	102.658%	0.000	
2	10:46:54	0.042	0.028	0.059	112.372%	0.201	0.036	109.871%	0.000	
3	10:47:16	0.026	0.058	0.117	110.545%	0.183	0.044	110.027%	0.000	
x		0.036	0.027	0.084	108.185%	0.159	0.041	107.519%	0.000	
σ		0.008	0.031	0.030	5.742%	0.057	0.004	4.210%	0.000	
%RSD		23.740	113.200	35.270	5.308	36.020	10.980	3.915	0.000	

lcs 500-487972/2-a, 5/31/2019 10:50:41 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:50:41	0.000	46.330	982.900	9114.000	9093.000	1918.000	9429.000	8842.000	108.162%
2	10:51:02	0.000	42.880	895.500	8970.000	9449.000	1822.000	9266.000	8537.000	113.968%
3	10:51:24	0.000	64.240	1067.000	10200.000	10520.000	1957.000	10220.000	9415.000	102.502%
x		0.000	102.293%	98.191%	94.290%	96.885%	94.954%	96.368%	89.311%	108.211%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.733%
%RSD		0.000	22.420	8.754	7.151	7.681	3.639	5.270	4.995	5.298

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:50:41	903.600	444.900	180.800	935.100	472.300	475.600	495.500	251.600	525.200
2	10:51:02	887.400	432.500	177.900	888.900	460.300	445.100	474.800	232.400	491.100
3	10:51:24	994.000	491.100	199.900	1004.000	507.500	514.900	522.100	232.800	475.000
x		92.835%	91.234%	93.099%	94.273%	96.011%	95.707%	99.498%	95.578%	99.423%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		6.185	6.771	6.405	6.159	5.106	7.314	4.765	4.592	5.159

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:50:41	100.200	102.800	1018.000	100.113%	964.700	94.256%	50.900	51.360	97.991%
2	10:51:02	95.020	96.520	986.500	108.656%	910.100	101.600%	47.980	48.150	106.252%
3	10:51:24	94.120	98.150	996.900	107.594%	932.300	102.156%	49.410	49.060	105.538%
x		96.433%	99.162%	100.060%	105.454%	93.567%	99.337%	98.857%	99.051%	103.260%
σ		n/a	n/a	n/a	4.656%	n/a	4.409%	n/a	n/a	4.578%
%RSD		3.372	3.301	1.632	4.415	2.937	4.439	2.950	3.338	4.433

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:50:41	987.300	495.900	1972.000	103.306%	3.134	3.162	T 2975.177%	0.000
2	10:51:02	964.300	471.700	1916.000	110.655%	3.023	3.106	T 3119.163%	0.000
3	10:51:24	971.900	475.700	1914.000	112.658%	3.018	3.101	T 3196.734%	0.000
x		97.450%	96.221%	386.839%	108.873%	3.059%	3.123%	T 3097.025%	0.000
σ		n/a	n/a	n/a	4.924%	n/a	n/a	T 112.425%	0.000
%RSD		1.203	2.699	1.689	4.523	2.140	1.073	T 3.630	0.000

500-163871-b-9-a @5, 5/31/2019 10:54:49 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:54:49	0.000	1.125	17.330	3120.000	27820.000	19290.000	2360.000	63620.000	110.470%
2	10:55:10	0.000	0.355	23.560	2976.000	25940.000	17620.000	2117.000	58970.000	116.563%
3	10:55:32	0.000	0.360	17.420	2832.000	25240.000	17660.000	2087.000	57690.000	115.186%
x		0.000	0.613	19.440	2976.000	26330.000	18190.000	2188.000	60090.000	114.073%
σ		0.000	0.443	3.568	144.200	1334.000	951.300	149.800	3120.000	3.195%
%RSD		0.000	72.240	18.360	4.846	5.065	5.230	6.847	5.192	2.801

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:54:49	106.400	42.770	39.250	T 33690.000	T 623.000	11.200	38.700	36.180	133.600
2	10:55:10	102.900	39.490	37.780	T 30670.000	T 581.000	10.390	37.460	34.040	124.500
3	10:55:32	96.390	39.570	37.160	T 31250.000	593.500	10.690	36.860	34.340	124.000
x		101.900	40.610	38.060	T 31870.000	T 599.200	10.760	37.670	34.860	127.400
σ		5.088	1.869	1.075	T 1603.000	T 21.560	0.410	0.938	1.157	5.405
%RSD		4.994	4.603	2.823	T 5.029	T 3.598	3.809	2.489	3.320	4.244

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:54:49	16.640	1.327	33.130	191.414%	3.093	93.480%	0.054	0.403	97.066%
2	10:55:10	16.120	1.195	31.930	196.942%	3.209	99.735%	0.056	0.462	103.059%
3	10:55:32	15.730	1.141	31.160	199.930%	3.458	100.617%	0.045	0.432	102.772%
x		16.160	1.221	32.080	196.095%	3.253	97.944%	0.052	0.432	100.966%
σ		0.456	0.095	0.994	4.321%	0.187	3.891%	0.006	0.030	3.381%
%RSD		2.822	7.817	3.100	2.204	5.734	3.972	11.420	6.880	3.348

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:54:49	0.597	0.194	117.600	104.019%	0.822	18.700	97.389%	0.000
2	10:55:10	0.662	0.206	110.900	111.429%	0.872	17.280	104.636%	0.000
3	10:55:32	0.586	0.204	109.600	113.331%	0.930	17.310	105.814%	0.000
x		0.615	0.201	112.700	109.593%	0.875	17.760	102.613%	0.000
σ		0.041	0.006	4.283	4.920%	0.054	0.809	4.562%	0.000
%RSD		6.694	3.014	3.800	4.489	6.177	4.553	4.446	0.000

mb 500-487234/1-a, 5/31/2019 10:58:57 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:58:57	0.000	0.000	-2.837	21.760	7.265	21.130	7.808	74.410	106.715%
2	10:59:18	0.000	0.363	-0.044	20.980	7.687	15.150	-5.287	77.530	113.939%
3	10:59:40	0.000	0.000	1.961	21.010	5.245	17.180	-1.518	75.190	110.556%
x		0.000	0.121	-0.307	21.250	6.732	17.820	0.334	75.710	110.403%
σ		0.000	0.210	2.410	0.438	1.305	3.041	6.741	1.623	3.614%
%RSD		0.000	173.200	785.600	2.059	19.380	17.060	2017.000	2.143	3.274
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:58:57	0.152	0.035	1.143	26.290	0.578	0.056	0.631	0.230	5.215
2	10:59:18	0.099	0.012	1.055	24.250	0.536	0.045	0.488	0.222	5.511
3	10:59:40	0.063	0.002	1.016	25.140	0.557	0.047	0.525	0.201	4.783
x		0.104	0.016	1.071	25.230	0.557	0.049	0.548	0.218	5.170
σ		0.045	0.017	0.065	1.026	0.021	0.006	0.074	0.014	0.366
%RSD		42.840	104.400	6.089	4.066	3.771	11.550	13.590	6.662	7.082
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:58:57	0.029	0.010	0.289	101.828%	0.155	100.042%	0.005	-0.003	104.246%
2	10:59:18	0.038	-0.024	0.271	106.447%	0.207	105.407%	0.008	0.005	107.710%
3	10:59:40	0.024	-0.004	0.270	105.004%	0.313	108.809%	0.003	0.012	108.426%
x		0.030	-0.006	0.277	104.426%	0.225	104.753%	0.005	0.005	106.794%
σ		0.007	0.017	0.010	2.363%	0.080	4.420%	0.002	0.007	2.235%
%RSD		24.140	273.200	3.783	2.263	35.750	4.220	38.640	157.100	2.093
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	10:58:57	0.066	0.084	0.168	100.763%	0.031	0.067	101.932%	0.000	
2	10:59:18	0.084	0.073	0.232	109.046%	0.124	0.069	106.610%	0.000	
3	10:59:40	0.082	0.088	0.176	112.240%	0.114	0.068	111.321%	0.000	
x		0.077	0.082	0.192	107.350%	0.089	0.068	106.621%	0.000	
σ		0.010	0.008	0.035	5.924%	0.051	0.001	4.694%	0.000	
%RSD		13.080	10.030	17.980	5.518	57.300	1.312	4.403	0.000	

lcs 500-487234/2-a, 5/31/2019 11:03:03 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:03:03	0.000	62.870	1136.000	11230.000	10510.000	2174.000	10960.000	10400.000	98.147%
2	11:03:24	0.000	48.120	1077.000	9816.000	9962.000	2017.000	10070.000	9014.000	111.875%
3	11:03:47	0.000	53.780	1073.000	10610.000	10240.000	2021.000	10080.000	9337.000	105.483%
x		0.000	109.849%	109.569%	105.541%	102.354%	103.540%	103.701%	95.828%	105.168%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.869%
%RSD		0.000	13.540	3.228	6.723	2.664	4.305	4.948	7.553	6.532

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:03:03	1034.000	518.400	210.700	1092.000	538.900	530.300	539.700	256.100	530.600
2	11:03:24	925.900	471.600	195.500	997.300	505.100	489.800	503.700	242.200	505.500
3	11:03:47	986.900	492.800	205.100	1060.000	503.600	507.100	517.700	246.500	512.300
x		98.217%	98.852%	101.893%	104.992%	103.175%	101.814%	104.075%	99.297%	103.234%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.500	4.737	3.773	4.602	3.871	3.986	3.493	2.868	2.515

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:03:03	103.600	108.000	1054.000	100.928%	1017.000	94.374%	51.480	51.900	99.932%
2	11:03:24	97.280	100.700	1045.000	106.328%	977.700	103.196%	47.390	47.800	110.610%
3	11:03:47	100.600	101.700	1075.000	103.084%	1025.000	100.719%	48.450	47.640	108.910%
x		100.525%	103.466%	105.786%	103.447%	100.669%	99.430%	98.209%	98.225%	106.484%
σ		n/a	n/a	n/a	2.718%	n/a	4.550%	n/a	n/a	5.737%
%RSD		3.164	3.815	1.474	2.628	2.520	4.576	4.323	4.910	5.388

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:03:03	1040.000	500.100	514.500	101.615%	100.300	102.100	97.099%	0.000
2	11:03:24	974.300	470.700	509.700	109.242%	96.580	98.290	104.361%	0.000
3	11:03:47	996.600	477.800	495.500	111.180%	93.370	95.910	108.606%	0.000
x		100.363%	96.570%	101.315%	107.346%	96.752%	98.776%	103.355%	0.000
σ		n/a	n/a	n/a	5.057%	n/a	n/a	5.819%	0.000
%RSD		3.329	3.176	1.950	4.711	3.587	3.177	5.630	0.000

500-164061-a-1-a @10, 5/31/2019 11:07:12 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:07:12	0.000	0.124	19.060	T 12020.000	458.100	1014.000	2662.000	225.200	334.261%
2	11:07:34	0.000	0.000	25.200	T 12480.000	453.700	1063.000	2738.000	242.800	321.579%
3	11:07:56	0.000	0.000	25.390	T 13440.000	484.000	1091.000	2880.000	263.700	304.403%
x		0.000	0.041	23.220	T 12650.000	465.300	1056.000	2760.000	243.900	320.081%
σ		0.000	0.072	3.602	T 724.700	16.420	38.610	110.500	19.290	14.986%
%RSD		0.000	173.200	15.510	T 5.729	3.529	3.657	4.003	7.911	4.682

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:07:12	252.800	-0.220	0.818	1952.000	T 1533.000	0.501	8.242	11.660	38.160
2	11:07:34	272.700	-0.213	0.872	2027.000	T 1564.000	0.509	8.385	10.440	34.840
3	11:07:56	282.500	-0.225	0.913	2103.000	T 1633.000	0.576	8.983	10.390	34.280
x		269.300	-0.220	0.867	2027.000	T 1577.000	0.528	8.537	10.830	35.760
σ		15.110	0.006	0.048	75.840	T 50.790	0.041	0.393	0.721	2.098
%RSD		5.611	2.782	5.497	3.741	T 3.221	7.832	4.608	6.661	5.868

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:07:12	0.198	-0.031	17.560	102.524%	34.090	89.315%	31.250	19.220	91.103%
2	11:07:34	0.219	0.080	17.240	107.976%	35.010	97.918%	26.980	16.800	105.375%
3	11:07:56	0.133	0.013	16.390	107.968%	32.950	97.518%	29.560	17.400	98.856%
x		0.183	0.021	17.060	106.156%	34.020	94.917%	29.260	17.810	98.445%
σ		0.045	0.056	0.603	3.145%	1.035	4.855%	2.151	1.260	7.145%
%RSD		24.270	272.900	3.534	2.963	3.043	5.115	7.351	7.075	7.258

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:07:12	0.153	0.284	4.792	96.014%	0.112	0.275	89.203%	0.000
2	11:07:34	0.106	0.271	4.819	103.148%	0.267	0.267	99.689%	0.000
3	11:07:56	0.138	0.321	4.120	107.669%	0.295	0.228	101.182%	0.000
x		0.133	0.292	4.577	102.277%	0.225	0.257	96.691%	0.000
σ		0.024	0.026	0.396	5.876%	0.099	0.025	6.528%	0.000
%RSD		18.080	8.822	8.652	5.745	43.860	9.644	6.751	0.000

500-163905-f-1-a, 5/31/2019 11:11:20 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:11:20	0.000	0.000	153.500	TM 200500.000	T 63410.000	11.150	4561.000	120900.000	101.757%
2	11:11:43	0.000	0.000	161.700	TM 218200.000	T 66240.000	10.570	4660.000	127900.000	103.190%
3	11:12:04	0.000	0.000	183.000	TM 203400.000	T 63600.000	10.890	4458.000	122400.000	103.319%
x		0.000	0.000	166.100	TM 207400.000	T 64420.000	10.870	4560.000	123700.000	102.755%
σ		0.000	0.000	15.220	TM 9473.000	T 1580.000	0.293	100.800	3692.000	0.867%
%RSD		0.000	0.000	9.166	TM 4.568	T 2.453	2.695	2.210	2.984	0.844

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:11:20	0.383	0.245	0.328	985.700	284.200	0.163	0.871	0.133	7.091
2	11:11:43	0.246	0.225	0.356	1041.000	298.300	0.187	1.009	0.151	7.130
3	11:12:04	0.289	0.194	0.298	1020.000	296.100	0.211	0.910	0.147	7.146
x		0.306	0.221	0.328	1016.000	292.900	0.187	0.930	0.144	7.123
σ		0.070	0.026	0.029	27.830	7.555	0.024	0.071	0.010	0.028
%RSD		22.900	11.550	8.787	2.740	2.580	12.850	7.661	6.669	0.397

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:11:20	8.017	0.021	235.900	97.388%	4.628	91.018%	0.006	0.010	95.020%
2	11:11:43	7.990	0.017	235.500	101.463%	4.567	94.214%	0.004	-0.007	102.400%
3	11:12:04	7.992	0.004	226.900	105.267%	4.396	94.369%	0.002	0.001	102.544%
x		8.000	0.014	232.800	101.373%	4.530	93.200%	0.004	0.001	99.988%
σ		0.015	0.009	5.117	3.940%	0.121	1.891%	0.002	0.008	4.303%
%RSD		0.184	65.350	2.198	3.887	2.661	2.029	43.470	564.200	4.304

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:11:20	0.146	0.150	59.250	100.475%	0.040	0.074	91.696%	0.000
2	11:11:43	0.138	0.227	56.780	108.798%	0.152	0.074	97.086%	0.000
3	11:12:04	0.163	0.167	57.660	107.730%	0.166	0.066	98.722%	0.000
x		0.149	0.182	57.900	105.668%	0.119	0.071	95.835%	0.000
σ		0.013	0.041	1.248	4.529%	0.069	0.004	3.676%	0.000
%RSD		8.430	22.360	2.156	4.286	58.020	6.182	3.836	0.000

500-163905-f-2-a @100, 5/31/2019 11:15:28 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:15:28	0.000	0.000	1.364	T 77990.000	530.900	34.300	210.700	716.500	100.998%
2	11:15:51	0.000	0.000	-0.955	T 68470.000	449.900	29.620	164.000	645.800	112.721%
3	11:16:12	0.000	0.000	3.946	T 69030.000	468.900	32.210	173.800	629.700	109.481%
x		0.000	0.000	1.452	T 71830.000	483.200	32.040	182.800	664.000	107.733%
σ		0.000	0.000	2.451	T 5339.000	42.370	2.345	24.630	46.190	6.054%
%RSD		0.000	0.000	168.900	T 7.433	8.767	7.318	13.470	6.957	5.619

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:15:28	0.610	0.096	0.064	43.860	1.642	0.021	0.053	0.300	-0.181
2	11:15:51	0.740	0.085	0.036	39.460	1.360	0.016	-0.019	0.261	-0.140
3	11:16:12	0.640	0.137	0.019	40.790	1.500	0.016	-0.009	0.230	-0.114
x		0.663	0.106	0.039	41.370	1.501	0.018	0.008	0.264	-0.145
σ		0.068	0.027	0.023	2.259	0.141	0.003	0.039	0.035	0.034
%RSD		10.270	25.900	57.440	5.461	9.383	14.840	466.300	13.170	23.160

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:15:28	0.053	0.115	2.511	98.050%	0.463	93.516%	0.001	-0.003	96.973%
2	11:15:51	0.059	0.107	2.352	105.139%	0.410	100.048%	0.001	-0.003	99.600%
3	11:16:12	0.057	0.016	2.410	104.995%	0.490	100.333%	0.001	-0.003	106.056%
x		0.056	0.079	2.424	102.728%	0.455	97.966%	0.001	-0.003	100.876%
σ		0.003	0.055	0.081	4.052%	0.041	3.856%	0.000	0.000	4.674%
%RSD		5.193	69.650	3.323	3.944	8.945	3.936	13.850	0.781	4.634

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:15:28	-0.010	0.035	0.569	99.186%	0.008	0.082	93.149%	0.000
2	11:15:51	-0.021	0.017	0.585	105.527%	0.056	0.091	101.260%	0.000
3	11:16:12	-0.014	0.050	0.612	105.885%	0.069	0.084	104.656%	0.000
x		-0.015	0.034	0.589	103.532%	0.044	0.086	99.688%	0.000
σ		0.005	0.016	0.022	3.769%	0.032	0.005	5.912%	0.000
%RSD		35.180	48.600	3.683	3.640	71.970	5.606	5.931	0.000

500-163905-f-3-a @100, 5/31/2019 11:19:36 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:19:36	0.000	0.000	4.495	T 50180.000	555.900	29.450	162.100	796.100	101.284%
2	11:19:59	0.000	0.000	4.947	T 48990.000	515.200	31.840	148.000	803.400	109.022%
3	11:20:20	0.000	0.000	0.889	T 46800.000	469.700	26.790	115.300	747.100	113.896%
x		0.000	0.000	3.444	T 48660.000	513.600	29.360	141.800	782.200	108.068%
σ		0.000	0.000	2.224	T 1711.000	43.120	2.526	24.000	30.600	6.360%
%RSD		0.000	0.000	64.590	T 3.517	8.397	8.605	16.920	3.912	5.885

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:19:36	0.474	0.313	0.124	27.750	0.643	0.013	-0.031	0.328	-0.098
2	11:19:59	0.478	0.204	0.081	25.890	0.594	0.012	0.007	0.301	-0.169
3	11:20:20	0.534	0.199	0.083	22.140	0.524	0.022	-0.018	0.315	-0.110
x		0.495	0.239	0.096	25.260	0.587	0.015	-0.014	0.315	-0.126
σ		0.033	0.064	0.024	2.854	0.060	0.005	0.019	0.014	0.038
%RSD		6.752	26.920	25.320	11.300	10.220	34.690	137.100	4.339	30.600

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:19:36	0.106	0.046	2.682	98.084%	0.418	91.753%	0.001	-0.003	98.722%
2	11:19:59	0.089	0.051	2.624	104.282%	0.358	100.589%	0.001	-0.003	106.778%
3	11:20:20	0.136	0.067	2.547	104.095%	0.471	101.961%	-0.002	-0.003	103.000%
x		0.110	0.055	2.618	102.154%	0.416	98.101%	-0.000	-0.003	102.833%
σ		0.024	0.011	0.068	3.525%	0.057	5.540%	0.002	0.000	4.030%
%RSD		21.730	19.970	2.585	3.451	13.700	5.647	3454.000	2.010	3.919

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:19:36	-0.013	0.075	0.440	98.481%	-0.006	0.071	93.547%	0.000
2	11:19:59	-0.025	0.066	0.525	102.889%	0.038	0.059	102.892%	0.000
3	11:20:20	-0.019	0.033	0.447	108.434%	0.053	0.064	103.397%	0.000
x		-0.019	0.058	0.471	103.268%	0.029	0.065	99.945%	0.000
σ		0.006	0.022	0.047	4.987%	0.031	0.006	5.547%	0.000
%RSD		31.490	38.650	10.050	4.829	106.700	9.256	5.550	0.000

ccv, 5/31/2019 11:23:45 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:23:45	0.000	283.500	332.500	T 28270.000	28500.000	27850.000	T 27800.000	26610.000	93.650%
2	11:24:07	0.000	226.800	246.500	T 23570.000	24040.000	24280.000	T 23260.000	22880.000	109.352%
3	11:24:28	0.000	242.100	298.700	T 24810.000	24250.000	25350.000	T 24880.000	23770.000	105.540%
x		0.000	100.320%	117.024%	T 102.193%	102.393%	103.292%	T 101.266%	97.678%	102.847%
σ		0.000	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	8.190%
%RSD		0.000	11.680	14.810	T 9.530	9.821	7.095	T 9.090	7.987	7.963

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:23:45	272.800	273.500	267.500	27980.000	266.100	274.900	272.000	251.500	260.800
2	11:24:07	234.900	233.400	233.400	23540.000	236.000	234.800	236.300	236.700	242.600
3	11:24:28	238.800	238.300	246.400	T 24860.000	T 250.600	243.100	245.100	240.500	247.000
x		99.522%	99.370%	99.637%	T 101.845%	T 100.359%	100.376%	100.458%	97.166%	100.050%
σ		n/a	n/a	n/a	T n/a	T n/a	n/a	n/a	n/a	n/a
%RSD		8.377	8.792	6.896	T 8.957	T 6.009	8.433	7.385	3.154	3.787

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:23:45	261.100	271.400	270.600	93.875%	269.400	90.492%	52.450	252.300	96.085%
2	11:24:07	244.200	245.000	244.800	105.581%	238.200	98.072%	50.550	251.300	100.183%
3	11:24:28	243.100	249.600	243.200	105.989%	238.700	98.675%	52.760	254.900	99.756%
x		99.788%	102.132%	101.152%	101.815%	99.504%	95.746%	103.840%	101.132%	98.675%
σ		n/a	n/a	n/a	6.879%	n/a	4.560%	n/a	n/a	2.253%
%RSD		4.050	5.537	6.067	6.756	7.175	4.763	2.304	0.720	2.283

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:23:45	258.900	251.200	267.900	96.998%	251.200	250.800	94.874%	0.000
2	11:24:07	242.100	251.000	236.800	108.487%	239.600	241.300	100.628%	0.000
3	11:24:28	243.100	257.200	240.100	110.243%	236.100	239.900	103.692%	0.000
x		99.218%	101.250%	99.293%	105.243%	96.927%	97.597%	99.731%	0.000
σ		n/a	n/a	n/a	7.194%	n/a	n/a	4.477%	0.000
%RSD		3.808	1.400	6.889	6.835	3.263	2.429	4.489	0.000

ccb, 5/31/2019 11:27:55 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:27:55	0.000	0.000	3.597	-0.244	1.306	1.097	19.150	3.208	98.921%
2	11:28:16	0.000	0.000	1.167	-1.225	0.427	-0.147	7.014	-2.542	105.984%
3	11:28:39	0.000	0.000	5.180	-0.403	0.428	0.447	0.468	-3.848	105.855%
x		0.000	0.000	3.315	-0.624	0.720	0.466	8.877	-1.061	103.587%
σ		0.000	0.000	2.022	0.527	0.507	0.623	9.478	3.754	4.041%
%RSD		0.000	0.000	60.990	84.410	70.370	133.700	106.800	353.900	3.901

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:27:55	-0.060	0.043	0.006	1.024	-0.051	0.015	-0.056	0.021	-0.361
2	11:28:16	-0.017	0.033	0.015	0.409	-0.042	0.011	-0.042	0.016	-0.402
3	11:28:39	-0.060	0.072	-0.004	0.292	-0.049	0.007	-0.068	0.023	-0.337
x		-0.045	0.050	0.006	0.575	-0.047	0.011	-0.055	0.020	-0.367
σ		0.025	0.020	0.009	0.393	0.004	0.004	0.013	0.003	0.033
%RSD		54.110	40.730	167.600	68.370	9.459	36.350	23.910	16.030	9.076

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:27:55	0.002	0.042	0.116	99.986%	0.129	98.654%	0.003	0.021	98.490%
2	11:28:16	0.023	0.019	0.084	106.235%	0.203	107.559%	-0.002	-0.003	105.290%
3	11:28:39	0.032	0.003	0.131	102.719%	0.306	106.587%	0.007	0.004	110.864%
x		0.019	0.022	0.110	102.980%	0.213	104.267%	0.003	0.008	104.881%
σ		0.015	0.020	0.024	3.133%	0.089	4.885%	0.005	0.012	6.197%
%RSD		79.360	90.940	21.910	3.042	41.820	4.685	176.600	161.100	5.909

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:27:55	-0.010	-0.006	-0.008	101.436%	0.242	0.009	98.439%	0.000
2	11:28:16	-0.006	0.011	0.020	107.655%	0.468	-0.001	105.026%	0.000
3	11:28:39	0.007	0.013	-0.002	107.465%	0.531	-0.001	109.715%	0.000
x		-0.003	0.006	0.003	105.519%	0.413	0.002	104.393%	0.000
σ		0.009	0.011	0.015	3.537%	0.152	0.005	5.664%	0.000
%RSD		314.500	168.700	448.500	3.352	36.770	221.400	5.426	0.000

ccvl, 5/31/2019 11:32:04 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:32:04	0.000	2.392	70.700	210.100	213.300	103.400	529.800	192.900	103.863%
2	11:32:26	0.000	1.451	52.940	186.800	199.300	91.600	482.900	184.500	114.125%
3	11:32:48	0.000	1.534	53.180	198.800	198.600	102.200	504.500	193.400	107.947%
x		0.000	179.273%	117.880%	99.289%	101.863%	99.052%	101.150%	95.143%	108.645%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.166%
%RSD		0.000	29.050	17.290	5.867	4.059	6.543	4.642	2.616	4.755
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:32:04	5.233	4.701	5.160	95.470	2.519	1.077	2.059	1.789	18.980
2	11:32:26	4.915	4.513	4.731	92.280	2.252	0.929	1.875	1.755	18.820
3	11:32:48	5.116	4.795	5.022	99.510	2.405	0.980	2.038	1.842	18.620
x		101.756%	93.397%	99.426%	95.750%	95.672%	99.548%	99.528%	89.766%	94.036%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.161	3.075	4.403	3.783	5.598	7.558	5.067	2.453	0.965
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:32:04	1.000	2.719	4.144	99.824%	3.900	98.243%	0.529	0.582	99.661%
2	11:32:26	0.979	2.258	3.980	105.946%	3.663	107.166%	0.486	0.448	108.383%
3	11:32:48	0.946	2.457	3.999	104.689%	4.026	106.181%	0.486	0.473	109.227%
x		97.499%	99.132%	101.026%	103.487%	96.572%	103.864%	100.065%	100.234%	105.757%
σ		n/a	n/a	n/a	3.233%	n/a	4.892%	n/a	n/a	5.296%
%RSD		2.751	9.326	2.215	3.124	4.773	4.710	4.914	14.170	5.008
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	11:32:04	4.899	2.880	2.523	100.189%	1.947	0.485	97.803%	0.000	
2	11:32:26	4.498	2.772	2.392	110.101%	1.929	0.435	105.481%	0.000	
3	11:32:48	4.656	2.703	2.470	109.137%	2.061	0.464	105.555%	0.000	
x		93.686%	92.831%	98.472%	106.476%	98.950%	92.242%	102.947%	0.000	
σ		n/a	n/a	n/a	5.466%	n/a	n/a	4.454%	0.000	
%RSD		4.315	3.220	2.675	5.133	3.629	5.431	4.327	0.000	

mb 500-487817/1-a, 5/31/2019 11:36:12 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:36:12	0.000	0.000	2.490	23.980	2.949	2.478	19.780	29.380	99.580%
2	11:36:34	0.000	0.370	-0.940	21.360	2.753	2.322	-5.097	24.340	111.832%
3	11:36:56	0.000	0.000	1.082	21.000	2.288	1.814	3.150	20.310	108.263%
x		0.000	0.123	0.877	22.120	2.663	2.205	5.945	24.680	106.558%
σ		0.000	0.214	1.724	1.628	0.339	0.347	12.670	4.547	6.301%
%RSD		0.000	173.200	196.500	7.363	12.730	15.760	213.200	18.430	5.914
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:36:12	-0.060	0.072	0.166	6.228	0.121	0.005	-0.029	0.393	2.760
2	11:36:34	-0.019	-0.010	0.146	5.396	0.109	0.006	0.030	0.332	2.708
3	11:36:56	0.065	0.037	0.131	6.040	0.061	0.013	-0.008	0.329	2.719
x		-0.004	0.033	0.148	5.888	0.097	0.008	-0.002	0.351	2.729
σ		0.064	0.041	0.017	0.436	0.032	0.004	0.030	0.036	0.028
%RSD		1420.000	124.000	11.690	7.410	32.510	52.430	1456.000	10.290	1.013
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:36:12	0.015	-0.031	0.118	97.728%	0.028	98.205%	-0.000	-0.003	99.598%
2	11:36:34	0.027	0.038	0.100	104.299%	0.024	106.179%	-0.001	-0.003	106.456%
3	11:36:56	0.026	-0.031	0.099	109.217%	0.066	107.409%	-0.002	0.005	106.331%
x		0.023	-0.008	0.105	103.748%	0.039	103.931%	-0.001	-0.000	104.128%
σ		0.007	0.040	0.011	5.764%	0.023	4.997%	0.001	0.004	3.924%
%RSD		28.820	483.100	10.180	5.556	59.610	4.808	82.090	6169.000	3.768
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	11:36:12	0.062	0.007	0.063	98.169%	0.016	0.052	98.758%	0.000	
2	11:36:34	0.042	0.018	0.055	107.888%	0.078	0.047	107.973%	0.000	
3	11:36:56	0.032	0.023	0.047	109.922%	0.114	0.050	108.203%	0.000	
x		0.045	0.016	0.055	105.326%	0.069	0.049	104.978%	0.000	
σ		0.015	0.008	0.008	6.281%	0.049	0.002	5.388%	0.000	
%RSD		33.740	52.610	14.760	5.963	71.430	4.867	5.132	0.000	

lcs 500-487817/2-a, 5/31/2019 11:40:20 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:20	0.000	51.740	1083.000	10220.000	10600.000	2049.000	10070.000	9621.000	103.247%
2	11:40:42	0.000	59.740	1164.000	10390.000	10110.000	2018.000	9926.000	9567.000	106.744%
3	11:41:04	0.000	60.250	1034.000	10160.000	9963.000	1883.000	9648.000	8637.000	109.280%
x		0.000	114.492%	109.375%	102.561%	102.255%	99.166%	98.811%	92.747%	106.424%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.029%
%RSD		0.000	8.340	6.000	1.206	3.249	4.448	2.165	5.963	2.846

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:20	998.000	492.600	199.300	1036.000	513.200	497.500	522.300	254.800	534.100
2	11:40:42	945.300	478.300	199.000	1022.000	508.900	507.900	502.900	238.900	500.600
3	11:41:04	932.000	446.900	194.600	968.100	482.100	492.100	496.900	232.400	484.300
x		95.846%	94.526%	98.805%	100.877%	100.282%	99.834%	101.478%	96.815%	101.262%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.644	4.947	1.315	3.562	3.361	1.612	2.619	4.750	5.010

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:20	103.400	108.900	1077.000	99.739%	1004.000	93.398%	55.540	55.280	94.242%
2	11:40:42	97.200	102.800	1043.000	105.165%	974.300	101.186%	48.840	46.560	106.579%
3	11:41:04	94.450	99.540	1040.000	104.910%	1008.000	103.814%	47.120	48.320	109.137%
x		98.336%	103.744%	105.336%	103.272%	99.520%	99.466%	101.001%	100.108%	103.319%
σ		n/a	n/a	n/a	3.061%	n/a	5.417%	n/a	n/a	7.964%
%RSD		4.633	4.571	1.953	2.964	1.825	5.446	8.815	9.209	7.709

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:20	1025.000	526.400	516.600	101.476%	105.200	103.700	94.693%	0.000
2	11:40:42	969.800	471.500	501.600	106.922%	96.590	97.090	104.669%	0.000
3	11:41:04	950.800	470.300	503.700	108.295%	97.210	98.910	106.126%	0.000
x		98.192%	97.882%	101.455%	105.564%	99.650%	99.887%	101.829%	0.000
σ		n/a	n/a	n/a	3.606%	n/a	n/a	6.223%	0.000
%RSD		3.929	6.555	1.596	3.416	4.790	3.396	6.111	0.000

500-164124-c-1-a, 5/31/2019 11:44:29 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:44:29	0.000	0.000	217.200	T 32830.000	8960.000	767.800	10030.000	24410.000	101.256%
2	11:44:50	0.000	0.000	219.900	T 32460.000	8813.000	750.500	9228.000	22560.000	110.484%
3	11:45:12	0.000	0.000	217.200	T 30300.000	7764.000	713.600	9043.000	21930.000	110.427%
x		0.000	0.000	218.100	T 31860.000	8513.000	744.000	9434.000	22970.000	107.389%
σ		0.000	0.000	1.592	T 1369.000	652.300	27.700	525.000	1289.000	5.312%
%RSD		0.000	0.000	0.730	T 4.297	7.662	3.723	5.565	5.612	4.946

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:44:29	27.750	1.851	4.861	3771.000	131.800	1.039	5.179	25.810	140.000
2	11:44:50	27.390	1.580	4.593	3431.000	125.100	0.986	4.835	24.790	132.800
3	11:45:12	24.790	1.712	4.346	3507.000	120.800	0.953	4.416	24.430	132.000
x		26.640	1.714	4.600	3570.000	125.900	0.993	4.810	25.010	134.900
σ		1.615	0.136	0.258	178.700	5.529	0.043	0.383	0.716	4.382
%RSD		6.063	7.909	5.598	5.008	4.393	4.369	7.951	2.863	3.247

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:44:29	2.625	0.077	267.600	103.551%	1.933	93.088%	0.630	0.241	95.709%
2	11:44:50	2.445	0.118	261.100	110.924%	2.063	100.592%	0.536	0.264	101.772%
3	11:45:12	2.519	0.066	250.400	114.162%	2.150	99.374%	0.542	0.299	102.866%
x		2.530	0.087	259.700	109.546%	2.049	97.685%	0.570	0.268	100.116%
σ		0.090	0.028	8.651	5.438%	0.109	4.027%	0.053	0.030	3.855%
%RSD		3.577	31.750	3.331	4.964	5.320	4.123	9.221	11.010	3.851

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:44:29	1.569	1.240	27.240	100.309%	0.109	15.930	95.148%	0.000
2	11:44:50	1.493	1.174	25.820	110.361%	0.238	15.430	103.278%	0.000
3	11:45:12	1.385	1.098	25.900	110.703%	0.267	15.310	106.015%	0.000
x		1.482	1.171	26.320	107.124%	0.205	15.560	101.480%	0.000
σ		0.093	0.071	0.799	5.905%	0.084	0.330	5.652%	0.000
%RSD		6.254	6.071	3.036	5.512	40.910	2.118	5.570	0.000

mb 500-487357/1-a, 5/31/2019 11:48:37 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:48:37	0.000	0.000	-0.712	29.280	2.663	4.700	14.950	25.520	99.852%
2	11:48:58	0.000	0.000	3.139	28.790	2.486	3.509	0.172	24.910	106.514%
3	11:49:20	0.000	0.000	3.986	23.840	2.669	4.612	-8.099	22.550	108.836%
x		0.000	0.000	2.138	27.310	2.606	4.274	2.342	24.330	105.067%
σ		0.000	0.000	2.504	3.008	0.104	0.664	11.680	1.569	4.664%
%RSD		0.000	0.000	117.100	11.020	3.996	15.540	498.700	6.448	4.439
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:48:37	0.121	0.111	0.424	6.003	0.172	0.162	0.030	0.110	4.412
2	11:48:58	-0.017	0.078	0.331	6.527	0.143	0.163	0.016	0.081	4.473
3	11:49:20	0.023	-0.019	0.314	7.248	0.170	0.162	0.041	0.083	4.161
x		0.042	0.057	0.356	6.593	0.161	0.162	0.029	0.091	4.349
σ		0.071	0.067	0.059	0.625	0.016	0.001	0.012	0.016	0.166
%RSD		167.800	118.600	16.500	9.478	9.829	0.389	43.120	17.780	3.806
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:48:37	0.013	-0.019	0.065	99.290%	0.111	98.793%	0.002	-0.003	100.401%
2	11:48:58	0.007	-0.059	0.058	107.220%	0.237	105.619%	0.004	-0.003	104.222%
3	11:49:20	0.014	-0.036	0.057	110.015%	0.257	106.002%	0.001	-0.003	107.824%
x		0.012	-0.038	0.060	105.508%	0.201	103.471%	0.002	-0.003	104.149%
σ		0.004	0.020	0.004	5.564%	0.079	4.056%	0.001	0.000	3.712%
%RSD		31.100	52.010	6.715	5.273	39.340	3.920	63.720	2.812	3.564
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	11:48:37	0.064	0.058	0.085	99.759%	0.015	0.027	100.173%	0.000	
2	11:48:58	0.027	0.042	0.106	107.302%	0.092	0.016	107.756%	0.000	
3	11:49:20	0.061	0.044	0.140	108.608%	0.101	0.033	109.094%	0.000	
x		0.051	0.048	0.111	105.223%	0.069	0.025	105.674%	0.000	
σ		0.021	0.009	0.028	4.776%	0.047	0.009	4.811%	0.000	
%RSD		40.720	18.380	25.190	4.539	67.540	33.530	4.553	0.000	

lcs 500-487357/2-a, 5/31/2019 11:52:46 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:52:46	0.000	56.700	1149.000	10310.000	10440.000	2072.000	10150.000	9877.000	101.514%
2	11:53:08	0.000	48.330	1027.000	9688.000	9860.000	1936.000	9940.000	9658.000	109.667%
3	11:53:30	0.000	53.990	1067.000	10210.000	10290.000	1992.000	10160.000	9656.000	102.774%
x		0.000	106.021%	108.096%	100.700%	101.967%	100.002%	100.830%	97.307%	104.652%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.389%
%RSD		0.000	8.056	5.733	3.323	2.963	3.405	1.225	1.304	4.194

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:52:46	974.300	480.200	201.600	1031.000	514.000	505.300	519.100	263.100	545.700
2	11:53:08	931.000	459.900	190.700	971.800	477.600	486.200	485.800	238.000	492.400
3	11:53:30	934.800	485.000	197.700	1024.000	523.100	501.300	519.900	241.600	506.600
x		94.671%	95.011%	98.341%	100.915%	100.974%	99.523%	101.648%	99.022%	102.974%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.536	2.805	2.811	3.220	4.766	2.024	3.833	5.473	5.360

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:52:46	104.600	107.800	1076.000	97.923%	1006.000	91.133%	52.400	53.190	96.344%
2	11:53:08	94.730	100.700	1026.000	105.080%	947.600	100.892%	50.000	49.810	102.526%
3	11:53:30	96.860	101.700	1026.000	101.964%	1012.000	98.654%	47.340	47.290	106.559%
x		98.745%	103.366%	104.282%	101.656%	98.842%	96.893%	99.828%	100.194%	101.810%
σ		n/a	n/a	n/a	3.588%	n/a	5.112%	n/a	n/a	5.145%
%RSD		5.285	3.730	2.752	3.530	3.586	5.276	5.065	5.907	5.054

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:52:46	1063.000	510.300	509.200	101.137%	100.900	103.300	95.853%	0.000
2	11:53:08	949.900	490.100	473.600	110.524%	93.950	96.780	104.369%	0.000
3	11:53:30	989.100	470.900	485.200	110.074%	96.230	96.570	105.855%	0.000
x		100.065%	98.091%	97.867%	107.245%	97.027%	98.890%	102.026%	0.000
σ		n/a	n/a	n/a	5.295%	n/a	n/a	5.397%	0.000
%RSD		5.736	4.017	3.705	4.937	3.655	3.884	5.290	0.000

500-164003-f-1-a, 5/31/2019 11:56:56 AM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:56	0.000	0.000	18.330	2564.000	37790.000	20.160	2898.000	57500.000	95.239%
2	11:57:18	0.000	0.000	15.060	2429.000	34980.000	17.610	2749.000	52920.000	106.715%
3	11:57:41	0.000	0.000	17.250	2314.000	35810.000	18.130	2608.000	51910.000	105.640%
x		0.000	0.000	16.880	2436.000	36190.000	18.630	2752.000	54110.000	102.532%
σ		0.000	0.000	1.666	125.300	1441.000	1.350	145.100	2979.000	6.338%
%RSD		0.000	0.000	9.872	5.142	3.981	7.245	5.273	5.506	6.182

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:56	0.035	0.097	0.181	72.850	2.911	0.147	0.104	0.070	8.719
2	11:57:18	-0.017	-0.018	0.152	65.670	2.798	0.129	0.079	0.061	8.625
3	11:57:41	0.026	-0.020	0.129	64.750	2.604	0.138	0.132	0.036	8.639
x		0.015	0.020	0.154	67.760	2.771	0.138	0.105	0.056	8.661
σ		0.028	0.067	0.026	4.433	0.155	0.009	0.026	0.018	0.051
%RSD		192.600	340.000	17.000	6.542	5.596	6.620	25.270	32.070	0.589

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:56	0.194	0.008	66.330	93.273%	0.620	90.238%	0.004	0.021	96.694%
2	11:57:18	0.199	0.045	62.170	104.936%	1.010	97.040%	0.005	0.004	102.219%
3	11:57:41	0.233	-0.013	64.470	100.784%	1.092	98.011%	0.002	-0.003	104.515%
x		0.209	0.013	64.320	99.664%	0.907	95.097%	0.004	0.007	101.143%
σ		0.021	0.029	2.086	5.911%	0.252	4.235%	0.001	0.013	4.020%
%RSD		10.200	215.100	3.243	5.931	27.790	4.454	38.770	171.700	3.975

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:56	0.121	0.043	128.200	97.473%	0.097	0.053	96.103%	0.000
2	11:57:18	0.101	0.048	120.300	105.920%	0.276	0.042	101.395%	0.000
3	11:57:41	0.130	0.066	119.600	107.899%	0.286	0.036	105.174%	0.000
x		0.118	0.052	122.700	103.764%	0.220	0.044	100.890%	0.000
σ		0.015	0.012	4.770	5.537%	0.107	0.009	4.556%	0.000
%RSD		12.660	23.180	3.888	5.336	48.520	19.610	4.516	0.000

500-164003-f-2-a, 5/31/2019 12:01:06 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:06	0.000	0.000	19.110	7760.000	T 51020.000	T -1.166	2438.000	79630.000	106.328%
2	12:01:28	0.000	0.000	8.226	7981.000	T 52860.000	60.590	2433.000	82380.000	105.483%
3	12:01:51	0.000	0.000	19.850	7671.000	T 49820.000	59.580	2357.000	77790.000	107.561%
x		0.000	0.000	15.730	7804.000	T 51230.000	T 39.670	2409.000	79930.000	106.457%
σ		0.000	0.000	6.508	159.800	T 1531.000	T 35.370	45.790	2309.000	1.045%
%RSD		0.000	0.000	41.380	2.047	T 2.989	T 89.160	1.900	2.889	0.982

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:06	0.830	0.256	1.452	247.100	23.990	1.536	3.567	1.055	22.860
2	12:01:28	1.051	0.293	1.361	248.700	25.410	1.552	3.695	0.971	21.040
3	12:01:51	1.113	0.246	1.449	239.500	23.890	1.550	3.589	1.045	21.570
x		0.998	0.265	1.420	245.100	24.430	1.546	3.617	1.024	21.830
σ		0.149	0.025	0.052	4.917	0.851	0.009	0.069	0.046	0.936
%RSD		14.900	9.315	3.645	2.006	3.483	0.575	1.895	4.460	4.289

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:06	0.525	0.028	120.500	95.997%	0.617	90.322%	0.013	0.013	95.059%
2	12:01:28	0.605	0.044	115.600	101.904%	0.588	97.500%	0.020	0.012	101.104%
3	12:01:51	0.567	0.014	117.200	103.110%	0.757	96.603%	0.019	0.004	103.807%
x		0.566	0.029	117.700	100.337%	0.654	94.808%	0.017	0.010	99.990%
σ		0.040	0.015	2.516	3.807%	0.090	3.911%	0.003	0.005	4.479%
%RSD		7.138	52.410	2.137	3.794	13.820	4.125	20.010	49.230	4.480

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:06	0.051	0.061	185.600	99.658%	0.034	0.107	91.073%	0.000
2	12:01:28	0.039	0.070	174.600	108.982%	0.098	0.091	101.317%	0.000
3	12:01:51	0.071	0.094	180.400	107.326%	0.121	0.108	102.371%	0.000
x		0.053	0.075	180.200	105.322%	0.084	0.102	98.254%	0.000
σ		0.016	0.017	5.504	4.975%	0.045	0.010	6.241%	0.000
%RSD		30.330	23.190	3.054	4.723	53.030	9.314	6.352	0.000

500-164003-f-3-a, 5/31/2019 12:05:15 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:05:15	0.000	0.000	19.190	10230.000	T 57200.000	77.730	2341.000	90710.000	96.328%
2	12:05:38	0.000	0.386	20.870	8917.000	T 52170.000	73.770	2083.000	81370.000	107.374%
3	12:06:00	0.000	0.000	14.110	8325.000	T 48610.000	63.150	1953.000	80080.000	112.692%
x		0.000	0.129	18.060	9156.000	T 52660.000	71.550	2126.000	84050.000	105.465%
σ		0.000	0.223	3.523	972.500	T 4316.000	7.539	197.400	5802.000	8.347%
%RSD		0.000	173.200	19.510	10.620	T 8.196	10.540	9.285	6.902	7.915

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:05:15	1.624	0.423	1.391	2177.000	127.900	8.941	3.011	1.185	201.800
2	12:05:38	1.199	0.380	1.100	1965.000	118.800	7.792	2.573	1.056	186.200
3	12:06:00	1.220	0.264	1.045	1833.000	108.400	7.630	2.638	1.060	187.300
x		1.348	0.356	1.179	1992.000	118.400	8.121	2.741	1.100	191.800
σ		0.240	0.082	0.186	173.800	9.730	0.715	0.236	0.074	8.717
%RSD		17.780	23.150	15.780	8.727	8.221	8.802	8.624	6.685	4.545

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:05:15	4.039	-0.010	141.100	94.486%	0.508	88.814%	-0.000	0.006	92.345%
2	12:05:38	3.832	-0.024	127.700	107.611%	0.592	97.242%	0.002	0.012	102.446%
3	12:06:00	3.601	0.037	134.500	103.653%	0.530	97.780%	0.002	-0.003	102.220%
x		3.824	0.001	134.400	101.917%	0.543	94.612%	0.001	0.005	99.004%
σ		0.219	0.032	6.712	6.732%	0.043	5.028%	0.002	0.008	5.768%
%RSD		5.719	3922.000	4.994	6.606	7.993	5.315	108.600	154.500	5.826

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:05:15	0.057	0.047	202.200	98.513%	0.007	0.114	91.626%	0.000
2	12:05:38	0.042	0.038	194.100	106.168%	0.065	0.093	99.742%	0.000
3	12:06:00	0.062	0.041	189.100	109.004%	0.064	0.109	99.455%	0.000
x		0.054	0.042	195.100	104.562%	0.045	0.105	96.941%	0.000
σ		0.010	0.005	6.586	5.427%	0.033	0.011	4.605%	0.000
%RSD		19.120	10.780	3.375	5.190	72.450	10.160	4.751	0.000

500-164003-f-4-a, 5/31/2019 12:09:23 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:09:23	0.000	0.811	24.180	10360.000	T 40980.000	45.660	2907.000	74940.000	102.087%
2	12:09:46	0.000	0.000	16.270	9551.000	38690.000	40.090	2761.000	70010.000	111.015%
3	12:10:08	0.000	0.000	18.030	9647.000	T 40600.000	42.210	2844.000	75900.000	106.758%
x		0.000	0.270	19.500	9853.000	T 40090.000	42.650	2837.000	73620.000	106.620%
σ		0.000	0.468	4.152	442.600	T 1224.000	2.813	73.030	3157.000	4.466%
%RSD		0.000	173.200	21.300	4.492	T 3.053	6.595	2.574	4.288	4.188

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:09:23	1.044	0.163	0.509	229.200	18.330	0.127	0.532	0.050	7.049
2	12:09:46	0.712	0.082	0.466	216.400	17.430	0.108	0.479	0.022	6.421
3	12:10:08	0.658	0.046	0.505	223.500	17.890	0.120	0.492	0.046	6.415
x		0.804	0.097	0.493	223.000	17.880	0.118	0.501	0.039	6.628
σ		0.209	0.060	0.024	6.438	0.451	0.010	0.028	0.015	0.364
%RSD		25.990	61.960	4.783	2.887	2.520	8.131	5.516	39.210	5.496

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:09:23	1.175	-0.013	135.900	96.421%	0.492	91.054%	0.015	-0.003	92.578%
2	12:09:46	1.144	-0.001	129.500	107.118%	0.398	98.496%	0.019	-0.003	105.370%
3	12:10:08	1.226	0.054	129.700	104.443%	0.540	99.019%	0.016	-0.003	105.308%
x		1.182	0.014	131.700	102.661%	0.476	96.190%	0.017	-0.003	101.085%
σ		0.042	0.035	3.641	5.567%	0.073	4.455%	0.002	0.000	7.368%
%RSD		3.518	261.900	2.764	5.423	15.220	4.632	10.850	2.142	7.288

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:09:23	0.024	0.036	242.900	97.203%	-0.000	0.123	90.353%	0.000
2	12:09:46	0.061	0.031	231.700	105.473%	0.034	0.110	98.894%	0.000
3	12:10:08	0.037	0.041	226.000	107.963%	0.050	0.105	102.843%	0.000
x		0.041	0.036	233.500	103.546%	0.028	0.113	97.363%	0.000
σ		0.019	0.005	8.633	5.633%	0.025	0.009	6.384%	0.000
%RSD		45.940	13.790	3.696	5.440	91.800	8.201	6.557	0.000

500-164003-f-5-a, 5/31/2019 12:13:32 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:13:32	0.000	0.000	12.350	16830.000	T 50340.000	T 113.700	3972.000	76540.000	104.752%
2	12:13:54	0.000	0.000	5.517	14820.000	T 45990.000	17.050	3608.000	71800.000	114.283%
3	12:14:16	0.000	0.000	7.055	15480.000	T 48210.000	16.600	3815.000	73290.000	107.245%
x		0.000	0.000	8.309	15710.000	T 48180.000	T 49.130	3798.000	73880.000	108.760%
σ		0.000	0.000	3.587	1025.000	T 2176.000	T 55.950	182.700	2428.000	4.943%
%RSD		0.000	0.000	43.170	6.523	T 4.517	T 113.900	4.811	3.286	4.545

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:13:32	0.199	0.204	1.699	59.710	12.780	3.213	2.276	0.465	26.340
2	12:13:54	0.374	0.173	1.640	58.240	12.040	3.050	1.995	0.408	25.190
3	12:14:16	0.235	0.179	1.659	58.120	13.050	3.265	2.332	0.397	24.750
x		0.269	0.185	1.666	58.690	12.620	3.176	2.201	0.424	25.420
σ		0.093	0.016	0.030	0.885	0.526	0.112	0.181	0.037	0.824
%RSD		34.470	8.872	1.784	1.508	4.165	3.523	8.218	8.664	3.241

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:13:32	0.438	-0.033	84.690	97.032%	0.534	91.758%	0.001	0.021	96.984%
2	12:13:54	0.403	0.011	83.280	105.267%	0.494	99.090%	0.002	0.005	103.356%
3	12:14:16	0.411	-0.008	81.750	105.785%	0.510	99.781%	0.004	0.005	104.134%
x		0.417	-0.010	83.240	102.695%	0.512	96.877%	0.002	0.010	101.491%
σ		0.018	0.022	1.473	4.911%	0.020	4.446%	0.001	0.010	3.923%
%RSD		4.314	219.900	1.769	4.782	3.933	4.589	55.520	94.690	3.865

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:13:32	0.060	0.056	130.000	97.729%	0.002	0.687	91.548%	0.000
2	12:13:54	0.040	0.037	121.600	105.091%	0.041	0.678	99.816%	0.000
3	12:14:16	0.043	0.054	121.400	107.176%	0.040	0.685	100.940%	0.000
x		0.048	0.049	124.400	103.332%	0.028	0.683	97.435%	0.000
σ		0.011	0.010	4.901	4.963%	0.023	0.005	5.129%	0.000
%RSD		22.600	20.840	3.941	4.803	81.700	0.681	5.264	0.000

ccv, 5/31/2019 12:17:41 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:41	0.000	264.200	291.100	┬27970.000	28520.000	27720.000	┬28300.000	┬26140.000	97.818%
2	12:18:02	0.000	254.900	201.800	┬23500.000	24610.000	23770.000	┬24330.000	┬23280.000	114.068%
3	12:18:25	0.000	258.700	272.900	┬24410.000	23770.000	24320.000	┬24250.000	23640.000	107.718%
x		0.000	103.703%	102.102%	┬101.158%	102.537%	101.090%	┬102.507%	┬97.410%	106.535%
σ		0.000	n/a	n/a	┬n/a	n/a	n/a	┬n/a	┬n/a	8.190%
%RSD		0.000	1.805	18.490	┬9.338	9.901	8.463	┬9.019	┬6.382	7.687
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:41	255.400	260.000	258.200	┬26980.000	263.700	262.800	267.200	264.500	268.300
2	12:18:02	228.700	231.600	232.700	23960.000	234.500	229.600	235.800	239.100	243.000
3	12:18:25	233.300	239.300	242.100	24460.000	237.600	239.100	245.200	234.300	242.600
x		95.656%	97.453%	97.728%	┬100.535%	98.105%	97.528%	99.773%	98.384%	100.523%
σ		n/a	n/a	n/a	┬n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.976	6.038	5.273	┬6.426	6.532	7.002	6.461	6.607	5.860
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:41	263.300	272.100	275.000	93.926%	264.200	90.766%	54.380	265.700	94.347%
2	12:18:02	242.500	253.800	255.400	103.152%	246.700	99.235%	50.340	243.900	104.461%
3	12:18:25	239.200	242.300	248.900	106.694%	235.700	100.469%	49.350	246.400	105.745%
x		99.318%	102.432%	103.910%	101.257%	99.557%	96.823%	102.709%	100.807%	101.518%
σ		n/a	n/a	n/a	6.591%	n/a	5.282%	n/a	n/a	6.243%
%RSD		5.264	5.864	5.233	6.509	5.781	5.455	5.192	4.743	6.150
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	12:17:41	263.700	260.600	253.400	99.800%	250.700	252.700	93.092%	0.000	
2	12:18:02	242.600	238.300	249.100	106.839%	243.200	242.100	100.378%	0.000	
3	12:18:25	241.600	240.900	235.100	111.466%	239.000	240.800	103.130%	0.000	
x		99.727%	98.646%	98.342%	106.035%	97.722%	98.080%	98.867%	0.000	
σ		n/a	n/a	n/a	5.875%	n/a	n/a	5.187%	0.000	
%RSD		4.999	4.939	3.902	5.540	2.442	2.661	5.246	0.000	

ccb, 5/31/2019 12:21:51 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:21:51	0.000	0.000	2.287	-0.755	1.897	0.430	8.675	0.429	103.519%
2	12:22:14	0.000	0.000	2.312	-0.628	0.842	-0.235	7.936	-0.657	103.018%
3	12:22:37	0.000	0.000	2.166	-1.208	1.056	-0.280	-0.263	1.461	106.027%
x		0.000	0.000	2.255	-0.864	1.265	-0.028	5.449	0.411	104.188%
σ		0.000	0.000	0.078	0.305	0.558	0.398	4.960	1.059	1.612%
%RSD		0.000	0.000	3.467	35.330	44.060	1414.000	91.030	257.800	1.547
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:21:51	-0.060	0.053	0.011	1.315	-0.042	0.014	-0.047	0.063	-0.359
2	12:22:14	-0.016	0.039	-0.006	0.498	-0.041	0.009	-0.063	0.051	-0.359
3	12:22:37	-0.017	0.040	-0.036	0.455	-0.050	0.002	-0.052	0.065	-0.368
x		-0.031	0.044	-0.010	0.756	-0.044	0.008	-0.054	0.059	-0.362
σ		0.025	0.008	0.024	0.485	0.005	0.006	0.008	0.008	0.005
%RSD		80.870	17.780	235.200	64.100	11.550	74.290	14.910	12.970	1.505
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:21:51	0.004	0.005	0.110	99.205%	0.111	99.382%	-0.000	0.005	97.780%
2	12:22:14	0.040	0.008	0.087	106.855%	0.224	107.003%	0.001	0.005	107.763%
3	12:22:37	0.028	0.050	0.086	106.167%	0.217	105.769%	0.005	0.011	110.412%
x		0.024	0.021	0.094	104.076%	0.184	104.051%	0.002	0.007	105.318%
σ		0.018	0.025	0.014	4.232%	0.063	4.091%	0.003	0.004	6.661%
%RSD		77.310	119.800	14.710	4.067	34.470	3.931	161.100	52.760	6.325
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	12:21:51	0.033	0.021	-0.000	100.454%	0.236	0.016	98.865%	0.000	
2	12:22:14	0.001	0.017	0.018	111.105%	0.465	0.010	108.803%	0.000	
3	12:22:37	-0.005	0.023	0.005	110.283%	0.566	0.004	108.602%	0.000	
x		0.010	0.020	0.008	107.280%	0.422	0.010	105.423%	0.000	
σ		0.020	0.003	0.010	5.927%	0.169	0.006	5.680%	0.000	
%RSD		210.600	13.860	127.600	5.524	40.100	57.410	5.388	0.000	

500-164003-f-6-a, 5/31/2019 12:26:01 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:26:01	0.000	0.000	37.160	7668.000	35300.000	5.192	1072.000	37510.000	100.797%
2	12:26:23	0.000	0.000	33.930	6594.000	30710.000	5.022	967.900	35820.000	112.520%
3	12:26:46	0.000	0.000	18.410	6985.000	32940.000	5.188	964.300	36320.000	109.839%
x		0.000	0.000	29.830	7082.000	32980.000	5.134	1001.000	36550.000	107.719%
σ		0.000	0.000	10.020	543.700	2297.000	0.097	61.220	868.300	6.142%
%RSD		0.000	0.000	33.600	7.677	6.964	1.892	6.113	2.376	5.702

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:26:01	0.030	0.042	0.559	843.500	42.990	3.685	6.876	0.103	490.200
2	12:26:23	0.221	-0.023	0.464	787.800	40.150	3.347	5.896	0.072	468.300
3	12:26:46	0.064	0.015	0.520	791.700	40.380	3.410	6.141	0.100	464.600
x		0.105	0.011	0.514	807.700	41.170	3.481	6.304	0.092	474.400
σ		0.102	0.033	0.048	31.080	1.579	0.180	0.510	0.017	13.810
%RSD		97.310	292.600	9.311	3.848	3.835	5.164	8.088	18.710	2.912

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:26:01	96.700	0.005	115.300	96.472%	2.256	92.735%	0.001	0.004	95.880%
2	12:26:23	92.120	0.002	106.800	106.269%	2.100	101.476%	0.003	-0.004	107.561%
3	12:26:46	92.540	0.015	111.500	103.450%	2.386	100.978%	0.001	-0.005	105.973%
x		93.790	0.008	111.200	102.063%	2.247	98.396%	0.002	-0.002	103.138%
σ		2.532	0.007	4.246	5.043%	0.143	4.909%	0.001	0.005	6.335%
%RSD		2.699	86.040	3.818	4.942	6.371	4.989	81.600	266.800	6.143

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:26:01	0.062	0.019	375.100	97.561%	0.120	0.022	93.870%	0.000
2	12:26:23	0.031	0.017	353.400	107.864%	0.218	0.025	100.653%	0.000
3	12:26:46	0.045	0.021	357.200	110.205%	0.243	0.024	105.346%	0.000
x		0.046	0.019	361.900	105.210%	0.193	0.024	99.956%	0.000
σ		0.016	0.002	11.600	6.727%	0.065	0.002	5.770%	0.000
%RSD		34.040	8.731	3.205	6.394	33.550	7.478	5.772	0.000

500-164003-f-7-a, 5/31/2019 12:30:10 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:30:10	0.000	0.411	9.810	T 23400.000	T 38310.000	25.010	3611.000	58300.000	100.654%
2	12:30:33	0.000	0.379	7.846	T 21620.000	T 35320.000	21.880	3277.000	54360.000	109.237%
3	12:30:54	0.000	0.000	8.590	T 21450.000	34210.000	19.610	3252.000	53460.000	111.402%
x		0.000	0.264	8.749	T 22160.000	T 35950.000	22.160	3380.000	55370.000	107.098%
σ		0.000	0.229	0.992	T 1081.000	T 2117.000	2.712	200.000	2574.000	5.684%
%RSD		0.000	86.820	11.340	T 4.880	T 5.889	12.230	5.918	4.648	5.308

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:30:10	0.657	0.361	0.150	25.040	3.901	0.349	2.202	0.675	6.984
2	12:30:33	1.095	0.392	0.089	23.000	3.547	0.362	2.038	0.754	7.024
3	12:30:54	0.709	0.286	0.150	23.460	3.740	0.317	2.134	0.766	6.624
x		0.820	0.346	0.130	23.830	3.729	0.343	2.125	0.732	6.877
σ		0.240	0.055	0.035	1.069	0.177	0.023	0.083	0.049	0.221
%RSD		29.210	15.820	27.070	4.486	4.757	6.822	3.894	6.759	3.208

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:30:10	1.003	0.040	162.600	96.005%	3.371	91.468%	0.001	0.003	95.065%
2	12:30:33	0.908	0.037	150.100	105.097%	2.964	97.747%	0.002	-0.005	103.895%
3	12:30:54	0.906	-0.007	150.200	105.734%	3.095	98.352%	0.006	-0.005	105.364%
x		0.939	0.024	154.300	102.279%	3.143	95.856%	0.003	-0.003	101.441%
σ		0.056	0.026	7.181	5.442%	0.208	3.812%	0.003	0.005	5.570%
%RSD		5.921	111.400	4.654	5.321	6.611	3.976	84.680	177.500	5.491

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:30:10	0.057	0.036	125.900	99.743%	0.039	0.126	94.353%	0.000
2	12:30:33	0.079	0.057	118.900	107.460%	0.116	0.120	102.703%	0.000
3	12:30:54	0.068	0.055	122.400	109.748%	0.144	0.128	103.532%	0.000
x		0.068	0.050	122.400	105.650%	0.100	0.125	100.196%	0.000
σ		0.011	0.012	3.480	5.242%	0.054	0.004	5.077%	0.000
%RSD		16.560	23.320	2.843	4.962	54.330	3.503	5.067	0.000

500-164003-h-8-a, 5/31/2019 12:34:18 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:34:18	0.000	0.000	97.360	T 38810.000	T 52830.000	4.037	1366.000	85110.000	101.643%
2	12:34:41	0.000	0.395	79.050	T 36660.000	T 48690.000	4.385	1251.000	85660.000	104.938%
3	12:35:02	0.000	0.000	107.800	T 36080.000	T 47580.000	3.706	1201.000	79370.000	110.298%
x		0.000	0.132	94.730	T 37180.000	T 49700.000	4.043	1273.000	83380.000	105.626%
σ		0.000	0.228	14.540	T 1438.000	T 2765.000	0.340	84.530	3483.000	4.369%
%RSD		0.000	173.200	15.350	T 3.867	T 5.564	8.402	6.640	4.177	4.136

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:34:18	0.029	0.411	0.136	11.180	531.300	0.391	4.788	0.547	46.880
2	12:34:41	0.198	0.507	0.100	10.970	528.500	0.364	4.529	0.483	43.040
3	12:35:02	0.104	0.409	0.115	10.620	512.100	0.360	4.350	0.500	42.800
x		0.110	0.442	0.117	10.920	524.000	0.372	4.556	0.510	44.240
σ		0.085	0.056	0.018	0.280	10.410	0.017	0.221	0.033	2.290
%RSD		76.720	12.690	15.380	2.563	1.987	4.575	4.844	6.512	5.176

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:34:18	0.647	0.070	181.300	93.248%	0.404	89.403%	0.014	0.014	92.563%
2	12:34:41	0.588	0.051	166.300	106.218%	0.337	96.832%	-0.001	0.034	104.773%
3	12:35:02	0.587	0.031	162.100	107.518%	0.400	97.531%	-0.001	0.013	101.385%
x		0.607	0.051	169.900	102.328%	0.380	94.589%	0.004	0.020	99.574%
σ		0.034	0.019	10.110	7.890%	0.038	4.505%	0.008	0.012	6.303%
%RSD		5.656	38.270	5.953	7.711	10.010	4.762	194.700	60.240	6.330

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:34:18	0.134	0.047	158.400	98.423%	0.011	0.054	89.780%	0.000
2	12:34:41	0.084	0.039	151.800	106.735%	0.072	0.044	98.033%	0.000
3	12:35:02	0.104	0.044	147.800	110.406%	0.094	0.042	98.992%	0.000
x		0.107	0.043	152.700	105.188%	0.059	0.047	95.602%	0.000
σ		0.025	0.004	5.370	6.140%	0.043	0.007	5.064%	0.000
%RSD		23.600	9.363	3.518	5.837	73.540	14.100	5.297	0.000

500-164003-f-9-a, 5/31/2019 12:38:27 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:27	0.000	0.000	34.450	T 26990.000	T 55390.000	5.226	372.700	94560.000	105.282%
2	12:38:49	0.000	0.384	26.630	T 25830.000	T 54710.000	4.275	335.600	91050.000	107.990%
3	12:39:10	0.000	0.000	25.850	T 26880.000	T 54450.000	T -1.171	345.500	93210.000	107.231%
x		0.000	0.128	28.980	T 26570.000	T 54850.000	T 2.777	351.300	92940.000	106.834%
σ		0.000	0.221	4.751	T 639.100	T 488.000	T 3.452	19.190	1767.000	1.397%
%RSD		0.000	173.200	16.400	T 2.406	T 0.890	T 124.300	5.463	1.902	1.308

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:27	0.411	0.384	0.375	20.390	671.700	4.920	21.730	0.508	757.200
2	12:38:49	0.149	0.386	0.340	21.080	665.300	4.813	21.930	0.482	716.000
3	12:39:10	0.150	0.336	0.359	20.000	660.500	5.046	21.360	0.459	689.800
x		0.237	0.369	0.358	20.490	665.800	4.926	21.670	0.483	721.000
σ		0.151	0.028	0.017	0.548	5.611	0.116	0.290	0.025	33.950
%RSD		63.690	7.639	4.791	2.672	0.843	2.363	1.336	5.085	4.709

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:27	4.603	0.113	298.400	96.625%	0.541	88.781%	0.003	0.014	91.703%
2	12:38:49	4.507	0.066	287.500	102.906%	0.449	95.361%	0.004	0.036	101.683%
3	12:39:10	4.366	0.112	279.400	106.065%	0.499	97.596%	-0.001	0.020	102.369%
x		4.492	0.097	288.400	101.865%	0.496	93.913%	0.002	0.023	98.585%
σ		0.119	0.027	9.537	4.806%	0.046	4.583%	0.002	0.011	5.969%
%RSD		2.652	27.500	3.307	4.718	9.335	4.880	111.200	47.890	6.055

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:27	0.192	0.059	177.900	94.892%	0.016	0.039	89.891%	0.000
2	12:38:49	0.227	0.021	160.400	109.014%	0.049	0.042	97.480%	0.000
3	12:39:10	0.151	0.053	165.800	107.059%	0.066	0.030	98.972%	0.000
x		0.190	0.044	168.000	103.655%	0.044	0.037	95.447%	0.000
σ		0.038	0.020	8.936	7.652%	0.025	0.006	4.870%	0.000
%RSD		19.820	46.190	5.318	7.382	57.420	16.180	5.102	0.000

500-164003-f-12-a, 5/31/2019 12:42:37 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:42:37	0.000	0.000	10.030	16820.000	T 52830.000	T 59.360	4106.000	77420.000	98.935%
2	12:42:58	0.000	0.000	6.517	T 15240.000	T 48660.000	17.810	3675.000	72650.000	113.409%
3	12:43:21	0.000	0.000	7.013	T 15530.000	T 49940.000	19.690	3975.000	73660.000	107.704%
x		0.000	0.000	7.853	T 15860.000	T 50470.000	T 32.290	3919.000	74580.000	106.682%
σ		0.000	0.000	1.901	T 839.700	T 2136.000	T 23.470	220.500	2515.000	7.291%
%RSD		0.000	0.000	24.210	T 5.294	T 4.232	T 72.670	5.627	3.372	6.834

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:42:37	0.669	0.218	1.827	64.130	12.970	4.044	2.303	0.730	7.186
2	12:42:58	0.298	0.155	1.805	55.840	12.020	3.658	2.279	0.716	6.340
3	12:43:21	0.108	0.190	1.901	58.090	12.550	4.067	2.181	0.668	6.364
x		0.358	0.188	1.844	59.350	12.510	3.923	2.254	0.705	6.630
σ		0.286	0.032	0.050	4.283	0.478	0.230	0.065	0.032	0.482
%RSD		79.670	16.810	2.725	7.216	3.816	5.862	2.865	4.595	7.269

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:42:37	0.437	0.136	84.600	97.567%	0.576	90.033%	0.003	0.021	95.749%
2	12:42:58	0.424	0.034	84.100	102.677%	0.574	100.411%	0.003	-0.003	107.950%
3	12:43:21	0.432	0.040	80.720	106.320%	0.382	100.317%	0.002	0.020	104.843%
x		0.431	0.070	83.140	102.188%	0.511	96.920%	0.003	0.013	102.848%
σ		0.006	0.058	2.114	4.397%	0.111	5.965%	0.001	0.014	6.341%
%RSD		1.506	82.400	2.542	4.303	21.780	6.154	22.660	107.200	6.165

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:42:37	0.029	0.068	124.600	98.975%	-0.003	0.711	90.177%	0.000
2	12:42:58	0.039	0.020	118.000	108.824%	0.031	0.674	99.554%	0.000
3	12:43:21	0.036	0.019	119.000	108.225%	0.058	0.727	100.206%	0.000
x		0.034	0.036	120.500	105.341%	0.028	0.704	96.646%	0.000
σ		0.005	0.028	3.562	5.522%	0.031	0.027	5.611%	0.000
%RSD		14.190	79.140	2.955	5.242	107.300	3.828	5.806	0.000

ccv, 5/31/2019 12:46:46 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:46:46	0.000	268.200	252.000	┬25540.000	25260.000	26030.000	┬25870.000	24440.000	105.755%
2	12:47:09	0.000	249.900	273.300	┬23540.000	25550.000	24970.000	┬25250.000	23540.000	111.043%
3	12:47:30	0.000	256.100	245.700	┬25490.000	26120.000	23910.000	┬24390.000	23650.000	110.126%
x		0.000	103.226%	102.790%	┬99.425%	102.572%	99.877%	┬100.680%	95.503%	108.975%
σ		0.000	n/a	n/a	┬n/a	n/a	n/a	┬n/a	n/a	2.826%
%RSD		0.000	3.620	5.623	┬4.576	1.689	4.237	┬2.953	2.056	2.593

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:46:46	246.400	239.900	243.200	25260.000	239.900	250.500	246.200	253.600	258.900
2	12:47:09	233.200	229.700	236.700	24180.000	235.300	234.200	234.000	237.600	245.200
3	12:47:30	235.500	235.500	233.900	24160.000	237.500	240.300	247.900	242.300	251.900
x		95.348%	94.017%	95.175%	98.135%	95.039%	96.677%	97.083%	97.799%	100.800%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.971	2.171	2.014	2.547	0.967	3.407	3.116	3.357	2.709

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:46:46	254.900	264.300	256.500	98.118%	251.800	92.976%	53.540	261.800	95.226%
2	12:47:09	243.900	252.300	246.800	106.125%	242.300	99.707%	49.230	244.700	102.760%
3	12:47:30	247.600	247.500	252.800	105.275%	243.600	99.754%	50.060	244.300	104.284%
x		99.520%	101.864%	100.808%	103.173%	98.361%	97.479%	101.881%	100.103%	100.757%
σ		n/a	n/a	n/a	4.398%	n/a	3.900%	n/a	n/a	4.850%
%RSD		2.241	3.399	1.957	4.263	2.096	4.001	4.496	3.986	4.813

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:46:46	247.200	254.800	254.600	99.570%	253.200	250.800	92.326%	0.000
2	12:47:09	238.000	245.700	243.200	108.303%	235.900	236.200	101.063%	0.000
3	12:47:30	249.400	245.400	234.500	112.982%	243.900	243.100	102.010%	0.000
x		97.943%	99.466%	97.637%	106.952%	97.727%	97.334%	98.466%	0.000
σ		n/a	n/a	n/a	6.807%	n/a	n/a	5.339%	0.000
%RSD		2.462	2.150	4.127	6.365	3.538	3.011	5.422	0.000

ccb, 5/31/2019 12:50:57 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:57	0.000	0.000	7.667	-0.191	1.652	1.176	16.790	0.981	100.998%
2	12:51:19	0.000	0.000	-0.953	-0.844	1.368	0.127	-3.288	0.380	112.634%
3	12:51:41	0.000	0.000	-1.850	-1.484	0.958	0.737	-2.980	-1.813	107.503%
x		0.000	0.000	1.621	-0.840	1.326	0.680	3.507	-0.150	107.045%
σ		0.000	0.000	5.255	0.647	0.349	0.527	11.500	1.471	5.832%
%RSD		0.000	0.000	324.200	76.980	26.310	77.490	328.000	976.800	5.448

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:57	0.119	0.079	-0.007	1.143	-0.038	0.010	-0.022	0.071	-0.313
2	12:51:19	0.060	0.059	0.012	0.656	-0.039	0.004	-0.066	0.078	-0.308
3	12:51:41	-0.060	-0.014	-0.030	0.394	-0.049	0.006	-0.030	0.053	-0.305
x		0.040	0.041	-0.009	0.731	-0.042	0.007	-0.039	0.067	-0.309
σ		0.091	0.049	0.021	0.380	0.007	0.003	0.023	0.013	0.004
%RSD		227.700	117.500	245.400	52.040	15.510	46.690	59.060	18.630	1.312

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:57	0.034	0.066	0.093	99.196%	0.081	99.358%	-0.002	0.021	99.278%
2	12:51:19	0.037	0.009	0.093	110.211%	0.207	106.951%	0.003	0.005	108.107%
3	12:51:41	0.030	-0.003	0.099	105.963%	0.263	107.323%	0.001	-0.003	110.023%
x		0.034	0.024	0.095	105.123%	0.184	104.544%	0.001	0.008	105.803%
σ		0.004	0.037	0.003	5.555%	0.093	4.495%	0.003	0.012	5.731%
%RSD		10.520	155.400	3.379	5.284	50.750	4.300	364.900	159.500	5.417

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:57	0.053	0.017	0.015	99.970%	0.257	0.009	97.353%	0.000
2	12:51:19	0.026	0.017	0.033	109.740%	0.501	0.012	107.715%	0.000
3	12:51:41	0.007	0.021	0.018	111.600%	0.584	0.007	105.871%	0.000
x		0.029	0.018	0.022	107.103%	0.447	0.009	103.646%	0.000
σ		0.023	0.002	0.009	6.247%	0.170	0.002	5.528%	0.000
%RSD		81.830	11.310	42.850	5.833	37.990	24.070	5.333	0.000

ccvl, 5/31/2019 12:55:06 PM QC Status: WARNING (Initial: WARNING)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:06	0.000	0.000	51.300	210.900	224.900	107.300	555.600	193.000	101.900%
2	12:55:29	0.000	1.483	54.170	202.000	213.300	98.600	508.400	185.200	111.660%
3	12:55:51	0.000	0.751	54.840	199.100	209.300	95.040	479.100	162.700	110.355%
x		0.000	74.466%	106.872%	102.009%	107.913%	100.320%	102.876%	90.156%	107.972%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.298%
%RSD		0.000	99.610	3.521	3.008	3.765	6.297	7.501	8.724	4.907
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:06	4.848	5.121	5.328	102.100	2.507	1.095	2.049	1.969	19.510
2	12:55:29	4.177	4.833	5.002	94.610	2.404	0.962	2.184	1.818	18.770
3	12:55:51	4.513	4.706	4.929	98.670	2.355	0.925	1.985	1.763	18.690
x		90.258%	97.731%	101.719%	98.467%	96.886%	99.413%	103.633%	92.509%	94.951%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		7.435	4.358	4.176	3.821	3.214	9.005	4.895	5.749	2.375
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:06	0.965	2.465	4.279	97.830%	3.915	98.988%	0.578	0.435	99.307%
2	12:55:29	0.841	2.317	4.061	106.261%	3.735	108.101%	0.495	0.428	109.956%
3	12:55:51	0.943	2.288	3.848	109.607%	3.969	106.600%	0.497	0.406	109.877%
x		91.598%	94.267%	101.557%	104.566%	96.825%	104.563%	104.621%	84.570%	106.380%
σ		n/a	n/a	n/a	6.069%	n/a	4.886%	n/a	n/a	6.126%
%RSD		7.200	4.043	5.305	5.804	3.163	4.673	9.037	3.482	5.758
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	12:55:06	4.696	3.037	2.599	99.060%	1.889	0.465	97.500%	0.000	
2	12:55:29	4.554	2.753	2.405	110.136%	1.915	0.435	106.454%	0.000	
3	12:55:51	4.751	2.724	2.448	111.033%	1.908	0.451	107.891%	0.000	
x		93.339%	94.593%	99.371%	106.743%	95.193%	90.047%	103.948%	0.000	
σ		n/a	n/a	n/a	6.668%	n/a	n/a	5.630%	0.000	
%RSD		2.177	6.092	4.090	6.247	0.717	3.289	5.417	0.000	

lb 500-487501/1-b, 5/31/2019 12:59:18 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:18	0.000	0.000	28.450	TM 1415000.000	58.410	73.790	683.800	156.800	88.165%
2	12:59:40	0.000	0.000	23.810	TM 1324000.000	58.320	80.510	637.400	143.200	91.559%
3	13:00:02	0.000	0.466	24.650	TM 1370000.000	58.620	84.650	667.100	141.000	88.781%
x		0.000	0.156	25.640	TM 1370000.000	58.450	79.650	662.800	147.000	89.502%
σ		0.000	0.269	2.471	TM 45920.000	0.154	5.481	23.540	8.554	1.808%
%RSD		0.000	173.200	9.639	TM 3.352	0.263	6.882	3.552	5.819	2.020

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:18	0.809	1.632	1.541	51.130	1.096	0.090	0.848	5.822	18.700
2	12:59:40	1.023	1.512	1.410	50.040	1.059	0.090	0.860	5.763	17.850
3	13:00:02	1.514	1.463	1.510	50.070	0.978	0.082	0.933	5.831	17.970
x		1.115	1.536	1.487	50.410	1.045	0.087	0.880	5.805	18.180
σ		0.361	0.087	0.068	0.621	0.060	0.005	0.046	0.037	0.462
%RSD		32.380	5.655	4.583	1.231	5.778	5.454	5.216	0.639	2.541

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:18	0.165	0.018	4.492	81.987%	0.662	77.442%	0.012	0.035	82.470%
2	12:59:40	0.184	0.157	4.409	88.082%	0.570	80.357%	0.007	-0.003	84.002%
3	13:00:02	0.105	0.059	4.390	85.505%	0.777	80.533%	0.013	-0.003	86.375%
x		0.151	0.078	4.430	85.191%	0.670	79.444%	0.011	0.010	84.282%
σ		0.041	0.071	0.054	3.060%	0.104	1.736%	0.004	0.022	1.967%
%RSD		27.010	91.470	1.223	3.592	15.530	2.185	32.600	229.300	2.334

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:18	0.378	0.064	9.799	89.751%	0.063	0.599	80.126%	0.000
2	12:59:40	0.465	0.084	9.323	93.996%	0.203	0.561	81.351%	0.000
3	13:00:02	0.468	0.161	9.457	93.237%	0.200	0.554	82.316%	0.000
x		0.437	0.103	9.526	92.328%	0.155	0.571	81.264%	0.000
σ		0.051	0.051	0.246	2.264%	0.080	0.024	1.098%	0.000
%RSD		11.780	49.870	2.579	2.452	51.620	4.221	1.351	0.000

lcs 500-487708/2-a, 5/31/2019 1:03:27 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:03:27	0.000	62.550	1244.000	10460.000	10350.000	1988.000	10080.000	9452.000	99.966%
2	13:03:48	0.000	55.990	1059.000	10160.000	10440.000	2025.000	10440.000	9497.000	104.279%
3	13:04:10	0.000	52.840	1157.000	9903.000	9741.000	1901.000	10130.000	8927.000	104.236%
x		0.000	114.257%	115.364%	101.768%	101.741%	98.571%	102.181%	92.919%	102.827%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.478%
%RSD		0.000	8.673	8.017	2.761	3.716	3.223	1.906	3.408	2.409

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:03:27	957.500	478.200	194.600	995.400	501.200	496.500	499.600	247.500	480.500
2	13:03:48	958.300	475.300	200.100	1030.000	507.100	506.700	503.900	238.500	466.100
3	13:04:10	912.100	469.900	196.900	989.000	491.400	497.100	500.300	235.500	464.400
x		94.264%	94.890%	98.601%	100.492%	99.976%	100.022%	100.259%	96.187%	94.070%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.806	0.886	1.400	2.217	1.585	1.143	0.461	2.593	1.881

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:03:27	93.960	95.680	1028.000	96.743%	966.800	92.368%	48.920	48.440	98.029%
2	13:03:48	91.600	90.670	1020.000	101.913%	960.500	99.517%	47.810	46.310	106.154%
3	13:04:10	90.190	90.830	1029.000	102.074%	1003.000	99.186%	48.360	47.540	105.442%
x		91.916%	92.395%	102.570%	100.243%	97.661%	97.023%	96.726%	94.863%	103.208%
σ		n/a	n/a	n/a	3.032%	n/a	4.035%	n/a	n/a	4.499%
%RSD		2.073	3.082	0.517	3.025	2.324	4.159	1.146	2.249	4.359

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:03:27	968.800	471.600	461.200	104.634%	95.930	96.380	99.619%	0.000
2	13:03:48	958.800	448.900	468.500	110.802%	94.270	95.720	104.665%	0.000
3	13:04:10	941.300	452.300	470.000	111.678%	95.610	97.540	105.030%	0.000
x		95.628%	91.523%	93.315%	109.038%	95.269%	96.546%	103.105%	0.000
σ		n/a	n/a	n/a	3.839%	n/a	n/a	3.024%	0.000
%RSD		1.456	2.677	1.008	3.521	0.926	0.958	2.933	0.000

500-163564-e-3-e, 5/31/2019 1:07:35 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:07:35	0.000	0.000	43.550	TM 1271000.000	39150.000	50.190	1415.000	TM 605500.000	82.325%
2	13:07:56	0.000	0.000	55.250	TM 1426000.000	42590.000	48.820	1578.000	TM 641700.000	T 76.702%
3	13:08:18	0.000	0.000	25.820	TM 1224000.000	36670.000	45.680	1360.000	TM 564500.000	88.838%
x		0.000	0.000	41.540	TM 1307000.000	39470.000	48.230	1451.000	TM 603900.000	T 82.622%
σ		0.000	0.000	14.820	TM 106000.000	2975.000	2.316	113.200	TM 38650.000	T 6.074%
%RSD		0.000	0.000	35.670	TM 8.110	7.538	4.803	7.804	TM 6.400	T 7.351

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:07:35	0.871	1.955	1.077	33.780	600.800	0.889	2.598	3.060	29.530
2	13:07:56	0.998	2.001	1.204	36.070	659.200	0.980	2.840	2.967	28.970
3	13:08:18	0.448	1.548	1.014	30.790	563.300	0.771	2.535	2.956	30.060
x		0.772	1.835	1.098	33.550	607.800	0.880	2.657	2.994	29.520
σ		0.288	0.249	0.097	2.648	48.320	0.105	0.161	0.057	0.544
%RSD		37.310	13.590	8.800	7.894	7.951	11.890	6.058	1.913	1.844

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:07:35	1.125	0.185	783.500	84.750%	2.591	70.397%	0.000	0.892	74.911%
2	13:07:56	1.126	0.186	781.400	86.971%	2.789	74.275%	0.005	0.671	79.709%
3	13:08:18	1.116	0.224	763.000	91.619%	2.929	74.952%	0.013	0.741	79.546%
x		1.122	0.199	776.000	87.780%	2.769	73.208%	0.006	0.768	78.056%
σ		0.006	0.022	11.290	3.505%	0.170	2.458%	0.006	0.113	2.724%
%RSD		0.516	11.230	1.455	3.993	6.142	3.358	105.800	14.690	3.490

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:07:35	0.513	0.113	321.500	84.100%	0.188	0.970	72.230%	0.000
2	13:07:56	0.451	0.149	323.400	86.785%	0.375	0.954	75.037%	0.000
3	13:08:18	0.459	0.091	321.400	89.027%	0.443	0.987	75.246%	0.000
x		0.474	0.117	322.100	86.637%	0.335	0.970	74.171%	0.000
σ		0.034	0.029	1.093	2.467%	0.132	0.016	1.684%	0.000
%RSD		7.076	25.000	0.339	2.848	39.350	1.691	2.271	0.000

500-163564-e-4-e, 5/31/2019 1:11:43 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:43	0.000	0.000	65.890	TM 1274000.000	17880.000	405.100	5365.000	53150.000	89.526%
2	13:12:04	0.000	0.000	60.580	TM 1237000.000	17420.000	368.900	4969.000	50210.000	97.030%
3	13:12:27	0.000	0.449	68.480	TM 1263000.000	17590.000	369.600	5249.000	53390.000	92.232%
x		0.000	0.150	64.980	TM 1258000.000	17630.000	381.200	5194.000	52250.000	92.929%
σ		0.000	0.259	4.028	TM 18890.000	231.700	20.700	203.600	1770.000	3.800%
%RSD		0.000	173.200	6.198	TM 1.502	1.314	5.429	3.920	3.388	4.090

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:43	5.124	2.002	1.260	234.000	1979.000	3.842	10.880	2.862	533.000
2	13:12:04	4.398	1.826	1.241	228.300	1908.000	3.639	9.895	2.619	521.600
3	13:12:27	5.363	1.743	1.206	242.700	2018.000	3.954	10.540	2.644	528.600
x		4.962	1.857	1.236	235.000	1968.000	3.812	10.440	2.709	527.700
σ		0.502	0.132	0.027	7.250	55.840	0.160	0.499	0.134	5.752
%RSD		10.130	7.110	2.208	3.085	2.837	4.194	4.777	4.935	1.090

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:43	1.012	0.244	170.800	86.547%	0.354	75.884%	0.002	0.747	81.312%
2	13:12:04	1.023	0.223	171.700	89.032%	0.387	79.068%	0.008	0.408	85.486%
3	13:12:27	0.923	0.170	172.700	86.649%	0.444	78.746%	0.007	0.521	86.433%
x		0.986	0.212	171.700	87.410%	0.395	77.900%	0.005	0.559	84.411%
σ		0.055	0.038	0.949	1.406%	0.046	1.753%	0.003	0.172	2.725%
%RSD		5.560	17.930	0.553	1.609	11.550	2.250	62.790	30.810	3.228

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:43	0.382	0.202	113.600	88.900%	0.067	1.511	76.752%	0.000
2	13:12:04	0.432	0.199	115.800	92.768%	0.189	1.326	81.094%	0.000
3	13:12:27	0.362	0.238	115.000	93.583%	0.216	1.353	82.904%	0.000
x		0.392	0.213	114.800	91.750%	0.157	1.397	80.250%	0.000
σ		0.036	0.022	1.153	2.502%	0.079	0.100	3.162%	0.000
%RSD		9.184	10.250	1.004	2.727	50.440	7.143	3.940	0.000

500-163564-e-6-e, 5/31/2019 1:15:51 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:51	0.000	0.906	37.770	TM 1266000.000	14800.000	632.600	2189.000	42450.000	91.430%
2	13:16:12	0.000	0.000	31.520	TM 1267000.000	14650.000	627.100	2219.000	41310.000	92.633%
3	13:16:34	0.000	0.430	39.070	TM 1203000.000	13830.000	607.900	2149.000	40110.000	96.199%
x		0.000	0.445	36.120	TM 1246000.000	14430.000	622.500	2186.000	41290.000	93.421%
σ		0.000	0.453	4.037	TM 36510.000	523.300	12.960	34.990	1173.000	2.480%
%RSD		0.000	101.700	11.180	TM 2.931	3.628	2.082	1.601	2.840	2.655

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:51	9.451	2.170	1.551	386.100	1235.000	2.961	15.450	3.640	320.000
2	13:16:12	8.987	2.079	1.601	375.800	1229.000	3.023	15.770	3.567	314.500
3	13:16:34	9.401	1.862	1.527	372.100	1195.000	2.906	15.680	3.556	319.300
x		9.280	2.037	1.560	378.000	1220.000	2.963	15.630	3.588	317.900
σ		0.255	0.158	0.038	7.256	21.900	0.058	0.163	0.046	3.000
%RSD		2.744	7.772	2.407	1.919	1.795	1.971	1.046	1.281	0.944

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:51	1.105	-0.010	94.380	86.717%	0.234	74.395%	0.007	0.629	79.184%
2	13:16:12	1.076	0.145	93.750	89.600%	0.275	76.958%	0.005	0.572	82.865%
3	13:16:34	1.080	0.202	94.760	89.541%	0.302	78.386%	0.005	0.614	82.313%
x		1.087	0.113	94.300	88.619%	0.270	76.580%	0.006	0.605	81.454%
σ		0.016	0.110	0.506	1.648%	0.034	2.023%	0.001	0.029	1.985%
%RSD		1.443	97.320	0.537	1.859	12.680	2.641	21.230	4.836	2.437

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:51	0.436	0.085	121.700	87.601%	0.066	1.326	75.356%	0.000
2	13:16:12	0.324	0.120	123.400	91.556%	0.105	1.320	79.304%	0.000
3	13:16:34	0.423	0.080	120.100	92.115%	0.175	1.297	81.899%	0.000
x		0.395	0.095	121.700	90.424%	0.116	1.314	78.853%	0.000
σ		0.061	0.022	1.685	2.461%	0.055	0.015	3.295%	0.000
%RSD		15.580	22.890	1.384	2.721	47.780	1.153	4.179	0.000

500-163564-e-8-h, 5/31/2019 1:19:58 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:19:58	0.000	0.000	30.840	TM 1252000.000	T 143100.000	46.070	1175.000	M 298400.000	94.509%
2	13:20:20	0.000	0.000	19.190	TM 1191000.000	T 132600.000	47.490	1093.000	M 290100.000	105.941%
3	13:20:43	0.000	0.431	47.970	TM 1257000.000	T 143800.000	49.450	1207.000	M 304000.000	96.041%
x		0.000	0.144	32.670	TM 1233000.000	T 139800.000	47.670	1158.000	M 297500.000	98.831%
σ		0.000	0.249	14.480	TM 37090.000	T 6304.000	1.694	58.870	M 6979.000	6.205%
%RSD		0.000	173.200	44.320	TM 3.008	T 4.508	3.554	5.083	M 2.346	6.279

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:19:58	0.560	1.701	2.019	63.550	1934.000	2.476	12.360	16.000	574.400
2	13:20:20	0.238	1.567	1.727	61.750	1804.000	2.242	11.610	15.950	574.600
3	13:20:43	0.785	1.604	1.917	65.420	2010.000	2.489	12.560	16.030	575.900
x		0.528	1.624	1.888	63.570	1916.000	2.403	12.180	16.000	575.000
σ		0.275	0.069	0.148	1.832	104.100	0.139	0.499	0.041	0.832
%RSD		52.070	4.267	7.852	2.882	5.434	5.782	4.096	0.254	0.145

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:19:58	0.694	0.080	337.900	91.152%	1.270	74.620%	0.011	0.626	80.623%
2	13:20:20	0.691	0.180	344.200	94.113%	1.250	78.033%	0.010	0.897	83.297%
3	13:20:43	0.626	0.168	340.600	95.055%	1.433	77.273%	0.003	0.729	85.292%
x		0.670	0.143	340.900	93.440%	1.318	76.642%	0.008	0.750	83.070%
σ		0.038	0.055	3.140	2.036%	0.101	1.792%	0.004	0.137	2.343%
%RSD		5.679	38.530	0.921	2.179	7.628	2.338	52.480	18.200	2.820

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:19:58	0.448	0.105	271.600	84.525%	0.049	1.615	71.593%	0.000
2	13:20:20	0.361	0.131	263.500	88.458%	0.110	1.577	73.972%	0.000
3	13:20:43	0.456	0.103	269.800	88.607%	0.136	1.660	73.446%	0.000
x		0.422	0.113	268.300	87.196%	0.098	1.617	73.004%	0.000
σ		0.053	0.016	4.241	2.315%	0.045	0.041	1.249%	0.000
%RSD		12.490	13.990	1.581	2.655	45.560	2.562	1.711	0.000

500-163564-e-10-e, 5/31/2019 1:24:07 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:07	0.000	1.841	47.850	TM 1376000.000	30230.000	163.500	2726.000	69750.000	89.998%
2	13:24:29	0.000	0.000	55.220	TM 1269000.000	28680.000	147.200	2470.000	66560.000	96.844%
3	13:24:51	0.000	0.430	60.020	TM 1266000.000	26810.000	156.600	2535.000	66860.000	96.199%
x		0.000	0.757	54.360	TM 1304000.000	28570.000	155.800	2577.000	67720.000	94.347%
σ		0.000	0.963	6.131	TM 62580.000	1715.000	8.175	133.000	1765.000	3.780%
%RSD		0.000	127.200	11.280	TM 4.800	6.001	5.249	5.161	2.607	4.006

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:07	0.241	1.627	1.173	116.300	TM 22620.000	34.640	41.720	12.700	935.400
2	13:24:29	0.359	1.524	1.056	109.400	TM 21070.000	33.570	40.190	12.630	931.400
3	13:24:51	0.549	1.400	1.028	116.700	TM 21280.000	33.720	41.120	12.380	905.700
x		0.383	1.517	1.086	114.200	TM 21660.000	33.970	41.010	12.570	924.200
σ		0.156	0.114	0.077	4.089	TM 844.100	0.582	0.771	0.168	16.150
%RSD		40.620	7.503	7.073	3.582	TM 3.898	1.713	1.879	1.340	1.747

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:07	2.279	0.602	156.700	112.547%	0.093	75.182%	-0.000	2.212	82.547%
2	13:24:29	2.092	0.612	150.800	120.096%	0.073	77.563%	0.005	2.425	83.348%
3	13:24:51	2.102	0.598	152.900	120.734%	0.080	79.945%	0.002	2.240	83.617%
x		2.158	0.604	153.500	117.792%	0.082	77.563%	0.002	2.292	83.171%
σ		0.105	0.007	3.025	4.554%	0.010	2.382%	0.003	0.116	0.556%
%RSD		4.873	1.160	1.971	3.866	12.620	3.070	124.500	5.054	0.669

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:07	0.280	0.083	458.200	86.271%	0.075	36.290	71.781%	0.000
2	13:24:29	0.295	0.091	457.600	89.512%	0.138	35.870	76.168%	0.000
3	13:24:51	0.305	0.112	447.000	91.865%	0.149	35.890	78.010%	0.000
x		0.293	0.095	454.300	89.216%	0.121	36.020	75.320%	0.000
σ		0.013	0.015	6.329	2.809%	0.040	0.236	3.200%	0.000
%RSD		4.299	15.920	1.393	3.148	33.230	0.654	4.248	0.000

500-163564-e-12-e, 5/31/2019 1:28:15 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:28:15	0.000	0.000	50.670	TM 1438000.000	41720.000	65.160	1075.000	TM 544100.000	93.177%
2	13:28:37	0.000	0.000	34.310	TM 1461000.000	42450.000	66.630	1095.000	TM 568600.000	97.087%
3	13:28:59	0.000	0.000	25.280	TM 1390000.000	40010.000	62.160	1050.000	TM 539900.000	98.090%
x		0.000	0.000	36.760	TM 1430000.000	41400.000	64.650	1074.000	TM 550900.000	96.118%
σ		0.000	0.000	12.870	TM 36130.000	1250.000	2.276	22.590	TM 15490.000	2.596%
%RSD		0.000	0.000	35.020	TM 2.527	3.021	3.521	2.104	TM 2.812	2.701

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:28:15	0.521	1.154	0.893	41.350	358.700	0.750	3.833	1.554	149.200
2	13:28:37	0.683	1.269	0.888	40.660	370.700	0.820	3.736	1.531	148.600
3	13:28:59	0.629	1.007	0.901	40.930	362.700	0.812	3.656	1.521	148.400
x		0.611	1.143	0.894	40.980	364.000	0.794	3.741	1.535	148.700
σ		0.083	0.131	0.007	0.347	6.119	0.038	0.089	0.017	0.434
%RSD		13.530	11.490	0.742	0.848	1.681	4.845	2.367	1.126	0.292

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:28:15	0.463	0.146	736.600	90.957%	1.554	71.560%	0.008	0.399	75.635%
2	13:28:37	0.600	0.145	755.200	94.588%	1.648	74.576%	0.009	0.436	79.794%
3	13:28:59	0.577	0.038	752.800	95.912%	1.819	75.136%	0.009	0.398	83.479%
x		0.547	0.110	748.200	93.819%	1.674	73.757%	0.008	0.411	79.636%
σ		0.074	0.062	10.130	2.565%	0.135	1.924%	0.001	0.022	3.925%
%RSD		13.460	56.620	1.353	2.734	8.046	2.608	7.964	5.336	4.928

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:28:15	0.251	0.084	388.500	80.708%	0.037	0.619	64.989%	0.000
2	13:28:37	0.292	0.045	386.000	85.163%	0.071	0.581	67.976%	0.000
3	13:28:59	0.302	0.090	399.500	85.543%	0.088	0.600	71.141%	0.000
x		0.282	0.073	391.300	83.804%	0.065	0.600	68.035%	0.000
σ		0.027	0.025	7.163	2.689%	0.026	0.019	3.076%	0.000
%RSD		9.622	33.770	1.830	3.208	39.570	3.159	4.522	0.000

500-163564-e-17-e, 5/31/2019 1:32:24 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:24	0.000	0.425	33.090	TM 1423000.000	T 96350.000	49.350	1477.000	M 365100.000	97.445%
2	13:32:46	0.000	0.000	32.390	TM 1324000.000	T 92940.000	52.560	1394.000	M 356700.000	105.411%
3	13:33:07	0.000	0.000	28.780	TM 1382000.000	T 95330.000	52.010	1442.000	TM 352800.000	100.654%
x		0.000	0.142	31.420	TM 1376000.000	T 94870.000	51.310	1438.000	TM 358200.000	101.170%
σ		0.000	0.245	2.311	TM 49910.000	T 1748.000	1.718	41.590	TM 6287.000	4.008%
%RSD		0.000	173.200	7.355	TM 3.626	T 1.842	3.348	2.893	TM 1.755	3.962

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:24	0.310	0.887	2.623	59.200	882.700	0.992	6.097	2.503	24.520
2	13:32:46	0.240	0.885	2.484	54.650	835.900	0.969	5.681	2.576	24.210
3	13:33:07	0.209	0.808	2.643	56.780	878.500	0.961	6.113	2.399	24.110
x		0.253	0.860	2.583	56.880	865.700	0.974	5.963	2.493	24.280
σ		0.052	0.045	0.087	2.276	25.880	0.016	0.245	0.089	0.216
%RSD		20.540	5.209	3.358	4.001	2.990	1.665	4.110	3.571	0.890

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:24	0.296	0.132	336.600	90.957%	1.176	73.356%	0.006	0.635	78.328%
2	13:32:46	0.390	0.012	337.500	94.809%	1.106	76.535%	0.007	0.656	80.587%
3	13:33:07	0.348	0.065	342.200	95.250%	1.235	77.337%	0.017	0.641	84.779%
x		0.345	0.070	338.800	93.672%	1.172	75.742%	0.010	0.644	81.231%
σ		0.047	0.060	3.017	2.361%	0.064	2.105%	0.006	0.011	3.273%
%RSD		13.550	86.480	0.890	2.521	5.494	2.779	63.010	1.661	4.030

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:24	0.384	0.017	242.100	79.890%	0.009	0.400	66.876%	0.000
2	13:32:46	0.374	-0.014	237.300	85.051%	0.063	0.354	70.578%	0.000
3	13:33:07	0.434	0.012	239.200	86.758%	0.071	0.340	72.589%	0.000
x		0.398	0.005	239.500	83.900%	0.048	0.365	70.014%	0.000
σ		0.032	0.016	2.377	3.576%	0.034	0.031	2.898%	0.000
%RSD		8.101	324.200	0.992	4.262	70.640	8.600	4.139	0.000

ccv, 5/31/2019 1:36:32 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:36:32	0.000	260.800	260.600	┬27170.000	27630.000	27470.000	┬28020.000	26430.000	105.912%
2	13:36:54	0.000	238.900	243.900	┬25130.000	24230.000	25790.000	┬24190.000	24040.000	118.226%
3	13:37:15	0.000	244.600	251.300	┬24170.000	24230.000	24790.000	┬25230.000	23810.000	115.616%
x		0.000	99.244%	100.781%	┬101.961%	101.456%	104.070%	┬103.258%	99.032%	113.252%
σ		0.000	n/a	n/a	┬n/a	n/a	n/a	┬n/a	n/a	6.488%
%RSD		0.000	4.578	3.315	┬6.006	7.745	5.190	┬7.678	5.869	5.729

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:36:32	266.200	251.800	243.900	┬25180.000	251.900	246.400	249.700	260.700	272.000
2	13:36:54	224.400	224.700	224.200	23510.000	226.900	218.400	222.700	249.400	255.300
3	13:37:15	235.400	227.700	230.500	┬23270.000	238.700	232.000	228.700	251.800	255.200
x		96.805%	93.900%	93.154%	┬95.949%	95.672%	92.919%	93.486%	101.586%	104.326%
σ		n/a	n/a	n/a	┬n/a	n/a	n/a	n/a	n/a	n/a
%RSD		8.941	6.319	4.304	┬4.325	5.226	6.034	6.065	2.338	3.725

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:36:32	277.600	290.200	285.500	92.238%	256.700	87.182%	53.750	256.900	90.428%
2	13:36:54	258.100	263.800	247.000	105.573%	230.300	94.859%	46.800	229.300	101.329%
3	13:37:15	253.400	260.400	242.800	110.024%	226.000	96.984%	46.680	234.700	103.116%
x		105.214%	108.576%	103.374%	102.611%	95.080%	93.008%	98.147%	96.128%	98.291%
σ		n/a	n/a	n/a	9.255%	n/a	5.156%	n/a	n/a	6.868%
%RSD		4.878	6.001	9.115	9.020	6.992	5.544	8.247	6.087	6.987

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:36:32	257.300	259.800	270.300	92.664%	250.400	249.000	84.061%	0.000
2	13:36:54	241.000	238.100	255.200	99.482%	237.000	236.400	91.041%	0.000
3	13:37:15	239.900	240.600	250.000	101.895%	235.000	237.600	93.551%	0.000
x		98.417%	98.464%	103.399%	98.014%	96.318%	96.392%	89.551%	0.000
σ		n/a	n/a	n/a	4.788%	n/a	n/a	4.917%	0.000
%RSD		3.967	4.826	4.069	4.885	3.468	2.898	5.491	0.000

ccb, 5/31/2019 1:40:42 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:40:42	0.000	0.374	0.991	38.460	1.615	0.661	14.120	-2.528	110.857%
2	13:41:04	0.000	0.000	-0.004	37.700	1.584	0.691	15.390	-0.737	112.319%
3	13:41:27	0.000	0.000	-1.044	33.700	1.167	0.683	-0.531	1.581	118.298%
x		0.000	0.125	-0.019	36.620	1.455	0.678	9.658	-0.561	113.825%
σ		0.000	0.216	1.017	2.557	0.250	0.016	8.847	2.060	3.942%
%RSD		0.000	173.200	5410.000	6.984	17.200	2.311	91.600	367.100	3.463

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:40:42	-0.060	0.035	-0.012	1.376	-0.030	0.012	-0.016	0.104	-0.288
2	13:41:04	-0.060	0.076	-0.010	0.818	-0.040	0.012	-0.036	0.126	-0.315
3	13:41:27	-0.021	0.080	-0.011	0.854	-0.014	0.013	-0.056	0.060	-0.249
x		-0.047	0.064	-0.011	1.016	-0.028	0.012	-0.036	0.097	-0.284
σ		0.022	0.025	0.001	0.312	0.013	0.001	0.020	0.034	0.033
%RSD		46.950	39.560	9.329	30.730	46.190	7.440	55.200	34.670	11.720

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:40:42	0.034	0.036	0.110	98.729%	0.067	93.929%	0.003	0.022	97.342%
2	13:41:04	0.044	0.063	0.110	108.282%	0.089	101.183%	0.004	0.042	106.081%
3	13:41:27	0.033	-0.003	0.095	104.851%	0.154	101.361%	0.001	0.005	105.534%
x		0.037	0.032	0.105	103.954%	0.103	98.824%	0.002	0.023	102.986%
σ		0.006	0.033	0.009	4.839%	0.045	4.240%	0.001	0.018	4.895%
%RSD		16.320	104.500	8.480	4.655	43.920	4.291	59.910	81.450	4.753

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:40:42	0.018	0.005	0.011	90.970%	0.240	0.014	86.981%	0.000
2	13:41:04	-0.015	0.009	0.000	97.966%	0.419	0.005	95.394%	0.000
3	13:41:27	0.015	0.006	0.030	100.718%	0.492	0.006	96.115%	0.000
x		0.006	0.007	0.014	96.551%	0.384	0.008	92.830%	0.000
σ		0.018	0.002	0.015	5.025%	0.130	0.005	5.078%	0.000
%RSD		308.900	25.590	111.100	5.205	33.870	57.430	5.470	0.000

ccvl, 5/31/2019 1:44:53 PM QC Status: WARNING (Initial: WARNING)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:44:53	0.000	1.922	47.400	261.400	221.400	115.400	589.800	201.000	107.704%
2	13:45:16	0.000	0.000	46.970	216.300	196.900	96.280	450.200	173.700	123.532%
3	13:45:39	0.000	0.738	44.450	248.400	206.300	108.000	533.100	182.500	112.161%
x		0.000	88.696%	92.549%	121.023%	104.119%	106.558%	104.874%	92.870%	114.466%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.162%
%RSD		0.000	109.300	3.437	9.584	5.941	9.030	13.390	7.483	7.130
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:44:53	6.048	5.027	5.194	99.780	2.587	1.006	1.949	2.103	21.180
2	13:45:16	3.770	4.326	4.534	85.530	2.155	0.892	1.736	1.947	20.270
3	13:45:39	5.122	4.707	4.925	96.530	2.400	0.921	1.903	1.944	19.450
x		99.603%	93.731%	97.687%	93.947%	95.236%	93.967%	93.129%	99.887%	101.502%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		23.000	7.489	6.800	7.950	9.104	6.345	6.011	4.559	4.257
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:44:53	1.113	2.715	4.419	95.929%	4.177	91.922%	0.536	0.697	98.843%
2	13:45:16	1.000	2.531	3.874	110.109%	3.612	99.057%	0.434	0.572	102.650%
3	13:45:39	0.984	2.613	4.029	102.499%	3.921	100.067%	0.468	0.419	104.830%
x		103.224%	104.796%	102.685%	102.845%	97.590%	97.015%	95.821%	112.568%	102.107%
σ		n/a	n/a	n/a	7.096%	n/a	4.440%	n/a	n/a	3.030%
%RSD		6.794	3.526	6.846	6.900	7.249	4.576	10.890	24.780	2.967
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	13:44:53	5.077	2.753	2.700	88.301%	2.002	0.500	85.632%	0.000	
2	13:45:16	4.726	2.901	2.168	100.203%	1.779	0.419	95.009%	0.000	
3	13:45:39	4.838	2.860	2.551	100.317%	1.910	0.432	96.574%	0.000	
x		97.612%	94.598%	98.906%	96.274%	94.842%	90.055%	92.405%	0.000	
σ		n/a	n/a	n/a	6.905%	n/a	n/a	5.918%	0.000	
%RSD		3.669	2.695	11.090	7.172	5.902	9.567	6.404	0.000	

500-162180-I-3-a, 5/31/2019 3:07:19 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:19	0.000	0.000	12.100	4340.000	7317.000	174.200	630.800	16540.000	99.451%
2	15:07:40	0.000	0.000	14.390	3915.000	6453.000	162.500	549.600	15630.000	110.857%
3	15:08:03	0.000	0.000	17.330	3917.000	6620.000	161.700	576.900	15280.000	110.441%
x		0.000	0.000	14.610	4057.000	6797.000	166.100	585.800	15820.000	106.916%
σ		0.000	0.000	2.626	244.800	458.200	6.981	41.320	648.900	6.469%
%RSD		0.000	0.000	17.980	6.033	6.742	4.203	7.054	4.103	6.050

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:19	6.464	1.165	1.434	176.800	9.988	0.232	1.403	1.826	9.586
2	15:07:40	6.159	1.042	1.268	163.900	9.343	0.231	1.248	1.748	9.552
3	15:08:03	5.937	1.173	1.147	157.400	9.345	0.214	1.291	1.690	9.796
x		6.187	1.126	1.283	166.000	9.559	0.226	1.314	1.754	9.645
σ		0.265	0.074	0.145	9.871	0.372	0.010	0.080	0.068	0.132
%RSD		4.276	6.528	11.260	5.946	3.887	4.498	6.098	3.893	1.368

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:19	0.305	0.621	24.730	88.973%	0.133	84.193%	0.006	-0.003	91.349%
2	15:07:40	0.261	0.460	22.430	99.060%	0.215	91.052%	-0.002	0.014	96.425%
3	15:08:03	0.248	0.528	22.470	98.976%	0.275	90.748%	-0.002	-0.003	97.021%
x		0.271	0.536	23.210	95.670%	0.208	88.664%	0.001	0.003	94.931%
σ		0.030	0.081	1.314	5.800%	0.071	3.876%	0.005	0.009	3.117%
%RSD		11.080	15.030	5.663	6.062	34.160	4.371	642.000	342.300	3.283

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:07:19	0.096	0.042	10.770	86.447%	0.086	0.122	82.255%	0.000
2	15:07:40	0.105	0.043	10.250	93.423%	0.193	0.119	91.446%	0.000
3	15:08:03	0.080	0.048	10.650	92.539%	0.180	0.116	89.244%	0.000
x		0.093	0.044	10.550	90.803%	0.153	0.119	87.648%	0.000
σ		0.013	0.003	0.271	3.798%	0.059	0.003	4.799%	0.000
%RSD		13.600	6.889	2.563	4.183	38.330	2.567	5.475	0.000

500-162180-I-4-a, 5/31/2019 3:11:27 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:27	0.000	0.000	8.295	T 40070.000	7188.000	19.220	849.900	18200.000	104.823%
2	15:11:48	0.000	0.000	9.416	T 39260.000	6863.000	22.420	818.300	16800.000	112.548%
3	15:12:11	0.000	0.000	11.340	T 37600.000	6670.000	17.020	810.600	16490.000	112.262%
x		0.000	0.000	9.683	T 38980.000	6907.000	19.550	826.300	17170.000	109.878%
σ		0.000	0.000	1.539	T 1255.000	262.000	2.716	20.840	907.200	4.380%
%RSD		0.000	0.000	15.890	T 3.221	3.793	13.890	2.522	5.285	3.986

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:27	0.069	0.896	1.095	9.970	0.591	0.060	0.329	1.571	5.181
2	15:11:48	0.261	0.734	0.987	10.570	0.598	0.054	0.331	1.514	4.944
3	15:12:11	0.221	0.744	1.040	10.110	0.555	0.058	0.367	1.531	4.736
x		0.184	0.792	1.041	10.210	0.581	0.057	0.343	1.539	4.954
σ		0.101	0.091	0.054	0.313	0.023	0.003	0.021	0.029	0.222
%RSD		54.960	11.480	5.198	3.067	3.929	5.078	6.257	1.914	4.488

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:27	0.254	0.314	34.730	89.549%	0.083	80.606%	0.005	-0.003	87.835%
2	15:11:48	0.244	0.190	31.720	100.571%	0.040	90.221%	-0.000	0.006	96.425%
3	15:12:11	0.191	0.250	32.810	99.026%	0.057	88.416%	0.003	0.006	95.146%
x		0.229	0.251	33.090	96.382%	0.060	86.415%	0.002	0.003	93.135%
σ		0.034	0.062	1.525	5.968%	0.021	5.110%	0.003	0.005	4.635%
%RSD		14.780	24.790	4.610	6.192	35.750	5.914	111.900	163.100	4.976

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:27	0.066	0.007	16.560	84.403%	0.007	0.089	79.178%	0.000
2	15:11:48	0.099	0.035	16.250	91.564%	0.063	0.084	85.480%	0.000
3	15:12:11	0.088	0.050	15.260	97.403%	0.072	0.078	88.876%	0.000
x		0.084	0.031	16.020	91.123%	0.047	0.084	84.511%	0.000
σ		0.017	0.022	0.674	6.512%	0.035	0.005	4.921%	0.000
%RSD		20.240	69.940	4.209	7.146	74.700	6.483	5.823	0.000

500-162180-I-4-b 5/31/2019 3:15:36 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:36	0.000	0.000	15.160	┬39860.000	7563.000	10.030	897.000	18150.000	106.127%
2	15:15:59	0.000	0.000	9.174	┬41710.000	7344.000	9.191	920.400	18150.000	105.984%
3	15:16:20	0.000	0.000	16.290	┬36160.000	6711.000	7.842	779.800	16280.000	116.477%
x		0.000	0.000	13.540	┬39240.000	7206.000	9.021	865.700	17530.000	109.529%
σ		0.000	0.000	3.823	┬2825.000	442.400	1.103	75.330	1076.000	6.017%
%RSD		0.000	0.000	28.230	┬7.199	6.140	12.230	8.701	6.141	5.493

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:36	0.535	0.904	1.157	14.550	0.567	0.063	1.072	1.200	5.665
2	15:15:59	0.706	0.906	1.215	14.800	0.649	0.043	0.976	1.140	5.454
3	15:16:20	0.366	0.734	1.028	13.080	0.577	0.045	1.007	1.089	5.576
x		0.535	0.848	1.133	14.140	0.598	0.050	1.018	1.143	5.565
σ		0.170	0.098	0.096	0.927	0.045	0.011	0.049	0.056	0.106
%RSD		31.720	11.600	8.443	6.555	7.500	21.910	4.836	4.879	1.902

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:36	0.187	0.198	35.460	91.797%	0.048	81.568%	-0.000	-0.003	87.873%
2	15:15:59	0.230	0.183	33.470	100.232%	0.075	88.074%	0.001	0.005	100.327%
3	15:16:20	0.257	0.174	33.560	99.493%	0.096	90.919%	0.006	0.006	93.775%
x		0.225	0.185	34.160	97.174%	0.073	86.854%	0.002	0.003	93.991%
σ		0.035	0.012	1.123	4.671%	0.024	4.794%	0.003	0.005	6.230%
%RSD		15.760	6.530	3.287	4.807	32.800	5.519	148.800	164.500	6.628

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:36	0.068	0.040	16.880	85.968%	0.002	0.047	79.096%	0.000
2	15:15:59	0.028	0.030	15.770	93.413%	0.036	0.053	88.892%	0.000
3	15:16:20	0.021	0.026	15.480	99.976%	0.050	0.038	87.652%	0.000
x		0.039	0.032	16.040	93.119%	0.029	0.046	85.213%	0.000
σ		0.026	0.007	0.743	7.008%	0.025	0.007	5.334%	0.000
%RSD		65.980	22.060	4.633	7.526	84.750	16.050	6.259	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:19:45	0.000	58.540	1135.000	T 52980.000	18680.000	2299.000	11840.000	29330.000	99.737%
2	15:20:08	0.000	48.230	1023.000	T 47170.000	16910.000	1997.000	10360.000	26910.000	115.057%
3	15:20:31	0.000	53.050	1124.000	T 50400.000	18190.000	2155.000	11310.000	28330.000	104.594%
x		0.000	53.280	1094.000	T 50180.000	17930.000	2150.000	11170.000	28190.000	106.463%
σ		0.000	5.161	61.610	T 2910.000	914.300	151.100	750.800	1216.000	7.829%
%RSD		0.000	9.687	5.630	T 5.798	5.101	7.030	6.721	4.314	7.354

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:19:45	1004.000	483.400	198.700	991.500	512.900	490.900	482.700	273.500	579.300
2	15:20:08	921.200	441.600	179.200	919.800	466.800	443.300	424.500	252.000	523.100
3	15:20:31	966.700	476.700	194.700	982.900	508.100	480.800	483.300	252.000	523.900
x		963.900	467.200	190.900	964.700	495.900	471.700	463.500	259.200	542.100
σ		41.350	22.490	10.260	39.120	25.340	25.030	33.770	12.400	32.200
%RSD		4.290	4.814	5.376	4.055	5.110	5.308	7.286	4.787	5.941

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:19:45	113.500	115.400	1135.000	92.136%	984.100	80.638%	49.790	50.720	87.860%
2	15:20:08	102.500	107.200	1067.000	99.408%	968.000	90.418%	48.120	46.990	96.400%
3	15:20:31	104.100	108.000	1066.000	101.268%	941.700	90.702%	49.250	48.980	94.541%
x		106.700	110.200	1089.000	97.604%	964.600	87.253%	49.050	48.900	92.934%
σ		5.959	4.515	39.460	4.826%	21.430	5.731%	0.851	1.863	4.491%
%RSD		5.584	4.097	3.623	4.944	2.221	6.568	1.734	3.810	4.833

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:19:45	1048.000	515.200	2158.000	86.992%	3.157	3.177	T 2542.012%	0.000
2	15:20:08	1020.000	477.900	2044.000	96.705%	2.974	3.070	T 2693.477%	0.000
3	15:20:31	1032.000	488.000	2019.000	97.932%	2.973	3.061	T 2781.885%	0.000
x		1034.000	493.700	2074.000	93.876%	3.034	3.102	T 2672.458%	0.000
σ		13.830	19.270	73.750	5.993%	0.106	0.065	T 121.310%	0.000
%RSD		1.338	3.903	3.557	6.384	3.485	2.080	T 4.539	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:23:56	0.000	50.740	1126.000	T 51240.000	18160.000	2155.000	11490.000	28180.000	102.832%
2	15:24:19	0.000	55.440	969.300	T 48130.000	16880.000	2005.000	10340.000	26130.000	115.029%
3	15:24:40	0.000	56.310	1025.000	T 45450.000	16590.000	2000.000	10380.000	26610.000	111.058%
x		0.000	54.160	1040.000	T 48280.000	17210.000	2053.000	10740.000	26970.000	109.639%
σ		0.000	2.994	79.360	T 2897.000	835.700	87.780	653.700	1072.000	6.221%
%RSD		0.000	5.528	7.630	T 6.000	4.856	4.275	6.089	3.974	5.674

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:23:56	966.600	481.800	194.900	973.200	510.800	496.500	484.700	273.400	565.900
2	15:24:19	914.600	431.900	173.500	871.700	454.000	448.700	439.500	253.100	515.400
3	15:24:40	937.200	449.400	187.200	917.900	454.000	459.200	465.900	255.900	524.900
x		939.400	454.300	185.200	920.900	472.900	468.100	463.400	260.800	535.400
σ		26.080	25.300	10.830	50.800	32.760	25.140	22.700	11.030	26.860
%RSD		2.776	5.568	5.846	5.516	6.928	5.370	4.898	4.229	5.017

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:23:56	110.900	114.800	1156.000	90.245%	1012.000	82.981%	50.630	52.170	87.290%
2	15:24:19	102.500	107.400	1038.000	102.142%	941.600	91.328%	47.160	47.390	97.111%
3	15:24:40	105.500	109.500	1026.000	103.152%	924.800	89.862%	47.730	48.290	96.577%
x		106.300	110.600	1074.000	98.513%	959.500	88.057%	48.510	49.280	93.659%
σ		4.229	3.816	71.950	7.178%	46.270	4.457%	1.859	2.544	5.523%
%RSD		3.978	3.451	6.702	7.287	4.822	5.061	3.832	5.162	5.897

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:23:56	1051.000	522.900	2144.000	87.636%	3.161	3.139	T 2599.683%	0.000
2	15:24:19	992.900	481.600	2031.000	97.003%	3.106	3.149	T 2679.725%	0.000
3	15:24:40	1026.000	487.200	2000.000	99.159%	3.087	3.138	T 2756.662%	0.000
x		1024.000	497.200	2058.000	94.599%	3.118	3.142	T 2678.690%	0.000
σ		29.410	22.400	75.830	6.126%	0.038	0.006	T 78.494%	0.000
%RSD		2.873	4.505	3.684	6.476	1.231	0.193	T 2.930	0.000

500-162180-I-4-a, 5/31/2019 3:28:05 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:05	0.000	0.000	7.780	8523.000	1486.000	5.253	180.200	3714.000	99.923%
2	15:28:27	0.000	0.000	5.503	7634.000	1420.000	4.236	145.900	3575.000	114.484%
3	15:28:48	0.000	0.000	10.370	7605.000	1413.000	4.593	142.300	3293.000	112.434%
x		0.000	0.000	7.885	7921.000	1439.000	4.694	156.100	3527.000	108.947%
σ		0.000	0.000	2.437	522.100	40.130	0.516	20.950	214.800	7.882%
%RSD		0.000	0.000	30.900	6.592	2.788	11.000	13.420	6.089	7.234

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:05	0.121	0.259	0.261	1.936	0.489	0.027	0.024	1.710	1.141
2	15:28:27	0.059	0.152	0.200	1.111	0.380	0.013	-0.016	1.709	1.100
3	15:28:48	0.101	0.107	0.211	2.065	0.358	0.016	-0.053	1.650	1.279
x		0.093	0.173	0.224	1.704	0.409	0.019	-0.015	1.690	1.173
σ		0.032	0.078	0.032	0.518	0.070	0.007	0.039	0.034	0.094
%RSD		34.050	44.930	14.400	30.370	17.170	39.450	260.300	2.029	7.979

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:05	0.046	0.040	6.957	89.956%	0.382	87.293%	-0.002	-0.003	90.725%
2	15:28:27	0.054	0.078	6.311	105.658%	0.687	95.959%	0.001	0.005	100.159%
3	15:28:48	0.071	0.065	6.505	101.021%	0.802	95.738%	0.001	-0.003	103.385%
x		0.057	0.061	6.591	98.878%	0.624	92.997%	-0.000	-0.000	98.090%
σ		0.013	0.019	0.332	8.067%	0.217	4.941%	0.002	0.004	6.579%
%RSD		22.430	31.800	5.033	8.158	34.790	5.313	5194.000	998.100	6.707

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:05	0.549	0.043	3.121	87.537%	0.112	0.099	84.969%	0.000
2	15:28:27	0.500	0.027	3.173	98.692%	0.265	0.104	91.028%	0.000
3	15:28:48	0.438	0.017	3.132	98.254%	0.288	0.107	94.825%	0.000
x		0.496	0.029	3.142	94.828%	0.222	0.104	90.274%	0.000
σ		0.055	0.013	0.027	6.318%	0.096	0.004	4.971%	0.000
%RSD		11.170	44.200	0.872	6.662	43.150	3.852	5.506	0.000

500-162180-I-5-a, 5/31/2019 3:32:13 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:13	0.000	0.000	17.130	3656.000	18900.000	10.430	745.900	47140.000	100.969%
2	15:32:36	0.000	0.366	12.160	3498.000	16500.000	9.352	638.800	44320.000	113.208%
3	15:32:58	0.000	0.000	6.186	3214.000	15990.000	8.939	576.200	41330.000	117.566%
x		0.000	0.122	11.820	3456.000	17130.000	9.572	653.600	44260.000	110.581%
σ		0.000	0.211	5.477	224.200	1557.000	0.768	85.810	2906.000	8.605%
%RSD		0.000	173.200	46.330	6.488	9.091	8.023	13.130	6.565	7.781

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:13	0.431	1.998	1.561	18.610	2.154	0.034	0.771	1.224	4.171
2	15:32:36	0.418	1.828	1.398	16.280	1.873	0.035	0.599	1.003	3.803
3	15:32:58	0.439	1.740	1.327	15.160	1.815	0.045	0.516	0.941	3.860
x		0.429	1.855	1.429	16.680	1.947	0.038	0.628	1.056	3.944
σ		0.010	0.131	0.120	1.760	0.181	0.006	0.130	0.149	0.198
%RSD		2.434	7.081	8.375	10.550	9.310	15.460	20.700	14.080	5.021

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:13	0.239	0.196	78.950	90.389%	0.299	84.194%	0.001	0.006	90.904%
2	15:32:36	0.194	0.146	70.340	101.785%	0.334	91.541%	0.001	-0.003	97.428%
3	15:32:58	0.215	0.132	71.380	102.142%	0.448	94.485%	0.005	-0.003	99.912%
x		0.216	0.158	73.560	98.105%	0.360	90.073%	0.003	0.000	96.082%
σ		0.022	0.034	4.699	6.685%	0.078	5.300%	0.002	0.005	4.653%
%RSD		10.360	21.380	6.388	6.814	21.600	5.884	94.850	9386.000	4.842

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:13	0.068	0.014	19.940	86.660%	0.030	0.038	81.830%	0.000
2	15:32:36	0.075	0.024	17.790	98.900%	0.129	0.037	90.369%	0.000
3	15:32:58	0.035	0.045	18.000	99.026%	0.126	0.023	93.837%	0.000
x		0.059	0.028	18.580	94.862%	0.095	0.033	88.679%	0.000
σ		0.021	0.016	1.185	7.104%	0.056	0.008	6.180%	0.000
%RSD		35.930	57.430	6.377	7.488	58.980	25.070	6.969	0.000

500-162180-I-6-a, 5/31/2019 3:36:24 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:24	0.000	0.000	20.000	7457.000	3193.000	171.100	617.400	7381.000	97.531%
2	15:36:46	0.000	0.000	20.290	6839.000	2809.000	155.900	522.500	6207.000	110.112%
3	15:37:09	0.000	0.000	8.313	6383.000	2683.000	146.000	479.400	6155.000	114.168%
x		0.000	0.000	16.200	6893.000	2895.000	157.700	539.800	6581.000	107.270%
σ		0.000	0.000	6.833	538.800	265.200	12.660	70.630	693.500	8.675%
%RSD		0.000	0.000	42.170	7.817	9.159	8.033	13.080	10.540	8.087

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:24	6.824	1.974	2.268	183.600	17.080	0.351	1.903	1.945	9.346
2	15:36:46	6.815	1.782	1.926	165.600	15.250	0.340	1.553	1.841	8.776
3	15:37:09	7.360	1.752	1.902	157.700	14.790	0.301	1.638	2.031	8.923
x		6.999	1.836	2.032	169.000	15.710	0.331	1.698	1.939	9.015
σ		0.312	0.121	0.205	13.230	1.207	0.026	0.183	0.095	0.296
%RSD		4.459	6.575	10.070	7.832	7.684	7.948	10.760	4.901	3.283

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:24	0.388	0.491	12.590	90.041%	0.219	86.251%	0.001	0.006	89.426%
2	15:36:46	0.365	0.453	11.690	99.239%	0.328	96.631%	-0.000	0.005	99.360%
3	15:37:09	0.342	0.443	10.930	105.912%	0.236	95.053%	0.002	-0.003	100.884%
x		0.365	0.462	11.730	98.397%	0.261	92.645%	0.001	0.003	96.557%
σ		0.023	0.025	0.832	7.969%	0.059	5.593%	0.001	0.005	6.222%
%RSD		6.335	5.514	7.086	8.099	22.630	6.037	134.300	170.700	6.444

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:24	0.041	0.067	5.108	88.139%	0.006	0.134	84.646%	0.000
2	15:36:46	0.057	0.038	4.710	98.345%	0.062	0.125	93.031%	0.000
3	15:37:09	0.055	0.044	4.763	100.963%	0.067	0.121	95.980%	0.000
x		0.051	0.050	4.860	95.816%	0.045	0.127	91.219%	0.000
σ		0.009	0.015	0.217	6.776%	0.034	0.006	5.880%	0.000
%RSD		16.850	30.730	4.455	7.072	75.460	5.118	6.446	0.000

500-162180-I-7-a, 5/31/2019 3:45:31 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:31	0.000	0.000	17.780	5475.000	10670.000	12.910	1169.000	20480.000	108.076%
2	15:45:53	0.000	0.000	14.250	5893.000	10590.000	11.430	1115.000	19000.000	111.774%
3	15:46:14	0.000	0.000	20.290	5642.000	10350.000	12.000	1080.000	19280.000	114.699%
x		0.000	0.000	17.440	5670.000	10540.000	12.110	1122.000	19590.000	111.517%
σ		0.000	0.000	3.034	210.700	165.500	0.748	44.730	787.700	3.319%
%RSD		0.000	0.000	17.400	3.715	1.571	6.178	3.988	4.021	2.976

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:31	0.441	0.410	0.614	95.430	10.960	0.168	1.110	2.311	8.525
2	15:45:53	0.585	0.374	0.559	92.790	10.660	0.141	1.194	2.180	7.913
3	15:46:14	0.648	0.334	0.498	95.960	10.480	0.145	1.228	2.206	8.071
x		0.558	0.372	0.557	94.730	10.700	0.151	1.177	2.232	8.170
σ		0.106	0.038	0.058	1.699	0.241	0.015	0.061	0.069	0.318
%RSD		19.020	10.230	10.420	1.793	2.254	9.692	5.155	3.110	3.887

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:31	0.236	0.072	43.060	92.357%	0.249	85.167%	-0.000	0.032	89.464%
2	15:45:53	0.211	0.012	40.960	100.037%	0.296	92.454%	-0.000	0.005	96.984%
3	15:46:14	0.200	-0.014	40.580	101.616%	0.334	92.390%	-0.002	0.005	95.078%
x		0.216	0.023	41.540	98.003%	0.293	90.003%	-0.001	0.014	93.842%
σ		0.018	0.044	1.334	4.953%	0.043	4.189%	0.001	0.016	3.909%
%RSD		8.512	187.500	3.213	5.054	14.510	4.654	100.900	108.400	4.166

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:31	0.027	0.108	22.110	86.282%	-0.005	0.073	83.477%	0.000
2	15:45:53	0.027	0.077	20.560	94.199%	0.025	0.065	89.846%	0.000
3	15:46:14	0.048	0.077	19.420	100.021%	0.027	0.069	93.571%	0.000
x		0.034	0.087	20.690	93.501%	0.016	0.069	88.964%	0.000
σ		0.012	0.018	1.351	6.896%	0.018	0.004	5.105%	0.000
%RSD		36.620	20.150	6.527	7.375	113.200	5.854	5.738	0.000

500-162180-I-8-a, 5/31/2019 3:49:38 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:38	0.000	0.000	13.640	2454.000	8193.000	192.600	2377.000	25290.000	103.004%
2	15:50:01	0.000	0.356	12.650	2301.000	7343.000	175.600	2164.000	23100.000	116.419%
3	15:50:22	0.000	0.000	10.830	2275.000	7327.000	185.300	2143.000	22540.000	116.434%
x		0.000	0.119	12.380	2343.000	7621.000	184.500	2228.000	23640.000	111.952%
σ		0.000	0.205	1.427	96.850	495.300	8.532	129.500	1456.000	7.750%
%RSD		0.000	173.200	11.530	4.133	6.499	4.625	5.813	6.159	6.922

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:38	7.508	0.873	1.315	25030.000	228.600	0.449	2.626	7.318	293.000
2	15:50:01	6.365	0.776	1.041	22360.000	210.200	0.431	2.356	7.048	279.300
3	15:50:22	5.784	0.689	1.131	22670.000	213.400	0.444	2.447	6.663	272.700
x		6.552	0.779	1.162	23350.000	217.400	0.441	2.476	7.010	281.700
σ		0.877	0.092	0.140	1458.000	9.857	0.009	0.137	0.329	10.380
%RSD		13.390	11.770	12.020	6.242	4.534	2.039	5.542	4.700	3.685

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:38	1.120	0.120	114.700	90.660%	0.222	85.837%	0.003	0.069	86.945%
2	15:50:01	1.075	0.106	106.300	101.802%	0.174	94.374%	0.007	0.043	102.735%
3	15:50:22	0.995	0.083	105.100	104.825%	0.243	96.258%	-0.000	0.061	97.479%
x		1.063	0.103	108.700	99.096%	0.213	92.156%	0.003	0.058	95.720%
σ		0.063	0.018	5.241	7.460%	0.035	5.553%	0.004	0.013	8.041%
%RSD		5.944	17.780	4.821	7.528	16.520	6.026	114.300	23.250	8.400

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:38	0.077	0.243	62.650	89.059%	-0.002	0.151	83.268%	0.000
2	15:50:01	0.035	0.214	56.420	97.361%	0.036	0.121	92.744%	0.000
3	15:50:22	0.047	0.199	57.510	99.188%	0.033	0.133	94.341%	0.000
x		0.053	0.218	58.860	95.203%	0.023	0.135	90.118%	0.000
σ		0.021	0.022	3.332	5.398%	0.021	0.015	5.985%	0.000
%RSD		40.580	10.250	5.660	5.670	92.630	11.220	6.642	0.000

ccv, 5/31/2019 3:53:47 PM QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:47	0.000	287.200	290.800	T 26420.000	26610.000	27420.000	T 25870.000	25450.000	105.124%
2	15:54:09	0.000	239.300	221.500	T 23600.000	24260.000	24460.000	T 24900.000	23230.000	116.792%
3	15:54:30	0.000	239.400	237.800	T 22950.000	T 22890.000	23560.000	T 24190.000	22780.000	118.126%
x		0.000	102.129%	100.027%	T 97.295%	T 98.348%	100.584%	T 99.944%	95.285%	113.347%
σ		0.000	n/a	n/a	T n/a	T n/a	n/a	T n/a	n/a	7.153%
%RSD		0.000	10.810	14.490	T 7.587	T 7.635	8.029	T 3.377	6.005	6.310

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:47	243.600	239.600	240.400	T 25240.000	247.500	243.000	246.300	272.000	280.200
2	15:54:09	220.400	220.800	218.700	22470.000	225.800	219.300	225.300	253.600	261.200
3	15:54:30	227.000	214.900	214.500	T 22640.000	223.000	217.600	217.900	246.700	254.800
x		92.149%	90.036%	89.826%	T 93.791%	92.847%	90.650%	91.942%	102.973%	106.157%
σ		n/a	n/a	n/a	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.185	5.721	6.191	T 6.615	5.764	6.262	6.416	5.094	4.975

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:47	276.900	292.200	269.700	92.238%	255.000	83.682%	50.920	258.000	90.006%
2	15:54:09	259.600	268.700	243.700	103.594%	225.900	91.239%	45.710	235.300	99.331%
3	15:54:30	251.700	256.500	261.200	97.609%	244.300	93.989%	49.190	247.200	98.330%
x		105.099%	108.995%	103.283%	97.814%	96.686%	89.637%	97.213%	98.748%	95.889%
σ		n/a	n/a	n/a	5.681%	n/a	5.337%	n/a	n/a	5.119%
%RSD		4.895	6.662	5.149	5.808	6.100	5.954	5.461	4.599	5.339

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:47	259.000	250.700	264.600	87.481%	258.300	259.700	79.787%	0.000
2	15:54:09	239.900	232.600	257.100	95.300%	240.700	235.000	88.303%	0.000
3	15:54:30	238.100	241.900	245.800	101.252%	241.000	238.700	88.921%	0.000
x		98.280%	96.703%	102.333%	94.678%	98.675%	97.776%	85.670%	0.000
σ		n/a	n/a	n/a	6.906%	n/a	n/a	5.105%	0.000
%RSD		4.718	3.739	3.713	7.294	4.090	5.457	5.958	0.000

ccb, 5/31/2019 3:57:57 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:57:57	0.000	0.000	1.142	4.450	2.151	0.365	18.240	-1.250	106.643%
2	15:58:18	0.000	0.000	-2.837	2.800	1.558	0.652	-0.028	1.695	116.950%
3	15:58:41	0.000	0.000	2.820	3.004	1.510	0.624	-0.081	-0.444	112.520%
x		0.000	0.000	0.375	3.418	1.740	0.547	6.043	0.000	112.038%
σ		0.000	0.000	2.905	0.900	0.357	0.158	10.560	1.522	5.170%
%RSD		0.000	0.000	775.000	26.320	20.510	28.900	174.800	344600.000	4.615

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:57:57	-0.060	0.105	0.016	1.336	-0.020	0.017	-0.050	0.142	-0.263
2	15:58:18	0.018	0.013	0.001	1.374	-0.027	0.013	-0.060	0.088	-0.203
3	15:58:41	-0.060	0.034	-0.014	1.038	-0.021	0.016	-0.031	0.107	-0.268
x		-0.034	0.050	0.001	1.249	-0.023	0.016	-0.047	0.113	-0.245
σ		0.044	0.049	0.015	0.184	0.004	0.002	0.015	0.027	0.036
%RSD		131.400	96.310	1463.000	14.710	18.010	12.250	31.300	24.130	14.730

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:57:57	0.031	0.029	0.129	93.307%	0.078	90.188%	0.004	0.031	94.146%
2	15:58:18	0.038	0.027	0.092	103.450%	0.209	101.134%	0.001	0.036	101.883%
3	15:58:41	0.029	0.047	0.110	100.869%	0.206	99.412%	0.005	0.005	101.838%
x		0.033	0.034	0.110	99.208%	0.164	96.912%	0.003	0.024	99.289%
σ		0.005	0.011	0.018	5.271%	0.075	5.886%	0.002	0.016	4.454%
%RSD		14.790	33.170	16.780	5.313	45.440	6.073	65.110	69.170	4.486

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:57:57	-0.016	0.029	0.028	90.310%	0.230	0.011	87.607%	0.000
2	15:58:18	-0.005	0.018	0.047	99.082%	0.463	0.016	96.328%	0.000
3	15:58:41	0.013	0.072	0.031	100.136%	0.479	0.018	96.885%	0.000
x		-0.003	0.040	0.035	96.509%	0.391	0.015	93.607%	0.000
σ		0.014	0.028	0.010	5.394%	0.139	0.004	5.203%	0.000
%RSD		571.900	71.470	29.020	5.589	35.680	25.420	5.559	0.000

500-164188-a-1-a, 5/31/2019 4:02:06 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:06	0.000	0.372	3844.000	TM 200900.000	9915.000	331.800	13730.000	60110.000	111.445%
2	16:02:27	0.000	0.000	4018.000	TM 202500.000	10200.000	335.200	14000.000	62100.000	108.248%
3	16:02:49	0.000	0.000	3791.000	TM 200100.000	10190.000	320.800	13250.000	60860.000	108.750%
x		0.000	0.124	3884.000	TM 201100.000	10100.000	329.200	13660.000	61020.000	109.481%
σ		0.000	0.215	119.000	TM 1194.000	161.200	7.484	380.800	1001.000	1.719%
%RSD		0.000	173.200	3.063	TM 0.594	1.596	2.273	2.788	1.640	1.570

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:06	0.789	15.000	0.249	87.500	57.550	0.090	1.551	0.588	11.790
2	16:02:27	0.690	16.160	0.243	92.460	58.000	0.096	1.681	0.497	10.660
3	16:02:49	1.142	15.530	0.197	92.260	58.540	0.085	1.717	0.527	10.670
x		0.874	15.560	0.230	90.740	58.030	0.091	1.650	0.537	11.040
σ		0.238	0.581	0.028	2.809	0.493	0.005	0.088	0.046	0.650
%RSD		27.200	3.731	12.340	3.096	0.850	5.775	5.308	8.644	5.888

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:06	4.417	5.909	T 2456.000	87.836%	95.720	80.772%	0.011	0.001	89.012%
2	16:02:27	4.264	5.746	T 2292.000	94.351%	86.650	86.757%	0.003	-0.022	92.659%
3	16:02:49	4.372	5.403	T 2196.000	99.561%	82.890	88.972%	0.001	0.018	96.695%
x		4.351	5.686	T 2315.000	93.916%	88.420	85.500%	0.005	-0.001	92.789%
σ		0.079	0.258	T 131.800	5.875%	6.597	4.242%	0.005	0.020	3.843%
%RSD		1.811	4.543	T 5.693	6.255	7.461	4.961	107.900	2205.000	4.142

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:02:06	0.078	0.378	41.690	86.979%	0.044	0.118	78.140%	0.000
2	16:02:27	0.041	0.392	38.260	96.715%	0.135	0.105	85.169%	0.000
3	16:02:49	0.079	0.390	36.680	98.641%	0.202	0.090	87.840%	0.000
x		0.066	0.387	38.880	94.112%	0.127	0.104	83.717%	0.000
σ		0.022	0.008	2.563	6.252%	0.079	0.014	5.011%	0.000
%RSD		33.220	1.966	6.592	6.643	62.650	13.370	5.985	0.000

500-164188-a-2-a, 5/31/2019 4:07:55 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:07:55	0.000	0.432	4773.000	T 165200.000	T 47180.000	41.140	15490.000	124100.000	95.784%
2	16:08:16	0.000	0.000	4306.000	T 158000.000	T 43980.000	38.760	14630.000	124100.000	104.494%
3	16:08:37	0.000	0.398	4292.000	T 150600.000	T 45260.000	39.910	14970.000	119300.000	104.136%
x		0.000	0.277	4457.000	T 158000.000	T 45470.000	39.940	15030.000	122500.000	101.471%
σ		0.000	0.240	273.700	T 7288.000	T 1608.000	1.189	434.500	2800.000	4.929%
%RSD		0.000	86.830	6.142	T 4.614	T 3.536	2.978	2.891	2.286	4.857

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:07:55	1.163	1.993	0.362	279.400	120.600	0.149	1.879	1.004	3.782
2	16:08:16	1.105	1.852	0.355	260.900	112.800	0.126	1.675	1.010	3.718
3	16:08:37	1.455	1.946	0.385	249.800	110.300	0.128	1.722	0.922	3.758
x		1.241	1.930	0.367	263.400	114.600	0.134	1.759	0.978	3.753
σ		0.188	0.072	0.016	14.960	5.384	0.013	0.107	0.049	0.032
%RSD		15.110	3.717	4.222	5.678	4.699	9.447	6.095	5.035	0.859

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:07:55	3.065	39.800	T 4816.000	87.667%	34.960	78.051%	0.003	0.020	86.094%
2	16:08:16	2.990	37.850	T 4595.000	94.978%	32.940	84.036%	-0.002	0.018	92.502%
3	16:08:37	2.917	38.870	T 4370.000	97.677%	33.320	87.570%	0.003	0.081	96.276%
x		2.991	38.840	T 4594.000	93.441%	33.740	83.219%	0.001	0.040	91.624%
σ		0.074	0.978	T 222.900	5.179%	1.076	4.812%	0.003	0.036	5.147%
%RSD		2.482	2.517	T 4.853	5.543	3.190	5.782	220.600	89.910	5.618

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:07:55	0.083	0.684	102.800	86.989%	0.093	0.154	76.164%	0.000
2	16:08:16	0.076	0.642	95.560	94.676%	0.144	0.162	85.603%	0.000
3	16:08:37	0.047	0.671	97.420	96.595%	0.160	0.158	87.431%	0.000
x		0.069	0.666	98.580	92.754%	0.132	0.158	83.066%	0.000
σ		0.019	0.022	3.737	5.083%	0.035	0.004	6.047%	0.000
%RSD		27.620	3.237	3.791	5.480	26.190	2.401	7.280	0.000

500-164188-a-3-a, 5/31/2019 4:12:03 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:03	0.000	0.000	1530.000	TM 234300.000	5199.000	315.500	14020.000	50990.000	95.956%
2	16:12:24	0.000	0.000	1415.000	TM 212100.000	4611.000	285.500	12470.000	45730.000	108.678%
3	16:12:47	0.000	0.000	1546.000	TM 220300.000	4825.000	289.100	12440.000	45770.000	102.846%
x		0.000	0.000	1497.000	TM 222200.000	4878.000	296.700	12980.000	47500.000	102.493%
σ		0.000	0.000	71.430	TM 11250.000	297.600	16.350	904.000	3023.000	6.369%
%RSD		0.000	0.000	4.773	TM 5.061	6.100	5.511	6.966	6.364	6.214

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:03	2.194	6.264	0.346	139.500	9.080	0.240	2.930	0.391	10.760
2	16:12:24	1.806	5.611	0.293	123.900	7.794	0.234	2.587	0.400	9.656
3	16:12:47	2.262	5.583	0.357	123.900	8.071	0.223	2.846	0.337	9.430
x		2.088	5.820	0.332	129.100	8.315	0.233	2.787	0.376	9.950
σ		0.246	0.385	0.034	8.988	0.677	0.009	0.179	0.034	0.714
%RSD		11.790	6.621	10.270	6.961	8.139	3.726	6.417	9.057	7.174

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:03	4.204	1.612	T 1960.000	85.132%	71.380	80.013%	-0.000	0.090	85.425%
2	16:12:24	3.777	1.546	T 1689.000	101.259%	60.220	88.392%	-0.000	0.031	95.185%
3	16:12:47	3.861	1.349	T 1769.000	96.837%	64.250	88.307%	0.001	-0.003	94.263%
x		3.947	1.502	T 1806.000	94.409%	65.280	85.570%	0.000	0.039	91.624%
σ		0.226	0.137	T 139.100	8.333%	5.652	4.813%	0.001	0.047	5.388%
%RSD		5.735	9.130	T 7.700	8.827	8.657	5.625	508.800	120.600	5.881

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:03	0.025	0.638	34.190	85.564%	0.006	0.203	76.895%	0.000
2	16:12:24	0.035	0.707	30.810	95.886%	0.032	0.167	86.327%	0.000
3	16:12:47	0.080	0.643	30.630	97.361%	0.062	0.173	89.354%	0.000
x		0.047	0.662	31.880	92.937%	0.033	0.181	84.192%	0.000
σ		0.030	0.038	2.008	6.428%	0.028	0.019	6.498%	0.000
%RSD		63.230	5.791	6.299	6.916	83.680	10.730	7.718	0.000

500-164188-a-4-a, 5/31/2019 4:16:12 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:12	0.000	0.000	2960.000	T 169700.000	18460.000	46.180	9950.000	111100.000	95.469%
2	16:16:35	0.000	0.000	2659.000	T 153900.000	16750.000	40.100	9292.000	100100.000	108.320%
3	16:16:56	0.000	0.000	2630.000	T 162300.000	16640.000	41.330	9224.000	102700.000	106.514%
x		0.000	0.000	2750.000	T 162000.000	17280.000	42.540	9489.000	104700.000	103.434%
σ		0.000	0.000	182.700	T 7870.000	1019.000	3.212	400.700	5755.000	6.957%
%RSD		0.000	0.000	6.644	T 4.859	5.896	7.552	4.223	5.500	6.726

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:12	0.696	0.228	0.231	1520.000	163.700	0.159	2.754	0.513	5.476
2	16:16:35	0.772	0.117	0.205	1344.000	149.300	0.161	2.622	0.465	4.871
3	16:16:56	0.660	0.063	0.213	1366.000	152.100	0.136	2.365	0.460	4.714
x		0.709	0.136	0.216	1410.000	155.100	0.152	2.580	0.479	5.020
σ		0.058	0.084	0.014	96.090	7.622	0.014	0.198	0.029	0.402
%RSD		8.124	61.720	6.274	6.814	4.915	9.042	7.659	6.141	8.015

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:12	9.339	0.181	T 2471.000	88.701%	129.900	80.182%	0.001	-0.022	87.347%
2	16:16:35	9.146	0.096	T 2345.000	98.857%	118.400	86.753%	0.004	-0.038	95.963%
3	16:16:56	8.650	0.127	T 2338.000	100.690%	119.400	88.364%	0.004	-0.017	95.555%
x		9.045	0.135	T 2385.000	96.083%	122.600	85.100%	0.003	-0.025	92.955%
σ		0.355	0.043	T 74.580	6.458%	6.341	4.334%	0.002	0.011	4.861%
%RSD		3.929	31.570	T 3.127	6.721	5.174	5.093	49.180	43.990	5.229

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:16:12	0.046	0.058	78.010	86.846%	-0.004	0.120	77.332%	0.000
2	16:16:35	0.021	0.030	75.760	94.996%	0.032	0.117	87.395%	0.000
3	16:16:56	0.016	0.044	72.340	99.370%	0.049	0.131	89.620%	0.000
x		0.028	0.044	75.370	93.737%	0.026	0.123	84.782%	0.000
σ		0.016	0.014	2.858	6.356%	0.027	0.007	6.548%	0.000
%RSD		57.250	31.690	3.793	6.781	104.000	6.029	7.723	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:21	0.000	0.416	2311.000	T 115300.000	17450.000	159.300	7825.000	92310.000	99.594%
2	16:20:44	0.000	0.000	2171.000	T 115300.000	16390.000	156.200	7266.000	84190.000	107.102%
3	16:21:07	0.000	0.000	2215.000	T 113800.000	16570.000	155.600	7127.000	81900.000	104.078%
x		0.000	0.139	2232.000	T 114800.000	16810.000	157.000	7406.000	86130.000	103.591%
σ		0.000	0.240	71.720	T 893.200	568.000	2.032	369.600	5470.000	3.778%
%RSD		0.000	173.200	3.213	T 0.778	3.380	1.294	4.991	6.350	3.647

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:21	5.912	0.605	0.486	2046.000	180.500	0.311	1.909	2.933	6.222
2	16:20:44	5.704	0.515	0.417	1885.000	167.900	0.240	1.785	2.786	6.067
3	16:21:07	4.789	0.593	0.555	2002.000	168.200	0.278	1.685	2.851	5.946
x		5.468	0.571	0.486	1978.000	172.200	0.277	1.793	2.857	6.078
σ		0.597	0.049	0.069	83.160	7.163	0.035	0.112	0.073	0.138
%RSD		10.930	8.587	14.220	4.205	4.160	12.810	6.255	2.564	2.271

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:21	10.270	0.114	T 2149.000	91.636%	53.900	82.384%	0.005	-0.017	88.158%
2	16:20:44	9.989	0.149	T 1886.000	100.784%	50.900	87.906%	0.006	0.015	93.571%
3	16:21:07	9.673	0.113	T 2001.000	99.714%	50.700	88.552%	0.001	-0.001	98.094%
x		9.979	0.125	T 2012.000	97.378%	51.830	86.280%	0.004	-0.001	93.274%
σ		0.300	0.020	T 132.200	5.001%	1.795	3.390%	0.003	0.016	4.975%
%RSD		3.007	16.320	T 6.573	5.136	3.463	3.929	65.240	2162.000	5.334

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:20:21	0.217	0.057	83.830	89.184%	-0.017	0.375	79.782%	0.000
2	16:20:44	0.187	0.049	79.910	96.246%	0.019	0.359	87.611%	0.000
3	16:21:07	0.321	0.073	81.680	99.789%	0.030	0.369	90.185%	0.000
x		0.242	0.060	81.810	95.073%	0.011	0.368	85.860%	0.000
σ		0.070	0.013	1.963	5.399%	0.025	0.008	5.418%	0.000
%RSD		29.100	21.110	2.399	5.679	228.400	2.167	6.310	0.000

500-164188-a-6-a, 5/31/2019 4:24:32 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:24:32	0.000	0.420	1881.000	T 140800.000	41140.000	913.600	8604.000	147800.000	98.691%
2	16:24:55	0.000	0.370	1676.000	T 124300.000	37140.000	813.300	7765.000	133900.000	112.004%
3	16:25:17	0.000	0.399	1813.000	T 133100.000	38900.000	873.400	8469.000	143000.000	103.734%
x		0.000	0.396	1790.000	T 132700.000	39060.000	866.800	8279.000	141600.000	104.810%
σ		0.000	0.025	104.400	T 8295.000	2004.000	50.480	450.900	7059.000	6.721%
%RSD		0.000	6.329	5.832	T 6.249	5.129	5.824	5.446	4.986	6.413

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:24:32	39.300	6.193	1.114	712.800	T 4151.000	1.973	3.345	3.563	15.320
2	16:24:55	33.970	5.768	0.861	641.600	T 3689.000	1.775	3.062	3.214	14.800
3	16:25:17	38.510	6.341	0.974	707.300	T 4032.000	1.880	3.473	3.393	14.220
x		37.260	6.101	0.983	687.200	T 3957.000	1.876	3.293	3.390	14.780
σ		2.873	0.297	0.127	39.600	T 239.500	0.099	0.210	0.175	0.552
%RSD		7.710	4.872	12.890	5.763	T 6.051	5.282	6.385	5.162	3.735

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:24:32	1.794	12.190	T 3312.000	88.379%	41.710	79.329%	0.023	0.338	86.611%
2	16:24:55	1.703	11.450	T 2910.000	103.492%	36.390	86.892%	0.020	0.228	93.747%
3	16:25:17	1.796	11.370	T 3118.000	98.806%	38.730	88.734%	0.023	0.290	97.777%
x		1.764	11.670	T 3113.000	96.892%	38.940	84.985%	0.022	0.286	92.712%
σ		0.053	0.452	T 201.100	7.736%	2.666	4.984%	0.002	0.055	5.654%
%RSD		2.998	3.871	T 6.460	7.984	6.846	5.864	9.181	19.310	6.099

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:24:32	0.203	0.781	157.900	90.265%	0.157	1.406	78.255%	0.000
2	16:24:55	0.187	0.613	144.900	99.693%	0.163	1.378	84.797%	0.000
3	16:25:17	0.181	0.663	155.700	98.313%	0.152	1.429	88.057%	0.000
x		0.190	0.686	152.800	96.090%	0.157	1.404	83.703%	0.000
σ		0.011	0.086	6.928	5.092%	0.005	0.025	4.992%	0.000
%RSD		5.882	12.540	4.533	5.299	3.266	1.807	5.964	0.000

500-164188-a-7-a, 5/31/2019 4:28:42 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:42	0.000	0.000	2393.000	T 123200.000	17900.000	246.200	7554.000	87600.000	96.700%
2	16:29:05	0.000	0.000	2147.000	T 109700.000	16260.000	223.000	6864.000	77140.000	110.384%
3	16:29:27	0.000	0.000	2241.000	T 109700.000	15520.000	210.400	6863.000	80610.000	107.732%
x		0.000	0.000	2260.000	T 114200.000	16560.000	226.500	7094.000	81780.000	104.939%
σ		0.000	0.000	124.200	T 7811.000	1218.000	18.140	398.200	5329.000	7.257%
%RSD		0.000	0.000	5.496	T 6.838	7.360	8.008	5.614	6.516	6.915

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:42	10.940	0.816	0.470	2532.000	181.700	0.361	1.802	1.616	8.274
2	16:29:05	5.941	0.545	0.372	2294.000	167.900	0.336	1.760	1.460	7.387
3	16:29:27	7.468	0.583	0.408	2330.000	167.900	0.314	1.656	1.652	7.709
x		8.115	0.648	0.416	2385.000	172.500	0.337	1.740	1.576	7.790
σ		2.560	0.147	0.050	128.100	7.979	0.024	0.075	0.103	0.449
%RSD		31.550	22.660	11.970	5.372	4.625	7.046	4.314	6.505	5.766

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:42	12.170	0.186	T 2011.000	91.568%	56.550	80.885%	0.001	-0.019	87.871%
2	16:29:05	11.140	0.149	T 1913.000	101.284%	54.600	90.254%	0.001	-0.036	101.127%
3	16:29:27	11.480	0.193	T 1957.000	99.748%	53.440	89.267%	0.002	-0.003	98.862%
x		11.600	0.176	T 1960.000	97.533%	54.870	86.802%	0.002	-0.019	95.953%
σ		0.528	0.023	T 48.710	5.223%	1.571	5.148%	0.001	0.016	7.090%
%RSD		4.554	13.250	T 2.485	5.355	2.864	5.930	49.660	83.780	7.389

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:42	0.131	0.072	91.170	88.303%	-0.004	0.463	80.473%	0.000
2	16:29:05	0.151	0.047	88.430	95.627%	0.017	0.413	89.416%	0.000
3	16:29:27	0.187	0.059	86.880	99.586%	0.027	0.460	88.994%	0.000
x		0.157	0.059	88.830	94.506%	0.013	0.445	86.294%	0.000
σ		0.028	0.013	2.174	5.724%	0.016	0.028	5.046%	0.000
%RSD		18.100	21.260	2.447	6.057	117.900	6.254	5.847	0.000

ccv, 5/31/2019 4:32:52 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:52	0.000	265.400	344.600	T 26340.000	27230.000	28920.000	T 27660.000	26440.000	98.319%
2	16:33:14	0.000	235.200	277.300	T 22680.000	24160.000	24280.000	T 24480.000	23340.000	118.169%
3	16:33:36	0.000	253.200	274.600	T 26060.000	26870.000	27250.000	T 26460.000	25110.000	104.021%
x		0.000	100.495%	119.524%	T 100.105%	104.354%	107.265%	T 104.795%	99.846%	106.836%
σ		0.000	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	10.220%
%RSD		0.000	6.049	13.280	T 8.147	6.425	8.752	T 6.122	6.218	9.566
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:52	248.100	244.000	245.000	T 25840.000	262.800	246.500	253.300	264.400	269.400
2	16:33:14	228.100	219.900	221.900	22540.000	223.000	215.500	220.400	247.500	254.000
3	16:33:36	244.000	242.700	251.700	T 25360.000	256.500	245.100	244.200	246.100	250.300
x		96.018%	94.213%	95.802%	T 98.320%	98.981%	94.293%	95.713%	101.067%	103.157%
σ		n/a	n/a	n/a	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.406	5.751	6.532	T 7.253	8.639	7.433	7.080	4.036	3.921
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:52	267.900	279.500	268.900	91.721%	260.800	85.139%	50.250	251.700	91.804%
2	16:33:14	250.800	261.500	247.400	105.471%	226.600	94.184%	47.220	241.400	99.176%
3	16:33:36	246.700	255.800	247.200	104.231%	237.000	95.545%	46.230	228.900	103.216%
x		102.054%	106.254%	101.801%	100.474%	96.590%	91.623%	95.802%	96.267%	98.066%
σ		n/a	n/a	n/a	7.606%	n/a	5.656%	n/a	n/a	5.787%
%RSD		4.417	4.655	4.903	7.570	7.247	6.173	4.372	4.738	5.901
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	16:32:52	260.500	248.300	258.400	91.924%	250.900	251.800	84.523%	0.000	
2	16:33:14	239.100	238.200	243.800	101.185%	238.400	237.100	91.139%	0.000	
3	16:33:36	240.500	233.900	261.900	101.447%	231.400	232.000	95.873%	0.000	
x		98.672%	96.054%	101.876%	98.185%	96.108%	96.125%	90.512%	0.000	
σ		n/a	n/a	n/a	5.424%	n/a	n/a	5.701%	0.000	
%RSD		4.869	3.061	3.770	5.524	4.107	4.286	6.298	0.000	

ccb, 5/31/2019 4:37:02 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:02	0.000	0.000	4.319	8.380	2.950	2.574	28.360	-1.463	103.777%
2	16:37:25	0.000	0.000	7.215	5.302	1.711	1.331	-1.590	2.176	116.090%
3	16:37:46	0.000	0.381	9.851	6.137	1.734	1.286	3.592	1.713	108.693%
x		0.000	0.127	7.128	6.606	2.132	1.730	10.120	0.808	109.520%
σ		0.000	0.220	2.767	1.592	0.709	0.731	16.000	1.981	6.198%
%RSD		0.000	173.200	38.820	24.090	33.250	42.240	158.200	245.000	5.659
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:02	0.071	0.097	-0.001	1.952	-0.017	0.009	-0.031	0.128	-0.226
2	16:37:25	-0.021	0.039	-0.033	1.497	-0.037	0.016	-0.056	0.080	-0.276
3	16:37:46	-0.018	0.077	0.018	1.223	-0.006	0.018	-0.037	0.113	-0.272
x		0.011	0.071	-0.005	1.557	-0.020	0.014	-0.041	0.107	-0.258
σ		0.052	0.030	0.026	0.368	0.016	0.005	0.013	0.024	0.028
%RSD		489.300	41.930	491.100	23.630	77.660	34.720	32.070	22.730	10.900
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:02	0.003	0.030	0.146	96.871%	0.104	93.822%	0.001	0.014	94.315%
2	16:37:25	0.030	0.010	0.126	101.590%	0.122	100.361%	-0.001	0.020	104.473%
3	16:37:46	0.064	0.086	0.117	102.201%	0.274	101.592%	0.001	0.012	104.881%
x		0.033	0.042	0.130	100.221%	0.167	98.592%	0.000	0.015	101.223%
σ		0.031	0.039	0.015	2.917%	0.094	4.177%	0.001	0.004	5.986%
%RSD		94.190	94.360	11.400	2.911	56.120	4.236	188.100	26.140	5.914
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	16:37:02	-0.011	0.026	0.011	90.829%	0.247	0.014	92.850%	0.000	
2	16:37:25	0.032	-0.003	0.046	100.341%	0.540	0.017	97.172%	0.000	
3	16:37:46	0.041	0.012	0.029	102.665%	0.524	0.017	98.242%	0.000	
x		0.021	0.011	0.029	97.945%	0.437	0.016	96.088%	0.000	
σ		0.027	0.014	0.018	6.271%	0.165	0.002	2.855%	0.000	
%RSD		132.100	126.100	61.630	6.403	37.790	10.990	2.971	0.000	

ccvl, 5/31/2019 4:41:13 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:13	0.000	2.005	67.010	226.900	232.500	113.200	572.100	207.500	103.276%
2	16:41:35	0.000	0.360	51.510	213.900	206.100	110.600	507.300	174.300	115.172%
3	16:41:58	0.000	1.087	60.300	199.000	200.200	100.600	468.300	193.700	114.254%
x		0.000	115.060%	119.215%	106.638%	106.465%	108.118%	103.183%	95.930%	110.901%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.619%
%RSD		0.000	71.660	13.040	6.543	8.094	6.146	10.160	8.693	5.969

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:13	5.568	5.194	5.213	104.800	2.632	0.985	2.055	2.161	21.550
2	16:41:35	4.752	4.588	4.767	91.840	2.421	0.995	1.839	1.925	19.240
3	16:41:58	3.766	4.352	4.740	92.560	2.232	0.971	1.895	1.911	19.080
x		93.906%	94.223%	98.132%	96.391%	97.135%	98.362%	96.487%	99.951%	99.794%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		19.230	9.222	5.408	7.540	8.252	1.245	5.819	7.015	6.907

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:13	1.078	2.739	4.531	93.629%	4.260	91.566%	0.462	0.496	96.407%
2	16:41:35	0.982	2.306	4.266	100.962%	3.695	101.283%	0.513	0.494	106.379%
3	16:41:58	0.980	2.579	3.892	105.573%	3.574	100.680%	0.485	0.546	103.423%
x		101.327%	101.653%	105.751%	100.055%	96.069%	97.843%	97.346%	102.369%	102.070%
σ		n/a	n/a	n/a	6.023%	n/a	5.444%	n/a	n/a	5.122%
%RSD		5.542	8.631	7.587	6.020	9.529	5.564	5.276	5.721	5.018

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:13	4.929	2.853	2.618	92.507%	1.891	0.463	91.110%	0.000
2	16:41:35	4.793	2.657	2.658	100.056%	1.988	0.467	95.759%	0.000
3	16:41:58	4.576	2.769	2.395	100.400%	1.841	0.464	98.435%	0.000
x		95.318%	91.991%	102.265%	97.654%	95.329%	92.973%	95.101%	0.000
σ		n/a	n/a	n/a	4.461%	n/a	n/a	3.706%	0.000
%RSD		3.735	3.565	5.548	4.568	3.937	0.478	3.897	0.000

500-164208-b-1-a, 5/31/2019 4:45:25 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:25	0.000	0.000	13.820	982.200	962.700	172.100	896.800	1796.000	108.263%
2	16:45:46	0.000	0.357	20.930	989.400	911.000	169.700	868.200	1782.000	116.047%
3	16:46:09	0.000	0.376	11.600	994.100	918.100	168.800	872.400	1826.000	110.212%
x		0.000	0.244	15.450	988.600	930.600	170.200	879.100	1802.000	111.507%
σ		0.000	0.212	4.874	5.977	28.020	1.719	15.440	22.220	4.050%
%RSD		0.000	86.690	31.540	0.605	3.011	1.010	1.756	1.233	3.632

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:25	1.855	0.305	0.766	94.610	23.370	5.745	3.549	12.280	18.950
2	16:45:46	1.765	0.319	0.622	89.970	21.530	5.422	3.364	11.450	17.870
3	16:46:09	1.698	0.276	0.712	91.300	21.920	5.598	3.519	11.440	18.620
x		1.773	0.300	0.700	91.960	22.270	5.588	3.478	11.720	18.480
σ		0.079	0.022	0.073	2.389	0.971	0.162	0.100	0.485	0.557
%RSD		4.429	7.303	10.370	2.598	4.360	2.894	2.865	4.136	3.012

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:25	0.343	0.549	13.450	110.185%	0.002	91.587%	0.001	0.039	94.903%
2	16:45:46	0.301	0.331	12.370	120.708%	0.040	99.984%	0.011	0.021	100.834%
3	16:46:09	0.290	0.273	12.020	124.578%	0.033	99.433%	-0.002	0.042	104.297%
x		0.311	0.384	12.610	118.490%	0.025	97.001%	0.003	0.034	100.011%
σ		0.028	0.146	0.743	7.448%	0.020	4.697%	0.007	0.012	4.751%
%RSD		8.938	37.930	5.890	6.286	79.010	4.842	198.900	34.190	4.750

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:45:25	0.042	0.036	16.510	91.884%	0.027	0.069	91.528%	0.000
2	16:45:46	0.033	0.055	14.800	102.440%	0.104	0.083	99.328%	0.000
3	16:46:09	0.057	0.034	16.070	102.331%	0.104	0.076	99.173%	0.000
x		0.044	0.042	15.790	98.885%	0.078	0.076	96.676%	0.000
σ		0.012	0.011	0.889	6.063%	0.045	0.007	4.459%	0.000
%RSD		27.760	27.080	5.627	6.132	57.180	9.091	4.613	0.000

500-164208-b-2-a, 5/31/2019 4:49:34 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:34	0.000	0.000	25.590	2546.000	1257.000	969.500	2163.000	2871.000	100.754%
2	16:49:57	0.000	0.357	19.120	2380.000	1132.000	850.800	1904.000	2598.000	115.932%
3	16:50:19	0.000	0.000	24.490	2320.000	1110.000	838.400	1853.000	2494.000	116.477%
x		0.000	0.119	23.070	2416.000	1167.000	886.200	1973.000	2655.000	111.054%
σ		0.000	0.206	3.459	116.800	79.410	72.400	166.600	194.800	8.924%
%RSD		0.000	173.200	15.000	4.835	6.807	8.169	8.443	7.338	8.036

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:34	19.620	1.991	2.348	1950.000	95.910	19.910	3.784	7.693	11.690
2	16:49:57	15.640	1.578	2.121	1777.000	89.800	17.790	3.331	7.199	11.100
3	16:50:19	15.530	1.718	2.039	1714.000	85.400	17.670	3.423	6.984	10.800
x		16.930	1.762	2.169	1814.000	90.370	18.460	3.513	7.292	11.200
σ		2.328	0.210	0.160	122.500	5.280	1.259	0.239	0.364	0.450
%RSD		13.750	11.920	7.360	6.752	5.842	6.823	6.811	4.989	4.018

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:34	0.637	0.547	16.740	112.513%	0.063	90.974%	0.003	0.022	97.397%
2	16:49:57	0.614	0.302	16.260	120.223%	0.138	98.167%	0.005	0.020	104.304%
3	16:50:19	0.619	0.440	16.060	122.545%	0.115	102.255%	0.004	0.005	104.686%
x		0.623	0.430	16.350	118.427%	0.105	97.132%	0.004	0.015	102.129%
σ		0.012	0.123	0.350	5.252%	0.038	5.711%	0.001	0.009	4.103%
%RSD		1.940	28.570	2.138	4.434	36.630	5.880	33.490	59.550	4.017

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:49:34	0.087	0.056	22.720	92.163%	0.014	0.167	88.736%	0.000
2	16:49:57	0.045	0.039	21.900	102.008%	0.076	0.167	97.119%	0.000
3	16:50:19	0.037	0.093	21.680	104.030%	0.096	0.145	98.201%	0.000
x		0.056	0.063	22.100	99.400%	0.062	0.160	94.686%	0.000
σ		0.027	0.028	0.550	6.348%	0.043	0.013	5.180%	0.000
%RSD		48.030	44.220	2.490	6.387	68.920	7.884	5.471	0.000

500-164208-b-3-a, 5/31/2019 4:53:45 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:45	0.000	0.398	10.410	1562.000	1207.000	30.220	2045.000	2505.000	104.078%
2	16:54:07	0.000	0.000	13.050	1483.000	1198.000	28.360	1909.000	2405.000	106.815%
3	16:54:29	0.000	0.000	13.380	1373.000	1094.000	26.440	1804.000	2260.000	117.767%
x		0.000	0.133	12.280	1473.000	1166.000	28.340	1919.000	2390.000	109.554%
σ		0.000	0.230	1.626	94.860	62.810	1.890	120.700	123.000	7.244%
%RSD		0.000	173.200	13.240	6.442	5.385	6.670	6.288	5.144	6.612
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:45	0.763	0.260	0.625	14.740	3.859	0.449	1.785	2.715	9.728
2	16:54:07	0.278	0.168	0.605	16.150	3.743	0.434	1.793	2.571	8.771
3	16:54:29	0.400	0.157	0.503	15.100	3.288	0.380	1.523	2.539	8.805
x		0.480	0.195	0.578	15.330	3.630	0.421	1.700	2.608	9.102
σ		0.252	0.057	0.065	0.732	0.302	0.036	0.153	0.094	0.543
%RSD		52.560	29.090	11.330	4.774	8.310	8.658	9.014	3.593	5.961
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:45	0.060	0.199	7.949	91.339%	0.022	89.560%	0.001	0.031	92.220%
2	16:54:07	0.037	0.048	7.059	102.465%	0.006	98.785%	-0.001	0.035	104.197%
3	16:54:29	0.031	0.141	6.910	102.057%	0.068	100.817%	0.004	0.035	103.569%
x		0.043	0.129	7.306	98.620%	0.032	96.387%	0.001	0.034	99.996%
σ		0.015	0.076	0.562	6.309%	0.033	5.999%	0.002	0.002	6.741%
%RSD		35.220	58.730	7.688	6.397	102.600	6.224	146.100	6.320	6.742
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	16:53:45	0.067	0.055	18.600	93.685%	0.005	0.042	92.474%	0.000	
2	16:54:07	0.024	0.034	17.150	101.570%	0.045	0.037	100.087%	0.000	
3	16:54:29	0.042	0.037	17.180	104.123%	0.083	0.043	97.959%	0.000	
x		0.044	0.042	17.640	99.792%	0.044	0.041	96.840%	0.000	
σ		0.022	0.011	0.828	5.442%	0.039	0.003	3.928%	0.000	
%RSD		49.400	27.130	4.691	5.453	87.920	7.824	4.056	0.000	

500-164208-f-4-a, 5/31/2019 4:57:54 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:54	0.000	0.000	13.590	1902.000	1233.000	52.180	2222.000	2536.000	109.782%
2	16:58:16	0.000	0.359	16.490	1938.000	1298.000	51.170	2228.000	2410.000	115.287%
3	16:58:38	0.000	0.000	18.220	2030.000	1298.000	49.850	2318.000	2568.000	105.812%
x		0.000	0.120	16.100	1957.000	1277.000	51.070	2256.000	2505.000	110.294%
σ		0.000	0.207	2.338	66.250	37.550	1.165	53.580	83.340	4.758%
%RSD		0.000	173.200	14.520	3.386	2.941	2.282	2.375	3.327	4.314

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:54	0.351	0.117	0.415	21.140	67.680	9.529	4.161	4.133	11.380
2	16:58:16	0.097	0.124	0.470	22.010	67.360	9.094	4.079	3.924	10.350
3	16:58:38	0.579	0.153	0.482	22.970	70.930	9.879	4.310	3.742	10.210
x		0.342	0.132	0.455	22.040	68.660	9.501	4.183	3.933	10.650
σ		0.241	0.019	0.036	0.914	1.976	0.393	0.117	0.196	0.636
%RSD		70.500	14.590	7.846	4.146	2.878	4.140	2.793	4.974	5.976

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:54	0.165	0.121	15.980	98.347%	0.212	90.660%	-0.000	0.023	92.421%
2	16:58:16	0.131	0.128	14.960	104.970%	0.205	98.689%	-0.002	0.043	102.798%
3	16:58:38	0.146	0.129	15.240	105.250%	0.270	98.472%	0.002	0.034	107.491%
x		0.148	0.126	15.390	102.856%	0.229	95.941%	-0.000	0.033	100.903%
σ		0.017	0.004	0.528	3.907%	0.036	4.574%	0.002	0.010	7.712%
%RSD		11.500	3.152	3.429	3.798	15.540	4.768	3405.000	30.650	7.643

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:54	0.043	0.033	28.780	93.423%	0.002	0.042	89.608%	0.000
2	16:58:16	0.037	0.038	27.960	99.626%	0.041	0.028	94.276%	0.000
3	16:58:38	0.075	0.025	29.930	101.690%	0.035	0.032	100.895%	0.000
x		0.052	0.032	28.890	98.246%	0.026	0.034	94.926%	0.000
σ		0.020	0.007	0.986	4.302%	0.021	0.007	5.671%	0.000
%RSD		39.030	20.850	3.412	4.379	79.610	21.710	5.974	0.000

ccv, 5/31/2019 5:02:03 PM QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:03	0.000	243.000	282.000	┬24270.000	24400.000	25330.000	┬25190.000	23650.000	108.750%
2	17:02:24	0.000	249.400	281.900	┬24000.000	24770.000	25010.000	┬24880.000	24050.000	111.760%
3	17:02:47	0.000	248.200	254.900	┬24310.000	24870.000	24350.000	┬24690.000	23460.000	111.115%
x		0.000	98.739%	109.186%	┬96.769%	98.727%	99.577%	┬99.669%	94.884%	110.542%
σ		0.000	n/a	n/a	┬n/a	n/a	n/a	┬n/a	n/a	1.585%
%RSD		0.000	1.387	5.717	┬0.694	1.000	2.001	┬1.024	1.279	1.434

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:03	220.300	232.000	229.300	23660.000	236.000	221.200	225.500	265.900	272.300
2	17:02:24	232.700	221.500	224.000	23620.000	236.700	225.500	229.400	240.300	250.000
3	17:02:47	220.300	224.600	222.700	23480.000	229.500	228.000	233.000	239.300	248.600
x		89.767%	90.405%	90.137%	94.348%	93.628%	89.962%	91.724%	99.406%	102.774%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.186	2.386	1.558	0.396	1.699	1.511	1.625	6.079	5.169

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:03	268.900	276.500	247.900	98.101%	235.300	84.343%	49.390	257.200	91.595%
2	17:02:24	248.000	257.700	244.700	102.397%	235.500	94.217%	47.370	240.200	98.561%
3	17:02:47	247.300	261.500	244.000	103.823%	232.500	94.263%	45.520	236.900	101.627%
x		101.889%	106.095%	98.205%	101.440%	93.768%	90.941%	94.856%	97.907%	97.261%
σ		n/a	n/a	n/a	2.978%	n/a	5.714%	n/a	n/a	5.141%
%RSD		4.819	3.741	0.851	2.936	0.716	6.283	4.075	4.466	5.286

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:03	253.700	251.500	258.900	91.178%	253.900	248.900	84.339%	0.000
2	17:02:24	232.800	238.400	246.600	99.370%	239.600	238.700	90.472%	0.000
3	17:02:47	241.200	235.700	247.600	100.966%	233.700	235.800	93.776%	0.000
x		97.037%	96.752%	100.404%	97.171%	96.960%	96.455%	89.529%	0.000
σ		n/a	n/a	n/a	5.251%	n/a	n/a	4.788%	0.000
%RSD		4.332	3.485	2.717	5.404	4.290	2.856	5.348	0.000

ccb, 5/31/2019 5:06:13 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:13	0.000	0.000	-0.843	4.983	2.047	1.747	11.340	0.069	106.371%
2	17:06:36	0.000	0.000	0.942	3.876	2.180	1.871	1.268	-0.414	112.276%
3	17:06:59	0.000	0.000	-0.046	4.061	2.032	1.571	-4.534	-0.279	114.011%
x		0.000	0.000	0.018	4.307	2.086	1.730	2.690	-0.208	110.886%
σ		0.000	0.000	0.894	0.593	0.081	0.151	8.030	0.249	4.005%
%RSD		0.000	0.000	4943.000	13.780	3.897	8.722	298.500	120.000	3.612

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:13	-0.017	0.177	0.007	2.468	-0.013	0.016	-0.066	0.156	-0.226
2	17:06:36	-0.019	0.026	0.007	1.911	-0.051	0.008	-0.046	0.127	-0.200
3	17:06:59	-0.020	0.017	0.017	0.658	-0.024	0.020	-0.057	0.085	-0.240
x		-0.019	0.073	0.010	1.679	-0.029	0.014	-0.056	0.123	-0.222
σ		0.001	0.090	0.006	0.927	0.019	0.006	0.010	0.035	0.020
%RSD		7.919	122.600	57.420	55.220	65.870	42.190	18.130	28.970	9.115

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:13	0.034	0.119	0.158	97.482%	0.093	91.784%	0.010	0.022	95.022%
2	17:06:36	0.019	-0.027	0.102	103.670%	0.161	101.386%	0.006	0.005	105.584%
3	17:06:59	0.026	0.056	0.114	101.344%	0.253	101.340%	0.008	0.005	102.695%
x		0.026	0.049	0.125	100.832%	0.169	98.170%	0.008	0.011	101.101%
σ		0.008	0.073	0.029	3.126%	0.080	5.530%	0.002	0.010	5.459%
%RSD		28.860	148.900	23.620	3.100	47.360	5.633	24.380	94.070	5.399

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:13	0.027	0.023	0.044	92.006%	0.252	0.024	87.272%	0.000
2	17:06:36	0.024	0.011	0.070	99.621%	0.532	0.020	96.394%	0.000
3	17:06:59	0.120	0.028	0.014	103.589%	0.512	0.022	100.866%	0.000
x		0.057	0.021	0.043	98.405%	0.432	0.022	94.844%	0.000
σ		0.054	0.008	0.028	5.886%	0.156	0.002	6.928%	0.000
%RSD		95.060	41.320	65.710	5.982	36.170	10.020	7.305	0.000

ccvl, 5/31/2019 5:10:27 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:27	0.000	0.394	50.590	208.500	216.200	114.700	536.000	179.200	105.239%
2	17:10:48	0.000	0.811	60.540	229.400	227.400	120.100	588.400	199.200	102.101%
3	17:11:11	0.000	0.701	51.040	194.800	198.600	98.520	488.300	184.400	118.140%
x		0.000	63.524%	108.116%	105.450%	107.030%	111.131%	107.516%	93.804%	108.493%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.500%
%RSD		0.000	34.080	10.400	8.258	6.801	10.130	9.314	5.535	7.835

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:27	4.307	4.803	5.248	96.390	2.486	1.009	1.851	2.089	21.440
2	17:10:48	5.192	5.251	5.366	107.600	2.652	1.020	2.075	1.943	19.380
3	17:11:11	4.669	4.071	4.551	90.140	2.267	0.908	1.927	2.006	19.010
x		94.456%	94.168%	101.099%	98.058%	98.731%	97.886%	97.562%	100.632%	99.712%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		9.414	12.650	8.712	9.043	7.839	6.300	5.840	3.625	6.579

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:27	1.037	2.534	4.192	99.510%	4.021	92.047%	0.537	0.497	94.617%
2	17:10:48	1.054	2.553	4.185	101.675%	3.881	100.054%	0.492	0.427	106.475%
3	17:11:11	0.950	2.356	4.088	102.040%	3.742	102.395%	0.521	0.465	106.140%
x		101.372%	99.246%	103.870%	101.075%	97.031%	98.165%	103.335%	92.650%	102.411%
σ		n/a	n/a	n/a	1.367%	n/a	5.426%	n/a	n/a	6.751%
%RSD		5.505	4.370	1.393	1.353	3.589	5.528	4.410	7.597	6.592

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:10:27	5.074	2.946	2.509	94.028%	2.054	0.483	89.751%	0.000
2	17:10:48	4.796	2.613	2.545	97.814%	1.851	0.434	100.136%	0.000
3	17:11:11	4.537	2.661	2.760	102.787%	1.960	0.465	99.771%	0.000
x		96.044%	91.334%	104.187%	98.210%	97.751%	92.129%	96.553%	0.000
σ		n/a	n/a	n/a	4.393%	n/a	n/a	5.893%	0.000
%RSD		5.585	6.571	5.199	4.473	5.211	5.448	6.103	0.000

lb 500-487691/1-b, 5/31/2019 5:14:36 PM QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:36	0.000	0.388	26.020	421.900	31.520	29.200	566.200	141.400	106.615%
2	17:14:59	0.000	0.351	16.050	366.800	31.500	28.750	487.100	134.600	117.982%
3	17:15:20	0.000	0.360	33.090	390.300	29.770	24.350	503.700	125.000	115.172%
x		0.000	0.366	25.050	393.000	30.930	27.430	519.000	133.700	113.256%
σ		0.000	0.020	8.562	27.640	1.007	2.678	41.710	8.249	5.921%
%RSD		0.000	5.353	34.180	7.034	3.255	9.760	8.036	6.170	5.228

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:36	0.025	1.835	0.840	14.390	0.404	0.050	0.413	2.729	9.924
2	17:14:59	0.093	1.527	0.794	13.750	0.379	0.043	0.356	2.670	9.234
3	17:15:20	0.097	1.604	0.809	13.630	0.394	0.050	0.393	2.615	9.660
x		0.072	1.655	0.814	13.930	0.392	0.048	0.388	2.671	9.606
σ		0.041	0.160	0.023	0.408	0.013	0.004	0.029	0.057	0.349
%RSD		56.490	9.681	2.864	2.930	3.274	8.770	7.482	2.128	3.629

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:36	0.088	0.018	0.367	103.050%	0.077	98.645%	0.001	-0.003	101.874%
2	17:14:59	0.111	0.060	0.354	105.768%	0.143	106.630%	0.005	0.012	106.735%
3	17:15:20	0.069	0.000	0.321	103.687%	0.138	103.707%	0.005	-0.003	105.696%
x		0.089	0.026	0.347	104.169%	0.119	102.994%	0.004	0.002	104.768%
σ		0.021	0.031	0.024	1.421%	0.037	4.040%	0.002	0.008	2.560%
%RSD		23.630	118.600	6.814	1.364	30.970	3.922	64.400	368.000	2.444

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:36	0.390	0.079	1.505	99.148%	0.043	0.259	95.173%	0.000
2	17:14:59	0.411	0.103	1.259	106.117%	0.185	0.245	102.306%	0.000
3	17:15:20	0.316	0.119	1.297	108.303%	0.203	0.263	105.371%	0.000
x		0.372	0.100	1.354	104.523%	0.144	0.256	100.950%	0.000
σ		0.050	0.020	0.132	4.781%	0.088	0.009	5.232%	0.000
%RSD		13.510	19.880	9.781	4.574	61.140	3.661	5.183	0.000

lcs 500-487948/2-a, 5/31/2019 5:18:45 PM QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:45	0.000	57.150	1206.000	10470.000	10420.000	2031.000	10430.000	9363.000	107.245%
2	17:19:07	0.000	52.460	1199.000	10280.000	10290.000	1988.000	10230.000	9483.000	111.301%
3	17:19:28	0.000	55.210	1255.000	10460.000	10690.000	2089.000	10980.000	9716.000	103.505%
x		0.000	109.881%	121.999%	104.049%	104.653%	101.798%	105.471%	95.207%	107.351%
σ		0.000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.899%
%RSD		0.000	4.287	2.488	1.040	1.953	2.502	3.689	1.886	3.632
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:45	920.600	462.700	183.600	957.900	473.000	473.600	483.400	242.400	475.200
2	17:19:07	946.700	462.300	183.300	940.800	479.100	472.800	469.600	239.400	469.200
3	17:19:28	1000.000	493.900	195.400	1021.000	519.300	491.600	491.700	231.800	459.500
x		95.581%	94.591%	93.702%	97.340%	98.099%	95.868%	96.318%	95.156%	93.595%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.236	3.834	3.695	4.361	5.129	2.217	2.314	2.296	1.702
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:18:45	94.170	97.970	1022.000	99.408%	915.900	93.750%	50.390	51.230	96.844%
2	17:19:07	91.450	94.730	998.900	104.587%	928.800	98.693%	47.980	46.050	104.371%
3	17:19:28	91.770	91.950	981.600	105.963%	940.900	99.243%	48.430	45.900	104.350%
x		92.462%	94.880%	100.073%	103.320%	92.851%	97.229%	97.869%	95.454%	101.855%
σ		n/a	n/a	n/a	3.456%	n/a	3.025%	n/a	n/a	4.340%
%RSD		1.612	3.176	2.013	3.345	1.346	3.112	2.625	6.366	4.261
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	17:18:45	953.200	469.900	490.200	100.787%	99.970	100.400	90.439%	0.000	
2	17:19:07	946.500	445.400	464.200	107.655%	91.340	94.610	99.660%	0.000	
3	17:19:28	945.900	445.900	462.900	110.685%	91.160	94.260	102.256%	0.000	
x		94.856%	90.746%	94.490%	106.376%	94.156%	96.409%	97.452%	0.000	
σ		n/a	n/a	n/a	5.071%	n/a	n/a	6.211%	0.000	
%RSD		0.428	3.081	3.260	4.767	5.346	3.548	6.373	0.000	

500-163607-e-1-f, 5/31/2019 5:22:52 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:52	0.000	1.819	186.300	4356.000	14730.000	27580.000	13170.000	21410.000	113.853%
2	17:23:15	0.000	1.020	176.500	4082.000	14470.000	25720.000	13000.000	20980.000	121.825%
3	17:23:36	0.000	2.850	190.600	4275.000	15000.000	26990.000	13440.000	21480.000	116.247%
x		0.000	1.896	184.500	4238.000	14740.000	26760.000	13200.000	21290.000	117.309%
σ		0.000	0.918	7.215	140.500	264.600	949.900	221.300	269.700	4.091%
%RSD		0.000	48.390	3.911	3.315	1.796	3.550	1.676	1.267	3.487

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:52	343.500	45.540	35.030	18950.000	194.200	10.680	27.970	20.290	87.320
2	17:23:15	336.000	42.750	33.130	18780.000	187.900	10.510	28.480	19.340	84.500
3	17:23:36	332.800	43.950	34.620	18590.000	193.000	10.830	29.450	19.280	82.550
x		337.400	44.080	34.260	18770.000	191.700	10.670	28.630	19.640	84.790
σ		5.489	1.400	1.001	181.900	3.375	0.160	0.752	0.569	2.396
%RSD		1.627	3.176	2.923	0.969	1.761	1.500	2.626	2.896	2.826

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:52	5.654	1.409	306.900	129.411%	9.459	91.579%	0.070	0.066	97.432%
2	17:23:15	5.502	1.457	292.200	138.180%	9.621	98.504%	0.054	0.031	103.779%
3	17:23:36	5.447	1.262	305.400	133.897%	9.941	98.404%	0.055	0.083	105.011%
x		5.534	1.376	301.500	133.829%	9.673	96.162%	0.060	0.060	102.074%
σ		0.107	0.102	8.067	4.385%	0.245	3.969%	0.009	0.026	4.067%
%RSD		1.932	7.405	2.675	3.276	2.536	4.128	14.780	43.840	3.984

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:22:52	1.366	1.111	146.100	101.858%	0.397	7.651	95.193%	0.000
2	17:23:15	1.526	1.120	138.400	107.650%	0.576	7.502	100.948%	0.000
3	17:23:36	1.477	1.178	138.900	111.970%	0.631	7.621	104.554%	0.000
x		1.457	1.137	141.100	107.159%	0.534	7.591	100.232%	0.000
σ		0.082	0.036	4.316	5.074%	0.122	0.079	4.721%	0.000
%RSD		5.631	3.191	3.058	4.735	22.910	1.039	4.710	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:27:00	0.000	4.633	216.300	3415.000	32620.000	62540.000	T 27600.000	44370.000	116.190%
2	17:27:23	0.000	1.330	202.400	3323.000	31530.000	61820.000	T 25010.000	42540.000	124.551%
3	17:27:44	0.000	3.731	212.600	3241.000	30490.000	58710.000	T 25660.000	43810.000	122.098%
x		0.000	3.231	210.500	3326.000	31550.000	61020.000	T 26090.000	43580.000	120.946%
σ		0.000	1.707	7.183	86.940	1064.000	2033.000	T 1350.000	936.000	4.298%
%RSD		0.000	52.840	3.413	2.614	3.373	3.331	T 5.174	2.148	3.553

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:27:00	710.900	94.910	77.610	T 44940.000	509.100	26.140	66.440	48.000	104.000
2	17:27:23	694.300	92.520	75.730	T 43710.000	491.800	24.970	63.530	48.440	104.300
3	17:27:44	678.200	93.340	74.220	T 43660.000	498.600	25.000	65.690	47.530	103.500
x		694.500	93.590	75.850	T 44100.000	499.800	25.370	65.220	47.990	103.900
σ		16.350	1.217	1.699	T 725.600	8.678	0.669	1.515	0.455	0.389
%RSD		2.354	1.300	2.240	T 1.645	1.736	2.636	2.323	0.948	0.374

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:27:00	8.791	2.292	282.700	183.014%	7.690	91.718%	0.114	0.150	94.282%
2	17:27:23	8.864	2.360	279.300	189.583%	7.432	95.583%	0.111	0.134	99.905%
3	17:27:44	8.765	2.266	267.800	193.365%	7.363	96.339%	0.092	0.129	102.877%
x		8.807	2.306	276.600	188.654%	7.495	94.546%	0.106	0.138	99.021%
σ		0.052	0.049	7.831	5.237%	0.172	2.479%	0.012	0.011	4.365%
%RSD		0.587	2.119	2.831	2.776	2.299	2.622	11.440	7.875	4.408

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:27:00	2.617	0.922	286.200	105.409%	0.632	20.360	93.444%	0.000
2	17:27:23	2.295	0.889	283.200	108.854%	0.692	19.610	101.690%	0.000
3	17:27:44	2.613	1.002	283.400	111.927%	0.698	20.300	100.046%	0.000
x		2.509	0.938	284.300	108.730%	0.674	20.090	98.393%	0.000
σ		0.185	0.058	1.666	3.261%	0.036	0.417	4.364%	0.000
%RSD		7.364	6.235	0.586	2.999	5.399	2.076	4.436	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:08	0.000	0.000	40.000	2225.000	16850.000	62.950	2077.000	117800.000	108.965%
2	17:31:31	0.000	0.000	29.150	2054.000	15950.000	64.780	2043.000	114800.000	112.763%
3	17:31:52	0.000	0.000	29.710	2201.000	16430.000	61.730	2199.000	121000.000	110.828%
x		0.000	0.000	32.950	2160.000	16410.000	63.150	2106.000	117900.000	110.852%
σ		0.000	0.000	6.110	92.660	449.300	1.537	81.670	3121.000	1.899%
%RSD		0.000	0.000	18.540	4.290	2.738	2.433	3.877	2.647	1.713

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:08	0.313	1.651	0.729	27.630	6.620	0.070	0.427	0.501	13.670
2	17:31:31	0.740	1.530	0.726	24.010	6.234	0.069	0.430	0.537	13.040
3	17:31:52	0.306	1.560	0.709	24.830	6.450	0.073	0.399	0.624	13.300
x		0.453	1.580	0.721	25.490	6.435	0.070	0.419	0.554	13.340
σ		0.248	0.063	0.011	1.896	0.194	0.002	0.017	0.063	0.317
%RSD		54.840	3.982	1.524	7.436	3.009	2.823	4.003	11.420	2.377

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:08	0.399	0.147	428.800	99.544%	13.900	93.720%	0.001	0.009	97.159%
2	17:31:31	0.405	0.092	417.200	105.386%	12.960	98.437%	0.004	0.001	99.920%
3	17:31:52	0.487	0.162	424.100	104.375%	13.700	97.303%	-0.001	0.000	102.370%
x		0.430	0.134	423.400	103.102%	13.520	96.487%	0.001	0.003	99.817%
σ		0.049	0.037	5.871	3.122%	0.494	2.462%	0.002	0.005	2.607%
%RSD		11.490	27.780	1.387	3.028	3.654	2.552	151.300	141.000	2.612

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:08	0.325	0.090	11.110	99.893%	0.086	0.084	91.446%	0.000
2	17:31:31	0.241	0.094	10.600	107.556%	0.159	0.073	96.750%	0.000
3	17:31:52	0.341	0.079	11.540	106.527%	0.162	0.084	99.570%	0.000
x		0.302	0.088	11.080	104.659%	0.136	0.081	95.922%	0.000
σ		0.054	0.008	0.470	4.159%	0.043	0.006	4.125%	0.000
%RSD		17.710	9.408	4.239	3.974	31.940	7.703	4.300	0.000

500-163607-e-4-d, 5/31/2019 5:35:19 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:35:19	0.000	0.000	49.190	4946.000	22260.000	73.150	2505.000	151200.000	103.992%
2	17:35:41	0.000	0.000	45.900	4532.000	20480.000	67.030	2223.000	138700.000	115.358%
3	17:36:03	0.000	0.000	36.980	4474.000	20000.000	69.900	2290.000	143500.000	111.903%
x		0.000	0.000	44.020	4651.000	20910.000	70.030	2339.000	144500.000	110.418%
σ		0.000	0.000	6.318	257.200	1189.000	3.059	147.500	6307.000	5.827%
%RSD		0.000	0.000	14.350	5.531	5.685	4.368	6.305	4.365	5.277

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:35:19	0.330	1.773	0.854	24.150	13.470	0.163	1.319	47.530	74.250
2	17:35:41	0.292	1.340	0.703	21.380	12.210	0.173	1.147	44.820	71.710
3	17:36:03	0.182	1.467	0.844	22.760	12.670	0.169	1.175	45.420	72.420
x		0.268	1.527	0.800	22.760	12.780	0.168	1.214	45.920	72.800
σ		0.077	0.223	0.084	1.385	0.636	0.005	0.092	1.426	1.311
%RSD		28.720	14.590	10.550	6.085	4.973	3.171	7.614	3.105	1.800

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:35:19	0.465	0.198	750.500	94.283%	14.970	89.700%	0.009	-0.007	96.465%
2	17:35:41	0.527	0.222	709.100	105.547%	13.660	96.216%	0.008	-0.007	101.444%
3	17:36:03	0.473	0.272	703.200	105.479%	13.780	96.449%	0.008	0.015	102.135%
x		0.488	0.231	720.900	101.770%	14.140	94.121%	0.008	0.000	100.015%
σ		0.034	0.037	25.810	6.484%	0.723	3.831%	0.000	0.013	3.094%
%RSD		6.871	16.240	3.580	6.371	5.114	4.070	3.886	7450.000	3.093

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:35:19	0.584	0.086	17.100	95.097%	0.086	3.709	89.784%	0.000
2	17:35:41	0.523	0.120	17.330	104.818%	0.141	3.676	94.337%	0.000
3	17:36:03	0.487	0.129	16.500	105.658%	0.144	3.663	96.873%	0.000
x		0.531	0.112	16.980	101.858%	0.124	3.682	93.665%	0.000
σ		0.049	0.023	0.431	5.870%	0.032	0.024	3.592%	0.000
%RSD		9.313	20.490	2.539	5.763	26.130	0.648	3.835	0.000

500-163607-e-5-b, 5/31/2019 5:39:29 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:39:29	0.000	0.000	60.660	6582.000	11280.000	455.500	2399.000	20690.000	105.253%
2	17:39:50	0.000	0.365	71.130	6287.000	10870.000	418.000	2203.000	20170.000	113.308%
3	17:40:12	0.000	0.000	65.420	6215.000	10380.000	412.400	2195.000	19580.000	110.341%
x		0.000	0.122	65.740	6361.000	10840.000	428.600	2266.000	20150.000	109.634%
σ		0.000	0.211	5.240	194.400	454.500	23.440	115.800	556.700	4.074%
%RSD		0.000	173.200	7.971	3.056	4.191	5.468	5.111	2.763	3.716

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:39:29	7.089	2.532	1.169	221.000	18.000	0.444	1.963	1.333	12.250
2	17:39:50	5.348	2.506	1.152	221.100	17.250	0.474	1.865	1.260	12.140
3	17:40:12	6.719	2.387	1.186	217.300	17.470	0.477	1.766	1.228	12.810
x		6.385	2.475	1.169	219.800	17.570	0.465	1.865	1.274	12.400
σ		0.917	0.078	0.017	2.162	0.386	0.018	0.098	0.054	0.360
%RSD		14.360	3.138	1.465	0.984	2.199	3.867	5.282	4.202	2.906

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:39:29	0.639	1.189	388.500	100.682%	8.597	94.577%	0.013	-0.002	98.741%
2	17:39:50	0.644	0.889	402.200	100.707%	8.653	100.612%	0.015	-0.010	101.828%
3	17:40:12	0.725	1.018	385.000	106.142%	8.194	98.154%	0.023	0.013	101.530%
x		0.669	1.032	391.900	102.510%	8.481	97.781%	0.017	0.000	100.700%
σ		0.048	0.150	9.069	3.145%	0.250	3.035%	0.005	0.012	1.703%
%RSD		7.229	14.590	2.314	3.068	2.950	3.104	29.800	7723.000	1.691

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:39:29	0.261	1.007	52.040	98.852%	0.025	0.224	91.331%	0.000
2	17:39:50	0.205	0.978	50.070	107.404%	0.102	0.195	98.144%	0.000
3	17:40:12	0.324	0.914	48.260	107.273%	0.120	0.224	99.652%	0.000
x		0.263	0.966	50.120	104.510%	0.083	0.215	96.376%	0.000
σ		0.060	0.047	1.892	4.900%	0.050	0.017	4.433%	0.000
%RSD		22.670	4.891	3.775	4.688	61.010	7.701	4.600	0.000

500-163607-e-6-b, 5/31/2019 5:43:37 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:37	0.000	0.000	79.710	6834.000	10990.000	426.400	2425.000	18550.000	106.672%
2	17:43:59	0.000	0.000	81.850	6835.000	11420.000	410.000	2322.000	18030.000	112.735%
3	17:44:21	0.000	0.000	72.400	6829.000	10760.000	384.500	2325.000	17660.000	111.387%
x		0.000	0.000	77.990	6833.000	11060.000	407.000	2357.000	18080.000	110.265%
σ		0.000	0.000	4.955	3.201	334.800	21.140	58.590	447.700	3.184%
%RSD		0.000	0.000	6.353	0.047	3.027	5.193	2.486	2.477	2.887

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:37	5.389	2.498	1.203	184.600	12.380	0.380	1.580	1.735	13.760
2	17:43:59	5.376	2.295	1.167	184.100	12.370	0.363	1.571	1.528	13.770
3	17:44:21	5.077	2.313	1.196	187.300	12.130	0.346	1.688	1.590	13.810
x		5.281	2.368	1.188	185.300	12.290	0.363	1.613	1.617	13.780
σ		0.176	0.112	0.019	1.690	0.144	0.017	0.065	0.106	0.027
%RSD		3.336	4.734	1.600	0.912	1.172	4.752	4.033	6.558	0.198

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:37	0.670	0.851	359.400	96.429%	9.222	92.426%	0.024	0.006	96.314%
2	17:43:59	0.607	1.025	351.300	104.987%	8.860	98.603%	0.015	-0.003	103.688%
3	17:44:21	0.678	1.105	357.200	106.456%	9.088	99.114%	0.020	0.004	101.362%
x		0.652	0.994	356.000	102.624%	9.057	96.714%	0.019	0.002	100.455%
σ		0.039	0.130	4.171	5.415%	0.183	3.722%	0.004	0.005	3.770%
%RSD		5.961	13.050	1.172	5.276	2.019	3.849	22.790	197.900	3.753

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:43:37	0.283	0.805	48.170	100.117%	0.021	0.155	92.834%	0.000
2	17:43:59	0.329	0.870	46.980	107.816%	0.076	0.148	100.017%	0.000
3	17:44:21	0.263	0.977	47.120	106.628%	0.079	0.168	100.357%	0.000
x		0.292	0.884	47.430	104.854%	0.058	0.157	97.736%	0.000
σ		0.034	0.087	0.652	4.145%	0.033	0.011	4.249%	0.000
%RSD		11.610	9.829	1.374	3.953	55.870	6.762	4.347	0.000

500-163607-e-7-b, 5/31/2019 5:47:48 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:48	0.000	2.204	143.000	3890.000	14310.000	25400.000	12600.000	22140.000	112.749%
2	17:48:10	0.000	1.447	145.400	4191.000	14590.000	25700.000	12980.000	22280.000	114.484%
3	17:48:33	0.000	1.398	119.000	3927.000	14090.000	25100.000	12420.000	21960.000	118.455%
x		0.000	1.683	135.800	4003.000	14330.000	25400.000	12670.000	22130.000	115.229%
σ		0.000	0.452	14.630	164.300	253.900	298.600	284.300	163.500	2.925%
%RSD		0.000	26.830	10.770	4.103	1.772	1.175	2.244	0.739	2.539

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:48	337.800	39.400	30.770	16890.000	177.400	10.010	26.370	18.880	40.750
2	17:48:10	342.500	41.330	32.550	17830.000	179.000	10.270	27.380	18.110	40.010
3	17:48:33	323.900	39.290	31.750	17210.000	175.500	9.877	26.870	17.730	40.440
x		334.700	40.010	31.690	17310.000	177.300	10.050	26.870	18.240	40.400
σ		9.663	1.144	0.892	482.100	1.761	0.199	0.505	0.586	0.370
%RSD		2.887	2.860	2.814	2.785	0.993	1.981	1.879	3.210	0.916

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:48	3.952	1.261	245.300	130.620%	9.036	91.316%	0.053	0.078	93.246%
2	17:48:10	3.741	1.231	255.000	136.298%	9.668	98.420%	0.045	0.039	103.352%
3	17:48:33	3.722	1.376	245.000	137.695%	8.959	99.790%	0.029	0.061	105.257%
x		3.805	1.289	248.400	134.871%	9.221	96.509%	0.042	0.060	100.618%
σ		0.128	0.077	5.683	3.747%	0.389	4.549%	0.012	0.020	6.455%
%RSD		3.356	5.959	2.288	2.778	4.217	4.713	29.400	33.100	6.415

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:48	0.986	0.878	133.200	102.723%	0.228	7.231	92.707%	0.000
2	17:48:10	1.042	0.833	128.900	109.199%	0.265	6.970	99.656%	0.000
3	17:48:33	1.104	0.851	133.400	113.181%	0.290	6.945	103.700%	0.000
x		1.044	0.854	131.800	108.368%	0.261	7.049	98.688%	0.000
σ		0.059	0.023	2.553	5.278%	0.031	0.159	5.560%	0.000
%RSD		5.643	2.646	1.937	4.870	11.870	2.249	5.634	0.000

500-163607-e-9-d, 5/31/2019 5:51:58 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:58	0.000	5.367	249.800	5273.000	29700.000	T 83660.000	T 30190.000	26010.000	123.461%
2	17:52:21	0.000	4.717	225.900	5285.000	29550.000	T 86560.000	T 30120.000	26340.000	122.901%
3	17:52:42	0.000	5.559	199.900	4829.000	28770.000	T 78670.000	T 29110.000	25250.000	126.631%
x		0.000	5.214	225.200	5129.000	29340.000	T 82960.000	T 29810.000	25870.000	124.331%
σ		0.000	0.441	24.950	259.600	500.400	T 3993.000	T 601.700	557.700	2.011%
%RSD		0.000	8.462	11.080	5.062	1.706	T 4.813	T 2.019	2.156	1.618

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:58	1016.000	125.600	103.200	T 85860.000	292.600	20.480	84.420	104.100	292.100
2	17:52:21	1058.000	130.800	101.100	T 85570.000	302.100	20.570	86.900	101.300	280.000
3	17:52:42	1031.000	127.900	100.100	T 82640.000	289.300	19.740	83.710	99.630	271.600
x		1035.000	128.100	101.500	T 84690.000	294.700	20.260	85.010	101.700	281.200
σ		21.290	2.630	1.606	T 1783.000	6.659	0.453	1.675	2.237	10.280
%RSD		2.057	2.053	1.583	T 2.106	2.260	2.234	1.971	2.200	3.656

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:58	42.100	1.547	40.170	204.563%	12.940	86.854%	0.140	0.206	93.668%
2	17:52:21	40.750	1.445	40.270	207.322%	13.310	91.845%	0.118	0.284	97.719%
3	17:52:42	40.420	1.177	41.490	207.056%	13.670	94.514%	0.116	0.222	96.427%
x		41.090	1.389	40.650	206.314%	13.310	91.071%	0.125	0.237	95.938%
σ		0.896	0.191	0.734	1.522%	0.362	3.888%	0.013	0.041	2.069%
%RSD		2.180	13.770	1.805	0.738	2.720	4.269	10.690	17.370	2.157

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:51:58	3.087	0.981	360.400	97.201%	2.398	35.890	91.004%	0.000
2	17:52:21	3.127	1.031	349.700	103.343%	2.227	35.400	96.869%	0.000
3	17:52:42	3.082	1.054	347.400	107.107%	2.361	35.750	98.808%	0.000
x		3.099	1.022	352.500	102.550%	2.329	35.680	95.560%	0.000
σ		0.024	0.037	6.914	5.000%	0.090	0.250	4.063%	0.000
%RSD		0.785	3.636	1.961	4.876	3.857	0.699	4.252	0.000

ccv, 5/31/2019 5:56:07 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:56:07	0.000	249.200	283.900	┬24470.000	24560.000	23620.000	┬24830.000	23500.000	107.675%
2	17:56:30	0.000	253.300	278.600	┬23100.000	23520.000	23420.000	┬23520.000	┬21460.000	113.466%
3	17:56:53	0.000	253.500	268.700	┬24130.000	23950.000	24560.000	┬23440.000	22900.000	109.796%
x		0.000	100.797%	110.817%	┬95.592%	96.047%	95.479%	┬95.723%	┬90.484%	110.312%
σ		0.000	n/a	n/a	┬n/a	n/a	n/a	┬n/a	┬n/a	2.930%
%RSD		0.000	0.952	2.786	┬2.981	2.178	2.542	┬3.248	┬4.655	2.656

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:56:07	234.200	229.100	231.900	23420.000	230.500	223.800	229.900	259.100	266.800
2	17:56:30	210.100	213.300	222.100	22810.000	234.500	226.600	225.500	239.600	249.100
3	17:56:53	232.700	234.900	229.900	23130.000	226.800	228.500	224.800	238.800	247.200
x		90.270%	90.313%	91.178%	92.474%	92.228%	90.515%	90.690%	98.339%	101.750%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.974	4.945	2.266	1.326	1.677	1.043	1.205	4.680	4.263

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:56:07	263.300	274.800	261.000	94.495%	245.700	86.783%	51.050	260.400	91.787%
2	17:56:30	247.300	254.300	240.000	102.363%	237.100	94.702%	47.790	243.200	98.763%
3	17:56:53	248.300	254.000	246.200	102.643%	237.500	94.875%	48.370	237.400	101.014%
x		101.192%	104.413%	99.623%	99.833%	96.043%	92.120%	98.141%	98.799%	97.188%
σ		n/a	n/a	n/a	4.626%	n/a	4.622%	n/a	n/a	4.811%
%RSD		3.554	4.572	4.325	4.633	2.030	5.018	3.541	4.840	4.950

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:56:07	252.500	255.100	256.800	93.546%	255.200	252.200	85.452%	0.000
2	17:56:30	235.200	243.300	236.200	102.344%	235.800	235.400	93.780%	0.000
3	17:56:53	246.300	237.400	240.900	106.104%	228.000	229.300	97.660%	0.000
x		97.855%	98.110%	97.851%	100.665%	95.873%	95.582%	92.297%	0.000
σ		n/a	n/a	n/a	6.445%	n/a	n/a	6.238%	0.000
%RSD		3.580	3.667	4.401	6.403	5.856	4.965	6.758	0.000

ccb, 5/31/2019 6:00:19 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:19	0.000	0.000	1.419	3.642	3.259	2.123	20.880	1.797	99.708%
2	18:00:41	0.000	0.000	-0.968	1.554	2.700	4.102	0.649	1.656	113.538%
3	18:01:02	0.000	0.000	3.994	3.053	2.529	3.722	4.563	1.194	108.707%
x		0.000	0.000	1.481	2.749	2.829	3.316	8.698	1.549	107.318%
σ		0.000	0.000	2.482	1.077	0.382	1.050	10.730	0.316	7.018%
%RSD		0.000	0.000	167.500	39.160	13.490	31.670	123.400	20.370	6.540

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:19	-0.014	0.088	0.048	2.054	-0.018	0.030	-0.071	0.112	-0.228
2	18:00:41	-0.020	0.051	-0.021	2.100	-0.047	0.019	-0.047	0.078	-0.336
3	18:01:02	-0.018	0.051	0.001	2.074	-0.018	0.018	-0.052	0.074	-0.206
x		-0.017	0.063	0.009	2.076	-0.028	0.022	-0.057	0.088	-0.256
σ		0.003	0.021	0.036	0.023	0.016	0.006	0.013	0.021	0.069
%RSD		16.130	33.680	375.800	1.110	58.970	28.480	22.510	23.470	27.100

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:19	0.040	0.018	0.159	91.670%	0.128	93.233%	0.001	0.014	94.947%
2	18:00:41	0.014	0.047	0.098	106.558%	0.202	103.478%	0.012	0.027	105.553%
3	18:01:02	0.015	0.008	0.107	100.707%	0.230	101.735%	0.006	-0.003	105.955%
x		0.023	0.024	0.122	99.645%	0.187	99.482%	0.006	0.013	102.152%
σ		0.015	0.020	0.033	7.501%	0.053	5.481%	0.005	0.015	6.243%
%RSD		64.810	83.530	27.060	7.527	28.170	5.510	83.450	116.800	6.111

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:00:19	0.026	-0.002	0.051	94.079%	0.222	0.020	91.782%	0.000
2	18:00:41	-0.003	0.011	0.028	104.893%	0.443	0.019	98.668%	0.000
3	18:01:02	-0.012	0.023	0.057	105.537%	0.482	0.018	100.497%	0.000
x		0.003	0.011	0.045	101.503%	0.382	0.019	96.982%	0.000
σ		0.020	0.013	0.015	6.438%	0.141	0.001	4.596%	0.000
%RSD		565.000	114.900	33.510	6.342	36.730	5.766	4.739	0.000

500-163607-e-10-d, 5/31/2019 6:04:28 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:28	0.000	0.000	38.760	4398.000	6650.000	895.400	1600.000	12940.000	109.653%
2	18:04:50	0.000	0.000	31.160	4003.000	6157.000	764.500	1422.000	11780.000	124.823%
3	18:05:13	0.000	0.379	32.100	4406.000	6610.000	851.400	1558.000	12800.000	109.309%
x		0.000	0.126	34.010	4269.000	6472.000	837.100	1527.000	12510.000	114.595%
σ		0.000	0.219	4.146	230.800	273.600	66.610	93.300	630.900	8.859%
%RSD		0.000	173.200	12.190	5.406	4.227	7.956	6.111	5.045	7.731

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:28	13.010	2.964	1.779	468.700	5.357	0.415	1.745	1.624	9.580
2	18:04:50	11.820	2.850	1.558	399.000	4.870	0.376	1.559	1.487	9.680
3	18:05:13	12.510	3.039	1.793	472.600	5.415	0.442	1.738	1.648	9.874
x		12.450	2.951	1.710	446.800	5.214	0.411	1.681	1.586	9.711
σ		0.598	0.095	0.132	41.430	0.300	0.033	0.105	0.087	0.150
%RSD		4.808	3.234	7.721	9.275	5.745	8.132	6.274	5.494	1.541

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:28	0.469	2.992	145.900	103.764%	22.610	96.629%	0.019	-0.008	102.269%
2	18:04:50	0.552	2.654	139.400	108.010%	21.700	101.676%	0.009	-0.015	105.004%
3	18:05:13	0.546	3.048	144.600	103.832%	23.480	99.929%	0.015	-0.008	105.113%
x		0.522	2.898	143.300	105.202%	22.590	99.412%	0.014	-0.010	104.129%
σ		0.047	0.213	3.478	2.432%	0.890	2.563%	0.005	0.004	1.611%
%RSD		8.928	7.354	2.427	2.312	3.940	2.578	35.630	39.150	1.547

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:28	0.378	0.832	23.790	103.645%	0.122	0.430	96.586%	0.000
2	18:04:50	0.389	0.861	20.750	113.306%	0.273	0.413	102.117%	0.000
3	18:05:13	0.303	0.899	23.180	108.161%	0.298	0.447	103.081%	0.000
x		0.357	0.864	22.570	108.371%	0.231	0.430	100.595%	0.000
σ		0.047	0.034	1.610	4.834%	0.095	0.017	3.505%	0.000
%RSD		13.070	3.910	7.133	4.461	41.230	3.960	3.484	0.000

500-163607-e-11-d, 5/31/2019 6:08:38 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:08:38	0.000	0.000	64.580	4797.000	6841.000	1791.000	2130.000	13790.000	102.287%
2	18:09:01	0.000	0.000	50.230	4490.000	6622.000	1710.000	1938.000	13180.000	113.953%
3	18:09:23	0.000	0.362	50.010	4487.000	6431.000	1719.000	1935.000	12730.000	114.412%
x		0.000	0.121	54.940	4591.000	6631.000	1740.000	2001.000	13230.000	110.218%
σ		0.000	0.209	8.347	178.300	205.300	44.300	111.600	532.900	6.872%
%RSD		0.000	173.200	15.190	3.883	3.095	2.546	5.577	4.027	6.235

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:08:38	29.370	4.615	3.033	817.900	6.734	0.482	2.118	4.334	235.200
2	18:09:01	30.150	4.026	2.989	781.100	6.510	0.465	2.245	4.059	228.900
3	18:09:23	25.780	3.886	2.995	736.900	6.122	0.455	1.956	4.014	225.600
x		28.430	4.176	3.006	778.600	6.455	0.467	2.106	4.136	229.900
σ		2.333	0.387	0.024	40.550	0.309	0.014	0.145	0.173	4.883
%RSD		8.205	9.268	0.796	5.208	4.790	2.890	6.890	4.187	2.124

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:08:38	0.728	2.277	122.300	100.962%	22.150	95.891%	0.020	-0.007	100.445%
2	18:09:01	0.645	2.093	116.900	108.766%	21.100	101.705%	0.016	0.000	107.214%
3	18:09:23	0.651	2.158	121.900	105.284%	22.400	103.863%	0.014	-0.000	107.768%
x		0.675	2.176	120.400	105.004%	21.890	100.486%	0.017	-0.002	105.142%
σ		0.046	0.093	3.016	3.910%	0.691	4.123%	0.003	0.004	4.078%
%RSD		6.869	4.273	2.506	3.723	3.159	4.103	17.290	174.800	3.878

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:08:38	0.340	0.724	20.880	101.596%	0.070	0.561	98.168%	0.000
2	18:09:01	0.349	0.828	20.040	112.104%	0.166	0.571	101.350%	0.000
3	18:09:23	0.308	0.701	20.380	109.774%	0.174	0.544	106.089%	0.000
x		0.333	0.751	20.430	107.825%	0.137	0.559	101.869%	0.000
σ		0.021	0.067	0.423	5.518%	0.058	0.013	3.986%	0.000
%RSD		6.443	8.988	2.070	5.118	42.270	2.411	3.913	0.000

500-163607-e-12-d, 5/31/2019 6:12:47 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:47	0.000	3.843	233.500	3455.000	T 43200.000	T 110700.000	T 34680.000	35110.000	129.299%
2	18:13:09	0.000	7.826	228.100	3151.000	T 42430.000	T 105200.000	T 30510.000	33320.000	142.876%
3	18:13:31	0.000	6.205	213.700	3149.000	T 39920.000	T 101500.000	T 30710.000	33360.000	140.149%
x		0.000	5.958	225.100	3251.000	T 41850.000	T 105800.000	T 31970.000	33930.000	137.441%
σ		0.000	2.003	10.240	176.000	T 1714.000	T 4639.000	T 2355.000	1021.000	7.182%
%RSD		0.000	33.610	4.551	5.414	T 4.096	T 4.384	T 7.368	3.010	5.226

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:47	1184.000	167.900	138.200	T 126300.000	474.900	30.370	122.500	170.700	373.200
2	18:13:09	1163.000	157.300	130.500	T 119600.000	456.800	27.540	117.200	167.200	357.200
3	18:13:31	1152.000	164.700	132.500	T 121100.000	453.000	28.290	115.600	165.000	359.600
x		1167.000	163.300	133.700	T 122300.000	461.600	28.740	118.400	167.600	363.400
σ		16.080	5.441	3.981	T 3535.000	11.720	1.466	3.596	2.900	8.621
%RSD		1.378	3.332	2.977	T 2.890	2.540	5.101	3.036	1.730	2.372

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:47	63.410	3.104	34.890	315.956%	6.202	86.436%	0.171	0.418	90.574%
2	18:13:09	62.200	3.046	36.430	323.968%	6.394	92.277%	0.202	0.470	95.268%
3	18:13:31	61.540	3.369	35.550	331.110%	5.991	91.540%	0.159	0.455	93.376%
x		62.380	3.173	35.620	323.678%	6.195	90.084%	0.177	0.448	93.073%
σ		0.948	0.172	0.774	7.581%	0.202	3.181%	0.022	0.027	2.362%
%RSD		1.519	5.428	2.172	2.342	3.256	3.531	12.500	5.991	2.537

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:12:47	4.858	1.287	570.500	102.427%	3.388	57.930	93.522%	0.000
2	18:13:09	4.253	1.292	569.300	108.966%	3.388	55.570	100.587%	0.000
3	18:13:31	4.525	1.250	546.800	111.359%	3.640	57.400	101.009%	0.000
x		4.545	1.276	562.200	107.584%	3.472	56.970	98.373%	0.000
σ		0.303	0.023	13.330	4.624%	0.146	1.239	4.206%	0.000
%RSD		6.672	1.804	2.371	4.298	4.194	2.174	4.276	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:55	0.000	0.408	78.640	2427.000	13340.000	112.100	2276.000	87880.000	101.557%
2	18:17:17	0.000	0.384	62.060	2255.000	12850.000	100.000	2272.000	86830.000	107.890%
3	18:17:39	0.000	0.000	63.810	2133.000	12160.000	96.510	2080.000	81250.000	114.599%
x		0.000	0.264	68.170	2271.000	12790.000	102.900	2209.000	85320.000	108.015%
σ		0.000	0.229	9.110	147.700	594.300	8.167	112.100	3563.000	6.522%
%RSD		0.000	86.720	13.360	6.503	4.648	7.939	5.075	4.176	6.038

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:55	0.384	1.709	1.136	38.280	55.800	0.578	1.968	1.026	128.700
2	18:17:17	0.609	1.597	1.086	32.840	53.540	0.535	2.047	1.046	128.300
3	18:17:39	0.648	1.379	0.935	29.590	50.910	0.491	1.925	0.937	129.000
x		0.547	1.562	1.052	33.570	53.410	0.534	1.980	1.003	128.700
σ		0.142	0.168	0.105	4.394	2.449	0.044	0.062	0.058	0.322
%RSD		26.040	10.750	9.932	13.090	4.586	8.146	3.112	5.825	0.250

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:55	0.443	1.113	535.500	99.901%	13.970	95.440%	0.018	0.001	97.564%
2	18:17:17	0.406	1.288	530.900	103.348%	14.430	97.836%	0.015	0.015	105.452%
3	18:17:39	0.468	1.118	529.900	103.067%	14.560	99.519%	0.015	-0.015	105.766%
x		0.439	1.173	532.100	102.105%	14.320	97.598%	0.016	0.000	102.927%
σ		0.031	0.099	3.005	1.914%	0.308	2.050%	0.002	0.015	4.647%
%RSD		7.167	8.472	0.565	1.875	2.153	2.101	10.600	25160.000	4.515

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:55	0.181	0.357	21.650	102.710%	0.120	0.083	96.750%	0.000
2	18:17:17	0.301	0.389	22.500	107.741%	0.206	0.098	100.661%	0.000
3	18:17:39	0.315	0.400	21.670	111.094%	0.212	0.089	105.461%	0.000
x		0.266	0.382	21.940	107.182%	0.179	0.090	100.957%	0.000
σ		0.074	0.022	0.482	4.220%	0.051	0.008	4.363%	0.000
%RSD		27.740	5.748	2.197	3.937	28.590	8.579	4.322	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:21:03	0.000	1.406	134.900	4521.000	17390.000	38240.000	T 16430.000	18280.000	117.839%
2	18:21:25	0.000	3.367	122.200	4633.000	16200.000	38470.000	T 16850.000	18480.000	123.002%
3	18:21:47	0.000	4.490	149.300	4661.000	16770.000	37180.000	T 16690.000	17830.000	119.904%
x		0.000	3.087	135.500	4605.000	16790.000	37960.000	T 16660.000	18200.000	120.248%
σ		0.000	1.561	13.570	74.150	595.300	689.700	T 214.600	332.800	2.599%
%RSD		0.000	50.560	10.020	1.610	3.546	1.817	T 1.288	1.829	2.161

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:21:03	426.000	61.220	49.930	T 40230.000	259.900	12.390	48.130	44.320	204.900
2	18:21:25	422.800	59.130	48.930	T 39290.000	263.200	12.250	46.930	42.730	199.800
3	18:21:47	434.900	58.840	49.700	T 39120.000	265.800	12.210	46.970	43.300	195.700
x		427.900	59.730	49.520	T 39550.000	263.000	12.280	47.340	43.450	200.100
σ		6.262	1.300	0.522	T 598.700	2.943	0.099	0.683	0.802	4.582
%RSD		1.463	2.176	1.055	T 1.514	1.119	0.802	1.443	1.847	2.289

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:21:03	15.190	0.712	44.050	156.088%	18.510	94.119%	0.040	0.151	95.159%
2	18:21:25	14.430	0.853	44.640	159.876%	19.310	101.228%	0.053	0.197	103.862%
3	18:21:47	14.690	0.798	44.280	164.373%	18.130	99.238%	0.048	0.190	100.038%
x		14.770	0.788	44.320	160.112%	18.650	98.195%	0.047	0.179	99.686%
σ		0.384	0.071	0.296	4.148%	0.602	3.668%	0.007	0.025	4.362%
%RSD		2.597	9.000	0.669	2.591	3.230	3.735	14.470	13.710	4.376

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:21:03	1.473	0.490	141.100	106.433%	0.545	16.230	96.836%	0.000
2	18:21:25	1.447	0.455	140.600	113.100%	0.591	16.000	102.039%	0.000
3	18:21:47	1.609	0.510	135.500	115.847%	0.706	16.200	104.111%	0.000
x		1.510	0.485	139.100	111.793%	0.614	16.140	100.995%	0.000
σ		0.087	0.028	3.117	4.841%	0.083	0.126	3.748%	0.000
%RSD		5.755	5.752	2.242	4.331	13.500	0.782	3.711	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:11	0.000	10.190	207.600	T 16770.000	T 34990.000	T 144600.000	T 26010.000	24810.000	138.139%
2	18:25:33	0.000	7.130	174.900	T 16370.000	T 32900.000	T 137700.000	T 24160.000	23560.000	151.004%
3	18:25:54	0.000	5.335	187.100	T 16570.000	T 32760.000	T 138400.000	T 24840.000	24740.000	147.471%
x		0.000	7.553	189.900	T 16570.000	T 33550.000	T 140200.000	T 25000.000	24370.000	145.538%
σ		0.000	2.456	16.520	T 195.100	T 1246.000	T 3815.000	T 934.600	703.100	6.647%
%RSD		0.000	32.520	8.700	T 1.178	T 3.713	T 2.721	T 3.738	2.885	4.567

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:11	556.800	206.700	175.600	T 125000.000	614.200	41.840	141.300	166.000	575.500
2	18:25:33	529.300	193.700	166.600	T 119700.000	585.900	40.520	135.400	161.600	562.000
3	18:25:54	525.900	198.700	173.200	T 118900.000	595.800	40.740	137.800	154.900	557.000
x		537.300	199.700	171.800	T 121200.000	598.600	41.030	138.100	160.800	564.800
σ		16.940	6.514	4.682	T 3304.000	14.350	0.706	2.993	5.596	9.583
%RSD		3.152	3.262	2.725	T 2.726	2.397	1.720	2.167	3.479	1.697

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:11	38.000	5.555	35.660	342.000%	4.658	86.372%	0.316	1.648	92.832%
2	18:25:33	38.030	5.219	35.380	364.307%	4.556	91.825%	0.342	1.781	93.338%
3	18:25:54	37.100	5.619	35.220	371.413%	4.580	93.671%	0.345	1.667	97.359%
x		37.710	5.464	35.420	359.240%	4.598	90.623%	0.334	1.699	94.510%
σ		0.529	0.215	0.226	15.347%	0.054	3.795%	0.016	0.072	2.480%
%RSD		1.403	3.929	0.637	4.272	1.165	4.188	4.778	4.230	2.624

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:11	7.491	0.935	724.100	104.383%	3.534	132.000	92.736%	0.000
2	18:25:33	7.413	0.993	703.700	109.820%	3.484	129.800	97.107%	0.000
3	18:25:54	7.152	0.863	732.200	110.409%	3.469	129.500	99.894%	0.000
x		7.352	0.930	720.000	108.204%	3.496	130.400	96.579%	0.000
σ		0.178	0.065	14.710	3.322%	0.034	1.354	3.608%	0.000
%RSD		2.418	7.022	2.043	3.070	0.968	1.038	3.736	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:19	0.000	6.038	187.900	T 16790.000	T 34270.000	T 152600.000	T 26280.000	25410.000	144.025%
2	18:29:41	0.000	5.494	203.300	T 16510.000	T 33640.000	T 142300.000	T 26370.000	24820.000	150.760%
3	18:30:02	0.000	7.076	192.500	T 15240.000	T 31680.000	T 137300.000	T 24590.000	22690.000	158.015%
x		0.000	6.203	194.600	T 16180.000	T 33200.000	T 144100.000	T 25750.000	24300.000	150.933%
σ		0.000	0.804	7.907	T 824.000	T 1349.000	T 7768.000	T 1001.000	1431.000	6.997%
%RSD		0.000	12.960	4.063	T 5.092	T 4.065	T 5.392	T 3.887	5.887	4.636

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:19	557.800	204.500	180.500	T 123900.000	628.400	43.130	140.100	165.800	597.600
2	18:29:41	546.800	202.300	176.300	T 120600.000	612.700	41.600	140.100	167.400	589.400
3	18:30:02	509.400	192.000	167.600	T 113900.000	575.900	38.640	130.500	164.000	575.100
x		538.000	199.600	174.800	T 119500.000	605.700	41.120	136.900	165.700	587.300
σ		25.390	6.658	6.616	T 5103.000	26.970	2.279	5.568	1.677	11.390
%RSD		4.719	3.336	3.785	T 4.271	4.452	5.542	4.067	1.012	1.939

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:19	40.430	5.505	36.710	348.043%	4.645	86.602%	0.358	1.652	92.617%
2	18:29:41	38.660	5.224	36.580	357.587%	4.785	90.939%	0.345	1.537	98.945%
3	18:30:02	38.410	5.077	35.320	373.194%	4.469	92.124%	0.321	1.655	98.544%
x		39.170	5.269	36.210	359.608%	4.633	89.888%	0.341	1.615	96.702%
σ		1.103	0.217	0.767	12.697%	0.159	2.907%	0.019	0.067	3.544%
%RSD		2.815	4.127	2.118	3.531	3.421	3.234	5.423	4.152	3.664

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:29:19	7.591	0.954	757.400	103.811%	3.465	133.000	92.695%	0.000
2	18:29:41	7.369	0.908	763.400	105.957%	3.599	130.200	96.603%	0.000
3	18:30:02	7.560	0.978	734.500	110.441%	3.575	131.200	96.820%	0.000
x		7.506	0.946	751.700	106.736%	3.546	131.500	95.372%	0.000
σ		0.120	0.035	15.240	3.383%	0.072	1.412	2.321%	0.000
%RSD		1.602	3.727	2.027	3.170	2.024	1.074	2.434	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:33:26	0.000	33.740	700.800	T 20960.000	T 35540.000	T 143600.000	T 32100.000	30280.000	139.919%
2	18:33:49	0.000	35.760	753.100	T 19550.000	T 33050.000	T 135100.000	T 30780.000	27470.000	151.708%
3	18:34:10	0.000	37.050	760.800	T 19880.000	T 34610.000	T 134300.000	T 31330.000	27790.000	145.317%
x		0.000	35.520	738.200	T 20130.000	T 34400.000	T 137700.000	T 31400.000	28510.000	145.648%
σ		0.000	1.667	32.650	T 734.800	T 1258.000	T 5143.000	T 660.600	1540.000	5.902%
%RSD		0.000	4.692	4.423	T 3.650	T 3.658	T 3.736	T 2.104	5.400	4.052

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:33:26	968.100	470.900	274.000	T 96190.000	798.200	309.400	393.400	329.200	868.200
2	18:33:49	921.800	431.400	254.800	T 91570.000	754.100	286.000	372.400	325.300	862.400
3	18:34:10	946.700	464.900	262.800	T 93760.000	806.800	305.700	387.900	315.600	851.300
x		945.500	455.700	263.900	T 93840.000	786.400	300.400	384.600	323.400	860.600
σ		23.160	21.260	9.640	T 2314.000	28.250	12.570	10.890	7.023	8.628
%RSD		2.449	4.665	3.653	T 2.466	3.592	4.186	2.831	2.172	1.003

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:33:26	107.000	74.580	288.400	324.496%	207.300	88.026%	39.790	40.660	91.500%
2	18:33:49	106.200	70.900	284.600	342.044%	197.300	91.059%	37.780	37.840	99.153%
3	18:34:10	104.200	71.060	286.800	336.272%	198.700	92.177%	38.830	40.020	97.174%
x		105.800	72.180	286.600	334.270%	201.100	90.420%	38.800	39.510	95.942%
σ		1.425	2.082	1.922	8.944%	5.436	2.148%	1.006	1.477	3.972%
%RSD		1.347	2.884	0.671	2.676	2.703	2.375	2.594	3.738	4.140

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:33:26	604.000	137.600	1096.000	103.776%	77.420	193.400	90.848%	0.000
2	18:33:49	595.500	130.400	1098.000	107.896%	73.420	186.500	96.746%	0.000
3	18:34:10	594.900	135.300	1055.000	111.635%	75.000	186.900	98.422%	0.000
x		598.100	134.400	1083.000	107.769%	75.280	188.900	95.339%	0.000
σ		5.105	3.697	24.470	3.931%	2.017	3.865	3.978%	0.000
%RSD		0.853	2.750	2.260	3.648	2.680	2.046	4.173	0.000

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User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:36	0.000	1.520	49.740	5150.000	10540.000	45480.000	7932.000	7614.000	108.951%
2	18:37:58	0.000	0.987	64.600	4615.000	9364.000	42960.000	6893.000	6574.000	125.842%
3	18:38:19	0.000	1.020	55.530	4573.000	9088.000	41540.000	7105.000	6832.000	121.768%
x		0.000	1.176	56.630	4779.000	9665.000	43330.000	7310.000	7007.000	118.853%
σ		0.000	0.299	7.490	321.700	772.200	1995.000	548.900	541.900	8.815%
%RSD		0.000	25.400	13.230	6.731	7.990	4.604	7.510	7.734	7.416

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:36	187.500	62.450	56.120	T 37810.000	186.700	13.400	44.860	39.540	142.300
2	18:37:58	163.800	55.390	49.480	T 34250.000	164.900	11.620	38.890	35.860	129.200
3	18:38:19	161.600	54.050	48.060	T 33530.000	167.700	11.600	39.250	36.320	128.000
x		170.900	57.300	51.220	T 35200.000	173.100	12.210	41.000	37.240	133.200
σ		14.380	4.509	4.305	T 2290.000	11.860	1.030	3.343	2.006	7.945
%RSD		8.412	7.870	8.404	T 6.506	6.854	8.442	8.154	5.387	5.965

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:36	9.390	1.405	18.680	160.311%	2.506	91.022%	0.078	0.406	98.533%
2	18:37:58	8.396	1.239	16.990	176.253%	2.412	100.968%	0.081	0.306	105.152%
3	18:38:19	8.404	1.309	17.830	169.753%	2.477	100.664%	0.074	0.449	108.143%
x		8.730	1.318	17.830	168.772%	2.465	97.551%	0.078	0.387	103.943%
σ		0.572	0.083	0.843	8.016%	0.048	5.656%	0.004	0.073	4.918%
%RSD		6.547	6.330	4.725	4.750	1.945	5.798	4.976	18.990	4.732

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:37:36	1.782	0.262	191.700	98.332%	0.928	31.940	93.641%	0.000
2	18:37:58	1.822	0.203	172.500	108.998%	0.920	29.260	102.769%	0.000
3	18:38:19	1.668	0.244	166.800	112.527%	0.887	28.990	104.345%	0.000
x		1.757	0.236	177.000	106.619%	0.911	30.060	100.252%	0.000
σ		0.080	0.030	13.020	7.391%	0.022	1.633	5.779%	0.000
%RSD		4.542	12.700	7.357	6.932	2.384	5.431	5.764	0.000

/ccv, 5/31/2019 6:41:46 PM

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:46	0.000	0.000	-0.876	-6.149	1.020	11.350	-172.300	-6.882	216.381%
2	18:42:09	0.000	0.000	0.438	-6.034	0.130	3.768	-170.900	-5.806	194.329%
3	18:42:30	0.000	0.000	1.782	-6.414	0.039	2.019	-175.200	-6.452	206.684%
x		0.000	0.000	0.448	-6.199	0.397	5.713	-172.800	-6.380	205.798%
σ		0.000	0.000	1.329	0.195	0.542	4.960	2.198	0.542	11.052%
%RSD		0.000	0.000	296.500	3.144	136.600	86.840	1.272	8.489	5.371

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:46	0.753	-0.379	-0.058	4.028	-0.077	-0.003	-0.126	-0.168	-0.648
2	18:42:09	0.311	-0.399	-0.094	0.523	-0.095	-0.004	-0.141	-0.164	-0.652
3	18:42:30	0.115	-0.403	-0.086	0.043	-0.095	-0.003	-0.130	-0.165	-0.637
x		0.393	-0.393	-0.079	1.531	-0.089	-0.003	-0.132	-0.166	-0.645
σ		0.327	0.013	0.019	2.175	0.011	0.000	0.008	0.002	0.008
%RSD		83.110	3.299	24.260	142.100	11.910	16.770	6.040	1.213	1.219

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:46	-0.008	-0.036	0.014	244.334%	-0.020	261.059%	-0.001	-0.002	273.258%
2	18:42:09	-0.017	-0.067	-0.011	249.123%	-0.020	264.579%	-0.001	-0.002	272.247%
3	18:42:30	-0.014	-0.034	-0.014	247.911%	-0.026	268.256%	-0.001	-0.002	265.473%
x		-0.013	-0.046	-0.004	247.123%	-0.022	264.631%	-0.001	-0.002	270.326%
σ		0.004	0.019	0.016	2.490%	0.003	3.599%	0.000	0.000	4.233%
%RSD		33.570	40.580	414.800	1.007	16.060	1.360	30.580	0.107	1.566

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:46	-0.039	-0.029	0.033	314.388%	-0.024	-0.012	299.653%	0.000
2	18:42:09	-0.042	-0.038	-0.010	298.754%	-0.025	-0.012	297.253%	0.000
3	18:42:30	-0.041	-0.035	0.015	319.457%	-0.026	-0.012	310.223%	0.000
x		-0.041	-0.034	0.013	310.866%	-0.025	-0.012	302.376%	0.000
σ		0.002	0.004	0.022	10.791%	0.001	0.000	6.900%	0.000
%RSD		3.728	12.650	172.800	3.471	3.205	1.639	2.282	0.000

CCV 5/31/2019 6:45:56 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:45:56	0.000	285.000	290.300	T 25810.000	26630.000	26080.000	T 27430.000	25480.000	98.075%
2	18:46:18	0.000	244.800	226.200	T 23010.000	24160.000	23650.000	T 23100.000	22220.000	114.885%
3	18:46:40	0.000	257.500	249.900	T 23980.000	24630.000	25010.000	T 24510.000	24480.000	106.615%
x		0.000	104.974%	102.183%	T 97.062%	100.548%	99.650%	T 100.048%	96.246%	106.525%
σ		0.000	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	8.405%
%RSD		0.000	7.840	12.690	T 5.845	5.222	4.887	T 8.836	6.938	7.890

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:45:56	252.100	256.600	251.100	26020.000	256.400	252.200	254.900	252.400	257.600
2	18:46:18	223.900	220.800	219.600	T 21970.000	T 213.300	215.900	225.700	236.800	247.100
3	18:46:40	234.300	234.700	237.100	T 23760.000	231.200	235.100	244.000	233.300	239.800
x		94.700%	94.941%	94.377%	T 95.658%	T 93.451%	93.757%	96.614%	96.318%	99.278%
σ		n/a	n/a	n/a	T n/a	T n/a	n/a	n/a	n/a	n/a
%RSD		6.038	7.618	6.682	T 8.486	T 9.251	7.768	6.121	4.220	3.617

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:45:56	261.300	266.000	269.200	92.518%	253.600	88.755%	53.600	257.600	90.953%
2	18:46:18	244.600	251.200	248.100	105.139%	232.500	97.006%	47.150	235.000	101.787%
3	18:46:40	245.200	249.500	249.700	103.985%	233.500	97.062%	49.860	247.700	99.743%
x		100.145%	102.221%	102.274%	100.547%	95.950%	94.274%	100.404%	98.713%	97.495%
σ		n/a	n/a	n/a	6.978%	n/a	4.780%	n/a	n/a	5.757%
%RSD		3.782	3.540	4.593	6.940	4.969	5.071	6.457	4.575	5.905

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:45:56	260.300	251.100	255.800	95.745%	253.000	252.300	86.617%	0.000
2	18:46:18	238.400	231.900	241.200	103.252%	242.500	237.700	94.022%	0.000
3	18:46:40	241.900	236.300	242.400	105.695%	237.300	236.600	96.488%	0.000
x		98.740%	95.904%	98.579%	101.564%	97.710%	96.891%	92.376%	0.000
σ		n/a	n/a	n/a	5.186%	n/a	n/a	5.137%	0.000
%RSD		4.758	4.178	3.278	5.106	3.285	3.616	5.561	0.000

CCB, 5/31/2019 6:50:07 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:50:07	0.000	0.000	4.293	0.357	1.353	1.488	10.200	0.056	104.150%
2	18:50:28	0.000	0.000	2.676	-0.956	1.010	1.046	-7.646	1.229	115.444%
3	18:50:51	0.000	0.000	2.062	-0.604	1.272	2.328	3.206	-0.498	108.277%
x		0.000	0.000	3.010	-0.401	1.212	1.621	1.921	0.263	109.290%
σ		0.000	0.000	1.153	0.680	0.179	0.651	8.993	0.882	5.715%
%RSD		0.000	0.000	38.280	169.500	14.790	40.190	468.200	335.600	5.229

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:50:07	-0.060	0.058	0.020	0.850	-0.037	0.011	-0.067	-0.011	-0.141
2	18:50:28	-0.060	0.068	-0.027	0.604	-0.056	0.007	-0.075	-0.035	-0.141
3	18:50:51	0.024	0.031	0.012	0.986	-0.021	0.003	-0.062	-0.032	-0.182
x		-0.032	0.052	0.001	0.813	-0.038	0.007	-0.068	-0.026	-0.155
σ		0.048	0.019	0.025	0.194	0.018	0.004	0.007	0.013	0.024
%RSD		151.100	36.650	1714.000	23.840	46.820	58.430	9.796	49.640	15.470

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:50:07	0.002	0.046	0.042	95.895%	0.090	95.883%	0.001	0.021	98.346%
2	18:50:28	0.025	0.030	0.030	105.972%	0.194	102.887%	0.004	-0.003	102.184%
3	18:50:51	0.031	0.012	0.039	103.101%	0.158	103.289%	0.004	0.005	103.426%
x		0.019	0.030	0.037	101.656%	0.147	100.686%	0.003	0.008	101.319%
σ		0.015	0.017	0.006	5.192%	0.053	4.164%	0.002	0.012	2.648%
%RSD		79.270	57.130	17.510	5.107	35.690	4.136	55.300	155.900	2.614

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:50:07	-0.022	0.302	-0.007	96.545%	0.154	0.009	93.366%	0.000
2	18:50:28	-0.022	0.547	0.013	106.139%	0.298	0.008	97.824%	0.000
3	18:50:51	0.020	0.582	0.027	106.465%	0.294	0.009	103.577%	0.000
x		-0.008	0.477	0.011	103.050%	0.249	0.009	98.256%	0.000
σ		0.024	0.153	0.017	5.636%	0.082	0.001	5.119%	0.000
%RSD		288.100	32.030	158.500	5.469	33.050	7.446	5.210	0.000

Mass Uncorrected ICPS

STD0, 5/31/2019 9:38:48 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:38:48	0.000	0.000	1.667	948.938	33.333	57.778	25618.268	53.333	45305.947
2	09:39:10	0.000	0.000	3.333	906.712	53.333	57.778	26567.653	48.889	46364.598
3	09:39:33	0.000	0.000	1.667	973.385	42.222	55.556	26572.111	53.333	48656.529
x		0.000	0.000	2.222	943.012	42.963	57.037	26252.677	51.852	46775.692
σ		0.000	0.000	0.962	33.730	10.021	1.283	549.419	2.566	1712.702
%RSD		0.000	0.000	43.301	3.577	23.324	2.249	2.093	4.949	3.662

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:38:48	2.222	542.238	355.563	215.558	93.334	15.556	126.668	420.010	311.116
2	09:39:10	2.222	648.912	382.230	226.669	162.224	8.889	120.001	393.342	300.005
3	09:39:33	4.444	584.463	360.007	228.892	182.224	11.111	122.223	420.010	362.229
x		2.963	591.871	365.933	223.706	145.927	11.852	122.964	411.120	324.450
σ		1.283	53.721	14.287	7.144	46.632	3.395	3.395	15.397	33.186
%RSD		43.301	9.077	3.904	3.193	31.956	28.641	2.761	3.745	10.228

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:38:48	21.333	4.800	35.556	76950.974	40.000	167977.700	6.667	0.000	101314.760
2	09:39:10	15.333	3.733	46.667	80979.069	40.000	173887.270	6.667	6.667	112822.440
3	09:39:33	19.333	4.533	40.000	79734.810	73.334	176997.550	13.333	0.000	108537.410
x		18.667	4.356	40.741	79221.618	51.111	172954.170	8.889	2.222	107558.200
σ		3.055	0.555	5.592	2062.502	19.245	4581.747	3.849	3.849	5815.994
%RSD		16.366	12.745	13.727	2.603	37.653	2.649	43.301	173.205	5.407

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:38:48	113.334	133.334	26.667	246332.780	166.668	120.001	159412.190	13.333
2	09:39:10	146.668	86.667	20.000	261240.390	453.345	126.668	169308.720	20.000
3	09:39:33	166.668	106.667	13.333	263024.070	346.673	73.334	167977.700	13.333
x		142.223	108.890	20.000	256865.750	322.229	106.667	165566.200	15.556
σ		26.943	23.413	6.667	9165.310	144.893	29.060	5370.922	3.849
%RSD		18.944	21.501	33.333	3.568	44.966	27.243	3.244	24.744

STD1, 5/31/2019 9:42:57 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:42:57	26.667	20.667	11.667	112154.250	64029.138	35933.097	160746.490	8330.482	49413.932
2	09:43:18	0.000	20.667	14.167	117431.370	66475.492	37785.028	160812.080	8828.729	51934.590
3	09:43:40	0.000	14.000	15.833	116922.650	66726.208	35855.012	158243.140	8501.751	52725.792
x		8.889	18.444	13.889	115502.760	65743.613	36524.379	159933.910	8553.654	51358.104
σ		15.396	3.849	2.097	2911.027	1490.061	1092.452	1464.610	253.146	1729.554
%RSD		173.205	20.868	15.100	2.520	2.266	2.991	0.916	2.960	3.368

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:42:57	548.905	16238.935	20398.415	107246.670	15223.848	33517.229	9669.584	24742.514	5001.375
2	09:43:18	535.571	16719.806	20574.367	112156.500	15551.067	34565.588	9694.055	25823.291	5230.393
3	09:43:40	531.127	15878.299	20919.598	109407.750	15324.016	35232.586	9502.742	25794.320	5379.369
x		538.534	16279.013	20630.793	109603.640	15366.310	34438.468	9622.127	25453.375	5203.712
σ		9.252	422.183	265.133	2460.768	167.660	864.715	104.112	615.794	190.404
%RSD		1.718	2.593	1.285	2.245	1.091	2.511	1.082	2.419	3.659

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:42:57	3718.760	466.412	25856.719	75660.208	14010.788	164447.360	5034.727	8971.091	102642.870
2	09:43:18	3835.476	453.878	25778.720	84726.322	13777.098	178975.710	4961.354	8904.359	113490.680
3	09:43:40	3829.473	446.944	26716.979	84585.016	14805.379	181099.380	5061.409	8697.492	114374.990
x		3794.570	455.745	26117.473	81657.182	14197.755	174840.820	5019.163	8857.647	110169.510
σ		65.721	9.867	520.650	5194.013	539.034	9063.411	51.812	142.655	6533.245
%RSD		1.732	2.165	1.993	6.361	3.797	5.184	1.032	1.611	5.930

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:42:57	19247.020	25027.737	9298.086	248038.220	91201.861	64085.086	156386.990	114942.080
2	09:43:18	19607.789	26846.248	9171.291	268514.460	95600.036	66502.355	167794.360	116022.340
3	09:43:40	18986.473	27374.486	8877.666	264327.740	95222.774	68107.506	172297.420	118162.980
x		19280.427	26416.157	9115.681	260293.470	94008.224	66231.649	165492.930	116375.800
σ		312.003	1231.073	215.656	10817.833	2437.690	2024.828	8201.093	1639.284
%RSD		1.618	4.660	2.366	4.156	2.593	3.057	4.956	1.409

STD2, 5/31/2019 9:47:04 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:47:04	120.001	180.002	86.667	1110900.500	620872.580	340969.950	1368556.600	81281.753	50057.438
2	09:47:25	66.667	168.668	83.334	1047825.000	622826.330	326437.510	1323972.400	78255.371	51170.274
3	09:47:46	173.335	170.668	100.001	1135918.600	619023.780	339593.160	1346162.200	79633.932	51512.197
x		120.001	173.113	90.000	1098214.700	620907.560	335666.880	1346230.400	79723.685	50913.303
σ		53.334	6.049	8.819	45396.224	1901.518	8022.456	22292.181	1515.186	760.662
%RSD		44.445	3.494	9.799	4.134	0.306	2.390	1.656	1.901	1.494

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:47:04	5370.475	150764.310	193222.950	1039806.800	142542.140	325447.390	87792.993	317228.850	55839.859
2	09:47:25	5208.158	147690.010	188097.110	1034835.800	145266.990	330981.920	89484.925	323582.560	55826.443
3	09:47:46	5397.157	148439.860	191105.560	1032319.000	144632.550	323543.420	86209.053	324793.500	56112.642
x		5325.263	148964.720	190808.540	1035653.900	144147.230	326657.580	87828.990	321868.300	55926.315
σ		102.290	1602.947	2575.793	3810.351	1425.782	3864.094	1638.233	4063.248	161.503
%RSD		1.921	1.076	1.350	0.368	0.989	1.183	1.865	1.262	0.289

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:47:04	36222.688	4449.889	252854.890	77455.229	135380.580	164144.180	48227.586	85782.828	103607.050
2	09:47:25	36197.253	4346.639	255146.490	86321.221	142102.000	172639.380	48555.994	86677.925	112471.460
3	09:47:46	36676.502	4489.375	257454.660	83394.089	139894.830	172206.840	49320.091	90171.661	117041.950
x		36365.481	4428.634	255152.010	82390.180	139125.800	169663.470	48701.224	87544.138	111040.150
σ		269.652	73.704	2299.889	4517.447	3426.063	4784.733	560.545	2319.096	6830.859
%RSD		0.742	1.664	0.901	5.483	2.463	2.820	1.151	2.649	6.152

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:47:04	192183.480	250730.590	86139.510	255637.790	920938.150	626609.020	153213.640	1189645.500
2	09:47:25	192530.720	258010.080	90501.582	270423.130	940865.350	650188.200	166300.620	1191242.400
3	09:47:46	196943.750	261206.090	93747.560	270766.460	997120.700	675805.700	171292.020	1239873.000
x		193885.980	256648.920	90129.551	265609.130	952974.740	650867.640	163602.090	1206920.300
σ		2653.789	5368.763	3817.645	8637.141	39508.521	24605.374	9336.410	28549.045
%RSD		1.369	2.092	4.236	3.252	4.146	3.780	5.707	2.365

STD3, 5/31/2019 9:51:10 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:51:10	580.019	814.036	380.008	T 4948262.400	T 2777545.600	1576146.900	T 5968782.300	375252.630	45205.449
2	09:51:32	613.354	818.037	405.842	T 5142984.200	T 2883617.300	1655127.000	T 5901419.400	383186.860	47007.889
3	09:51:55	600.020	772.700	393.342	T 4971558.300	T 2788201.700	1537371.800	T 5939162.900	377854.940	47584.209
x		597.797	801.591	393.064	T 5020935.000	T 2816454.800	1589548.600	T 5936454.900	378764.810	46599.182
σ		16.779	25.101	12.919	T 106337.590	T 58407.889	60010.648	T 33762.964	4044.613	1240.929
%RSD		2.807	3.131	3.287	T 2.118	T 2.074	3.775	T 0.569	1.068	2.663

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:51:10	24626.644	689091.830	887666.720	T 4810840.800	684549.380	1498384.100	396017.320	1077817.400	221522.030
2	09:51:32	24902.951	723554.400	892948.320	T 4889641.700	663364.240	1550800.800	392071.700	1078156.500	225714.390
3	09:51:55	24167.637	723398.230	877617.780	T 4899250.400	672607.760	1535406.300	393154.780	1068792.600	227420.580
x		24565.744	712014.820	886077.610	T 4866577.600	673507.130	1528197.100	393747.930	1074922.200	224885.670
σ		371.421	19852.048	7787.832	T 48508.037	10621.164	26941.720	2038.590	5311.031	3035.343
%RSD		1.512	2.788	0.879	T 0.997	1.577	1.763	0.518	0.494	1.350

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:51:10	167867.700	20007.860	1194093.700	76655.157	669876.760	152705.190	427898.810	401793.800	108112.390
2	09:51:32	171588.200	20306.387	1237363.000	80743.656	667956.210	160357.490	437465.020	414192.030	116515.250
3	09:51:55	173172.480	20204.828	1244996.300	79613.756	695727.540	163264.100	441611.810	406816.610	119169.320
x		170876.130	20173.025	1225484.400	79004.190	677853.500	158775.590	435658.550	407600.810	114598.990
σ		2723.137	151.784	27451.690	2111.311	15509.131	5454.305	7032.719	6236.209	5772.173
%RSD		1.594	0.752	2.240	2.672	2.288	3.435	1.614	1.530	5.037

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:51:10	888627.460	1210342.300	411514.460	244819.380	T 4491350.500	3033085.600	146097.930	T 5702547.300
2	09:51:32	918951.390	1223349.600	442003.510	262790.800	T 4521009.600	3118712.200	160490.920	T 5781078.800
3	09:51:55	942015.840	1265519.300	444661.890	266036.510	T 4705695.100	T 3156335.300	T 152773.230	T 5763152.100
x		916531.570	1233070.400	432726.620	257882.230	T 4572685.100	T 3102711.000	T 153120.690	T 5748926.100
σ		26776.322	28844.316	18418.294	11428.571	T 116140.740	T 63163.660	T 7202.787	T 41153.161
%RSD		2.921	2.339	4.256	4.432	T 2.540	T 2.036	T 4.704	T 0.716

S1, 5/31/2019 9:55:18 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:55:18	573.351	830.705	401.676	T 4886917.900	T 2754501.600	1580199.500	T 5993874.100	358891.490	45875.459
2	09:55:40	640.023	791.368	401.676	T 5034558.700	T 2903706.900	1620089.600	T 6065023.900	368715.350	47865.681
3	09:56:01	600.020	792.701	435.844	T 4920619.800	T 2861856.900	1621175.600	T 5854028.500	366994.440	49266.468
x		604.465	804.925	413.065	T 4947365.500	T 2840021.800	1607154.900	T 5970975.500	364867.090	47669.203
σ		33.557	22.336	19.727	T 77368.926	T 76961.903	23350.380	T 107345.360	5246.073	1704.021
%RSD		5.552	2.775	4.776	T 1.564	T 2.710	1.453	T 1.798	1.438	3.575

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:55:18	24216.656	703772.810	886339.450	T 4865837.300	662605.100	1530180.900	387678.060	1051168.900	225903.450
2	09:55:40	24740.285	704386.610	913969.150	T 4876966.900	694472.360	1556204.700	407446.100	1085450.500	227766.860
3	09:56:01	24272.360	688052.950	895321.090	T 4912649.500	686023.400	1573410.200	404285.130	1095465.000	229726.360
x		24409.767	698737.460	898543.230	T 4885151.200	681033.620	1553265.300	399803.090	1077361.500	227798.890
σ		287.589	9258.141	14093.854	T 24455.724	16509.211	21764.020	10618.869	23229.547	1911.661
%RSD		1.178	1.325	1.569	T 0.501	2.424	1.401	2.656	2.156	0.839

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:55:18	171185.380	20177.033	1239510.400	74732.582	657457.440	152298.450	433417.920	406489.100	107619.930
2	09:55:40	173070.570	20546.392	1235467.100	78658.831	669439.580	164225.630	433382.980	414680.220	119790.740
3	09:56:01	173978.320	20544.789	1267510.100	81180.857	686475.700	167423.170	447586.980	424951.960	119844.780
x		172744.760	20422.738	1247495.900	78190.757	671124.240	161315.750	438129.300	415373.760	115751.820
σ		1424.692	212.788	17450.367	3249.520	14582.301	7971.187	8190.617	9250.947	7042.472
%RSD		0.825	1.042	1.399	4.156	2.173	4.941	1.869	2.227	6.084

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:55:18	915846.990	1243593.500	422180.540	250915.590	T 4427404.700	3136734.400	151098.680	T 5701732.500
2	09:55:40	930178.320	1255571.100	435843.180	270567.330	T 4590529.600	3163126.600	160633.410	T 5857267.600
3	09:56:01	954658.210	1304640.500	438947.300	279903.700	T 4737142.100	T 3240547.900	164250.520	T 5999459.500
x		933561.170	1267935.000	432323.670	267128.870	T 4585025.500	T 3180136.300	158660.870	T 5852819.900
σ		19625.502	32347.086	8920.271	14796.788	T 154942.050	T 53956.545	6794.182	T 148913.340
%RSD		2.102	2.551	2.063	5.539	T 3.379	T 1.697	4.282	T 2.544

ICV, 5/31/2019 9:59:27 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:59:27	226.669	345.340	191.669	T 2085035.800	1236759.700	674777.840	T 2552805.700	155528.000	49179.331
2	09:59:48	220.003	330.673	180.835	2158461.900	1194805.500	700706.790	T 2567234.600	155390.110	49802.711
3	10:00:11	186.669	333.339	151.668	T 2069041.100	1214147.600	659225.510	T 2539244.300	152363.980	50084.251
x		211.114	336.451	174.724	T 2104179.600	1215237.600	678236.710	T 2553094.900	154427.360	49688.765
σ		21.431	7.813	20.689	T 47685.287	20998.367	20955.837	T 13997.375	1788.272	463.096
%RSD		10.151	2.322	11.841	T 2.266	1.728	3.090	T 0.548	1.158	0.932

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:59:27	10054.446	286571.120	360553.110	2033448.500	285048.810	641647.830	168837.860	452027.700	96002.017
2	09:59:48	10508.292	296887.720	370334.780	2105001.400	287270.460	641080.970	170929.750	464930.150	98155.946
3	10:00:11	10314.737	290868.880	375717.940	2074468.600	293649.490	641902.690	173443.350	461305.660	98629.923
x		10292.492	291442.570	368868.610	2070972.900	288656.260	641543.830	171070.320	459421.170	97595.962
σ		227.739	5182.169	7687.992	35904.321	4464.666	420.616	2305.962	6654.456	1400.593
%RSD		2.213	1.778	2.084	1.734	1.547	0.066	1.348	1.448	1.435

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:59:27	70695.148	8642.773	506381.050	81066.510	269008.750	162723.420	178243.770	172120.790	110446.870
2	09:59:48	72918.607	8853.109	518272.810	83394.089	284393.200	177326.080	188494.100	177958.250	116933.910
3	10:00:11	73079.222	8724.184	508496.600	83891.971	276763.040	177448.430	190277.340	180834.180	117312.060
x		72230.992	8740.022	511050.150	82784.190	276721.660	172499.310	185671.740	176971.070	114897.610
σ		1332.503	106.058	6343.815	1508.241	7692.306	8466.389	6494.309	4439.781	3859.093
%RSD		1.845	1.213	1.241	1.822	2.780	4.908	3.498	2.509	3.359

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:59:27	376428.670	512151.200	181214.980	258688.970	1912627.500	1301639.100	156868.510	2387371.200
2	09:59:48	386658.190	515802.540	181412.190	282185.990	1943716.800	1308186.700	168717.890	2466255.500
3	10:00:11	390643.250	527365.100	180086.210	284386.320	1975631.700	1348095.200	171074.660	2568307.400
x		384576.700	518439.610	180904.460	275087.090	1943992.000	1319307.000	165553.690	2473978.000
σ		7332.324	7942.376	715.451	14243.745	31502.970	25145.361	7613.326	90714.953
%RSD		1.907	1.532	0.395	5.178	1.621	1.906	4.599	3.667

ICB, 5/31/2019 10:03:36 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:03:36	0.000	0.000	3.333	813.370	97.778	55.556	26188.779	51.111	46324.394
2	10:03:57	0.000	0.667	3.333	788.923	57.778	42.222	26872.993	42.222	49393.823
3	10:04:19	0.000	0.000	2.500	715.584	53.333	28.889	27396.776	44.445	50372.504
x		0.000	0.222	3.056	772.626	69.630	42.222	26819.516	45.926	48696.907
σ		0.000	0.385	0.481	50.889	24.478	13.333	605.771	4.626	2112.124
%RSD		0.000	173.205	15.746	6.587	35.155	31.579	2.259	10.073	4.337

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:03:36	0.000	648.912	444.455	266.671	66.667	26.667	64.445	215.558	124.445
2	10:03:57	2.222	608.909	357.785	197.780	66.667	20.000	68.889	148.890	142.223
3	10:04:19	2.222	626.688	315.561	193.335	97.778	6.667	66.667	182.224	180.002
x		1.481	628.170	372.600	219.262	77.037	17.778	66.667	182.224	148.890
σ		1.283	20.042	65.712	41.117	17.962	10.184	2.222	33.334	28.372
%RSD		86.603	3.191	17.636	18.753	23.316	57.282	3.333	18.293	19.056

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:03:36	22.000	6.133	66.667	74430.116	153.335	170395.410	53.333	13.333	107363.590
2	10:03:57	20.667	4.267	64.445	81698.799	373.341	185300.550	6.667	0.000	118460.140
3	10:04:19	32.667	3.733	51.111	84369.695	413.343	185708.760	26.667	0.000	116278.920
x		25.111	4.711	60.741	80166.203	313.339	180468.240	28.889	4.444	114034.220
σ		6.577	1.260	8.413	5143.972	140.004	8725.716	23.413	7.698	5878.976
%RSD		26.192	26.750	13.851	6.417	44.681	4.835	81.044	173.205	5.155

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:03:36	133.334	126.668	13.333	254020.040	3193.894	120.001	169627.920	93.334
2	10:03:57	166.668	133.334	20.000	273046.490	6162.088	73.334	181575.400	73.334
3	10:04:19	200.002	166.668	20.000	283121.070	6549.025	80.000	182704.350	13.333
x		166.668	142.223	17.778	270062.530	5301.669	91.112	177969.220	60.000
σ		33.334	21.431	3.849	14778.208	1835.610	25.240	7245.800	41.634
%RSD		20.000	15.068	21.651	5.472	34.623	27.702	4.071	69.389

/ICVL, 5/31/2019 10:07:44 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:07:44	13.333	0.667	55.000	23434.611	12624.315	3571.813	91646.297	1691.268	49467.555
2	10:08:06	13.333	1.333	51.667	24085.196	12949.216	3682.968	94176.403	1675.710	50768.029
3	10:08:28	6.667	1.333	49.167	23846.791	12909.159	3700.753	95240.739	1735.721	50452.948
x		11.111	1.111	51.945	23788.866	12827.563	3651.845	93687.813	1700.900	50229.511
σ		3.849	0.385	2.927	329.138	177.154	69.878	1846.359	31.143	678.418
%RSD		34.641	34.641	5.634	1.384	1.381	1.913	1.971	1.831	1.351

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:07:44	235.559	7812.244	10054.446	10991.085	3687.414	3587.374	1862.413	5150.347	10445.998
2	10:08:06	253.337	8150.319	10359.232	11458.328	4029.782	3362.844	1949.098	4928.002	10410.402
3	10:08:28	300.005	8143.646	10236.872	11487.253	3991.987	3440.651	1964.657	5105.878	10583.935
x		262.967	8035.403	10216.850	11312.222	3903.061	3463.623	1925.389	5061.409	10480.112
σ		33.285	193.290	153.376	278.489	187.709	114.014	55.091	117.654	91.658
%RSD		12.657	2.405	1.501	2.462	4.809	3.292	2.861	2.325	0.875

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:07:44	410.009	135.734	10601.734	76063.552	5474.981	171398.450	2480.338	500.014	109967.780
2	10:08:06	416.676	118.401	10773.046	85298.300	6168.759	183645.250	2813.769	360.007	121324.210
3	10:08:28	400.676	122.401	10839.792	82384.950	5621.738	187974.620	2540.355	553.350	119128.790
x		409.120	125.512	10738.191	81248.934	5755.159	181006.100	2611.487	471.124	116806.930
σ		8.037	9.076	122.797	4721.021	365.627	8597.452	177.732	99.857	6023.739
%RSD		1.965	7.231	1.144	5.811	6.353	4.750	6.806	21.195	5.157

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:07:44	10299.164	7589.834	2353.638	254842.590	20850.550	3393.967	164080.830	120297.370
2	10:08:06	10466.021	8036.884	2467.001	279993.060	23015.765	3440.651	179637.470	121972.800
3	10:08:28	10385.929	8490.630	2420.322	289910.080	22855.361	3467.328	185044.300	122621.440
x		10383.705	8039.116	2413.654	274915.240	22240.559	3433.982	176254.200	121630.540
σ		83.451	450.402	56.975	18076.793	1206.451	37.132	10883.551	1199.246
%RSD		0.804	5.603	2.361	6.575	5.425	1.081	6.175	0.986

ICVL, 5/31/2019 10:13:43 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:13:43	13.333	2.667	42.500	22726.149	12639.892	3278.369	92380.337	1702.382	48214.182
2	10:14:05	6.667	2.667	40.000	22708.326	12744.482	3542.913	93630.811	1622.367	52538.043
3	10:14:28	6.667	2.667	46.667	22899.917	12308.327	3436.205	93166.073	1713.495	49501.070
x		8.889	2.667	43.056	22778.131	12564.234	3419.162	93059.074	1679.415	50084.432
σ		3.849	0.000	3.368	105.846	227.708	133.093	632.066	49.716	2220.175
%RSD		43.301	0.000	7.822	0.465	1.812	3.893	0.679	2.960	4.433

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:13:43	293.338	7738.848	10252.445	11082.306	3696.307	3229.462	1926.871	5157.018	9909.843
2	10:14:05	284.449	8061.350	9883.147	10902.089	3676.299	3187.225	1909.089	5079.196	10136.759
3	10:14:28	224.447	7974.607	9900.944	10755.247	3705.199	3307.268	1857.968	4870.193	10114.512
x		267.411	7924.935	10012.179	10913.214	3692.602	3241.319	1897.976	5035.469	10053.705
σ		37.473	166.890	208.267	163.813	14.802	60.893	35.771	148.328	125.084
%RSD		14.013	2.106	2.080	1.501	0.401	1.879	1.885	2.946	1.244

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:13:43	368.007	116.801	10245.770	76587.927	5515.006	169858.840	2680.395	473.346	108193.340
2	10:14:05	358.007	113.867	10664.029	82701.135	5354.910	186568.310	2353.638	346.673	116515.250
3	10:14:28	414.009	120.801	10748.573	83326.809	5615.067	184847.020	2353.638	413.343	114003.710
x		380.008	117.156	10552.791	80871.957	5494.994	180424.720	2462.557	411.121	112904.100
σ		29.868	3.480	269.227	3723.245	131.228	9190.709	188.653	63.365	4268.533
%RSD		7.860	2.971	2.551	4.604	2.388	5.094	7.661	15.413	3.781

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:13:43	8750.876	7916.779	2453.664	257667.220	18872.903	3380.629	166212.360	114800.300
2	10:14:05	10292.490	7543.128	2140.252	281787.240	20810.459	3173.887	178352.530	114861.060
3	10:14:28	10305.838	7870.072	2240.276	289187.610	20135.608	3067.184	182255.470	118034.660
x		9783.068	7776.660	2278.064	276214.020	19939.657	3207.233	175606.790	115898.680
σ		893.929	203.588	160.087	16482.695	983.528	159.361	8366.582	1850.067
%RSD		9.138	2.618	7.027	5.967	4.933	4.969	4.764	1.596

CRI, 5/31/2019 10:17:53 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:17:53	46.667	3.333	75.000	42834.008	24804.906	6818.111	150251.480	3296.153	48468.864
2	10:18:16	40.000	5.333	107.501	47273.707	25765.349	6813.664	158846.870	3287.261	54113.913
3	10:18:38	33.333	3.333	85.834	45310.414	24816.047	6635.754	154133.440	3213.901	52410.644
x		40.000	4.000	89.445	45139.376	25128.767	6755.843	154410.590	3265.772	51664.474
σ		6.667	1.155	16.548	2224.786	551.324	104.024	4304.394	45.141	2895.552
%RSD		16.667	28.868	18.501	4.929	2.194	1.540	2.788	1.382	5.605

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:17:53	491.124	15068.033	19271.516	21162.381	7022.712	6678.007	3527.351	9464.925	19489.758
2	10:18:16	560.017	15270.593	20253.648	21995.466	7681.021	6640.202	3785.232	10288.040	20625.594
3	10:18:38	517.793	15132.584	19843.856	22057.839	7431.926	6924.859	3709.646	10049.997	20605.548
x		522.978	15157.070	19789.673	21738.562	7378.553	6747.689	3674.076	9934.320	20240.300
σ		34.738	103.476	493.303	499.961	332.384	154.593	132.569	423.575	650.065
%RSD		6.642	0.683	2.493	2.300	4.505	2.291	3.608	4.264	3.212

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:17:53	744.697	237.070	20022.024	78685.729	11460.553	171556.950	4854.629	846.706	106048.290
2	10:18:16	761.365	261.604	20886.187	86065.480	11140.155	185364.050	5221.499	926.714	115623.980
3	10:18:38	722.695	234.136	21253.704	84288.951	11560.679	186151.000	5074.749	900.045	116704.320
x		742.919	244.270	20720.639	83013.387	11387.129	181024.000	5050.293	891.155	112792.190
σ		19.396	15.083	632.308	3851.686	219.667	8208.142	184.654	40.738	5865.319
%RSD		2.611	6.175	3.052	4.640	1.929	4.534	3.656	4.571	5.200

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:17:53	19307.147	16454.879	4447.754	263964.060	38220.174	6575.711	164779.970	229699.020
2	10:18:16	19186.893	15580.006	4981.364	288478.950	38688.817	6502.325	178814.820	242943.380
3	10:18:38	20229.149	15900.560	4654.525	288313.840	39927.489	7156.149	179168.340	244319.530
x		19574.396	15978.481	4694.548	280252.280	38945.494	6744.728	174254.380	238987.310
σ		570.211	442.611	269.047	14106.254	882.124	358.185	8206.980	8073.270
%RSD		2.913	2.770	5.731	5.033	2.265	5.311	4.710	3.378

ICSA, 5/31/2019 10:22:04 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:22:04	0.000	0.000	5.000	T 9629506.900	T 5380315.400	T 3084090.100	T 11469748.000	665286.240	39351.653
2	10:22:26	0.000	0.000	2.500	T 9785766.000	T 5488587.600	T 3146162.400	T 11661787.000	706185.090	49179.331
3	10:22:49	0.000	0.000	2.500	T 9583705.500	T 5466643.800	T 3135265.900	T 11687535.000	701737.480	46840.361
x		0.000	0.000	3.333	T 9666326.100	T 5445182.300	T 3121839.500	T 11606357.000	691069.600	45123.782
σ		0.000	0.000	1.443	T 105942.710	T 57237.782	T 33142.773	T 119004.900	22439.508	5133.790
%RSD		0.000	0.000	43.301	T 1.096	T 1.051	T 1.062	T 1.025	3.247	11.377

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:22:04	93197.504	371.119	2622.601	T 9235426.600	5265.969	1157.852	257.781	335.562	428.899
2	10:22:26	93792.464	368.896	2640.383	T 9452105.000	5632.856	1160.074	237.781	344.451	440.011
3	10:22:49	93801.445	317.783	2553.692	T 9449739.000	5261.522	1173.409	286.671	302.227	433.344
x		93597.138	352.599	2605.559	T 9379090.200	5386.782	1163.778	260.745	327.413	434.084
σ		346.122	30.172	45.789	T 124421.990	213.117	8.414	24.579	22.260	5.593
%RSD		0.370	8.557	1.757	T 1.327	3.956	0.723	9.427	6.799	1.288

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:22:04	40.000	6.933	4118.711	69504.688	2543581.300	140481.550	513.348	820.037	92164.833
2	10:22:26	52.667	4.533	4232.096	78605.035	2611194.900	153543.580	486.680	933.381	100290.160
3	10:22:49	43.333	5.333	4183.184	75324.100	2673021.900	154524.430	620.021	900.045	100991.190
x		45.333	5.600	4177.997	74477.941	2609266.000	149516.520	540.016	884.488	97815.396
σ		6.566	1.222	56.870	4608.804	64741.829	7839.868	70.558	58.252	4906.068
%RSD		14.484	21.822	1.361	6.188	2.481	5.243	13.066	6.586	5.016

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:22:04	80.000	253.337	566.684	239828.970	680.025	1713.495	139732.360	186.669
2	10:22:26	113.334	293.338	620.021	255706.340	1113.401	1646.816	150983.450	240.003
3	10:22:49	146.668	333.339	693.360	263682.740	1246.752	1806.846	159385.060	193.335
x		113.334	293.338	626.688	253072.680	1013.393	1722.386	150033.620	206.669
σ		33.334	40.001	63.600	12143.011	296.304	80.385	9860.718	29.060
%RSD		29.412	13.637	10.149	4.798	29.239	4.667	6.572	14.061

ICSAB, 5/31/2019 10:26:14 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:26:14	6.667	34.000	35.000	T 9902339.400	T 5442030.900	T 3198970.500	T 11636801.000	703979.000	45151.850
2	10:26:36	46.667	21.333	35.833	T 9954218.800	T 5724630.700	T 3330556.200	T 12185584.000	704825.410	48582.803
3	10:26:58	26.667	28.000	40.000	T 9870030.000	T 5672450.600	T 3224876.400	T 11899292.000	724224.750	47651.225
x		26.667	27.778	36.945	T 9908862.700	T 5613037.400	T 3251467.700	T 11907226.000	711009.720	47128.626
σ		20.000	6.336	2.679	T 42471.777	T 150376.500	T 69706.661	T 274477.400	11452.377	1774.174
%RSD		75.000	22.811	7.251	T 0.429	T 2.679	T 2.144	T 2.305	1.611	3.765

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:26:14	93671.224	27091.418	34699.430	T 9569727.000	31171.126	57440.899	14676.282	39318.175	8835.403
2	10:26:36	97423.688	27084.731	35899.632	T 9855670.100	31851.256	57825.548	15504.321	39630.639	9222.453
3	10:26:58	96678.013	28152.412	36888.022	T 9744349.300	31316.068	57832.257	15210.492	40425.237	9235.800
x		95924.308	27442.854	35829.028	T 9723248.800	31446.150	57699.568	15130.365	39791.350	9097.885
σ		1986.529	614.505	1096.003	T 144134.620	358.239	224.039	419.795	570.761	227.415
%RSD		2.071	2.239	3.059	T 1.482	1.139	0.388	2.775	1.434	2.500

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:26:14	6861.255	816.037	50055.203	71526.950	2671618.600	143880.760	80514.974	15553.293	98349.128
2	10:26:36	6951.990	822.437	52093.272	78315.889	2678215.600	154481.490	83622.842	17002.552	103047.410
3	10:26:58	6984.015	844.039	53304.709	78874.017	2765631.800	159812.460	85123.339	17329.835	106952.120
x		6932.420	827.504	51817.728	76238.952	2705155.300	152724.910	83087.052	16628.560	102782.880
σ		63.677	14.673	1642.183	4090.244	52477.918	8109.806	2350.438	945.477	4307.591
%RSD		0.919	1.773	3.169	5.365	1.940	5.310	2.829	5.686	4.191

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:26:14	35689.920	22661.543	16681.958	246161.570	86038.561	116380.200	145115.720	224641.640
2	10:26:36	36539.954	23490.310	17436.706	269132.330	86953.874	120337.900	156149.630	233446.010
3	10:26:58	36914.797	23603.937	18558.925	271054.870	89558.982	127974.460	161339.070	240178.000
x		36381.557	23251.930	17559.196	262116.250	87517.139	121564.190	154201.470	232755.220
σ		627.613	514.437	944.459	13850.562	1826.552	5893.605	8285.277	7791.184
%RSD		1.725	2.212	5.379	5.284	2.087	4.848	5.373	3.347

CCV, 5/31/2019 10:30:24 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:30:24	326.673	411.343	181.668	T 2512565.600	1433930.600	827949.300	T 3026101.500	194489.530	44642.678
2	10:30:46	253.337	438.677	237.503	T 2496006.400	1476140.800	824466.440	T 3158648.000	192655.540	51974.819
3	10:31:08	340.006	429.343	236.670	T 2635104.100	1509171.500	827176.840	T 3231680.800	193511.210	49179.331
x		306.672	426.454	218.614	T 2547892.000	1473081.000	826530.860	T 3138810.100	193552.090	48598.943
σ		46.668	13.894	31.998	T 75980.331	37713.637	1829.084	T 104215.510	917.679	3700.366
%RSD		15.218	3.258	14.637	T 2.982	2.560	0.221	T 3.320	0.474	7.614

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:30:24	12188.165	355458.250	450092.940	2613947.600	348355.530	784079.500	207351.370	564720.520	117836.560
2	10:30:46	12806.792	362383.790	461822.030	2537297.200	347284.590	797094.950	208197.040	565606.470	120407.700
3	10:31:08	12987.048	365271.540	459917.940	2559694.400	351920.060	794148.640	210220.590	573969.190	122797.120
x		12660.668	361037.860	457277.630	2570313.000	349186.730	791774.360	208589.670	568098.730	120347.130
σ		419.008	5043.194	6294.542	39413.045	2426.946	6824.834	1474.357	5103.231	2480.836
%RSD		3.310	1.397	1.377	1.533	0.695	0.862	0.707	0.898	2.061

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:30:24	88874.985	10782.124	640290.280	77825.034	331889.690	162415.770	235990.450	217613.760	111243.150
2	10:30:46	91057.761	10982.630	652665.500	84645.575	349581.260	175622.370	238898.270	225700.730	120250.080
3	10:31:08	90733.880	10823.239	654828.610	85365.594	344990.800	177110.830	246113.630	226671.090	118149.470
x		90222.209	10862.664	649261.460	82612.068	342153.920	171716.320	240334.120	223328.530	116547.570
σ		1177.915	105.908	7844.195	4161.295	9180.625	8088.826	5212.094	4972.857	4712.297
%RSD		1.306	0.975	1.208	5.037	2.683	4.711	2.169	2.227	4.043

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:30:24	482443.800	652577.270	227921.790	263257.340	2403749.300	1649166.500	164053.680	3088487.400
2	10:30:46	480729.820	667712.580	226595.920	287054.920	2479504.800	1693623.500	170436.160	3202856.100
3	10:31:08	513321.170	673496.770	236804.550	296256.510	2472456.400	1707040.200	176578.400	3294287.900
x		492164.930	664595.540	230440.750	282189.590	2451903.500	1683276.700	170356.080	3195210.500
σ		18341.871	10802.466	5550.939	17029.089	41851.422	30292.439	6262.746	103113.090
%RSD		3.727	1.625	2.409	6.035	1.707	1.800	3.676	3.227

CCB, 5/31/2019 10:34:33 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:34:33	0.000	0.000	2.500	800.035	95.556	46.667	26612.228	44.445	47095.005
2	10:34:54	0.000	0.000	1.667	873.375	97.778	40.000	26547.595	46.667	49480.961
3	10:35:17	0.000	0.000	1.667	844.484	104.445	55.556	26496.335	42.222	51458.561
x		0.000	0.000	1.944	839.298	99.260	47.408	26552.053	44.445	49344.843
σ		0.000	0.000	0.481	36.944	4.626	7.804	58.075	2.222	2184.961
%RSD		0.000	0.000	24.744	4.402	4.660	16.462	0.219	5.000	4.428

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:34:33	0.000	673.358	368.896	242.225	73.334	26.667	64.445	148.890	146.668
2	10:34:54	2.222	593.353	366.674	215.558	77.778	15.556	77.778	180.002	131.112
3	10:35:17	0.000	644.467	371.119	244.448	66.667	26.667	64.445	213.336	166.668
x		0.741	637.059	368.896	234.077	72.593	22.963	68.889	180.743	148.149
σ		1.283	40.514	2.222	16.076	5.593	6.415	7.698	32.229	17.824
%RSD		173.205	6.360	0.602	6.868	7.704	27.936	11.175	17.832	12.031

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:34:33	24.667	5.867	357.785	76554.313	420.010	170900.310	6.667	0.000	106871.180
2	10:34:54	22.000	2.933	317.783	83885.243	893.377	182810.900	20.000	0.000	114537.010
3	10:35:17	25.333	6.133	304.450	84194.751	1126.737	186563.780	0.000	0.000	117170.250
x		24.000	4.978	326.673	81544.769	813.374	180091.660	8.889	0.000	112859.480
σ		1.764	1.776	27.757	4324.632	360.092	8178.126	10.184	0.000	5350.545
%RSD		7.349	35.670	8.497	5.303	44.271	4.541	114.564	0.000	4.741

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:34:33	140.001	93.334	46.667	264169.910	2633.715	53.333	166035.850	33.333
2	10:34:54	226.669	86.667	40.000	286415.210	5248.181	53.333	180059.020	46.667
3	10:35:17	193.335	113.334	26.667	283182.950	5561.701	113.334	185221.180	80.000
x		186.669	97.778	37.778	277922.690	4481.199	73.334	177105.350	53.334
σ		43.717	13.878	10.184	12019.404	1607.629	34.641	9927.860	24.037
%RSD		23.420	14.193	26.956	4.325	35.875	47.238	5.606	45.070

mb 500-487972/1-a, 5/31/2019 10:46:32 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:46:32	0.000	0.000	3.333	4916.885	268.893	228.892	26313.583	257.781	45895.560
2	10:46:54	0.000	0.000	2.500	5170.359	337.784	231.114	27414.607	291.116	50426.134
3	10:47:16	0.000	0.000	4.167	4856.853	306.672	262.226	27325.450	226.669	51197.091
x		0.000	0.000	3.333	4981.365	304.450	240.744	27017.880	258.522	49172.928
σ		0.000	0.000	0.833	166.403	34.499	18.637	611.566	32.230	2864.341
%RSD		0.000	0.000	25.000	3.341	11.332	7.741	2.264	12.467	5.825

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:46:32	0.000	562.240	535.571	906.712	377.786	71.111	642.245	702.249	2647.052
2	10:46:54	4.444	573.351	680.025	900.045	373.341	57.778	602.242	671.136	2562.583
3	10:47:16	6.667	606.687	664.469	864.486	373.341	75.556	615.576	635.578	2673.727
x		3.704	580.759	626.689	890.414	374.823	68.148	620.021	669.654	2627.787
σ		3.395	23.131	79.292	22.701	2.566	9.252	20.368	33.360	58.022
%RSD		91.652	3.983	12.653	2.549	0.685	13.576	3.285	4.982	2.208

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:46:32	25.333	3.200	211.114	78806.770	353.340	173318.790	20.000	6.667	107896.510
2	10:46:54	28.000	2.667	251.115	83629.570	513.348	184522.750	26.667	0.000	117906.350
3	10:47:16	29.333	3.733	244.448	82479.131	620.021	184729.100	6.667	0.000	116157.380
x		27.556	3.200	235.559	81638.491	495.570	180856.880	17.778	2.222	113986.750
σ		2.037	0.533	21.431	2518.900	134.226	6528.993	10.184	3.849	5346.299
%RSD		7.391	16.667	9.098	3.085	27.085	3.610	57.282	173.205	4.690

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:46:32	220.003	100.001	86.667	261075.760	1280.090	413.343	169967.510	33.333
2	10:46:54	240.003	200.002	80.000	288644.070	2533.686	340.006	181908.630	6.667
3	10:47:16	206.669	280.004	133.334	283953.090	2340.301	453.345	182167.060	13.333
x		222.225	193.336	100.001	277890.970	2051.359	402.231	178014.400	17.778
σ		16.778	90.187	29.060	14750.079	674.901	57.480	6970.009	13.878
%RSD		7.550	46.648	29.060	5.308	32.900	14.290	3.915	78.063

lcs 500-487972/2-a, 5/31/2019 10:50:41 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:50:41	606.687	80.667	837.539	994814.000	556547.790	66206.876	1240157.000	98580.503	50593.728
2	10:51:02	606.687	78.667	804.202	1031706.000	609379.330	66291.937	1284536.700	101258.590	53309.179
3	10:51:24	600.020	106.001	861.708	1055327.400	610331.220	64011.235	1271014.800	100701.340	47946.103
x		604.465	88.445	834.483	1027282.500	592086.110	65503.350	1265236.200	100180.140	50616.337
σ		3.849	15.237	28.874	30498.240	30780.769	1292.909	22747.200	1413.069	2681.610
%RSD		0.637	17.227	3.460	2.969	5.199	1.974	1.798	1.411	5.298

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:50:41	48211.948	686640.830	348138.560	108215.830	687583.820	1577131.000	424237.500	564609.490	244125.530
2	10:51:02	49887.619	703489.900	360918.300	108742.050	706072.370	1555361.500	428345.800	562249.770	246079.390
3	10:51:24	50256.308	718322.960	364626.400	110408.630	700098.020	1618276.200	423606.870	566164.070	239315.700
x		49451.958	702817.900	357894.420	109122.170	697918.070	1583589.600	425396.730	564341.110	243173.540
σ		1089.588	15851.752	8649.858	1144.752	9435.084	31950.772	2573.367	1970.901	3480.886
%RSD		2.203	2.255	2.417	1.049	1.352	2.018	0.605	0.349	1.431

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:50:41	35165.215	4269.802	2506192.500	79311.128	1312630.800	163019.770	227627.890	43691.407	129171.210
2	10:51:02	35965.001	4320.493	2634582.400	86078.940	1343957.900	175722.050	232680.080	44421.599	139312.660
3	10:51:24	35819.763	4417.340	2636330.300	85237.736	1363275.500	176682.620	237988.200	44957.557	138879.440
x		35649.993	4335.878	2592368.400	83542.602	1339954.700	171808.150	232765.390	44356.854	135787.770
σ		426.064	74.962	74635.630	3688.622	25558.575	7626.094	5180.679	635.554	5734.199
%RSD		1.195	1.729	2.879	4.415	1.907	4.439	2.226	1.433	4.223

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:50:41	1857504.200	1253948.400	1756847.000	265357.080	931865.340	630597.830	T 4925887.300	20.000
2	10:51:02	1955575.900	1293306.000	1828699.100	284235.030	942834.540	655954.480	T 5164280.700	26.667
3	10:51:24	1981787.400	1295363.700	1860071.800	289380.260	964611.150	665262.360	T 5292710.900	46.667
x		1931622.500	1280872.700	1815206.000	279657.460	946437.010	650604.890	T 5127626.300	31.111
σ		65512.574	23339.848	52918.711	12648.870	16667.494	17940.766	T 186138.530	13.878
%RSD		3.392	1.822	2.915	4.523	1.761	2.758	T 3.630	44.607

500-163871-b-9-a @5, 5/31/2019 10:54:49 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:54:49	20.000	2.000	17.500	348558.650	1738819.100	679384.940	338813.770	515910.640	51673.107
2	10:55:10	0.000	0.667	24.167	350763.290	1710888.600	654955.020	323861.110	504639.200	54523.013
3	10:55:32	46.667	0.667	18.333	329945.240	1644940.200	648552.920	315857.890	487859.420	53879.191
x		22.222	1.111	20.000	343089.060	1698216.000	660964.290	326177.590	502803.090	53358.437
σ		23.413	0.770	3.632	11436.133	48205.358	16270.735	11651.936	14115.462	1494.617
%RSD		105.357	69.282	18.162	3.333	2.839	2.462	3.572	2.807	2.801

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:54:49	5801.851	68011.234	77502.294	T 3617021.000	T 928430.490	37954.621	33965.555	80849.031	61813.885
2	10:55:10	5917.481	66314.322	78730.559	T 3474628.900	T 913590.390	37153.544	34694.969	81185.341	61464.864
3	10:55:32	5479.429	65667.429	76525.180	T 3498119.500	922135.310	37756.019	33740.274	82624.891	61787.037
x		5732.920	66664.328	77586.011	T 3529923.100	T 921385.400	37621.395	34133.599	81553.087	61688.595
σ		227.015	1210.468	1105.070	T 76337.960	T 7448.415	417.162	499.039	943.317	194.222
%RSD		3.960	1.816	1.424	T 2.163	T 0.808	1.109	1.462	1.157	0.315

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:54:49	5808.522	58.667	155964.270	151640.930	8143.646	161678.360	246.670	340.006	104416.230
2	10:55:10	6005.316	56.800	154666.820	156020.780	8690.819	172496.710	273.337	413.343	110865.250
3	10:55:32	5911.255	54.933	153204.600	158387.850	9498.293	174020.900	220.003	386.675	110554.830
x		5908.364	56.800	154611.900	155349.850	8777.586	169398.650	246.670	380.008	108612.100
σ		98.429	1.867	1380.654	3423.135	681.479	6729.268	26.667	37.120	3637.048
%RSD		1.666	3.286	0.893	2.204	7.764	3.972	10.811	9.768	3.349

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:54:49	1246.752	593.353	105522.220	267189.600	8230.391	120905.350	161244.080	15379.665
2	10:55:10	1460.117	660.024	106614.860	286222.620	9358.148	118676.270	173241.790	16187.733
3	10:55:32	1320.096	653.357	107167.970	291107.450	10072.243	122601.170	175191.960	16595.133
x		1342.322	635.578	106435.020	281506.560	9220.261	120727.600	169892.610	16054.177
σ		108.405	36.720	837.485	12637.120	928.636	1968.481	7553.053	618.642
%RSD		8.076	5.777	0.787	4.489	10.072	1.631	4.446	3.853

mb 500-487234/1-a, 5/31/2019 10:58:57 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:58:57	0.000	0.000	0.000	3347.283	484.457	780.033	29019.577	644.467	49916.667
2	10:59:18	0.000	0.667	2.500	3485.112	544.461	615.576	29211.301	713.361	53295.768
3	10:59:40	0.000	0.000	4.167	3385.075	375.563	668.914	28839.004	673.358	51713.334
x		0.000	0.222	2.222	3405.823	468.160	688.174	29023.294	677.062	51641.923
σ		0.000	0.385	2.097	71.219	85.620	83.903	186.176	34.596	1690.682
%RSD		0.000	173.205	94.373	2.091	18.289	12.192	0.641	5.110	3.274

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:58:57	11.111	684.470	2560.361	3024.948	986.720	195.558	664.469	957.828	2893.794
2	10:59:18	8.889	693.360	2553.692	2998.272	988.943	171.113	580.019	988.943	3202.786
3	10:59:40	6.667	657.802	2402.540	3002.718	991.165	173.335	595.575	968.941	2916.023
x		8.889	678.544	2505.531	3008.646	988.943	180.002	613.354	971.904	3004.201
σ		2.222	18.505	89.255	14.292	2.222	13.518	44.945	15.767	172.339
%RSD		25.000	2.727	3.562	0.475	0.225	7.510	7.328	1.622	5.737

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:58:57	29.333	4.800	764.477	80669.670	266.671	173026.640	33.333	0.000	112127.250
2	10:59:18	34.667	3.467	753.365	84329.323	353.340	182305.350	46.667	6.667	115853.540
3	10:59:40	30.000	4.533	740.030	83185.524	500.014	188190.120	26.667	13.333	116623.290
x		31.333	4.267	752.624	82728.172	373.342	181174.030	35.556	6.667	114868.030
σ		2.906	0.706	12.240	1872.203	117.950	7644.784	10.184	6.667	2404.582
%RSD		9.274	16.536	1.626	2.263	31.593	4.220	28.641	100.000	2.093

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:58:57	273.337	340.006	166.668	258826.120	633.355	586.686	168765.420	86.667
2	10:59:18	326.673	320.006	240.003	280103.040	1646.816	593.353	176510.430	126.668
3	10:59:40	333.339	366.674	193.335	288306.960	1606.809	626.688	184309.600	73.334
x		311.116	342.229	200.002	275745.370	1295.660	602.242	176528.490	95.556
σ		32.887	23.413	37.119	15215.841	573.921	21.432	7772.105	27.756
%RSD		10.571	6.841	18.559	5.518	44.296	3.559	4.403	29.047

lcs 500-487234/2-a, 5/31/2019 11:03:03 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:03:03	186.669	99.334	878.376	1112261.700	583567.850	68080.639	1304114.700	104499.400	45908.961
2	11:03:24	153.335	86.667	949.216	1108211.100	630664.440	72021.946	1368145.600	104951.220	52330.182
3	11:03:47	120.001	91.334	891.710	1129746.900	610953.210	68047.056	1290443.200	103148.540	49340.199
x		153.335	92.445	906.434	1116739.900	608395.170	69383.214	1320901.100	104199.720	49193.114
σ		33.334	6.406	37.645	11445.039	23652.270	2285.271	41481.964	937.959	3213.137
%RSD		21.739	6.930	4.153	1.025	3.888	3.294	3.140	0.900	6.532

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:03:03	50041.796	725918.870	368067.660	114651.780	711844.130	1595656.100	419289.000	575326.650	246946.890
2	11:03:24	51096.528	752868.380	389310.070	119513.800	760504.140	1680097.600	446010.020	594944.220	257278.670
3	11:03:47	51349.056	741778.930	385098.480	119612.870	714937.760	1640176.900	432257.940	591058.170	254461.010
x		50829.127	740188.730	380825.400	117926.150	729095.350	1638643.500	432518.990	587109.680	252895.520
σ		693.440	13544.951	11247.417	2836.119	27244.763	42241.647	13362.422	10387.743	5340.834
%RSD		1.364	1.830	2.953	2.405	3.737	2.578	3.089	1.769	2.112

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:03:03	36435.536	4489.375	2614145.300	79956.747	1395670.000	163223.380	234793.380	45044.654	132559.470
2	11:03:24	37398.769	4576.885	2730371.700	84235.123	1412929.600	178481.700	239233.590	45915.662	144655.130
3	11:03:47	37762.267	4514.988	2724032.600	81665.166	1435922.500	174197.570	240814.510	45091.552	142785.930
x		37198.857	4527.083	2689516.500	81952.345	1414840.700	171967.550	238280.490	45350.622	140000.170
σ		685.585	44.991	65350.338	2153.597	20194.184	7869.806	3121.666	489.900	6511.266
%RSD		1.843	0.994	2.430	2.628	1.427	4.576	1.310	1.080	4.651

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:03:03	1959043.900	1289505.300	450905.070	261014.030	963731.450	668164.010	160762.320	1177015.800
2	11:03:24	2006825.900	1343412.000	480231.140	280604.830	997350.660	687703.490	172786.580	1217655.800
3	11:03:47	2003604.400	1342689.300	475133.480	285582.970	1003435.400	703226.170	179814.240	1243928.300
x		1989824.700	1325202.200	468756.560	275733.940	988172.520	686364.560	171121.050	1212866.700
σ		26705.592	30916.551	15668.546	12988.548	21384.123	17569.388	9634.542	33712.359
%RSD		1.342	2.333	3.343	4.711	2.164	2.560	5.630	2.780

500-164061-a-1-a @10, 5/31/2019 11:07:12 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:07:12	0.000	0.667	57.500	T 4055041.200	86781.124	108299.040	1144885.800	6182.101	156353.080
2	11:07:34	0.000	0.000	70.834	T 4049377.200	82680.952	109151.360	1130639.500	6397.806	150420.910
3	11:07:56	0.000	0.000	67.500	T 4128485.300	83499.494	106032.550	1121364.800	6524.563	142386.400
x		0.000	0.222	65.278	T 4077634.600	84320.523	107827.650	1132296.700	6368.157	149720.130
σ		0.000	0.385	6.939	T 44128.971	2169.889	1611.954	11847.758	173.145	7009.663
%RSD		0.000	173.205	10.630	T 1.082	2.573	1.495	1.046	2.719	4.682

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:07:12	41693.167	928.936	6084.258	634531.210	T 6897301.600	5172.582	22211.546	25152.525	17076.022
2	11:07:34	43255.999	926.714	6162.088	634031.410	T 6768458.300	5052.515	21732.613	24720.231	17118.324
3	11:07:56	42423.199	824.482	6055.349	622707.480	T 6687525.300	5412.722	22013.287	24510.776	16779.916
x		42457.455	893.377	6100.565	630423.370	T 6784428.400	5212.606	21985.815	24794.511	16991.421
σ		781.979	59.676	55.206	6686.825	T 105796.090	183.409	240.646	327.259	184.386
%RSD		1.842	6.680	0.905	1.061	T 1.559	3.519	1.095	1.320	1.085

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:07:12	82.667	2.667	44294.314	81221.215	47550.701	154474.710	129935.320	14972.319	97991.969
2	11:07:34	98.001	7.733	45788.355	85540.561	51438.448	169354.000	129752.740	15139.262	113342.180
3	11:07:56	66.667	4.800	43546.268	85533.831	48401.842	168661.300	133384.740	14711.895	106331.570
x		82.445	5.067	44542.979	84098.536	49130.330	164163.330	131024.270	14941.159	105888.570
σ		15.668	2.544	1141.540	2491.835	2043.689	8397.739	2046.267	215.381	7684.687
%RSD		19.004	50.207	2.563	2.963	4.160	5.115	1.562	1.442	7.257

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:07:12	400.009	766.699	3987.541	246627.270	1273.423	1726.831	147690.010	121655.260
2	11:07:34	346.673	853.373	4307.687	264952.190	2953.813	1680.155	165051.500	118878.890
3	11:07:56	406.676	926.714	3847.481	276563.780	3273.923	1486.788	167522.750	124797.420
x		384.453	848.929	4047.570	262714.420	2500.386	1631.258	160088.090	121777.190
σ		32.887	80.100	235.903	15093.191	1074.568	127.273	10807.913	2961.149
%RSD		8.554	9.435	5.828	5.745	42.976	7.802	6.751	2.432

500-163905-f-1-a, 5/31/2019 11:11:20 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:11:20	13.333	0.000	125.001	TM 20568757.000	T 3651017.100	420.010	578203.030	906368.390	47597.612
2	11:11:43	0.000	0.000	133.334	TM 22697035.000	T 3867316.900	406.676	598381.400	972115.330	48267.799
3	11:12:04	13.333	0.000	150.835	TM 21189390.000	T 3717867.100	417.787	574390.120	931433.120	48328.118
x		8.889	0.000	136.390	TM 21485060.000	T 3745400.400	414.824	583658.180	936638.950	48064.510
σ		7.698	0.000	13.185	TM 1094512.500	T 110747.300	7.144	12892.413	33181.176	405.468
%RSD		86.603	0.000	9.667	TM 5.094	T 2.957	1.722	2.209	3.543	0.844

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:11:20	22.222	957.828	966.718	97661.778	389330.940	520.015	826.704	662.246	3473.997
2	11:11:43	15.556	942.271	1031.170	104553.350	414303.620	602.242	951.161	726.696	3614.052
3	11:12:04	17.778	897.822	926.714	102645.120	411800.310	680.025	871.153	717.806	3627.390
x		18.519	932.640	974.867	101620.080	405144.950	600.761	883.006	702.249	3571.813
σ		3.395	31.141	52.703	3558.293	13752.418	80.016	63.069	34.928	84.973
%RSD		18.330	3.339	5.406	3.502	3.394	13.319	7.143	4.974	2.379

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:11:20	2733.744	4.800	564706.350	77152.673	6175.430	157420.150	33.333	13.333	102204.640
2	11:11:43	2820.437	4.800	587434.220	80380.459	6348.883	162947.380	26.667	0.000	110143.220
3	11:12:04	2825.772	4.267	587007.970	83394.089	6342.212	163214.330	20.000	6.667	110298.410
x		2793.318	4.622	579716.180	80309.073	6288.842	161193.950	26.667	6.667	107548.760
σ		51.661	0.308	13000.642	3121.320	98.274	3270.933	6.667	6.667	4628.791
%RSD		1.849	6.662	2.243	3.887	1.563	2.029	25.000	100.000	4.304

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:11:20	393.342	473.346	51357.995	258085.510	653.357	546.683	151817.170	38829.415
2	11:11:43	393.342	713.361	53302.473	279463.810	1773.506	540.016	160741.970	40824.794
3	11:12:04	440.011	553.350	53590.828	276721.820	1933.539	553.350	163449.610	42036.967
x		408.898	580.019	52750.432	271423.710	1453.467	546.683	158669.580	40563.725
σ		26.944	122.210	1214.474	11632.300	697.521	6.667	6086.831	1619.634
%RSD		6.589	21.070	2.302	4.286	47.990	1.220	3.836	3.993

500-163905-f-2-a @100, 5/31/2019 11:15:28 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:15:28	0.000	0.000	3.333	T 7941554.500	30381.794	1162.297	51811.670	5414.945	47242.433
2	11:15:51	0.000	0.000	1.667	T 7782341.000	28740.916	1128.959	51565.833	5452.746	52725.792
3	11:16:12	0.000	0.000	5.833	T 7619928.600	29093.145	1186.744	51369.169	5170.359	51210.500
x		0.000	0.000	3.611	T 7781274.700	29405.285	1159.333	51582.224	5346.017	50392.908
σ		0.000	0.000	2.097	T 160815.580	863.825	29.006	221.705	153.294	2831.633
%RSD		0.000	0.000	58.076	T 2.067	2.938	2.502	0.430	2.867	5.619

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:15:28	33.333	735.585	484.457	4532.241	2380.312	75.556	166.668	1051.172	220.003
2	11:15:51	44.445	804.480	484.457	4574.484	2229.162	68.889	122.223	1033.392	255.559
3	11:16:12	37.778	862.263	437.788	4583.377	2371.420	66.667	126.668	962.273	268.893
x		38.519	800.776	468.901	4563.367	2326.965	70.371	138.520	1015.612	248.152
σ		5.592	63.420	26.944	27.321	84.816	4.626	24.478	47.041	25.273
%RSD		14.519	7.920	5.746	0.599	3.645	6.574	17.671	4.632	10.184

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:15:28	36.000	8.800	6090.929	77677.110	666.691	161739.430	13.333	0.000	104301.590
2	11:15:51	40.667	9.067	6119.837	83293.170	640.023	173037.960	13.333	0.000	107127.500
3	11:16:12	40.000	5.067	6262.156	83178.796	753.365	173529.420	13.333	0.000	114071.210
x		38.889	7.644	6157.641	81383.025	686.693	169435.600	13.333	0.000	108500.100
σ		2.524	2.236	91.660	3209.926	59.259	6669.610	0.000	0.000	5027.365
%RSD		6.490	29.255	1.489	3.944	8.630	3.936	0.000	0.000	4.634

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:15:28	113.334	193.335	506.681	254774.040	373.341	746.697	154223.840	101328.240
2	11:15:51	100.001	153.335	553.350	271061.730	886.710	893.377	167651.770	104382.510
3	11:16:12	113.334	253.337	580.019	271981.950	1046.727	760.032	173275.760	105198.500
x		108.890	200.002	546.683	265939.240	768.926	800.035	165050.450	103636.420
σ		7.698	50.333	37.121	9680.289	351.805	81.111	9788.720	2040.150
%RSD		7.070	25.166	6.790	3.640	45.753	10.138	5.931	1.969

500-163905-f-3-a @100, 5/31/2019 11:19:36 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:19:36	0.000	0.000	5.833	T 5124449.100	31898.086	1008.945	46107.741	6024.218	47376.462
2	11:19:59	0.000	0.000	6.667	T 5385219.700	31828.955	1168.964	47800.897	6540.130	50995.966
3	11:20:20	0.000	0.000	3.333	T 5375114.800	30314.905	1037.837	45518.114	6357.778	53275.650
x		0.000	0.000	5.278	T 5294927.900	31347.315	1071.915	46475.584	6307.375	50549.359
σ		0.000	0.000	1.735	T 147725.370	894.762	85.279	1185.013	261.623	2974.844
%RSD		0.000	0.000	32.868	T 2.790	2.854	7.956	2.550	4.148	5.885

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:19:36	26.667	1051.172	593.353	2962.705	1024.502	51.111	100.001	1093.399	253.337
2	11:19:59	28.889	962.273	555.573	2989.380	1031.170	53.333	140.001	1133.404	242.225
3	11:20:20	33.333	997.833	584.463	2709.293	968.941	88.889	124.445	1184.522	275.560
x		29.630	1003.759	577.796	2887.126	1008.204	64.445	121.482	1137.108	257.041
σ		3.395	44.745	19.753	154.585	34.166	21.199	20.164	45.674	16.973
%RSD		11.456	4.458	3.419	5.354	3.389	32.895	16.598	4.017	6.603

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:19:36	53.333	5.867	6506.772	77704.005	606.687	158690.850	13.333	0.000	106183.180
2	11:19:59	52.000	6.667	6766.962	82613.678	560.017	173973.340	13.333	0.000	114847.560
3	11:20:20	70.667	7.467	6560.144	82465.677	720.029	176345.050	0.000	0.000	110784.270
x		58.667	6.667	6611.293	80927.787	628.911	169669.740	8.889	0.000	110605.000
σ		10.414	0.800	137.429	2792.857	82.288	9581.670	7.698	0.000	4334.969
%RSD		17.751	12.000	2.079	3.451	13.084	5.647	86.603	0.000	3.919

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:19:36	106.667	300.005	393.342	252964.550	246.670	546.683	154881.550	92003.209
2	11:19:59	93.334	300.005	486.680	264286.570	720.029	606.687	170354.660	96206.382
3	11:20:20	106.667	200.002	440.011	278529.100	873.375	586.686	171190.130	97897.627
x		102.223	266.671	440.011	265260.070	613.358	580.019	165475.440	95369.073
σ		7.698	57.737	46.669	12810.052	326.686	30.552	9184.091	3035.104
%RSD		7.531	21.651	10.606	4.829	53.262	5.267	5.550	3.182

ccv, 5/31/2019 11:23:45 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:23:45	386.675	427.343	246.670	T 2669596.300	1510125.500	831537.930	T 3118175.300	189469.620	43805.286
2	11:24:07	306.672	399.342	214.169	T 2599181.800	1487665.800	846460.950	T 3051087.500	190306.840	51150.162
3	11:24:28	306.672	411.343	250.003	T 2640824.600	1448301.700	853047.060	T 3147815.800	190765.190	49367.011
x		333.340	412.676	236.948	T 2636534.200	1482031.000	843681.980	T 3105692.900	190180.550	48107.486
σ		46.190	14.048	19.797	T 35402.746	31294.683	11020.556	T 49557.526	656.950	3831.005
%RSD		13.857	3.404	8.355	T 1.343	2.112	1.306	T 1.596	0.345	7.963

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:23:45	12602.062	365710.900	445688.130	2557973.800	337059.210	789328.050	201642.870	541788.360	116506.240
2	11:24:07	12671.047	364603.280	454238.350	2513396.300	348914.130	787225.870	204644.390	552753.120	117485.390
3	11:24:28	12432.940	359258.910	462745.010	T 2561489.200	T 357655.770	786739.700	204848.920	565034.730	120376.180
x		12568.683	363191.030	454223.830	T 2544286.400	T 347876.370	787764.540	203712.060	553192.070	118122.600
σ		122.512	3450.054	8528.447	T 26809.319	T 10337.425	1375.691	1794.886	11629.400	2012.119
%RSD		0.975	0.950	1.878	T 1.054	T 2.972	0.175	0.881	2.102	1.703

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:23:45	87993.809	10814.696	624347.780	74369.624	343717.230	156509.070	230034.000	207085.410	109333.530
2	11:24:07	89198.800	10577.617	635445.180	83643.027	341869.470	169618.870	231134.730	215094.870	113821.440
3	11:24:28	89317.962	10844.865	633657.770	83965.983	343897.180	170662.570	240191.690	217176.830	113423.180
x		88836.857	10745.726	631150.250	80659.544	343161.290	165596.830	233786.810	213119.040	112192.720
σ		732.528	146.366	5958.510	5449.624	1122.360	7887.522	5574.030	5327.956	2484.123
%RSD		0.825	1.362	0.944	6.756	0.327	4.763	2.384	2.500	2.214

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:23:45	467800.830	622771.660	224115.560	249154.810	2357942.600	1597749.300	157078.770	2901992.600
2	11:24:07	474087.610	648900.930	221533.410	278666.560	2385468.700	1644099.900	166606.140	2971265.000
3	11:24:28	478847.610	662139.620	228256.700	283176.070	2422165.100	1677059.000	171679.230	3108249.900
x		473578.680	644604.070	224635.220	270332.480	2388525.500	1639636.100	165121.380	2993835.800
σ		5540.950	20032.630	3391.635	18478.481	32220.187	39842.850	7412.608	104964.750
%RSD		1.170	3.108	1.510	6.835	1.349	2.430	4.489	3.506

ccb, 5/31/2019 11:27:55 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:27:55	0.000	0.000	5.000	908.934	115.556	91.112	28232.660	77.778	46270.789
2	11:28:16	0.000	0.000	3.333	868.930	71.111	55.556	28720.853	37.778	49574.804
3	11:28:39	0.000	0.000	6.667	955.606	71.111	75.556	27862.633	28.889	49514.476
x		0.000	0.000	5.000	911.157	85.926	74.074	28272.049	48.148	48453.356
σ		0.000	0.000	1.667	43.380	25.660	17.824	430.464	26.042	1890.400
%RSD		0.000	0.000	33.333	4.761	29.863	24.063	1.523	54.088	3.901

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:27:55	0.000	646.690	373.341	320.006	75.556	57.778	77.778	455.567	144.446
2	11:28:16	2.222	677.803	415.565	280.004	93.334	48.889	95.556	484.457	135.557
3	11:28:39	0.000	735.585	380.008	266.671	84.445	35.556	73.334	495.569	168.890
x		0.741	686.693	389.638	288.894	84.445	47.408	82.223	478.531	149.631
σ		1.283	45.110	22.700	27.756	8.889	11.185	11.759	20.649	17.261
%RSD		173.205	6.569	5.826	9.608	10.526	23.593	14.301	4.315	11.536

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:27:55	19.333	6.133	324.450	79210.254	226.669	170626.350	20.000	20.000	105933.630
2	11:28:16	29.333	5.600	262.226	84161.108	346.673	186028.530	0.000	0.000	113247.680
3	11:28:39	32.667	4.800	373.341	81375.923	480.013	184345.880	46.667	6.667	119243.620
x		27.111	5.511	320.006	81582.429	351.118	180333.590	22.222	8.889	112808.310
σ		6.939	0.671	55.691	2481.879	126.730	8448.710	23.413	10.184	6665.863
%RSD		25.594	12.177	17.403	3.042	36.093	4.685	105.357	114.564	5.909

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:27:55	120.001	93.334	13.333	260554.460	2667.058	200.002	162981.310	133.334
2	11:28:16	140.001	146.668	40.000	276529.430	5194.817	120.001	173887.270	86.667
3	11:28:39	166.668	160.001	20.000	276041.600	6108.718	100.001	181650.210	73.334
x		142.223	133.334	24.444	271041.830	4656.865	140.001	172839.600	97.778
σ		23.413	35.277	13.878	9085.605	1782.779	52.916	9378.438	31.506
%RSD		16.462	26.458	56.773	3.352	38.283	37.797	5.426	32.222

ccvl, 5/31/2019 11:32:04 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:32:04	13.333	4.000	60.000	22980.119	12577.584	3482.889	92663.194	1635.703	48582.803
2	11:32:26	13.333	2.667	50.000	22570.205	12915.835	3398.413	95458.561	1717.940	53382.943
3	11:32:48	6.667	2.667	47.500	22654.860	12179.264	3578.482	93053.821	1700.159	50493.171
x		11.111	3.111	52.500	22735.061	12557.561	3486.595	93725.192	1684.601	50819.639
σ		3.849	0.770	6.614	216.406	368.694	90.092	1513.794	43.270	2416.666
%RSD		34.641	24.744	12.599	0.952	2.936	2.584	1.615	2.569	4.755

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:32:04	271.115	7576.489	9909.843	10130.085	3676.299	3442.874	1820.182	4585.601	9502.742
2	11:32:26	280.004	8019.091	10018.851	10753.022	3629.613	3265.031	1833.518	4914.661	10281.366
3	11:32:48	275.560	8019.091	10034.424	10944.362	3656.291	3256.139	1873.526	5090.314	10081.142
x		275.560	7871.557	9987.706	10609.156	3654.068	3321.348	1842.409	4863.525	9955.083
σ		4.445	255.536	67.879	425.775	23.422	105.339	27.761	256.213	404.329
%RSD		1.613	3.246	0.680	4.013	0.641	3.172	1.507	5.268	4.062

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:32:04	384.008	121.867	10207.950	79082.483	5341.569	169915.440	2413.654	500.014	107316.370
2	11:32:26	410.676	111.201	10408.177	83932.341	5328.228	185348.180	2413.654	420.010	116697.560
3	11:32:48	394.009	119.467	10332.535	82936.599	5781.838	183645.250	2433.659	446.678	117609.200
x		396.231	117.512	10316.221	81983.807	5483.878	179636.290	2420.322	455.567	113874.380
σ		13.472	5.596	101.105	2561.472	258.127	8461.452	11.550	40.736	5697.661
%RSD		3.400	4.762	0.980	3.124	4.707	4.710	0.477	8.942	5.003

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:32:04	9745.221	7516.439	2200.266	257351.810	19146.808	3293.930	161929.430	116717.820
2	11:32:26	9771.916	7870.072	2293.623	282811.660	20463.005	3233.908	174641.520	119311.160
3	11:32:48	10018.851	7736.624	2346.970	280336.750	21859.583	3220.570	174763.840	117690.240
x		9845.329	7707.712	2280.286	273500.070	20489.799	3249.470	170444.930	117906.410
σ		150.866	178.580	74.255	14039.447	1356.586	39.077	7374.892	1310.115
%RSD		1.532	2.317	3.256	5.133	6.621	1.203	4.327	1.111

mb 500-487817/1-a, 5/31/2019 11:36:12 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:36:12	0.000	0.000	4.167	3347.283	208.891	135.557	28495.702	268.893	46579.023
2	11:36:34	0.000	0.667	1.667	3462.882	222.225	146.668	28696.331	260.004	52310.067
3	11:36:56	0.000	0.000	3.333	3313.937	186.669	124.445	28841.233	220.003	50640.654
x		0.000	0.222	3.056	3374.701	205.928	135.557	28677.755	249.633	49843.248
σ		0.000	0.385	1.273	78.166	17.962	11.111	173.513	26.043	2947.560
%RSD		0.000	173.205	41.660	2.316	8.723	8.197	0.605	10.432	5.914

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:36:12	0.000	691.137	657.802	833.372	306.672	26.667	100.001	1322.318	1653.484
2	11:36:34	2.222	646.690	700.027	844.484	326.673	35.556	164.446	1275.645	1760.170
3	11:36:56	6.667	697.805	648.912	884.487	246.670	55.556	126.668	1282.313	1786.842
x		2.963	678.544	668.914	854.114	293.338	39.259	130.371	1293.425	1733.499
σ		3.395	27.787	27.309	26.884	41.635	14.796	32.382	25.243	70.567
%RSD		114.564	4.095	4.083	3.148	14.193	37.689	24.838	1.952	4.071

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:36:12	24.000	2.933	322.228	77421.611	86.667	169849.780	6.667	0.000	107127.500
2	11:36:34	30.667	6.400	297.783	82627.133	86.667	183640.710	6.667	0.000	114503.260
3	11:36:56	30.667	3.200	308.894	86523.127	153.335	185767.720	0.000	6.667	114368.240
x		28.444	4.178	309.635	82190.624	108.890	179752.740	4.444	2.222	111999.670
σ		3.849	1.929	12.239	4566.432	38.491	8641.900	3.849	3.849	4219.961
%RSD		13.532	46.176	3.953	5.556	35.348	4.808	86.603	173.205	3.768

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:36:12	260.004	126.668	73.334	252162.730	473.346	406.676	163510.690	20.000
2	11:36:34	240.003	166.668	73.334	277127.220	1173.409	460.012	178767.230	13.333
3	11:36:56	220.003	180.002	66.667	282351.000	1566.802	460.012	179147.950	33.333
x		240.003	157.779	71.111	270546.980	1071.186	442.233	173808.620	22.222
σ		20.001	27.756	3.849	16134.051	553.849	30.793	8920.300	10.184
%RSD		8.333	17.592	5.413	5.963	51.704	6.963	5.132	45.826

lcs 500-487817/2-a, 5/31/2019 11:40:20 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:40:20	113.334	86.000	880.876	1064259.800	619211.490	67498.545	1262260.500	102813.670	48294.607
2	11:40:42	140.001	102.667	978.386	1119646.700	610941.340	68759.050	1286890.700	105495.240	49930.073
3	11:41:04	140.001	106.001	890.044	1120152.600	616058.860	65671.906	1281406.600	99663.325	51116.641
x		131.112	98.223	916.435	1101353.000	615403.900	67309.834	1276852.600	102657.410	49780.440
σ		15.396	10.715	53.846	32124.665	4173.800	1552.200	12931.188	2919.098	1416.955
%RSD		11.743	10.909	5.876	2.917	0.678	2.306	1.013	2.844	2.846

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:40:20	50828.364	725793.900	366173.420	114390.740	713149.620	1575039.500	426860.550	566475.960	245965.250
2	11:40:42	49773.664	728550.750	377977.670	116767.340	731063.140	1662269.100	424940.320	575579.720	249778.240
3	11:41:04	50238.432	696982.890	378538.050	113589.680	709070.560	1648680.100	429812.660	574444.510	247962.870
x		50280.153	717109.180	374229.710	114915.920	717761.110	1628662.900	427204.510	572166.730	247902.120
σ		528.587	17484.298	6982.579	1652.645	11699.048	46933.616	2454.312	4960.931	1907.220
%RSD		1.051	2.438	1.866	1.438	1.630	2.882	0.575	0.867	0.769

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:40:20	35957.639	4480.037	2640418.600	79015.235	1360533.300	161535.860	238905.110	45225.548	125824.770
2	11:40:42	36639.687	4583.288	2696709.900	83313.353	1392656.000	175006.210	237584.510	43135.428	139705.280
3	11:41:04	36528.575	4552.606	2681269.800	83111.518	1436675.400	179551.340	234690.780	45815.156	142603.090
x		36375.300	4538.644	2672799.400	81813.369	1396621.500	172031.140	237060.130	44725.378	136044.380
σ		365.947	53.023	29085.893	2425.356	38225.616	9368.979	2155.545	1408.142	8968.259
%RSD		1.006	1.168	1.088	2.964	2.737	5.446	0.909	3.148	6.592

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:40:20	1911047.900	1280189.500	452081.390	260657.340	985237.120	657715.110	156780.350	1193536.000
2	11:40:42	1958814.900	1296695.000	462576.760	274646.970	1000422.300	686569.040	173296.140	1220168.300
3	11:41:04	1970274.100	1324356.100	470410.450	278171.740	1020783.400	710716.370	175708.450	1223129.400
x		1946712.300	1300413.500	461689.530	271158.680	1002147.600	685000.170	168594.980	1212277.900
σ		31413.211	22316.890	9196.686	9263.619	17835.849	26535.435	10302.621	16298.338
%RSD		1.614	1.716	1.992	3.416	1.780	3.874	6.111	1.344

500-164124-c-1-a, 5/31/2019 11:44:29 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:44:29	13.333	0.000	175.002	T 3352703.100	513389.300	24847.243	1233280.000	188639.290	47363.059
2	11:44:50	20.000	0.000	193.335	T 3616032.900	551000.250	26500.792	1240364.900	190522.400	51679.811
3	11:45:12	13.333	0.000	190.835	T 3373797.300	485162.930	25188.180	1215384.300	185239.330	51652.993
x		15.556	0.000	186.391	T 3447511.100	516517.490	25512.072	1229676.400	188133.670	50231.954
σ		3.849	0.000	9.942	T 146324.740	33029.949	873.061	12874.288	2677.582	2484.573
%RSD		24.744	0.000	5.334	T 4.244	6.395	3.422	1.047	1.423	4.946

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:44:29	1388.995	3271.700	9122.352	371366.730	179882.230	3238.355	4274.338	57537.059	64478.968
2	11:44:50	1495.679	3142.765	9427.108	368664.460	186366.460	3353.952	4363.269	59744.564	66124.055
3	11:45:12	1353.434	3349.506	8937.725	376586.110	179848.240	3240.578	3994.211	58154.302	64942.248
x		1412.703	3254.657	9162.395	372205.770	182032.310	3277.628	4210.606	58478.642	65181.757
σ		74.026	104.419	247.136	4026.924	3753.521	66.108	192.607	1138.932	848.293
%RSD		5.240	3.208	2.697	1.082	2.062	2.017	4.574	1.948	1.301

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:44:29	927.381	7.200	681020.790	82035.141	2773.756	160999.800	2760.419	200.002	102979.980
2	11:44:50	934.715	9.600	711952.110	87876.011	3167.218	173977.870	2500.344	233.336	109502.210
3	11:45:12	950.716	7.200	702741.900	90440.983	3393.967	171871.700	2553.692	266.671	110676.300
x		937.604	8.000	698571.600	86784.045	3111.647	168949.790	2604.818	233.336	107719.500
σ		11.933	1.386	15881.756	4307.997	313.817	6964.962	137.369	33.334	4146.307
%RSD		1.273	17.321	2.273	4.964	10.085	4.123	5.274	14.286	3.849

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:44:29	3047.177	3167.218	23583.885	257660.370	1333.431	100451.930	157533.190	1353.434
2	11:44:50	3140.542	3193.894	24593.221	283478.620	2760.419	105967.350	170993.140	1360.102
3	11:45:12	2887.125	3027.171	24746.970	284358.810	3133.873	107896.510	175524.960	1686.823
x		3024.948	3129.428	24308.025	275165.930	2409.241	104771.930	168017.100	1466.786
σ		128.163	89.556	631.818	15166.653	950.207	3863.576	9357.806	190.587
%RSD		4.237	2.862	2.599	5.512	39.440	3.688	5.570	12.993

mb 500-487357/1-a, 5/31/2019 11:48:37 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:48:37	0.000	0.000	1.667	3889.721	193.335	206.669	28000.834	240.003	46706.341
2	11:48:58	0.000	0.000	5.000	4096.478	195.558	180.002	27998.605	251.115	49822.821
3	11:49:20	0.000	0.000	5.833	3642.952	211.114	222.225	27539.428	237.781	50908.813
x		0.000	0.000	4.167	3876.384	200.002	202.965	27846.289	242.966	49145.991
σ		0.000	0.000	2.205	227.057	9.687	21.354	265.752	7.144	2181.460
%RSD		0.000	0.000	52.915	5.857	4.843	10.521	0.954	2.940	4.439

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:48:37	8.889	748.920	1117.847	826.704	375.563	506.681	146.668	664.469	2467.001
2	11:48:58	2.222	748.920	1017.835	931.159	360.007	544.461	144.446	637.800	2669.281
3	11:49:20	4.444	615.576	1006.722	1026.725	406.676	553.350	168.890	644.467	2515.904
x		5.185	704.472	1047.468	928.196	380.749	534.831	153.335	648.912	2550.729
σ		3.395	76.986	61.202	100.043	23.763	24.780	13.517	13.879	105.541
%RSD		65.465	10.928	5.843	10.778	6.241	4.633	8.816	2.139	4.138

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:48:37	23.333	3.467	197.780	78658.831	200.002	170866.350	20.000	0.000	107990.960
2	11:48:58	22.667	1.867	195.558	84941.651	400.009	182672.610	26.667	0.000	112100.250
3	11:49:20	25.333	2.933	200.002	87155.794	440.011	183334.630	13.333	0.000	115975.070
x		23.778	2.756	197.780	83585.425	346.674	178957.860	20.000	0.000	112022.100
σ		1.388	0.815	2.222	4407.846	128.586	7015.270	6.667	0.000	3992.631
%RSD		5.836	29.565	1.124	5.273	37.091	3.920	33.333	0.000	3.564

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:48:37	266.671	260.004	93.334	256247.940	473.346	293.338	165852.550	40.000
2	11:48:58	206.669	226.669	120.001	275622.500	1320.096	246.670	178406.920	80.000
3	11:49:20	280.004	240.003	153.335	278975.830	1433.446	366.674	180623.380	40.000
x		251.115	242.225	122.223	270282.090	1075.629	302.227	174960.950	53.334
σ		39.064	16.778	30.062	12269.034	524.663	60.494	7965.577	23.094
%RSD		15.556	6.927	24.596	4.539	48.777	20.016	4.553	43.301

lcs 500-487357/2-a, 5/31/2019 11:52:46 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:52:46	153.335	92.667	918.380	1056101.100	599939.210	67113.488	1251122.500	102919.300	47483.686
2	11:53:08	160.001	85.334	887.543	1072116.400	611874.390	67764.960	1323995.500	107759.350	51297.656
3	11:53:30	113.334	89.334	863.374	1059072.000	598153.790	65345.119	1267144.000	101964.180	48073.440
x		142.223	89.112	889.766	1062429.800	603322.460	66741.189	1280754.000	104214.280	48951.594
σ		25.240	3.672	27.570	8519.329	7459.795	1252.143	38295.441	3107.039	2053.036
%RSD		17.747	4.120	3.099	0.802	1.236	1.876	2.990	2.981	4.194

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:52:46	48788.344	695643.700	364325.810	112095.750	702159.370	1572699.300	417075.010	570711.140	245211.970
2	11:53:08	50363.566	719756.640	372292.350	114176.970	704902.140	1634851.000	421664.050	571616.570	244990.560
3	11:53:30	47387.631	711282.630	361595.540	112601.950	723494.340	1579761.100	422929.740	567534.570	246446.920
x		48846.514	708894.320	366071.230	112958.230	710185.280	1595770.400	420556.270	569954.100	245549.820
σ		1488.820	12232.598	5557.907	1085.386	11607.278	34028.427	3080.560	2143.714	784.762
%RSD		3.048	1.726	1.518	0.961	1.634	2.132	0.732	0.376	0.320

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:52:46	35524.608	4327.163	2589710.100	77576.255	1338377.500	157619.110	230403.170	44488.592	128373.360
2	11:53:08	35605.590	4474.167	2651091.200	83246.075	1353404.100	174496.560	233972.620	44341.208	134758.100
3	11:53:30	35595.551	4418.674	2571561.100	80777.286	1402412.400	170626.350	230252.770	43798.587	139542.810
x		35575.250	4406.668	2604120.800	80533.205	1364731.300	167580.670	231542.850	44209.462	134224.760
σ		44.144	74.234	41677.424	2842.780	33486.513	8841.333	2105.584	363.379	5603.793
%RSD		0.124	1.685	1.600	3.530	2.454	5.276	0.909	0.822	4.175

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:52:46	1933528.000	1268692.600	444130.150	259786.270	957051.290	654602.020	158699.890	1186535.700
2	11:53:08	1912896.200	1296580.200	451465.200	283898.080	970268.320	672722.470	172800.170	1211692.300
3	11:53:30	1947801.700	1294889.400	460642.140	282742.900	1007934.700	690446.850	175259.920	1215705.500
x		1931408.700	1286720.800	452079.170	275475.750	978418.120	672590.450	168919.990	1204644.500
σ		17548.990	15635.694	8273.101	13599.760	26402.569	17922.780	8935.908	15810.544
%RSD		0.909	1.215	1.830	4.937	2.698	2.665	5.290	1.312

500-164003-f-1-a, 5/31/2019 11:56:56 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:56:56	13.333	0.000	15.833	247127.240	2036319.600	666.691	352963.830	402355.620	44548.886
2	11:57:18	0.000	0.000	15.000	262296.830	2112399.200	660.024	376544.430	414987.090	49916.667
3	11:57:41	6.667	0.000	16.667	247467.420	2140356.000	671.136	355093.280	402982.490	49413.932
x		6.667	0.000	15.833	252297.170	2096358.300	665.950	361533.850	406775.070	47959.828
σ		6.667	0.000	0.833	8661.636	53841.198	5.593	13043.080	7118.723	2964.638
%RSD		100.000	0.000	5.263	3.433	2.568	0.840	3.608	1.750	6.182

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:56:56	4.444	695.582	655.579	6960.441	3871.936	440.011	195.558	522.237	4167.622
2	11:57:18	2.222	604.465	680.025	7053.847	4176.515	433.344	197.780	540.016	4436.638
3	11:57:41	4.444	595.575	628.911	6887.052	3858.597	460.012	240.003	486.680	4487.774
x		3.704	631.874	654.838	6967.113	3969.016	444.455	211.114	516.311	4364.011
σ		1.283	55.352	25.565	83.597	179.823	13.878	25.044	27.158	171.989
%RSD		34.641	8.760	3.904	1.200	4.531	3.123	11.863	5.260	3.941

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:56:56	82.000	4.267	152106.390	73892.423	833.372	156070.510	26.667	20.000	104004.890
2	11:57:18	90.000	6.133	160384.630	83131.702	1493.456	167835.100	33.333	6.667	109947.540
3	11:57:41	103.334	3.733	159737.830	79842.415	1546.798	169514.730	20.000	0.000	112417.470
x		91.778	4.711	157409.620	78955.513	1291.209	164473.450	26.667	8.889	108789.960
σ		10.777	1.260	4604.104	4683.056	397.395	7325.456	6.667	10.184	4324.103
%RSD		11.743	26.750	2.925	5.931	30.777	4.454	25.000	114.564	3.975

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:56:56	346.673	213.336	107768.340	250374.300	1226.749	393.342	159113.700	1873.526
2	11:57:18	333.339	240.003	109873.310	272071.230	3093.860	360.007	167875.850	1766.838
3	11:57:41	393.342	293.338	111324.140	277154.710	3313.937	366.674	174131.880	1960.211
x		357.785	248.892	109655.260	266533.410	2544.849	373.341	167040.480	1866.859
σ		31.507	40.735	1787.899	14223.154	1146.799	17.639	7543.863	96.859
%RSD		8.806	16.367	1.630	5.336	45.064	4.725	4.516	5.188

500-164003-f-2-a, 5/31/2019 12:01:06 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:01:06	0.000	0.000	18.333	832847.870	T 3069619.600	T 21.200	335952.690	622621.910	49735.679
2	12:01:28	0.000	0.000	9.167	849708.390	T 3154745.900	2098.020	332656.980	638956.730	49340.199
3	12:01:51	0.000	0.000	19.167	832787.100	T 3031803.800	2104.688	329408.510	615462.660	50312.171
x		0.000	0.000	15.556	838447.790	T 3085389.800	T 1407.969	332672.730	625680.430	49796.017
σ		0.000	0.000	5.549	9752.016	T 62969.932	T 1200.982	3272.118	12041.962	488.787
%RSD		0.000	0.000	35.670	1.163	T 2.041	T 85.299	0.984	1.925	0.982

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:01:06	46.667	1017.835	3133.873	25832.205	34494.207	5019.163	3131.650	2638.161	10463.796
2	12:01:28	57.778	1064.507	2938.253	25789.863	36232.058	5032.504	3213.901	2653.721	10421.526
3	12:01:51	62.222	1013.390	3164.995	25339.711	34739.583	5123.666	3187.225	2798.208	10577.261
x		55.556	1031.910	3079.040	25653.926	35155.283	5058.444	3177.592	2696.697	10487.528
σ		8.012	28.317	122.915	272.941	940.551	56.876	41.963	88.255	80.534
%RSD		14.422	2.744	3.992	1.064	2.675	1.124	1.321	3.273	0.768

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:01:06	193.335	5.067	284329.010	76050.107	853.373	156215.190	66.667	13.333	102245.090
2	12:01:28	238.003	6.133	289472.000	80730.204	866.708	168629.600	100.001	13.333	108746.550
3	12:01:51	222.003	4.800	296968.060	81685.346	1113.401	167079.150	100.001	6.667	111654.820
x		217.780	5.333	290256.360	79488.552	944.494	163974.650	88.889	11.111	107548.820
σ		22.631	0.706	6355.923	3015.834	146.430	6764.458	19.245	3.849	4817.850
%RSD		10.392	13.229	2.190	3.794	15.504	4.125	21.651	34.641	4.480

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:01:06	220.003	253.337	159568.230	255987.420	600.020	746.697	150786.900	6569.039
2	12:01:28	213.336	293.338	164155.490	279938.070	1306.761	700.027	167746.830	6882.604
3	12:01:51	273.337	366.674	166993.140	275684.330	1546.798	886.710	169492.090	6362.226
x		235.559	304.450	163572.290	270536.610	1151.193	777.811	162675.270	6604.623
σ		32.887	57.480	3746.657	12778.213	492.187	97.153	10332.549	262.008
%RSD		13.961	18.880	2.291	4.723	42.755	12.491	6.352	3.967

500-164003-f-3-a, 5/31/2019 12:05:15 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:05:15	6.667	0.000	16.667	993948.820	T 3117378.400	2442.550	293186.000	642967.460	45058.053
2	12:05:38	0.000	0.667	20.000	966245.100	T 3169232.500	2587.035	293989.100	643038.920	50225.025
3	12:06:00	20.000	0.000	15.000	946904.500	T 3099285.500	2333.633	291054.690	664073.310	52712.381
x		8.889	0.222	17.222	969032.810	T 3128632.100	2454.406	292743.260	650026.560	49331.820
σ		10.184	0.385	2.546	23645.729	T 36306.064	127.116	1516.479	12164.891	3904.554
%RSD		114.564	173.205	14.783	2.440	T 1.160	5.179	0.518	1.871	7.915

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:05:15	80.000	1151.184	2735.967	203980.840	166004.170	26418.330	2413.654	2869.342	88571.602
2	12:05:38	66.667	1217.859	2493.675	205267.090	171873.970	25665.066	2318.073	2842.667	89500.634
3	12:06:00	71.111	1091.177	2507.012	200893.210	164693.990	26375.985	2491.453	2867.119	90517.292
x		72.593	1153.407	2578.885	203380.380	167524.040	26153.127	2407.727	2859.709	89529.843
σ		6.789	63.371	136.201	2247.911	3823.680	423.203	86.841	14.801	973.174
%RSD		9.352	5.494	5.281	1.105	2.282	1.618	3.607	0.518	1.087

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:05:15	1352.101	3.467	327720.220	74853.571	700.027	153606.860	6.667	6.667	99326.333
2	12:05:38	1405.442	3.200	337737.010	85251.195	920.047	168183.680	20.000	13.333	110190.450
3	12:06:00	1329.431	5.867	342584.540	82115.865	800.035	169114.040	20.000	0.000	109947.540
x		1362.324	4.178	336013.920	80740.210	806.703	163634.860	15.556	6.667	106488.110
σ		39.023	1.469	7580.487	5333.570	110.161	8696.953	7.698	6.667	6203.467
%RSD		2.864	35.155	2.256	6.606	13.656	5.315	49.487	100.000	5.826

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:05:15	226.669	213.336	171774.330	253046.790	360.007	826.704	151701.930	4461.094
2	12:05:38	220.003	213.336	177781.510	272709.940	960.051	733.363	165139.750	5414.945
3	12:06:00	260.004	220.003	177788.310	279993.060	946.716	800.035	164664.580	4928.002
x		235.559	215.558	175781.380	268583.260	755.591	786.701	160502.080	4934.681
σ		21.431	3.849	3470.211	13939.064	342.651	48.078	7624.856	476.961
%RSD		9.098	1.786	1.974	5.190	45.349	6.111	4.751	9.665

500-164003-f-4-a, 5/31/2019 12:09:23 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:09:23	0.000	1.333	21.667	1067295.600	T 2366869.300	1544.576	379374.060	563322.080	47751.751
2	12:09:46	6.667	0.000	16.667	1069991.000	2430495.700	1482.343	393342.650	572486.610	51927.885
3	12:10:08	0.000	0.000	17.500	1039253.000	T 2452566.100	1497.901	388714.260	596544.130	49936.777
x		2.222	0.444	18.611	1058846.500	T 2416643.700	1508.273	387143.660	577450.940	49872.138
σ		3.849	0.770	2.679	17021.912	T 44495.988	32.387	7115.508	17158.365	2088.818
%RSD		173.205	173.205	14.394	1.608	T 1.841	2.147	1.838	2.971	4.188

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:09:23	55.556	842.261	1297.870	22982.347	25335.254	408.898	555.573	482.235	3456.212
2	12:09:46	42.222	786.701	1326.764	23603.937	26204.379	380.008	557.795	455.567	3433.982
3	12:10:08	37.778	702.249	1348.989	23436.838	25858.948	404.453	546.683	515.570	3449.543
x		45.185	777.070	1324.541	23341.041	25799.527	397.786	553.350	484.457	3446.579
σ		9.252	70.501	25.632	321.677	437.599	15.556	5.880	30.063	11.408
%RSD		20.475	9.073	1.935	1.378	1.696	3.911	1.063	6.206	0.331

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:09:23	415.343	3.467	322173.830	76386.241	693.360	157481.190	73.334	0.000	99575.706
2	12:09:46	438.011	4.267	340990.710	84860.902	633.355	170352.390	100.001	0.000	113335.430
3	12:10:08	470.679	6.667	333124.760	82741.499	820.037	171258.060	86.667	0.000	113267.930
x		441.344	4.800	332096.430	81329.548	715.584	166363.880	86.667	0.000	108726.350
σ		27.818	1.665	9450.496	4410.235	95.304	7705.950	13.333	0.000	7924.765
%RSD		6.303	34.694	2.846	5.423	13.318	4.632	15.385	0.000	7.289

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:09:23	173.335	186.669	203676.350	249682.320	286.671	793.368	149594.100	693.360
2	12:09:46	260.004	200.002	210809.560	270924.400	646.690	840.039	163734.670	833.372
3	12:10:08	213.336	226.669	210413.880	277319.630	833.372	873.375	170273.150	786.701
x		215.558	204.447	208299.930	265975.450	588.911	835.594	161200.640	771.144
σ		43.377	20.367	4009.022	14468.041	277.892	40.188	10569.851	71.290
%RSD		20.123	9.962	1.925	5.440	47.187	4.810	6.557	9.245

500-164003-f-5-a, 5/31/2019 12:13:32 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:13:32	0.000	0.000	12.500	1778163.600	T 2983617.200	T 3858.319	521881.860	588867.050	48998.358
2	12:13:54	0.000	0.000	7.500	1708159.700	T 2973674.300	686.693	519897.300	602704.540	53456.708
3	12:14:16	6.667	0.000	8.333	1675089.500	T 2925650.700	628.911	514228.110	577401.060	50164.693
x		2.222	0.000	9.444	1720470.900	T 2960980.700	T 1724.641	518669.090	589657.550	50873.253
σ		3.849	0.000	2.679	52628.353	T 30997.988	T 1848.046	3971.948	12670.251	2312.091
%RSD		173.205	0.000	28.364	3.059	T 1.047	T 107.155	0.766	2.149	4.545

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:13:32	13.333	924.491	3547.359	6397.806	18171.476	10330.310	2015.779	1393.440	12201.516
2	12:13:54	24.444	957.828	3751.885	6813.664	18676.944	10701.851	1944.652	1368.992	12613.188
3	12:14:16	15.556	908.934	3556.251	6382.240	18990.926	10748.573	2111.356	1353.434	12484.122
x		17.778	930.418	3618.498	6531.236	18613.115	10593.578	2023.929	1371.955	12432.942
σ		5.879	24.980	115.602	244.713	413.437	229.190	83.650	20.167	210.554
%RSD		33.072	2.685	3.195	3.747	2.221	2.163	4.133	1.470	1.694

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:13:32	166.668	2.667	202024.540	76870.296	753.365	158699.890	13.333	20.000	104315.080
2	12:13:54	167.335	4.800	215513.500	83394.089	760.032	171380.330	20.000	6.667	111168.920
3	12:14:16	171.335	4.000	212592.580	83804.503	786.701	172575.970	26.667	6.667	112005.770
x		168.446	3.822	210043.540	81356.296	766.699	167552.060	20.000	11.111	109163.250
σ		2.524	1.078	7096.563	3890.406	17.640	7689.480	6.667	7.698	4219.444
%RSD		1.498	28.196	3.379	4.782	2.301	4.589	33.333	69.282	3.865

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:13:32	240.003	246.670	109596.670	251032.070	306.672	4140.943	151573.150	5821.864
2	12:13:54	220.003	213.336	110244.430	269942.490	726.696	4561.144	165261.940	6062.021
3	12:14:16	226.669	260.004	112262.230	275299.600	726.696	4687.875	167122.150	6102.047
x		228.892	240.003	110701.110	265424.720	586.688	4463.321	161319.080	5995.310
σ		10.184	24.038	1390.225	12748.958	242.501	286.288	8491.317	151.537
%RSD		4.449	10.016	1.256	4.803	41.334	6.414	5.264	2.528

ccv, 5/31/2019 12:17:41 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:17:41	426.677	416.010	225.836	T 2758715.200	1578781.900	864667.270	T 3314086.000	T 194292.920	45754.854
2	12:18:02	346.673	468.012	183.335	T 2703222.800	1588194.100	864711.160	T 3327457.100	T 201717.590	53356.120
3	12:18:25	406.676	448.678	233.336	T 2651343.400	1448835.400	835431.810	T 3132329.100	193756.350	50385.911
x		393.342	444.233	214.169	T 2704427.100	1538603.800	854936.750	T 3257957.400	T 196588.950	49832.295
σ		41.635	26.285	26.965	T 53695.982	77884.039	16891.787	T 109002.500	T 4449.624	3830.755
%RSD		10.585	5.917	12.591	T 1.985	5.062	1.976	T 3.346	T 2.263	7.687

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:17:41	12326.128	363216.030	449388.220	T 2575781.500	348791.790	788036.210	206964.940	571571.650	120236.570
2	12:18:02	12869.102	377303.860	472391.540	2668476.600	361750.410	802987.900	213011.100	564838.640	119077.010
3	12:18:25	12399.562	368116.230	463990.590	2572467.400	346163.010	789710.320	209147.370	560395.950	120382.930
x		12531.597	369545.380	461923.450	T 2605575.200	352235.070	793578.140	209707.800	565602.080	119898.840
σ		294.585	7151.820	11640.146	T 54499.395	8344.693	8191.965	3061.795	5626.828	715.474
%RSD		2.351	1.935	2.520	T 2.092	2.369	1.032	1.460	0.995	0.597

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:17:41	88987.411	10873.966	634923.920	74409.952	337351.990	156983.810	234164.130	214173.490	107592.950
2	12:18:02	89604.090	11091.295	647690.100	81718.979	345959.940	171631.670	239993.220	217634.240	118507.420
3	12:18:25	89480.212	10719.383	652706.040	84524.456	341834.880	173764.960	238159.260	222585.310	119939.350
x		89357.238	10894.881	645106.690	80217.796	341715.600	167460.150	237438.870	218131.020	115346.570
σ		326.214	186.836	9168.233	5221.682	4305.211	9135.259	2980.570	4227.854	6752.897
%RSD		0.365	1.715	1.421	6.509	1.260	5.455	1.255	1.938	5.854

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:17:41	477843.460	634474.090	218118.990	256350.780	2309248.200	1571322.100	154128.920	2889154.100
2	12:18:02	480701.720	642424.340	229548.630	274434.010	2415284.200	1647406.000	166191.990	2985062.100
3	12:18:25	484664.010	657478.910	225987.720	286318.920	2438041.300	1678228.200	170748.610	3117257.500
x		481069.730	644792.440	224551.780	272367.900	2387524.600	1632318.800	163689.840	2997157.900
σ		3425.136	11683.810	5848.556	15090.524	68737.626	55026.759	8587.733	114531.730
%RSD		0.712	1.812	2.605	5.540	2.879	3.371	5.246	3.821

ccb, 5/31/2019 12:21:51 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:21:51	0.000	0.000	4.167	897.822	155.557	73.334	28257.181	60.000	48421.948
2	12:22:14	0.000	0.000	4.167	906.712	93.334	51.111	28029.812	51.111	48187.374
3	12:22:37	0.000	0.000	4.167	871.153	108.890	51.111	27815.823	68.889	49594.913
x		0.000	0.000	4.167	891.896	119.260	58.519	28034.272	60.000	48734.745
σ		0.000	0.000	0.000	18.506	32.382	12.830	220.713	8.889	754.104
%RSD		0.000	0.000	0.000	2.075	27.152	21.925	0.787	14.815	1.547

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:21:51	0.000	691.137	400.009	364.452	91.112	55.556	88.889	557.795	146.668
2	12:22:14	2.222	666.691	366.674	280.004	93.334	42.222	75.556	568.907	157.779
3	12:22:37	2.222	688.915	320.006	282.227	82.223	17.778	86.667	597.797	151.112
x		1.481	682.248	362.230	308.894	88.889	38.519	83.704	574.833	151.853
σ		1.283	13.518	40.186	48.127	5.880	19.159	7.144	20.649	5.593
%RSD		86.603	1.981	11.094	15.580	6.614	49.741	8.534	3.592	3.683

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:21:51	20.000	4.533	308.894	78591.586	200.002	171885.290	6.667	6.667	105171.530
2	12:22:14	36.000	5.067	271.115	84652.304	380.008	185066.980	13.333	6.667	115907.550
3	12:22:37	30.667	6.933	266.671	84107.280	366.674	182931.060	33.333	13.333	118757.310
x		28.889	5.511	282.227	82450.390	315.561	179961.110	17.778	8.889	113278.800
σ		8.147	1.260	23.201	3352.915	100.299	7074.936	13.878	3.849	7164.229
%RSD		28.201	22.867	8.221	4.067	31.784	3.931	78.063	43.301	6.324

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:21:51	206.669	160.001	20.000	258030.650	2620.378	213.336	163687.160	180.002
2	12:22:14	153.335	166.668	40.000	285390.390	5348.239	220.003	180140.610	126.668
3	12:22:37	140.001	186.669	26.667	283279.210	6428.939	120.001	179807.440	93.334
x		166.668	171.113	28.889	275566.750	4799.185	184.446	174545.070	133.334
σ		35.277	13.878	10.184	15223.353	1962.748	55.911	9404.702	43.717
%RSD		21.166	8.110	35.251	5.524	40.898	30.313	5.388	32.787

500-164003-f-6-a, 5/31/2019 12:26:01 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:26:01	0.000	0.000	31.667	780167.950	2013507.900	224.447	154870.240	279713.540	47148.615
2	12:26:23	0.000	0.000	32.500	749044.380	1955262.400	244.448	158950.890	298030.890	52631.917
3	12:26:46	0.000	0.000	18.333	774513.810	2047033.700	244.448	154696.210	295088.310	51378.108
x		0.000	0.000	27.500	767908.720	2005268.000	237.781	156172.450	290944.250	50386.213
σ		0.000	0.000	7.950	16579.797	46437.210	11.547	2407.773	9836.732	2873.072
%RSD		0.000	0.000	28.907	2.159	2.316	4.856	1.542	3.381	5.702

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:26:01	4.444	657.802	1371.215	82835.685	58503.196	11400.477	5608.396	608.909	224179.320
2	12:26:23	15.556	628.911	1340.099	86379.549	60999.523	11560.679	5388.263	591.130	234385.270
3	12:26:46	6.667	673.358	1417.888	84739.780	59887.723	11496.153	5472.758	655.579	231396.830
x		8.889	653.357	1376.401	84651.671	59796.814	11485.770	5489.806	618.540	229987.140
σ		5.879	22.555	39.153	1773.574	1250.644	80.604	111.052	33.286	5246.976
%RSD		66.144	3.452	2.845	2.095	2.091	0.702	2.023	5.381	2.281

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:26:01	33405.263	4.267	273442.580	76426.578	3007.164	160389.150	13.333	6.667	103128.320
2	12:26:23	34823.235	4.533	279072.050	84188.023	3087.191	175506.840	26.667	0.000	115691.490
3	12:26:46	34811.189	5.067	283577.180	81954.418	3407.305	174646.050	13.333	0.000	113983.450
x		34346.562	4.622	278697.270	80856.340	3167.220	170180.680	17.778	2.222	110934.420
σ		815.212	0.407	5077.686	3995.540	211.735	8490.628	7.698	3.849	6814.015
%RSD		2.373	8.813	1.822	4.942	6.685	4.989	43.301	173.205	6.142

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:26:01	246.670	153.335	315618.680	250600.400	1413.443	193.335	155417.240	2226.939
2	12:26:23	206.669	166.668	328758.960	277065.380	2487.007	286.671	166646.880	2240.276
3	12:26:46	233.336	173.335	339475.560	283079.810	2867.119	273.337	174417.280	2560.361
x		228.892	164.446	327951.070	270248.530	2255.856	251.115	165493.800	2342.525
σ		20.368	10.184	11948.939	17279.469	753.901	50.481	9552.359	188.769
%RSD		8.898	6.193	3.644	6.394	33.420	20.103	5.772	8.058

500-164003-f-7-a, 5/31/2019 12:30:10 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:30:10	20.000	0.667	10.000	T 2375820.100	T 2181559.700	860.041	458208.090	433671.830	47081.602
2	12:30:33	13.333	0.667	9.167	T 2382519.000	T 2183271.200	824.482	453981.540	438870.390	51096.528
3	12:30:54	0.000	0.000	10.000	T 2409992.300	2156473.600	760.032	459747.400	440145.420	52108.917
x		11.111	0.444	9.722	T 2389443.800	T 2173768.200	814.851	457312.340	437562.550	50095.682
σ		10.184	0.385	0.481	T 18108.025	T 15001.976	50.695	2985.476	3429.238	2658.899
%RSD		91.652	86.603	4.949	T 0.758	T 0.690	6.221	0.653	0.784	5.308

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:30:10	35.556	1113.401	637.800	2680.395	5430.510	1088.954	1877.972	1844.632	3442.874
2	12:30:33	62.222	1257.865	573.351	2689.287	5372.698	1226.749	1895.753	2155.811	3698.530
3	12:30:54	42.222	1113.401	704.472	2795.986	5768.496	1095.622	2018.002	2195.821	3527.351
x		46.667	1161.556	638.541	2721.889	5523.902	1137.108	1930.576	2065.421	3556.252
σ		13.878	83.406	65.563	64.323	213.788	77.703	76.234	192.253	130.255
%RSD		29.738	7.181	10.268	2.363	3.870	6.833	3.949	9.308	3.663

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:30:10	358.674	5.600	383733.660	76056.830	4447.754	158197.920	13.333	6.667	102251.830
2	12:30:33	348.673	5.867	387805.550	83259.530	4287.678	169057.440	20.000	0.000	111749.310
3	12:30:54	350.007	4.000	390434.560	83764.134	4501.114	170103.350	40.000	0.000	113328.680
x		352.451	5.156	387324.590	81026.831	4412.182	165786.240	24.444	2.222	109109.940
σ		5.430	1.010	3376.243	4311.536	111.076	6592.449	13.878	3.849	5991.562
%RSD		1.541	19.582	0.872	5.321	2.517	3.976	56.773	173.205	5.491

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:30:10	233.336	193.335	108314.780	256206.810	666.691	973.385	156217.450	20229.149
2	12:30:33	293.338	266.671	110244.430	276027.860	1506.792	893.377	170042.220	20777.049
3	12:30:54	273.337	266.671	115907.550	281904.110	1800.178	1053.394	171414.300	20342.735
x		266.671	242.226	111488.920	271379.590	1324.554	973.386	165891.320	20449.644
σ		30.551	42.340	3946.407	13464.497	588.308	80.009	8405.864	289.173
%RSD		11.457	17.480	3.540	4.961	44.416	8.220	5.067	1.414

500-164003-h-8-a, 5/31/2019 12:34:18 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:34:18	6.667	0.000	80.000	T 3977852.500	T 3038018.200	188.891	191688.760	637604.340	47544.000
2	12:34:41	0.000	0.667	67.500	T 3879287.400	T 2890809.600	206.669	183588.560	662533.480	49085.493
3	12:35:02	0.000	0.000	95.834	T 4013153.900	T 2969314.100	193.335	186407.280	645330.870	51592.652
x		2.222	0.222	81.111	T 3956764.600	T 2966047.300	196.298	187228.200	648489.560	49407.381
σ		3.849	0.385	14.199	T 69380.019	T 73658.637	9.252	4112.020	12761.216	2043.430
%RSD		173.205	173.205	17.506	T 1.753	T 2.483	4.713	2.196	1.968	4.136

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:34:18	4.444	1197.857	617.799	1337.876	726772.040	1231.195	3976.425	1531.240	20932.962
2	12:34:41	13.333	1380.105	571.129	1357.879	746341.760	1182.299	3889.721	1511.237	20841.641
3	12:35:02	8.889	1295.648	628.911	1391.218	760045.870	1231.195	3931.961	1560.134	20875.051
x		8.889	1291.203	605.946	1362.324	744386.560	1214.896	3932.702	1534.204	20883.218
σ		4.444	91.205	30.660	26.947	16722.859	28.230	43.357	24.583	46.205
%RSD		50.000	7.064	5.060	1.978	2.247	2.324	1.102	1.602	0.221

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:34:18	232.003	6.667	415654.340	73872.260	560.017	154626.140	66.667	13.333	99562.226
2	12:34:41	230.003	6.400	434214.620	84147.651	540.016	167475.220	6.667	33.333	112694.200
3	12:35:02	231.336	5.600	428427.290	85177.173	640.023	168683.930	6.667	13.333	109050.160
x		231.114	6.222	426098.750	81065.695	580.019	163595.100	26.667	20.000	107102.190
σ		1.018	0.555	9496.716	6250.928	52.918	7790.821	34.641	11.547	6779.239
%RSD		0.441	8.921	2.229	7.711	9.124	4.762	129.904	57.735	6.330

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:34:18	366.674	213.336	134501.010	252813.770	380.008	400.009	148645.400	11587.380
2	12:34:41	300.005	220.003	139712.050	274166.110	1006.722	346.673	162309.450	12288.300
3	12:35:02	340.006	226.669	140761.390	283595.520	1233.417	393.342	163897.570	11567.355
x		335.562	220.003	138324.810	270191.800	873.382	380.008	158284.140	11814.345
σ		33.556	6.667	3352.821	15771.027	442.054	29.061	8385.079	410.579
%RSD		10.000	3.030	2.424	5.837	50.614	7.647	5.297	3.475

500-164003-f-9-a, 5/31/2019 12:38:27 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:38:27	0.000	0.000	30.833	T 2865898.700	T 3299672.500	235.559	74268.805	736332.910	49246.359
2	12:38:49	6.667	0.667	25.000	T 2813304.200	T 3342846.900	208.891	71423.922	727608.470	50513.282
3	12:39:10	0.000	0.000	24.167	T 2906450.000	T 3303401.100	T 21.200	72183.217	739511.580	50157.990
x		2.222	0.222	26.667	T 2861884.300	T 3315306.800	T 155.216	72625.315	734484.320	49972.544
σ		3.849	0.385	3.632	T 46702.477	T 23923.142	T 116.825	1473.067	6163.111	653.503
%RSD		173.205	173.205	13.622	T 1.632	T 0.722	T 75.266	2.028	0.839	1.308

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:38:27	24.444	1200.079	1086.732	2340.301	951559.420	15893.882	18231.597	1437.892	331362.060
2	12:38:49	11.111	1233.417	1048.949	2471.447	966819.390	15949.535	18870.676	1484.566	336595.840
3	12:39:10	11.111	1148.962	1077.842	2342.524	953033.620	16601.812	18253.863	1466.785	331891.990
x		15.556	1194.153	1071.174	2384.757	957137.480	16148.409	18452.045	1463.081	333283.300
σ		7.698	42.539	19.754	75.084	8417.122	393.643	362.716	23.557	2880.954
%RSD		49.487	3.562	1.844	3.148	0.879	2.438	1.966	1.610	0.864

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:38:27	1538.130	8.267	708677.140	76547.590	760.032	153550.360	20.000	13.333	98638.909
2	12:38:49	1618.144	6.933	727192.650	81523.906	680.025	164931.570	26.667	33.333	109374.010
3	12:39:10	1604.808	9.067	728368.060	84026.539	773.366	168797.120	6.667	20.000	110109.480
x		1587.028	8.089	721412.620	80699.345	737.808	162426.350	17.778	22.222	106040.800
σ		42.868	1.078	11044.892	3807.046	50.483	7926.097	10.184	10.184	6420.765
%RSD		2.701	13.323	1.531	4.718	6.842	4.880	57.282	45.826	6.055

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:38:27	466.679	240.003	145576.330	243744.400	433.344	306.672	148828.350	5314.887
2	12:38:49	566.684	166.668	150827.570	280020.550	780.033	420.010	161393.360	5248.181
3	12:39:10	433.344	253.337	153132.280	274997.320	960.051	340.006	163863.630	5841.876
x		488.902	220.003	149845.390	266254.090	724.476	355.563	158028.450	5468.315
σ		69.393	46.668	3872.547	19655.100	267.713	58.248	8062.684	325.229
%RSD		14.194	21.212	2.584	7.382	36.953	16.382	5.102	5.948

500-164003-f-12-a, 5/31/2019 12:42:37 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:42:37	13.333	0.000	10.000	1678132.800	T 2957191.000	T 1929.160	508574.090	562681.990	46277.489
2	12:42:58	0.000	0.000	8.333	T 1743200.100	T 3122186.800	708.917	525021.810	605195.460	53047.656
3	12:43:21	0.000	0.000	8.333	T 1687199.700	T 3043478.700	737.808	536906.690	582774.890	50379.208
x		4.444	0.000	8.889	T 1702844.200	T 3040952.200	T 1125.295	523500.860	583550.780	49901.451
σ		7.698	0.000	0.962	T 35242.058	T 82526.935	T 696.317	14227.404	21267.356	3410.275
%RSD		173.205	0.000	10.825	T 2.070	T 2.714	T 61.879	2.718	3.644	6.834

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:42:37	35.556	893.377	3576.259	6473.415	17412.215	12277.173	1924.648	1933.539	3478.443
2	12:42:58	20.000	922.269	4054.237	6506.772	18505.482	12731.130	2184.707	2122.470	3460.659
3	12:43:21	8.889	928.936	4034.228	6420.044	18351.838	13443.266	1991.329	2006.888	3469.551
x		21.482	914.861	3888.241	6466.744	18089.845	12817.190	2033.561	2020.966	3469.551
σ		13.395	18.902	270.370	43.747	591.852	587.790	135.075	95.249	8.892
%RSD		62.356	2.066	6.954	0.676	3.272	4.586	6.642	4.713	0.256

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:42:37	163.335	9.333	202924.250	77293.864	813.370	155715.610	20.000	20.000	102986.730
2	12:42:58	177.335	5.867	212292.360	81342.290	853.373	173665.310	26.667	0.000	116110.110
3	12:43:21	180.002	6.133	210977.840	84228.394	606.687	173502.240	20.000	20.000	112768.440
x		173.557	7.111	208731.480	80954.850	757.810	167627.720	22.222	13.333	110621.760
σ		8.953	1.929	5071.976	3483.462	132.396	10316.509	3.849	11.547	6819.971
%RSD		5.158	27.128	2.430	4.303	17.471	6.154	17.321	86.603	6.165

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:42:37	180.002	273.337	106378.780	254232.520	260.004	4174.292	149302.700	5775.167
2	12:42:58	220.003	173.335	110750.530	279532.540	620.021	4567.814	164827.490	5655.092
3	12:43:21	213.336	166.668	111108.190	277993.070	893.377	4787.927	165906.860	5735.142
x		204.447	204.447	109412.500	270586.040	591.134	4510.011	160012.350	5721.800
σ		21.431	59.754	2633.354	14183.466	317.673	310.875	9290.515	61.139
%RSD		10.482	29.227	2.407	5.242	53.740	6.893	5.806	1.069

ccv, 5/31/2019 12:46:46 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:46:46	340.006	456.678	211.669	T 2723771.400	1511778.300	877642.200	T 3278458.200	196160.420	49467.555
2	12:47:09	413.343	446.678	240.837	T 2636665.900	1605308.000	884245.030	T 3360101.800	198576.470	51941.295
3	12:47:30	300.005	454.011	215.003	T 2830710.300	1627280.200	839614.270	T 3220256.200	198042.800	51512.197
x		351.118	452.456	222.503	T 2730382.500	1581455.500	867167.170	T 3286272.100	197593.230	50973.683
σ		57.480	5.179	15.965	T 97190.957	61334.183	24088.813	T 70249.469	1269.218	1321.872
%RSD		16.371	1.145	7.175	T 3.560	3.878	2.778	T 2.138	0.642	2.593

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:46:46	12857.975	362305.190	457752.650	2607219.800	343195.850	812308.300	206176.200	561260.230	118840.610
2	12:47:09	12775.637	364325.810	467653.530	2621715.400	353423.400	797431.520	205769.360	563983.480	120740.970
3	12:47:30	12793.440	370468.970	458418.300	2597503.400	353749.030	811510.440	216132.380	575522.950	124087.800
x		12809.018	365699.990	461274.830	2608812.900	350122.760	807083.420	209359.310	566922.220	121223.130
σ		43.323	4251.836	5534.136	12184.359	6001.089	8368.302	5869.170	7571.885	2656.616
%RSD		0.338	1.163	1.200	0.467	1.714	1.037	2.803	1.336	2.192

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:46:46	88252.297	10818.166	618695.880	77730.900	335837.440	160805.300	232700.590	212938.310	108294.540
2	12:47:09	90577.667	11075.009	643679.750	84073.638	349546.630	172446.890	230868.080	214828.680	116589.520
3	12:47:30	91972.231	10868.893	654134.550	83400.816	348563.270	172528.410	238241.370	217606.930	118520.930
x		90267.398	10920.689	638836.730	81735.118	344649.110	168593.530	233936.680	215124.640	114468.330
σ		1879.276	136.030	18208.952	3484.034	7646.959	6744.932	3838.915	2348.339	5433.172
%RSD		2.082	1.246	2.850	4.263	2.219	4.001	1.641	1.092	4.746

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:46:46	458806.030	626223.790	218624.240	255761.180	2312508.800	1552313.800	152861.110	2855291.900
2	12:47:09	473799.840	651590.100	227197.320	278192.360	2358657.300	1615477.800	167325.840	2940089.300
3	12:47:30	496666.510	660514.190	228495.930	290212.850	2461158.200	1678498.600	168894.450	3048099.600
x		476424.130	646109.360	224772.500	274722.130	2377441.400	1615430.100	163027.140	2947826.900
σ		19066.177	17790.077	5363.989	17486.027	76084.097	63092.443	8838.902	96636.451
%RSD		4.002	2.753	2.386	6.365	3.200	3.906	5.422	3.278

ccb, 5/31/2019 12:50:57 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:50:57	0.000	0.000	8.333	933.381	137.779	95.556	28542.515	62.222	47242.433
2	12:51:19	0.000	0.000	1.667	966.718	135.557	68.889	29144.420	64.445	52685.559
3	12:51:41	0.000	0.000	0.833	853.373	104.445	86.667	27855.946	44.445	50285.357
x		0.000	0.000	3.611	917.824	125.927	83.704	28514.293	57.037	50071.117
σ		0.000	0.000	4.111	58.252	18.637	13.578	644.701	10.962	2727.880
%RSD		0.000	0.000	113.836	6.347	14.800	16.222	2.261	19.219	5.448

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:50:57	8.889	711.139	357.785	337.784	95.556	44.445	106.667	575.574	168.890
2	12:51:19	6.667	762.254	435.566	324.450	104.445	28.889	80.000	637.800	184.446
3	12:51:41	0.000	615.576	335.562	280.004	84.445	31.111	106.667	577.796	186.669
x		5.185	696.323	376.304	314.080	94.815	34.815	97.778	597.057	180.002
σ		4.626	74.453	52.511	30.254	10.021	8.413	15.396	35.302	9.687
%RSD		89.214	10.692	13.954	9.633	10.569	24.166	15.746	5.913	5.381

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:50:57	31.333	7.200	266.671	78584.862	160.001	171844.530	0.000	20.000	106783.490
2	12:51:19	34.667	5.067	297.783	87310.602	366.674	184976.270	26.667	6.667	116278.920
3	12:51:41	32.000	4.533	300.005	83945.798	433.344	185620.310	13.333	0.000	118338.570
x		32.667	5.600	288.153	83280.421	320.006	180813.700	13.333	8.889	113800.330
σ		1.764	1.411	18.637	4400.759	142.522	7774.207	13.333	10.184	6163.405
%RSD		5.400	25.198	6.468	5.284	44.537	4.300	100.000	114.564	5.416

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:50:57	246.670	153.335	33.333	256789.570	2787.094	173.335	161183.010	146.668
2	12:51:19	206.669	166.668	53.333	281883.490	5681.775	206.669	178338.940	180.002
3	12:51:41	166.668	180.002	40.000	286662.840	6455.625	173.335	175287.100	60.000
x		206.669	166.668	42.222	275111.970	4974.831	184.446	171603.020	128.890
σ		40.001	13.334	10.184	16046.592	1933.742	19.245	9152.095	61.945
%RSD		19.355	8.000	24.119	5.833	38.870	10.434	5.333	48.060

ccvl, 5/31/2019 12:55:06 PM QC Status: WARNING (Initial: WARNING)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:55:06	13.333	0.000	43.333	22628.127	13011.527	3545.136	94030.460	1609.031	47664.629
2	12:55:29	13.333	2.667	50.000	23793.318	13523.384	3574.036	96776.834	1691.268	52229.606
3	12:55:51	13.333	1.333	50.000	23196.223	13113.896	3407.305	91805.671	1489.011	51619.470
x		13.333	1.333	47.778	23205.889	13216.269	3508.826	94204.321	1596.437	50504.568
σ		0.000	1.333	3.849	582.656	270.850	89.099	2490.138	101.715	2478.308
%RSD		0.000	100.000	8.056	2.511	2.049	2.539	2.643	6.371	4.907

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:55:06	246.670	8043.557	10025.525	10606.183	3591.821	3433.982	1777.952	5043.621	9831.980
2	12:55:29	233.336	8354.949	10339.209	10788.620	3780.786	3307.268	2066.902	5121.442	10343.659
3	12:55:51	248.892	8056.902	10074.468	11093.431	3662.960	3142.765	1869.081	4910.215	10159.006
x		242.966	8151.803	10146.401	10829.412	3678.522	3294.672	1904.645	5025.093	10111.549
σ		8.413	176.056	168.761	246.172	95.439	146.016	147.721	106.826	259.119
%RSD		3.463	2.160	1.663	2.273	2.594	4.432	7.756	2.126	2.563

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:55:06	374.008	111.734	10328.086	77502.294	5254.852	171203.720	2627.046	373.341	106931.880
2	12:55:29	358.674	114.934	10648.455	84181.294	5448.299	186965.230	2493.675	406.676	118392.600
3	12:55:51	394.009	112.001	10410.402	86832.725	5968.625	184368.560	2500.344	386.675	118311.560
x		375.563	112.890	10462.314	82838.771	5557.259	180845.840	2540.355	388.897	114545.350
σ		17.719	1.776	166.374	4807.911	369.151	8450.652	75.151	16.778	6593.579
%RSD		4.718	1.573	1.590	5.804	6.643	4.673	2.958	4.314	5.756

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:55:06	9418.210	7890.089	2240.276	254451.870	18525.523	3087.191	161427.290	114266.980
2	12:55:29	9978.807	7930.124	2306.959	282901.040	20503.095	3093.860	176252.160	117366.090
3	12:55:51	10259.119	7843.382	2366.975	285204.700	20710.230	3320.606	178631.260	118203.500
x		9885.378	7887.865	2304.737	274185.870	19912.949	3167.219	172103.570	116612.190
σ		428.169	43.414	63.379	17128.918	1206.002	132.879	9322.140	2073.721
%RSD		4.331	0.550	2.750	6.247	6.056	4.195	5.417	1.778

lb 500-487501/1-b, 5/31/2019 12:59:18 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:59:18	0.000	0.000	21.667	TM 125808830.000	2951.590	2124.693	94789.391	1160.074	41239.996
2	12:59:40	0.000	0.000	19.167	TM 122174360.000	3060.515	2402.540	93381.601	1115.624	42827.309
3	13:00:02	0.000	0.667	19.167	TM 122629800.000	2982.712	2446.996	93682.450	1066.729	41527.969
x		0.000	0.222	20.000	TM 123537660.000	2998.272	2324.743	93951.147	1114.142	41865.091
σ		0.000	0.385	1.443	TM 1980029.600	56.105	174.669	741.362	46.690	845.654
%RSD		0.000	173.205	7.217	TM 1.603	1.871	7.513	0.789	4.191	2.020

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:59:18	37.778	2573.698	2738.190	4643.408	1431.224	253.337	700.027	11044.483	7385.221
2	12:59:40	48.889	2515.904	2631.492	4719.002	1440.114	264.448	735.585	11347.077	7325.172
3	13:00:02	68.889	2378.089	2709.293	4583.377	1300.093	233.336	764.477	11502.828	7389.669
x		51.852	2489.230	2692.992	4648.596	1390.477	250.374	733.363	11298.129	7366.687
σ		15.766	100.495	55.185	67.961	78.401	15.766	32.282	233.060	36.022
%RSD		30.406	4.037	2.049	1.462	5.638	6.297	4.402	2.063	0.489

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:59:18	62.000	4.000	9084.537	64951.200	780.033	133939.470	53.333	26.667	88710.726
2	12:59:40	70.000	9.067	9580.601	69780.119	726.696	138980.970	33.333	0.000	90360.186
3	13:00:02	46.667	5.600	9260.270	67738.095	946.716	139285.580	60.000	0.000	92912.385
x		59.556	6.222	9308.469	67489.805	817.815	137402.010	48.889	8.889	90661.099
σ		11.857	2.590	251.520	2424.015	114.773	3002.509	13.878	15.396	2116.931
%RSD		19.909	41.625	2.702	3.592	14.034	2.185	28.386	173.205	2.335

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:59:18	693.360	226.669	7603.178	230539.910	753.365	3327.275	132660.930	46.667
2	12:59:40	860.041	273.337	7576.489	241444.220	1893.531	3093.860	134690.450	60.000
3	13:00:02	866.708	453.345	7623.195	239493.630	1893.531	3013.833	136287.320	53.333
x		806.703	317.784	7600.954	237159.250	1513.475	3144.989	134546.230	53.333
σ		98.215	119.696	23.432	5814.896	658.275	162.857	1817.489	6.667
%RSD		12.175	37.666	0.308	2.452	43.494	5.178	1.351	12.500

lcs 500-487708/2-a, 5/31/2019 1:03:27 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:03:27	133.334	100.667	979.219	1055548.800	585246.320	63415.974	1224000.200	97037.367	46759.949
2	13:03:48	113.334	94.000	870.042	1069442.800	615759.560	67395.563	1321034.200	101611.380	48777.173
3	13:04:10	93.334	88.667	950.050	1041620.100	574520.190	63250.382	1281694.400	97562.947	48757.066
x		113.334	94.445	933.104	1055537.200	591842.020	64687.306	1275576.200	98737.231	48098.063
σ		20.000	6.012	56.527	13911.386	21396.238	2346.880	48805.427	2502.919	1158.884
%RSD		17.647	6.366	6.058	1.318	3.615	3.628	3.826	2.535	2.409

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:03:27	47215.628	682111.520	346223.010	106558.650	674263.960	1521771.300	395330.600	544168.860	218897.370
2	13:03:48	49291.045	707218.770	371359.790	114982.590	711644.960	1620047.400	415947.290	564956.770	228762.510
3	13:04:10	46896.203	698928.530	365359.410	110579.580	689350.370	1588782.600	412808.990	556085.170	227199.600
x		47800.959	696086.270	360980.740	110706.940	691753.100	1576867.100	408028.960	555070.270	224953.160
σ		1300.298	12792.663	13127.988	4213.411	18805.976	50209.899	11108.486	10431.049	5302.371
%RSD		2.720	1.838	3.637	3.806	2.719	3.184	2.722	1.879	2.357

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:03:27	32330.721	3893.900	2444754.400	76641.711	1271157.300	159753.660	218870.050	41239.996	128298.990
2	13:03:48	33959.979	3975.803	2554137.500	80736.930	1330427.500	172118.530	231640.700	42706.744	138554.540
3	13:04:10	33324.300	3969.667	2582615.400	80864.725	1390871.200	171545.630	232727.940	43564.131	137261.810
x		33205.000	3946.457	2527169.100	79414.455	1330818.700	167805.940	227746.230	42503.624	134705.110
σ		821.154	45.618	72779.692	2402.117	59857.916	6979.356	7706.195	1175.307	5585.391
%RSD		2.473	1.156	2.880	3.025	4.498	4.159	3.384	2.765	4.146

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:03:27	1786096.700	1192998.500	416214.680	268768.470	945645.210	642002.730	164936.100	1152672.700
2	13:03:48	1904585.400	1229700.300	447712.970	284613.260	976306.330	670822.840	173289.350	1176653.100
3	13:04:10	1863490.800	1230581.800	452704.610	286862.320	993642.320	687574.240	173894.060	1215053.000
x		1851391.000	1217760.200	438877.420	280081.350	971864.620	666799.940	170706.500	1181459.600
σ		60163.925	21448.770	19784.565	9861.569	24304.880	23050.566	5006.456	31466.671
%RSD		3.250	1.761	4.508	3.521	2.501	3.457	2.933	2.663

500-163564-e-3-e, 5/31/2019 1:07:35 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:07:35	20.000	0.000	30.000	TM 105494730.000	1823742.200	1364.547	160058.960	TM 3665006.400	38508.052
2	13:07:56	13.333	0.000	35.000	TM 110305740.000	1848510.900	1237.862	163931.500	TM 3619673.500	T 35878.007
3	13:08:18	0.000	0.000	20.000	TM 109613940.000	1843185.700	1344.544	166873.190	TM 3687895.600	41554.757
x		11.111	0.000	28.333	TM 108471470.000	1838479.600	1315.651	163621.220	TM 3657525.200	T 38646.939
σ		10.184	0.000	7.638	TM 2601034.100	13037.735	68.106	3417.694	TM 34720.883	T 2840.923
%RSD		91.652	0.000	26.956	TM 2.398	0.709	5.177	2.089	TM 0.949	T 7.351

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:07:35	37.778	2782.648	1877.972	2929.361	665556.070	2253.613	1793.510	5414.945	10466.021
2	13:07:56	40.000	2642.606	1922.426	2904.909	680379.810	2313.628	1817.960	5548.359	10837.567
3	13:08:18	22.222	2487.007	1926.871	2900.463	673427.460	2111.356	1891.308	5579.489	11338.177
x		33.333	2637.420	1909.089	2911.577	673121.110	2226.199	1834.259	5514.265	10880.588
σ		9.686	147.889	27.040	15.561	7416.617	103.885	50.895	87.410	437.667
%RSD		29.059	5.607	1.416	0.534	1.102	4.666	2.775	1.585	4.022

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:07:35	308.005	8.800	1632161.400	67140.352	3027.171	121754.350	6.667	573.351	80582.233
2	13:07:56	325.339	9.333	1670399.100	68900.112	3340.614	128461.260	26.667	460.012	85742.449
3	13:08:18	325.339	10.667	1718217.300	72581.929	3694.084	129633.280	53.333	506.681	85567.479
x		319.561	9.600	1673592.600	69540.797	3353.956	126616.290	28.889	513.348	83964.054
σ		10.008	0.961	43116.733	2776.787	333.657	4251.153	23.413	56.963	2930.049
%RSD		3.132	10.015	2.576	3.993	9.948	3.358	81.044	11.096	3.490

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:07:35	820.037	300.005	233199.810	216023.160	1573.470	4814.608	119588.100	37905.528
2	13:07:56	773.366	393.342	242039.750	222920.030	3020.502	5014.716	124236.480	38454.493
3	13:08:18	793.368	273.337	246819.040	228680.490	3534.020	4974.694	124581.150	39907.401
x		795.590	322.228	240686.200	222541.230	2709.330	4934.673	122801.910	38755.807
σ		23.415	63.013	6909.771	6337.160	1016.642	105.887	2788.572	1034.392
%RSD		2.943	19.555	2.871	2.848	37.524	2.146	2.271	2.669

500-163564-e-4-e, 5/31/2019 1:11:43 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:11:43	20.000	0.000	48.333	TM 114945400.000	905702.210	11614.081	594171.620	352271.050	41876.227
2	13:12:04	0.000	0.000	48.333	TM 120981320.000	956425.880	11467.228	598312.640	360703.340	45386.347
3	13:12:27	0.000	0.667	51.667	TM 117398670.000	918215.660	10922.113	599381.970	364415.990	43142.126
x		6.667	0.222	49.445	TM 117775130.000	926781.250	11334.474	597288.740	359130.130	43468.233
σ		11.547	0.385	1.925	TM 3035520.300	26424.415	364.586	2751.946	6223.434	1777.637
%RSD		173.205	173.205	3.892	TM 2.577	2.851	3.217	0.461	1.733	4.090

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:11:43	228.892	3084.968	2333.633	20601.094	2383398.700	10557.238	7814.468	5479.429	199439.510
2	13:12:04	213.336	3100.529	2495.898	21797.211	2490639.300	10837.567	7716.607	5252.628	203365.050
3	13:12:27	246.670	2838.221	2315.851	22006.604	2504198.900	11193.554	7807.796	5277.087	205244.360
x		229.633	3007.906	2381.794	21468.303	2459412.300	10862.786	7779.624	5336.381	202682.970
σ		16.679	147.157	99.216	758.288	66177.884	318.907	54.676	124.485	2961.926
%RSD		7.264	4.892	4.166	3.532	2.691	2.936	0.703	2.333	1.461

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:11:43	300.005	11.467	363290.020	68564.253	460.012	131245.040	13.333	520.015	87465.413
2	13:12:04	316.005	11.200	375812.850	70532.559	513.348	136751.990	40.000	300.005	91956.069
3	13:12:27	285.338	9.333	367760.020	68644.858	566.684	136194.830	33.333	386.675	92973.000
x		300.449	10.667	368954.300	69247.224	513.348	134730.620	28.889	402.232	90798.161
σ		15.339	1.162	6346.266	1113.863	53.336	3031.428	13.878	110.827	2930.690
%RSD		5.105	10.897	1.720	1.609	10.390	2.250	48.038	27.553	3.228

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:11:43	686.693	513.348	87095.218	228352.390	753.365	7923.452	127075.320	2753.750
2	13:12:04	793.368	533.349	92703.603	238289.260	1773.506	7149.477	134264.210	3033.840
3	13:12:27	680.025	626.688	92871.975	240383.320	2033.561	7409.685	137261.810	2973.820
x		720.029	557.795	90890.265	235674.990	1520.144	7494.205	132867.110	2920.470
σ		63.601	60.496	3287.686	6427.414	676.661	393.849	5234.987	147.469
%RSD		8.833	10.845	3.617	2.727	44.513	5.255	3.940	5.049

500-163564-e-6-e, 5/31/2019 1:15:51 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:15:51	13.333	1.333	29.167	TM 116679490.000	765754.140	18494.349	261841.770	286277.650	42767.027
2	13:16:12	6.667	0.000	25.000	TM 118369480.000	767755.010	18574.512	268557.930	282321.200	43329.682
3	13:16:34	0.000	0.667	31.667	TM 116714790.000	752704.500	18701.438	270926.690	284670.570	44997.756
x		6.667	0.667	28.611	TM 117254590.000	762071.220	18590.100	267108.800	284423.140	43698.155
σ		6.667	0.667	3.368	TM 965683.830	8173.273	104.421	4712.634	1989.793	1160.115
%RSD		100.000	100.000	11.771	TM 0.824	1.073	0.562	1.764	0.700	2.655

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:15:51	428.899	3369.513	2856.004	34565.588	1519271.400	8310.463	11289.227	6749.171	117474.140
2	13:16:12	413.343	3293.930	2976.043	34097.158	1532451.000	8597.397	11669.707	6847.022	119434.990
3	13:16:34	448.900	3122.759	2964.928	35058.582	1546273.600	8584.051	12052.429	6953.770	123508.890
x		430.381	3262.067	2932.325	34573.776	1532665.300	8497.304	11670.454	6849.988	120139.340
σ		17.825	126.425	66.329	480.764	13502.361	161.946	381.601	102.332	3078.415
%RSD		4.142	3.876	2.262	1.391	0.881	1.906	3.270	1.494	2.562

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:15:51	320.006	2.933	201197.610	68698.595	320.006	128668.600	33.333	426.677	85177.173
2	13:16:12	322.672	8.267	206508.050	70982.709	380.008	133102.870	26.667	406.676	89134.844
3	13:16:34	330.006	10.400	208576.710	70935.677	413.343	135572.300	26.667	433.344	88542.431
x		324.228	7.200	205427.460	70205.661	371.119	132447.930	28.889	422.232	87618.149
σ		5.178	3.846	3806.379	1305.369	47.299	3498.138	3.849	13.878	2134.599
%RSD		1.597	53.416	1.853	1.859	12.745	2.641	13.323	3.287	2.436

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:15:51	753.365	260.004	91983.006	225017.430	733.363	6555.696	124763.630	2600.372
2	13:16:12	606.687	346.673	97473.102	235176.430	1080.064	7056.071	131301.400	2346.970
3	13:16:34	773.366	260.004	95391.193	236612.990	1680.155	7082.758	135597.110	2220.271
x		711.139	288.894	94949.100	232268.950	1164.527	6898.175	130554.050	2389.204
σ		91.010	50.039	2771.619	6320.943	479.014	296.895	5455.272	193.538
%RSD		12.798	17.321	2.919	2.721	41.134	4.304	4.179	8.101

500-163564-e-8-h, 5/31/2019 1:19:58 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:19:58	0.000	0.000	25.000	TM 119325920.000	T 7653521.400	1442.337	156782.610	M 2071669.400	44207.225
2	13:20:20	6.667	0.000	18.333	TM 127155460.000	T 7945534.300	1664.597	165368.290	M 2257472.700	49554.695
3	13:20:43	6.667	0.667	38.333	TM 121703140.000	T 7813525.400	1569.024	162924.760	M 2144810.000	44924.059
x		4.444	0.222	27.222	TM 122728170.000	T 7804193.700	1558.653	161691.880	M 2157984.000	46228.659
σ		3.849	0.385	10.184	TM 4014153.600	T 146229.940	111.493	4423.625	M 93599.575	2902.645
%RSD		86.603	173.205	37.409	TM 3.271	T 1.874	7.153	2.736	M 4.337	6.279

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:19:58	28.889	2851.558	3738.546	6139.851	2459264.900	7187.285	9358.148	28709.707	211337.150
2	13:20:20	15.556	2993.826	3640.729	6682.455	2571850.700	7296.260	9865.350	29938.104	221091.740
3	13:20:43	40.000	2764.865	3625.167	6408.925	2597654.300	7340.740	9662.911	29795.414	219436.810
x		28.148	2870.083	3668.147	6410.410	2542923.300	7274.762	9628.803	29481.075	217288.570
σ		12.239	115.599	61.462	271.305	73590.121	78.955	255.316	671.823	5220.078
%RSD		43.481	4.028	1.676	4.232	2.894	1.085	2.652	2.279	2.402

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:19:58	206.669	5.867	757183.390	72212.336	1620.144	129058.520	46.667	433.344	86725.037
2	13:20:20	215.336	9.600	796240.260	74557.823	1646.816	134961.080	46.667	640.023	89599.377
3	13:20:43	194.669	9.067	795697.940	75303.934	1900.199	133646.320	20.000	533.349	91747.308
x		205.558	8.178	783040.530	74024.698	1722.386	132555.310	37.778	535.572	89357.241
σ		10.378	2.019	22394.583	1613.277	154.566	3098.838	15.396	103.357	2519.876
%RSD		5.049	24.691	2.860	2.179	8.974	2.338	40.754	19.299	2.820

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:19:58	773.366	306.672	197986.030	217115.390	573.351	8123.628	118534.430	9264.719
2	13:20:20	673.358	373.341	201031.780	227217.820	1040.060	7790.003	122472.790	9838.654
3	13:20:43	813.370	320.006	206158.020	227600.550	1220.082	8624.089	121601.210	10005.503
x		753.365	333.339	201725.280	223977.920	944.498	8179.240	120869.480	9702.959
σ		72.117	35.278	4129.900	5946.208	333.788	419.815	2068.631	388.588
%RSD		9.573	10.583	2.047	2.655	35.340	5.133	1.711	4.005

500-163564-e-10-e, 5/31/2019 1:24:07 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:24:07	13.333	2.667	35.833	TM 124839680.000	1539486.700	4743.459	315103.490	464196.260	42097.245
2	13:24:29	0.000	0.000	44.167	TM 123907920.000	1571345.800	4601.164	309610.620	476610.060	45299.247
3	13:24:51	0.000	0.667	47.500	TM 122782700.000	1459163.900	4856.853	315048.290	475692.730	44997.756
x		4.444	1.111	42.500	TM 123843440.000	1523332.100	4733.825	313254.130	472166.350	44131.416
σ		7.698	1.388	6.009	TM 1030004.700	57809.333	128.116	3155.494	6917.524	1768.082
%RSD		173.205	124.900	14.139	TM 0.832	3.795	2.706	1.007	1.465	4.006

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:24:07	13.333	2620.378	2206.935	10419.301	TM 27392421.000	95597.790	29819.939	23017.993	346610.700
2	13:24:29	20.000	2678.172	2173.593	10561.687	TM 27449482.000	99676.804	30916.927	23617.305	356068.100
3	13:24:51	28.889	2489.230	2111.356	11171.304	TM 27537598.000	99458.882	31423.103	23866.844	356858.190
x		20.741	2595.927	2163.961	10717.431	TM 27459834.000	98244.492	30719.990	23500.714	353179.000
σ		7.804	96.815	48.512	399.461	TM 73139.948	2294.699	819.526	436.271	5702.012
%RSD		37.627	3.730	2.242	3.727	TM 0.266	2.336	2.668	1.856	1.614

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:24:07	652.023	23.200	433634.560	89161.773	200.002	130029.990	6.667	1560.134	88791.509
2	13:24:29	618.688	24.267	445107.360	95141.934	180.002	134149.200	26.667	1726.831	89653.238
3	13:24:51	640.689	24.533	453750.420	95647.195	193.335	138268.000	13.333	1600.141	89942.743
x		637.133	24.000	444164.110	93316.967	191.113	134149.060	15.556	1629.035	89462.497
σ		16.950	0.706	10091.047	3607.361	10.184	4119.004	10.184	87.024	598.850
%RSD		2.660	2.940	2.272	3.866	5.329	3.070	65.465	5.342	0.669

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:24:07	526.682	266.671	340921.520	221601.710	760.032	172052.860	118845.120	57112.171
2	13:24:29	566.684	286.671	353287.140	229924.620	1280.090	180834.180	126108.660	60748.965
3	13:24:51	600.020	333.339	354125.500	235969.930	1400.108	187616.220	129157.690	60379.851
x		564.462	295.560	349444.720	229165.420	1146.743	180167.750	124703.820	59413.662
σ		36.719	34.212	7393.199	7214.131	340.236	7803.053	5297.873	2001.677
%RSD		6.505	11.575	2.116	3.148	29.670	4.331	4.248	3.369

500-163564-e-12-e, 5/31/2019 1:28:15 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:28:15	6.667	0.000	39.167	TM 135041160.000	2199742.900	1989.107	143501.510	TM 3727097.800	43584.227
2	13:28:37	0.000	0.000	28.333	TM 143019670.000	2331845.100	2118.025	151864.620	TM 4058089.500	45413.147
3	13:28:59	0.000	0.000	21.667	TM 137479850.000	2220769.500	2000.220	148175.600	TM 3894364.900	45882.160
x		2.222	0.000	29.722	TM 138513560.000	2250785.900	2035.784	147847.240	TM 3893184.100	44959.845
σ		3.849	0.000	8.832	TM 4088469.400	70982.243	71.439	4191.213	TM 165498.980	1214.181
%RSD		173.205	0.000	29.716	TM 2.952	3.154	3.509	2.835	TM 4.251	2.701

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:28:15	26.667	2084.683	1820.182	3991.987	449756.910	2153.588	2940.476	2940.476	52828.608
2	13:28:37	35.556	2331.410	1889.085	4094.255	484347.810	2453.664	2989.380	3022.725	54811.406
3	13:28:59	33.333	1989.107	1931.316	4163.175	478864.000	2453.664	2958.259	3027.171	55166.880
x		31.852	2135.067	1880.195	4083.139	470989.570	2353.639	2962.705	2996.790	54268.965
σ		4.626	176.626	56.098	86.134	18591.331	173.249	24.754	48.821	1259.984
%RSD		14.523	8.273	2.984	2.109	3.947	7.361	0.836	1.629	2.322

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:28:15	136.668	7.733	1646761.100	72057.784	1966.879	123765.680	33.333	260.004	81355.743
2	13:28:37	180.668	8.000	1755791.400	74934.232	2166.925	128981.890	40.000	300.005	85829.936
3	13:28:59	175.335	4.533	1774669.200	75982.882	2420.322	129951.100	40.000	286.671	89794.623
x		164.224	6.756	1725740.600	74324.966	2184.709	127566.220	37.778	282.227	85660.101
σ		24.013	1.929	69046.453	2032.241	227.244	3326.850	3.849	20.368	4222.003
%RSD		14.622	28.556	4.001	2.734	10.402	2.608	10.189	7.217	4.929

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:28:15	460.012	246.670	270450.600	207310.450	446.678	2900.463	107599.690	27448.041
2	13:28:37	540.016	180.002	283499.250	218753.980	693.360	2713.738	112545.710	28685.185
3	13:28:59	560.017	286.671	294714.240	219730.440	846.706	3033.840	117784.780	30698.411
x		520.015	237.781	282888.030	215264.960	662.248	2882.680	112643.400	28943.879
σ		52.918	53.887	12143.364	6906.080	201.821	160.790	5093.248	1640.554
%RSD		10.176	22.663	4.293	3.208	30.475	5.578	4.522	5.668

500-163564-e-17-e, 5/31/2019 1:32:24 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:32:24	0.000	0.667	27.500	TM 139812470.000	T 5312100.300	1589.028	196628.140	M 2610857.800	45580.649
2	13:32:46	0.000	0.000	29.167	TM 140683240.000	T 5543212.600	1826.850	202317.620	M 2759622.000	49306.685
3	13:33:07	6.667	0.000	25.000	TM 140217320.000	T 5428929.900	1726.831	198835.370	TM 2606418.600	47081.602
x		2.222	0.222	27.222	TM 140237680.000	T 5428080.900	1714.236	199260.380	TM 2658966.100	47322.979
σ		3.849	0.385	2.097	TM 435742.730	T 115558.520	119.410	2868.452	TM 87198.815	1874.709
%RSD		173.205	173.205	7.704	TM 0.311	T 2.129	6.966	1.440	TM 3.279	3.962

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:32:24	17.778	1809.069	4901.321	5948.612	1157445.900	2976.043	4821.278	4670.088	9097.883
2	13:32:46	15.556	1953.543	5041.398	5961.954	1185685.900	3142.765	4867.970	5005.822	9373.719
3	13:33:07	13.333	1755.725	5099.208	5908.586	1189812.000	2978.266	4992.482	4732.343	9433.781
x		15.556	1839.446	5013.975	5939.718	1177647.900	3032.358	4893.910	4802.751	9301.795
σ		2.222	102.348	101.753	27.774	17616.670	95.622	88.500	178.598	179.127
%RSD		14.286	5.564	2.029	0.468	1.496	3.153	1.808	3.719	1.926

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:32:24	94.667	7.467	752555.080	72057.784	1500.124	126872.510	26.667	426.677	84255.308
2	13:32:46	125.334	3.733	786560.710	75108.998	1473.453	132370.070	33.333	453.345	86684.655
3	13:33:07	114.667	5.600	801236.340	75458.542	1646.816	133756.810	73.334	466.679	91195.128
x		111.556	5.600	780117.380	74208.441	1540.131	130999.800	44.445	448.900	87378.364
σ		15.568	1.867	24972.060	1870.706	93.349	3640.965	25.240	20.368	3521.533
%RSD		13.956	33.333	3.201	2.521	6.061	2.779	56.789	4.537	4.030

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:32:24	666.691	120.001	166796.240	205210.270	273.337	1920.203	110723.540	6962.665
2	13:32:46	680.025	60.000	174111.500	218467.200	666.691	1706.827	116852.870	7476.406
3	13:33:07	780.033	120.001	178991.580	222851.720	740.030	1800.178	120182.530	7463.062
x		708.917	100.001	173299.770	215509.730	560.020	1809.069	115919.650	7300.711
σ		61.949	34.641	6138.055	9185.051	250.967	106.965	4798.054	292.832
%RSD		8.739	34.641	3.542	4.262	44.814	5.913	4.139	4.011

ccv, 5/31/2019 1:36:32 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:36:32	340.006	444.678	219.169	T 2902140.900	1655936.500	927600.480	T 3554066.100	212201.380	49541.289
2	13:36:54	266.671	454.678	229.170	T 2995926.500	1621070.200	972332.360	T 3428903.300	215251.850	55301.024
3	13:37:15	360.007	455.345	230.836	T 2818761.300	1584873.600	914084.360	T 3496181.500	208874.540	54080.381
x		322.228	451.567	226.392	T 2905609.500	1620626.800	938005.730	T 3493050.300	212109.260	52974.231
σ		49.142	5.976	6.310	T 88633.516	35533.543	30486.215	T 62640.142	3189.654	3035.015
%RSD		15.251	1.323	2.787	T 3.050	2.193	3.250	T 1.793	1.504	5.729

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:36:32	13908.409	380835.530	459632.940	T 2603134.900	360779.620	800260.170	209404.300	541048.410	117086.970
2	13:36:54	13091.642	379508.390	471806.760	2713343.800	362860.010	791694.480	208483.490	563303.190	119558.830
3	13:37:15	13427.687	376053.620	474326.250	T 2627011.800	373139.370	822582.240	209404.300	581312.220	122191.260
x		13475.913	378799.180	468588.650	T 2647830.200	365593.000	804845.630	209097.360	561887.940	119612.350
σ		410.514	2468.581	7857.514	T 57978.903	6617.614	15946.264	531.627	20169.180	2552.568
%RSD		3.046	0.652	1.677	T 2.190	1.810	1.981	0.254	3.590	2.134

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:36:32	90123.184	11137.485	647373.120	73072.502	321879.220	150784.640	221820.280	198469.740	102993.470
2	13:36:54	91191.761	11016.271	640869.000	83636.298	330541.890	164062.730	216419.080	198517.430	114827.310
3	13:37:15	91508.250	11120.397	656694.000	87162.525	338043.660	167737.780	219682.640	206744.450	116852.870
x		90941.065	11091.384	648312.040	81290.442	330154.920	160861.710	219307.330	201243.870	111557.880
σ		725.768	65.609	7954.171	7332.085	8089.164	8918.356	2720.090	4763.700	7485.829
%RSD		0.798	0.592	1.227	9.020	2.450	5.544	1.240	2.367	6.710

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:36:32	447831.950	606248.970	216009.510	238022.410	2082084.200	1401948.300	139177.270	2555030.700
2	13:36:54	456381.800	622522.070	218951.990	255534.950	2135046.500	1445753.200	150732.680	2559176.700
3	13:37:15	464420.630	640273.610	219744.100	261734.300	2174739.200	1495773.100	154888.330	2683192.400
x		456211.460	623014.880	218235.200	251763.890	2130623.300	1447824.900	148266.090	2599133.300
σ		8295.650	17017.672	1967.773	12297.526	46485.585	46946.677	8140.781	72826.824
%RSD		1.818	2.732	0.902	4.885	2.182	3.243	5.491	2.802

ccb, 5/31/2019 1:40:42 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:40:42	0.000	0.667	3.333	5343.792	148.890	86.667	30977.132	40.000	51854.133
2	13:41:04	0.000	0.000	2.500	5328.228	148.890	88.889	31554.668	55.556	52538.043
3	13:41:27	0.000	0.000	1.667	5134.783	128.890	93.334	30997.200	77.778	55334.561
x		0.000	0.222	2.500	5268.934	142.223	89.630	31176.333	57.778	53242.246
σ		0.000	0.385	0.833	116.439	11.547	3.395	327.801	18.987	1843.982
%RSD		0.000	173.205	33.333	2.210	8.119	3.787	1.051	32.862	3.463

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:40:42	0.000	711.139	382.230	395.564	115.556	53.333	122.223	617.799	171.113
2	13:41:04	0.000	786.701	391.120	340.006	102.223	53.333	106.667	720.029	171.113
3	13:41:27	2.222	835.594	411.120	362.229	148.890	62.222	93.334	562.240	204.447
x		0.741	777.811	394.823	365.933	122.223	56.296	107.408	633.356	182.224
σ		1.283	62.702	14.797	27.963	24.037	5.132	14.459	80.037	19.245
%RSD		173.205	8.061	3.748	7.642	19.667	9.116	13.462	12.637	10.561

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:40:42	29.333	5.600	306.672	78215.026	140.001	162454.230	20.000	20.000	104699.460
2	13:41:04	35.333	7.200	337.784	85782.828	186.669	174999.420	26.667	40.000	114098.210
3	13:41:27	31.333	4.267	286.671	83064.424	273.337	175307.490	13.333	6.667	113510.930
x		32.000	5.689	310.376	82354.093	200.002	170920.380	20.000	22.222	110769.530
σ		3.055	1.469	25.757	3833.580	67.661	7333.520	6.667	16.777	5265.036
%RSD		9.547	25.817	8.299	4.655	33.830	4.291	33.333	75.498	4.753

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:40:42	166.668	120.001	26.667	233671.700	2340.301	146.668	144011.700	126.668
2	13:41:04	113.334	140.001	20.000	251641.920	4254.329	93.334	157940.160	66.667
3	13:41:27	173.335	133.334	46.667	258709.540	4988.035	126.668	159134.050	100.001
x		151.112	131.112	31.111	248007.720	3860.888	122.223	153695.310	97.778
σ		32.886	10.184	13.878	12908.485	1367.011	26.943	8407.466	30.062
%RSD		21.763	7.767	44.607	5.205	35.407	22.044	5.470	30.745

ccvl, 5/31/2019 1:44:53 PM QC Status: WARNING (Initial: WARNING)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:44:53	13.333	3.333	42.500	29400.799	13541.189	4023.112	103759.890	1757.948	50379.208
2	13:45:16	26.667	0.000	48.333	28107.830	13817.159	3863.043	98519.851	1753.502	57783.057
3	13:45:39	13.333	1.333	41.667	29144.420	13142.827	3927.515	100505.860	1671.265	52464.285
x		17.778	1.556	44.167	28884.350	13500.391	3937.890	100928.530	1727.572	53542.183
σ		7.698	1.678	3.632	684.594	339.012	80.537	2645.465	48.814	3817.806
%RSD		43.301	107.855	8.224	2.370	2.511	2.045	2.621	2.826	7.130

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:44:53	324.450	8357.173	10341.434	10957.711	3911.953	3336.168	1793.510	4976.918	9885.372
2	13:45:16	233.336	8350.500	10410.402	10817.543	3767.447	3391.744	1849.077	4994.705	10212.400
3	13:45:39	286.671	8190.355	10232.422	11042.258	3791.902	3180.556	1826.850	5039.174	9909.843
x		281.486	8299.343	10328.086	10939.171	3823.767	3302.823	1823.146	5003.599	10002.538
σ		45.778	94.445	89.738	113.499	77.343	109.471	27.968	32.067	182.157
%RSD		16.263	1.138	0.869	1.038	2.023	3.314	1.534	0.641	1.821

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:44:53	398.009	113.867	10459.347	75996.327	5494.994	158982.540	2426.991	593.353	106432.740
2	13:45:16	387.342	114.667	10528.315	87229.833	5461.640	171323.720	2040.229	506.681	110527.840
3	13:45:39	385.342	119.467	10192.377	81201.036	5515.006	173069.670	2246.944	380.008	112876.440
x		390.231	116.001	10393.346	81475.732	5490.547	167791.980	2238.055	493.347	109945.670
σ		6.810	3.029	177.428	5621.788	26.959	7678.976	193.534	107.296	3261.056
%RSD		1.745	2.611	1.707	6.900	0.491	4.576	8.647	21.748	2.966

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:44:53	9444.904	7129.461	2073.570	226814.610	17229.645	2940.476	141776.990	98632.170
2	13:45:16	9484.945	7796.675	1893.531	257386.090	17022.589	2853.781	157302.590	101314.760
3	13:45:39	9805.285	7850.055	2226.939	257680.940	18552.244	2773.756	159893.870	101099.050
x		9578.378	7592.064	2064.680	247293.880	17601.493	2856.004	152991.150	100348.660
σ		197.524	401.514	166.882	17736.183	829.858	83.382	9797.795	1490.432
%RSD		2.062	5.289	8.083	7.172	4.715	2.920	6.404	1.485

500-162180-I-3-a, 5/31/2019 3:07:19 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:07:19	0.000	0.000	11.667	436069.190	411767.770	5579.489	100658.650	120975.160	46518.716
2	15:07:40	13.333	0.000	15.000	438639.640	404805.300	5806.298	101510.260	127404.320	51854.133
3	15:08:03	0.000	0.000	17.500	437113.130	413734.100	5757.378	104703.950	124135.110	51659.697
x		4.444	0.000	14.722	437273.990	410102.390	5714.389	102290.950	124171.530	50010.849
σ		7.698	0.000	2.927	1292.753	4691.584	119.359	2132.660	3214.734	3025.838
%RSD		173.205	0.000	19.879	0.296	1.144	2.089	2.085	2.589	6.050

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:07:19	320.006	2240.276	2900.463	17369.912	13518.933	720.029	1226.749	4003.103	4247.659
2	15:07:40	340.006	2302.514	2904.909	17962.172	14106.492	797.813	1231.195	4160.952	4578.931
3	15:08:03	326.673	2500.344	2655.944	17194.022	14057.527	737.808	1264.532	4020.889	4672.311
x		328.895	2347.711	2820.438	17508.702	13894.317	751.883	1240.825	4061.648	4499.634
σ		10.184	135.797	142.474	402.443	326.013	40.758	20.651	86.458	223.156
%RSD		3.096	5.784	5.051	2.299	2.346	5.421	1.664	2.129	4.959

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:07:19	111.334	26.667	54107.206	70485.530	206.669	145614.710	33.333	0.000	98254.783
2	15:07:40	105.334	22.400	54652.677	78477.272	340.006	157478.930	0.000	13.333	103714.930
3	15:08:03	100.667	25.067	54699.625	78410.029	420.010	156952.160	0.000	0.000	104355.540
x		105.778	24.711	54486.503	75790.943	322.228	153348.600	11.111	4.444	102108.420
σ		5.347	2.155	329.318	4594.746	107.776	6702.922	19.245	7.698	3352.681
%RSD		5.055	8.723	0.604	6.062	33.447	4.371	173.205	173.205	3.283

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:07:19	280.004	200.002	8043.557	222052.520	960.051	746.697	136185.810	346.673
2	15:07:40	320.006	213.336	8277.100	239972.690	2040.229	846.706	151403.690	426.677
3	15:08:03	273.337	226.669	8517.321	237700.820	1873.526	873.375	147757.770	313.339
x		291.116	213.336	8279.326	233242.010	1624.602	822.260	145115.760	362.230
σ		25.240	13.334	236.890	9756.737	581.523	66.784	7945.510	58.248
%RSD		8.670	6.250	2.861	4.183	35.795	8.122	5.475	16.081

500-162180-I-4-a, 5/31/2019 3:11:27 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:11:27	0.000	0.000	9.167	T 4235254.800	426376.390	702.249	133384.740	140458.980	49031.871
2	15:11:48	6.667	0.000	10.833	T 4455530.600	437108.470	868.930	138980.970	139294.610	52645.327
3	15:12:11	0.000	0.000	12.500	T 4257026.500	423697.620	673.358	137606.970	136418.140	52511.222
x		2.222	0.000	10.833	T 4315937.300	429060.830	748.179	136657.560	138723.910	51396.140
σ		3.849	0.000	1.667	T 121380.430	7096.999	105.567	2916.418	2079.991	2048.615
%RSD		173.205	0.000	15.385	T 2.812	1.654	14.110	2.134	1.499	3.986

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:11:27	6.667	1960.211	2424.768	1306.761	986.720	204.447	402.231	3345.060	2318.073
2	15:11:48	17.778	1844.632	2386.980	1462.340	1068.952	200.002	433.344	3620.721	2489.230
3	15:12:11	15.556	1855.745	2487.007	1411.221	1002.278	213.336	464.456	3585.151	2349.192
x		13.333	1886.863	2432.918	1393.440	1019.317	205.928	433.344	3516.977	2385.498
σ		5.879	63.764	50.509	79.299	43.684	6.789	31.113	149.943	91.171
%RSD		44.096	3.379	2.076	5.691	4.286	3.297	7.180	4.263	3.822

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:11:27	91.334	14.667	76487.084	70942.396	146.668	139411.940	26.667	0.000	94475.033
2	15:11:48	98.667	11.467	78454.857	79674.283	106.667	156041.120	6.667	6.667	103714.930
3	15:12:11	79.334	13.600	79902.943	78450.374	126.668	152919.860	20.000	6.667	102339.480
x		89.778	13.244	78281.628	76355.684	126.668	149457.640	17.778	4.444	100176.480
σ		9.760	1.629	1714.506	4727.817	20.000	8838.703	10.184	3.849	4985.264
%RSD		10.871	12.302	2.190	6.192	15.790	5.914	57.282	86.603	4.976

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:11:27	220.003	113.334	12068.005	216801.360	306.672	633.355	131091.740	173.335
2	15:11:48	306.672	193.335	12849.074	235196.950	806.702	466.679	141526.460	180.002
3	15:12:11	280.004	226.669	12842.398	250196.160	920.047	573.351	147148.000	193.335
x		268.893	177.780	12586.492	234064.820	677.807	557.795	139922.070	182.224
σ		44.390	58.247	449.036	16726.162	326.370	84.420	8147.475	10.184
%RSD		16.508	32.764	3.568	7.146	48.151	15.135	5.823	5.589

500-162180-I-4-b 5/31/2019 3:15:36 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:15:36	6.667	0.000	15.000	T 4265324.900	454163.640	400.009	140980.290	141858.240	49641.835
2	15:15:59	0.000	0.000	10.000	T 4457242.900	440429.820	371.119	143731.770	141695.730	49574.804
3	15:16:20	0.000	0.000	17.500	T 4247015.700	442308.950	357.785	138507.160	139741.380	54482.773
x		2.222	0.000	14.167	T 4323194.500	445634.140	376.304	141073.070	141098.450	51233.137
σ		3.849	0.000	3.819	T 116449.730	7446.281	21.584	2613.542	1178.060	2814.467
%RSD		173.205	0.000	26.956	T 2.694	1.671	5.736	1.853	0.835	5.493

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:15:36	31.111	1995.775	2571.475	1797.956	964.496	217.780	1031.170	2664.835	2540.355
2	15:15:59	40.000	1995.775	2678.172	1824.628	1080.064	153.335	948.938	2751.527	2651.498
3	15:16:20	24.444	1909.089	2555.915	1800.178	1073.397	173.335	1071.174	2729.299	2791.540
x		31.852	1966.880	2601.854	1807.587	1039.319	181.483	1017.094	2715.220	2661.131
σ		7.804	50.048	66.550	14.799	64.885	32.987	62.322	45.028	125.869
%RSD		24.502	2.545	2.558	0.819	6.243	18.176	6.127	1.658	4.730

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:15:36	72.000	10.667	80037.452	72723.050	106.667	141075.080	6.667	0.000	94515.450
2	15:15:59	92.000	10.933	82488.101	79405.278	153.335	152327.830	13.333	6.667	107910.010
3	15:16:20	104.001	10.933	82111.380	78820.220	180.002	157248.330	33.333	6.667	100863.120
x		89.334	10.844	81545.645	76982.849	146.668	150217.080	17.778	4.444	101096.190
σ		16.166	0.154	1319.645	3700.674	37.119	8290.652	13.878	3.849	6700.319
%RSD		18.096	1.420	1.618	4.807	25.308	5.519	78.063	86.603	6.628

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:15:36	226.669	186.669	12535.303	220823.110	266.671	306.672	130956.480	240.003
2	15:15:59	173.335	186.669	12722.229	239945.310	600.020	433.344	147175.100	186.669
3	15:16:20	166.668	166.668	13363.148	256803.290	713.361	333.339	145122.490	240.003
x		188.891	180.002	12873.560	239190.570	526.684	357.785	141084.690	222.225
σ		32.887	11.547	434.174	18001.959	232.200	66.780	8831.123	30.793
%RSD		17.410	6.415	3.373	7.526	44.087	18.665	6.259	13.857

500-162180-I-4-c 5/31/2019 3:19:45 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:19:45	693.360	94.000	891.710	T 5328259.700	1054285.100	73157.627	1429643.100	243356.430	46652.733
2	15:20:08	693.360	89.334	927.547	T 5473059.000	1100844.900	73309.958	1446576.700	256295.930	53818.836
3	15:20:31	713.361	89.334	925.880	T 5315031.100	1076244.100	71925.632	1432753.800	247042.770	48924.629
x		700.027	90.889	915.046	T 5372116.600	1077124.700	72797.739	1436324.500	248898.380	49798.733
σ		11.548	2.694	20.226	T 87668.594	23292.386	759.097	9013.862	6666.343	3662.144
%RSD		1.650	2.964	2.210	T 1.632	2.162	1.043	0.628	2.678	7.354

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:19:45	49382.651	688040.980	352649.760	106133.720	688426.360	1501040.100	381111.170	524986.520	230312.020
2	15:20:08	52283.247	725003.290	367114.710	113319.680	722831.240	1563980.700	386660.510	542401.100	233240.840
3	15:20:31	49876.447	711453.000	362527.120	110226.440	715242.620	1541766.800	400152.620	544192.430	234312.320
x		50514.115	708165.760	360763.860	109893.280	708833.410	1535595.900	389308.100	537193.350	232621.720
σ		1551.879	18699.130	7391.920	3604.543	18075.745	31920.814	9792.933	10609.302	2070.767
%RSD		3.072	2.641	2.049	3.280	2.550	2.079	2.515	1.975	0.890

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:19:45	34101.842	4099.324	2569662.000	72991.858	1232337.500	139466.090	199655.280	38722.293	116089.860
2	15:20:08	34532.797	4270.069	2607385.400	78752.974	1307803.600	156382.470	211730.590	39398.522	127257.840
3	15:20:31	35163.207	4316.758	2652360.400	80225.768	1296044.700	156873.040	212515.250	40248.902	125601.720
x		34599.282	4228.717	2609802.600	77323.533	1278728.600	150907.200	207967.040	39456.572	122983.140
σ		533.797	114.463	41402.138	3822.936	40603.822	9911.324	7208.883	764.958	6026.913
%RSD		1.543	2.707	1.586	4.944	3.175	6.568	3.466	1.939	4.901

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:19:45	1686774.700	1168018.700	1618758.500	223452.870	801849.230	544343.300	T 4208713.500	186.669
2	15:20:08	1841660.100	1188873.600	1704567.500	248401.270	800868.150	552925.360	T 4459488.300	173.335
3	15:20:31	1868540.400	1190583.900	1705628.300	251552.840	827065.110	569815.260	T 4605861.000	193.335
x		1798991.700	1182492.100	1676318.100	241135.660	809927.490	555694.640	T 4424687.600	184.446
σ		98107.780	12563.443	49850.882	15394.604	14849.712	12959.820	T 200847.790	10.184
%RSD		5.453	1.062	2.974	6.384	1.833	2.332	T 4.539	5.521

500-162180-I-4-d 5/31/2019 3:23:56 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:23:56	600.020	84.000	911.712	T 5313243.400	1056553.900	70705.002	1430827.300	241252.570	48100.247
2	15:24:19	906.712	102.667	878.376	T 5582613.500	1098843.000	73601.186	1442873.900	249622.950	53805.423
3	15:24:40	620.021	100.667	896.711	T 5090258.000	1042231.200	70897.604	1398878.200	245887.640	51948.000
x		708.918	95.778	895.600	T 5328705.000	1065876.000	71734.597	1424193.100	245587.720	51284.557
σ		171.587	10.249	16.696	T 246541.650	29434.699	1619.379	22735.712	4193.241	2909.875
%RSD		24.204	10.701	1.864	T 4.627	2.762	2.257	1.596	1.707	5.674

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:23:56	49027.403	706911.770	356744.990	107410.810	706868.600	1565435.400	394520.990	540176.560	231563.210
2	15:24:19	51892.127	708996.190	355331.200	107590.700	702926.500	1582339.300	400189.760	550327.980	232123.900
3	15:24:40	51337.882	712146.490	370031.690	109605.670	678574.290	1563676.700	409560.220	547410.620	232593.460
x		50752.470	709351.480	360702.630	108202.390	696123.130	1570483.800	401423.660	545971.720	232093.520
σ		1519.438	2635.384	8110.074	1218.595	15325.024	10304.756	7595.160	5226.435	515.797
%RSD		2.994	0.372	2.248	1.126	2.201	0.656	1.892	0.957	0.222

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:23:56	34273.820	4196.969	2564889.700	71493.354	1241288.000	143519.570	201692.850	39565.913	116177.640
2	15:24:19	34883.466	4321.293	2605915.400	80918.534	1307137.200	157955.990	209015.500	40007.841	127616.150
3	15:24:40	35321.151	4335.700	2602000.400	81718.979	1296595.500	155419.500	210400.230	40530.147	127440.370
x		34826.145	4284.654	2590935.200	78043.622	1281673.600	152298.350	207036.200	40034.634	123744.720
σ		526.013	76.279	22640.826	5686.800	35369.895	7707.708	4678.981	482.675	6553.876
%RSD		1.510	1.780	0.874	7.287	2.760	5.061	2.260	1.206	5.296

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:23:56	1741577.800	1177748.900	1620308.300	225106.260	821062.530	548608.580	T 4304196.800	233.336
2	15:24:19	1809934.000	1206778.600	1699400.900	249168.510	831853.860	567723.630	T 4436719.200	200.002
3	15:24:40	1841086.000	1214165.300	1709928.300	254705.490	850470.510	582673.110	T 4564100.100	133.334
x		1797532.600	1199564.300	1676545.900	242993.420	834462.300	566335.100	T 4435005.400	188.891
σ		50900.091	19250.252	48986.736	15736.184	14876.499	17074.659	T 129960.150	50.919
%RSD		2.832	1.605	2.922	6.476	1.783	3.015	T 2.930	26.957

500-162180-I-4-a, 5/31/2019 3:28:05 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:28:05	0.000	0.000	8.333	859550.000	84033.267	224.447	47642.290	27376.715	46739.846
2	15:28:27	0.000	0.000	7.500	882151.070	92018.922	220.003	49909.964	30181.128	53550.592
3	15:28:48	0.000	0.000	11.667	863043.290	89927.033	228.892	48540.355	27323.221	52591.685
x		0.000	0.000	9.167	868248.120	88659.741	224.447	48697.536	28293.688	50960.707
σ		0.000	0.000	2.205	12166.341	4140.917	4.445	1141.979	1634.789	3686.683
%RSD		0.000	0.000	24.052	1.401	4.671	1.980	2.345	5.778	7.234

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:28:05	8.889	960.051	828.927	424.454	802.258	95.556	142.223	3909.729	773.366
2	15:28:27	6.667	926.714	826.704	391.120	751.142	60.000	126.668	4296.571	831.149
3	15:28:48	8.889	837.816	833.372	488.902	704.472	68.889	91.112	4152.059	913.379
x		8.148	908.194	829.667	434.825	752.624	74.815	120.001	4119.453	839.298
σ		1.283	63.187	3.395	49.709	48.910	18.504	26.200	195.471	70.361
%RSD		15.746	6.957	0.409	11.432	6.499	24.733	21.833	4.745	8.383

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:28:05	31.333	5.333	15419.733	71264.904	513.348	150976.680	0.000	0.000	97594.393
2	15:28:27	37.333	7.467	16432.616	83703.580	1040.060	165965.690	13.333	6.667	107741.360
3	15:28:48	43.333	6.933	16192.185	80030.727	1153.407	165583.260	13.333	0.000	111209.410
x		37.333	6.578	16014.845	78333.070	902.271	160841.880	8.889	2.222	105515.050
σ		6.000	1.110	529.217	6390.751	341.552	8545.654	7.698	3.849	7075.274
%RSD		16.071	16.878	3.305	8.158	37.855	5.313	86.603	173.205	6.705

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:28:05	1080.064	200.002	2373.643	224853.450	1213.414	680.025	140680.140	40.000
2	15:28:27	1093.399	180.002	2720.407	253505.990	2673.727	646.690	150712.340	73.334
3	15:28:48	973.385	160.001	2673.727	252382.020	3007.164	726.696	156997.380	20.000
x		1048.950	180.002	2589.259	243580.480	2298.102	684.470	149463.290	44.445
σ		65.779	20.000	188.182	16227.824	954.047	40.188	8230.015	26.943
%RSD		6.271	11.111	7.268	6.662	41.515	5.871	5.506	60.622

500-162180-I-5-a, 5/31/2019 3:32:13 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:32:13	0.000	0.000	15.833	373153.260	1080066.800	393.342	116002.080	350206.880	47229.031
2	15:32:36	0.000	0.667	13.333	400284.930	1056800.200	402.231	115648.730	369053.090	52953.778
3	15:32:58	0.000	0.000	8.333	382037.760	1063674.700	402.231	111369.130	357514.340	54992.495
x		0.000	0.222	12.500	385158.650	1066847.200	399.268	114339.980	358924.770	51725.101
σ		0.000	0.385	3.819	13832.456	11953.331	5.132	2578.893	9501.942	4024.932
%RSD		0.000	173.205	30.551	3.591	1.120	1.285	2.255	2.647	7.781

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:32:13	24.444	3473.997	3171.664	2129.138	3073.853	117.779	740.030	2798.208	2002.443
2	15:32:36	26.667	3620.721	3229.462	2122.470	3018.279	135.557	675.581	2560.361	2011.334
3	15:32:58	28.889	3611.829	3205.009	2071.347	3042.731	175.557	624.466	2504.790	2102.465
x		26.667	3568.849	3202.045	2107.652	3044.954	142.964	680.026	2621.119	2038.747
σ		2.222	82.264	29.013	31.617	27.854	29.593	57.910	155.860	55.360
%RSD		8.333	2.305	0.906	1.500	0.915	20.700	8.516	5.946	2.715

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:32:13	90.667	10.933	175443.410	71607.581	413.343	145616.970	13.333	6.667	97776.332
2	15:32:36	83.334	9.867	176030.140	80636.040	513.348	158324.540	13.333	0.000	104793.870
3	15:32:58	93.334	9.600	179249.930	80918.534	673.358	163415.670	33.333	0.000	107464.780
x		89.112	10.133	176907.830	77720.718	533.350	155785.730	20.000	2.222	103344.990
σ		5.178	0.706	2049.425	5296.016	131.157	9166.932	11.547	3.849	5004.091
%RSD		5.811	6.963	1.158	6.814	24.591	5.884	57.735	173.205	4.842

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:32:13	233.336	133.334	14918.898	222598.970	506.681	313.339	135482.080	7743.296
2	15:32:36	266.671	166.668	15192.684	254040.600	1440.114	326.673	149621.210	8637.435
3	15:32:58	200.002	226.669	15393.021	254362.760	1466.785	260.004	155362.990	8277.100
x		233.336	175.557	15168.201	243667.440	1137.860	300.005	146822.090	8219.277
σ		33.334	47.298	238.008	18246.544	546.780	35.278	10231.761	449.865
%RSD		14.286	26.942	1.569	7.488	48.053	11.759	6.969	5.473

500-162180-I-6-a, 5/31/2019 3:36:24 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:36:24	0.000	0.000	17.500	734107.750	176218.180	5377.145	97163.144	53027.539	45620.850
2	15:36:46	0.000	0.000	20.000	760195.410	175076.430	5535.018	97277.692	50376.973	51505.493
3	15:37:09	0.000	0.000	10.000	735772.360	173391.260	5379.369	95011.694	51782.616	53403.061
x		0.000	0.000	15.833	743358.510	174895.290	5430.511	96484.177	51729.043	50176.468
σ		0.000	0.000	5.204	14604.923	1422.137	90.513	1276.493	1326.095	4057.762
%RSD		0.000	0.000	32.868	1.965	0.813	1.667	1.323	2.564	8.087

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:36:24	331.117	3322.829	4289.901	17717.248	22559.067	1060.062	1589.028	4345.483	4249.882
2	15:36:46	373.341	3449.543	4174.292	18064.597	22768.477	1162.297	1489.011	4630.068	4489.997
3	15:37:09	417.787	3527.351	4278.784	17855.295	22899.917	1066.729	1620.144	4983.588	4485.551
x		374.082	3433.241	4247.659	17879.047	22742.487	1096.363	1566.061	4653.046	4408.477
σ		43.340	103.231	63.781	174.888	171.905	57.198	68.517	319.673	137.365
%RSD		11.586	3.007	1.502	0.978	0.756	5.217	4.375	6.870	3.116

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:36:24	140.668	22.400	27896.068	71332.094	313.339	149173.950	13.333	6.667	96186.170
2	15:36:46	149.335	23.467	28549.202	78618.484	493.347	167126.680	6.667	6.667	106871.180
3	15:37:09	138.668	22.667	28489.014	83905.428	393.342	164397.590	20.000	0.000	108510.420
x		142.890	22.844	28311.428	77952.002	400.009	160232.740	13.333	4.444	103855.920
σ		5.670	0.555	360.969	6313.108	90.189	9673.913	6.667	3.849	6692.579
%RSD		3.968	2.430	1.275	8.099	22.547	6.037	50.000	86.603	6.444

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:36:24	193.335	253.337	3900.837	226397.740	320.006	840.039	140145.310	80.000
2	15:36:46	246.670	206.669	4014.219	252615.030	866.708	900.045	154027.210	53.333
3	15:37:09	240.003	226.669	4167.622	259340.470	946.716	786.701	158910.180	73.334
x		226.670	228.892	4027.559	246117.750	711.143	842.261	151027.570	68.889
σ		29.060	23.413	133.892	17405.945	341.089	56.705	9735.426	13.878
%RSD		12.820	10.229	3.324	7.072	47.963	6.732	6.446	20.145

500-162180-I-7-a, 5/31/2019 3:45:31 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:45:31	13.333	0.000	17.500	597518.430	652376.970	506.681	178524.750	163117.050	50553.505
2	15:45:53	0.000	0.000	15.000	665131.040	670012.930	471.123	177491.480	156576.880	52283.247
3	15:46:14	0.000	0.000	20.833	653514.470	671816.810	504.458	177362.330	162983.580	53651.182
x		4.444	0.000	17.778	638721.310	664735.570	494.088	177792.860	160892.500	52162.645
σ		7.698	0.000	2.927	36152.376	10740.800	19.919	637.124	3738.031	1552.356
%RSD		173.205	0.000	16.462	5.660	1.616	4.031	0.358	2.323	2.976

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:45:31	26.667	1271.200	1575.692	10292.490	16098.686	568.907	1082.287	5032.504	3851.927
2	15:45:53	35.556	1257.865	1520.127	10354.783	16192.185	495.569	1193.412	5174.806	3903.060
3	15:46:14	40.000	1224.527	1435.669	10975.510	16350.246	522.237	1255.642	5228.170	3971.979
x		34.074	1251.197	1510.496	10540.928	16213.706	528.904	1177.114	5145.160	3908.989
σ		6.789	24.040	70.507	377.646	127.153	37.121	87.820	101.146	60.245
%RSD		19.924	1.921	4.668	3.583	0.784	7.018	7.461	1.966	1.541

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:45:31	90.667	6.400	97787.563	73166.587	360.007	147299.310	6.667	26.667	96226.595
2	15:45:53	90.000	4.533	100757.510	79250.604	453.345	159902.920	6.667	6.667	104315.080
3	15:46:14	86.000	3.467	101404.650	80501.523	513.348	159792.110	0.000	6.667	102265.320
x		88.889	4.800	99983.239	77639.571	442.233	155664.780	4.444	13.333	100935.660
σ		2.524	1.485	1928.844	3923.887	77.272	7244.924	3.849	11.547	4204.981
%RSD		2.839	30.932	1.929	5.054	17.473	4.654	86.603	86.603	4.166

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:45:31	166.668	346.673	16468.236	221629.030	226.669	486.680	138209.340	226.669
2	15:45:53	180.002	300.005	16722.032	241964.450	513.348	526.682	148753.810	260.004
3	15:46:14	220.003	293.338	16768.785	256919.840	546.683	526.682	154922.230	206.669
x		188.891	313.339	16653.018	240171.110	428.900	513.348	147295.130	231.114
σ		27.756	29.060	161.724	17713.621	175.928	23.095	8451.390	26.944
%RSD		14.694	9.274	0.971	7.375	41.018	4.499	5.738	11.658

500-162180-I-8-a, 5/31/2019 3:49:38 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:49:38	0.000	0.000	13.333	255809.170	477527.490	6384.463	317965.020	193545.250	48180.672
2	15:50:01	0.000	0.667	14.167	271160.160	483743.540	6584.606	329866.920	199805.180	54455.946
3	15:50:22	0.000	0.000	12.500	268114.000	482752.910	6944.874	327068.480	195102.460	54462.653
x		0.000	0.222	13.333	265027.780	481341.310	6637.981	324966.810	196150.960	52366.423
σ		0.000	0.385	0.833	8127.533	3339.804	283.992	6223.064	3259.019	3624.969
%RSD		0.000	173.205	6.250	3.067	0.694	4.278	1.915	1.661	6.922

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:49:38	384.453	1891.308	2784.871	2504066.600	318613.820	1429.001	2266.949	15297.304	124162.140
2	15:50:01	368.896	1977.993	2580.366	2529162.600	331055.640	1553.466	2313.628	16212.221	130138.190
3	15:50:22	335.562	1833.518	2767.088	2563610.900	336049.510	1600.141	2398.094	15653.465	129585.940
x		362.970	1900.940	2710.775	2532280.000	328572.990	1527.536	2326.224	15720.997	127962.090
σ		24.978	72.717	113.287	29894.302	8979.055	88.467	66.474	461.182	3302.417
%RSD		6.882	3.825	4.179	1.181	2.733	5.792	2.858	2.934	2.581

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:49:38	374.008	8.267	255672.060	71822.600	320.006	148457.920	20.000	53.333	93518.553
2	15:50:01	395.342	8.533	266015.920	80649.492	293.338	163223.380	40.000	40.000	110500.850
3	15:50:22	374.674	7.733	270851.150	83044.241	400.009	166481.670	6.667	53.333	104847.820
x		381.341	8.178	264179.710	78505.445	337.784	159387.660	22.222	48.889	102955.740
σ		12.129	0.407	7754.349	5910.077	55.513	9604.603	16.777	7.698	8647.808
%RSD		3.181	4.981	2.935	7.528	16.435	6.026	75.498	15.746	8.400

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:49:38	253.337	640.023	48140.459	228762.510	253.337	886.710	137864.160	306.672
2	15:50:01	200.002	680.025	47389.865	250086.540	626.688	840.039	153552.620	253.337
3	15:50:22	226.669	606.687	49212.845	254780.890	613.354	940.049	156197.100	280.004
x		226.670	642.245	48247.723	244543.320	497.793	888.932	149204.630	280.004
σ		26.667	36.720	916.212	13866.671	211.810	50.042	9909.741	26.667
%RSD		11.765	5.717	1.899	5.670	42.550	5.629	6.642	9.524

ccv, 5/31/2019 3:53:47 PM QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:53:47	366.674	486.013	242.503	T2801110.600	1582520.500	919064.210	T3258909.500	202742.480	49172.628
2	15:54:09	300.005	450.011	205.836	T2780054.000	1603397.400	911104.070	T3485201.200	205633.000	54630.321
3	15:54:30	260.004	455.345	223.336	T2733970.400	T1530133.800	887282.940	T3426152.900	204019.470	55254.074
x		308.894	463.790	223.892	T2771711.700	T1572017.200	905817.070	T3390087.800	204131.650	53019.008
σ		53.888	19.430	18.340	T34338.743	T37744.246	16537.123	T117377.600	1448.518	3345.630
%RSD		17.445	4.189	8.192	T1.239	T2.401	1.826	T3.462	0.710	6.310

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:53:47	12635.442	359661.020	449780.240	T2589591.000	351832.320	783158.280	205037.550	541950.970	115745.510
2	15:54:09	12702.201	368430.820	454630.580	2562057.400	356654.890	785450.620	208399.380	550754.920	117669.980
3	15:54:30	13231.845	362568.730	451007.760	T2610039.700	356308.350	787934.610	203810.410	552007.580	118248.520
x		12856.496	363553.520	451806.190	T2587229.400	354931.850	785514.500	205749.110	548237.820	117221.340
σ		326.771	4467.072	2521.816	T24078.154	2689.861	2388.804	2375.792	5480.484	1310.432
%RSD		2.542	1.229	0.558	T0.931	0.758	0.304	1.155	1.000	1.118

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:53:47	86286.225	10766.906	611553.870	73072.502	319738.980	144731.890	209186.030	198394.790	102346.220
2	15:54:09	88211.907	10795.473	620470.950	82068.776	318047.850	157802.250	207228.620	199689.350	112430.970
3	15:54:30	88113.628	10615.528	626770.730	77327.482	324075.200	162558.280	220741.150	207665.080	111479.360
x		87537.253	10725.969	619598.510	77489.587	320620.680	155030.810	212385.270	201916.410	108752.180
σ		1084.536	96.705	7645.854	4500.327	3108.908	9230.694	7302.294	5020.398	5568.092
%RSD		1.239	0.902	1.234	5.808	0.970	5.954	3.438	2.486	5.120

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:53:47	432775.020	582353.580	199682.530	224709.960	2039139.300	1409074.300	132099.510	2485687.800
2	15:54:09	437059.540	596359.240	211307.590	244791.990	2102567.100	1406334.700	146199.540	2510923.500
3	15:54:30	446831.130	613804.900	214630.760	260081.190	2120497.700	1426939.100	147222.520	2611587.300
x		438888.560	597505.910	208540.290	243194.380	2087401.400	1414116.000	141840.520	2536066.200
σ		7204.342	15756.987	7848.936	17739.649	42746.895	11189.249	8451.459	66609.182
%RSD		1.641	2.637	3.764	7.294	2.048	0.791	5.958	2.626

ccb, 5/31/2019 3:57:57 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:57:57	0.000	0.000	3.333	1484.566	175.557	73.334	30321.594	48.889	49883.150
2	15:58:18	0.000	0.000	0.000	1433.446	153.335	91.112	30714.019	77.778	54704.096
3	15:58:41	0.000	0.000	5.000	1402.330	144.446	86.667	29543.483	57.778	52631.917
x		0.000	0.000	2.778	1440.114	157.779	83.704	30193.032	61.482	52406.388
σ		0.000	0.000	2.546	41.521	16.025	9.252	595.764	14.796	2418.373
%RSD		0.000	0.000	91.652	2.883	10.157	11.053	1.973	24.066	4.615

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:57:57	0.000	791.146	420.010	377.786	126.668	68.889	88.889	675.581	175.557
2	15:58:18	4.444	713.361	431.121	417.787	126.668	62.222	88.889	628.911	226.669
3	15:58:41	0.000	720.029	384.453	364.452	131.112	68.889	111.112	662.246	191.113
x		1.481	741.512	411.861	386.675	128.149	66.667	96.297	655.579	197.780
σ		2.566	43.113	24.378	27.757	2.566	3.849	12.830	24.039	26.200
%RSD		173.205	5.814	5.919	7.178	2.002	5.774	13.324	3.667	13.247

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:57:57	27.333	5.067	333.339	73919.307	146.668	155984.610	26.667	26.667	101260.830
2	15:58:18	33.333	5.600	275.560	81954.418	346.673	174915.610	13.333	33.333	109583.180
3	15:58:41	29.333	6.400	313.339	79909.669	333.339	171937.370	33.333	6.667	109535.950
x		30.000	5.689	307.413	78594.464	275.560	167612.530	24.444	22.222	106793.320
σ		3.055	0.671	29.342	4175.892	111.823	10179.579	10.184	13.878	4791.331
%RSD		10.184	11.797	9.545	5.313	40.580	6.073	41.660	62.450	4.487

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:57:57	100.001	173.335	40.000	231975.750	2273.618	173.335	145047.980	186.669
2	15:58:18	133.334	160.001	60.000	254506.710	4721.226	246.670	159486.820	213.336
3	15:58:41	166.668	300.005	46.667	257214.670	4901.321	233.336	160409.510	173.335
x		133.334	211.114	48.889	247899.040	3965.388	217.780	154981.440	191.113
σ		33.334	77.270	10.184	13856.289	1467.881	39.064	8614.985	20.367
%RSD		25.000	36.601	20.830	5.589	37.017	17.937	5.559	10.657

500-164188-a-1-a, 5/31/2019 4:02:06 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:02:06	0.000	0.667	3367.290	TM 22568851.000	625248.890	11852.165	1847699.200	550570.930	52129.032
2	16:02:27	0.000	0.000	3418.976	TM 22094522.000	624518.960	11629.656	1828403.100	552326.080	50633.951
3	16:02:49	0.000	0.000	3240.578	TM 21940333.000	627203.550	11186.879	1739934.200	545434.780	50868.588
x		0.000	0.222	3342.281	TM 22201236.000	625657.130	11556.233	1805345.500	549443.930	51210.524
σ		0.000	0.385	91.791	TM 327565.880	1388.074	338.666	57463.563	3581.215	804.056
%RSD		0.000	173.205	2.746	TM 1.475	0.222	2.931	3.183	0.652	1.570

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:02:06	46.667	24495.179	902.267	9734.097	86458.068	322.228	1504.569	1462.340	4952.460
2	16:02:27	40.000	25582.612	864.486	9976.582	84636.603	331.117	1573.470	1382.327	4834.619
3	16:02:49	64.445	24722.459	780.033	9998.829	85809.747	297.783	1611.254	1482.343	4965.800
x		50.371	24933.417	848.929	9903.170	85634.806	317.043	1563.097	1442.337	4917.626
σ		12.636	573.590	62.584	146.843	923.248	17.262	54.093	52.923	72.196
%RSD		25.086	2.300	7.372	1.483	1.078	5.445	3.461	3.669	1.468

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:02:06	1343.433	213.603	T 5303416.300	69585.301	114314.240	139698.510	53.333	66.667	95741.513
2	16:02:27	1393.440	223.203	T 5314428.500	74746.025	111162.170	150050.420	20.000	46.667	99663.325
3	16:02:49	1464.785	215.469	T 5373862.600	78874.017	112208.240	153880.310	13.333	80.000	104004.890
x		1400.553	217.425	T 5330569.100	74401.781	112561.550	147876.410	28.889	64.445	99803.241
σ		60.988	5.090	T 37895.373	4653.916	1605.458	7336.593	21.430	16.778	4133.463
%RSD		4.355	2.341	T 0.711	6.255	1.426	4.961	74.182	26.034	4.142

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:02:06	240.003	966.718	31293.769	223418.720	586.686	726.696	129374.070	4187.631
2	16:02:27	193.335	1040.060	31929.306	248428.670	1406.776	720.029	141011.890	4467.764
3	16:02:49	266.671	1080.064	31226.873	253375.760	2033.561	633.355	145434.080	4474.434
x		233.336	1028.947	31483.316	241741.050	1342.341	693.360	138606.680	4376.610
σ		37.119	57.484	387.685	16059.245	725.587	52.072	8295.768	163.694
%RSD		15.908	5.587	1.231	6.643	54.054	7.510	5.985	3.740

500-164188-a-2-a, 5/31/2019 4:07:55 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:07:55	20.000	0.667	3593.210	T 15955405.000	T 2556824.400	1311.206	1787924.800	987860.170	44803.466
2	16:08:16	60.000	0.000	3536.521	T 16648786.000	T 2600467.400	1351.212	1843323.200	1070960.200	48877.711
3	16:08:37	53.333	0.667	3513.179	T 15816458.000	T 2666869.200	1384.550	1879934.900	1028061.300	48710.149
x		44.445	0.444	3547.637	T 16140216.000	T 2608053.700	1348.989	1837061.000	1028960.600	47463.775
σ		21.430	0.385	41.157	T 445880.040	T 55413.234	36.723	46323.615	41557.303	2305.418
%RSD		48.218	86.603	1.160	T 2.763	T 2.125	2.722	2.522	4.039	4.857

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:07:55	57.778	3289.484	966.718	26228.894	155607.110	448.900	1542.353	2184.707	1706.827
2	16:08:16	60.000	3378.405	1042.282	26737.038	158801.650	415.565	1513.459	2364.752	1811.292
3	16:08:37	77.778	3505.120	1093.399	25522.443	154696.210	422.232	1546.798	2280.286	1904.644
x		65.185	3391.003	1034.133	26162.792	156368.320	428.899	1534.204	2276.582	1807.588
σ		10.962	108.369	63.732	609.990	2155.977	17.639	18.102	90.080	98.961
%RSD		16.817	3.196	6.163	2.332	1.379	4.113	1.180	3.957	5.475

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:07:55	905.378	1370.770	T 10377895.000	69450.946	41702.096	134992.660	20.000	40.000	92602.581
2	16:08:16	951.383	1403.575	T 10727087.000	75243.437	42566.087	145343.760	0.000	40.000	99494.827
3	16:08:37	967.385	1501.991	T 10492417.000	77381.270	44280.915	151455.660	20.000	93.334	103553.110
x		941.382	1425.445	T 10532467.000	74025.218	42849.700	143930.690	13.333	57.778	98550.171
σ		32.190	68.289	T 178007.530	4103.115	1312.594	8321.969	11.547	30.792	5536.043
%RSD		3.419	4.791	T 1.690	5.543	3.063	5.782	86.603	53.294	5.617

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:07:55	240.003	1613.477	77105.609	223446.040	946.716	860.041	126101.900	40021.233
2	16:08:16	246.670	1633.480	78040.200	243189.840	1493.456	913.379	141729.590	38621.867
3	16:08:37	206.669	1773.506	81174.131	248120.420	1660.152	960.051	144756.730	42204.406
x		231.114	1673.488	78773.313	238252.100	1366.775	911.157	137529.410	40282.502
σ		21.431	87.194	2131.035	13057.265	373.207	50.042	10011.582	1805.504
%RSD		9.273	5.210	2.705	5.480	27.306	5.492	7.280	4.482

500-164188-a-3-a, 5/31/2019 4:12:03 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:12:03	0.000	0.000	1155.073	TM 22671123.000	282307.450	9707.402	1623582.700	404670.610	44883.861
2	16:12:24	0.000	0.000	1210.081	TM 23240724.000	283593.220	9956.560	1638732.300	411516.780	50835.068
3	16:12:47	13.333	0.000	1250.919	TM 22841138.000	280792.720	9540.559	1546980.000	392391.740	48106.949
x		4.444	0.000	1205.358	TM 22917662.000	282231.130	9734.841	1603098.300	402859.710	47941.960
σ		7.698	0.000	48.097	TM 292409.230	1401.811	209.354	49186.663	9690.267	2979.032
%RSD		173.205	0.000	3.990	TM 1.276	0.497	2.151	3.068	2.405	6.214

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:12:03	106.667	9137.924	942.271	13231.845	11869.966	717.806	2342.524	1073.397	4501.114
2	16:12:24	100.001	9338.127	964.496	13338.667	11562.904	793.368	2358.084	1204.524	4489.997
3	16:12:47	117.779	8795.364	1028.947	12628.766	11324.827	715.584	2442.550	1071.174	4387.725
x		108.149	9090.471	978.571	13066.426	11585.899	742.253	2381.053	1116.365	4459.612
σ		8.981	274.475	45.020	382.770	273.296	44.281	53.824	76.356	62.504
%RSD		8.304	3.019	4.601	2.929	2.359	5.966	2.261	6.840	1.402

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:12:03	1267.422	60.267	T 4101136.500	67442.576	82633.860	138385.320	6.667	113.334	91881.992
2	16:12:24	1259.421	64.000	T 4204779.500	80219.042	82929.871	152876.930	6.667	73.334	102379.930
3	16:12:47	1286.091	56.267	T 4209792.300	76715.664	84605.202	152730.050	13.333	46.667	101388.920
x		1270.978	60.178	T 4171902.800	74792.428	83389.644	147997.430	8.889	77.778	98550.279
σ		13.686	3.867	T 61336.607	6601.791	1063.057	8324.656	3.849	33.555	5796.125
%RSD		1.077	6.427	T 1.470	8.827	1.275	5.625	43.301	43.142	5.881

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:12:03	153.335	1500.124	25248.346	219785.070	293.338	1060.062	127311.930	10225.748
2	16:12:24	186.669	1840.186	25495.702	246298.540	546.683	1073.397	142928.130	10078.917
3	16:12:47	266.671	1666.820	25736.378	250086.540	833.372	1033.392	147940.710	10439.324
x		202.225	1669.043	25493.475	238723.380	557.798	1055.617	139393.590	10247.996
σ		58.247	170.042	244.024	16510.058	270.188	20.369	10759.015	181.230
%RSD		28.803	10.188	0.957	6.916	48.438	1.930	7.718	1.768

500-164188-a-4-a, 5/31/2019 4:16:12 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:16:12	20.000	0.000	2221.938	T 16331375.000	997051.470	1460.117	1153625.200	837561.720	44656.077
2	16:16:35	0.000	0.000	2265.282	T 16812045.000	1026682.200	1446.782	1224281.200	858543.450	50667.470
3	16:16:56	6.667	0.000	2202.767	T 17430120.000	1002854.000	1464.562	1195280.000	865952.500	49822.821
x		8.889	0.000	2229.996	T 16857847.000	1008862.600	1457.154	1191062.100	854019.220	48382.123
σ		10.184	0.000	32.027	T 550802.120	15702.600	9.253	35516.364	14726.189	3254.369
%RSD		114.564	0.000	1.436	T 3.267	1.556	0.635	2.982	1.724	6.726

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:16:12	35.556	875.598	742.253	141201.460	210504.840	475.568	2198.044	1308.983	2422.545
2	16:16:35	44.445	822.259	791.146	141666.390	217882.300	548.905	2380.312	1315.651	2362.529
3	16:16:56	37.778	726.696	793.368	141555.800	218253.270	457.789	2124.693	1331.209	2338.078
x		39.259	808.184	775.589	141474.550	215546.800	494.088	2234.349	1318.614	2374.384
σ		4.626	75.442	28.891	242.879	4370.407	48.299	131.620	11.405	43.463
%RSD		11.783	9.335	3.725	0.172	2.028	9.775	5.891	0.865	1.831

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:16:12	2803.099	9.867	T 5386901.300	70270.542	156604.010	138678.630	13.333	73.334	93949.630
2	16:16:35	2970.485	7.467	T 5698336.800	78315.889	159167.970	150043.640	26.667	60.000	103215.970
3	16:16:56	2862.451	8.800	T 5787234.600	79768.437	163449.610	152829.470	26.667	80.000	102777.710
x		2878.678	8.711	T 5624157.500	76118.289	159740.530	147183.910	22.222	71.111	99981.105
σ		84.865	1.202	T 210222.760	5116.111	3458.528	7496.341	7.698	10.184	5228.004
%RSD		2.948	13.804	T 3.738	6.721	2.165	5.093	34.641	14.321	5.229

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:16:12	186.669	226.669	58447.283	223077.150	220.003	700.027	128035.310	11767.611
2	16:16:35	160.001	180.002	62084.609	244011.420	553.350	680.025	144695.770	12088.031
3	16:16:56	153.335	213.336	62010.775	255247.030	720.029	886.710	148381.130	13136.151
x		166.668	206.669	60847.556	240778.530	497.794	755.587	140370.740	12330.598
σ		17.639	24.038	2079.025	16326.789	254.600	113.995	10840.549	715.789
%RSD		10.583	11.631	3.417	6.781	51.146	15.087	7.723	5.805

500-164188-a-5-a, 5/31/2019 4:20:21 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:20:21	13.333	0.667	1810.180	T 11582520.000	983607.330	5116.995	952100.830	727721.450	46585.724
2	16:20:44	20.000	0.000	1828.517	T 12451335.000	993553.340	5394.934	952723.500	712888.030	50097.658
3	16:21:07	13.333	0.000	1813.514	T 11939654.000	975790.680	5221.499	908617.120	679480.590	48683.339
x		15.556	0.222	1817.404	T 11991170.000	984317.120	5244.476	937813.820	706696.690	48455.574
σ		3.849	0.385	9.768	T 436692.470	8902.577	140.387	25287.001	24709.198	1767.011
%RSD		24.744	173.205	0.537	T 3.642	0.904	2.677	2.696	3.496	3.647

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:20:21	293.338	1449.004	1224.527	198183.590	242105.920	962.273	1626.812	6086.481	2791.540
2	16:20:44	304.450	1420.111	1186.744	196364.760	242240.550	802.258	1644.593	6188.773	2911.577
3	16:21:07	248.892	1495.679	1408.998	202601.620	235860.480	900.045	1515.682	6371.121	2880.456
x		282.227	1454.931	1273.423	199049.990	240068.980	888.192	1595.696	6215.458	2861.191
σ		29.398	38.131	118.922	3207.426	3645.294	80.664	69.862	144.184	62.295
%RSD		10.416	2.621	9.339	1.611	1.518	9.082	4.378	2.320	2.177

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:20:21	3166.551	7.733	T 4841222.500	72595.369	67173.932	142485.720	26.667	26.667	94825.319
2	16:20:44	3285.927	9.600	T 4670946.200	79842.415	69766.683	152036.340	33.333	53.333	100647.410
3	16:21:07	3205.899	8.267	T 4905082.800	78995.061	68752.333	153154.880	13.333	40.000	105515.480
x		3219.459	8.533	T 4805750.500	77144.281	68564.316	149225.650	24.444	40.000	100329.400
σ		60.832	0.961	T 121031.740	3962.191	1306.561	5863.684	10.184	13.333	5352.169
%RSD		1.890	11.267	T 2.518	5.136	1.906	3.929	41.660	33.333	5.335

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:20:21	473.346	226.669	64494.634	229083.780	120.001	2093.574	132092.750	6502.325
2	16:20:44	453.345	220.003	66347.899	247223.130	446.678	2226.939	145054.760	6902.620
3	16:21:07	693.360	293.338	70317.570	256323.360	560.017	2300.291	149316.260	7596.506
x		540.017	246.670	67053.367	244210.090	375.565	2206.935	142154.590	7000.483
σ		133.175	40.553	2974.880	13867.493	228.465	104.800	8970.539	553.616
%RSD		24.661	16.440	4.437	5.679	60.832	4.749	6.310	7.908

500-164188-a-6-a, 5/31/2019 4:24:32 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:24:32	6.667	0.667	1460.117	T 14013757.000	2297352.500	28805.565	1034843.300	1149022.100	46163.579
2	16:24:55	13.333	0.667	1476.787	T 14032311.000	2353910.700	29108.750	1062661.300	1181493.600	52390.528
3	16:25:17	20.000	0.667	1479.287	T 13922964.000	2283217.900	28946.010	1070997.600	1171663.900	48522.482
x		13.333	0.667	1472.064	T 13989677.000	2311493.700	28953.442	1056167.400	1167393.200	49025.530
σ		6.667	0.000	10.421	T 58515.827	37407.844	151.729	18931.766	16651.647	3143.806
%RSD		50.000	0.000	0.708	T 0.418	1.618	0.524	1.792	1.426	6.413

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:24:32	1915.757	9298.086	2315.851	68600.078	T 5511459.600	5981.968	2733.744	7051.623	6244.366
2	16:24:55	1880.194	9874.248	2124.693	70098.107	T 5559962.500	6108.718	2851.558	7000.472	6615.740
3	16:25:17	1973.548	9992.155	2175.816	71549.347	T 5627620.100	5993.086	2978.266	7527.560	6502.325
x		1923.166	9721.497	2205.453	70082.511	T 5566347.400	6027.924	2854.523	7193.218	6454.143
σ		47.116	371.393	98.965	1474.697	T 58342.864	70.191	122.288	290.676	190.317
%RSD		2.450	3.820	4.487	2.104	T 1.048	1.164	4.284	4.041	2.949

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:24:32	544.683	429.077	T 7195227.100	70015.250	50144.583	137203.160	100.001	280.004	93161.583
2	16:24:55	567.351	441.611	T 7402619.700	81988.053	51237.317	150283.100	93.334	213.336	100836.150
3	16:25:17	610.020	448.011	T 7572149.400	78275.544	52061.982	153469.000	113.334	273.337	105171.530
x		574.018	439.566	T 7389998.700	76759.615	51147.961	146985.090	102.223	255.559	99723.087
σ		33.175	9.631	T 188777.840	6128.665	961.818	8619.866	10.184	36.718	6081.847
%RSD		5.779	2.191	T 2.555	7.984	1.880	5.864	9.962	14.368	6.099

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:24:32	433.344	1840.186	122952.530	231859.510	1466.785	7216.196	129563.400	22728.376
2	16:24:55	446.678	1586.805	124641.970	256076.540	1633.480	7629.867	140395.800	22868.728
3	16:25:17	446.678	1780.174	131991.290	252532.790	1606.809	8070.247	145793.090	23443.522
x		442.233	1735.722	126528.600	246822.950	1569.025	7638.770	138584.100	23013.542
σ		7.698	132.410	4805.651	13079.296	89.541	427.095	8265.133	378.929
%RSD		1.741	7.629	3.798	5.299	5.707	5.591	5.964	1.647

500-164188-a-7-a, 5/31/2019 4:28:42 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:28:42	13.333	0.000	1820.182	T 12015902.000	979245.310	7645.436	893244.270	671288.750	45232.248
2	16:29:05	6.667	0.000	1864.358	T 12211019.000	1015289.600	7910.107	929250.220	677204.240	51632.879
3	16:29:27	20.000	0.000	1898.532	T 11917092.000	945854.260	7289.588	906801.930	690047.030	50392.615
x		13.333	0.000	1861.024	T 12048005.000	980129.720	7615.044	909765.470	679513.340	49085.914
σ		6.667	0.000	39.281	T 149569.900	34726.115	311.374	18184.995	9589.951	3394.498
%RSD		50.000	0.000	2.111	T 1.241	3.543	4.089	1.999	1.411	6.915

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:28:42	524.460	1697.936	1162.297	238022.410	236724.730	1082.287	1497.901	3442.874	3558.474
2	16:29:05	326.673	1511.237	1133.404	246209.510	249737.130	1151.184	1673.487	3505.120	3576.259
3	16:29:27	400.009	1533.463	1175.632	244066.190	243632.570	1048.949	1544.576	3876.382	3678.522
x		417.047	1580.879	1157.111	242766.040	243364.810	1094.140	1571.988	3608.125	3604.418
σ		99.988	101.982	21.586	4245.580	6510.330	52.138	90.946	234.392	64.789
%RSD		23.975	6.451	1.866	1.749	2.675	4.765	5.785	6.496	1.797

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:28:42	3681.412	10.133	T 4525174.100	72541.609	70425.064	139894.830	13.333	26.667	94515.450
2	16:29:05	3759.444	9.867	T 4763150.300	80239.219	75216.549	156097.640	13.333	13.333	108773.540
3	16:29:27	3832.141	11.467	T 4799253.400	79021.960	72501.289	154391.090	20.000	40.000	106338.310
x		3757.666	10.489	T 4695859.300	77267.596	72714.301	150127.850	15.556	26.667	103209.100
σ		75.380	0.857	T 148915.830	4137.831	2402.834	8903.040	3.849	13.333	7626.746
%RSD		2.006	8.173	T 3.171	5.355	3.304	5.930	24.744	50.000	7.390

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:28:42	326.673	260.004	69450.946	226821.440	226.669	2653.721	133235.910	6795.873
2	16:29:05	400.009	233.336	72944.816	245634.260	433.344	2633.715	148042.340	6255.485
3	16:29:27	460.012	260.004	74638.480	255802.320	520.015	2953.813	147344.470	6882.604
x		395.564	251.115	72344.747	242752.670	393.343	2747.083	142874.240	6644.654
σ		66.781	15.396	2645.315	14703.757	150.708	179.313	8354.328	339.809
%RSD		16.882	6.131	3.657	6.057	38.315	6.527	5.847	5.114

ccv, 5/31/2019 4:32:52 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:32:52	420.010	420.010	268.337	T 2611563.600	1514928.200	906566.790	T 3256624.500	197091.340	45989.366
2	16:33:14	326.673	447.344	260.004	T 2702696.000	1615688.600	915001.180	T 3468170.100	209142.830	55274.195
3	16:33:36	400.009	424.010	226.669	T 2734177.400	1581491.200	903828.810	T 3297054.900	198303.950	48656.529
x		382.230	430.455	251.670	T 2682812.300	1570702.700	908465.590	T 3340616.500	201512.710	49973.364
σ		49.143	14.763	22.049	T 63679.292	51239.238	5823.195	T 112299.080	6635.634	4780.434
%RSD		12.857	3.430	8.761	T 2.374	3.262	0.641	T 3.362	3.293	9.566

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:32:52	12034.627	342589.150	428641.480	T 2479791.200	349403.510	743211.350	197150.380	535931.600	113225.180
2	16:33:14	13296.383	371193.190	466552.390	2600388.900	356435.410	780844.740	206267.120	554853.210	118144.970
3	16:33:36	12519.726	360557.740	465825.390	T 2575540.100	360733.390	781833.430	201090.850	559864.670	118079.680
x		12616.912	358113.360	453673.090	T 2551906.700	355524.100	768629.840	201502.780	550216.500	116483.280
σ		636.468	14457.834	21681.054	T 63677.744	5719.653	22018.607	4572.310	12622.293	2821.786
%RSD		5.045	4.037	4.779	T 2.495	1.609	2.865	2.269	2.294	2.422

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:32:52	84947.707	10478.569	606272.700	72662.569	325111.230	147251.880	210550.320	197379.720	104409.480
2	16:33:14	87969.576	10845.933	641364.390	83555.561	324917.830	162895.350	213750.370	204521.680	112424.220
3	16:33:36	87767.638	10762.901	633369.820	82573.314	335809.780	165248.360	217784.440	201842.790	116886.640
x		86894.974	10695.801	627002.300	79597.148	328612.940	158465.200	214028.380	201248.060	111240.110
σ		1689.402	192.655	18392.002	6025.570	6233.389	9782.025	3625.067	3607.931	6322.295
%RSD		1.944	1.801	2.933	7.570	1.897	6.173	1.694	1.793	5.683

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:32:52	442828.920	588142.320	204896.650	236120.430	2098236.700	1434362.600	139942.220	2591090.800
2	16:33:14	449525.890	609652.300	212754.080	259909.720	2149891.200	1452724.500	150895.340	2668733.700
3	16:33:36	458665.890	623121.090	229117.960	260581.890	2195276.000	1492923.300	158733.810	2638906.000
x		450340.230	606971.910	215589.560	252204.010	2147801.300	1460003.500	149857.120	2632910.200
σ		7949.826	17642.761	12357.104	13932.848	48553.401	29951.248	9438.719	39167.189
%RSD		1.765	2.907	5.732	5.524	2.261	2.051	6.298	1.488

ccb, 5/31/2019 4:37:02 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:37:02	0.000	0.000	5.833	1855.745	217.780	144.446	30754.154	46.667	48542.589
2	16:37:25	0.000	0.000	9.167	1715.717	162.224	115.556	30272.542	82.223	54301.694
3	16:37:46	0.000	0.667	10.833	1697.936	153.335	106.667	29012.889	73.334	50841.772
x		0.000	0.222	8.611	1756.466	177.780	122.223	30013.195	67.408	51228.685
σ		0.000	0.385	2.546	86.436	34.926	19.752	899.137	18.504	2898.982
%RSD		0.000	173.205	29.565	4.921	19.645	16.160	2.996	27.451	5.659

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:37:02	6.667	757.809	377.786	428.899	126.668	40.000	102.223	671.136	200.002
2	16:37:25	2.222	751.142	357.785	426.677	111.112	71.111	91.112	604.465	188.891
3	16:37:46	2.222	762.254	433.344	373.341	148.890	73.334	102.223	691.137	193.335
x		3.704	757.069	389.638	409.639	128.890	61.482	98.519	655.579	194.076
σ		2.566	5.593	39.149	31.455	18.987	18.637	6.415	45.382	5.593
%RSD		69.282	0.739	10.048	7.679	14.731	30.313	6.512	6.922	2.882

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:37:02	18.667	5.333	386.675	76742.557	186.669	162268.740	13.333	13.333	101442.850
2	16:37:25	30.000	4.800	355.563	80481.345	220.003	173579.240	6.667	20.000	112370.220
3	16:37:46	43.333	8.267	335.562	80965.617	433.344	175708.450	13.333	13.333	112808.940
x		30.667	6.133	359.266	79396.506	280.005	170518.810	11.111	15.556	108874.000
σ		12.347	1.867	25.757	2311.107	133.837	7223.655	3.849	3.849	6439.308
%RSD		40.261	30.435	7.169	2.911	47.798	4.236	34.641	24.744	5.914

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:37:02	113.334	166.668	26.667	233309.230	2560.361	193.335	153728.890	173.335
2	16:37:25	206.669	106.667	60.000	257742.650	5501.664	226.669	160884.460	186.669
3	16:37:46	226.669	146.668	46.667	263710.190	5408.275	226.669	162655.560	160.001
x		182.224	140.001	44.445	251587.350	4490.100	215.558	159089.640	173.335
σ		60.493	30.551	16.777	16108.081	1671.856	19.245	4726.242	13.334
%RSD		33.197	21.822	37.749	6.403	37.234	8.928	2.971	7.692

ccvl, 5/31/2019 4:41:13 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:41:13	20.000	3.333	56.667	24597.677	13632.436	3785.232	97324.860	1740.167	48308.011
2	16:41:35	0.000	0.667	49.167	25925.804	13478.874	4127.604	99667.818	1649.038	53872.485
3	16:41:58	13.333	2.000	56.667	24000.529	12989.273	3729.654	93585.908	1793.510	53443.296
x		11.111	2.000	54.167	24841.337	13366.861	3880.830	96859.528	1727.572	51874.598
σ		10.184	1.333	4.330	985.494	335.894	215.511	3067.541	73.055	3096.200
%RSD		91.652	66.667	7.994	3.967	2.513	5.553	3.167	4.229	5.969

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:41:13	286.671	8259.306	9949.887	11008.884	3814.133	3131.650	1806.846	5083.643	10014.402
2	16:41:35	273.337	8214.821	10183.478	10804.194	3925.292	3527.351	1817.960	5054.738	9927.640
3	16:41:58	215.558	7765.538	10047.772	10797.520	3602.936	3413.974	1853.522	4992.482	9789.713
x		258.522	8079.888	10060.379	10870.199	3780.787	3357.659	1826.109	5043.621	9910.585
σ		37.801	273.143	117.305	120.151	163.745	203.773	24.382	46.587	113.311
%RSD		14.622	3.381	1.166	1.105	4.331	6.069	1.335	0.924	1.143

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:41:13	384.675	114.401	10466.021	74174.708	5468.311	158367.500	2040.229	413.343	103809.340
2	16:41:35	389.342	107.201	10628.432	79983.648	5121.442	175173.840	2500.344	453.345	114543.760
3	16:41:58	386.008	118.667	10143.434	83636.298	5181.476	174129.620	2300.291	486.680	111357.880
x		386.675	113.423	10412.629	79264.885	5257.076	169223.650	2280.288	451.122	109903.660
σ		2.404	5.796	246.868	4771.571	185.381	9416.189	230.709	36.719	5512.990
%RSD		0.622	5.110	2.371	6.020	3.526	5.564	10.118	8.139	5.016

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:41:13	9137.924	7202.852	2106.911	237618.720	17329.835	2813.769	150847.900	100512.600
2	16:41:35	9831.980	7409.685	2313.628	257008.980	19140.128	3153.880	158543.870	105947.120
3	16:41:58	9338.127	7503.095	2093.574	257893.510	18238.277	2973.820	162974.530	108038.180
x		9436.010	7371.878	2171.371	250840.400	18236.080	2980.490	157455.430	104832.630
σ		357.232	153.651	123.378	11458.851	905.148	170.154	6136.147	3884.606
%RSD		3.786	2.084	5.682	4.568	4.964	5.709	3.897	3.706

500-164208-b-1-a, 5/31/2019 4:45:25 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:45:25	0.000	0.000	14.167	108227.080	59017.616	6001.981	143785.950	14696.314	50640.654
2	16:45:46	13.333	0.667	21.667	116841.620	59867.591	6344.435	150181.440	15608.944	54281.575
3	16:46:09	0.000	0.667	12.500	111495.100	57297.777	5993.086	143180.960	15197.136	51552.424
x		4.444	0.444	16.111	112187.930	58727.662	6113.167	145716.120	15167.465	52158.218
σ		7.698	0.385	4.883	4348.862	1309.214	200.333	3878.901	457.038	1894.549
%RSD		173.205	86.603	30.308	3.876	2.229	3.277	2.662	3.013	3.632

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:45:25	102.223	1111.179	1871.304	10232.422	34206.456	19082.228	3173.887	27140.453	8846.524
2	16:45:46	104.445	1215.637	1709.050	10437.099	33787.114	19304.920	3231.685	27641.960	9122.352
3	16:46:09	95.556	1086.732	1797.956	10058.895	32669.708	18930.801	3205.009	27468.101	9440.455
x		100.741	1137.849	1792.770	10242.805	33554.426	19105.983	3203.527	27416.838	9136.444
σ		4.626	68.466	81.251	189.316	794.359	188.187	28.928	254.654	297.216
%RSD		4.592	6.017	4.532	1.848	2.367	0.985	0.903	0.929	3.253

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:45:25	134.001	26.133	36459.632	87290.410	60.000	158403.680	13.333	33.333	102076.550
2	16:45:46	130.668	18.933	36742.992	95626.984	126.668	172926.990	60.000	20.000	108456.450
3	16:46:09	126.001	16.267	36861.247	98692.823	120.001	171973.600	0.000	40.000	112181.240
x		130.223	20.444	36687.957	93870.072	102.223	167768.090	24.445	31.111	107571.410
σ		4.019	5.104	206.386	5900.747	36.718	8123.814	31.506	10.184	5110.156
%RSD		3.086	24.965	0.563	6.286	35.919	4.842	128.886	32.733	4.750

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:45:25	206.669	193.335	13102.769	236017.820	533.349	540.016	151539.250	3007.164
2	16:45:46	206.669	253.337	13096.093	263133.840	1340.099	640.023	164454.150	3160.549
3	16:46:09	253.337	206.669	14204.422	262852.540	1340.099	613.354	164196.220	3147.211
x		222.225	217.780	13467.761	254001.400	1071.182	597.798	160063.210	3104.975
σ		26.944	31.506	637.975	15574.876	465.777	51.786	7383.086	84.969
%RSD		12.125	14.467	4.737	6.132	43.483	8.663	4.613	2.737

500-164208-b-2-a, 5/31/2019 4:49:34 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:49:34	0.000	0.000	22.500	259546.220	71728.529	31204.574	285415.610	21741.523	47128.511
2	16:49:57	13.333	0.667	20.000	279301.150	74318.094	31514.530	292655.990	22641.493	54227.922
3	16:50:19	0.000	0.000	25.000	273566.210	73220.351	31204.574	286963.210	21861.811	54482.773
x		4.444	0.222	22.500	270804.530	73088.991	31307.893	288344.940	22081.609	51946.402
σ		7.698	0.385	2.500	10162.896	1299.771	178.953	3812.829	488.590	4174.361
%RSD		173.205	173.205	11.111	3.753	1.778	0.572	1.322	2.213	8.036

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:49:34	977.830	3456.212	4574.484	191194.060	130282.460	61509.609	3140.542	17024.815	5530.571
2	16:49:57	897.822	3293.930	4796.821	200457.080	140364.200	63250.382	3198.340	17216.287	5686.222
3	16:50:19	895.600	3542.913	4650.078	194255.720	134119.880	63109.407	3298.376	17409.988	5770.720
x		923.751	3431.018	4673.794	195302.290	134922.180	62623.133	3212.420	17217.030	5662.504
σ		46.848	126.389	113.050	4719.360	5088.533	966.912	79.853	192.588	121.819
%RSD		5.071	3.684	2.419	2.416	3.771	1.544	2.486	1.119	2.151

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:49:34	232.670	25.867	46331.095	89134.844	153.335	157343.280	20.000	20.000	104760.150
2	16:49:57	242.670	17.333	48095.779	95242.984	286.671	169784.130	33.333	20.000	112187.990
3	16:50:19	254.670	24.267	48410.778	97082.287	253.337	176854.810	26.667	6.667	112599.700
x		243.337	22.489	47612.551	93820.038	231.114	167994.070	26.667	15.556	109849.280
σ		11.015	4.536	1120.894	4160.414	69.391	9878.166	6.667	7.698	4412.122
%RSD		4.527	20.170	2.354	4.434	30.024	5.880	25.000	49.487	4.017

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:49:34	286.671	246.670	18077.957	236736.130	406.676	1046.727	146917.650	2973.820
2	16:49:57	226.669	220.003	19287.105	262022.420	1040.060	1233.417	160796.250	3093.860
3	16:50:19	220.003	366.674	19467.488	267217.060	1246.752	1046.727	162587.690	3367.290
x		244.448	277.782	18944.183	255325.200	897.829	1108.957	156767.200	3144.990
σ		36.718	78.129	755.576	16306.784	437.726	107.786	8576.860	201.657
%RSD		15.021	28.126	3.988	6.387	48.754	9.720	5.471	6.412

500-164208-b-3-a, 5/31/2019 4:53:45 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:53:45	6.667	0.667	10.833	164859.170	71137.243	1062.284	280226.760	19327.190	48683.339
2	16:54:07	0.000	0.000	13.333	160696.740	72445.290	1026.725	270267.490	19051.052	49963.590
3	16:54:29	0.000	0.000	15.000	164117.030	72953.776	1060.062	283409.860	19730.276	55086.394
x		2.222	0.222	13.056	163224.310	72178.770	1049.690	277968.040	19369.506	51244.441
σ		3.849	0.385	2.097	2220.173	937.135	19.920	6856.152	341.584	3388.246
%RSD		173.205	173.205	16.063	1.360	1.298	1.898	2.467	1.764	6.612

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:53:45	42.222	1002.278	1537.908	1755.725	5555.030	1444.559	1597.918	6153.193	4581.154
2	16:54:07	17.778	888.932	1540.130	1946.875	5535.018	1433.446	1646.816	6448.953	4587.824
3	16:54:29	26.667	960.051	1484.566	2020.224	5381.592	1384.550	1564.579	6504.548	4698.992
x		28.889	950.420	1520.868	1907.608	5490.547	1420.852	1603.104	6368.898	4622.657
σ		12.373	57.283	31.458	136.552	94.886	31.926	41.363	188.863	66.192
%RSD		42.829	6.027	2.068	7.158	1.728	2.247	2.580	2.965	1.432

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:53:45	36.667	11.733	17882.014	72360.171	73.334	154897.370	13.333	26.667	99191.540
2	16:54:07	32.000	6.400	17819.670	81174.131	60.000	170852.760	6.667	33.333	112073.260
3	16:54:29	30.667	10.667	17374.365	80851.273	146.668	174367.450	26.667	33.333	111398.370
x		33.111	9.600	17692.016	78128.525	93.334	166705.860	15.556	31.111	107554.390
σ		3.151	2.822	276.855	4998.148	46.667	10376.349	10.184	3.849	7250.297
%RSD		9.515	29.397	1.565	6.397	50.000	6.224	65.465	12.372	6.741

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:53:45	246.670	233.336	15045.774	240643.400	340.006	333.339	153105.170	260.004
2	16:54:07	186.669	206.669	15045.774	260897.420	766.699	346.673	165709.980	280.004
3	16:54:29	226.669	213.336	15446.445	267457.300	1113.401	433.344	162187.300	253.337
x		220.003	217.780	15179.331	256332.710	740.036	371.119	160334.150	264.448
σ		30.551	13.878	231.328	13977.614	387.386	54.299	6503.535	13.878
%RSD		13.887	6.373	1.524	5.453	52.347	14.631	4.056	5.248

500-164208-f-4-a, 5/31/2019 4:57:54 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:57:54	0.000	0.000	14.167	211550.930	76657.398	1889.085	318655.240	20861.687	51351.291
2	16:58:16	0.000	0.667	17.500	226279.290	84744.266	1946.875	335498.600	20826.050	53926.135
3	16:58:38	6.667	0.000	17.500	217586.450	77777.967	1742.389	319175.230	20380.597	49494.367
x		2.222	0.222	16.389	218472.220	79726.544	1859.450	324443.020	20689.445	51590.598
σ		3.849	0.385	1.925	7404.026	4381.446	105.415	9577.938	268.062	2225.555
%RSD		173.205	173.205	11.743	3.389	5.496	5.669	2.952	1.296	4.314

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:57:54	22.222	833.372	1211.192	2522.572	100130.640	32087.640	3749.662	9286.963	5374.922
2	16:58:16	8.889	886.710	1384.550	2749.305	104647.760	32159.003	3863.043	9618.419	5352.687
3	16:58:38	33.333	857.818	1293.425	2622.601	101135.000	32063.109	3738.546	9171.291	5272.640
x		21.482	859.300	1296.389	2631.492	101971.130	32103.251	3783.750	9358.891	5333.416
σ		12.239	26.700	86.717	113.627	2371.797	49.816	68.894	232.080	53.795
%RSD		56.975	3.107	6.689	4.318	2.326	0.155	1.821	2.480	1.009

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:57:54	72.667	8.800	38664.269	77912.445	333.339	156800.690	6.667	20.000	99407.210
2	16:58:16	66.667	9.867	38633.025	83158.613	346.673	170687.480	0.000	40.000	110568.330
3	16:58:38	72.000	9.867	39458.783	83380.633	440.011	170311.640	20.000	33.333	115617.220
x		70.445	9.511	38918.692	81483.897	373.341	165933.270	8.889	31.111	108530.920
σ		3.289	0.616	467.993	3094.960	58.121	7911.276	10.184	10.184	8294.843
%RSD		4.668	6.475	1.202	3.798	15.568	4.768	114.564	32.733	7.643

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:57:54	206.669	180.002	23209.590	239972.690	306.672	320.006	148360.800	866.708
2	16:58:16	213.336	213.336	24045.090	255905.150	680.025	240.003	156088.590	753.365
3	16:58:38	286.671	186.669	26264.552	261206.090	673.358	333.339	167047.460	740.030
x		235.559	193.335	24506.411	252361.310	553.352	297.783	157165.620	786.701
σ		44.390	17.639	1578.864	11051.403	213.657	50.481	9389.770	69.608
%RSD		18.845	9.123	6.443	4.379	38.611	16.952	5.974	8.848

ccv, 5/31/2019 5:02:03 PM QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:02:03	400.009	425.343	243.337	T 2661504.800	1501553.200	878296.660	T 3283345.400	194984.410	50868.588
2	17:02:24	380.008	448.678	250.003	T 2705161.000	1566588.900	891116.540	T 3332428.900	203726.340	52276.542
3	17:02:47	393.342	444.011	225.003	T 2724279.400	1563582.300	862762.900	T 3288021.000	197847.500	51974.819
x		391.120	439.344	239.448	T 2696981.800	1543908.100	877392.030	T 3301265.100	198852.750	51706.650
σ		10.184	12.347	12.946	T 32176.679	36711.248	14198.451	T 27089.680	4456.817	741.296
%RSD		2.604	2.810	5.407	T 1.193	2.378	1.618	T 0.821	2.241	1.434

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:02:03	11821.014	360328.930	443822.320	2512072.000	347003.030	737692.320	194223.940	533988.800	113364.680
2	17:02:24	12829.046	353594.300	445482.870	2576252.600	357789.290	772803.730	202990.140	539073.910	116292.420
3	17:02:47	12074.680	356389.210	440408.840	2546914.000	344880.050	776593.850	204998.910	536965.570	115716.250
x		12241.580	356770.810	443238.010	2545079.500	349890.790	762363.300	200737.670	536676.100	115124.450
σ		524.332	3383.493	2586.989	32129.567	6922.177	21449.578	5729.767	2554.886	1550.997
%RSD		4.283	0.948	0.584	1.262	1.978	2.814	2.854	0.476	1.347

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:02:03	84455.823	10267.662	597767.350	77717.453	313790.330	145874.380	206464.870	201270.310	103984.660
2	17:02:24	87021.180	10692.151	615818.950	81120.320	327729.430	162951.900	213095.260	202238.100	111614.330
3	17:02:47	86797.726	10852.874	622655.180	82250.406	328095.630	163031.080	211157.490	205626.180	115117.610
x		86091.576	10604.229	612080.490	80362.727	323205.130	157285.790	210239.210	203044.860	110238.870
σ		1421.003	302.351	12858.190	2359.529	8155.512	9882.649	3409.247	2287.258	5692.504
%RSD		1.651	2.851	2.101	2.936	2.523	6.283	1.622	1.126	5.164

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:02:03	427221.370	594439.420	203574.090	234205.160	2118685.800	1413572.300	139637.590	2569696.800
2	17:02:24	437961.420	606398.460	211355.340	255247.030	2144240.700	1464696.800	149790.630	2612494.100
3	17:02:47	453986.210	618237.320	215586.300	259347.330	2168256.300	1512169.400	155261.270	2689014.800
x		439723.000	606358.400	210171.910	249599.840	2143727.600	1463479.500	148229.830	2623735.200
σ		13469.096	11899.001	6092.920	13488.893	24789.267	49309.809	7927.924	60448.094
%RSD		3.063	1.962	2.899	5.404	1.156	3.369	5.348	2.304

ccb, 5/31/2019 5:06:13 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:06:13	0.000	0.000	1.667	1537.908	168.890	120.001	29371.817	60.000	49755.789
2	17:06:36	0.000	0.000	3.333	1497.901	186.669	131.112	29659.415	57.778	52517.927
3	17:06:59	0.000	0.000	2.500	1542.353	180.002	122.223	29331.687	60.000	53329.297
x		0.000	0.000	2.500	1526.054	178.520	124.445	29454.306	59.259	51867.671
σ		0.000	0.000	0.833	24.482	8.981	5.880	178.759	1.283	1873.397
%RSD		0.000	0.000	33.333	1.604	5.031	4.725	0.607	2.165	3.612

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:06:13	2.222	897.822	402.231	493.347	135.557	64.445	75.556	717.806	195.558
2	17:06:36	2.222	706.694	424.454	460.012	86.667	40.000	97.778	722.251	228.892
3	17:06:59	2.222	702.249	451.122	328.895	128.890	82.223	88.889	622.244	208.891
x		2.222	768.922	425.936	427.418	117.038	62.222	87.408	687.434	211.114
σ		0.000	111.653	24.479	86.936	26.512	21.199	11.185	56.500	16.778
%RSD		0.000	14.521	5.747	20.340	22.653	34.069	12.796	8.219	7.947

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:06:13	28.667	8.800	417.787	77226.630	173.335	158745.120	53.333	20.000	102204.640
2	17:06:36	26.000	3.200	302.227	82129.319	280.004	175350.530	40.000	6.667	113564.930
3	17:06:59	28.667	6.933	324.450	80286.299	400.009	175271.250	46.667	6.667	110460.360
x		27.778	6.311	348.155	79880.749	284.449	169788.960	46.667	11.111	108743.310
σ		1.540	2.851	61.319	2476.377	113.402	9564.336	6.667	7.698	5871.563
%RSD		5.543	45.180	17.612	3.100	39.867	5.633	14.286	69.282	5.399

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:06:13	180.002	160.001	53.333	236332.500	2453.664	200.002	144492.580	286.671
2	17:06:36	193.335	146.668	80.000	255891.440	5381.592	260.004	159595.360	166.668
3	17:06:59	386.675	186.669	33.333	266084.550	5428.287	286.671	166999.930	266.671
x		253.337	164.446	55.556	252769.500	4421.181	248.892	157029.290	240.003
σ		115.666	20.367	23.413	15119.725	1704.080	44.390	11471.000	64.293
%RSD		45.657	12.385	42.143	5.982	38.544	17.835	7.305	26.788

ccvl, 5/31/2019 5:10:27 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:10:27	13.333	0.667	44.167	23113.791	12918.061	3909.729	94656.911	1551.243	49226.251
2	17:10:48	6.667	1.333	50.833	24575.395	13182.885	3969.755	98198.625	1660.152	47758.453
3	17:11:11	33.333	1.333	50.000	24316.923	13323.089	3778.563	99573.459	1771.284	55260.781
x		17.778	1.111	48.333	24002.036	13141.345	3886.016	97476.332	1660.893	50748.495
σ		13.878	0.385	3.632	780.024	205.685	97.777	2536.611	110.022	3976.073
%RSD		78.063	34.641	7.515	3.250	1.565	2.516	2.602	6.624	7.835

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:10:27	226.669	7830.037	10205.725	10363.682	3678.522	3267.254	1671.265	4952.460	10018.851
2	17:10:48	264.448	8248.185	10114.512	11175.754	3798.571	3205.009	1802.401	5036.951	9874.248
3	17:11:11	275.560	7556.473	9992.155	10875.390	3780.786	3302.822	1946.875	5308.216	9916.517
x		255.559	7878.231	10104.131	10804.942	3752.626	3258.362	1806.847	5099.209	9936.539
σ		25.629	348.365	107.163	410.594	64.790	49.509	137.859	185.870	74.351
%RSD		10.028	4.422	1.061	3.800	1.727	1.519	7.630	3.645	0.748

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:10:27	372.674	106.667	10292.490	78833.669	5488.323	159199.630	2326.964	406.676	101887.780
2	17:10:48	411.343	116.801	10499.393	80548.604	5414.945	173047.020	2400.317	393.342	114645.030
3	17:11:11	381.341	110.667	10294.715	80837.821	5241.511	177097.240	2533.686	426.677	114280.480
x		388.453	111.378	10362.199	80073.364	5381.593	169781.290	2420.323	408.898	110271.100
σ		20.291	5.104	118.819	1083.303	126.741	9385.086	104.803	16.778	7262.453
%RSD		5.224	4.583	1.147	1.353	2.355	5.528	4.330	4.103	6.586

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:10:27	9451.577	7296.260	2053.565	241526.360	18525.523	2967.151	148597.960	102642.870
2	17:10:48	9718.525	7296.260	2166.925	251251.340	18652.449	2900.463	165791.450	103229.460
3	17:11:11	9418.210	7403.013	2467.001	264025.820	19661.238	3280.592	165187.260	107829.050
x		9529.437	7331.844	2229.164	252267.840	18946.403	3049.402	159858.890	104567.130
σ		164.603	61.634	213.630	11284.118	622.309	202.974	9756.928	2840.097
%RSD		1.727	0.841	9.583	4.473	3.285	6.656	6.103	2.716

lb 500-487691/1-b, 5/31/2019 5:14:36 PM QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:14:36	0.000	0.667	24.167	46351.197	1946.875	1053.394	99726.231	1168.964	49869.744
2	17:14:59	0.000	0.667	17.500	44740.937	2153.588	1148.962	99274.662	1233.417	55187.001
3	17:15:20	0.000	0.667	32.500	46402.569	1989.107	960.051	99173.568	1122.292	53872.485
x		0.000	0.667	24.722	45831.568	2029.857	1054.136	99391.487	1174.891	52976.410
σ		0.000	0.000	7.515	944.863	109.216	94.458	294.271	55.799	2769.570
%RSD		0.000	0.000	30.399	2.062	5.380	8.961	0.296	4.749	5.228

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:14:36	4.444	3420.643	1982.438	1773.506	735.585	175.557	480.013	6809.216	5141.454
2	17:14:59	8.889	3267.254	2098.020	1886.863	773.366	168.890	477.790	7211.748	5194.817
3	17:15:20	8.889	3316.160	2078.015	1829.073	777.811	191.113	500.014	6878.157	5270.416
x		7.407	3334.686	2052.825	1829.814	762.254	178.520	485.939	6966.374	5202.229
σ		2.566	78.355	61.771	56.682	23.203	11.404	12.240	215.278	64.800
%RSD		34.641	2.350	3.009	3.098	3.044	6.388	2.519	3.090	1.246

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:14:36	50.667	5.067	971.163	81638.259	160.001	170610.500	13.333	0.000	109583.180
2	17:14:59	64.000	7.467	962.273	83791.047	260.004	184420.710	33.333	13.333	114813.810
3	17:15:20	46.000	4.533	860.041	82142.773	246.670	179365.510	33.333	0.000	113693.190
x		53.556	5.689	931.159	82524.026	222.225	178132.240	26.667	4.444	112696.720
σ		9.341	1.563	61.750	1125.895	54.298	6987.217	11.547	7.698	2754.011
%RSD		17.442	27.466	6.632	1.364	24.434	3.922	43.301	173.205	2.444

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:14:36	906.712	320.006	1306.761	254678.070	706.694	1740.167	157573.890	73.334
2	17:14:59	1026.725	400.009	1173.409	272579.450	2200.266	1806.846	169383.430	80.000
3	17:15:20	800.035	440.011	1233.417	278192.360	2453.664	1980.216	174458.050	60.000
x		911.157	386.675	1237.862	268483.290	1786.875	1842.410	167138.460	71.111
σ		113.410	61.104	66.787	12280.647	944.005	123.913	8663.061	10.184
%RSD		12.447	15.802	5.395	4.574	52.830	6.726	5.183	14.321

lcs 500-487948/2-a, 5/31/2019 5:18:45 PM QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:18:45	146.668	98.667	1018.390	1133320.000	632479.840	69518.123	1357388.900	101968.680	50164.693
2	17:19:07	166.668	94.000	1050.894	1154562.600	647794.970	70599.744	1381833.800	106533.920	52061.982
3	17:19:28	133.334	92.000	1022.558	1092635.100	625955.090	69005.350	1377535.500	102761.980	48415.246
x		148.890	94.889	1030.614	1126839.300	635409.970	69707.739	1372252.700	103754.860	50213.974
σ		16.778	3.421	17.686	31468.296	11210.905	813.934	13050.605	2439.202	1823.868
%RSD		11.269	3.605	1.716	2.793	1.764	1.168	0.951	2.351	3.632

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:18:45	48701.212	708048.670	350410.050	109826.080	682752.630	1557344.000	410364.170	541050.760	219732.710
2	17:19:07	51977.054	734276.120	363049.580	112113.750	717713.060	1613444.100	413759.670	562596.960	228400.240
3	17:19:28	51058.538	729445.030	359970.700	112986.680	723429.470	1560105.000	402847.830	547745.460	224894.440
x		50578.935	723923.280	357810.110	111642.170	707965.050	1576964.400	408990.550	550464.400	224342.460
σ		1689.763	13958.409	6590.945	1632.220	22020.879	31622.499	5584.099	11027.424	4360.046
%RSD		3.341	1.928	1.842	1.462	3.110	2.005	1.365	2.003	1.943

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:18:45	32889.387	4046.500	2496501.300	78752.974	1237439.100	162144.320	222742.420	43041.651	126994.190
2	17:19:07	33621.390	4119.066	2567887.700	82855.867	1320236.400	170694.270	228536.940	41762.372	136124.910
3	17:19:28	33927.859	4020.622	2556516.600	83945.798	1355028.100	171645.260	230669.810	41635.124	136219.650
x		33479.545	4062.063	2540301.900	81851.546	1304234.600	168161.280	227316.390	42146.382	133112.920
σ		533.569	51.034	38356.113	2738.220	60405.632	5232.492	4102.216	777.932	5299.180
%RSD		1.594	1.256	1.510	3.345	4.632	3.112	1.805	1.846	3.981

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:18:45	1783765.100	1174167.000	426125.000	258887.840	894606.750	598976.510	149736.420	1080795.100
2	17:19:07	1864665.800	1199465.700	430993.300	276529.430	900736.660	631397.220	165003.980	1139872.900
3	17:19:28	1873754.700	1200761.100	441933.560	284310.680	922461.610	645497.660	169301.930	1146101.200
x		1840728.600	1191464.600	433017.290	273242.650	905935.010	625290.460	161347.440	1122256.400
σ		49540.645	14994.176	8096.297	13026.216	14636.954	23854.218	10282.511	36041.336
%RSD		2.691	1.258	1.870	4.767	1.616	3.815	6.373	3.212

500-163607-e-1-f, 5/31/2019 5:22:52 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:22:52	93.334	3.333	169.168	501050.880	949226.760	1001184.100	1811489.700	189471.890	53255.533
2	17:23:15	106.667	2.000	171.668	502538.610	997724.050	999089.130	1913935.900	198353.920	56984.708
3	17:23:36	80.000	5.333	176.668	502048.150	986849.890	1000400.000	1886879.700	194183.080	54375.466
x		93.334	3.556	172.502	501879.220	977933.570	1000224.400	1870768.400	194002.960	54871.902
σ		13.333	1.678	3.819	758.115	25448.427	1058.474	53089.446	4443.751	1913.511
%RSD		14.286	47.186	2.214	0.151	2.602	0.106	2.838	2.291	3.487

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:22:52	19293.785	74593.670	71325.375	2098007.200	299013.490	37300.812	25339.711	44591.316	39679.741
2	17:23:15	20193.514	74970.081	72198.897	2225046.100	309504.890	39260.148	27604.068	45734.753	41311.430
3	17:23:36	19086.682	73529.498	71977.149	2101062.600	303340.010	38601.782	27234.066	45535.981	40327.025
x		19524.661	74364.416	71833.807	2141372.000	303952.800	38387.580	26725.948	45287.350	40439.399
σ		588.427	747.153	454.060	72480.040	5272.475	997.076	1214.688	610.922	821.628
%RSD		3.014	1.005	0.632	3.385	1.735	2.597	4.545	1.349	2.032

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:22:52	1944.875	60.800	976303.860	102521.510	16701.995	158390.110	320.006	66.667	104827.590
2	17:23:15	2036.228	67.467	992628.960	109468.470	18138.076	170365.980	266.671	40.000	111661.570
3	17:23:36	2014.223	58.934	1005130.500	106075.270	18158.116	170193.910	273.337	86.667	112984.430
x		1998.442	62.400	991354.430	106021.750	17666.063	166316.670	286.671	64.445	109824.530
σ		47.677	4.486	14455.510	3473.790	834.967	6865.135	29.060	23.413	4377.736
%RSD		2.386	7.189	1.458	3.276	4.726	4.128	10.137	36.330	3.986

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:22:52	2627.046	2900.463	128366.600	261638.260	4040.898	48864.306	157607.800	22815.260
2	17:23:15	3140.542	3113.867	128501.830	276515.690	6068.692	49521.179	167135.730	23116.019
3	17:23:36	3040.508	3307.268	134149.200	287612.130	6862.589	52994.011	173105.900	24319.151
x		2936.032	3107.199	130339.210	275255.360	5657.393	50459.832	165949.810	23416.810
σ		272.224	203.485	3300.240	13032.719	1455.115	2219.103	7816.812	795.788
%RSD		9.272	6.549	2.532	4.735	25.721	4.398	4.710	3.398

500-163607-e-2-b, 5/31/2019 5:27:00 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:27:00	146.668	8.667	200.002	401069.510	2144421.200	2316874.800	T 3840865.900	391672.830	54348.640
2	17:27:23	180.002	2.667	200.836	418379.620	2221877.700	2455101.400	T 3733136.100	402508.850	58259.416
3	17:27:44	213.336	7.333	206.669	400071.390	2106478.900	2285802.800	T 3754610.200	405862.000	57112.171
x		180.002	6.222	202.502	406506.840	2157592.600	2352593.000	T 3776204.100	400014.560	56573.409
σ		33.334	3.151	3.632	10294.236	58816.118	90124.081	T 57018.831	7416.150	2010.284
%RSD		18.519	50.634	1.794	2.532	2.726	3.831	T 1.510	1.854	3.553

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:27:00	40744.435	157917.550	160762.320	T 5076383.500	799201.750	93150.357	61232.190	105119.820	47287.109
2	17:27:23	42657.626	165028.870	168151.990	T 5292434.200	827759.820	95375.473	62762.574	110545.840	49407.229
3	17:27:44	40847.117	163209.800	161576.570	T 5182562.000	822504.550	93606.114	63619.612	109335.780	49434.040
x		41416.392	162052.080	163496.960	T 5183793.200	816488.710	94043.982	62538.125	108333.810	48709.459
σ		1076.165	3694.313	4051.879	T 108030.630	15199.793	1175.407	1209.433	2848.397	1231.864
%RSD		2.598	2.280	2.478	T 2.084	1.862	1.250	1.934	2.629	2.529

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:27:00	3019.168	96.534	1271722.000	144987.020	19220.297	158629.800	500.014	133.334	101469.810
2	17:27:23	3172.554	103.467	1301565.100	150190.480	19247.020	165313.980	513.348	126.668	107512.000
3	17:27:44	3161.883	100.267	1272650.600	153186.520	19447.446	166621.980	440.011	126.668	110716.790
x		3117.868	100.089	1281979.200	149454.670	19304.921	163521.920	484.457	128.890	106566.200
σ		85.643	3.470	16968.218	4148.976	124.151	4286.884	39.065	3.849	4695.482
%RSD		2.747	3.467	1.324	2.776	0.643	2.622	8.064	2.986	4.406

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:27:00	4921.332	2346.970	260190.930	270759.590	6142.074	126365.530	154712.030	47577.507
2	17:27:23	4514.454	2400.317	265906.110	279608.150	7282.916	132106.270	168364.760	50265.246
3	17:27:44	5161.465	2773.756	273582.240	287502.060	7229.540	133188.560	165642.090	52806.257
x		4865.750	2507.014	266559.760	279289.930	6884.843	130553.450	162906.300	50216.337
σ		327.067	232.540	6719.542	8375.767	643.810	3667.000	7225.838	2614.718
%RSD		6.722	9.276	2.521	2.999	9.351	2.809	4.436	5.207

500-163607-e-3-d, 5/31/2019 5:31:08 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:31:08	20.000	0.000	36.667	245442.510	1038594.900	2249.167	297505.200	951062.330	50969.149
2	17:31:31	13.333	0.000	28.333	234531.190	1017521.900	2393.648	303372.170	959341.530	52745.908
3	17:31:52	13.333	0.000	28.333	246928.620	1030244.500	2244.722	318606.920	993765.910	51840.723
x		15.556	0.000	31.111	242300.770	1028787.100	2295.846	306494.760	968056.590	51851.927
σ		3.849	0.000	4.811	6769.564	10611.800	84.729	10891.907	22646.484	888.432
%RSD		24.744	0.000	15.465	2.794	1.031	3.691	3.554	2.339	1.713

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:31:08	20.000	3209.455	1811.292	3207.232	9865.350	246.670	502.236	1502.346	6613.516
2	17:31:31	44.445	3127.204	1869.081	2922.692	9622.868	251.115	522.237	1662.374	6640.202
3	17:31:52	20.000	3120.536	1802.401	2960.482	9780.814	260.004	486.680	1844.632	6691.351
x		28.148	3152.398	1827.591	3030.135	9756.344	252.596	503.718	1669.784	6648.356
σ		14.113	49.525	36.205	154.530	123.079	6.789	17.825	171.263	39.553
%RSD		50.138	1.571	1.981	5.100	1.262	2.688	3.539	10.257	0.595

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:31:08	156.668	10.133	1049266.800	78860.567	18852.862	162092.300	13.333	20.000	104510.640
2	17:31:31	166.668	8.267	1080603.000	83488.280	18619.047	170250.510	26.667	13.333	107478.270
3	17:31:52	194.669	11.200	1088053.600	82687.680	19494.212	168290.070	6.667	13.333	110116.230
x		172.668	9.867	1072641.100	81678.842	18988.707	166877.620	15.556	15.556	107368.380
σ		19.698	1.485	20582.701	2473.307	453.121	4258.563	10.184	3.849	2804.410
%RSD		11.408	15.048	1.919	3.028	2.386	2.552	65.465	24.744	2.612

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:31:08	740.030	333.339	9591.724	256590.740	1066.729	680.025	151403.690	4874.640
2	17:31:31	613.354	353.340	9852.002	276275.200	1833.518	653.357	160185.610	5374.922
3	17:31:52	800.035	320.006	10619.532	273630.320	1913.535	600.020	164854.640	5208.158
x		717.806	335.562	10021.086	268832.090	1604.594	644.467	158814.650	5152.573
σ		95.304	16.778	534.359	10683.482	467.520	40.737	6829.470	254.731
%RSD		13.277	5.000	5.332	3.974	29.136	6.321	4.300	4.944

500-163607-e-4-d, 5/31/2019 5:35:19 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:35:19	33.333	0.000	42.500	519497.620	1309729.100	2484.784	336847.110	1170170.900	48643.125
2	17:35:41	33.333	0.000	44.167	528115.740	1337096.900	2531.464	334982.290	1191504.800	53959.667
3	17:36:03	20.000	0.000	35.000	505841.090	1266353.200	2558.138	333832.240	1195812.500	52343.593
x		28.889	0.000	40.556	517818.150	1304393.100	2524.795	335220.550	1185829.400	51648.795
σ		7.698	0.000	4.883	11231.896	35672.419	37.129	1521.493	13730.643	2725.521
%RSD		26.647	0.000	12.040	2.169	2.735	1.471	0.454	1.158	5.277

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:35:19	20.000	3245.024	1960.211	2715.961	18995.380	531.127	1213.414	101806.880	33093.459
2	17:35:41	20.000	2887.125	1864.636	2693.732	19122.313	626.688	1188.967	102986.730	34293.449
3	17:36:03	13.333	3002.718	2089.129	2771.534	19235.885	593.353	1177.854	104618.530	34715.045
x		17.778	3044.956	1971.325	2727.076	19117.859	583.723	1193.412	103137.380	34033.984
σ		3.849	182.649	112.659	40.074	120.314	48.503	18.192	1411.867	841.354
%RSD		21.651	5.998	5.715	1.469	0.629	8.309	1.524	1.369	2.472

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:35:19	172.002	11.733	1739293.900	74692.253	19226.977	155139.220	46.667	6.667	103768.880
2	17:35:41	206.669	13.600	1839512.200	83616.114	19647.876	166409.250	46.667	6.667	109124.370
3	17:36:03	188.002	15.733	1823096.600	83562.289	19808.223	166812.090	46.667	26.667	109866.570
x		188.891	13.689	1800634.200	80623.552	19561.026	162786.850	46.667	13.333	107586.610
σ		17.351	2.001	53752.619	5136.726	300.198	6626.107	0.000	11.547	3327.010
%RSD		9.186	14.621	2.985	6.371	1.535	4.070	0.000	86.603	3.092

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:35:19	1173.409	320.006	14044.173	244271.600	1053.394	22688.276	148652.170	5094.761
2	17:35:41	1140.072	426.677	15686.856	269242.180	1613.477	23209.590	156190.320	5288.204
3	17:36:03	1073.397	453.345	15052.451	271398.220	1686.823	23951.511	160389.150	5448.299
x		1128.959	400.009	14927.827	261637.330	1451.231	23283.126	155077.210	5277.088
σ		50.924	70.556	828.402	15077.752	346.483	634.820	5947.137	177.031
%RSD		4.511	17.639	5.549	5.763	23.875	2.727	3.835	3.355

500-163607-e-5-b, 5/31/2019 5:39:29 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:39:29	13.333	0.000	52.500	699403.020	672101.170	15346.275	327704.100	170325.220	49232.954
2	17:39:50	13.333	0.667	65.834	719247.500	696839.140	15165.973	326313.160	178619.930	53000.717
3	17:40:12	0.000	0.000	59.167	692398.330	647906.990	14571.669	316759.570	169539.630	51612.765
x		8.889	0.222	59.167	703682.950	672282.430	15027.973	323592.280	172828.260	51282.145
σ		7.698	0.385	6.667	13926.878	24466.578	405.323	5958.025	5031.089	1905.516
%RSD		86.603	173.205	11.268	1.979	3.639	2.697	1.841	2.911	3.716

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:39:29	371.119	4423.298	2573.698	22888.778	25656.152	1446.782	1764.616	3387.298	6010.875
2	17:39:50	302.227	4719.002	2735.967	24648.927	26471.819	1660.152	1811.292	3429.536	6342.212
3	17:40:12	368.896	4407.735	2731.521	23599.481	26113.006	1626.812	1677.933	3271.700	6511.220
x		347.414	4516.678	2680.395	23712.395	26080.326	1577.915	1751.280	3362.844	6288.102
σ		39.149	175.390	92.430	885.490	408.814	114.782	67.672	81.710	254.523
%RSD		11.269	3.883	3.448	3.734	1.568	7.274	3.864	2.430	4.048

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:39:29	242.670	53.600	961435.230	79761.711	11814.339	163574.040	66.667	6.667	106210.160
2	17:39:50	260.004	43.733	995518.560	79781.887	11894.443	174011.840	80.000	0.000	109529.200
3	17:40:12	283.338	48.267	1004477.200	84087.095	11874.417	169761.490	113.334	20.000	109212.080
x		262.004	48.533	987143.660	81210.231	11861.066	169115.790	86.667	8.889	108317.150
σ		20.408	4.939	22710.273	2491.458	41.688	5248.773	24.037	10.184	1831.579
%RSD		7.789	10.176	2.301	3.068	0.351	3.104	27.735	114.564	1.691

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:39:29	626.688	2673.727	44388.103	253917.230	520.015	1453.450	151213.900	10679.603
2	17:39:50	553.350	2680.395	46398.102	275883.580	1306.761	1273.423	162492.680	11226.928
3	17:40:12	773.366	2507.012	44669.476	275546.930	1500.124	1660.152	164990.400	11927.820
x		651.135	2620.378	45151.893	268449.240	1108.966	1462.341	159565.660	11278.117
σ		112.027	98.234	1088.379	12586.221	519.129	193.518	7339.861	625.681
%RSD		17.205	3.749	2.410	4.688	46.812	13.233	4.600	5.548

500-163607-e-6-b, 5/31/2019 5:43:37 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:43:37	13.333	0.000	69.167	735960.010	663464.510	14564.992	335337.250	154515.390	49896.557
2	17:43:59	13.333	0.000	75.000	777862.400	728634.890	14803.154	340610.170	159039.080	52732.497
3	17:44:21	20.000	0.000	65.834	767909.500	678373.430	13719.233	336930.110	154603.540	52102.212
x		15.556	0.000	70.000	760577.300	690157.610	14362.459	337625.840	156052.670	51577.089
σ		3.849	0.000	4.640	21892.314	34145.931	569.636	2704.433	2586.679	1489.112
%RSD		24.744	0.000	6.628	2.878	4.948	3.966	0.801	1.658	2.887

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:43:37	286.671	4429.968	2671.504	19429.630	17937.679	1255.642	1464.562	4194.301	6562.368
2	17:43:59	302.227	4356.599	2751.527	20480.822	18941.936	1266.755	1540.130	3989.764	7007.144
3	17:44:21	282.227	4332.143	2775.979	20576.594	18349.611	1193.412	1624.590	4156.506	7062.743
x		290.375	4372.903	2733.004	20162.349	18409.742	1238.603	1543.094	4113.524	6877.418
σ		10.502	50.910	54.646	636.357	504.821	39.529	80.055	108.832	274.254
%RSD		3.617	1.164	1.999	3.156	2.742	3.191	5.188	2.646	3.988

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:43:37	248.003	38.667	851860.980	76392.964	12134.760	159855.430	113.334	13.333	103600.310
2	17:43:59	241.337	48.800	906645.170	83172.068	12695.525	170538.050	80.000	6.667	111533.340
3	17:44:21	268.671	52.533	934717.010	84336.052	13202.914	171421.090	100.001	13.333	109029.920
x		252.670	46.667	897741.050	81300.361	12677.733	167271.520	97.778	11.111	108054.520
σ		14.252	7.175	42139.562	4289.595	534.299	6437.683	16.778	3.849	4055.469
%RSD		5.641	15.376	4.694	5.276	4.214	3.849	17.159	34.641	3.753

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:43:37	653.357	2106.911	41615.032	257166.680	486.680	1033.392	153701.770	9605.072
2	17:43:59	786.701	2440.328	43704.804	276941.700	1066.729	1073.397	165594.570	9798.611
3	17:44:21	660.024	2667.058	43356.475	273891.340	1100.067	1226.749	166158.050	10072.243
x		700.027	2404.765	42892.104	269333.240	884.492	1111.179	161818.130	9825.309
σ		75.135	281.762	1119.606	10646.364	344.918	102.066	7034.617	234.727
%RSD		10.733	11.717	2.610	3.953	38.996	9.185	4.347	2.389

500-163607-e-7-b, 5/31/2019 5:47:48 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:47:48	40.000	4.000	129.168	443274.300	912954.390	913326.940	1717266.900	191641.100	52739.203
2	17:48:10	73.334	2.667	133.334	484846.710	945350.090	938070.830	1795621.600	196410.170	53550.592
3	17:48:33	80.000	2.667	113.334	470104.090	944189.360	948063.100	1779687.600	199773.380	55408.342
x		64.445	3.111	125.279	466075.030	934164.610	933153.620	1764192.000	195941.550	53899.379
σ		21.430	0.770	10.552	21077.029	18377.762	17882.514	41411.897	4086.344	1368.326
%RSD		33.254	24.744	8.423	4.522	1.967	1.916	2.347	2.085	2.539

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:47:48	18788.284	64006.759	62091.322	1851100.400	270484.930	34630.278	23661.865	41396.259	18623.501
2	17:48:10	19340.551	68132.134	66670.244	1985182.400	277223.420	36060.266	24940.832	42811.681	19714.687
3	17:48:33	18926.348	67059.760	67310.492	1982325.800	281186.850	35886.246	25330.797	42510.271	20197.968
x		19018.394	66399.551	65357.353	1939536.200	276298.400	35525.597	24644.498	42239.403	19512.052
σ		287.410	2140.464	2846.524	76600.938	5410.593	780.236	873.037	745.575	806.556
%RSD		1.511	3.224	4.355	3.949	1.958	2.196	3.543	1.765	4.134

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:47:48	1360.769	54.667	787741.090	103478.930	16107.591	157935.640	233.336	73.334	100317.120
2	17:48:10	1389.440	57.600	854342.910	107977.470	17977.758	170221.080	220.003	46.667	111189.170
3	17:48:33	1401.441	64.800	829188.280	109083.890	16835.575	172591.820	146.668	66.667	113240.930
x		1383.883	59.022	823757.430	106846.760	16973.641	166916.180	200.002	62.222	108249.070
σ		20.898	5.214	33631.403	2968.628	942.698	7867.188	46.668	13.878	6945.451
%RSD		1.510	8.834	4.083	2.778	5.554	4.713	23.334	22.304	6.416

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:47:48	1926.871	2213.603	117980.630	263861.140	2386.980	44314.411	153491.600	23710.881
2	17:48:10	2186.930	2333.633	121378.260	280494.840	2933.807	46069.772	164997.190	24352.574
3	17:48:33	2340.301	2426.991	130239.630	290722.070	3300.599	47168.719	171692.810	24740.285
x		2151.367	2324.742	123199.510	278359.350	2873.795	45850.967	163393.870	24267.913
σ		208.997	106.971	6329.175	13557.199	459.756	1439.679	9205.923	519.898
%RSD		9.715	4.601	5.137	4.870	15.998	3.140	5.634	2.142

500-163607-e-9-d, 5/31/2019 5:51:58 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:51:58	213.336	10.667	245.003	657466.980	2074750.000	T 3293245.000	T 4460819.700	237249.250	57749.511
2	17:52:21	173.335	9.333	220.836	655997.420	2054670.000	T 3392225.700	T 4430227.200	239183.400	57487.861
3	17:52:42	180.002	11.333	201.669	617736.010	2061152.300	T 3176371.800	T 4413492.200	236364.430	59232.339
x		188.891	10.444	222.503	643733.470	2063524.100	T 3287280.800	T 4434846.400	237599.030	58156.570
σ		21.431	1.018	21.715	22526.444	10247.934	T 108050.460	T 23999.479	1441.670	940.784
%RSD		11.346	9.750	9.760	3.499	0.497	T 3.287	T 0.541	0.607	1.618

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:51:58	61867.582	221788.410	227053.800	T 10302450.000	492785.870	77549.360	82627.133	215374.710	125229.970
2	17:52:21	64134.320	229979.310	221287.530	T 10221259.000	506294.190	77515.742	84661.276	221692.780	126944.620
3	17:52:42	64393.924	231674.890	225821.450	T 10170391.000	499584.510	76673.085	84031.025	224416.170	126755.340
x		63465.275	227814.200	224720.930	T 10231367.000	499554.850	77246.062	83773.145	220494.560	126309.980
σ		1389.718	5286.908	3036.581	T 66607.277	6754.209	496.497	1041.303	4638.299	940.088
%RSD		2.190	2.321	1.351	T 0.651	1.352	0.643	1.243	2.104	0.744

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:51:58	13632.213	62.934	202072.250	162058.370	36091.501	150217.590	606.687	186.669	100815.930
2	17:52:21	13950.696	62.400	205301.180	164243.730	37610.975	158849.130	533.349	260.004	105178.270
3	17:52:42	14239.810	53.067	211239.360	164033.320	38568.307	163465.450	520.015	206.669	103789.110
x		13940.907	59.467	206204.260	163445.140	37423.594	157510.720	553.350	217.780	103261.100
σ		303.917	5.549	4649.801	1205.579	1248.990	6724.576	46.670	37.909	2228.586
%RSD		2.180	9.331	2.255	0.738	3.337	4.269	8.434	17.407	2.158

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:51:58	5474.981	2473.670	302104.310	249675.470	21879.631	216050.460	150671.680	47349.656
2	17:52:21	5861.889	2707.070	311665.750	265453.160	21652.422	229035.930	160382.370	50861.884
3	17:52:42	5948.612	2727.076	320940.210	275120.980	23390.052	234287.240	163592.140	53724.949
x		5761.828	2635.938	311570.090	263416.540	22307.368	226457.880	158215.400	50645.496
σ		252.172	140.884	9418.316	12844.430	944.489	9387.745	6727.288	3193.150
%RSD		4.377	5.345	3.023	4.876	4.234	4.145	4.252	6.305

ccv, 5/31/2019 5:56:07 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:56:07	366.674	432.010	242.503	T 2656988.600	1496600.800	811151.540	T 3204431.000	192094.970	50365.801
2	17:56:30	326.673	462.678	250.837	T 2643402.500	1510331.400	847505.170	T 3200580.500	T 185022.690	53074.479
3	17:56:53	360.007	448.011	234.170	T 2671760.300	1487645.000	859891.230	T 3087180.800	191080.600	51357.995
x		351.118	447.567	242.503	T 2657383.800	1498192.400	839515.980	T 3164064.100	T 189399.420	51599.425
σ		21.431	15.339	8.334	T 14182.990	11426.653	25332.975	T 66610.743	T 3824.141	1370.383
%RSD		6.104	3.427	3.436	T 0.534	0.763	3.018	T 2.105	T 2.019	2.656

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:56:07	12439.616	352395.750	444309.720	2462137.900	335579.270	738849.770	195974.240	535349.900	114334.490
2	17:56:30	11763.161	345768.410	448468.890	2526469.800	359751.150	788212.800	202594.800	540226.040	116501.740
3	17:56:53	12606.513	368340.610	449136.210	2479028.400	336718.020	769203.440	195465.690	539415.530	115795.020
x		12269.763	355501.590	447304.940	2489212.000	344016.150	765422.000	198011.580	538330.490	115543.750
σ		446.596	11602.188	2615.306	33353.089	13638.803	24897.822	3977.323	2612.888	1105.261
%RSD		3.640	3.264	0.585	1.340	3.965	3.253	2.009	0.485	0.957

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:56:07	85107.188	10500.728	606154.050	74860.293	315625.580	150095.600	213852.740	204160.360	104321.820
2	17:56:30	87208.294	10602.980	603862.150	81093.415	329857.700	163791.230	215415.660	205176.180	111918.030
3	17:56:53	87734.656	10610.989	621207.680	81315.385	331398.930	164089.880	223022.500	204862.560	114618.020
x		86683.379	10571.565	610407.960	79089.698	325627.400	159325.570	217430.300	204733.030	110285.960
σ		1390.161	61.478	9422.777	3664.453	8696.043	7994.784	4905.628	520.151	5338.605
%RSD		1.604	0.582	1.544	4.633	2.671	5.018	2.256	0.254	4.841

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:56:07	437423.080	604234.600	207167.240	240287.510	2157713.800	1467631.800	141479.060	2662388.100
2	17:56:30	444661.890	620040.810	208531.240	262886.850	2188160.800	1494164.600	155268.060	2674442.800
3	17:56:53	466461.220	618971.510	220440.660	272545.110	2202496.700	1486258.900	161691.930	2814290.400
x		449515.400	614415.640	212046.380	258573.150	2182790.400	1482685.100	152813.020	2717040.400
σ		15115.254	8833.233	7301.579	16555.790	22869.337	13622.633	10327.651	84436.337
%RSD		3.363	1.438	3.443	6.403	1.048	0.919	6.758	3.108

ccb, 5/31/2019 6:00:19 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:00:19	0.000	0.000	3.333	1306.761	226.669	124.445	28662.893	68.889	46639.331
2	18:00:41	0.000	0.000	1.667	1248.975	222.225	213.336	29909.120	75.556	53108.007
3	18:01:02	0.000	0.000	5.833	1360.102	202.224	191.113	29142.191	68.889	50848.476
x		0.000	0.000	3.611	1305.279	217.040	176.298	29238.068	71.111	50198.605
σ		0.000	0.000	2.097	55.578	13.021	46.260	628.621	3.849	3282.939
%RSD		0.000	0.000	58.076	4.258	6.000	26.240	2.150	5.413	6.540

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:00:19	2.222	715.584	451.122	424.454	120.001	102.223	66.667	631.133	197.780
2	18:00:41	2.222	755.587	373.341	484.457	93.334	80.000	97.778	617.799	164.446
3	18:01:02	2.222	722.251	400.009	462.234	131.112	73.334	88.889	597.797	226.669
x		2.222	731.141	408.157	457.049	114.816	85.186	84.445	615.576	196.298
σ		0.000	21.432	39.526	30.336	19.416	15.127	16.025	16.779	31.138
%RSD		0.000	2.931	9.684	6.637	16.910	17.757	18.977	2.726	15.863

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:00:19	31.333	4.800	395.564	72622.249	206.669	161250.860	13.333	13.333	102123.740
2	18:00:41	24.667	6.667	300.005	84416.796	346.673	178968.920	66.667	26.667	113531.180
3	18:01:02	24.667	4.800	306.672	79781.887	366.674	175955.380	40.000	0.000	113963.200
x		26.889	5.422	334.080	78940.311	306.672	172058.390	40.000	13.333	109872.710
σ		3.849	1.078	53.351	5942.140	87.181	9480.100	26.667	13.333	6714.279
%RSD		14.314	19.876	15.969	7.527	28.428	5.510	66.667	100.000	6.111

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:00:19	180.002	100.001	60.000	241656.420	2306.959	213.336	151959.520	273.337
2	18:00:41	140.001	146.668	46.667	269434.420	4641.184	180.002	163361.380	266.671
3	18:01:02	120.001	180.002	73.334	271089.200	5114.772	200.002	166388.880	220.003
x		146.668	142.223	60.000	260726.680	4020.972	197.780	160569.930	253.337
σ		30.551	40.185	13.333	16536.043	1503.147	16.778	7608.929	29.060
%RSD		20.830	28.255	22.222	6.342	37.383	8.483	4.739	11.471

500-163607-e-10-d, 5/31/2019 6:04:28 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:04:28	0.000	0.000	35.833	487233.840	412611.430	31369.585	237294.870	108053.920	51290.952
2	18:04:50	6.667	0.000	33.333	504866.890	434908.880	30499.967	243637.130	111852.790	58386.896
3	18:05:13	0.000	0.667	30.000	486608.300	408844.620	29737.447	231032.170	106612.610	51130.049
x		2.222	0.222	33.056	492903.010	418788.310	30535.666	237321.390	108839.770	53602.632
σ		3.849	0.385	2.927	10365.744	14087.292	816.655	6302.524	2707.035	4144.075
%RSD		173.205	173.205	8.854	2.103	3.364	2.674	2.656	2.487	7.731

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:04:28	706.694	5283.757	3869.712	50256.308	8094.713	1408.998	1649.038	4129.827	4872.417
2	18:04:50	731.141	5810.745	3914.176	48745.895	8390.537	1453.450	1693.491	4014.219	5177.029
3	18:05:13	677.803	5383.816	3885.275	50522.220	8154.767	1495.679	1637.925	4329.920	5183.700
x		705.213	5492.773	3889.721	49841.475	8213.339	1452.709	1660.152	4157.989	5077.715
σ		26.700	279.880	22.563	958.070	156.368	43.345	29.403	159.723	177.825
%RSD		3.786	5.095	0.580	1.922	1.904	2.984	1.771	3.841	3.502

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:04:28	186.669	131.468	372192.840	82203.317	31935.997	167124.410	100.001	13.333	110008.260
2	18:04:50	228.003	123.201	370003.930	85567.479	31902.546	175853.440	53.333	6.667	112950.680
3	18:05:13	222.003	138.401	369157.200	82257.134	33180.441	172831.870	80.000	13.333	113065.430
x		212.225	131.023	370451.320	83342.643	32339.661	171936.570	77.778	11.111	112008.130
σ		22.335	7.610	1566.496	1926.952	728.329	4432.849	23.413	3.849	1732.881
%RSD		10.524	5.808	0.423	2.312	2.252	2.578	30.102	34.641	1.547

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:04:28	866.708	2306.959	21284.888	266228.680	1473.453	2827.106	159914.230	2707.070
2	18:04:50	933.381	2446.996	20295.964	291045.510	3080.522	2893.794	169071.020	2613.709
3	18:05:13	746.697	2553.692	21645.739	277828.140	3367.290	3120.536	170667.100	2960.482
x		848.929	2435.882	21075.530	278367.440	2640.422	2947.145	166550.780	2760.420
σ		94.603	123.741	698.818	12417.200	1020.745	153.818	5802.566	179.437
%RSD		11.144	5.080	3.316	4.461	38.658	5.219	3.484	6.500

500-163607-e-11-d, 5/31/2019 6:08:38 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:08:38	0.000	0.000	54.167	495646.370	395973.240	58458.465	285683.840	106673.320	47845.575
2	18:09:01	0.000	0.000	47.500	516871.890	426995.570	62183.057	292341.670	113513.180	53302.473
3	18:09:23	13.333	0.667	47.500	518608.970	416356.510	62776.000	293036.860	110154.460	53517.062
x		4.444	0.222	49.722	510375.740	413108.440	61139.174	290354.130	110113.650	51555.037
σ		7.698	0.385	3.849	12785.549	15764.158	2340.415	4059.492	3420.115	3214.279
%RSD		173.205	173.205	7.741	2.505	3.816	3.828	1.398	3.106	6.235

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:08:38	1484.566	7336.292	5890.797	81640.501	9467.149	1522.350	1840.186	10281.366	111380.380
2	18:09:01	1697.936	7216.196	6473.415	86875.351	10201.276	1637.925	2164.702	10239.096	114982.590
3	18:09:23	1457.895	7016.040	6511.220	82315.436	9642.889	1609.031	1911.312	10345.884	115720.750
x		1546.799	7189.509	6291.811	83610.429	9770.438	1589.769	1972.067	10288.782	114027.900
σ		131.566	161.786	347.802	2847.573	383.324	60.147	170.576	53.779	2322.343
%RSD		8.506	2.250	5.528	3.406	3.923	3.783	8.650	0.523	2.037

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:08:38	278.004	100.267	303415.810	79983.648	30450.914	165848.020	100.001	13.333	108044.930
2	18:09:01	263.337	98.134	312495.750	86166.430	31246.942	175903.280	86.667	20.000	115326.910
3	18:09:23	271.337	103.201	315577.280	83407.544	32109.941	179635.200	80.000	20.000	115921.060
x		270.893	100.534	310496.280	83185.874	31269.266	173795.500	88.889	17.778	113097.630
σ		7.344	2.544	6322.481	3097.346	829.739	7131.173	10.184	3.849	4385.842
%RSD		2.711	2.530	2.036	3.723	2.654	4.103	11.456	21.651	3.878

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:08:38	786.701	1986.884	18318.438	260966.010	993.388	3814.133	162533.400	3273.923
2	18:09:01	853.373	2406.985	19400.679	287956.090	1986.884	3987.541	167801.150	3127.204
3	18:09:23	786.701	2066.902	19313.828	281972.860	2160.257	3967.532	175647.290	3327.275
x		808.925	2153.590	19010.982	276964.990	1713.509	3923.069	168660.610	3242.801
σ		38.493	223.064	601.331	14174.810	629.640	94.870	6599.055	103.603
%RSD		4.759	10.358	3.163	5.118	36.746	2.418	3.913	3.195

500-163607-e-12-d, 5/31/2019 6:12:47 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:12:47	293.338	8.000	240.003	451551.560	T 3160491.600	T 4565303.100	T 5362284.100	335238.140	60480.517
2	18:13:09	280.004	18.000	259.170	455181.590	T 3430234.800	T 4793622.300	T 5216028.100	351640.670	66831.421
3	18:13:31	360.007	14.000	238.336	446231.620	T 3165768.700	T 4536408.100	T 5150654.000	345387.670	65555.515
x		311.117	13.333	245.837	450988.260	T 3252165.100	T 4631777.800	T 5242988.700	344088.830	64289.151
σ		42.862	5.033	11.577	4501.497	T 154235.490	T 140904.060	T 108360.440	8278.044	3359.502
%RSD		13.777	37.749	4.709	0.998	T 4.743	T 3.042	T 2.067	2.406	5.226

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:12:47	75516.800	310222.060	318149.080	T 15873537.000	836521.020	120418.960	125489.060	351386.680	159163.450
2	18:13:09	81965.630	321207.170	332060.190	T 16601769.000	888837.710	120664.400	132647.400	367426.950	162657.820
3	18:13:31	79669.799	329929.110	330707.760	T 16500540.000	864930.640	121598.960	128422.950	359607.870	162431.610
x		79050.743	320452.780	326972.340	T 16325282.000	863429.790	120894.110	128853.140	359473.830	161417.620
σ		3268.680	9875.164	7671.037	T 394483.530	26190.621	622.631	3598.506	8020.975	1955.449
%RSD		4.135	3.082	2.346	T 2.416	3.033	0.515	2.793	2.231	1.211

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:12:47	20422.246	121.867	271075.470	250305.790	26792.757	149494.710	713.361	340.006	97527.009
2	18:13:09	21388.464	127.734	290226.610	256652.450	28317.368	159597.630	886.710	400.009	102568.710
3	18:13:31	20990.873	139.734	289444.480	262310.550	27127.080	158322.280	686.693	380.008	100539.560
x		20933.861	129.779	283582.190	256422.930	27412.402	155804.870	762.255	373.341	100211.760
σ		485.625	9.107	10838.193	6005.675	801.353	5501.841	108.603	30.552	2536.783
%RSD		2.320	7.018	3.822	2.342	2.923	3.531	14.248	8.183	2.531

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:12:47	8503.976	3107.198	503944.430	263099.540	31641.637	356620.230	154840.860	58259.416
2	18:13:09	7963.486	3280.592	534991.940	279896.830	34030.241	369416.300	166538.250	58661.992
3	18:13:31	8397.210	3113.867	525170.010	286043.790	36693.905	380742.880	167237.580	62104.746
x		8288.224	3167.219	521368.790	276346.720	34121.928	368926.470	162872.230	59675.385
σ		286.253	98.241	15868.962	11876.959	2527.382	12068.780	6964.151	2113.496
%RSD		3.454	3.102	3.044	4.298	7.407	3.271	4.276	3.542

500-163607-e-13-d, 5/31/2019 6:16:55 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:16:55	0.000	0.667	65.000	249401.430	766832.960	3687.414	301330.360	667860.670	47503.790
2	18:17:17	0.000	0.667	55.000	246246.030	784722.720	3502.897	319543.390	700670.840	50466.356
3	18:17:39	0.000	0.000	60.000	247467.420	788616.790	3591.821	313282.130	696441.440	53604.240
x		0.000	0.444	60.000	247704.960	780057.490	3594.044	311385.290	688324.320	50524.795
σ		0.000	0.385	5.000	1591.056	11617.101	92.279	9253.491	17847.764	3050.645
%RSD		0.000	86.603	8.333	0.642	1.489	2.568	2.972	2.593	6.038

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:16:55	22.222	3076.076	2422.545	4060.907	76392.964	1811.292	1706.827	2722.630	60786.995
2	18:17:17	35.556	3096.083	2478.116	3740.770	77872.101	1782.397	1880.194	2838.221	62160.682
3	18:17:39	40.000	2931.584	2324.742	3602.936	78656.589	1737.944	1886.863	2627.046	63545.764
x		32.593	3034.581	2408.467	3801.537	77640.551	1777.211	1824.628	2729.299	62164.481
σ		9.252	89.757	77.650	234.955	1149.440	36.948	102.073	105.745	1379.388
%RSD		28.386	2.958	3.224	6.181	1.480	2.079	5.594	3.874	2.219

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:16:55	175.335	50.933	1314917.500	79143.006	19019.876	165067.340	86.667	13.333	104942.230
2	18:17:17	166.002	59.734	1348528.600	81873.696	20322.690	169211.380	80.000	26.667	113429.930
3	18:17:39	192.002	53.333	1342325.400	81651.712	20442.959	172123.060	80.000	0.000	113767.440
x		177.780	54.667	1335257.200	80889.471	19928.509	168800.590	82.223	13.333	110713.200
σ		13.171	4.549	17885.656	1516.551	789.193	3545.752	3.849	13.333	5000.653
%RSD		7.409	8.321	1.339	1.875	3.960	2.101	4.681	100.000	4.517

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:16:55	480.013	1006.722	19200.254	263826.830	1460.117	593.353	160185.610	8096.938
2	18:17:17	726.696	1173.409	20924.052	276749.300	2373.643	793.368	166660.450	8797.588
3	18:17:39	766.699	1206.747	20783.731	285362.880	2547.023	660.024	174607.550	8911.032
x		657.802	1128.959	20302.679	275313.010	2126.928	682.248	167151.200	8601.853
σ		155.264	107.165	957.302	10839.631	583.946	101.843	7223.481	440.933
%RSD		23.603	9.492	4.715	3.937	27.455	14.928	4.322	5.126

500-163607-e-14-d, 5/31/2019 6:21:03 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:21:03	100.001	2.667	127.501	538188.120	1159404.700	1436993.600	T 2330703.000	159536.570	55119.930
2	18:21:25	106.667	6.667	120.834	575662.500	1127363.100	1508882.200	T 2494878.800	168330.810	57534.823
3	18:21:47	126.668	8.667	143.334	564559.880	1137958.200	1421481.700	T 2409427.000	158478.300	56085.810
x		111.112	6.000	130.557	559470.170	1141575.300	1455785.800	T 2411669.600	162115.230	56246.854
σ		13.878	3.055	11.557	19248.667	16324.145	46632.315	T 82110.839	5408.799	1215.475
%RSD		12.490	50.918	8.852	3.441	1.430	3.203	T 3.405	3.336	2.161

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:21:03	24764.796	103553.110	105045.640	T 4607754.500	415152.150	44794.533	45026.788	99620.638	95272.177
2	18:21:25	25653.924	104418.470	107464.780	T 4696840.100	438830.760	46214.950	45833.024	103330.590	99946.407
3	18:21:47	25723.007	101296.790	106390.030	T 4559179.900	431806.090	44886.095	44707.440	102642.870	95984.051
x		25380.576	103089.460	106300.150	T 4621258.200	428596.340	45298.526	45189.084	101864.700	97067.545
σ		534.398	1611.665	1212.072	T 69816.515	12161.253	794.966	580.078	1973.602	2518.447
%RSD		2.106	1.563	1.140	T 1.511	2.837	1.755	1.284	1.937	2.595

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:21:03	5339.568	33.600	169066.500	123655.300	39338.262	162782.240	180.002	146.668	102386.670
2	18:21:25	5458.305	42.400	175477.390	126656.190	42030.269	175078.700	260.004	200.002	111749.310
3	18:21:47	5446.965	39.200	178948.520	130219.340	40577.022	171636.200	226.669	186.669	107640.170
x		5414.946	38.400	174497.470	126843.610	40648.518	169832.380	222.225	177.780	107258.720
σ		65.525	4.454	5013.360	3286.029	1347.427	6343.585	40.186	27.756	4692.959
%RSD		1.210	11.600	2.873	2.591	3.315	3.735	18.083	15.613	4.375

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:21:03	2900.463	1306.761	129529.590	273389.920	5528.347	103384.540	160328.090	18792.737
2	18:21:25	3067.184	1333.431	137187.370	290515.630	6295.512	107073.540	168941.990	19053.279
3	18:21:47	3327.275	1426.779	135373.820	297571.770	7603.178	111594.080	172372.150	20456.323
x		3098.307	1355.657	134030.260	287159.100	6475.679	107350.720	167214.080	19434.113
σ		215.102	63.020	4001.781	12435.440	1049.083	4111.787	6205.171	894.793
%RSD		6.943	4.649	2.986	4.331	16.200	3.830	3.711	4.604

500-163607-e-15-d, 5/31/2019 6:25:11 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:25:11	353.340	22.667	228.336	T 2336096.700	T 2734554.600	T 6370148.500	T 4304704.700	254143.420	64615.487
2	18:25:33	293.338	17.333	210.836	T 2494256.400	T 2811429.000	T 6630012.600	T 4374225.500	263900.020	70633.337
3	18:25:54	293.338	12.667	220.003	T 2465559.900	T 2733515.500	T 6507161.200	T 4390304.500	270642.860	68980.720
x		313.339	17.556	219.725	T 2431971.000	T 2759833.000	T 6502440.700	T 4356411.500	262895.430	68076.515
σ		34.642	5.004	8.754	T 84260.218	T 44686.476	T 129996.370	T 45495.453	8295.469	3109.151
%RSD		11.056	28.502	3.984	T 3.465	T 1.619	T 1.999	T 1.044	3.155	4.567

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:25:11	37941.232	407836.370	431780.480	T 16785252.000	1152403.800	177210.520	154632.920	341405.860	245100.130
2	18:25:33	39429.768	418007.520	447733.960	T 17571861.000	1201784.000	187611.680	161924.910	353494.990	254447.300
3	18:25:54	38255.880	418740.110	454684.280	T 17049032.000	1193190.300	184225.700	160936.480	345516.890	257271.810
x		38542.293	414861.330	444732.900	T 17135382.000	1182459.400	183015.970	159164.770	346805.910	252273.080
σ		784.512	6094.816	11743.116	T 400350.660	26381.132	5305.055	3955.689	6146.782	6370.472
%RSD		2.035	1.469	2.640	T 2.336	2.231	2.899	2.485	1.772	2.525

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:25:11	12234.894	214.936	299920.420	270938.130	21826.170	149384.020	1346.766	1320.096	100013.810
2	18:25:33	13018.648	214.936	316971.210	288609.670	22741.743	158815.210	1466.785	1433.446	100566.520
3	18:25:54	12955.225	235.736	321642.160	294239.220	23309.846	162008.600	1540.130	1400.108	104888.280
x		12736.256	221.869	312844.590	284595.670	22625.920	156735.950	1451.227	1384.550	101822.870
σ		435.348	12.009	11433.728	12158.097	748.589	6564.108	97.616	58.255	2669.069
%RSD		3.418	5.413	3.655	4.272	3.309	4.188	6.726	4.207	2.621

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:25:11	13036.007	2340.301	651876.230	268123.160	32712.082	820581.910	153539.060	82707.862
2	18:25:33	13717.007	2493.675	666487.390	282089.740	33775.962	837403.660	160775.890	87828.892
3	18:25:54	13503.355	2273.618	697251.230	283602.390	34599.048	861704.820	165390.920	89760.960
x		13418.790	2369.198	671871.620	277938.430	33695.697	839896.790	159901.960	86765.905
σ		348.287	112.839	23161.718	8533.856	946.040	20674.505	5974.065	3644.723
%RSD		2.596	4.763	3.447	3.070	2.808	2.462	3.736	4.201

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User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:29:19	333.339	14.000	215.836	T 2439328.600	T 2792561.900	T 7006050.300	T 4535100.800	271308.950	67368.698
2	18:29:41	326.673	13.333	244.170	T 2510194.600	T 2869579.000	T 6838255.800	T 4762259.900	277461.640	70519.122
3	18:30:02	346.673	18.000	242.503	T 2429694.100	T 2832537.400	T 6919725.700	T 4658380.600	266009.060	73912.586
x		335.562	15.111	234.170	T 2459739.100	T 2831559.400	T 6921344.000	T 4651913.800	271593.220	70600.135
σ		10.184	2.524	15.899	T 43960.518	T 38517.853	T 83908.945	T 113717.560	5731.580	3272.696
%RSD		3.035	16.703	6.790	T 1.787	T 1.360	T 1.212	T 2.445	2.110	4.636

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:29:19	39630.639	420679.990	462845.490	T 17347529.000	1229069.600	190458.860	159880.310	341980.190	255151.060
2	18:29:41	40661.844	435805.900	473191.580	T 17677991.000	1254293.700	192312.840	167325.840	362446.210	264286.570
3	18:30:02	39704.293	433508.770	471364.690	T 17495136.000	1235761.100	187241.950	163336.490	359829.730	261217.530
x		39998.925	429998.220	469133.920	T 17506886.000	1239708.100	190004.550	163514.210	354752.040	260218.380
σ		575.285	8151.147	5522.014	T 165543.900	13067.080	2565.790	3725.949	11137.845	4648.987
%RSD		1.438	1.896	1.177	T 0.946	1.054	1.350	2.279	3.140	1.787

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:29:19	13053.365	213.603	314190.470	275725.560	22146.944	149781.590	1520.127	1320.096	99784.645
2	18:29:41	13106.775	213.069	321692.790	283286.090	23436.838	157282.240	1566.802	1313.428	106594.620
3	18:30:02	13192.232	209.869	324171.900	295650.590	22855.361	159333.050	1453.450	1406.776	106169.690
x		13117.457	212.180	320018.380	284887.410	22813.048	155465.630	1513.459	1346.767	104182.990
σ		70.047	2.019	5197.111	10058.573	645.987	5028.182	56.969	52.076	3814.998
%RSD		0.534	0.952	1.624	3.531	2.832	3.234	3.764	3.867	3.662

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:29:19	13242.972	2380.312	678079.330	266654.220	32063.109	817422.040	153471.260	84033.267
2	18:29:41	13503.355	2426.991	697567.500	272167.380	34699.430	832604.820	159941.370	85977.992
3	18:30:02	14030.819	2593.703	699587.550	283684.910	34552.204	835893.730	160300.950	90972.918
x		13592.382	2467.002	691744.790	274168.830	33771.581	828640.200	157904.530	86994.726
σ		401.398	112.181	11877.664	8689.963	1481.410	9853.400	3843.527	3579.804
%RSD		2.953	4.547	1.717	3.170	4.387	1.189	2.434	4.115

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User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:33:26	366.674	76.000	773.366	T 2957332.100	T 2813527.700	T 6406081.700	T 5372820.100	336229.310	65448.078
2	18:33:49	300.005	87.334	900.878	T 2991410.300	T 2836816.200	T 6535208.200	T 5588448.900	332163.880	70962.553
3	18:34:10	386.675	86.667	871.708	T 2914296.900	T 2845516.200	T 6223447.500	T 5447757.000	322532.900	67973.173
x		351.118	83.334	848.651	T 2954346.400	T 2831953.300	T 6388245.800	T 5469675.300	330308.690	68127.935
σ		45.381	6.360	66.810	T 38643.319	T 16539.420	T 156643.760	T 109472.590	7034.146	2760.493
%RSD		12.925	7.632	7.872	T 1.308	T 0.584	T 2.452	T 2.001	2.130	4.052

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:33:26	66813.512	940245.910	682149.800	T 13092110.000	1511220.400	1327400.300	435782.600	689704.680	376699.560
2	18:33:49	68980.720	934070.950	687868.640	T 13511995.000	1548105.100	1330358.400	447276.700	705180.290	387047.580
3	18:34:10	67861.230	963960.610	679490.160	T 13252512.000	1585997.800	1361914.600	446217.630	692364.800	386750.900
x		67885.154	946092.490	683169.530	T 13285539.000	1548441.100	1339891.100	443092.310	695749.920	383499.350
σ		1083.802	15779.250	4281.314	T 211882.080	37389.846	19130.157	6352.506	8274.539	5890.659
%RSD		1.597	1.668	0.627	T 1.595	2.415	1.428	1.434	1.189	1.536

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:33:26	35088.251	2893.527	2300203.100	257070.690	914456.960	152244.220	166164.840	32263.818	111999.020
2	18:33:49	36027.916	2845.512	2392400.800	270972.460	917156.310	157490.240	170959.180	32538.126	120500.020
3	18:34:10	35792.991	2887.125	2370209.900	266400.270	908318.240	159423.500	172209.110	33702.356	118527.680
x		35636.386	2875.388	2354271.300	264814.470	913310.500	156385.990	169777.710	32834.767	117008.910
σ		489.016	26.071	48121.023	7085.261	4529.202	3714.840	3190.643	763.770	4449.357
%RSD		1.372	0.907	2.044	2.676	0.496	2.375	1.879	2.326	3.803

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:33:26	1061351.900	325021.440	981289.070	266564.990	696050.950	1171024.400	150414.130	926054.110
2	18:33:49	1082411.500	333652.480	1021378.300	277147.840	702909.720	1206877.100	160178.830	943004.190
3	18:34:10	1094625.700	339212.680	1015393.600	286752.260	730459.620	1226782.700	162954.170	998878.920
x		1079463.000	332628.870	1006020.300	276821.700	709806.760	1201561.400	157849.040	955979.070
σ		16831.710	7150.783	21625.943	10097.584	18211.704	28256.700	6586.656	38106.741
%RSD		1.559	2.150	2.150	3.648	2.566	2.352	4.173	3.986

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User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:37:36	40.000	2.667	45.000	566686.250	649897.360	1580036.700	1055347.300	61578.965	50962.445
2	18:37:58	100.001	2.000	66.667	586666.980	666771.590	1723692.000	1063634.800	61415.644	58863.287
3	18:38:19	80.000	2.000	55.834	562523.740	626188.120	1613049.000	1059861.000	61766.901	56957.874
x		73.334	2.222	55.834	571958.990	647619.020	1638925.900	1059614.400	61587.170	55594.535
σ		30.551	0.385	10.833	12906.405	20387.436	75242.419	4149.277	175.772	4123.087
%RSD		41.660	17.321	19.403	2.257	3.148	4.591	0.392	0.285	7.416

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:37:36	10078.917	97643.808	109117.630	T 4004193.400	276382.850	44763.269	38804.866	85998.181	64107.465
2	18:37:58	10167.905	100130.640	111173.420	T 4190307.500	282030.150	44852.596	38885.208	86556.778	64586.393
3	18:38:19	9707.402	94555.867	104494.900	T 3968655.700	277443.320	43331.914	37970.242	87384.642	63798.637
x		9984.742	97443.438	108261.980	T 4054385.600	278618.770	44315.927	38553.438	86646.534	64164.165
σ		244.269	2792.783	3420.490	T 119045.440	3001.548	853.349	506.658	697.575	396.927
%RSD		2.446	2.866	3.159	T 2.936	1.077	1.926	1.314	0.805	0.619

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:37:36	3199.230	60.267	73661.673	127000.950	5541.689	157426.930	360.007	346.673	106021.310
2	18:37:58	3175.221	59.467	73686.316	139630.820	5868.560	174627.930	400.009	280.004	113146.430
3	18:38:19	3168.552	62.400	74452.520	134480.710	5801.851	174102.440	373.341	420.010	116359.940
x		3181.001	60.711	73933.503	133704.160	5737.367	168719.100	377.786	348.896	111842.560
σ		16.135	1.516	449.651	6350.640	172.713	9782.834	20.368	70.029	5291.209
%RSD		0.507	2.498	0.608	4.750	3.010	5.798	5.391	20.072	4.731

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:37:36	3367.290	773.366	162567.330	252580.760	8891.012	199750.670	155037.500	19581.065
2	18:37:58	3814.133	666.691	162173.730	279979.310	9678.483	200922.750	170150.890	20322.690
3	18:38:19	3494.005	800.035	161922.650	289043.120	9484.945	200145.890	172759.400	20409.551
x		3558.476	746.698	162221.240	273867.730	9351.480	200273.100	165982.600	20104.436
σ		230.292	70.559	324.958	18983.927	410.350	596.303	9568.042	455.328
%RSD		6.472	9.449	0.200	6.932	4.388	0.298	5.764	2.265

/ccv, 5/31/2019 6:41:46 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:41:46	0.000	0.000	3.333	700.027	217.780	906.712	12546.430	4.444	101213.650
2	18:42:09	0.000	0.000	5.000	651.134	97.778	344.451	11585.155	17.778	90898.849
3	18:42:30	0.000	0.000	7.500	613.354	93.334	251.115	11264.753	8.889	96678.013
x		0.000	0.000	5.278	654.838	136.298	500.759	11798.779	10.370	96263.502
σ		0.000	0.000	2.097	43.455	70.601	354.649	667.008	6.789	5169.876
%RSD		0.000	0.000	39.736	6.636	51.799	70.822	5.653	65.465	5.371

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:41:46	86.667	113.334	571.129	1324.541	91.112	8.889	51.111	31.111	13.333
2	18:42:09	35.556	44.445	386.675	524.460	33.333	2.222	22.222	55.556	8.889
3	18:42:30	17.778	37.778	440.011	462.234	35.556	6.667	42.222	51.111	28.889
x		46.667	65.185	465.938	770.411	53.334	5.926	38.519	45.926	17.037
σ		35.763	41.831	94.921	480.898	32.736	3.395	14.796	13.021	10.502
%RSD		76.636	64.172	20.372	62.421	61.379	57.282	38.413	28.352	61.641

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:41:46	40.667	7.200	184.446	193565.680	60.000	451511.880	6.667	0.000	293908.790
2	18:42:09	32.667	3.733	33.333	197359.280	60.000	457600.840	13.333	0.000	292821.190
3	18:42:30	36.667	7.733	13.333	196398.820	40.000	463960.210	13.333	0.000	285534.830
x		36.667	6.222	77.038	195774.590	53.333	457690.980	11.111	0.000	290754.930
σ		4.000	2.172	93.555	1972.332	11.547	6224.654	3.849	0.000	4553.335
%RSD		10.909	34.905	121.440	1.007	21.651	1.360	34.641	0.000	1.566

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:41:46	166.668	93.334	153.335	807556.050	246.670	86.667	496124.770	60.000
2	18:42:09	153.335	33.333	33.333	767397.770	220.003	60.000	492150.580	66.667
3	18:42:30	160.001	53.333	106.667	820574.630	206.669	53.333	513624.250	33.333
x		160.001	60.000	97.778	798509.480	224.447	66.667	500633.200	53.334
σ		6.667	30.551	60.492	27718.675	20.368	17.638	11424.716	17.638
%RSD		4.167	50.918	61.867	3.471	9.075	26.458	2.282	33.072

CCV 5/31/2019 6:45:56 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:45:56	366.674	450.011	225.836	T 2552401.900	1477694.400	815546.520	T 3221991.100	189857.590	45875.459
2	18:46:18	353.340	452.678	206.669	T 2666397.300	1570343.800	866357.370	T 3182682.000	194133.150	53738.362
3	18:46:40	313.339	442.011	211.669	T 2578313.400	1485533.400	850261.100	T 3132646.500	198215.390	49869.744
x		344.451	448.233	214.725	T 2599037.500	1511190.500	844055.000	T 3179106.500	194068.710	49827.855
σ		27.757	5.551	9.942	T 59756.641	51377.987	25967.719	T 44779.488	4179.270	3931.619
%RSD		8.058	1.239	4.630	T 2.299	3.400	3.077	T 1.409	2.154	7.890

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:45:56	12199.291	359406.810	438241.090	2491009.900	339996.720	758512.030	197970.130	533214.140	112912.430
2	18:46:18	12688.849	362263.580	449075.540	T 2464315.900	T 331484.110	760323.250	205301.180	546814.050	118392.600
3	18:46:40	12321.678	357357.230	449784.910	T 2472765.700	333357.510	768445.400	205960.280	539055.060	114942.080
x		12403.273	359675.880	445700.520	T 2476030.500	T 334946.110	762426.890	203077.200	539694.420	115415.710
σ		254.775	2464.217	6469.778	T 13643.172	T 4473.133	5290.270	4435.110	6822.457	2770.615
%RSD		2.054	0.685	1.452	T 0.551	T 1.335	0.694	2.184	1.264	2.401

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:45:56	86362.275	10393.138	612235.290	73294.277	318952.050	153505.160	222510.170	200111.820	103728.420
2	18:46:18	88354.617	10729.795	641214.340	83293.170	332269.870	167776.250	219027.100	204371.690	115387.670
3	18:46:40	88638.022	10663.050	638320.990	82378.223	330044.290	167873.580	226964.960	211089.270	113281.430
x		87784.971	10595.327	630590.210	79655.223	327088.740	163051.670	222834.080	205190.930	110799.170
σ		1240.213	178.253	15961.516	5527.704	7133.905	8267.659	3978.827	5534.389	6213.350
%RSD		1.413	1.682	2.531	6.940	2.181	5.071	1.786	2.697	5.608

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:45:56	461153.800	589250.760	211198.430	245935.570	2168323.200	1456705.800	143408.950	2686862.900
2	18:46:18	461637.440	609260.640	214828.680	265219.830	2255619.300	1499420.400	155668.140	2751412.200
3	18:46:40	468831.960	608178.320	220939.210	271494.360	2265116.900	1539152.000	159751.400	2808344.500
x		463874.400	602229.910	215655.440	260883.250	2229686.500	1498426.100	152942.830	2748873.200
σ		4300.179	11253.292	4922.740	13319.809	53353.945	41232.091	8505.258	60780.626
%RSD		0.927	1.869	2.283	5.106	2.393	2.752	5.561	2.211

CCB, 5/31/2019 6:50:07 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:50:07	0.000	0.000	5.833	1020.057	124.445	108.890	28618.308	55.556	48716.851
2	18:50:28	0.000	0.000	5.000	977.830	115.556	104.445	29273.723	71.111	53999.905
3	18:50:51	0.000	0.000	4.167	955.606	124.445	142.223	28852.379	53.333	50647.358
x		0.000	0.000	5.000	984.498	121.482	118.519	28914.804	60.000	51121.371
σ		0.000	0.000	0.833	32.739	5.132	20.648	332.137	9.687	2673.234
%RSD		0.000	0.000	16.667	3.325	4.225	17.422	1.149	16.144	5.229

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:50:07	0.000	702.249	417.787	320.006	100.001	46.667	73.334	368.896	244.448
2	18:50:28	0.000	795.590	366.674	324.450	80.000	37.778	73.334	337.784	262.226
3	18:50:51	4.444	688.915	420.010	346.673	126.668	22.222	80.000	346.673	242.225
x		1.481	728.918	401.490	330.376	102.223	35.556	75.556	351.118	249.633
σ		2.566	58.123	30.172	14.287	23.413	12.373	3.849	16.025	10.962
%RSD		173.205	7.974	7.515	4.325	22.904	34.799	5.094	4.564	4.391

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:50:07	18.667	6.133	137.779	75969.437	166.668	165834.440	13.333	20.000	105778.510
2	18:50:28	28.667	5.867	120.001	83952.526	333.339	177946.920	26.667	0.000	109907.050
3	18:50:51	31.333	5.067	140.001	81678.619	273.337	178642.590	26.667	6.667	111243.150
x		26.222	5.689	132.594	80533.528	257.782	174141.320	22.222	8.889	108976.240
σ		6.678	0.555	10.962	4112.889	84.417	7202.370	7.698	10.184	2848.755
%RSD		25.466	9.758	8.267	5.107	32.748	4.136	34.641	114.564	2.614

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:50:07	93.334	873.375	13.333	247990.270	1720.163	173.335	154583.200	66.667
2	18:50:28	100.001	1553.466	33.333	272634.390	3200.563	173.335	161963.360	80.000
3	18:50:51	186.669	1666.820	46.667	273472.340	3347.283	160.001	171489.020	126.668
x		126.668	1364.554	31.111	264699.000	2756.003	168.890	162678.530	91.112
σ		52.069	429.132	16.777	14476.248	900.059	7.698	8475.571	31.506
%RSD		41.107	31.449	53.927	5.469	32.658	4.558	5.210	34.579

Analyte ICPS

STD0, 5/31/2019 9:38:48 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:38:48	0.000	0.000	-0.508	36.312	-8.522	2.535	183.500	3.224	96.858%
2	09:39:10	0.000	0.000	1.134	-28.660	10.869	1.173	537.381	-2.636	99.121%
3	09:39:33	0.000	0.000	-0.626	-7.652	-2.347	-3.709	-720.880	-0.588	104.021%
x		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	100.000%
σ		0.000	0.000	0.984	33.155	9.907	3.283	648.891	2.974	3.662%
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.662
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
1	09:38:48	-0.642	-32.293	0.828	-1.230	-48.706	4.157	7.663	21.087	-3.894
2	09:39:10	-0.694	62.544	19.350	4.379	18.591	-2.935	-2.049	-20.135	-25.833
3	09:39:33	1.336	-30.251	-20.178	-3.149	30.114	-1.222	-5.615	-0.951	29.727
x		-0.000	-0.000	0.000	0.000	-0.000	0.000	-0.000	0.000	-0.000
σ		1.158	54.174	19.777	3.912	42.572	3.701	6.872	20.627	27.984
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
1	09:38:48	3.263	0.580	-4.062	97.134%	-9.878	97.123%	-1.805	-2.114	94.196%
2	09:39:10	-3.452	-0.648	4.987	102.218%	-11.926	100.540%	-2.526	4.244	104.894%
3	09:39:33	0.189	0.068	-0.925	100.648%	21.804	102.338%	4.331	-2.131	100.910%
x		-0.000	-0.000	0.000	100.000%	-0.000	100.000%	-0.000	0.000	100.000%
σ		3.361	0.617	4.595	2.603%	18.910	2.649%	3.768	3.676	5.407%
%RSD		0.000	0.000	0.000	2.603	0.000	2.649	0.000	0.000	5.407
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
1	09:38:48	-25.119	31.591	7.643	95.899%	-146.272	62.046	96.283%	-1.668	
2	09:39:10	4.070	-27.336	-0.499	101.703%	123.949	1.031	102.260%	4.042	
3	09:39:33	21.050	-4.254	-7.143	102.397%	22.322	-63.078	101.457%	-2.374	
x		0.000	-0.000	-0.000	100.000%	-0.000	0.000	100.000%	-0.000	
σ		23.352	29.693	7.406	3.568%	136.487	62.568	3.244%	3.518	
%RSD		0.000	0.000	0.000	3.568	0.000	0.000	3.244	0.000	

STD1, 5/31/2019 9:42:57 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:42:57	25.243	19.563	8.815	105222.850	60567.646	33957.491	125898.300	7555.262	105.640%
2	09:43:18	0.000	18.614	10.531	104822.970	59829.243	33974.552	118572.050	7635.625	111.029%
3	09:43:40	0.000	12.420	11.818	102784.530	59153.225	31751.661	114119.590	7220.706	112.721%
x		8.414	16.866	10.388	104276.780	59850.038	33227.901	119529.980	7470.531	109.797%
σ		14.574	3.879	1.506	1307.704	707.440	1278.490	5947.501	220.055	3.698%
%RSD		173.205	23.000	14.502	1.254	1.182	3.848	4.976	2.946	3.368

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:42:57	516.663	14779.807	18943.062	100766.540	14201.479	31715.821	9030.206	25611.070	4935.867
2	09:43:18	479.434	14466.830	18164.352	100283.120	13797.060	31120.128	8607.987	24543.114	4730.192
3	09:43:40	468.253	13494.313	18192.554	96327.946	13387.984	31244.689	8307.245	24222.817	4813.196
x		488.117	14246.983	18433.323	99125.870	13795.508	31360.213	8648.479	24792.334	4826.418
σ		25.346	670.353	441.672	2435.099	406.749	314.200	363.177	726.907	103.473
%RSD		5.193	4.705	2.396	2.457	2.948	1.002	4.199	2.932	2.144

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:42:57	3892.428	486.178	27033.157	95.504%	14619.234	95.081%	5279.551	9412.823	95.203%
2	09:43:18	3687.730	434.246	24063.199	106.948%	12830.936	103.482%	4703.469	8448.046	105.284%
3	09:43:40	3638.534	422.481	24982.232	106.770%	13815.537	104.709%	4760.919	8186.493	106.114%
x		3739.564	447.635	25359.529	103.074%	13755.236	101.091%	4914.646	8682.454	102.200%
σ		134.650	33.894	1520.502	6.556%	895.672	5.240%	317.319	645.896	6.074%
%RSD		3.601	7.572	5.996	6.361	6.512	5.184	6.457	7.439	5.943

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:42:57	20100.851	26178.953	9608.835	96.563%	96235.626	128872.410	94.456%	121673.150
2	09:43:18	18806.285	25388.919	8753.257	104.535%	94011.180	122957.570	101.346%	114466.150
3	09:43:40	17990.718	25687.377	8606.884	102.905%	91183.290	123614.970	104.066%	113531.140
x		18965.951	25751.750	8989.658	101.334%	93810.032	125148.310	99.956%	116556.810
σ		1064.089	398.932	541.193	4.211%	2532.168	3241.868	4.953%	4455.471
%RSD		5.611	1.549	6.020	4.156	2.699	2.590	4.956	3.823

STD2, 5/31/2019 9:47:04 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:47:04	112.134	168.201	78.757	1037126.900	580125.480	318558.980	1252568.800	73207.964	107.016%
2	09:47:25	60.941	154.183	73.948	956892.720	569294.100	298345.430	1184001.800	68824.388	109.395%
3	09:47:46	157.397	154.975	88.577	1030528.300	562062.100	308310.730	1196117.800	69595.120	110.126%
x		110.157	159.120	80.427	1008182.600	570493.890	308405.050	1210896.100	70542.490	108.846%
σ		48.258	7.875	7.456	44540.732	9091.262	10107.104	36594.488	2340.314	1.626%
%RSD		43.808	4.949	9.271	4.418	1.594	3.277	3.022	3.318	1.494

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:47:04	5015.452	140288.140	180189.060	966368.450	132433.590	304099.280	81914.205	333843.880	58512.684
2	09:47:25	4757.937	134414.040	171576.770	940934.600	132043.970	302544.770	81676.707	323761.220	55604.011
3	09:47:46	4897.957	134198.810	173167.280	932325.660	130591.950	293781.960	78159.086	325791.650	56031.927
x		4890.449	136300.330	174977.710	946542.900	131689.840	300142.000	80583.333	327798.920	56716.207
σ		128.922	3455.219	4582.694	17700.781	970.553	5562.530	2102.815	5332.623	1570.438
%RSD		2.636	2.535	2.619	1.870	0.737	1.853	2.609	1.627	2.769

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:47:04	38148.139	4684.363	258580.650	97.770%	138416.920	94.906%	51274.692	91135.832	94.041%
2	09:47:25	36244.554	4350.203	234120.960	108.962%	130363.580	99.818%	47465.404	84667.059	102.279%
3	09:47:46	36816.965	4504.496	244532.720	105.267%	132844.390	99.568%	46311.770	84612.136	106.475%
x		37069.886	4513.021	245744.780	104.000%	133874.960	98.097%	48350.622	86805.009	100.932%
σ		976.671	167.243	12274.809	5.702%	4124.396	2.766%	2597.183	3750.704	6.326%
%RSD		2.635	3.706	4.995	5.483	3.081	2.820	5.372	4.321	6.267

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:47:04	202356.600	266508.410	86533.118	99.522%	994867.720	1294407.700	92.539%	1285543.000
2	09:47:25	192739.970	252152.290	85944.213	105.278%	936390.930	1226411.100	100.444%	1185966.100
3	09:47:46	197656.620	245210.690	88914.547	105.412%	963470.340	1232897.500	103.458%	1198411.900
x		197584.400	254623.800	87130.626	103.404%	964909.660	1251238.700	98.814%	1223307.000
σ		4808.721	10861.840	1572.731	3.363%	29264.953	37525.780	5.639%	54255.964
%RSD		2.434	4.266	1.805	3.252	3.033	2.999	5.707	4.435

STD3, 5/31/2019 9:51:10 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:51:10	600.166	842.313	390.979	T 5119200.400	T 2873982.600	1630838.300	T 6149846.200	374150.360	96.643%
2	09:51:32	610.324	813.996	401.609	T 5116636.800	T 2869330.600	1646894.400	T 5846003.300	367206.410	100.496%
3	09:51:55	589.825	759.570	384.430	T 4886141.600	T 2740783.600	1511192.800	T 5811983.000	357431.470	101.729%
x		600.105	805.293	392.339	T 5040659.600	T 2828032.300	1596308.500	T 5935944.200	366262.750	99.623%
σ		10.250	42.052	8.670	T 133822.610	T 75595.384	74148.257	T 186023.960	8399.295	2.653%
%RSD		1.708	5.222	2.210	T 2.655	T 2.673	4.645	T 3.134	2.293	2.663

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:51:10	25479.131	712435.790	918134.180	T 4952017.100	705013.320	1550419.600	409650.140	1220326.500	250572.020
2	09:51:32	24777.005	719388.250	888171.290	T 4840396.600	656844.600	1543128.600	390011.930	1162438.300	243120.880
3	09:51:55	23754.061	710514.640	862339.640	T 4791636.500	657967.570	1509305.900	386351.460	1131816.400	240594.250
x		24670.066	714112.890	889548.370	T 4861350.100	673275.160	1534284.700	395337.850	1171527.100	244762.380
σ		867.493	4668.487	27922.746	T 82217.852	27491.782	21937.320	12529.214	44949.570	5187.475
%RSD		3.516	0.654	3.139	T 1.691	4.083	1.430	3.169	3.837	2.119

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:51:10	190108.550	22656.576	1234032.100	96.760%	692253.570	88.292%	475742.820	446308.140	89.942%
2	09:51:32	185048.390	21897.168	1213997.800	101.921%	655314.010	92.717%	449164.920	424891.760	97.393%
3	09:51:55	183431.940	21399.666	1238823.400	100.495%	692249.670	94.397%	443437.070	408112.920	99.586%
x		186196.300	21984.470	1228951.100	99.726%	679939.080	91.802%	456114.940	426437.600	95.640%
σ		3483.181	632.987	13169.680	2.665%	21325.942	3.154%	17237.817	19144.472	5.056%
%RSD		1.871	2.879	1.072	2.672	3.136	3.435	3.779	4.489	5.286

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:51:10	1006319.300	1345587.700	431742.910	95.310%	T 5089525.900	6497508.300	88.241%	T 6462424.600
2	09:51:32	990996.660	1255982.700	432017.650	102.307%	T 4663660.200	6114573.400	96.935%	T 5963881.100
3	09:51:55	997784.690	1270665.400	429313.410	103.570%	T 5099422.900	T 6509075.900	T 92.273%	T 6245733.400
x		998366.870	1290745.300	431024.660	100.396%	T 4950869.700	T 6373719.200	T 92.483%	T 6224013.000
σ		7677.866	48058.947	1488.334	4.449%	T 248779.920	T 224501.310	T 4.350%	T 249980.500
%RSD		0.769	3.723	0.345	4.432	T 5.025	T 3.522	T 4.704	T 4.016

S1, 5/31/2019 9:55:18 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:55:18	584.603	847.006	407.329	T 4981872.400	T 2808511.300	1611151.200	T 6085228.400	351475.030	98.075%
2	09:55:40	625.448	773.347	390.300	T 4918969.200	T 2837541.200	1583140.000	T 5900646.400	346504.010	102.330%
3	09:56:01	569.684	752.624	411.580	T 4670903.400	T 2717126.400	1539156.300	T 5531799.200	334669.710	105.325%
x		593.245	98.268%	102.624%	T 4857248.300	T 2787726.300	1577815.900	T 5839224.700	344216.250	101.910%
σ		28.869	n/a	n/a	T 164415.700	T 62840.643	36291.546	T 281780.830	8633.078	3.643%
%RSD		4.866	6.271	2.794	T 3.385	T 2.254	2.300	T 4.826	2.508	3.575

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:55:18	24688.933	716991.100	903366.170	T 4935803.500	672303.680	1560196.400	395162.500	1193324.000	256217.730
2	09:55:40	24173.967	687754.310	892790.130	T 4740687.600	675478.840	1520755.200	398044.700	1142730.500	239548.370
3	09:56:01	23042.280	652674.780	849689.870	T 4640264.400	648225.120	1493851.000	383722.480	1131243.500	236991.400
x		97.189%	96.205%	99.207%	T 4772251.800	98.904%	99.473%	99.157%	97.162%	99.187%
σ		n/a	n/a	n/a	T 150276.610	n/a	n/a	n/a	n/a	n/a
%RSD		3.514	4.696	3.224	T 3.149	2.240	2.188	1.931	2.858	4.275

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:55:18	194383.970	22909.214	1313924.600	94.334%	696898.520	88.057%	486104.560	455495.550	89.160%
2	09:55:40	182250.520	21634.065	1244265.900	99.290%	674178.220	94.953%	432056.180	413043.340	100.305%
3	09:56:01	179707.180	21219.146	1236879.100	102.473%	669857.070	96.802%	447292.100	424294.150	100.064%
x		99.615%	99.609%	102.935%	98.699%	100.114%	93.271%	99.729%	100.987%	96.510%
σ		n/a	n/a	n/a	4.102%	n/a	4.609%	n/a	n/a	6.366%
%RSD		4.229	4.018	3.360	4.156	2.135	4.941	6.123	5.104	6.596

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:55:18	1039918.400	1394681.200	432171.880	97.684%	T 4851004.300	6473841.700	91.262%	T 6247651.400
2	09:55:40	979475.200	1251643.000	413751.830	105.334%	T 4731178.100	6170645.400	97.021%	T 6037119.500
3	09:56:01	986054.560	1303696.900	402798.820	108.969%	T 4774768.400	T 6191294.300	99.205%	T 6047501.100
x		100.388%	102.062%	96.529%	103.996%	T 96.760%	T 98.578%	95.829%	T 6110757.300
σ		n/a	n/a	n/a	5.761%	T n/a	T n/a	4.104%	T 118667.300
%RSD		3.310	5.498	3.566	5.539	T 1.267	T 2.698	4.282	T 1.942

ICV, 5/31/2019 9:59:27 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	09:59:27	215.591	328.461	180.072	T 1982186.300	1176270.200	641740.960	T 2401771.500	142384.540	105.139%
2	09:59:48	206.631	310.574	167.615	2026326.700	1122142.000	658060.570	T 2384931.700	140344.850	106.471%
3	10:00:11	174.337	311.319	139.420	T 1931417.000	1133898.200	615620.030	T 2345236.300	136833.490	107.073%
x		198.853	98.388%	103.350%	T 98.199%	101.104%	100.122%	T 100.047%	95.596%	106.228%
σ		21.699	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	0.990%
%RSD		10.912	3.194	12.827	T 2.399	2.488	3.353	T 1.221	2.008	0.932

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	09:59:27	9560.099	271972.840	342564.810	1924248.200	269740.470	610275.390	160462.800	480036.230	101713.630
2	09:59:48	9866.659	278250.700	347459.480	1967106.400	268406.090	602104.020	160417.490	453056.110	95411.721
3	10:00:11	9630.411	271061.990	350531.790	1927390.800	272872.440	599486.770	161862.590	449210.750	95807.683
x		98.186%	96.008%	97.540%	99.846%	100.466%	98.492%	101.679%	96.839%	99.130%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.658	1.430	1.158	1.232	0.848	0.932	0.511	3.646	3.615

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	09:59:27	75121.192	9181.800	494816.290	102.329%	262835.660	94.085%	181487.970	175106.650	98.208%
2	09:59:48	71102.124	8630.477	492301.310	105.267%	270113.050	102.528%	181031.450	170766.060	104.117%
3	10:00:11	71209.633	8498.864	480147.390	105.895%	261304.300	102.599%	182211.840	173026.880	104.421%
x		97.330%	99.632%	99.493%	104.497%	97.401%	99.737%	99.464%	101.332%	102.249%
σ		n/a	n/a	n/a	1.904%	n/a	4.895%	n/a	n/a	3.503%
%RSD		3.160	4.131	1.604	1.822	1.778	4.908	0.328	1.255	3.426

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	09:59:27	399953.700	521388.400	179917.630	100.710%	2018355.200	2588366.400	94.747%	2519725.200
2	09:59:48	376983.470	495295.790	165114.100	109.857%	1907088.400	2453648.100	101.904%	2420169.800
3	10:00:11	380607.570	504925.730	162638.780	110.714%	1911698.700	2458869.700	103.327%	2485594.700
x		96.661%	98.290%	98.110%	107.094%	98.350%	98.141%	99.992%	2475163.200
σ		n/a	n/a	n/a	5.545%	n/a	n/a	4.598%	50590.808
%RSD		3.201	2.601	5.522	5.178	3.235	3.052	4.599	2.044

ICB, 5/31/2019 10:03:36 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:03:36	0.000	0.000	1.137	-122.117	55.794	-1.020	178.077	-0.580	99.035%
2	10:03:57	0.000	0.631	0.928	-196.305	11.778	-17.133	-817.252	-12.133	105.597%
3	10:04:19	0.000	0.000	0.093	-278.923	6.588	-30.291	-825.307	-10.692	107.689%
x		0.000	0.210	0.719	-199.115	24.720	-16.148	-488.161	-7.801	104.107%
σ		0.000	0.364	0.553	78.441	27.035	14.660	576.993	6.296	4.515%
%RSD		0.000	173.205	76.811	39.395	109.366	90.788	118.197	80.698	4.337

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:03:36	-2.936	63.112	82.516	43.200	-77.779	15.023	-58.041	-192.571	-197.914
2	10:03:57	-0.832	-15.488	-27.449	-35.693	-81.912	7.037	-57.876	-272.397	-191.481
3	10:04:19	-0.873	-10.182	-73.240	-42.177	-54.244	-5.713	-61.207	-241.657	-156.589
x		-1.547	12.481	-6.058	-11.557	-71.312	5.449	-59.041	-235.542	-181.994
σ		1.203	43.928	80.051	47.531	14.925	10.459	1.877	40.263	22.236
%RSD		77.789	351.963	1321.479	411.293	20.929	191.932	3.180	17.094	12.218

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:03:36	3.628	1.864	30.292	93.952%	112.148	98.521%	44.548	11.182	99.819%
2	10:03:57	0.587	-0.379	21.824	103.127%	310.963	107.139%	-2.829	-2.280	110.136%
3	10:04:19	11.720	-0.885	7.325	106.498%	337.063	107.375%	15.785	-2.304	108.107%
x		5.312	0.200	19.813	101.192%	253.391	104.345%	19.168	2.199	106.021%
σ		5.755	1.463	11.614	6.493%	123.015	5.045%	23.869	7.779	5.466%
%RSD		108.338	732.117	58.618	6.417	48.547	4.835	124.525	353.707	5.155

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:03:36	-6.475	16.937	-6.682	98.892%	2798.043	-12.363	102.453%	75.583
2	10:03:57	13.752	11.104	-1.350	106.299%	5299.413	-55.175	109.669%	51.352
3	10:04:19	44.455	44.209	-2.019	110.221%	5615.335	-62.117	110.351%	-3.433
x		17.244	24.084	-3.350	105.138%	4570.930	-43.218	107.491%	41.167
σ		25.644	17.672	2.905	5.753%	1543.470	26.946	4.376%	40.481
%RSD		148.709	73.377	86.701	5.472	33.767	62.348	4.071	98.333

/ICVL, 5/31/2019 10:07:44 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:07:44	12.608	0.630	49.779	21215.964	11894.404	3320.329	60393.368	1433.531	105.755%
2	10:08:06	12.285	1.228	45.375	21247.755	11887.968	3336.227	60504.648	1379.358	108.535%
3	10:08:28	6.181	1.236	43.355	21165.310	11925.340	3373.907	62033.294	1443.225	107.861%
x		10.358	1.032	46.169	21209.676	11902.570	3343.488	60977.103	1418.705	107.384%
σ		3.621	0.348	3.285	41.580	19.979	27.517	916.379	34.418	1.450%
%RSD		34.959	33.687	7.115	0.196	0.168	0.823	1.503	2.426	1.351

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:07:44	219.804	6795.006	9141.047	9913.278	3335.345	3380.258	1637.953	4785.729	10216.585
2	10:08:06	230.478	6917.266	9178.326	10076.507	3561.368	3086.491	1672.710	4229.748	9480.123
3	10:08:28	275.203	6957.976	9124.489	10170.762	3549.455	3177.976	1698.350	4286.517	9413.979
x		241.828	6890.082	9147.954	10053.516	3482.056	3214.908	1669.671	4433.998	9703.563
σ		29.392	84.818	27.575	130.273	127.195	150.325	30.313	305.928	445.520
%RSD		12.154	1.231	0.301	1.296	3.653	4.676	1.815	6.900	4.591

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:07:44	395.028	132.605	11001.238	96.014%	5651.238	99.100%	2419.979	484.544	102.119%
2	10:08:06	373.716	107.146	9964.903	107.670%	5678.236	106.181%	2488.339	314.351	112.676%
3	10:08:28	349.956	108.258	10382.910	103.993%	5354.822	108.685%	2287.260	495.219	110.636%
x		372.900	116.003	10449.684	102.559%	5561.432	104.656%	2398.526	431.371	108.477%
σ		22.547	14.388	521.384	5.959%	179.438	4.971%	102.242	101.483	5.600%
%RSD		6.046	12.403	4.989	5.811	3.226	4.750	4.263	23.526	5.162

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:07:44	10250.835	7322.352	2352.159	99.212%	20719.930	6385.598	99.103%	121370.870
2	10:08:06	9714.921	7022.778	2243.064	109.004%	20893.533	5845.925	108.499%	112402.980
3	10:08:28	9414.212	7564.437	2124.286	112.864%	20130.190	5561.857	111.765%	109698.570
x		9793.323	7303.189	2239.836	107.027%	20581.218	5931.127	106.455%	114490.810
σ		423.786	271.338	113.971	7.037%	400.130	418.428	6.574%	6109.819
%RSD		4.327	3.715	5.088	6.575	1.944	7.055	6.175	5.337

ICVL, 5/31/2019 10:13:43 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:13:43	12.936	2.587	39.003	21104.694	12219.839	3123.440	63358.296	1486.852	103.075%
2	10:14:05	5.935	2.374	33.384	19274.276	11303.736	3097.210	57095.586	1284.769	112.319%
3	10:14:28	6.300	2.520	41.869	20695.706	11587.730	3189.901	61770.796	1451.946	105.826%
x		8.390	154.902%	96.968%	100.969%	103.425%	98.380%	102.250%	96.232%	107.074%
σ		3.941	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.746%
%RSD		46.966	4.365	11.333	4.719	4.007	1.523	5.360	7.672	4.433

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:13:43	281.650	6915.835	9580.290	10259.655	3434.392	3121.207	1746.269	4839.628	9766.202
2	10:14:05	250.314	6585.063	8432.898	9246.473	3122.098	2825.749	1576.588	4297.194	9072.839
3	10:14:28	209.154	6943.428	8989.559	9687.630	3349.934	3113.277	1632.560	4145.484	9139.529
x		100.172%	95.598%	101.248%	100.189%	98.174%	98.502%	104.375%	93.050%	94.681%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		14.718	2.926	6.375	5.220	4.892	5.574	5.234	8.243	4.102

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:13:43	356.011	114.567	10557.433	96.676%	5653.597	98.210%	2658.494	465.883	100.488%
2	10:14:05	313.180	101.197	10174.690	104.392%	5078.553	107.872%	2166.244	315.519	108.207%
3	10:14:28	368.670	108.667	10178.365	105.182%	5287.376	106.876%	2214.222	385.358	105.872%
x		92.916%	98.281%	104.799%	102.083%	98.226%	104.319%	102.821%	91.139%	104.856%
σ		n/a	n/a	n/a	4.700%	n/a	5.314%	n/a	n/a	3.959%
%RSD		8.406	6.196	2.134	4.604	5.451	5.094	11.568	19.347	3.775

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:13:43	8768.532	7768.368	2425.868	100.312%	18480.160	6161.644	100.390%	114338.500
2	10:14:05	9399.622	6861.059	1930.802	109.702%	18999.155	5468.538	107.723%	106611.010
3	10:14:28	9500.961	7323.633	1969.721	112.583%	17972.401	5268.368	110.080%	107210.620
x		92.420%	94.539%	97.808%	107.532%	93.430%	88.439%	106.064%	109386.710
σ		n/a	n/a	n/a	6.417%	n/a	n/a	5.053%	4298.841
%RSD		4.303	6.200	13.054	5.967	2.777	8.322	4.764	3.930

CRI, 5/31/2019 10:17:53 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:17:53	45.037	3.217	70.152	40394.268	23895.454	6522.816	118736.880	2909.309	103.620%
2	10:18:16	34.576	4.610	90.694	39919.654	22228.452	5832.567	111040.300	2584.250	115.688%
3	10:18:38	29.750	2.975	74.377	39495.435	22105.002	5865.191	111295.880	2600.694	112.047%
x		36.454	111.830%	99.815%	99.034%	100.489%	95.241%	95.691%	92.212%	110.452%
σ		7.815	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.190%
%RSD		21.437	24.511	13.836	1.126	4.397	6.412	3.845	6.787	5.605
Run	**Time**	**47Ti**	**51V**	**52Cr**	**54Fe**	**55Mn**	**59Co**	**60Ni**	**63Cu**	**66Zn**
1	10:17:53	471.032	13949.536	18232.031	19688.856	6619.717	6432.820	3281.016	9130.644	19324.262
2	10:18:16	481.139	12607.673	17140.844	18309.027	6482.636	5727.841	3148.815	9187.903	18920.509
3	10:18:38	459.186	12913.476	17344.067	18976.889	6475.666	6168.426	3187.688	8926.155	18820.529
x		95.382%	92.283%	98.832%	97.765%	97.010%	99.636%	101.286%	95.433%	96.556%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.336	5.345	3.302	3.633	1.245	5.829	2.119	1.515	1.402
Run	**Time**	**75As**	**78Se**	**88Sr**	**89Y**	**95Mo**	**103Rh**	**107Ag**	**111Cd**	**115In**
1	10:17:53	732.060	234.639	20117.717	99.324%	11487.547	99.192%	4926.285	852.139	98.368%
2	10:18:16	691.690	239.728	19184.666	108.639%	10203.240	107.175%	4858.629	855.982	107.272%
3	10:18:38	652.759	213.176	19935.294	106.396%	10814.610	107.630%	4678.480	823.269	108.264%
x		92.952%	104.140%	100.420%	104.786%	99.656%	104.666%	105.636%	98.867%	104.635%
σ		n/a	n/a	n/a	4.862%	n/a	4.746%	n/a	n/a	5.450%
%RSD		5.729	6.149	2.504	4.640	5.929	4.534	2.657	2.119	5.209
Run	**Time**	**118Sn**	**121Sb**	**137Ba**	**159Tb**	**205Tl**	**208Pb**	**209Bi**	**238U**	
1	10:17:53	19322.580	16617.903	4307.985	102.763%	38083.165	12382.036	99.525%	230779.490	
2	10:18:16	17760.544	14413.810	4415.313	112.307%	35502.941	11289.416	108.002%	224927.890	
3	10:18:38	18653.230	14576.812	4126.664	112.243%	36576.892	12092.788	108.216%	225755.720	
x		93.085%	98.205%	99.333%	109.105%	92.806%	93.587%	105.248%	227154.360	
σ		n/a	n/a	n/a	5.492%	n/a	n/a	4.957%	3166.622	
%RSD		4.218	8.079	3.406	5.033	3.530	4.749	4.710	1.394	

ICSA, 5/31/2019 10:22:04 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:22:04	0.000	0.000	3.715	T 11445255.000	T 6395316.700	T 3665874.000	T 13607352.000	790691.160	84.128%
2	10:22:26	0.000	0.000	0.149	T 9306543.300	T 5220289.900	T 2992336.600	T 11065552.000	671572.980	105.139%
3	10:22:49	0.000	0.000	0.268	T 9569530.500	T 5459053.400	T 3130880.100	T 11645133.000	700669.590	100.138%
x		0.000	0.000	1.377	T 100.254%	T 100.592%	T 102.338%	T 101.894%	98.563%	96.468%
σ		0.000	0.000	2.025	T n/a	T n/a	T n/a	T n/a	n/a	10.975%
%RSD		0.000	0.000	147.040	T 11.539	T 10.912	T 10.900	T 11.004	8.614	11.377

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:22:04	110777.100	-150.988	2751.108	T 10977471.000	-911.208	1364.387	183.301	1.761	203.812
2	10:22:26	89205.422	-241.255	2145.066	T 8989849.600	-541.022	1091.472	103.046	-23.371	171.408
3	10:22:49	93669.004	-274.777	2183.897	T 9436407.500	-930.111	1159.886	163.162	-73.093	160.800
x		99.227%	-222.340	2360.024	T 100.910%	-794.114	1205.249	149.836	-31.568	178.673
σ		n/a	64.025	339.245	T n/a	219.388	142.000	41.754	38.094	22.408
%RSD		11.633	28.796	14.375	T 10.640	27.627	11.782	27.866	120.676	12.541

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:22:04	30.543	4.174	4653.850	87.734%	2899129.300	81.225%	590.202	-707.396	85.689%
2	10:22:26	40.622	0.745	4224.626	99.222%	2631626.200	88.777%	513.066	-569.305	93.243%
3	10:22:49	29.799	1.608	4358.969	95.080%	2811281.800	89.344%	651.457	-637.749	93.894%
x		33.655	2.176	4412.481	94.012%	102.301%	86.449%	584.908	-638.150	90.942%
σ		6.045	1.784	219.559	5.818%	n/a	4.533%	69.347	69.046	4.561%
%RSD		17.963	81.999	4.976	6.188	4.904	5.243	11.856	10.820	5.015

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:22:04	-43.318	185.688	586.776	93.367%	486.375	3638.214	84.397%	205.664
2	10:22:26	-14.150	204.636	602.668	99.549%	901.565	3454.465	91.192%	247.668
3	10:22:49	22.349	245.056	655.270	102.654%	975.729	3289.493	96.267%	185.317
x		-11.706	211.793	614.905	98.523%	787.890	3460.724	90.619%	212.883
σ		32.902	30.324	35.849	4.727%	263.739	174.445	5.956%	31.796
%RSD		281.065	14.318	5.830	4.798	33.474	5.041	6.572	14.936

ICSAB, 5/31/2019 10:26:14 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:26:14	6.906	35.223	34.030	┬10257524.000	┬5637705.200	┬3313961.200	┬12029042.000	728654.330	96.528%
2	10:26:36	44.931	20.540	32.272	┬9583013.000	┬5511651.300	┬3206613.900	┬11706057.000	677985.150	103.863%
3	10:26:58	26.177	27.486	37.037	┬9687736.700	┬5568183.200	┬3165566.100	┬11654391.000	710270.070	101.872%
x		26.005	86.185%	87.702%	┬97.632%	┬98.488%	┬101.261%	┬99.288%	96.466%	100.755%
σ		19.013	n/a	n/a	┬n/a	┬n/a	┬n/a	┬n/a	n/a	3.793%
%RSD		73.113	26.469	6.995	┬3.688	┬1.133	┬2.373	┬1.721	3.635	3.765

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:26:14	97037.080	27473.612	35581.091	┬9912672.700	25802.987	59494.800	15080.986	46851.675	10296.509
2	10:26:36	93796.928	25485.152	34198.021	┬9487892.100	24449.181	55662.735	14804.501	43958.249	10001.034
3	10:26:58	94898.735	27043.024	35843.980	┬9564081.200	24474.593	56757.756	14807.904	43338.122	9671.051
x		96.551%	93.522%	99.010%	┬99.403%	92.569%	93.452%	94.136%	93.979%	101.415%
σ		n/a	n/a	n/a	┬n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.730	3.923	2.511	┬2.346	3.109	3.444	1.065	4.194	3.132

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:26:14	8228.978	976.568	55399.334	90.287%	2958972.700	83.190%	88454.661	15442.845	91.015%
2	10:26:36	7764.597	916.421	52655.067	98.857%	2709138.300	89.319%	87670.949	16252.782	95.373%
3	10:26:58	7539.622	909.085	53498.958	99.561%	2777769.000	92.402%	85975.265	15938.578	98.999%
x		105.343%	106.106%	109.546%	96.235%	103.574%	88.304%	95.715%	93.021%	95.129%
σ		n/a	n/a	n/a	5.163%	n/a	4.689%	n/a	n/a	3.998%
%RSD		4.481	3.964	2.610	5.365	4.585	5.310	1.451	2.572	4.202

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:26:14	42759.828	24788.768	17387.198	95.833%	97844.203	254317.040	87.648%	256283.830
2	10:26:36	40767.539	24519.990	16621.807	104.775%	91878.238	243409.800	94.313%	247508.410
3	10:26:58	39808.566	23732.671	17567.242	105.524%	91586.080	247271.060	97.447%	246455.220
x		41111.978	94.364%	99.674%	102.044%	94.795%	97.475%	93.136%	250082.490
σ		1505.478	n/a	n/a	5.392%	n/a	n/a	5.004%	5396.276
%RSD		3.662	2.254	2.920	5.284	3.766	2.227	5.373	2.158

CCV, 5/31/2019 10:30:24 AM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:30:24	342.281	430.996	188.120	T 2631671.800	1502400.500	867451.350	T 3144421.900	196082.690	95.440%
2	10:30:46	227.995	394.796	211.517	T 2245383.300	1328437.100	741936.570	T 2816417.400	166636.350	111.115%
3	10:31:08	323.389	408.359	222.874	T 2505370.000	1435367.800	786691.460	T 3047466.600	176901.730	105.139%
x		297.888	102.215%	105.663%	T 97.637%	100.534%	100.197%	T 101.095%	98.360%	103.898%
σ		61.262	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	7.911%
%RSD		20.565	4.446	8.540	T 8.004	6.170	7.965	T 5.612	8.309	7.614

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:30:24	12767.575	371849.810	471231.970	2725422.900	363110.510	821530.680	217135.440	600951.240	125158.200
2	10:30:46	11522.771	325541.810	415258.930	2271636.100	310946.220	717348.310	187247.630	556601.950	118254.140
3	10:31:08	12349.369	346826.770	437073.180	2422127.500	333024.740	755322.720	199822.950	560087.190	119590.940
x		99.047%	97.656%	99.255%	101.847%	99.803%	99.769%	101.810%	96.265%	98.274%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.187	6.659	6.395	9.346	7.800	6.895	7.451	4.307	3.026

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:30:24	94622.966	11477.363	651739.730	98.237%	337794.450	93.907%	241570.950	222575.540	97.686%
2	10:30:46	89655.635	10811.411	610803.040	106.847%	327129.580	101.543%	225195.050	212576.270	106.081%
3	10:31:08	88585.720	10564.864	607658.280	107.755%	320109.880	102.403%	237232.010	218310.960	103.740%
x		97.715%	99.525%	101.452%	104.280%	96.638%	99.284%	102.836%	102.088%	102.502%
σ		n/a	n/a	n/a	5.253%	n/a	4.677%	n/a	n/a	4.332%
%RSD		3.542	4.310	3.945	5.037	2.712	4.711	3.615	2.304	4.226

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:30:24	513605.510	667923.460	222367.930	102.488%	2425591.700	3151643.700	99.086%	3116946.800
2	10:30:46	473284.370	629327.410	202744.970	111.753%	2408337.300	3093453.300	102.941%	3111323.800
3	10:31:08	501132.090	649106.310	205298.450	115.335%	2317943.900	3049180.600	106.651%	3088826.300
x		99.406%	100.582%	97.464%	109.859%	96.401%	97.284%	102.893%	3105698.900
σ		n/a	n/a	n/a	6.630%	n/a	n/a	3.783%	14880.171
%RSD		4.162	2.975	5.077	6.035	2.425	1.659	3.676	0.479

CCB, 5/31/2019 10:34:33 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:34:33	0.000	0.000	0.254	-148.800	51.971	-10.767	165.956	-11.329	100.683%
2	10:34:54	0.000	0.000	-0.653	-117.786	49.495	-19.304	-1169.676	-10.731	105.783%
3	10:35:17	0.000	0.000	-0.714	-175.777	52.003	-6.617	-2180.740	-16.196	110.011%
x		0.000	0.000	-0.371	-147.454	51.157	-12.229	-1061.487	-12.752	105.492%
σ		0.000	0.000	0.542	29.019	1.439	6.469	1177.083	2.998	4.671%
%RSD		0.000	0.000	146.261	19.680	2.812	52.896	110.890	23.508	4.428

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:34:33	-2.936	76.671	0.126	16.822	-72.242	14.583	-59.106	-260.687	-175.797
2	10:34:54	-0.836	-31.209	-19.642	-19.435	-71.530	2.802	-49.588	-241.070	-200.185
3	10:35:17	-2.936	-6.303	-28.923	-0.746	-84.467	12.337	-64.533	-213.593	-169.718
x		-2.236	13.053	-16.146	-1.120	-76.080	9.907	-57.742	-238.450	-181.900
σ		1.213	56.485	14.837	18.131	7.273	6.255	7.566	23.656	16.124
%RSD		54.241	432.733	91.889	1619.154	9.559	63.136	13.102	9.921	8.864

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:34:33	6.260	1.575	329.584	96.633%	383.586	98.812%	-2.173	-2.327	99.361%
2	10:34:54	2.111	-1.587	259.449	105.887%	792.652	105.699%	9.900	-2.560	106.488%
3	10:35:17	4.783	1.324	245.799	106.278%	1009.126	107.869%	-8.882	-2.669	108.936%
x		4.385	0.438	278.277	102.932%	728.454	104.127%	-0.385	-2.519	104.928%
σ		2.103	1.758	44.954	5.459%	317.673	4.728%	9.518	0.175	4.974%
%RSD		47.964	401.576	16.154	5.303	43.609	4.541	2471.913	6.946	4.741

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:34:33	-0.127	-16.026	25.212	102.844%	2306.891	-61.464	100.284%	17.723
2	10:34:54	72.637	-28.573	15.709	111.504%	4506.385	-139.767	108.753%	27.395
3	10:35:17	37.421	-5.923	4.024	110.246%	4652.140	-58.046	111.871%	55.995
x		36.643	-16.840	14.982	108.198%	3821.805	-86.426	106.970%	33.704
σ		36.388	11.347	10.613	4.679%	1313.977	46.227	5.996%	19.901
%RSD		99.304	67.380	70.838	4.325	34.381	53.487	5.606	59.045

mb 500-487972/1-a, 5/31/2019 10:46:32 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:46:32	0.000	0.000	1.169	4067.764	231.112	176.164	552.358	208.851	98.118%
2	10:46:54	0.000	0.000	0.090	3852.656	270.394	157.266	-835.823	215.964	107.804%
3	10:47:16	0.000	0.000	1.578	3494.002	237.250	182.463	-1300.222	153.127	109.452%
x		0.000	0.000	0.946	3804.808	246.252	171.965	-527.896	192.647	105.125%
σ		0.000	0.000	0.769	289.858	21.132	13.113	963.913	34.410	6.124%
%RSD		0.000	0.000	81.263	7.618	8.581	7.625	182.595	17.862	5.825

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:46:32	-2.936	-19.100	179.573	695.314	239.517	60.572	531.448	289.406	2317.256
2	10:46:54	1.186	-60.276	264.528	603.724	200.860	41.692	435.531	217.693	2077.696
3	10:47:16	3.155	-37.828	240.816	559.327	195.673	57.128	439.302	183.699	2179.071
x		0.468	-39.068	228.306	619.455	212.017	53.131	468.760	230.266	2191.341
σ		3.108	20.616	43.838	69.345	23.957	10.055	54.322	53.963	120.250
%RSD		663.815	52.769	19.201	11.194	11.300	18.924	11.588	23.435	5.488

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:46:32	6.577	-1.168	171.558	99.476%	304.142	100.211%	11.055	4.359	100.314%
2	10:46:54	7.542	-1.862	197.212	105.564%	435.232	106.689%	15.444	-2.352	109.620%
3	10:47:16	8.761	-0.866	194.126	104.112%	544.475	106.808%	-2.709	-2.411	107.994%
x		7.627	-1.299	187.632	103.051%	427.950	104.569%	7.930	-0.135	105.976%
σ		1.094	0.511	14.006	3.180%	120.332	3.775%	9.472	3.892	4.971%
%RSD		14.348	39.307	7.465	3.085	28.118	3.610	119.435	2883.081	4.690

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:46:32	77.729	-10.272	65.105	101.639%	927.568	539.264	102.658%	16.954
2	10:46:54	83.145	72.491	51.028	112.372%	1986.689	454.257	109.871%	-9.448
3	10:47:16	51.685	149.317	100.451	110.545%	1807.656	562.397	110.027%	-3.398
x		70.853	70.512	72.195	108.185%	1573.971	518.640	107.519%	1.369
σ		16.820	79.813	25.462	5.742%	566.913	56.944	4.210%	13.832
%RSD		23.739	113.190	35.269	5.308	36.018	10.979	3.915	1010.028

lcs 500-487972/2-a, 5/31/2019 10:50:41 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:50:41	560.904	74.580	772.105	918797.340	514505.190	61153.483	1120303.200	64675.216	108.162%
2	10:51:02	532.332	69.026	703.412	904318.400	534651.840	58110.187	1100840.100	62443.783	113.968%
3	10:51:24	585.373	103.413	838.444	1028622.400	595389.500	62391.541	1213722.300	68871.183	102.502%
x		559.536	102.293%	98.191%	94.290%	96.885%	94.954%	96.368%	89.311%	108.211%
σ		26.547	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.733%
%RSD		4.744	22.420	8.754	7.151	7.681	3.639	5.270	4.995	5.298

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:50:41	44570.716	634231.630	321500.150	90823.603	635492.380	1458101.500	392099.470	598605.340	258678.280
2	10:51:02	43770.536	616679.180	316318.460	86334.128	619336.950	1364727.000	375725.310	552982.160	241879.060
3	10:51:24	49026.566	700195.870	355359.240	97539.629	682800.450	1578760.600	413143.100	553805.220	233941.310
x		92.835%	91.234%	93.099%	94.273%	96.011%	95.707%	99.498%	95.578%	99.423%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		6.185	6.771	6.405	6.159	5.106	7.314	4.765	4.592	5.159

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:50:41	37289.475	4525.642	2503323.400	100.113%	1311098.300	94.256%	232286.730	43835.103	97.991%
2	10:51:02	35379.798	4248.077	2424662.500	108.656%	1236842.800	101.600%	218979.090	41097.184	106.252%
3	10:51:24	35045.173	4319.761	2450216.200	107.594%	1267003.800	102.156%	225491.710	41873.100	105.538%
x		96.433%	99.162%	100.060%	105.454%	93.567%	99.337%	98.857%	99.051%	103.260%
σ		n/a	n/a	n/a	4.656%	n/a	4.409%	n/a	n/a	4.578%
%RSD		3.372	3.301	1.632	4.415	2.937	4.439	2.950	3.338	4.433

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:50:41	1970558.500	1279551.800	1700608.300	103.306%	31001.969	40274.862	T 2975.177%	-14.844
2	10:51:02	1924631.000	1217091.200	1652591.600	110.655%	29907.786	39569.722	T 3119.163%	-14.661
3	10:51:24	1939824.900	1227284.100	1651055.600	112.658%	29855.523	39505.303	T 3196.734%	-14.056
x		97.450%	96.221%	386.839%	108.873%	3.059%	3.123%	T 3097.025%	-14.520
σ		n/a	n/a	n/a	4.924%	n/a	n/a	T 112.425%	0.412
%RSD		1.203	2.699	1.689	4.523	2.140	1.073	T 3.630	2.839

500-163871-b-9-a @5, 5/31/2019 10:54:49 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:54:49	18.104	1.810	13.613	314579.950	1573976.300	614937.850	280436.220	465353.350	110.470%
2	10:55:10	0.000	0.572	18.504	299978.980	1467740.900	561833.590	251576.980	431369.580	116.563%
3	10:55:32	40.514	0.579	13.688	285501.440	1428026.300	562989.780	247948.960	421971.740	115.186%
x		19.540	0.987	15.268	300020.120	1489914.500	579920.400	259987.390	439564.890	114.073%
σ		20.295	0.713	2.803	14539.299	75459.281	30331.505	17801.878	22822.432	3.195%
%RSD		103.867	72.244	18.356	4.846	5.065	5.230	6.847	5.192	2.801

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:54:49	5249.033	60973.221	69790.601	┬3272033.200	┬838197.590	34345.498	30623.293	86076.260	65800.698
2	10:55:10	5073.714	56299.420	67177.253	┬2978804.800	┬781724.380	31862.394	29641.954	80989.281	61303.643
3	10:55:32	4754.078	56417.632	66069.736	┬3034849.300	798472.470	32766.315	29168.801	81707.043	61084.061
x		5025.608	57896.757	67679.197	┬3095229.100	┬806131.480	32991.402	29811.349	82924.194	62729.467
σ		250.960	2664.951	1910.542	┬155659.930	┬29005.193	1256.761	741.895	2753.259	2662.029
%RSD		4.994	4.603	2.823	┬5.029	┬3.598	3.809	2.489	3.320	4.244

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:54:49	6194.919	58.397	81439.587	191.414%	4203.419	93.480%	245.245	343.497	97.066%
2	10:55:10	6002.540	52.589	78493.463	196.942%	4361.820	99.735%	256.342	394.261	103.059%
3	10:55:32	5856.316	50.235	76588.417	199.930%	4699.749	100.617%	205.186	368.980	102.772%
x		6017.925	53.740	78840.489	196.095%	4421.663	97.944%	235.591	368.913	100.966%
σ		169.824	4.201	2444.133	4.321%	253.519	3.891%	26.910	25.382	3.381%
%RSD		2.822	7.817	3.100	2.204	5.734	3.972	11.422	6.880	3.348

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:54:49	1191.892	501.331	101424.820	104.019%	8131.631	238177.870	97.389%	15776.399
2	10:55:10	1322.178	530.473	95659.573	111.429%	8624.155	220160.740	104.636%	15455.010
3	10:55:32	1170.193	525.774	94542.106	113.331%	9199.459	220509.420	105.814%	15667.813
x		1228.088	519.193	97208.832	109.593%	8651.748	226282.670	102.613%	15633.074
σ		82.204	15.646	3693.654	4.920%	534.449	10303.014	4.562%	163.487
%RSD		6.694	3.014	3.800	4.489	6.177	4.553	4.446	1.046

mb 500-487234/1-a, 5/31/2019 10:58:57 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	10:58:57	0.000	0.000	-2.229	2193.246	411.036	673.833	927.702	544.326	106.715%
2	10:59:18	0.000	0.585	-0.034	2115.341	434.916	483.151	-628.175	567.131	113.939%
3	10:59:40	0.000	0.000	1.540	2118.453	296.767	547.928	-180.410	550.013	110.556%
x		0.000	0.195	-0.241	2142.347	380.906	568.304	39.706	553.824	110.403%
σ		0.000	0.338	1.893	44.108	73.838	96.960	800.954	11.870	3.614%
%RSD		0.000	173.205	785.560	2.059	19.385	17.061	2017.223	2.143	3.274

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	10:58:57	7.476	49.279	2032.982	2553.923	777.929	171.349	499.544	546.061	2568.354
2	10:59:18	4.865	16.414	1875.010	2355.212	721.383	138.276	385.947	526.850	2714.275
3	10:59:40	3.094	2.872	1806.874	2441.665	749.897	144.882	415.596	479.128	2355.713
x		5.145	22.855	1904.955	2450.267	749.736	151.502	433.696	517.346	2546.114
σ		2.204	23.864	115.991	99.634	28.274	17.502	58.922	34.463	180.313
%RSD		42.844	104.416	6.089	4.066	3.771	11.553	13.586	6.662	7.082

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	10:58:57	10.618	0.436	710.087	101.828%	210.826	100.042%	23.093	-2.233	104.246%
2	10:59:18	14.186	-1.073	667.067	106.447%	280.881	105.407%	34.444	3.916	107.710%
3	10:59:40	8.869	-0.195	664.100	105.004%	425.129	108.809%	15.712	9.949	108.426%
x		11.224	-0.277	680.418	104.426%	305.612	104.753%	24.417	3.877	106.794%
σ		2.710	0.758	25.737	2.363%	109.271	4.420%	9.436	6.091	2.235%
%RSD		24.144	273.240	3.783	2.263	35.755	4.220	38.645	157.102	2.093

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	10:58:57	131.412	216.197	145.241	100.763%	301.975	851.944	101.932%	69.508
2	10:59:18	168.105	187.139	199.928	109.046%	1225.334	874.527	106.610%	103.298
3	10:59:40	164.541	228.220	152.087	112.240%	1124.030	864.947	111.321%	50.360
x		154.686	210.518	165.752	107.350%	883.780	863.806	106.621%	74.389
σ		20.235	21.121	29.795	5.924%	506.397	11.335	4.694%	26.804
%RSD		13.081	10.033	17.975	5.518	57.299	1.312	4.403	36.033

lcs 500-487234/2-a, 5/31/2019 11:03:03 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:03:03	190.193	101.209	892.730	1132317.000	594542.280	69308.839	1302469.700	76056.970	98.147%
2	11:03:24	137.059	77.468	846.235	989638.670	563680.790	64320.192	1196660.400	65937.547	111.875%
3	11:03:47	113.764	86.587	843.134	1070083.800	579155.350	64453.123	1197105.300	68295.962	105.483%
x		147.005	109.849%	109.569%	105.541%	102.354%	103.540%	103.701%	95.828%	105.168%
σ		39.173	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.869%
%RSD		26.648	13.545	3.228	6.723	2.664	4.305	4.948	7.553	6.532

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:03:03	50983.616	739031.610	374650.260	106102.360	725070.300	1625769.100	427081.790	609214.210	261344.750
2	11:03:24	45670.045	672364.430	347621.200	96871.075	679574.770	1501754.800	398546.000	576107.600	248986.600
3	11:03:47	48677.199	702632.090	364716.320	102960.050	677567.170	1554915.100	409667.770	586427.920	252320.470
x		98.217%	98.852%	101.893%	104.992%	103.175%	101.814%	104.075%	99.297%	103.234%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.500	4.737	3.773	4.602	3.871	3.986	3.493	2.868	2.515

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:03:03	38588.990	4752.654	2590069.900	100.928%	1382787.000	94.374%	234943.260	44290.919	99.932%
2	11:03:24	36221.837	4430.779	2567824.800	106.328%	1328783.800	103.196%	216277.440	40794.001	110.610%
3	11:03:47	37474.022	4478.399	2642484.700	103.084%	1392906.400	100.719%	221104.180	40662.114	108.910%
x		100.525%	103.466%	105.786%	103.447%	100.669%	99.430%	98.209%	98.225%	106.484%
σ		n/a	n/a	n/a	2.718%	n/a	4.550%	n/a	n/a	5.737%
%RSD		3.164	3.815	1.474	2.628	2.520	4.576	4.323	4.910	5.388

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:03:03	2075693.300	1290267.300	443718.700	101.615%	992210.180	1300942.400	97.099%	1212171.700
2	11:03:24	1944533.300	1214442.100	439583.560	109.242%	955354.180	1252060.900	104.361%	1166757.100
3	11:03:47	1989161.100	1232731.600	427335.550	111.180%	923606.320	1221711.100	108.606%	1145347.000
x		100.363%	96.570%	101.315%	107.346%	96.752%	98.776%	103.355%	1174758.600
σ		n/a	n/a	n/a	5.057%	n/a	n/a	5.819%	34123.375
%RSD		3.329	3.176	1.950	4.711	3.587	3.177	5.630	2.905

500-164061-a-1-a @10, 5/31/2019 11:07:12 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:07:12	0.000	0.199	14.974	T 1212191.300	25919.117	32342.387	316246.290	1646.994	334.261%
2	11:07:34	0.000	0.000	19.798	T 1258272.600	25667.974	33885.175	325323.870	1775.755	321.579%
3	11:07:56	0.000	0.000	19.946	T 1355315.000	27387.678	34775.887	342116.360	1928.895	304.403%
x		0.000	0.066	18.239	T 1275259.700	26324.923	33667.816	327895.500	1783.881	320.081%
σ		0.000	0.115	2.829	T 73058.309	928.900	1231.225	13125.362	141.127	14.986%
%RSD		0.000	173.205	15.511	T 5.729	3.529	3.657	4.003	7.911	4.682

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:07:12	12470.286	-314.215	1453.940	189566.370	T 2063179.100	1535.563	6521.850	27750.099	18794.561
2	11:07:34	13448.181	-303.946	1549.927	196894.650	T 2104485.000	1559.254	6634.976	24834.374	17158.003
3	11:07:56	13933.609	-321.269	1622.988	204297.900	T 2196658.900	1766.243	7108.523	24723.274	16882.782
x		13284.025	-313.143	1542.285	196919.640	T 2121441.000	1620.353	6755.116	25769.249	17611.782
σ		745.345	8.711	84.783	7365.799	T 68336.266	126.898	311.242	1716.366	1033.519
%RSD		5.611	2.782	5.497	3.741	T 3.221	7.832	4.608	6.661	5.868

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:07:12	73.854	-1.376	43163.158	102.524%	46328.985	89.315%	142616.100	16403.218	91.103%
2	11:07:34	81.381	3.536	42365.269	107.976%	47587.595	97.918%	123125.170	14337.582	105.375%
3	11:07:56	49.661	0.560	40291.980	107.968%	44778.832	97.518%	134918.900	14852.578	98.856%
x		68.299	0.907	41940.136	106.156%	46231.804	94.917%	133553.390	15197.793	98.445%
σ		16.574	2.474	1482.049	3.145%	1406.901	4.855%	9816.953	1075.218	7.145%
%RSD		24.266	272.868	3.534	2.963	3.043	5.115	7.351	7.075	7.258

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:07:12	306.050	731.616	4132.915	96.014%	1108.182	3498.623	89.203%	136364.720
2	11:07:34	212.232	699.883	4156.050	103.148%	2643.650	3397.049	99.689%	119234.090
3	11:07:56	275.216	827.475	3553.283	107.669%	2916.312	2909.044	101.182%	123324.360
x		264.499	752.991	3947.416	102.277%	2222.715	3268.239	96.691%	126307.720
σ		47.818	66.427	341.526	5.876%	974.794	315.190	6.528%	8946.507
%RSD		18.079	8.822	8.652	5.745	43.856	9.644	6.751	7.083

500-163905-f-1-a, 5/31/2019 11:11:20 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:11:20	13.103	0.000	120.614	TM 20212630.000	T 3587928.000	355.640	541952.720	884339.220	101.757%
2	11:11:43	0.000	0.000	126.984	TM 21994456.000	T 3747723.200	336.987	553617.740	935523.080	103.190%
3	11:12:04	12.905	0.000	143.761	TM 20507788.000	T 3598396.500	347.250	529673.370	894984.690	103.319%
x		8.669	0.000	130.453	TM 20904958.000	T 3644682.600	346.626	541747.940	904949.000	102.755%
σ		7.509	0.000	11.957	TM 955004.700	T 89389.209	9.342	11973.500	27007.639	0.867%
%RSD		86.610	0.000	9.166	TM 4.568	T 2.453	2.695	2.210	2.984	0.844

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:11:20	18.902	349.167	583.756	95735.240	382401.590	499.132	689.315	316.230	3492.579
2	11:11:43	12.138	321.021	633.024	101079.790	401286.450	571.722	798.644	359.957	3511.767
3	11:12:04	14.270	276.860	530.676	99109.269	398363.700	646.278	720.056	349.275	3519.628
x		15.104	315.683	582.485	98641.435	394017.250	572.377	736.005	341.820	3507.991
σ		3.458	36.448	51.186	2702.817	10165.051	73.575	56.383	22.797	13.914
%RSD		22.895	11.546	8.787	2.740	2.580	12.854	7.661	6.669	0.397

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:11:20	2984.804	0.912	579808.990	97.388%	6289.974	91.018%	26.199	8.303	95.020%
2	11:11:43	2974.941	0.733	578924.550	101.463%	6206.293	94.214%	17.160	-5.562	102.400%
3	11:12:04	2975.698	0.160	557597.430	105.267%	5973.833	94.369%	10.622	0.948	102.544%
x		2978.481	0.601	572110.320	101.373%	6156.700	93.200%	17.993	1.230	99.988%
σ		5.489	0.393	12576.310	3.940%	163.802	1.891%	7.822	6.937	4.303%
%RSD		0.184	65.349	2.198	3.887	2.661	2.029	43.471	564.163	4.304

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:11:20	290.345	388.196	51095.103	100.475%	393.153	940.414	91.696%	42330.412
2	11:11:43	275.686	586.679	48972.153	108.798%	1507.359	945.705	97.086%	42034.524
3	11:12:04	324.457	429.662	49725.273	107.730%	1639.203	845.670	98.722%	42565.810
x		296.830	468.179	49930.843	105.668%	1179.905	910.596	95.835%	42310.249
σ		25.024	104.698	1076.301	4.529%	684.529	56.290	3.676%	266.216
%RSD		8.430	22.363	2.156	4.286	58.016	6.182	3.836	0.629

500-163905-f-2-a @100, 5/31/2019 11:15:28 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:15:28	0.000	0.000	1.072	T 7862150.700	30038.694	1093.696	25033.949	5241.275	100.998%
2	11:15:51	0.000	0.000	-0.750	T 6903161.200	25454.570	944.439	19480.799	4724.090	112.721%
3	11:16:12	0.000	0.000	3.100	T 6959102.500	26530.753	1026.856	20654.784	4605.980	109.481%
x		0.000	0.000	1.140	T 7241471.500	27341.339	1021.664	21723.177	4857.115	107.733%
σ		0.000	0.000	1.926	T 538251.250	2397.151	74.764	2926.682	337.893	6.054%
%RSD		0.000	0.000	168.858	T 7.433	8.767	7.318	13.473	6.957	5.619

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:15:28	30.068	136.196	113.402	4260.530	2209.000	62.906	41.908	712.692	-88.970
2	11:15:51	36.493	121.573	63.517	3832.717	1830.081	49.212	-14.683	621.525	-68.792
3	11:16:12	31.570	195.470	33.607	3961.760	2018.453	48.990	-7.415	547.717	-56.226
x		32.710	151.080	70.175	4018.336	2019.178	53.703	6.603	627.311	-71.330
σ		3.361	39.132	40.312	219.446	189.461	7.971	30.790	82.640	16.519
%RSD		10.274	25.902	57.445	5.461	9.383	14.843	466.282	13.174	23.159

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:15:28	19.794	5.048	6171.372	98.050%	628.889	93.516%	4.868	-2.475	96.973%
2	11:15:51	21.944	4.701	5780.019	105.139%	557.679	100.048%	4.505	-2.450	99.600%
3	11:16:12	21.165	0.688	5923.571	104.995%	666.466	100.333%	3.690	-2.488	106.056%
x		20.968	3.479	5958.320	102.728%	617.678	97.966%	4.354	-2.471	100.876%
σ		1.089	2.423	197.977	4.052%	55.253	3.856%	0.603	0.019	4.674%
%RSD		5.193	69.653	3.323	3.944	8.945	3.936	13.851	0.781	4.634

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:15:28	-20.619	89.412	490.676	99.186%	81.424	1044.282	93.149%	108764.900
2	11:15:51	-41.859	43.991	504.206	105.527%	556.305	1161.815	101.260%	103068.490
3	11:16:12	-28.853	128.912	527.618	105.885%	680.781	1072.980	104.656%	100502.390
x		-30.443	87.438	507.500	103.532%	439.503	1093.026	99.688%	104111.930
σ		10.709	42.495	18.690	3.769%	316.290	61.277	5.912%	4228.926
%RSD		35.177	48.600	3.683	3.640	71.965	5.606	5.931	4.062

500-163905-f-3-a @100, 5/31/2019 11:19:36 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:19:36	0.000	0.000	3.531	T 5058523.700	31450.657	939.034	19257.224	5823.168	101.284%
2	11:19:59	0.000	0.000	3.886	T 4938611.600	29151.949	1015.107	17579.202	5876.707	109.022%
3	11:20:20	0.000	0.000	0.698	T 4718374.200	26573.362	854.098	13698.787	5465.007	113.896%
x		0.000	0.000	2.705	T 4905169.800	29058.656	936.079	16845.071	5721.627	108.068%
σ		0.000	0.000	1.747	T 172523.030	2439.985	80.545	2851.011	223.846	6.360%
%RSD		0.000	0.000	64.590	T 3.517	8.397	8.605	16.925	3.912	5.885

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:19:36	23.392	445.721	219.559	2695.230	864.718	38.560	-24.381	780.309	-48.121
2	11:19:59	23.562	290.517	143.326	2514.217	799.156	37.017	5.302	715.398	-83.421
3	11:20:20	26.330	283.969	146.886	2150.871	704.279	66.141	-13.851	750.379	-53.967
x		24.428	340.069	169.924	2453.439	789.384	47.239	-10.977	748.695	-61.836
σ		1.649	91.556	43.023	277.222	80.664	16.388	15.049	32.488	18.920
%RSD		6.752	26.923	25.319	11.299	10.219	34.691	137.095	4.339	30.598

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:19:36	39.424	2.032	6593.187	98.084%	567.478	91.753%	4.624	-2.434	98.722%
2	11:19:59	32.993	2.266	6448.448	104.282%	485.965	100.589%	3.605	-2.384	106.778%
3	11:20:20	50.605	2.961	6261.412	104.095%	640.646	101.961%	-8.882	-2.481	103.000%
x		41.008	2.420	6434.349	102.154%	564.696	98.101%	-0.218	-2.433	102.833%
σ		8.912	0.483	166.336	3.525%	77.378	5.540%	7.521	0.049	4.030%
%RSD		21.734	19.973	2.585	3.451	13.703	5.647	3453.992	2.010	3.919

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:19:36	-25.556	193.929	379.244	98.481%	-55.687	903.575	93.547%	98334.626
2	11:19:59	-49.024	171.002	452.850	102.889%	380.415	751.409	102.892%	93486.628
3	11:20:20	-37.195	84.218	385.623	108.434%	525.309	817.685	103.397%	94665.985
x		-37.258	149.716	405.906	103.268%	283.346	824.223	99.945%	95495.746
σ		11.734	57.870	40.780	4.987%	302.417	76.294	5.547%	2528.270
%RSD		31.493	38.653	10.047	4.829	106.731	9.256	5.550	2.648

ccv, 5/31/2019 11:23:45 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:23:45	412.895	456.321	261.168	T 2849676.300	1612483.100	887866.820	T 3303350.800	194665.800	93.650%
2	11:24:07	280.445	365.190	193.624	T 2375950.900	1360394.500	774012.700	T 2763886.200	167355.430	109.352%
3	11:24:28	290.574	389.751	234.652	T 2501261.900	1372236.100	808212.730	T 2956318.300	173855.810	105.540%
x		327.971	100.320%	117.024%	T 102.193%	102.393%	103.292%	T 101.266%	97.678%	102.847%
σ		73.720	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	8.190%
%RSD		22.478	11.678	14.808	T 9.530	9.821	7.095	T 9.090	7.987	7.963

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:23:45	13453.663	389917.380	475543.660	2717889.200	358030.440	842839.930	215193.020	598305.120	128423.850
2	11:24:07	11584.456	332829.510	415024.650	2286600.900	317465.760	719888.740	187019.660	563210.830	119471.340
3	11:24:28	11777.388	339808.960	438088.830	T 2414544.100	T 337191.720	745431.110	193973.100	572210.460	121668.320
x		99.522%	99.370%	99.637%	T 101.845%	T 100.359%	100.376%	100.458%	97.166%	100.050%
σ		n/a	n/a	n/a	T n/a	T n/a	n/a	n/a	n/a	n/a
%RSD		8.377	8.792	6.896	T 8.957	T 6.009	8.433	7.385	3.154	3.787

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:23:45	97221.009	11946.682	665040.570	93.875%	366090.830	90.492%	239397.590	215320.460	96.085%
2	11:24:07	90934.061	10781.248	601814.590	105.581%	323747.040	98.072%	230703.830	214508.950	100.183%
3	11:24:28	90498.590	10986.124	597813.270	105.989%	324414.750	98.675%	240770.350	217512.930	99.756%
x		99.788%	102.132%	101.152%	101.815%	99.504%	95.746%	103.840%	101.132%	98.675%
σ		n/a	n/a	n/a	6.879%	n/a	4.560%	n/a	n/a	2.253%
%RSD		4.050	5.537	6.067	6.756	7.175	4.763	2.304	0.720	2.283

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:23:45	516812.940	648035.830	231031.410	96.998%	2485030.000	3194563.900	94.874%	3058780.500
2	11:24:07	483268.030	647606.190	204182.110	108.487%	2370259.500	3073955.600	100.628%	2952703.200
3	11:24:28	485135.600	663649.330	207028.850	110.243%	2335599.200	3055595.400	103.692%	2997558.200
x		99.218%	101.250%	99.293%	105.243%	96.927%	97.597%	99.731%	3003014.000
σ		n/a	n/a	n/a	7.194%	n/a	n/a	4.477%	53248.658
%RSD		3.808	1.400	6.889	6.835	3.263	2.429	4.489	1.773

ccb, 5/31/2019 11:27:55 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:27:55	0.000	0.000	2.826	-24.558	73.880	34.989	2274.897	23.466	98.921%
2	11:28:16	0.000	0.000	0.917	-123.542	24.159	-4.698	833.369	-18.597	105.984%
3	11:28:39	0.000	0.000	4.069	-40.662	24.241	14.260	55.636	-28.151	105.855%
x		0.000	0.000	2.604	-62.921	40.760	14.850	1054.634	-7.761	103.587%
σ		0.000	0.000	1.588	53.114	28.683	19.850	1126.054	27.462	4.041%
%RSD		0.000	0.000	60.988	84.413	70.370	133.668	106.772	353.859	3.901

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:27:55	-2.936	61.625	11.146	99.427	-68.751	46.505	-44.486	50.416	-177.811
2	11:28:16	-0.840	47.411	25.832	39.713	-57.029	34.225	-32.953	39.043	-198.198
3	11:28:39	-2.936	102.776	-7.280	28.366	-65.312	21.686	-53.836	53.579	-165.774
x		-2.237	70.604	9.899	55.836	-63.698	34.139	-43.758	47.679	-180.595
σ		1.211	28.754	16.591	38.176	6.025	12.410	10.461	7.645	16.390
%RSD		54.106	40.726	167.605	68.371	9.459	36.351	23.906	16.034	9.076

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:27:55	0.894	1.855	283.830	99.986%	175.644	98.654%	11.425	18.088	98.490%
2	11:28:16	8.569	0.845	206.169	106.235%	275.269	107.559%	-8.882	-2.274	105.290%
3	11:28:39	11.945	0.142	322.790	102.719%	416.247	106.587%	33.212	3.681	110.864%
x		7.136	0.947	270.929	102.980%	289.053	104.267%	11.918	6.498	104.881%
σ		5.663	0.861	59.371	3.133%	120.892	4.885%	21.051	10.469	6.197%
%RSD		79.356	90.944	21.914	3.042	41.824	4.685	176.633	161.112	5.909

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:27:55	-20.173	-15.195	-7.020	101.436%	2389.983	110.465	98.439%	119.933
2	11:28:16	-11.649	29.340	16.991	107.655%	4626.854	-10.638	105.026%	67.004
3	11:28:39	14.558	34.362	-1.554	107.465%	5248.455	-6.623	109.715%	51.324
x		-5.755	16.169	2.806	105.519%	4088.431	31.068	104.393%	79.420
σ		18.100	27.278	12.585	3.537%	1503.376	68.789	5.664%	35.950
%RSD		314.516	168.703	448.525	3.352	36.771	221.415	5.426	45.266

ccvl, 5/31/2019 11:32:04 AM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:32:04	12.837	3.851	55.540	21181.928	12066.804	3296.221	62950.609	1411.397	103.863%
2	11:32:26	11.683	2.337	41.583	18833.261	11274.294	2920.671	57377.739	1349.920	114.125%
3	11:32:48	6.176	2.470	41.774	20043.521	11239.648	3257.905	59937.046	1414.447	107.947%
x		10.232	179.273%	117.880%	99.289%	101.863%	99.052%	101.150%	95.143%	108.645%
σ		3.560	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.166%
%RSD		34.792	29.054	17.286	5.867	4.059	6.543	4.642	2.616	4.755

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:32:04	258.094	6702.548	9174.962	9272.624	3388.551	3302.908	1629.364	4256.242	9348.459
2	11:32:26	242.412	6434.440	8412.540	8962.803	3029.569	2849.012	1483.469	4174.658	9269.636
3	11:32:48	252.336	6836.576	8929.386	9664.820	3235.849	3004.507	1612.478	4382.610	9170.032
x		101.756%	93.397%	99.426%	95.750%	95.672%	99.548%	99.528%	89.766%	94.036%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.161	3.075	4.403	3.783	5.598	7.558	5.067	2.453	0.965

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:32:04	372.173	119.685	10185.243	99.824%	5299.909	98.243%	2412.985	496.624	99.661%
2	11:32:26	364.512	99.403	9783.348	105.946%	4978.122	107.166%	2218.092	382.682	108.383%
3	11:32:48	352.368	108.151	9829.043	104.689%	5471.794	106.181%	2219.186	403.889	109.227%
x		97.499%	99.132%	101.026%	103.487%	96.572%	103.864%	100.065%	100.234%	105.757%
σ		n/a	n/a	n/a	3.233%	n/a	4.892%	n/a	n/a	5.296%
%RSD		2.751	9.326	2.215	3.124	4.773	4.710	4.914	14.167	5.008

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:32:04	9777.691	7432.056	2175.946	100.189%	19257.452	6173.113	97.803%	119323.670
2	11:32:26	8976.669	7151.415	2063.035	110.101%	19080.262	5538.457	105.481%	113095.590
3	11:32:48	9293.783	6973.089	2130.307	109.137%	20389.762	5913.457	105.555%	111480.810
x		93.686%	92.831%	98.472%	106.476%	98.950%	92.242%	102.947%	114633.360
σ		n/a	n/a	n/a	5.466%	n/a	n/a	4.454%	4141.395
%RSD		4.315	3.220	2.675	5.133	3.629	5.431	4.327	3.613

mb 500-487817/1-a, 5/31/2019 11:36:12 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:36:12	0.000	0.000	1.956	2418.005	166.836	79.012	2350.182	214.918	99.580%
2	11:36:34	0.000	0.596	-0.738	2153.100	155.777	74.034	-605.560	178.038	111.832%
3	11:36:56	0.000	0.000	0.850	2117.602	129.485	57.831	374.196	148.538	108.263%
x		0.000	0.199	0.689	2229.569	150.699	70.292	706.272	180.498	106.558%
σ		0.000	0.344	1.354	164.153	19.186	11.075	1505.593	33.258	6.301%
%RSD		0.000	173.205	196.478	7.363	12.732	15.756	213.174	18.426	5.914

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:36:12	-2.936	101.934	294.310	604.892	162.512	14.876	-22.691	935.120	1359.477
2	11:36:34	-0.949	-13.851	259.695	524.108	146.707	19.891	23.934	790.046	1333.514
3	11:36:56	3.222	52.425	233.117	586.697	82.400	39.412	-6.113	782.497	1339.365
x		-0.221	46.836	262.374	571.899	130.540	24.726	-1.623	835.888	1344.119
σ		3.143	58.095	30.684	42.376	42.432	12.963	23.635	86.021	13.619
%RSD		1420.132	124.039	11.695	7.410	32.505	52.427	1456.101	10.291	1.013

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:36:12	5.736	-1.375	289.052	97.728%	37.624	98.205%	-2.188	-2.139	99.598%
2	11:36:34	10.179	1.666	244.842	104.299%	32.037	106.179%	-2.620	-2.136	106.456%
3	11:36:56	9.849	-1.382	242.160	109.217%	89.337	107.409%	-8.882	4.099	106.331%
x		8.588	-0.364	258.685	103.748%	52.999	103.931%	-4.563	-0.058	104.128%
σ		2.475	1.758	26.333	5.764%	31.593	4.997%	3.746	3.600	3.924%
%RSD		28.825	483.118	10.180	5.556	59.610	4.808	82.094	6168.832	3.768

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:36:12	122.945	17.219	54.537	98.169%	159.922	656.257	98.758%	4.735
2	11:36:34	84.226	46.601	47.808	107.888%	767.385	595.441	107.973%	-3.167
3	11:36:56	63.017	59.325	40.485	109.922%	1128.644	630.716	108.203%	15.290
x		90.062	41.048	47.610	105.326%	685.317	627.471	104.978%	5.620
σ		30.387	21.595	7.028	6.281%	489.548	30.538	5.388%	9.260
%RSD		33.740	52.609	14.762	5.963	71.434	4.867	5.132	164.791

lcs 500-487817/2-a, 5/31/2019 11:40:20 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:40:20	109.770	83.296	850.943	1029844.300	599693.710	65318.529	1196295.300	70374.583	103.247%
2	11:40:42	131.156	96.181	914.347	1047968.500	572301.570	64358.012	1179324.300	69978.751	106.744%
3	11:41:04	128.112	96.999	812.230	1024083.100	563698.710	60037.772	1146320.600	63177.555	109.280%
x		123.013	114.492%	109.375%	102.561%	102.255%	99.166%	98.811%	92.747%	106.424%
σ		11.569	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.029%
%RSD		9.405	8.340	6.000	1.206	3.249	4.448	2.165	5.963	2.846

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:40:20	49226.823	702374.810	354290.620	100649.140	690510.840	1525491.000	413312.230	606106.490	263027.310
2	11:40:42	46626.227	681931.710	353732.280	99262.186	684668.900	1557241.700	397971.180	568419.370	246525.230
3	11:41:04	45969.126	637201.290	346025.420	94030.902	648649.320	1508658.300	393188.810	552926.600	238527.860
x		95.846%	94.526%	98.805%	100.877%	100.282%	99.834%	101.478%	96.815%	101.262%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.644	4.947	1.315	3.562	3.361	1.612	2.619	4.750	5.010

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:40:20	38480.636	4792.351	2647274.500	99.739%	1364035.900	93.398%	253492.690	47178.169	94.242%
2	11:40:42	36191.365	4525.185	2564226.800	105.165%	1324208.000	101.186%	222909.940	39738.914	106.579%
3	11:41:04	35167.719	4380.970	2555736.600	104.910%	1369383.000	103.814%	215033.900	41240.299	109.137%
x		98.336%	103.744%	105.336%	103.272%	99.520%	99.466%	101.001%	100.108%	103.319%
σ		n/a	n/a	n/a	3.061%	n/a	5.417%	n/a	n/a	7.964%
%RSD		4.633	4.571	1.953	2.964	1.825	5.446	8.815	9.209	7.709

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:40:20	2045990.300	1358295.600	445485.110	101.476%	1040129.700	1320473.700	94.693%	1260405.400
2	11:40:42	1935704.900	1216542.300	432608.410	106.922%	955478.690	1236782.900	104.669%	1165726.700
3	11:41:04	1897739.400	1213372.800	434360.160	108.295%	961542.350	1259923.000	106.126%	1152512.400
x		98.192%	97.882%	101.455%	105.564%	99.650%	99.887%	101.829%	1192881.500
σ		n/a	n/a	n/a	3.606%	n/a	n/a	6.223%	58849.492
%RSD		3.929	6.555	1.596	3.416	4.790	3.396	6.111	4.933

500-164124-c-1-a, 5/31/2019 11:44:29 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:44:29	13.168	0.000	170.603	T 3310181.600	506979.630	24481.986	1191719.800	178581.120	101.256%
2	11:44:50	18.102	0.000	172.760	T 3271948.500	498670.530	23928.901	1096395.500	165045.420	110.484%
3	11:45:12	12.074	0.000	170.587	T 3054285.200	439308.790	22752.685	1074356.600	160442.000	110.427%
x		14.448	0.000	171.317	T 3212138.400	481652.980	23721.191	1120824.000	168022.850	107.389%
σ		3.211	0.000	1.250	T 138035.020	36905.736	883.164	62378.648	9428.985	5.312%
%RSD		22.227	0.000	0.730	T 4.297	7.662	3.723	5.565	5.612	4.946

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:44:29	1368.833	2639.005	8642.954	366295.510	177271.950	3186.291	4098.217	61397.867	68942.356
2	11:44:50	1350.811	2252.413	8166.260	333227.890	168323.010	3023.778	3826.106	58981.657	65410.750
3	11:45:12	1222.701	2441.109	7727.517	340587.080	162503.140	2922.685	3493.947	58109.199	65027.035
x		1314.115	2444.176	8178.910	346703.490	169366.030	3044.251	3806.090	59496.241	66460.047
σ		79.678	193.314	457.850	17361.592	7439.447	132.990	302.632	1703.652	2158.287
%RSD		6.063	7.909	5.598	5.008	4.393	4.369	7.951	2.863	3.247

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:44:29	977.537	3.373	657623.450	103.551%	2627.568	93.088%	2875.302	205.257	95.709%
2	11:44:50	910.512	5.182	641795.460	110.924%	2804.240	100.592%	2447.933	225.441	101.772%
3	11:45:12	938.001	2.884	615524.850	114.162%	2921.881	99.374%	2473.651	255.302	102.866%
x		942.017	3.813	638314.590	109.546%	2784.563	97.685%	2598.962	228.667	100.116%
σ		33.692	1.211	21264.066	5.438%	148.140	4.027%	239.662	25.178	3.855%
%RSD		3.577	31.751	3.331	4.964	5.320	4.123	9.221	11.011	3.851

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:44:29	3131.622	3199.262	23490.988	100.309%	1082.052	202939.660	95.148%	1406.933
2	11:44:50	2980.252	3028.332	22264.253	110.361%	2353.435	196551.640	103.278%	1301.419
3	11:45:12	2763.497	2832.859	22334.159	110.703%	2636.693	195030.310	106.015%	1575.602
x		2958.457	3020.151	22696.467	107.124%	2024.060	198173.870	101.480%	1427.985
σ		185.027	183.339	688.963	5.905%	828.006	4196.802	5.652%	138.298
%RSD		6.254	6.071	3.036	5.512	40.908	2.118	5.570	9.685

mb 500-487357/1-a, 5/31/2019 11:48:37 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:48:37	0.000	0.000	-0.559	2952.086	150.685	149.859	1776.575	186.680	99.852%
2	11:48:58	0.000	0.000	2.466	2902.530	140.660	111.876	20.394	182.242	106.514%
3	11:49:20	0.000	0.000	3.131	2403.782	151.037	147.066	-962.244	164.960	108.836%
x		0.000	0.000	1.679	2752.799	147.461	136.267	278.241	177.961	105.067%
σ		0.000	0.000	1.967	303.272	5.892	21.169	1387.497	11.476	4.664%
%RSD		0.000	0.000	117.148	11.017	3.996	15.535	498.666	6.448	4.439

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:48:37	5.966	157.910	753.237	583.083	230.680	495.530	23.772	261.222	2172.918
2	11:48:58	-0.850	110.995	589.316	633.951	192.516	499.259	12.498	192.502	2203.044
3	11:49:20	1.147	-26.522	558.721	703.966	228.141	496.522	32.065	196.611	2049.225
x		2.088	80.794	633.758	640.333	217.112	497.104	22.779	216.778	2141.729
σ		3.504	95.853	104.597	60.694	21.339	1.931	9.821	38.544	81.515
%RSD		167.832	118.639	16.504	9.478	9.829	0.388	43.117	17.780	3.806

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:48:37	4.916	-0.853	158.528	99.290%	150.375	98.793%	11.038	-2.201	100.401%
2	11:48:58	2.758	-2.594	141.722	107.220%	322.014	105.619%	16.704	-2.305	104.222%
3	11:49:20	5.196	-1.595	141.128	110.015%	348.897	106.002%	3.484	-2.318	107.824%
x		4.290	-1.681	147.126	105.508%	273.762	103.471%	10.409	-2.275	104.149%
σ		1.334	0.874	9.879	5.564%	107.698	4.056%	6.633	0.064	3.712%
%RSD		31.098	52.008	6.715	5.273	39.340	3.920	63.722	2.812	3.564

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:48:37	128.118	149.006	73.394	99.759%	153.154	344.662	100.173%	24.415
2	11:48:58	53.863	107.527	91.670	107.302%	905.709	207.267	107.756%	58.726
3	11:49:20	122.339	112.628	121.018	108.608%	994.577	422.255	109.094%	21.150
x		101.440	123.054	95.361	105.223%	684.480	324.728	105.674%	34.764
σ		41.304	22.619	24.025	4.776%	462.282	108.871	4.811%	20.816
%RSD		40.718	18.382	25.194	4.539	67.538	33.527	4.553	59.880

lcs 500-487357/2-a, 5/31/2019 11:52:46 AM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:52:46	151.048	91.285	902.458	1039410.900	590951.020	66055.691	1206202.100	72250.823	101.514%
2	11:53:08	145.897	77.811	807.076	976664.350	557893.820	61734.262	1181017.500	70650.492	109.667%
3	11:53:30	110.275	86.922	837.839	1029538.900	581963.630	63524.003	1206671.400	70635.815	102.774%
x		135.740	106.021%	108.096%	100.700%	101.967%	100.002%	100.830%	97.307%	104.652%
σ		22.204	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.389%
%RSD		16.357	8.056	5.733	3.323	2.963	3.405	1.225	1.304	4.194

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:52:46	48057.961	684679.350	358527.350	100161.850	691480.820	1549238.000	410733.200	625825.350	268744.880
2	11:53:08	45921.007	655716.900	339107.960	94393.321	642558.490	1490724.500	384370.620	566152.660	242500.850
3	11:53:30	46105.460	691489.350	351467.960	99497.389	703754.780	1537103.300	411389.600	574865.980	249484.930
x		94.671%	95.011%	98.341%	100.915%	100.974%	99.523%	101.648%	99.022%	102.974%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.536	2.805	2.811	3.220	4.766	2.024	3.833	5.473	5.360

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:52:46	38962.162	4743.799	2644596.300	97.923%	1366712.900	91.133%	239137.290	45396.757	96.344%
2	11:53:08	35272.168	4430.258	2522885.900	105.080%	1287923.900	100.892%	228199.670	42507.508	102.526%
3	11:53:30	36062.472	4474.595	2521995.500	101.964%	1375352.600	98.654%	216071.300	40363.582	106.559%
x		98.745%	103.366%	104.282%	101.656%	98.842%	96.893%	99.828%	100.194%	101.810%
σ		n/a	n/a	n/a	3.588%	n/a	5.112%	n/a	n/a	5.145%
%RSD		5.285	3.730	2.752	3.530	3.586	5.276	5.065	5.907	5.054

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:52:46	2121502.800	1316725.100	439117.070	101.137%	998139.720	1316159.100	95.853%	1237856.900
2	11:53:08	1895846.300	1264528.200	408457.230	110.524%	929330.450	1232806.300	104.369%	1160951.500
3	11:53:30	1974233.400	1215076.000	418463.160	110.074%	951865.980	1230093.900	105.855%	1148448.700
x		100.065%	98.091%	97.867%	107.245%	97.027%	98.890%	102.026%	1182419.000
σ		n/a	n/a	n/a	5.295%	n/a	n/a	5.397%	48415.852
%RSD		5.736	4.017	3.705	4.937	3.655	3.884	5.290	4.095

500-164003-f-1-a, 5/31/2019 11:56:56 AM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	11:56:56	14.000	0.000	14.396	258536.650	2138063.400	642.899	344341.120	420595.520	95.239%
2	11:57:18	0.000	0.000	11.828	244848.560	1979434.800	561.375	326584.770	387109.530	106.715%
3	11:57:41	6.311	0.000	13.548	233311.580	2026038.100	578.187	309868.800	379691.800	105.640%
x		6.770	0.000	13.257	245565.590	2047845.500	594.154	326931.560	395798.950	102.532%
σ		7.011	0.000	1.309	12627.814	81531.778	43.043	17238.776	21792.386	6.338%
%RSD		103.560	0.000	9.872	5.142	3.981	7.245	5.273	5.506	6.182

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	11:56:56	1.730	138.230	322.080	7075.587	3915.880	450.102	82.219	167.366	4294.246
2	11:57:18	-0.854	-25.693	270.966	6378.643	3764.560	394.173	62.221	145.121	4247.730
3	11:57:41	1.271	-28.345	229.064	6289.177	3503.491	423.548	104.076	85.188	4254.603
x		0.716	28.064	274.036	6581.136	3727.977	422.607	82.839	132.558	4265.526
σ		1.379	95.415	46.584	430.538	208.615	27.976	20.934	42.505	25.108
%RSD		192.613	339.991	16.999	6.542	5.596	6.620	25.271	32.065	0.589

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	11:56:56	72.168	0.366	163035.780	93.273%	842.417	90.238%	18.696	18.111	96.694%
2	11:57:18	74.043	1.959	152800.300	104.936%	1372.154	97.040%	23.728	3.614	102.219%
3	11:57:41	86.728	-0.553	158455.160	100.784%	1483.714	98.011%	10.254	-2.919	104.515%
x		77.646	0.591	158097.080	99.664%	1232.761	95.097%	17.559	6.269	101.143%
σ		7.920	1.271	5127.128	5.911%	342.619	4.235%	6.808	10.763	4.020%
%RSD		10.201	215.059	3.243	5.931	27.793	4.454	38.774	171.699	3.975

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	11:56:56	242.365	110.670	110542.280	97.473%	957.123	679.948	96.103%	1933.987
2	11:57:18	201.695	124.833	103712.560	105.920%	2731.920	535.337	101.395%	1727.014
3	11:57:41	259.512	170.707	103154.550	107.899%	2831.548	464.508	105.174%	1848.271
x		234.524	135.403	105803.130	103.764%	2173.531	559.931	100.890%	1836.424
σ		29.695	31.383	4113.697	5.537%	1054.617	109.806	4.556%	103.994
%RSD		12.662	23.177	3.888	5.336	48.521	19.611	4.516	5.663

500-164003-f-2-a, 5/31/2019 12:01:06 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:01:06	0.000	0.000	15.014	782338.040	T 2886890.200	T -37.179	289692.840	582467.090	106.328%
2	12:01:28	0.000	0.000	6.462	804600.510	T 2990731.800	1931.856	289100.960	602566.420	105.483%
3	12:01:51	0.000	0.000	15.591	773306.470	T 2818653.200	1899.631	279988.310	569002.440	107.561%
x		0.000	0.000	12.355	786748.340	T 2898758.400	T 1264.769	286260.700	584678.650	106.457%
σ		0.000	0.000	5.112	16106.436	T 86651.055	T 1127.636	5440.109	16890.926	1.045%
%RSD		0.000	0.000	41.377	2.047	T 2.989	T 89.157	1.900	2.889	0.982

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:01:06	40.953	365.137	2581.094	23998.789	32280.879	4708.548	2822.159	2509.482	11260.800
2	12:01:28	51.839	417.056	2419.265	24157.911	34188.331	4759.031	2923.742	2310.410	10364.562
3	12:01:51	54.912	350.036	2576.256	23262.671	32137.756	4751.616	2840.080	2485.236	10624.963
x		49.235	377.410	2525.538	23806.457	32868.988	4739.731	2861.994	2435.043	10750.108
σ		7.335	35.155	92.067	477.606	1144.823	27.259	54.221	108.614	461.039
%RSD		14.898	9.315	3.645	2.006	3.483	0.575	1.895	4.460	4.289

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:01:06	195.349	1.248	296145.690	95.997%	837.904	90.322%	61.250	11.434	95.059%
2	12:01:28	225.404	1.929	284022.040	101.904%	799.454	97.500%	90.027	10.618	101.104%
3	12:01:51	211.106	0.607	287970.480	103.110%	1028.762	96.603%	87.451	3.732	103.807%
x		210.620	1.261	289379.400	100.337%	888.707	94.808%	79.576	8.594	99.990%
σ		15.033	0.661	6183.408	3.807%	122.806	3.911%	15.923	4.231	4.479%
%RSD		7.138	52.411	2.137	3.794	13.818	4.125	20.010	49.230	4.480

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:01:06	101.766	156.545	160095.560	99.658%	339.456	1358.160	91.073%	7197.384
2	12:01:28	76.996	180.175	150605.730	108.982%	970.399	1161.032	101.317%	6777.618
3	12:01:51	141.138	243.266	155573.800	107.326%	1191.596	1381.465	102.371%	6199.344
x		106.633	193.329	155425.030	105.322%	833.817	1300.219	98.254%	6724.782
σ		32.347	44.832	4746.664	4.975%	442.184	121.102	6.241%	501.114
%RSD		30.335	23.190	3.054	4.723	53.031	9.314	6.352	7.452

500-164003-f-3-a, 5/31/2019 12:05:15 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:05:15	6.921	0.000	15.073	1030895.300	T 3236171.700	2478.545	278096.580	663547.890	96.328%
2	12:05:38	0.000	0.621	16.398	898942.310	T 2951534.300	2352.247	247532.800	595239.360	107.374%
3	12:06:00	17.748	0.000	11.082	839316.740	T 2750188.000	2013.692	232009.050	585765.550	112.692%
x		8.223	0.207	14.184	923051.450	T 2979298.000	2281.495	252546.140	614850.930	105.465%
σ		8.945	0.358	2.767	98038.383	T 244178.510	240.367	23449.207	42437.993	8.347%
%RSD		108.785	173.205	19.508	10.621	T 8.196	10.536	9.285	6.902	7.915

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:05:15	80.114	602.946	2473.995	211463.670	172051.930	27413.509	2382.550	2819.379	99403.274
2	12:05:38	59.152	542.098	1956.147	190891.310	159802.840	23890.548	2035.760	2511.932	91715.072
3	12:06:00	60.166	376.162	1858.393	177991.990	145886.480	23393.508	2087.741	2520.857	92248.475
x		66.477	507.069	2096.178	193448.990	159247.080	24899.188	2168.684	2617.389	94455.607
σ		11.820	117.380	330.829	16881.788	13091.577	2191.602	187.028	174.985	4293.097
%RSD		17.781	23.149	15.782	8.727	8.221	8.802	8.624	6.685	4.545

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:05:15	1503.700	-0.458	346803.520	94.486%	689.819	88.814%	-1.663	4.705	92.345%
2	12:05:38	1426.604	-1.071	313809.160	107.611%	803.916	97.242%	10.640	10.422	102.446%
3	12:06:00	1340.916	1.638	330469.170	103.653%	720.779	97.780%	10.684	-2.528	102.220%
x		1423.740	0.036	330360.620	101.917%	738.171	94.612%	6.554	4.200	99.004%
σ		81.430	1.421	16497.449	6.732%	59.004	5.028%	7.116	6.490	5.768%
%RSD		5.719	3921.685	4.994	6.606	7.993	5.315	108.576	154.538	5.826

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:05:15	113.408	121.060	174346.570	98.513%	73.535	1450.626	91.626%	4853.285
2	12:05:38	84.432	98.282	167432.400	106.168%	643.156	1189.221	99.742%	5413.413
3	12:06:00	124.097	105.265	163082.900	109.004%	632.526	1387.636	99.455%	4939.470
x		107.312	108.202	168287.290	104.562%	449.739	1342.495	96.941%	5068.722
σ		20.523	11.670	5680.288	5.427%	325.846	136.424	4.605%	301.605
%RSD		19.125	10.785	3.375	5.190	72.452	10.162	4.751	5.950

500-164003-f-4-a, 5/31/2019 12:09:23 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:09:23	0.000	1.306	18.995	1044536.300	T 2318446.900	1455.887	345353.720	548158.490	102.087%
2	12:09:46	6.005	0.000	12.784	962884.910	2189303.300	1278.151	328050.050	512132.470	111.015%
3	12:10:08	0.000	0.000	14.164	972523.050	T 2297271.500	1345.965	337842.130	555173.190	106.758%
x		2.002	0.435	15.314	993314.760	T 2268340.600	1360.001	337081.960	538488.050	106.620%
σ		3.467	0.754	3.261	44620.172	T 69262.329	89.696	8676.844	23092.510	4.466%
%RSD		173.205	173.205	21.296	4.492	T 3.053	6.595	2.574	4.288	4.188

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:09:23	51.484	232.923	905.072	22263.481	24658.078	388.637	421.103	118.250	3471.568
2	12:09:46	35.097	116.524	828.855	21015.029	23445.909	330.401	379.338	51.159	3162.201
3	12:10:08	32.450	65.674	897.327	21704.362	24063.072	366.948	388.964	109.310	3159.479
x		39.677	138.374	877.085	21660.958	24055.686	361.995	396.468	92.906	3264.416
σ		10.310	85.739	41.947	625.357	606.118	29.432	21.870	36.430	179.404
%RSD		25.986	61.962	4.783	2.887	2.520	8.131	5.516	39.211	5.496

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:09:23	437.449	-0.554	334091.910	96.421%	668.039	91.054%	70.331	-2.509	92.578%
2	12:09:46	425.998	-0.030	318290.100	107.118%	540.209	98.496%	86.022	-2.427	105.370%
3	12:10:08	456.638	2.371	318912.730	104.443%	734.094	99.019%	73.417	-2.526	105.308%
x		440.028	0.596	323764.910	102.661%	647.447	96.190%	76.590	-2.487	101.085%
σ		15.482	1.560	8948.860	5.567%	98.569	4.455%	8.313	0.053	7.368%
%RSD		3.518	261.923	2.764	5.423	15.224	4.632	10.854	2.142	7.288

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:09:23	48.555	91.674	209516.000	97.203%	-2.095	1569.821	90.353%	751.874
2	12:09:46	122.164	79.850	199850.180	105.473%	334.549	1403.402	98.894%	827.178
3	12:10:08	73.638	105.285	194874.510	107.963%	490.960	1341.793	102.843%	749.438
x		81.452	92.270	201413.570	103.546%	274.471	1438.339	97.363%	776.163
σ		37.422	12.728	7444.895	5.633%	251.958	117.961	6.384%	44.197
%RSD		45.943	13.794	3.696	5.440	91.798	8.201	6.557	5.694

500-164003-f-5-a, 5/31/2019 12:13:32 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:13:32	0.000	0.000	9.704	1696559.000	T 2848231.300	T 3626.181	471942.390	559904.800	104.752%
2	12:13:54	0.000	0.000	4.334	1493730.600	T 2601981.700	543.753	428654.730	525177.340	114.283%
3	12:14:16	6.216	0.000	5.542	1560981.200	T 2727958.100	529.306	453222.300	536082.030	107.245%
x		2.072	0.000	6.527	1583756.900	T 2726057.000	T 1566.413	451273.140	540388.060	108.760%
σ		3.589	0.000	2.817	103314.540	T 123135.800	T 1783.826	21709.558	17759.662	4.943%
%RSD		173.205	0.000	43.167	6.523	T 4.517	T 113.880	4.811	3.286	4.545

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:13:32	9.792	290.433	3020.174	5799.266	17198.401	9849.803	1801.226	1107.231	12973.217
2	12:13:54	18.453	245.997	2916.706	5656.667	16194.012	9352.431	1578.497	970.198	12404.792
3	12:14:16	11.568	255.407	2949.730	5644.721	17559.266	10010.523	1845.605	945.034	12187.253
x		13.271	263.946	2962.203	5700.218	16983.893	9737.586	1741.776	1007.488	12521.754
σ		4.575	23.416	52.850	85.986	707.453	343.097	143.134	87.292	405.826
%RSD		34.471	8.872	1.784	1.508	4.165	3.523	8.218	8.664	3.241

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:13:32	162.935	-1.456	208163.440	97.032%	725.351	91.758%	4.866	18.097	96.984%
2	12:13:54	150.169	0.482	204690.010	105.267%	670.947	99.090%	10.469	3.948	103.356%
3	12:14:16	153.008	-0.353	200926.200	105.785%	692.622	99.781%	16.726	3.889	104.134%
x		155.371	-0.442	204593.210	102.695%	696.306	96.877%	10.687	8.645	101.491%
σ		6.703	0.972	3619.589	4.911%	27.388	4.446%	5.933	8.186	3.923%
%RSD		4.314	219.872	1.769	4.782	3.933	4.589	55.517	94.691	3.865

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:13:32	119.749	144.382	112123.400	97.729%	15.609	8750.215	91.548%	6343.815
2	12:13:54	80.212	96.449	104883.730	105.091%	408.660	8636.832	99.816%	6057.666
3	12:14:16	85.355	139.722	104725.070	107.176%	400.556	8723.471	100.940%	6029.720
x		95.105	126.851	107244.070	103.332%	274.942	8703.506	97.435%	6143.734
σ		21.496	26.432	4226.368	4.963%	224.625	59.269	5.129%	173.838
%RSD		22.603	20.837	3.941	4.803	81.699	0.681	5.264	2.830

ccv, 5/31/2019 12:17:41 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:17:41	436.196	425.291	228.646	T 2819321.500	1613963.200	883901.760	T 3361760.900	T 191176.750	97.818%
2	12:18:02	303.918	410.292	158.496	T 2368890.000	1392278.600	758008.920	T 2890814.800	T 170315.230	114.068%
3	12:18:25	377.537	416.529	214.389	T 2460427.600	1344981.400	775514.850	T 2881627.600	172914.310	107.718%
x		372.550	103.703%	102.102%	T 101.158%	102.537%	101.090%	T 102.507%	T 97.410%	106.535%
σ		66.280	n/a	n/a	T n/a	n/a	n/a	T n/a	T n/a	8.190%
%RSD		17.791	1.805	18.492	T 9.338	9.901	8.463	T 9.019	T 6.382	7.687

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:17:41	12598.201	370727.640	459048.260	T 2620172.800	354751.710	805606.200	211459.420	629307.710	132144.310
2	12:18:02	11279.015	330178.720	413765.060	2327563.300	315500.900	703943.220	186617.260	568779.610	119670.320
3	12:18:25	11508.180	341148.080	430378.760	2375872.200	319694.330	733114.590	194038.560	557369.760	119496.990
x		95.656%	97.453%	97.728%	T 100.535%	98.105%	97.528%	99.773%	98.384%	100.523%
σ		n/a	n/a	n/a	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.976	6.038	5.273	T 6.426	6.532	7.002	6.461	6.607	5.860

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:17:41	98021.622	11975.840	675940.150	93.926%	359115.560	90.766%	248184.870	226803.090	94.347%
2	12:18:02	90275.827	11172.397	627855.790	103.152%	335336.220	99.235%	229735.520	208152.700	104.461%
3	12:18:25	89043.993	10665.004	611716.340	106.694%	320338.010	100.469%	225211.170	210309.120	105.745%
x		99.318%	102.432%	103.910%	101.257%	99.557%	96.823%	102.709%	100.807%	101.518%
σ		n/a	n/a	n/a	6.591%	n/a	5.282%	n/a	n/a	6.243%
%RSD		5.264	5.864	5.233	6.509	5.781	5.455	5.192	4.743	6.150

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:17:41	526313.870	672377.790	218536.990	99.800%	2480288.900	3218927.100	93.092%	3103531.100
2	12:18:02	484263.930	614879.890	214833.590	106.839%	2405870.200	3083849.600	100.378%	2973806.500
3	12:18:25	482260.750	621648.070	202720.560	111.466%	2363724.700	3067495.300	103.130%	3022629.800
x		99.727%	98.646%	98.342%	106.035%	97.722%	98.080%	98.867%	3033322.500
σ		n/a	n/a	n/a	5.875%	n/a	n/a	5.187%	65520.017
%RSD		4.999	4.939	3.902	5.540	2.442	2.661	5.246	2.160

ccb, 5/31/2019 12:21:51 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:21:51	0.000	0.000	1.796	-76.113	107.331	13.724	1030.653	3.137	103.519%
2	12:22:14	0.000	0.000	1.816	-63.262	47.662	-7.503	942.824	-4.808	103.018%
3	12:22:37	0.000	0.000	1.701	-121.779	59.763	-8.911	-31.202	10.684	106.027%
x		0.000	0.000	1.771	-87.051	71.585	-0.897	647.425	3.005	104.188%
σ		0.000	0.000	0.061	30.754	31.542	12.681	589.347	7.747	1.612%
%RSD		0.000	0.000	3.467	35.328	44.063	1413.953	91.029	257.834	1.547

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:21:51	-2.936	75.518	20.140	127.739	-57.136	41.764	-37.246	149.897	-176.648
2	12:22:14	-0.779	55.038	-10.337	48.333	-54.499	29.082	-49.771	120.305	-176.775
3	12:22:37	-0.840	57.632	-64.454	44.230	-67.548	4.864	-41.373	153.828	-181.357
x		-1.519	62.730	-18.217	73.434	-59.728	25.237	-42.797	141.343	-178.260
σ		1.228	11.151	42.844	47.074	6.899	18.748	6.383	18.325	2.683
%RSD		80.871	17.776	235.187	64.104	11.552	74.289	14.914	12.965	1.505

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:21:51	1.422	0.200	270.703	99.205%	150.548	99.382%	-2.064	4.614	97.780%
2	12:22:14	14.941	0.373	213.055	106.855%	304.571	107.003%	3.491	3.899	107.763%
3	12:22:37	10.291	2.193	210.513	106.167%	294.317	105.769%	21.308	9.800	110.412%
x		8.885	0.922	231.424	104.076%	249.812	104.051%	7.578	6.104	105.318%
σ		6.869	1.104	34.041	4.232%	86.118	4.091%	12.210	3.221	6.661%
%RSD		77.308	119.758	14.709	4.067	34.473	3.931	161.124	52.760	6.325

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:21:51	66.143	53.674	-0.255	100.454%	2331.084	203.527	98.865%	166.552
2	12:22:14	1.488	44.703	15.838	111.105%	4596.162	123.681	108.803%	100.903
3	12:22:37	-9.446	59.105	4.016	110.283%	5600.376	56.756	108.602%	70.426
x		19.395	52.494	6.533	107.280%	4175.874	127.988	105.423%	112.627
σ		40.852	7.273	8.336	5.927%	1674.679	73.480	5.680%	49.124
%RSD		210.633	13.856	127.603	5.524	40.104	57.412	5.388	43.616

500-164003-f-6-a, 5/31/2019 12:26:01 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:26:01	0.000	0.000	29.188	773053.780	1997539.100	165.555	127379.460	274357.130	100.797%
2	12:26:23	0.000	0.000	26.655	664756.630	1737662.200	160.132	114998.970	261990.870	112.520%
3	12:26:46	0.000	0.000	14.462	704189.970	1863618.900	165.433	114572.790	265659.880	109.839%
x		0.000	0.000	23.435	714000.130	1866273.400	163.707	118983.740	267335.960	107.719%
σ		0.000	0.000	7.873	54811.020	129958.760	3.097	7274.027	6351.221	6.142%
%RSD		0.000	0.000	33.595	7.677	6.964	1.892	6.113	2.376	5.702

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:26:01	1.473	60.477	994.100	81928.901	57842.961	11298.402	5440.923	245.245	241417.490
2	12:26:23	10.888	-33.188	824.720	76521.457	54018.213	10262.448	4665.611	171.166	230652.020
3	12:26:46	3.133	20.918	924.606	76899.200	54328.737	10454.432	4859.399	237.862	228830.950
x		5.165	16.069	914.475	78449.853	55396.637	10671.760	4988.644	218.091	233633.490
σ		5.026	47.021	85.143	3018.858	2124.260	551.112	403.492	40.806	6802.362
%RSD		97.307	292.622	9.311	3.848	3.835	5.164	8.088	18.710	2.912

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:26:01	36003.556	0.239	283402.130	96.472%	3066.083	92.735%	5.024	3.107	95.880%
2	12:26:23	34298.045	0.106	262568.410	106.269%	2854.014	101.476%	15.910	-3.697	107.561%
3	12:26:46	34455.254	0.656	274080.530	103.450%	3242.629	100.978%	3.700	-3.890	105.973%
x		34918.952	0.334	273350.360	102.063%	3054.242	98.396%	8.211	-1.494	103.138%
σ		942.578	0.287	10436.036	5.043%	194.578	4.909%	6.700	3.985	6.335%
%RSD		2.699	86.040	3.818	4.942	6.371	4.989	81.595	266.820	6.143

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:26:01	124.183	49.964	323489.400	97.561%	1186.369	274.771	93.870%	2356.846
2	12:26:23	61.852	44.992	304770.400	107.864%	2151.505	315.566	100.653%	2210.232
3	12:26:46	89.265	53.606	308018.910	110.205%	2402.248	311.535	105.346%	2414.915
x		91.767	49.521	312092.900	105.210%	1913.374	300.624	99.956%	2327.331
σ		31.241	4.324	10002.416	6.727%	641.966	22.480	5.770%	105.485
%RSD		34.044	8.731	3.205	6.394	33.552	7.478	5.772	4.532

500-164003-f-7-a, 5/31/2019 12:30:10 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:30:10	19.870	0.662	7.706	T 2359439.900	T 2167342.200	797.336	428965.070	426456.510	100.654%
2	12:30:33	12.206	0.610	6.163	T 2180104.500	T 1998606.000	697.645	389326.010	397659.970	109.237%
3	12:30:54	0.000	0.000	6.748	T 2162391.900	1935720.700	625.127	386427.500	391050.740	111.402%
x		10.692	0.424	6.872	T 2233978.700	T 2033889.600	706.703	401572.860	405055.740	107.098%
σ		10.021	0.368	0.779	T 109012.860	T 119774.100	86.461	23766.574	18825.916	5.684%
%RSD		93.726	86.820	11.339	T 4.880	T 5.889	12.234	5.918	4.648	5.308

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:30:10	32.388	514.046	267.387	2431.735	5248.602	1069.976	1742.656	1605.327	3439.788
2	12:30:33	54.024	559.375	158.598	2233.676	4771.874	1111.110	1612.331	1794.136	3459.552
3	12:30:54	34.965	407.326	266.102	2278.614	5031.578	971.584	1688.351	1821.255	3262.239
x		40.459	493.582	230.696	2314.675	5017.351	1050.890	1681.113	1740.239	3387.193
σ		11.818	78.063	62.441	103.837	238.682	71.694	65.464	117.621	108.664
%RSD		29.211	15.816	27.067	4.486	4.757	6.822	3.894	6.759	3.208

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:30:10	373.427	1.761	399660.470	96.005%	4581.771	91.468%	5.143	2.303	95.065%
2	12:30:33	338.007	1.640	368957.120	105.097%	4028.676	97.747%	10.368	-4.401	103.895%
3	12:30:54	337.170	-0.295	369220.690	105.734%	4205.961	98.352%	29.082	-4.482	105.364%
x		349.535	1.035	379279.430	102.279%	4272.136	95.856%	14.864	-2.193	101.441%
σ		20.696	1.153	17650.992	5.442%	282.423	3.812%	12.587	3.894	5.570%
%RSD		5.921	111.407	4.654	5.321	6.611	3.976	84.676	177.529	5.491

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:30:10	113.290	93.411	108573.190	99.743%	387.215	1600.738	94.353%	21424.236
2	12:30:33	158.288	146.714	102571.000	107.460%	1147.754	1525.651	102.703%	20214.619
3	12:30:54	136.107	143.136	105592.630	109.748%	1419.388	1634.190	103.532%	19633.192
x		135.895	127.754	105578.940	105.650%	984.786	1586.860	100.196%	20424.016
σ		22.500	29.795	3001.120	5.242%	535.037	55.585	5.077%	913.699
%RSD		16.557	23.322	2.843	4.962	54.330	3.503	5.067	4.474

500-164003-h-8-a, 5/31/2019 12:34:18 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:34:18	6.559	0.000	76.479	T 3912627.300	T 2988881.100	128.721	162325.240	622587.380	101.643%
2	12:34:41	0.000	0.635	62.095	T 3695797.500	T 2754734.700	139.827	148683.660	626588.310	104.938%
3	12:35:02	0.000	0.000	84.658	T 3637521.400	T 2692040.400	118.168	142737.490	580599.910	110.298%
x		2.186	0.212	74.411	T 3748648.700	T 2811885.400	128.905	151248.800	609925.200	105.626%
σ		3.787	0.367	11.423	T 144968.110	T 156455.240	10.831	10042.659	25475.114	4.369%
%RSD		173.205	173.205	15.351	T 3.867	T 5.564	8.402	6.640	4.177	4.136

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:34:18	1.436	586.378	241.546	1085.735	714881.690	1199.395	3789.053	1301.374	23089.944
2	12:34:41	9.770	723.040	177.984	1065.240	711075.640	1114.761	3583.570	1149.311	21199.247
3	12:35:02	5.123	582.558	203.923	1031.858	688938.280	1104.341	3441.740	1188.262	21079.276
x		5.443	630.658	207.818	1060.945	704965.200	1139.499	3604.788	1212.982	21789.489
σ		4.176	80.027	31.959	27.194	14009.573	52.133	174.626	78.988	1127.824
%RSD		76.722	12.690	15.378	2.563	1.987	4.575	4.844	6.512	5.176

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:34:18	240.800	3.095	445712.710	93.248%	549.512	89.403%	63.141	11.976	92.563%
2	12:34:41	218.825	2.248	408754.880	106.218%	457.345	96.832%	-2.519	29.436	104.773%
3	12:35:02	218.490	1.380	398431.150	107.518%	544.214	97.531%	-2.306	10.708	101.385%
x		226.038	2.241	417632.910	102.328%	517.024	94.589%	19.439	17.373	99.574%
σ		12.785	0.858	24859.626	7.890%	51.751	4.505%	37.848	10.466	6.303%
%RSD		5.656	38.269	5.953	7.711	10.009	4.762	194.705	60.242	6.330

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:34:18	268.325	120.516	136636.560	98.423%	103.891	690.013	89.780%	12890.895
2	12:34:41	168.009	100.020	130875.810	106.735%	707.548	560.592	98.033%	12519.349
3	12:35:02	206.803	113.614	127474.020	110.406%	926.600	533.008	98.992%	11669.606
x		214.379	111.383	131662.130	105.188%	579.347	594.538	95.602%	12359.950
σ		50.586	10.429	4631.604	6.140%	426.074	83.827	5.064%	626.053
%RSD		23.596	9.363	3.518	5.837	73.544	14.099	5.297	5.065

500-164003-f-9-a, 5/31/2019 12:38:27 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:38:27	0.000	0.000	27.058	T 2721174.400	T 3134086.500	166.624	44276.936	691666.390	105.282%
2	12:38:49	6.173	0.617	20.922	T 2604198.200	T 3095459.300	136.318	39873.271	666043.080	107.990%
3	12:39:10	0.000	0.000	20.308	T 2709516.300	T 3080600.300	T -37.347	41049.859	681849.290	107.231%
x		2.058	0.206	22.763	T 2678296.300	T 3103382.000	T 88.532	41733.356	679852.920	106.834%
σ		3.564	0.356	3.732	T 64435.068	T 27609.249	T 110.062	2280.009	12927.787	1.397%
%RSD		173.205	173.205	16.397	T 2.406	T 0.890	T 124.320	5.463	1.902	1.308

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:38:27	20.282	547.750	665.942	1980.485	903673.780	15084.590	17193.812	1208.228	372911.320
2	12:38:49	7.353	550.032	605.066	2047.879	895135.890	14757.490	17351.280	1145.412	352644.300
3	12:39:10	7.426	479.362	638.891	1942.914	888621.500	15470.401	16899.839	1091.542	339741.440
x		11.687	525.715	636.633	1990.426	895810.390	15104.160	17148.310	1148.394	355099.020
σ		7.444	40.159	30.500	53.184	7548.773	356.858	229.134	58.400	16720.626
%RSD		63.694	7.639	4.791	2.672	0.843	2.363	1.336	5.085	4.709

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:38:27	1713.797	4.950	733392.610	96.625%	735.524	88.781%	12.927	11.986	91.703%
2	12:38:49	1678.151	2.909	706615.590	102.906%	609.763	95.361%	17.343	30.317	101.683%
3	12:39:10	1625.628	4.928	686676.840	106.065%	678.085	97.596%	-2.370	17.024	102.369%
x		1672.526	4.262	708895.010	101.865%	674.457	93.913%	9.300	19.776	98.585%
σ		44.353	1.172	23441.150	4.806%	62.959	4.583%	10.345	9.470	5.969%
%RSD		2.652	27.500	3.307	4.718	9.335	4.880	111.231	47.889	6.055

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:38:27	383.841	151.757	153392.890	94.892%	162.705	496.085	89.891%	5897.105
2	12:38:49	452.438	53.950	138335.520	109.014%	480.827	530.721	97.480%	5368.358
3	12:39:10	302.205	137.516	143015.550	107.059%	650.652	384.966	98.972%	5887.059
x		379.494	114.407	144914.650	103.655%	431.395	470.591	95.447%	5717.507
σ		75.211	52.840	7706.233	7.652%	247.701	76.148	4.870%	302.414
%RSD		19.819	46.186	5.318	7.382	57.419	16.181	5.102	5.289

500-164003-f-12-a, 5/31/2019 12:42:37 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:42:37	13.477	0.000	7.879	1695255.400	T 2988983.800	T 1892.811	487783.330	566349.900	98.935%
2	12:42:58	0.000	0.000	5.119	T 1536153.600	T 2752999.500	567.983	436681.260	531456.190	113.409%
3	12:43:21	0.000	0.000	5.509	T 1565574.600	T 2825742.200	627.917	472237.070	538805.720	107.704%
x		4.492	0.000	6.169	T 1598994.500	T 2855908.500	T 1029.570	465567.220	545537.270	106.682%
σ		7.781	0.000	1.494	T 84652.311	T 120849.710	T 748.189	26195.814	18395.056	7.291%
%RSD		173.205	0.000	24.212	T 5.294	T 4.232	T 72.670	5.627	3.372	6.834

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:42:37	33.002	310.873	3248.490	6228.389	17450.613	12397.441	1822.255	1736.226	3539.298
2	12:42:58	14.699	221.105	3208.625	5423.860	16168.991	11213.992	1803.290	1702.413	3122.260
3	12:43:21	5.317	270.370	3379.400	5642.451	16890.492	12469.795	1725.780	1589.182	3134.363
x		17.673	267.449	3278.838	5764.900	16836.698	12027.076	1783.775	1675.940	3265.307
σ		14.080	44.955	89.341	416.007	642.502	705.080	51.112	77.013	237.360
%RSD		79.672	16.809	2.725	7.216	3.816	5.862	2.865	4.595	7.269

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:42:37	162.714	6.005	207944.630	97.567%	782.598	90.033%	12.006	18.322	95.749%
2	12:42:58	157.906	1.481	206717.020	102.677%	780.067	100.411%	15.821	-2.533	107.950%
3	12:43:21	160.730	1.752	198396.040	106.320%	519.566	100.317%	10.194	16.662	104.843%
x		160.450	3.079	204352.570	102.188%	694.077	96.920%	12.674	10.817	102.848%
σ		2.416	2.537	5194.888	4.397%	151.136	5.965%	2.872	11.591	6.341%
%RSD		1.506	82.395	2.542	4.303	21.775	6.154	22.663	107.154	6.165

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:42:37	58.118	175.513	107460.440	98.975%	-31.048	9056.406	90.177%	6388.739
2	12:42:58	77.291	50.610	101749.800	108.824%	303.426	8586.445	99.554%	5664.921
3	12:43:21	70.851	49.009	102643.860	108.225%	572.169	9254.691	100.206%	5707.850
x		68.753	91.710	103951.370	105.341%	281.515	8965.847	96.646%	5920.503
σ		9.757	72.579	3071.650	5.522%	302.205	343.204	5.611%	406.072
%RSD		14.191	79.139	2.955	5.242	107.349	3.828	5.806	6.859

ccv, 5/31/2019 12:46:46 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:46:46	321.504	431.827	197.922	T 2574609.200	1429469.300	829826.640	T 3073789.300	178765.260	105.755%
2	12:47:09	372.235	402.255	214.657	T 2373504.000	1445615.900	796249.040	T 2999671.100	172168.280	111.043%
3	12:47:30	272.420	412.265	193.005	T 2569485.300	1477610.200	762355.290	T 2897890.400	173010.040	110.126%
x		322.053	103.226%	102.790%	T 99.425%	102.572%	99.877%	T 100.680%	95.503%	108.975%
σ		49.910	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	2.826%
%RSD		15.497	3.620	5.623	T 4.576	1.689	4.237	T 2.953	2.056	2.593

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:46:46	12155.350	341997.600	432476.970	2453010.200	322805.250	768093.220	194833.650	603252.200	127494.820
2	12:47:09	11502.154	327501.190	420778.740	2348978.100	316626.740	718114.420	185182.320	565231.180	120771.920
3	12:47:30	11614.157	335812.520	415900.830	2346796.000	319575.070	736880.790	196136.060	576531.850	124069.800
x		95.348%	94.017%	95.175%	98.135%	95.039%	96.677%	97.083%	97.799%	100.800%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.971	2.171	2.014	2.547	0.967	3.407	3.116	3.357	2.709

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:46:46	94901.075	11631.119	630520.520	98.118%	342227.040	92.976%	244357.340	223413.650	95.226%
2	12:47:09	90825.417	11103.226	606491.330	106.125%	329322.700	99.707%	224658.490	208866.180	102.760%
3	12:47:30	92180.495	10891.354	621315.330	105.275%	331045.770	99.754%	228446.520	208479.280	104.284%
x		99.520%	101.864%	100.808%	103.173%	98.361%	97.479%	101.881%	100.103%	100.757%
σ		n/a	n/a	n/a	4.398%	n/a	3.900%	n/a	n/a	4.850%
%RSD		2.241	3.399	1.957	4.263	2.096	4.001	4.496	3.986	4.813

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:46:46	493327.120	657507.380	219548.260	99.570%	2504394.300	3194779.900	92.326%	3092594.800
2	12:47:09	475051.810	633979.580	209759.890	108.303%	2333533.700	3008197.900	101.063%	2909155.000
3	12:47:30	497750.360	633273.070	202220.290	112.982%	2412339.000	3096095.400	102.010%	2988018.000
x		97.943%	99.466%	97.637%	106.952%	97.727%	97.334%	98.466%	2996589.300
σ		n/a	n/a	n/a	6.807%	n/a	n/a	5.339%	92019.764
%RSD		2.462	2.150	4.127	6.365	3.538	3.011	5.422	3.071

ccb, 5/31/2019 12:50:57 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:50:57	0.000	0.000	6.022	-19.251	93.480	37.495	1994.687	7.176	100.998%
2	12:51:19	0.000	0.000	-0.749	-85.132	77.414	4.045	-390.617	2.780	112.634%
3	12:51:41	0.000	0.000	-1.453	-149.599	54.218	23.501	-354.095	-13.260	107.503%
x		0.000	0.000	1.273	-84.661	75.037	21.680	416.658	-1.101	107.045%
σ		0.000	0.000	4.128	65.175	19.739	16.799	1366.735	10.757	5.832%
%RSD		0.000	0.000	324.175	76.984	26.305	77.486	328.023	976.804	5.448

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:50:57	5.865	111.991	-12.019	111.025	-50.527	32.102	-17.500	167.924	-154.247
2	12:51:19	2.983	84.629	20.438	63.726	-52.380	13.745	-52.087	184.982	-151.769
3	12:51:41	-2.936	-19.509	-54.128	38.219	-66.541	17.037	-23.891	127.003	-150.297
x		1.970	59.037	-15.236	70.990	-56.483	20.961	-31.159	159.970	-152.104
σ		4.487	69.385	37.387	36.943	8.760	9.788	18.403	29.797	1.996
%RSD		227.726	117.529	245.383	52.039	15.510	46.694	59.063	18.626	1.312

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:50:57	12.833	2.885	228.164	99.196%	110.240	99.358%	-8.882	17.965	99.278%
2	12:51:19	13.711	0.376	229.527	110.211%	281.645	106.951%	15.785	3.887	108.107%
3	12:51:41	11.114	-0.138	242.455	105.963%	357.899	107.323%	3.237	-2.310	110.023%
x		12.553	1.041	233.382	105.123%	249.928	104.544%	3.380	6.514	105.803%
σ		1.321	1.617	7.887	5.555%	126.839	4.495%	12.334	10.390	5.731%
%RSD		10.525	155.385	3.379	5.284	50.750	4.300	364.933	159.506	5.417

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:50:57	106.452	44.489	13.179	99.970%	2543.512	113.940	97.353%	135.140
2	12:51:19	51.426	44.210	28.436	109.740%	4955.469	151.719	107.715%	151.594
3	12:51:41	13.484	53.645	15.678	111.600%	5778.241	94.891	105.871%	41.157
x		57.121	47.448	19.097	107.103%	4425.740	120.183	103.646%	109.297
σ		46.745	5.368	8.183	6.247%	1681.169	28.924	5.528%	59.582
%RSD		81.835	11.314	42.849	5.833	37.986	24.067	5.333	54.514

ccvl, 5/31/2019 12:55:06 PM QC Status: WARNING (Initial: WARNING)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:55:06	13.085	0.000	40.297	21262.705	12725.927	3421.903	66010.972	1412.057	101.900%
2	12:55:29	11.941	2.388	42.550	20365.364	12068.310	3143.711	60405.377	1354.525	111.660%
3	12:55:51	12.082	1.208	43.080	20076.165	11840.400	3030.459	56925.134	1190.324	110.355%
x		12.369	74.466%	106.872%	102.009%	107.913%	100.320%	102.876%	90.156%	107.972%
σ		0.624	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.298%
%RSD		5.041	99.610	3.521	3.008	3.765	6.297	7.501	8.724	4.907

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:55:06	239.133	7301.424	9472.282	9919.398	3373.417	3358.035	1621.680	4683.823	9608.279
2	12:55:29	206.035	6890.387	8893.300	9189.281	3235.040	2950.014	1727.959	4326.278	9244.284
3	12:55:51	222.601	6708.751	8762.849	9583.347	3168.040	2835.957	1570.580	4194.854	9205.828
x		90.258%	97.731%	101.719%	98.467%	96.886%	99.413%	103.633%	92.509%	94.951%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		7.435	4.358	4.176	3.821	3.214	9.005	4.895	5.749	2.375

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:55:06	359.129	108.515	10516.538	97.830%	5320.368	98.988%	2636.489	370.892	99.307%
2	12:55:29	313.092	101.959	9980.417	106.261%	5076.246	108.101%	2258.999	364.988	109.956%
3	12:55:51	350.912	100.705	9457.237	109.607%	5394.402	106.600%	2266.692	346.783	109.877%
x		91.598%	94.267%	101.557%	104.566%	96.825%	104.563%	104.621%	84.570%	106.380%
σ		n/a	n/a	n/a	6.069%	n/a	4.886%	n/a	n/a	6.126%
%RSD		7.200	4.043	5.305	5.804	3.163	4.673	9.037	3.482	5.758

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:55:06	9372.694	7835.166	2241.364	99.060%	18681.135	5919.355	97.500%	117181.220
2	12:55:29	9089.190	7102.118	2074.486	110.136%	18940.643	5542.351	106.454%	110234.810
3	12:55:51	9482.159	7028.339	2111.619	111.033%	18876.114	5744.002	107.891%	109542.600
x		93.339%	94.593%	99.371%	106.743%	95.193%	90.047%	103.948%	112319.540
σ		n/a	n/a	n/a	6.668%	n/a	n/a	5.630%	4224.534
%RSD		2.177	6.092	4.090	6.247	0.717	3.289	5.417	3.761

lb 500-487501/1-b, 5/31/2019 12:59:18 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	12:59:18	0.000	0.000	22.346	TM 142695370.000	3304.849	2352.776	81247.254	1146.906	88.165%
2	12:59:40	0.000	0.000	18.705	TM 133437050.000	3299.736	2566.920	75724.904	1047.767	91.559%
3	13:00:02	0.000	0.751	19.360	TM 138125090.000	3316.688	2699.096	79254.890	1031.199	88.781%
x		0.000	0.250	20.137	TM 138085830.000	3307.091	2539.597	78742.349	1075.291	89.502%
σ		0.000	0.434	1.941	TM 4629284.000	8.695	174.769	2796.625	62.571	1.808%
%RSD		0.000	173.205	9.639	TM 3.352	0.263	6.882	3.552	5.819	2.020

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	12:59:18	39.913	2327.047	2739.472	4966.235	1475.092	275.439	670.879	13850.220	9212.205
2	12:59:40	50.460	2155.731	2507.828	4860.084	1424.704	276.925	680.288	13709.447	8791.546
3	13:00:02	74.658	2086.477	2685.386	4863.612	1316.200	250.919	737.967	13871.965	8851.697
x		55.010	2189.751	2644.229	4896.644	1405.332	267.761	696.378	13810.544	8951.816
σ		17.814	123.841	121.182	60.294	81.198	14.605	36.323	88.225	227.500
%RSD		32.383	5.655	4.583	1.231	5.778	5.454	5.216	0.639	2.541

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	12:59:18	61.357	0.803	11039.832	81.987%	900.356	77.442%	55.788	29.715	82.470%
2	12:59:40	68.409	6.921	10836.224	88.082%	773.962	80.357%	30.800	-2.574	84.002%
3	13:00:02	39.245	2.592	10789.480	85.505%	1056.153	80.533%	60.583	-2.704	86.375%
x		56.337	3.439	10888.512	85.191%	910.157	79.444%	49.057	8.146	84.282%
σ		15.216	3.146	133.115	3.060%	141.350	1.736%	15.992	18.680	1.967%
%RSD		27.010	91.474	1.223	3.592	15.530	2.185	32.599	229.321	2.334

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	12:59:18	753.515	164.891	8451.237	89.751%	620.855	7629.365	80.126%	42.726
2	12:59:40	928.462	215.436	8040.250	93.996%	2008.220	7150.688	81.351%	58.238
3	13:00:02	934.401	414.900	8155.993	93.237%	1980.948	7056.429	82.316%	49.275
x		872.126	265.075	8215.827	92.328%	1536.674	7278.827	81.264%	50.080
σ		102.763	132.190	211.926	2.264%	793.240	307.211	1.098%	7.787
%RSD		11.783	49.869	2.579	2.452	51.621	4.221	1.351	15.550

lcs 500-487708/2-a, 5/31/2019 1:03:27 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:03:27	133.379	100.701	977.320	1054960.700	585400.420	63380.208	1198146.500	69139.032	99.966%
2	13:03:48	108.684	90.143	832.112	1024616.800	590450.070	64572.993	1240562.100	69468.123	104.279%
3	13:04:10	89.541	85.064	909.213	998347.640	551130.080	60622.916	1203343.400	65301.425	104.236%
x		110.535	114.257%	115.364%	101.768%	101.741%	98.571%	102.181%	92.919%	102.827%
σ		21.978	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.478%
%RSD		19.883	8.673	8.017	2.761	3.716	3.223	1.906	3.408	2.409

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:03:27	47228.588	681749.050	345973.300	96683.515	674284.020	1522271.700	395340.590	588722.380	236660.710
2	13:03:48	47265.541	677607.220	355755.460	100079.580	682234.800	1553559.800	398756.540	567288.300	229548.940
3	13:04:10	44987.514	669933.570	350145.780	96058.039	661130.220	1524206.300	395910.270	560239.770	228740.880
x		94.264%	94.890%	98.601%	100.492%	99.976%	100.022%	100.259%	96.187%	94.070%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.806	0.886	1.400	2.217	1.585	1.143	0.461	2.593	1.881

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:03:27	34983.519	4211.293	2527008.900	96.743%	1313895.800	92.368%	223260.760	41340.730	98.029%
2	13:03:48	34106.154	3990.744	2506159.500	101.913%	1305406.300	99.517%	218202.210	39526.843	106.154%
3	13:04:10	33579.219	3997.899	2530098.100	102.074%	1362558.700	99.186%	220708.580	40575.119	105.442%
x		91.916%	92.395%	102.570%	100.243%	97.661%	97.023%	96.726%	94.863%	103.208%
σ		n/a	n/a	n/a	3.032%	n/a	4.035%	n/a	n/a	4.499%
%RSD		2.073	3.082	0.516	3.025	2.324	4.159	1.146	2.249	4.359

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:03:27	1933540.800	1216869.500	397761.970	104.634%	948938.500	1227695.600	99.619%	1157060.800
2	13:03:48	1913690.500	1158297.200	404044.370	110.802%	932475.030	1219266.300	104.665%	1124196.600
3	13:04:10	1878649.900	1166964.700	405346.110	111.678%	945737.000	1242536.600	105.030%	1156848.100
x		95.628%	91.523%	93.315%	109.038%	95.269%	96.546%	103.105%	1146035.100
σ		n/a	n/a	n/a	3.839%	n/a	n/a	3.024%	18913.048
%RSD		1.456	2.677	1.008	3.521	0.926	0.958	2.933	1.650

500-163564-e-3-e, 5/31/2019 1:07:35 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:07:35	24.294	0.000	34.212	TM 128143400.000	2215254.900	1600.397	168157.620	TM 4429226.600	82.325%
2	13:07:56	17.383	0.000	43.402	TM 143809370.000	2409939.800	1556.737	187458.680	TM 4694245.100	T 76.702%
3	13:08:18	0.000	0.000	20.284	TM 123384880.000	2074720.400	1456.355	161573.280	TM 4129142.200	88.838%
x		13.892	0.000	32.633	TM 131779210.000	2233305.000	1537.830	172396.530	TM 4417538.000	T 82.622%
σ		12.518	0.000	11.640	TM 10686642.000	168337.100	73.859	13453.238	TM 282732.730	T 6.074%
%RSD		90.103	0.000	35.669	TM 8.110	7.538	4.803	7.804	TM 6.400	T 7.351

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:07:35	42.952	2787.958	1914.901	3280.916	808303.110	2725.558	2055.462	7280.658	14542.938
2	13:07:56	49.214	2853.157	2140.079	3503.573	886892.950	3004.472	2247.038	7058.683	14266.961
3	13:08:18	22.078	2207.352	1802.694	2990.643	757889.810	2364.724	2005.818	7032.679	14802.946
x		38.081	2616.156	1952.558	3258.378	817695.290	2698.251	2102.773	7124.007	14537.615
σ		14.208	355.532	171.816	257.207	65012.396	320.747	127.379	136.286	268.032
%RSD		37.311	13.590	8.800	7.894	7.951	11.887	6.058	1.913	1.844

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:07:35	418.824	8.139	1925812.600	84.750%	3520.823	70.397%	0.017	761.022	74.911%
2	13:07:56	419.319	8.204	1920590.700	86.971%	3789.993	74.275%	24.573	572.674	79.709%
3	13:08:18	415.358	9.870	1875356.600	91.619%	3980.955	74.952%	58.165	632.271	79.546%
x		417.834	8.738	1907253.300	87.780%	3763.924	73.208%	27.585	655.323	78.056%
σ		2.158	0.981	27746.472	3.505%	231.171	2.458%	29.191	96.267	2.724%
%RSD		0.516	11.226	1.455	3.993	6.142	3.358	105.820	14.690	3.490

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:07:35	1023.066	290.521	277269.750	84.100%	1859.048	12353.922	72.230%	52463.572
2	13:07:56	899.413	383.510	278876.800	86.785%	3705.957	12150.850	75.037%	51231.625
3	13:08:18	916.685	233.660	277219.740	89.027%	4377.278	12568.634	75.246%	53020.734
x		946.388	302.564	277788.760	86.637%	3314.094	12357.802	74.171%	52238.644
σ		66.964	75.647	942.603	2.467%	1304.047	208.919	1.684%	915.517
%RSD		7.076	25.002	0.339	2.848	39.349	1.691	2.271	1.753

500-163564-e-4-e, 5/31/2019 1:11:43 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:11:43	22.340	0.000	51.760	TM 128392920.000	1011625.300	12915.796	637423.090	388808.830	89.526%
2	13:12:04	0.000	0.000	47.584	TM 124683800.000	985660.580	11761.140	590362.060	367278.180	97.030%
3	13:12:27	0.000	0.723	53.790	TM 127285410.000	995507.740	11784.890	623597.970	390511.260	92.232%
x		7.447	0.241	51.045	TM 126787380.000	997597.860	12153.942	617127.710	382199.420	92.929%
σ		12.898	0.417	3.164	TM 1904053.300	13107.914	659.892	24188.498	12950.177	3.800%
%RSD		173.205	173.205	6.198	TM 1.502	1.314	5.429	3.920	3.388	4.090

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:11:43	252.736	2853.783	2240.396	22724.906	2662093.700	11780.518	8605.638	6809.402	262496.320
2	13:12:04	216.930	2603.319	2206.032	22178.930	2566722.200	11157.418	7829.711	6231.783	256877.390
3	13:12:27	264.509	2485.143	2144.630	23576.262	2714950.200	12124.407	8342.280	6290.020	260316.120
x		244.725	2647.415	2197.019	22826.699	2647922.100	11687.448	8259.209	6443.735	259896.610
σ		24.780	188.235	48.515	704.205	75123.308	490.167	394.577	318.013	2832.860
%RSD		10.126	7.110	2.208	3.085	2.837	4.194	4.777	4.935	1.090

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:11:43	376.643	10.749	419717.750	86.547%	480.456	75.884%	7.516	637.121	81.312%
2	13:12:04	380.959	9.803	422069.390	89.032%	525.530	79.068%	37.909	348.513	85.486%
3	13:12:27	343.649	7.491	424383.600	86.649%	602.941	78.746%	29.683	444.912	86.433%
x		367.083	9.348	422056.910	87.410%	536.309	77.900%	25.036	476.849	84.411%
σ		20.409	1.676	2332.950	1.406%	61.950	1.753%	15.721	146.930	2.725%
%RSD		5.560	17.932	0.553	1.609	11.551	2.250	62.792	30.813	3.228

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:11:43	763.110	521.369	97950.248	88.900%	662.183	19244.458	76.752%	3572.341
2	13:12:04	861.584	513.941	99910.398	92.768%	1867.603	16895.222	81.094%	3725.625
3	13:12:27	721.755	615.096	99219.786	93.583%	2133.522	17229.929	82.904%	3571.527
x		782.150	550.135	99026.811	91.750%	1554.436	17789.870	80.250%	3623.164
σ		71.833	56.380	994.222	2.502%	784.069	1270.779	3.162%	88.734
%RSD		9.184	10.248	1.004	2.727	50.441	7.143	3.940	2.449

500-163564-e-6-e, 5/31/2019 1:15:51 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:15:51	14.583	1.458	29.672	TM 127615220.000	837487.330	20170.755	260119.050	310551.130	91.430%
2	13:16:12	7.197	0.000	24.760	TM 127782460.000	828771.640	19994.626	263650.510	302181.370	92.633%
3	13:16:34	0.000	0.693	30.689	TM 121325440.000	782402.170	19383.246	255365.610	293395.230	96.199%
x		7.260	0.717	28.374	TM 125574370.000	816220.380	19849.543	259711.720	302042.580	93.421%
σ		7.292	0.729	3.171	TM 3680631.500	29609.870	413.315	4157.443	8578.795	2.480%
%RSD		100.438	101.722	11.175	TM 2.931	3.628	2.082	1.601	2.840	2.655

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:15:51	466.165	3093.225	2757.436	37504.545	1661507.600	9077.522	12224.283	8660.756	157582.530
2	13:16:12	443.280	2963.775	2846.458	36505.446	1654158.500	9269.245	12474.686	8485.669	154869.870
3	13:16:34	463.700	2654.022	2715.808	36144.004	1607201.200	8911.318	12405.527	8459.793	157240.240
x		457.715	2903.674	2773.234	36717.998	1640955.800	9086.028	12368.165	8535.406	156564.220
σ		12.562	225.685	66.742	704.735	29462.341	179.115	129.315	109.324	1477.292
%RSD		2.744	7.772	2.407	1.919	1.795	1.971	1.046	1.281	0.944

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:15:51	411.443	-0.419	231975.730	86.717%	317.965	74.395%	33.214	536.525	79.184%
2	13:16:12	400.579	6.380	230436.620	89.600%	373.057	76.958%	23.299	488.420	82.865%
3	13:16:34	402.297	8.906	232899.720	89.541%	410.567	78.386%	23.515	524.089	82.313%
x		404.773	4.956	231770.690	88.619%	367.196	76.580%	26.676	516.345	81.454%
σ		5.840	4.823	1244.286	1.648%	46.578	2.023%	5.663	24.970	1.985%
%RSD		1.443	97.318	0.537	1.859	12.685	2.641	21.230	4.836	2.437

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:15:51	870.849	218.394	104981.850	87.601%	653.827	16886.954	75.356%	3435.279
2	13:16:12	646.519	308.397	106442.470	91.556%	1042.547	16818.432	79.304%	2943.926
3	13:16:34	844.798	205.914	103535.980	92.115%	1732.122	16523.551	81.899%	2695.470
x		787.389	244.235	104986.770	90.424%	1142.832	16742.979	78.853%	3024.892
σ		122.690	55.915	1453.248	2.461%	546.098	193.094	3.295%	376.492
%RSD		15.582	22.894	1.384	2.721	47.785	1.153	4.179	12.446

500-163564-e-8-h, 5/31/2019 1:19:58 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:19:58	0.000	0.000	24.224	TM 126257890.000	T 8098152.800	1469.020	139625.940	M 2182849.800	94.509%
2	13:20:20	6.293	0.000	15.077	TM 120023700.000	T 7499909.700	1514.130	129828.680	M 2122255.200	105.941%
3	13:20:43	6.941	0.694	37.685	TM 126718420.000	T 8135532.100	1576.578	143374.180	M 2223716.300	96.041%
x		4.411	0.231	25.662	TM 124333340.000	T 7911198.200	1519.909	137609.600	M 2176273.800	98.831%
σ		3.834	0.401	11.372	TM 3739353.000	T 356676.290	54.011	6994.239	M 51049.213	6.205%
%RSD		86.914	173.205	44.317	TM 3.008	T 4.508	3.554	5.083	M 2.346	6.279

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:19:58	27.631	2425.114	3589.489	6172.316	2602000.700	7592.967	9778.748	38063.146	282893.360
2	13:20:20	11.747	2233.812	3070.290	5997.980	2427473.600	6875.186	9188.993	37954.656	283007.370
3	13:20:43	38.712	2286.702	3408.316	6353.890	2704572.600	7631.400	9938.073	38147.431	283653.010
x		26.030	2315.209	3356.032	6174.729	2578015.600	7366.518	9635.271	38055.078	283184.580
σ		13.554	98.785	263.519	177.967	140097.870	425.939	394.613	96.640	409.655
%RSD		52.070	4.267	7.852	2.882	5.434	5.782	4.096	0.254	0.145

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:19:58	258.259	3.500	830638.630	91.152%	1726.346	74.620%	49.001	534.279	80.623%
2	13:20:20	257.253	7.941	846006.590	94.113%	1698.771	78.033%	47.143	765.169	83.297%
3	13:20:43	233.222	7.372	837053.420	95.055%	1947.998	77.273%	14.567	621.984	85.292%
x		249.578	6.271	837899.550	93.440%	1791.038	76.642%	36.903	640.477	83.070%
σ		14.174	2.416	7718.840	2.036%	136.629	1.792%	19.366	116.551	2.343%
%RSD		5.679	38.531	0.921	2.179	7.628	2.338	52.478	18.197	2.820

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:19:58	894.594	270.418	234213.940	84.525%	481.470	20571.181	71.593%	12925.232
2	13:20:20	721.105	338.247	227242.730	88.458%	1086.642	20092.312	73.972%	13284.978
3	13:20:43	910.786	265.229	232645.940	88.607%	1341.829	21146.420	73.446%	13607.483
x		842.162	291.298	231367.530	87.196%	969.980	20603.304	73.004%	13272.565
σ		105.150	40.742	3657.210	2.315%	441.884	527.788	1.249%	341.295
%RSD		12.486	13.986	1.581	2.655	45.556	2.562	1.711	2.571

500-163564-e-10-e, 5/31/2019 1:24:07 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:24:07	14.815	2.963	37.587	TM 138712710.000	1710533.500	5213.503	323856.450	510240.130	89.998%
2	13:24:29	0.000	0.000	43.378	TM 127945530.000	1622517.900	4694.014	293435.960	486853.240	96.844%
3	13:24:51	0.000	0.693	47.148	TM 127633110.000	1516775.000	4991.638	301230.530	489059.580	96.199%
x		4.938	1.219	42.704	TM 131430450.000	1616608.800	4966.385	306174.320	495384.320	94.347%
σ		8.554	1.550	4.816	TM 6308556.300	97014.333	260.664	15801.336	12912.724	3.780%
%RSD		173.205	127.177	11.278	TM 4.800	6.001	5.249	5.161	2.607	4.006

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:24:07	11.879	2319.470	2085.932	11295.078	TM 30436506.000	106210.080	33010.843	30205.092	460706.080
2	13:24:29	17.716	2173.341	1878.168	10629.579	TM 28343995.000	102913.680	31801.493	30037.652	458742.720
3	13:24:51	27.094	1995.462	1828.510	11337.745	TM 28625502.000	103376.760	32541.568	29442.759	446056.080
x		18.896	2162.757	1930.870	11087.467	TM 29135334.000	104166.840	32451.301	29895.168	455168.290
σ		7.676	162.263	136.563	397.116	TM 1135604.400	1784.580	609.707	400.642	7952.232
%RSD		40.622	7.503	7.073	3.582	TM 3.898	1.713	1.879	1.340	1.747

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:24:07	848.560	26.497	385250.360	112.547%	126.647	75.182%	-0.806	1887.765	82.547%
2	13:24:29	778.951	26.925	370585.860	120.096%	98.824	77.563%	23.112	2069.624	83.348%
3	13:24:51	782.711	26.326	375786.790	120.734%	109.076	79.945%	7.064	1911.443	83.617%
x		803.407	26.582	377207.670	117.792%	111.515	77.563%	9.790	1956.277	83.171%
σ		39.148	0.308	7434.788	4.554%	14.071	2.382%	12.190	98.872	0.556%
%RSD		4.873	1.160	1.971	3.866	12.618	3.070	124.513	5.054	0.669

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:24:07	558.734	213.093	395153.050	86.271%	739.446	462291.070	71.781%	79548.925
2	13:24:29	588.796	233.986	394662.950	89.512%	1361.237	456958.420	76.168%	79740.905
3	13:24:51	608.731	288.692	385464.160	91.865%	1475.413	457234.800	78.010%	77384.931
x		585.420	245.257	391760.050	89.216%	1192.032	458828.100	75.320%	78891.587
σ		25.169	39.040	5457.905	2.809%	396.087	3002.208	3.200%	1308.329
%RSD		4.299	15.918	1.393	3.148	33.228	0.654	4.248	1.658

500-163564-e-12-e, 5/31/2019 1:28:15 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:28:15	7.155	0.000	39.806	TM 144928640.000	2360776.600	2077.642	127743.600	TM 3979816.200	93.177%
2	13:28:37	0.000	0.000	26.955	TM 147309790.000	2401765.200	2124.455	130155.220	TM 4159177.600	97.087%
3	13:28:59	0.000	0.000	19.860	TM 140156260.000	2263975.000	1982.056	124795.410	TM 3949529.100	98.090%
x		2.385	0.000	28.874	TM 144131560.000	2342172.300	2061.385	127564.740	TM 4029507.600	96.118%
σ		4.131	0.000	10.111	TM 3642768.700	70754.017	72.578	2684.381	TM 113313.950	2.596%
%RSD		173.205	0.000	35.017	TM 2.527	3.021	3.521	2.104	TM 2.812	2.701

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:28:15	25.683	1645.213	1587.196	4016.102	482542.810	2299.382	3032.679	3697.750	73500.182
2	13:28:37	33.686	1809.238	1579.495	3949.112	498732.250	2515.379	2955.958	3641.861	73173.390
3	13:28:59	31.046	1435.722	1602.659	3975.619	488042.020	2489.545	2892.756	3617.548	73098.330
x		30.138	1630.058	1589.783	3980.278	489772.360	2434.769	2960.465	3652.386	73257.301
σ		4.078	187.219	11.797	33.737	8232.256	117.958	70.070	41.124	213.663
%RSD		13.531	11.485	0.742	0.848	1.681	4.845	2.367	1.126	0.292

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:28:15	172.281	6.445	1810438.000	90.957%	2111.364	71.560%	35.190	340.217	75.635%
2	13:28:37	223.559	6.366	1856208.900	94.588%	2239.848	74.576%	41.247	372.366	79.794%
3	13:28:59	214.654	1.672	1850273.000	95.912%	2472.429	75.136%	39.034	339.690	83.479%
x		203.498	4.827	1838973.300	93.819%	2274.547	73.757%	38.490	350.757	79.636%
σ		27.399	2.733	24889.917	2.565%	183.016	1.924%	3.065	18.715	3.925%
%RSD		13.464	56.618	1.353	2.734	8.046	2.608	7.964	5.336	4.928

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:28:15	501.024	216.174	335078.680	80.708%	367.939	7883.309	64.989%	42219.437
2	13:28:37	582.306	115.625	332870.910	85.163%	700.629	7400.468	67.976%	42183.314
3	13:28:59	603.526	233.444	344501.940	85.543%	870.813	7643.519	71.141%	43136.232
x		562.285	188.414	337483.850	83.804%	646.460	7642.432	68.035%	42512.994
σ		54.104	63.626	6177.283	2.689%	255.775	241.422	3.076%	540.042
%RSD		9.622	33.769	1.830	3.208	39.566	3.159	4.522	1.270

500-163564-e-17-e, 5/31/2019 1:32:24 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:32:24	0.000	0.684	25.992	TM 143477160.000	T 5451331.100	1573.572	175517.540	M 2670454.300	97.445%
2	13:32:46	0.000	0.000	25.441	TM 133460790.000	T 5258627.500	1675.958	165666.490	M 2609408.200	105.411%
3	13:33:07	6.623	0.000	22.609	TM 139305320.000	T 5393612.700	1658.494	171277.610	TM 2580357.400	100.654%
x		2.208	0.228	24.681	TM 138747760.000	T 5367857.100	1636.008	170820.550	TM 2620073.300	101.170%
σ		3.824	0.395	1.815	TM 5031405.200	T 98899.872	54.771	4941.406	TM 45985.575	4.008%
%RSD		173.205	173.205	7.355	TM 3.626	T 1.842	3.348	2.893	TM 1.755	3.962

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:32:24	15.308	1264.378	4663.556	5750.237	1187643.300	3042.166	4824.570	5954.955	12078.119
2	13:32:46	11.821	1261.143	4416.345	5308.502	1124674.200	2969.539	4494.975	6129.220	11923.434
3	13:33:07	10.310	1152.196	4699.807	5514.843	1181932.600	2947.011	4836.930	5707.787	11874.118
x		12.480	1225.905	4593.236	5524.527	1164750.100	2986.239	4718.825	5930.654	11958.557
σ		2.563	63.855	154.260	221.027	34823.945	49.727	193.958	211.765	106.439
%RSD		20.537	5.209	3.358	4.001	2.990	1.665	4.110	3.571	0.890

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:32:24	110.349	5.817	827331.860	90.957%	1598.205	73.356%	25.163	541.568	78.328%
2	13:32:46	145.058	0.516	829588.450	94.809%	1503.074	76.535%	32.481	559.443	80.587%
3	13:33:07	129.568	2.879	841152.890	95.250%	1677.884	77.337%	77.618	547.288	84.779%
x		128.325	3.071	832691.070	93.672%	1593.054	75.742%	45.087	549.433	81.231%
σ		17.388	2.656	7414.505	2.361%	87.518	2.105%	28.409	9.128	3.273%
%RSD		13.550	86.477	0.890	2.521	5.494	2.779	63.008	1.661	4.030

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:32:24	767.030	43.243	208761.990	79.890%	89.351	5092.749	66.876%	10395.839
2	13:32:46	746.707	-35.505	204693.770	85.051%	625.246	4512.740	70.578%	10577.636
3	13:33:07	866.811	31.586	206291.030	86.758%	700.108	4327.050	72.589%	10265.769
x		793.516	13.108	206582.260	83.900%	471.568	4644.180	70.014%	10413.082
σ		64.283	42.502	2049.686	3.576%	333.120	399.413	2.898%	156.647
%RSD		8.101	324.245	0.992	4.262	70.641	8.600	4.139	1.504

ccv, 5/31/2019 1:36:32 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:36:32	321.026	419.854	204.706	T 2739188.100	1563452.400	875760.920	T 3329397.800	193335.940	105.912%
2	13:36:54	225.560	384.584	191.612	T 2533124.100	1371119.300	822378.250	T 2874029.800	175837.100	118.226%
3	13:37:15	311.381	393.841	197.428	T 2437085.100	1370760.200	790560.990	T 2997683.000	174135.100	115.616%
x		285.989	99.244%	100.781%	T 101.961%	101.456%	104.070%	T 103.258%	99.032%	113.252%
σ		52.555	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	6.488%
%RSD		18.376	4.578	3.315	T 6.006	7.745	5.190	T 7.678	5.869	5.729

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:36:32	13129.049	358983.610	433608.080	T 2445452.500	338929.270	755574.480	197591.380	620186.190	133977.780
2	13:36:54	11070.468	320410.380	398705.680	2283661.000	305314.070	669633.140	176220.090	593420.260	125714.140
3	13:37:15	11611.060	324667.570	409892.280	T 2260478.000	321147.300	711463.360	180996.740	598978.800	125667.000
x		96.805%	93.900%	93.154%	T 95.949%	95.672%	92.919%	93.486%	101.586%	104.326%
σ		n/a	n/a	n/a	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		8.941	6.319	4.304	T 4.325	5.226	6.034	6.065	2.338	3.725

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:36:32	103355.090	12770.643	701809.480	92.238%	348914.580	87.182%	245291.220	219276.470	90.428%
2	13:36:54	96115.231	11608.940	607000.530	105.573%	313043.420	94.859%	213572.080	195729.300	101.329%
3	13:37:15	94335.318	11461.863	596825.490	110.024%	307195.260	96.984%	213034.430	200310.480	103.116%
x		105.214%	108.576%	103.374%	102.611%	95.080%	93.008%	98.147%	96.128%	98.291%
σ		n/a	n/a	n/a	9.255%	n/a	5.156%	n/a	n/a	6.868%
%RSD		4.878	6.001	9.115	9.020	6.992	5.544	8.247	6.087	6.987

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:36:32	513533.880	670310.860	233090.000	92.664%	2476541.800	3172024.800	84.061%	3039465.900
2	13:36:54	480973.780	614248.360	220072.100	99.482%	2344836.000	3010984.700	91.041%	2811008.500
3	13:37:15	478721.610	620813.090	215636.440	101.895%	2324344.600	3026028.500	93.551%	2868154.000
x		98.417%	98.464%	103.399%	98.014%	96.318%	96.392%	89.551%	2906209.500
σ		n/a	n/a	n/a	4.788%	n/a	n/a	4.917%	118887.990
%RSD		3.967	4.826	4.069	4.885	3.468	2.898	5.491	4.091

ccb, 5/31/2019 1:40:42 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:40:42	0.000	0.601	0.778	3877.026	91.371	21.062	1677.487	-18.493	110.857%
2	13:41:04	0.000	0.000	-0.003	3800.419	89.623	22.023	1827.930	-5.387	112.319%
3	13:41:27	0.000	0.000	-0.820	3397.150	66.017	21.780	-63.125	11.564	118.298%
x		0.000	0.200	-0.015	3691.532	82.337	21.622	1147.430	-4.105	113.825%
σ		0.000	0.347	0.799	257.803	14.161	0.500	1051.067	15.069	3.942%
%RSD		0.000	173.205	5409.972	6.984	17.199	2.311	91.602	367.053	3.463

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:40:42	-2.936	49.370	-21.473	133.667	-40.914	36.207	-12.860	246.363	-142.055
2	13:41:04	-2.936	108.294	-18.047	79.462	-54.108	35.581	-28.145	300.247	-155.115
3	13:41:27	-1.058	114.227	-18.739	82.968	-19.260	40.695	-44.216	143.326	-122.525
x		-2.310	90.630	-19.420	98.699	-38.094	37.494	-28.407	229.979	-139.899
σ		1.085	35.855	1.812	30.334	17.594	2.790	15.679	79.733	16.401
%RSD		46.948	39.562	9.329	30.734	46.185	7.440	55.195	34.670	11.724

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:40:42	12.527	1.600	269.951	98.729%	90.745	93.929%	11.664	18.376	97.342%
2	13:41:04	16.218	2.754	271.281	108.282%	121.333	101.183%	16.256	35.519	106.081%
3	13:41:27	12.210	-0.152	232.742	104.851%	209.634	101.361%	3.752	4.082	105.534%
x		13.651	1.401	257.991	103.954%	140.571	98.824%	10.557	19.326	102.986%
σ		2.228	1.463	21.877	4.839%	61.735	4.240%	6.325	15.740	4.895%
%RSD		16.321	104.486	8.480	4.655	43.918	4.291	59.911	81.446	4.753

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:40:42	35.629	13.318	9.149	90.970%	2371.204	174.494	86.981%	130.110
2	13:41:04	-29.802	22.016	0.251	97.966%	4140.372	64.499	95.394%	54.370
3	13:41:27	29.197	16.383	26.170	100.718%	4870.276	76.379	96.115%	88.527
x		11.675	17.239	11.857	96.551%	3793.951	105.124	92.830%	91.002
σ		36.063	4.412	13.170	5.025%	1285.047	60.369	5.078%	37.931
%RSD		308.896	25.592	111.076	5.205	33.871	57.427	5.470	41.681

ccvl, 5/31/2019 1:44:53 PM QC Status: WARNING (Initial: WARNING)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	13:44:53	12.380	3.095	37.232	26354.412	12529.679	3678.231	70072.330	1470.076	107.704%
2	13:45:16	21.587	0.000	36.898	21810.027	11142.127	3070.037	53486.507	1270.889	123.532%
3	13:45:39	11.888	1.189	34.920	25040.940	11674.840	3444.546	63342.380	1335.037	112.161%
x		15.285	88.696%	92.549%	121.023%	104.119%	106.558%	104.874%	92.870%	114.466%
σ		5.463	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.162%
%RSD		35.744	109.340	3.437	9.584	5.941	9.030	13.390	7.483	7.130

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	13:44:53	298.307	7167.281	9235.465	9691.579	3480.869	3085.636	1542.111	5002.930	10429.886
2	13:45:16	185.951	6167.653	8061.006	8307.393	2899.384	2733.731	1373.724	4630.872	9985.361
3	13:45:39	252.652	6710.170	8756.673	9376.024	3229.685	2823.792	1505.655	4624.445	9579.002
x		99.603%	93.731%	97.687%	93.947%	95.236%	93.967%	93.129%	99.887%	101.502%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		23.004	7.489	6.800	7.950	9.104	6.345	6.011	4.559	4.257

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	13:44:53	414.284	119.512	10862.575	95.929%	5677.144	91.922%	2446.520	595.096	98.843%
2	13:45:16	372.325	111.397	9521.086	110.109%	4909.171	99.057%	1978.680	488.532	102.650%
3	13:45:39	366.382	115.026	9903.253	102.499%	5329.510	100.067%	2134.543	357.465	104.830%
x		103.224%	104.796%	102.685%	102.845%	97.590%	97.015%	95.821%	112.568%	102.107%
σ		n/a	n/a	n/a	7.096%	n/a	4.440%	n/a	n/a	3.030%
%RSD		6.794	3.526	6.846	6.900	7.249	4.576	10.895	24.778	2.967

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	13:44:53	10133.125	7102.962	2328.137	88.301%	19801.289	6362.717	85.632%	115166.470
2	13:45:16	9433.400	7485.451	1869.538	100.203%	17597.467	5342.915	95.009%	106621.640
3	13:45:39	9656.931	7378.435	2199.730	100.317%	18891.022	5501.603	96.574%	104670.080
x		97.612%	94.598%	98.906%	96.274%	94.842%	90.055%	92.405%	108819.400
σ		n/a	n/a	n/a	6.905%	n/a	n/a	5.918%	5582.662
%RSD		3.669	2.695	11.094	7.172	5.902	9.567	6.404	5.130

500-162180-I-3-a, 5/31/2019 3:07:19 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:07:19	0.000	0.000	9.503	437534.690	413999.490	5553.194	74948.862	120971.790	99.451%
2	15:07:40	12.028	0.000	11.302	394737.150	365116.920	5180.529	65302.806	114313.270	110.857%
3	15:08:03	0.000	0.000	13.617	394844.220	374575.950	5155.948	68539.207	111783.100	110.441%
x		4.009	0.000	11.474	409038.690	384564.120	5296.557	69596.958	115689.390	106.916%
σ		6.944	0.000	2.063	24678.319	25926.803	222.594	4909.249	4746.398	6.469%
%RSD		173.205	0.000	17.976	6.033	6.742	4.203	7.054	4.103	6.050

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:07:19	318.837	1660.530	2550.216	17170.701	13437.557	712.103	1110.413	4343.328	4720.938
2	15:07:40	303.771	1484.891	2254.141	15916.136	12569.689	707.774	987.502	4158.477	4704.668
3	15:08:03	292.852	1671.835	2038.576	15287.629	12573.650	656.151	1021.868	4019.471	4824.448
x		305.153	1605.752	2280.978	16124.822	12860.299	692.009	1039.927	4173.759	4750.018
σ		13.048	104.821	256.873	958.725	499.924	31.130	63.415	162.468	64.970
%RSD		4.276	6.528	11.262	5.946	3.887	4.498	6.098	3.893	1.368

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:07:19	113.534	27.312	60772.672	88.973%	181.226	84.193%	27.608	-2.217	91.349%
2	15:07:40	96.982	20.239	55130.383	99.060%	292.173	91.052%	-8.882	11.540	96.425%
3	15:08:03	92.228	23.261	55225.130	98.976%	373.299	90.748%	-8.882	-2.332	97.021%
x		100.915	23.604	57042.728	95.670%	282.233	88.664%	3.281	2.330	94.931%
σ		11.184	3.549	3230.573	5.800%	96.422	3.876%	21.068	7.976	3.117%
%RSD		11.083	15.034	5.663	6.062	34.164	4.371	642.036	342.259	3.283

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:07:19	190.765	108.984	9284.455	86.447%	847.796	1557.753	82.255%	405.948
2	15:07:40	209.641	111.287	8839.608	93.423%	1911.701	1519.496	91.446%	451.073
3	15:08:03	159.394	123.670	9183.877	92.539%	1779.958	1479.778	89.244%	335.588
x		186.600	114.647	9102.647	90.803%	1513.152	1519.009	87.648%	397.536
σ		25.381	7.899	233.283	3.798%	579.968	38.990	4.799%	58.200
%RSD		13.602	6.889	2.563	4.183	38.328	2.567	5.475	14.640

500-162180-I-4-a, 5/31/2019 3:11:27 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:11:27	0.000	0.000	6.516	T 4039428.100	406713.930	612.819	100981.260	133112.570	104.823%
2	15:11:48	5.923	0.000	7.397	T 3957822.400	388330.580	714.933	97219.598	122918.010	112.548%
3	15:12:11	0.000	0.000	8.906	T 3791110.000	377376.380	542.694	96311.036	120655.070	112.262%
x		1.974	0.000	7.606	T 3929453.500	390806.960	623.482	98170.633	125561.890	109.878%
σ		3.420	0.000	1.209	T 126566.430	14824.720	86.613	2476.107	6636.257	4.380%
%RSD		173.205	0.000	15.889	T 3.221	3.793	13.892	2.522	5.285	3.986

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:11:27	3.424	1277.891	1946.924	968.359	795.629	183.136	260.609	3738.508	2551.569
2	15:11:48	12.859	1046.845	1754.577	1026.412	804.045	165.800	261.915	3601.799	2434.805
3	15:12:11	10.920	1060.930	1849.095	981.548	747.108	178.131	290.613	3643.482	2332.737
x		9.068	1128.555	1850.199	992.106	782.261	175.689	271.046	3661.263	2439.704
σ		4.983	129.520	96.178	30.433	30.733	8.922	16.958	70.068	109.499
%RSD		54.955	11.477	5.198	3.067	3.929	5.078	6.257	1.914	4.488

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:11:27	94.606	13.834	85372.722	89.549%	112.726	80.606%	21.478	-2.183	87.835%
2	15:11:48	90.659	8.348	77968.453	100.571%	55.003	90.221%	-1.968	4.762	96.425%
3	15:12:11	71.025	11.020	80647.800	99.026%	76.855	88.416%	12.138	4.842	95.146%
x		85.430	11.067	81329.658	96.382%	81.528	86.415%	10.549	2.474	93.135%
σ		12.630	2.743	3748.933	5.968%	29.144	5.110%	11.804	4.033	4.635%
%RSD		14.784	24.787	4.610	6.192	35.747	5.914	111.889	163.054	4.976

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:11:27	131.124	19.071	14277.979	84.403%	67.946	1137.725	79.178%	203.403
2	15:11:48	198.100	90.544	14012.700	91.564%	624.355	1070.207	85.480%	195.061
3	15:12:11	174.877	128.273	13164.579	97.403%	715.833	999.139	88.876%	202.019
x		168.034	79.296	13818.420	91.123%	469.378	1069.023	84.511%	200.161
σ		34.009	55.463	581.570	6.512%	350.646	69.300	4.921%	4.470
%RSD		20.239	69.945	4.209	7.146	74.704	6.483	5.823	2.233

500-162180-I-4-b 5/31/2019 3:15:36 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:15:36	6.282	0.000	11.905	T 4018116.800	427898.910	319.797	106574.760	132756.680	106.127%
2	15:15:59	0.000	0.000	7.207	T 4204632.900	415519.160	293.048	109350.490	132756.560	105.984%
3	15:16:20	0.000	0.000	12.796	T 3645293.500	379697.410	250.056	92648.230	119118.630	116.477%
x		2.094	0.000	10.636	T 3956014.400	407705.160	287.633	102857.830	128210.620	109.529%
σ		3.627	0.000	3.003	T 284794.100	25032.781	35.184	8950.032	7873.900	6.017%
%RSD		173.205	0.000	28.234	T 7.199	6.140	12.232	8.701	6.141	5.493

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:15:36	26.379	1288.424	2056.738	1412.801	762.837	193.303	848.520	2855.648	2790.178
2	15:15:59	34.805	1290.967	2160.687	1437.347	873.093	132.774	772.246	2712.739	2686.303
3	15:16:20	18.050	1046.910	1828.088	1270.582	775.674	136.912	796.534	2590.533	2746.129
x		26.411	1208.767	2015.171	1373.577	803.868	154.330	805.767	2719.640	2740.870
σ		8.378	140.178	170.151	90.036	60.293	33.816	38.966	132.692	52.137
%RSD		31.719	11.597	8.443	6.555	7.500	21.911	4.836	4.879	1.902

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:15:36	69.568	8.715	87148.972	91.797%	65.141	81.568%	-1.295	-2.158	87.873%
2	15:15:59	85.755	8.052	82256.643	100.232%	101.922	88.074%	4.408	4.469	100.327%
3	15:16:20	95.685	7.664	82488.872	99.493%	129.860	90.919%	26.664	4.912	93.775%
x		83.669	8.144	83964.829	97.174%	98.975	86.854%	9.926	2.408	93.991%
σ		13.183	0.532	2759.992	4.671%	32.460	4.794%	14.774	3.960	6.230%
%RSD		15.756	6.530	3.287	4.807	32.797	5.519	148.846	164.474	6.628

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:15:36	136.079	102.471	14561.145	85.968%	17.773	599.655	79.096%	287.916
2	15:15:59	54.995	76.101	13599.209	93.413%	355.625	668.917	88.892%	194.479
3	15:16:20	41.504	67.772	13346.233	99.976%	494.480	483.464	87.652%	258.297
x		77.526	82.115	13835.529	93.119%	289.293	584.012	85.213%	246.897
σ		51.155	18.114	641.005	7.008%	245.178	93.711	5.334%	47.750
%RSD		65.985	22.060	4.633	7.526	84.751	16.046	6.259	19.340

500-162180-I-4-c 5/31/2019 3:19:45 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:19:45	695.187	94.248	891.832	T 5341359.500	1057020.800	73293.325	1407145.200	214575.050	99.737%
2	15:20:08	602.621	77.643	803.933	T 4755869.300	956736.970	63658.940	1231000.800	196869.410	115.057%
3	15:20:31	682.028	85.410	882.984	T 5080633.300	1028928.800	68709.295	1343556.500	207231.580	104.594%
x		659.946	85.767	859.583	T 5059287.300	1014228.900	68553.853	1327234.200	206225.350	106.463%
σ		50.078	8.308	48.397	T 293328.170	51732.768	4819.073	89199.364	8895.605	7.829%
%RSD		7.588	9.687	5.630	T 5.798	5.101	7.030	6.721	4.314	7.354

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:19:45	49509.868	689262.270	353212.940	96299.729	690034.080	1504984.400	381992.520	650632.960	285289.450
2	15:20:08	45438.125	629531.700	318705.000	89342.301	628033.780	1359294.300	335936.050	599467.470	257632.920
3	15:20:31	47682.766	679611.420	346237.410	95466.509	683620.550	1474035.200	382453.440	599566.510	258007.570
x		47543.587	666135.130	339385.120	93702.846	667229.470	1446104.600	366794.000	616555.650	266976.650
σ		2039.436	32064.670	18245.954	3799.254	34095.600	76756.010	26724.764	29511.858	15860.460
%RSD		4.290	4.814	5.376	4.055	5.110	5.308	7.286	4.787	5.941

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:19:45	42271.546	5079.277	2788938.700	92.136%	1337464.800	80.638%	227233.380	43285.119	87.860%
2	15:20:08	38173.502	4718.203	2622860.800	99.408%	1315535.100	90.418%	219628.150	40107.933	96.400%
3	15:20:31	38749.103	4754.909	2619121.300	101.268%	1279771.600	90.702%	224778.520	41803.374	94.541%
x		39731.384	4850.796	2676973.600	97.604%	1310923.800	87.253%	223880.020	41732.142	92.934%
σ		2218.591	198.719	96982.628	4.826%	29121.723	5.731%	3881.414	1589.790	4.491%
%RSD		5.584	4.097	3.623	4.944	2.221	6.568	1.734	3.810	4.833

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:19:45	2091654.900	1329297.500	1860791.100	86.992%	31224.501	40465.710	T 2542.012%	-8.173
2	15:20:08	2036677.200	1233158.600	1762631.900	96.705%	29414.239	39104.041	T 2693.477%	-9.081
3	15:20:31	2059943.600	1259226.800	1741631.700	97.932%	29411.013	38987.598	T 2781.885%	-8.566
x		2062758.600	1273894.300	1788351.600	93.876%	30016.584	39519.116	T 2672.458%	-8.606
σ		27596.703	49719.489	63607.097	5.993%	1046.088	821.839	T 121.310%	0.455
%RSD		1.338	3.903	3.557	6.384	3.485	2.080	T 4.539	5.291

500-162180-I-4-d 5/31/2019 3:23:56 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:23:56	583.497	81.687	884.378	T 5165987.100	1027416.200	68700.853	1365160.200	206123.120	102.832%
2	15:24:19	788.249	89.254	761.386	T 4852296.200	955235.150	63928.001	1228095.100	191131.910	115.029%
3	15:24:40	558.287	90.644	805.199	T 4582492.700	938416.390	63781.423	1233330.200	194644.540	111.058%
x		643.344	87.195	816.988	T 4866925.300	973689.240	65470.092	1275528.500	197299.860	109.639%
σ		126.123	4.820	62.337	T 292022.140	47282.720	2798.880	77667.399	7840.416	6.221%
%RSD		19.604	5.528	7.630	T 6.000	4.856	4.275	6.089	3.974	5.674

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:23:56	47674.379	686853.130	346554.890	94525.703	687197.710	1522315.500	383533.790	650550.680	278730.570
2	15:24:19	45109.433	615773.020	308540.560	84670.975	610889.200	1375593.200	347781.460	602171.150	253840.220
3	15:24:40	46223.385	640648.050	332822.470	89149.769	610808.540	1407974.100	368658.410	608758.980	258510.790
x		46335.732	647758.070	329305.970	89448.815	636298.480	1435294.300	366657.890	620493.600	263693.860
σ		1286.159	36069.515	19249.586	4934.166	44080.042	77082.112	17959.923	26237.773	13229.908
%RSD		2.776	5.568	5.846	5.516	6.928	5.370	4.898	4.229	5.017

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:23:56	41284.378	5053.368	2842107.600	90.245%	1375417.200	82.981%	231053.080	44528.796	87.290%
2	15:24:19	38177.005	4727.246	2551226.900	102.142%	1279674.600	91.328%	215224.900	40442.223	97.111%
3	15:24:40	39287.436	4820.499	2522441.600	103.152%	1256920.100	89.862%	217849.150	41212.849	96.577%
x		39582.940	4867.038	2638592.000	98.513%	1304004.000	88.057%	221375.710	42061.289	93.659%
σ		1574.622	167.968	176836.290	7.178%	62883.497	4.457%	8482.940	2171.384	5.523%
%RSD		3.978	3.451	6.702	7.287	4.822	5.061	3.832	5.162	5.897

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:23:56	2098618.300	1349134.600	1848892.100	87.636%	31263.803	39991.735	T 2599.683%	-6.540
2	15:24:19	1981648.300	1242570.700	1751878.100	97.003%	30723.133	40117.693	T 2679.725%	-8.052
3	15:24:40	2048658.400	1257092.400	1724410.700	99.159%	30532.091	39977.801	T 2756.662%	-10.679
x		2042975.000	1282932.500	1775060.300	94.599%	30839.675	40029.076	T 2678.690%	-8.424
σ		58691.725	57790.597	65398.487	6.126%	379.522	77.060	T 78.494%	2.094
%RSD		2.873	4.505	3.684	6.476	1.231	0.193	T 2.930	24.861

500-162180-I-4-a, 5/31/2019 3:28:05 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:28:05	0.000	0.000	6.111	859265.800	84054.777	167.502	21412.992	27170.370	99.923%
2	15:28:27	0.000	0.000	4.323	769603.190	80334.302	135.052	17329.818	26147.739	114.484%
3	15:28:48	0.000	0.000	8.148	766657.910	79939.273	146.462	16906.553	24086.010	112.434%
x		0.000	0.000	6.194	798508.970	81442.784	149.672	18549.788	25801.373	108.947%
σ		0.000	0.000	1.914	52637.563	2270.659	16.461	2488.623	1571.081	7.882%
%RSD		0.000	0.000	30.902	6.592	2.788	10.998	13.416	6.089	7.234

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:28:05	5.959	368.665	463.293	188.050	657.685	83.726	19.219	4067.498	561.717
2	15:28:27	2.887	217.350	355.845	107.916	510.975	40.506	-12.471	4066.124	541.919
3	15:28:48	4.970	153.043	374.942	200.579	481.370	49.368	-42.078	3925.521	629.810
x		4.605	246.353	398.027	165.515	550.010	57.867	-11.776	4019.714	577.815
σ		1.568	110.699	57.323	50.274	94.417	22.829	30.654	81.577	46.104
%RSD		34.054	44.935	14.402	30.374	17.166	39.451	260.300	2.029	7.979

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:28:05	17.192	1.748	17100.676	89.956%	519.605	87.293%	-8.882	-2.407	90.725%
2	15:28:27	20.203	3.419	15512.054	105.658%	933.311	95.959%	4.430	3.985	100.159%
3	15:28:48	26.560	2.880	15987.815	101.021%	1090.688	95.738%	4.015	-2.715	103.385%
x		21.318	2.682	16200.182	98.878%	847.868	92.997%	-0.146	-0.379	98.090%
σ		4.782	0.853	815.325	8.067%	294.973	4.941%	7.569	3.782	6.579%
%RSD		22.434	31.801	5.033	8.158	34.790	5.313	5193.811	998.080	6.707

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:28:05	1095.477	110.489	2691.413	87.537%	1108.691	1266.172	84.969%	31.560
2	15:28:27	997.629	69.756	2736.297	98.692%	2617.869	1329.631	91.028%	65.045
3	15:28:48	874.904	44.803	2701.063	98.254%	2851.919	1366.787	94.825%	5.576
x		989.337	75.016	2709.591	94.828%	2192.826	1320.864	90.274%	34.060
σ		110.520	33.157	23.626	6.318%	946.154	50.878	4.971%	29.814
%RSD		11.171	44.200	0.872	6.662	43.148	3.852	5.506	87.532

500-162180-I-5-a, 5/31/2019 3:32:13 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:32:13	0.000	0.000	13.453	368628.050	1069656.500	332.449	88622.772	344813.060	100.969%
2	15:32:36	0.000	0.589	9.549	352640.510	933460.990	298.186	75890.227	324171.850	113.208%
3	15:32:58	0.000	0.000	4.860	324011.490	904700.840	285.014	68462.872	302306.140	117.566%
x		0.000	0.196	9.287	348426.680	969272.790	305.217	77658.624	323763.680	110.581%
σ		0.000	0.340	4.303	22604.792	88116.167	24.487	10195.627	21256.397	8.605%
%RSD		0.000	173.205	46.328	6.488	9.091	8.023	13.129	6.565	7.781

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:32:13	21.274	2848.529	2774.951	1807.245	2898.123	104.745	609.813	2912.160	2054.141
2	15:32:36	20.619	2606.172	2486.414	1581.465	2520.058	107.838	473.648	2385.579	1872.959
3	15:32:58	21.636	2480.039	2359.858	1472.019	2442.086	137.423	408.047	2239.627	1900.958
x		21.176	2644.913	2540.408	1620.243	2620.089	116.669	497.169	2512.455	1942.686
σ		0.515	187.275	212.749	170.944	243.920	18.040	102.919	353.763	97.533
%RSD		2.434	7.081	8.375	10.551	9.310	15.463	20.701	14.080	5.021

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:32:13	88.986	8.624	194057.650	90.389%	406.235	84.194%	5.785	4.989	90.904%
2	15:32:36	72.331	6.417	172901.760	101.785%	453.285	91.541%	4.803	-2.385	97.428%
3	15:32:58	80.079	5.799	175450.270	102.142%	608.179	94.485%	24.481	-2.467	99.912%
x		80.465	6.946	180803.230	98.105%	489.233	90.073%	11.690	0.046	96.082%
σ		8.334	1.485	11549.176	6.685%	105.662	5.300%	11.088	4.281	4.653%
%RSD		10.357	21.384	6.388	6.814	21.598	5.884	94.853	9385.953	4.842

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:32:13	135.330	36.716	17195.341	86.660%	299.816	483.290	81.830%	9447.198
2	15:32:36	149.501	61.108	15341.475	98.900%	1274.212	470.259	90.369%	9542.402
3	15:32:58	69.865	116.908	15524.327	99.026%	1243.740	296.251	93.837%	8805.169
x		118.232	71.577	16020.381	94.862%	939.256	416.600	88.679%	9264.923
σ		42.482	41.109	1021.644	7.104%	553.980	104.429	6.180%	400.994
%RSD		35.931	57.433	6.377	7.488	58.981	25.067	6.969	4.328

500-162180-I-6-a, 5/31/2019 3:36:24 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:36:24	0.000	0.000	15.714	751747.470	180636.010	5456.145	73356.887	53992.387	97.531%
2	15:36:46	0.000	0.000	15.935	689442.490	158956.050	4969.615	62078.749	45403.810	110.112%
3	15:37:09	0.000	0.000	6.530	643518.910	151830.310	4654.667	56954.819	45020.454	114.168%
x		0.000	0.000	12.727	694902.960	163807.460	5026.809	64130.151	48138.884	107.270%
σ		0.000	0.000	5.367	54320.510	15003.141	403.788	8391.255	5072.905	8.675%
%RSD		0.000	0.000	42.173	7.817	9.159	8.033	13.085	10.538	8.087

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:36:24	336.563	2814.822	4032.226	17829.080	22973.646	1074.993	1506.139	4626.842	4603.140
2	15:36:46	336.120	2540.647	3424.693	16086.057	20522.261	1043.659	1229.160	4380.146	4322.330
3	15:37:09	363.003	2497.482	3381.514	15320.996	19903.143	922.444	1295.970	4831.608	4394.788
x		345.229	2617.650	3612.811	16412.045	21133.017	1013.699	1343.756	4612.865	4440.086
σ		15.395	172.114	363.865	1285.427	1623.812	80.567	144.541	226.055	145.782
%RSD		4.459	6.575	10.072	7.832	7.684	7.948	10.756	4.901	3.283

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:36:24	144.389	21.609	30940.782	90.041%	296.937	86.251%	6.028	5.169	89.426%
2	15:36:46	135.839	19.923	28727.555	99.239%	446.074	96.631%	-2.172	4.342	99.360%
3	15:37:09	127.182	19.485	26858.019	105.912%	320.327	95.053%	10.943	-2.308	100.884%
x		135.804	20.339	28842.119	98.397%	354.446	92.645%	4.933	2.401	96.557%
σ		8.603	1.122	2043.791	7.969%	80.209	5.593%	6.626	4.099	6.222%
%RSD		6.335	5.514	7.086	8.099	22.629	6.037	134.324	170.741	6.444

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:36:24	82.344	173.332	4405.637	88.139%	58.677	1704.973	84.646%	78.996
2	15:36:46	113.460	98.041	4061.602	98.345%	612.264	1597.689	93.031%	41.813
3	15:37:09	110.684	114.723	4107.688	100.963%	666.995	1542.412	95.980%	60.889
x		102.163	128.698	4191.642	95.816%	445.979	1615.024	91.219%	60.566
σ		17.219	39.543	186.752	6.776%	336.527	82.655	5.880%	18.593
%RSD		16.855	30.725	4.455	7.072	75.458	5.118	6.446	30.699

500-162180-I-7-a, 5/31/2019 3:45:31 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:45:31	12.337	0.000	13.964	551923.060	603582.550	411.700	138917.940	149844.580	108.076%
2	15:45:53	0.000	0.000	11.191	594122.240	599390.340	364.378	132528.560	139003.900	111.774%
3	15:46:14	0.000	0.000	15.935	568822.060	585679.400	382.694	128367.210	141037.660	114.699%
x		4.112	0.000	13.697	571622.450	596217.430	386.257	133271.240	143295.380	111.517%
σ		7.123	0.000	2.383	21238.510	9363.823	23.861	5314.429	5762.209	3.319%
%RSD		173.205	0.000	17.399	3.715	1.571	6.178	3.988	4.021	2.976

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:45:31	21.738	584.083	1091.673	9269.017	14744.647	514.490	878.295	5497.640	4198.583
2	15:45:53	28.874	533.239	993.727	9012.420	14335.653	431.462	944.583	5185.806	3897.399
3	15:46:14	31.938	475.480	885.416	9320.430	14103.901	443.408	971.616	5247.447	3974.923
x		27.516	530.934	990.272	9200.623	14394.734	463.120	931.498	5310.298	4023.635
σ		5.234	54.338	103.172	165.003	324.433	44.887	48.017	165.144	156.389
%RSD		19.021	10.234	10.419	1.793	2.254	9.692	5.155	3.110	3.887

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:45:31	87.756	3.153	105839.480	92.357%	338.742	85.167%	-1.430	27.492	89.464%
2	15:45:53	78.644	0.542	100679.990	100.037%	402.121	92.454%	-2.008	4.522	96.984%
3	15:46:14	74.382	-0.610	99751.731	101.616%	454.128	92.390%	-8.882	4.620	95.078%
x		80.260	1.028	102090.400	98.003%	398.330	90.003%	-4.107	12.211	93.842%
σ		6.832	1.928	3279.803	4.953%	57.786	4.189%	4.146	13.234	3.909%
%RSD		8.512	187.478	3.213	5.054	14.507	4.654	100.944	108.372	4.166

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:45:31	53.885	277.540	19066.350	86.282%	-47.838	933.003	83.477%	256.020
2	15:45:53	52.882	199.374	17731.688	94.199%	251.993	830.354	89.846%	273.874
3	15:46:14	96.313	198.564	16745.089	100.021%	264.869	874.785	93.571%	205.352
x		67.694	225.159	17847.709	93.501%	156.341	879.380	88.964%	245.082
σ		24.790	45.365	1164.971	6.896%	176.942	51.479	5.105%	35.546
%RSD		36.621	20.148	6.527	7.375	113.177	5.854	5.738	14.504

500-162180-I-8-a, 5/31/2019 3:49:38 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:49:38	0.000	0.000	10.716	247406.200	463559.530	6141.171	282427.120	185020.260	103.004%
2	15:50:01	0.000	0.573	9.940	231973.380	415475.300	5598.822	257077.940	168969.140	116.419%
3	15:50:22	0.000	0.000	8.507	229328.480	414573.320	5907.545	254639.580	164862.010	116.434%
x		0.000	0.191	9.721	236236.020	431202.720	5882.513	264714.880	172950.470	111.952%
σ		0.000	0.331	1.121	9763.635	28025.454	272.040	15387.624	10652.557	7.750%
%RSD		0.000	173.205	11.527	4.133	6.499	4.625	5.813	6.159	6.922

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:49:38	370.305	1244.034	2337.393	2430757.100	307622.080	1375.427	2077.730	17410.064	144325.250
2	15:50:01	313.932	1106.903	1850.172	2172183.800	282829.580	1322.468	1864.209	16767.369	137572.340
3	15:50:22	285.264	982.610	2010.267	2201498.000	287064.820	1362.391	1936.509	15850.677	134299.780
x		323.167	1111.183	2065.944	2268146.300	292505.490	1353.429	1959.483	16676.037	138732.450
σ		43.266	130.765	248.337	141585.810	13261.514	27.594	108.599	783.695	5112.425
%RSD		13.388	11.768	12.020	6.242	4.534	2.039	5.542	4.700	3.685

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:49:38	417.018	5.269	281970.210	90.660%	301.914	85.837%	14.121	59.045	86.945%
2	15:50:01	400.208	4.680	261265.530	101.802%	237.087	94.374%	30.053	36.685	102.735%
3	15:50:22	370.538	3.672	258342.890	104.825%	330.538	96.258%	-2.043	52.393	97.479%
x		395.921	4.540	267192.870	99.096%	289.846	92.156%	14.044	49.375	95.720%
σ		23.534	0.807	12880.709	7.460%	47.880	5.553%	16.048	11.482	8.041%
%RSD		5.944	17.784	4.821	7.528	16.519	6.026	114.273	23.254	8.400

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:49:38	153.328	626.161	54034.300	89.059%	-15.132	1928.672	83.268%	352.778
2	15:50:01	70.115	551.961	48654.318	97.361%	356.345	1545.737	92.744%	257.641
3	15:50:22	93.671	512.417	49595.386	99.188%	330.770	1692.840	94.341%	281.284
x		105.704	563.513	50761.334	95.203%	223.994	1722.416	90.118%	297.234
σ		42.892	57.745	2873.261	5.398%	207.484	193.173	5.985%	49.533
%RSD		40.577	10.247	5.660	5.670	92.629	11.215	6.642	16.665

ccv, 5/31/2019 3:53:47 PM QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:53:47	348.800	462.322	228.454	T 2663626.100	1505337.000	874206.990	T 3073787.000	186176.430	105.124%
2	15:54:09	256.871	385.310	174.012	T 2379400.400	1372821.400	780050.380	T 2957840.700	169959.730	116.792%
3	15:54:30	220.108	385.475	186.838	T 2313516.800	T 1295301.700	751077.970	T 2874166.000	166613.770	118.126%
x		275.260	102.129%	100.027%	T 97.295%	T 98.348%	100.584%	T 99.944%	95.285%	113.347%
σ		66.288	n/a	n/a	T n/a	T n/a	n/a	T n/a	n/a	7.153%
%RSD		24.082	10.806	14.489	T 7.587	T 7.635	8.029	T 3.377	6.005	6.310

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:53:47	12016.586	341537.100	427489.280	T 2451167.000	332968.320	744971.060	194919.810	647218.390	137991.300
2	15:54:09	10872.970	314866.520	388898.510	2182577.400	303833.900	672508.320	178313.050	603226.190	128644.240
3	15:54:30	11198.567	306342.770	381437.250	T 2198641.900	300082.930	667019.210	172413.900	586898.070	125486.500
x		92.149%	90.036%	89.826%	T 93.791%	92.847%	90.650%	91.942%	102.973%	106.157%
σ		n/a	n/a	n/a	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.185	5.721	6.191	T 6.615	5.764	6.262	6.416	5.094	4.975

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:53:47	103093.070	12862.058	662976.000	92.238%	346594.240	83.682%	232405.740	220224.070	90.006%
2	15:54:09	96663.175	11827.675	598904.690	103.594%	306962.960	91.239%	208615.880	200853.290	99.331%
3	15:54:30	93729.946	11290.048	642082.810	97.609%	331962.370	93.989%	224481.840	211005.880	98.330%
x		105.099%	108.995%	103.283%	97.814%	96.686%	89.637%	97.213%	98.748%	95.889%
σ		n/a	n/a	n/a	5.681%	n/a	5.337%	n/a	n/a	5.119%
%RSD		4.895	6.662	5.149	5.808	6.100	5.954	5.461	4.599	5.339

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:53:47	517023.020	646909.770	228236.750	87.481%	2555424.900	3308056.100	79.787%	3115407.900
2	15:54:09	478883.500	600267.060	221709.640	95.300%	2380769.200	2993106.300	88.303%	2843523.300
3	15:54:30	475264.950	624121.200	211957.060	101.252%	2384388.900	3040093.500	88.921%	2936971.200
x		98.280%	96.703%	102.333%	94.678%	98.675%	97.776%	85.670%	2965300.800
σ		n/a	n/a	n/a	6.906%	n/a	n/a	5.105%	138138.450
%RSD		4.718	3.739	3.713	7.294	4.090	5.457	5.958	4.658

ccb, 5/31/2019 3:57:57 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	15:57:57	0.000	0.000	0.897	448.674	121.684	11.648	2166.882	-9.141	106.643%
2	15:58:18	0.000	0.000	-2.229	282.282	88.174	20.790	-3.278	12.398	116.950%
3	15:58:41	0.000	0.000	2.215	302.886	85.436	19.907	-9.584	-3.247	112.520%
x		0.000	0.000	0.294	344.614	98.432	17.448	718.007	0.003	112.038%
σ		0.000	0.000	2.282	90.706	20.184	5.042	1254.767	11.131	5.170%
%RSD		0.000	0.000	774.986	26.321	20.505	28.898	174.757	344606.820	4.615

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	15:57:57	-2.936	149.740	27.576	129.721	-26.374	52.695	-39.761	337.711	-129.572
2	15:58:18	0.864	17.850	2.369	133.412	-36.844	41.301	-47.107	210.492	-100.100
3	15:58:41	-2.936	47.791	-24.594	100.831	-28.609	49.321	-24.365	254.796	-131.984
x		-1.670	71.794	1.784	121.321	-30.609	47.772	-37.078	267.666	-120.552
σ		2.194	69.143	26.090	17.841	5.514	5.852	11.606	64.578	17.753
%RSD		131.421	96.308	1462.638	14.706	18.015	12.251	31.302	24.126	14.726

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	15:57:57	11.604	1.256	316.583	93.307%	106.130	90.188%	19.443	26.148	94.146%
2	15:58:18	14.257	1.175	225.704	103.450%	284.055	101.134%	4.205	30.437	101.883%
3	15:58:41	10.804	2.076	269.974	100.869%	279.411	99.412%	23.850	4.273	101.838%
x		12.222	1.503	270.754	99.208%	223.199	96.912%	15.832	20.286	99.289%
σ		1.807	0.498	45.445	5.271%	101.411	5.886%	10.308	14.032	4.454%
%RSD		14.788	33.166	16.784	5.313	45.435	6.073	65.107	69.173	4.486

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	15:57:57	-30.931	74.154	24.128	90.310%	2275.865	133.762	87.607%	197.558
2	15:58:18	-9.972	47.085	40.392	99.082%	4581.817	200.342	96.328%	205.952
3	15:58:41	25.843	184.629	26.439	100.136%	4739.510	225.557	96.885%	163.391
x		-5.020	101.956	30.320	96.509%	3865.731	186.553	93.607%	188.967
σ		28.709	72.865	8.799	5.394%	1379.120	47.425	5.203%	22.544
%RSD		571.871	71.467	29.022	5.589	35.676	25.422	5.559	11.930

500-164188-a-1-a, 5/31/2019 4:02:06 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:02:06	0.000	0.598	3019.261	TM 20250221.000	560996.620	10577.902	1631685.700	439728.990	111.445%
2	16:02:27	0.000	0.000	3156.225	TM 20409997.000	576888.270	10686.370	1662814.600	454219.930	108.248%
3	16:02:49	0.000	0.000	2977.611	TM 20174066.000	576695.690	10229.663	1573672.900	445164.690	108.750%
x		0.000	0.199	3051.032	TM 20278095.000	571526.860	10497.979	1622724.400	446371.200	109.481%
σ		0.000	0.345	93.449	TM 120410.060	9119.963	238.613	45241.467	7320.421	1.719%
%RSD		0.000	173.205	3.063	TM 0.594	1.596	2.273	2.788	1.640	1.570

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:02:06	38.938	21387.548	443.340	8498.292	77428.834	277.234	1226.945	1399.088	5807.180
2	16:02:27	34.016	23041.120	432.343	8980.513	78036.559	293.983	1330.459	1181.960	5248.349
3	16:02:49	56.323	22141.164	351.003	8960.735	78754.674	261.920	1358.499	1254.717	5257.096
x		43.092	22189.944	408.896	8813.180	78073.356	277.712	1305.301	1278.588	5437.542
σ		11.720	827.864	50.437	272.880	663.686	16.037	69.291	110.515	320.146
%RSD		27.196	3.731	12.335	3.096	0.850	5.775	5.308	8.644	5.888

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:02:06	1644.538	260.089	T 6037803.700	87.836%	130093.650	80.772%	51.035	0.888	89.012%
2	16:02:27	1587.433	252.911	T 5632601.600	94.351%	117767.210	86.757%	12.702	-18.909	92.659%
3	16:02:49	1627.646	237.815	T 5397504.700	99.561%	112651.690	88.972%	4.907	15.660	96.695%
x		1619.872	250.272	T 5689303.400	93.916%	120170.850	85.500%	22.881	-0.787	92.789%
σ		29.336	11.369	T 323893.500	5.875%	8965.970	4.242%	24.691	17.345	3.843%
%RSD		1.811	4.543	T 5.693	6.255	7.461	4.961	107.909	2205.055	4.142

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:02:06	155.326	976.090	35958.456	86.979%	431.436	1505.313	78.140%	5343.596
2	16:02:27	81.035	1012.498	32993.518	96.715%	1332.362	1333.172	85.169%	5230.217
3	16:02:49	157.914	1007.023	31636.825	98.641%	1995.688	1149.901	87.840%	5078.305
x		131.425	998.537	33529.600	94.112%	1253.162	1329.462	83.717%	5217.373
σ		43.658	19.631	2210.127	6.252%	785.128	177.735	5.011%	133.112
%RSD		33.219	1.966	6.592	6.643	62.652	13.369	5.985	2.551

500-164188-a-2-a, 5/31/2019 4:07:55 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:07:55	20.880	0.696	3749.153	T 16656810.000	T 2669331.600	1311.807	1840362.500	907777.980	95.784%
2	16:08:16	57.420	0.000	3382.202	T 15931850.000	T 2488589.600	1235.985	1737783.900	907821.700	104.494%
3	16:08:37	51.215	0.640	3371.429	T 15187385.000	T 2560915.200	1272.447	1779010.100	872318.570	104.136%
x		43.172	0.445	3500.928	T 15925349.000	T 2572945.500	1273.413	1785718.800	895972.750	101.471%
σ		19.553	0.387	215.036	T 734734.020	T 90969.553	37.920	51617.302	20485.133	4.929%
%RSD		45.290	86.829	6.142	T 4.614	T 3.536	2.978	2.891	2.286	4.857

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:07:55	57.385	2842.164	643.003	27141.714	162294.420	456.757	1487.133	2387.706	1862.579
2	16:08:16	54.484	2640.993	631.189	25345.762	151810.980	385.790	1325.259	2402.609	1831.148
3	16:08:37	71.753	2773.797	683.707	24265.952	148392.060	393.560	1362.256	2192.597	1850.773
x		61.207	2752.318	652.633	25584.476	154165.820	412.036	1391.549	2327.637	1848.167
σ		9.247	102.291	27.552	1452.667	7244.159	38.924	84.820	117.185	15.877
%RSD		15.108	3.717	4.222	5.678	4.699	9.447	6.095	5.035	0.859

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:07:55	1141.279	1751.885	T 11837864.000	87.667%	47517.877	78.051%	14.348	17.246	86.094%
2	16:08:16	1113.411	1665.845	T 11294196.000	94.978%	44765.532	84.036%	-8.882	15.383	92.502%
3	16:08:37	1085.998	1710.831	T 10741916.000	97.677%	45282.984	87.570%	11.892	69.098	96.276%
x		1113.563	1709.520	T 11291325.000	93.441%	45855.464	83.219%	5.786	33.909	91.624%
σ		27.640	43.035	T 547979.390	5.179%	1462.755	4.812%	12.762	30.489	5.147%
%RSD		2.482	2.517	T 4.853	5.543	3.190	5.782	220.569	89.913	5.618

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:07:55	165.684	1764.129	88617.744	86.989%	923.622	1961.009	76.164%	52530.588
2	16:08:16	151.718	1655.929	82408.667	94.676%	1425.257	2057.508	85.603%	45101.922
3	16:08:37	94.194	1732.156	84015.054	96.595%	1579.432	2010.279	87.431%	48255.977
x		137.198	1717.405	85013.821	92.754%	1309.437	2009.599	83.066%	48629.496
σ		37.892	55.588	3222.780	5.083%	342.903	48.253	6.047%	3728.392
%RSD		27.619	3.237	3.791	5.480	26.187	2.401	7.280	7.667

500-164188-a-3-a, 5/31/2019 4:12:03 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:12:03	0.000	0.000	1201.531	TM 23625755.000	294163.620	10059.447	1665750.000	372952.270	95.956%
2	16:12:24	0.000	0.000	1111.222	TM 21383919.000	260904.270	9104.374	1481607.300	334497.420	108.678%
3	16:12:47	12.964	0.000	1214.074	TM 22208114.000	272979.440	9219.427	1477904.800	334818.150	102.846%
x		4.321	0.000	1175.609	TM 22405929.000	276015.780	9461.083	1541754.000	347422.610	102.493%
σ		7.485	0.000	56.112	TM 1133933.800	16836.288	521.382	107399.620	22109.912	6.369%
%RSD		173.205	0.000	4.773	TM 5.061	6.100	5.511	6.966	6.364	6.214

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:12:03	108.227	8930.960	615.718	13548.562	12216.540	736.158	2318.147	930.166	5301.271
2	16:12:24	89.079	8000.320	521.208	12035.171	10486.791	718.111	2046.668	951.347	4755.439
3	16:12:47	111.583	7959.849	634.204	12037.776	10858.665	683.878	2251.845	801.650	4644.509
x		102.963	8297.043	590.377	12540.503	11187.332	712.716	2205.553	894.388	4900.406
σ		12.141	549.361	60.611	873.005	910.508	26.554	141.536	81.009	351.562
%RSD		11.791	6.621	10.266	6.961	8.139	3.726	6.417	9.057	7.174

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:12:03	1565.323	70.960	T 4817371.200	85.132%	97015.046	80.013%	-1.078	76.411	85.425%
2	16:12:24	1406.117	68.044	T 4152457.600	101.259%	81847.683	88.392%	-1.878	26.163	95.185%
3	16:12:47	1437.689	59.356	T 4347266.500	96.837%	87317.813	88.307%	5.263	-2.845	94.263%
x		1469.710	66.120	T 4439031.800	94.409%	88726.847	85.570%	0.769	33.243	91.624%
σ		84.295	6.037	T 341823.320	8.333%	7681.228	4.813%	3.912	40.099	5.388%
%RSD		5.735	9.130	T 7.700	8.827	8.657	5.625	508.816	120.626	5.881

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:12:03	49.827	1646.112	29487.915	85.564%	62.105	2590.745	76.895%	13282.832
2	16:12:24	69.373	1823.314	26569.406	95.886%	313.897	2131.255	86.327%	11659.779
3	16:12:47	160.171	1658.312	26413.861	97.361%	613.284	2201.455	89.354%	11667.538
x		93.124	1709.246	27490.394	92.937%	329.762	2307.818	84.192%	12203.383
σ		58.882	98.974	1731.651	6.428%	275.932	247.523	6.498%	934.838
%RSD		63.230	5.791	6.299	6.916	83.676	10.725	7.718	7.660

500-164188-a-4-a, 5/31/2019 4:16:12 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:16:12	20.949	0.000	2325.175	T 17105606.000	1044333.900	1472.305	1182116.500	812939.870	95.469%
2	16:16:35	0.000	0.000	2089.057	T 15519765.000	947779.580	1278.537	1103978.100	732575.760	108.320%
3	16:16:56	6.259	0.000	2065.819	T 16363162.000	941477.220	1317.874	1095911.600	751000.500	106.514%
x		9.069	0.000	2160.017	T 16329511.000	977863.560	1356.239	1127335.400	765505.380	103.434%
σ		10.754	0.000	143.502	T 793455.540	57651.177	102.423	47612.952	42099.773	6.957%
%RSD		118.571	0.000	6.644	T 4.859	5.896	7.552	4.223	5.500	6.726

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:16:12	34.307	325.037	411.215	147668.360	220256.940	486.238	2179.261	1221.143	2697.069
2	16:16:35	38.094	166.980	364.108	130551.020	200918.100	494.841	2074.366	1105.174	2399.042
3	16:16:56	32.531	90.130	378.577	132663.990	204675.070	417.888	1871.635	1095.137	2321.731
x		34.978	194.049	384.633	136961.120	208616.700	466.322	2041.754	1140.485	2472.614
σ		2.842	119.770	24.130	9332.734	10254.268	42.165	156.385	70.032	198.190
%RSD		8.124	61.722	6.274	6.814	4.915	9.042	7.659	6.141	8.015

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:16:12	3477.205	7.944	T 6073045.200	88.701%	176501.210	80.182%	6.383	-18.535	87.347%
2	16:16:35	3405.353	4.245	T 5764197.800	98.857%	160957.700	86.753%	18.907	-32.450	95.963%
3	16:16:56	3220.678	5.597	T 5747522.000	100.690%	162278.090	88.364%	19.025	-14.158	95.555%
x		3367.745	5.929	T 5861588.300	96.083%	166579.000	85.100%	14.771	-21.714	92.955%
σ		132.334	1.871	T 183316.750	6.458%	8618.208	4.334%	7.265	9.551	4.861%
%RSD		3.929	31.566	T 3.127	6.721	5.174	5.093	49.183	43.986	5.229

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:16:12	90.994	149.545	67279.893	86.846%	-34.882	1531.775	77.332%	15201.526
2	16:16:35	42.621	77.615	65335.013	94.996%	313.789	1484.823	87.395%	13816.053
3	16:16:56	31.715	113.300	62383.867	99.370%	484.046	1666.133	89.620%	14642.026
x		55.110	113.487	64999.591	93.737%	254.318	1560.910	84.782%	14553.201
σ		31.551	35.965	2465.187	6.356%	264.527	94.101	6.548%	696.995
%RSD		57.252	31.691	3.793	6.781	104.014	6.029	7.723	4.789

500-164188-a-5-a, 5/31/2019 4:20:21 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:20:21	13.388	0.669	1815.333	T 11628808.000	987575.350	5080.744	929717.480	675222.540	99.594%
2	16:20:44	18.674	0.000	1705.040	T 11624746.000	927628.060	4980.080	863282.740	615847.260	107.102%
3	16:21:07	12.811	0.000	1740.223	T 11470858.000	937511.570	4959.779	846747.290	599077.040	104.078%
x		14.957	0.223	1753.532	T 11574804.000	950904.990	5006.868	879915.840	630048.950	103.591%
σ		3.231	0.386	56.338	T 90042.878	32139.651	64.779	43914.779	40009.999	3.778%
%RSD		21.604	173.205	3.213	T 0.778	3.380	1.294	4.991	6.350	3.647

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:20:21	291.598	862.791	863.251	198743.820	242820.920	954.294	1510.333	6976.619	3064.241
2	16:20:44	281.325	733.822	741.782	183099.320	225915.370	737.157	1412.427	6628.885	2987.937
3	16:21:07	236.203	844.949	987.518	194411.300	226348.840	852.873	1333.177	6783.389	2928.603
x		269.709	813.854	864.184	192084.810	231695.040	848.108	1418.646	6796.298	2993.594
σ		29.468	69.882	122.870	8077.562	9637.728	108.647	88.741	174.226	67.996
%RSD		10.926	8.587	14.218	4.205	4.160	12.811	6.255	2.564	2.271

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:20:21	3824.969	5.025	T 5283071.500	91.636%	73254.273	82.384%	21.367	-14.512	88.158%
2	16:20:44	3719.317	6.559	T 4634587.600	100.784%	69173.170	87.906%	26.742	13.154	93.571%
3	16:21:07	3601.642	4.974	T 4919109.800	99.714%	68898.456	88.552%	4.710	-0.562	98.094%
x		3715.309	5.519	T 4945589.700	97.378%	70441.966	86.280%	17.606	-0.640	93.274%
σ		111.717	0.901	T 325051.900	5.001%	2439.400	3.390%	11.487	13.833	4.975%
%RSD		3.007	16.321	T 6.573	5.136	3.463	3.929	65.244	2162.113	5.334

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:20:21	432.753	147.158	72296.007	89.184%	-168.964	4779.570	79.782%	8134.555
2	16:20:44	373.907	125.159	68915.547	96.246%	190.466	4578.047	87.611%	7863.168
3	16:21:07	641.184	189.077	70446.200	99.789%	301.589	4700.417	90.185%	8407.711
x		482.614	153.798	70552.585	95.073%	107.697	4686.011	85.860%	8135.144
σ		140.442	32.473	1692.739	5.399%	245.954	101.531	5.418%	272.272
%RSD		29.100	21.114	2.399	5.679	228.375	2.167	6.310	3.347

500-164188-a-6-a, 5/31/2019 4:24:32 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:24:32	6.755	0.676	1477.249	T 14198631.000	2327771.600	29130.399	1022299.100	1081093.100	98.691%
2	16:24:55	11.904	0.595	1316.287	T 12527487.000	2101592.600	25931.969	922507.170	979472.660	112.004%
3	16:25:17	19.280	0.643	1423.805	T 13420799.000	2200980.000	27846.847	1006176.200	1046218.100	103.734%
x		12.646	0.638	1405.780	T 13382306.000	2210114.700	27636.405	983660.830	1035594.600	104.810%
σ		6.295	0.040	81.981	T 836237.170	113365.830	1609.566	53570.643	51636.455	6.721%
%RSD		49.780	6.329	5.832	T 6.249	5.129	5.824	5.446	4.986	6.413

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:24:32	1938.223	8829.254	1980.289	69230.484	T 5584350.200	6049.383	2646.880	8477.697	7547.232
2	16:24:55	1675.753	8223.877	1530.714	62318.882	T 4963901.100	5442.127	2422.836	7645.167	7289.534
3	16:25:17	1899.564	9040.320	1731.218	68701.366	T 5424838.900	5765.434	2747.936	8071.929	7003.664
x		1837.847	8697.817	1747.407	66750.244	T 5324363.400	5752.315	2605.884	8064.931	7280.143
σ		141.702	423.794	225.224	3846.780	T 322196.770	303.840	166.382	416.309	271.906
%RSD		7.710	4.872	12.889	5.763	T 6.051	5.282	6.385	5.162	3.735

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:24:32	667.908	536.520	T 8141293.300	88.379%	56687.081	79.329%	106.577	288.777	86.611%
2	16:24:55	634.236	503.868	T 7152800.400	103.492%	49457.413	86.892%	90.678	194.870	93.747%
3	16:25:17	668.769	500.531	T 7663629.200	98.806%	52640.169	88.734%	107.028	247.643	97.777%
x		656.971	513.640	T 7652574.300	96.892%	52928.221	84.985%	101.428	243.763	92.712%
σ		19.694	19.885	T 494339.170	7.736%	3623.431	4.984%	9.312	47.073	5.654%
%RSD		2.998	3.871	T 6.460	7.984	6.846	5.864	9.181	19.311	6.099

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:24:32	404.449	2014.688	136192.900	90.265%	1554.998	17907.568	78.255%	29028.574
2	16:24:55	372.250	1582.694	125005.940	99.693%	1606.959	17556.630	84.797%	26953.158
3	16:25:17	361.579	1710.681	134235.830	98.313%	1505.357	18202.195	88.057%	26607.522
x		379.426	1769.354	131811.560	96.090%	1555.771	17888.798	83.703%	27529.751
σ		22.318	221.893	5974.515	5.092%	50.805	323.192	4.992%	1309.472
%RSD		5.882	12.541	4.533	5.299	3.266	1.807	5.964	4.757

500-164188-a-7-a, 5/31/2019 4:28:42 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:28:42	13.788	0.000	1880.063	T 12424973.000	1012616.800	7849.201	897458.280	640796.200	96.700%
2	16:29:05	6.040	0.000	1686.746	T 11061366.000	919736.750	7108.873	815568.330	564255.300	110.384%
3	16:29:27	18.565	0.000	1760.036	T 11060801.000	877922.760	6709.262	815450.500	589682.990	107.732%
x		12.797	0.000	1775.615	T 11515713.000	936758.770	7222.446	842825.700	598244.830	104.939%
σ		6.321	0.000	97.596	T 787442.050	68941.520	578.394	47313.233	38982.128	7.257%
%RSD		49.393	0.000	5.496	T 6.838	7.360	8.008	5.614	6.516	6.915

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:28:42	539.419	1163.753	835.688	245897.200	244499.960	1107.314	1425.900	3845.113	4075.170
2	16:29:05	293.006	776.951	660.514	222805.930	225956.300	1030.987	1392.946	3472.262	3638.221
3	16:29:27	368.362	831.277	724.982	226304.320	225855.970	961.758	1310.601	3931.089	3796.578
x		400.262	923.993	740.394	231669.150	232104.080	1033.353	1376.482	3749.488	3836.656
σ		126.266	209.407	88.598	12445.391	10735.268	72.807	59.387	243.903	221.214
%RSD		31.546	22.663	11.966	5.372	4.625	7.046	4.314	6.505	5.766

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:28:42	4532.685	8.166	T 4941835.000	91.568%	76859.112	80.885%	6.292	-16.624	87.871%
2	16:29:05	4146.713	6.570	T 4702702.900	101.284%	74211.588	90.254%	4.303	-30.557	101.127%
3	16:29:27	4274.193	8.484	T 4811338.600	99.748%	72633.414	89.267%	11.348	-2.697	98.862%
x		4317.863	7.740	T 4818625.500	97.533%	74568.038	86.802%	7.314	-16.626	95.953%
σ		196.657	1.025	T 119732.470	5.223%	2135.281	5.148%	3.632	13.930	7.090%
%RSD		4.554	13.247	T 2.485	5.355	2.864	5.930	49.662	83.782	7.389

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:28:42	262.059	185.932	78630.113	88.303%	-37.702	5896.878	80.473%	8429.405
2	16:29:05	301.394	120.777	76260.013	95.627%	165.265	5264.620	89.416%	6980.435
3	16:29:27	373.510	153.037	74928.605	99.586%	264.950	5859.975	88.994%	7718.243
x		312.321	153.248	76606.243	94.506%	130.837	5673.825	86.294%	7709.361
σ		56.523	32.578	1874.886	5.724%	154.235	354.861	5.046%	724.526
%RSD		18.098	21.258	2.447	6.057	117.883	6.254	5.847	9.398

ccv, 5/31/2019 4:32:52 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:32:52	427.191	427.191	270.697	T 2655272.700	1540787.500	922010.140	T 3286040.400	193380.100	98.319%
2	16:33:14	276.446	378.564	217.799	T 2286208.300	1367230.700	774261.040	T 2908667.000	170747.940	118.169%
3	16:33:36	384.546	407.620	215.679	T 2627543.200	1520315.100	868833.820	T 3143340.100	183645.710	104.021%
x		362.728	100.495%	119.524%	T 100.105%	104.354%	107.265%	T 104.795%	99.846%	106.836%
σ		77.705	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	10.220%
%RSD		21.422	6.049	13.280	T 8.147	6.425	8.752	T 6.122	6.218	9.566

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:32:52	12237.459	347854.620	435604.120	T 2509769.900	353626.280	755906.870	200398.140	629065.200	132664.000
2	16:33:14	11249.105	313529.470	394452.880	2189306.100	300086.620	660776.600	174430.080	588704.150	125116.220
3	16:33:36	12032.835	346028.110	447452.450	T 2463229.100	345067.560	751599.440	193194.490	585560.750	123261.710
x		96.018%	94.213%	95.802%	T 98.320%	98.981%	94.293%	95.713%	101.067%	103.157%
σ		n/a	n/a	n/a	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.406	5.751	6.532	T 7.253	8.639	7.433	7.080	4.036	3.921

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:32:52	99756.325	12303.204	660958.580	91.721%	354407.060	85.139%	229338.280	214800.350	91.804%
2	16:33:14	93383.014	11511.310	608056.800	105.471%	308013.610	94.184%	215517.090	206035.060	99.176%
3	16:33:36	91841.691	11260.431	607620.320	104.231%	322128.010	95.545%	210989.240	195368.940	103.216%
x		102.054%	106.254%	101.801%	100.474%	96.590%	91.623%	95.802%	96.267%	98.066%
σ		n/a	n/a	n/a	7.606%	n/a	5.656%	n/a	n/a	5.787%
%RSD		4.417	4.655	4.903	7.570	7.247	6.173	4.372	4.738	5.901

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:32:52	519981.330	640538.660	222878.510	91.924%	2482112.900	3208018.200	84.523%	3065514.500
2	16:33:14	477142.400	614606.650	210242.210	101.185%	2358595.900	3020023.400	91.139%	2928186.900
3	16:33:36	479912.450	603594.230	225830.360	101.447%	2289448.100	2955480.900	95.873%	2752477.200
x		98.672%	96.054%	101.876%	98.185%	96.108%	96.125%	90.512%	2915392.900
σ		n/a	n/a	n/a	5.424%	n/a	n/a	5.701%	156910.340
%RSD		4.869	3.061	3.770	5.524	4.107	4.286	6.298	5.382

ccb, 5/31/2019 4:37:02 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:37:02	0.000	0.000	3.392	844.787	166.916	82.071	3368.901	-10.701	103.777%
2	16:37:25	0.000	0.000	5.668	534.515	96.803	42.424	-188.950	15.914	116.090%
3	16:37:46	0.000	0.613	7.738	618.733	98.135	41.020	426.742	12.528	108.693%
x		0.000	0.204	5.599	666.012	120.618	55.171	1202.231	5.914	109.520%
σ		0.000	0.354	2.174	160.448	40.101	23.306	1901.476	14.488	6.198%
%RSD		0.000	173.205	38.821	24.091	33.246	42.243	158.162	244.994	5.659

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:37:02	3.488	138.104	-2.234	189.592	-23.132	26.641	-24.611	303.964	-111.055
2	16:37:25	-1.022	54.915	-58.072	145.409	-49.449	49.352	-44.629	190.922	-136.017
3	16:37:46	-0.892	109.171	32.418	118.817	-8.161	55.566	-29.066	268.937	-133.923
x		0.525	100.730	-9.296	151.273	-26.914	43.853	-32.769	254.608	-126.998
σ		2.567	42.232	45.656	35.750	20.902	15.226	10.510	57.868	13.847
%RSD		489.296	41.926	491.130	23.633	77.662	34.721	32.074	22.728	10.903

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:37:02	1.193	1.323	358.499	96.871%	141.641	93.822%	5.255	11.936	94.315%
2	16:37:25	11.189	0.421	309.330	101.590%	165.501	100.361%	-2.501	16.936	104.473%
3	16:37:46	23.951	3.775	287.667	102.201%	372.951	101.592%	3.831	10.392	104.881%
x		12.111	1.840	318.498	100.221%	226.698	98.592%	2.195	13.088	101.223%
σ		11.407	1.736	36.295	2.917%	127.220	4.177%	4.129	3.421	5.986%
%RSD		94.186	94.358	11.396	2.911	56.119	4.236	188.091	26.137	5.914

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:37:02	-21.014	66.755	9.195	90.829%	2438.137	179.475	92.850%	171.166
2	16:37:25	64.114	-7.860	39.632	100.341%	5342.389	217.436	97.172%	176.585
3	16:37:46	81.305	29.883	25.291	102.665%	5185.679	219.666	98.242%	147.349
x		41.468	29.593	24.706	97.945%	4322.069	205.526	96.088%	165.033
σ		54.790	37.308	15.227	6.271%	1633.413	22.588	2.855%	15.553
%RSD		132.124	126.072	61.633	6.403	37.792	10.990	2.971	9.424

ccvl, 5/31/2019 4:41:13 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:41:13	19.366	3.228	52.641	22874.033	13157.081	3608.049	67971.900	1518.019	103.276%
2	16:41:35	0.000	0.579	40.461	21567.105	11660.322	3526.744	60272.424	1275.181	115.172%
3	16:41:58	11.670	1.750	47.368	20062.803	11325.790	3207.224	55644.260	1417.121	114.254%
x		10.345	115.060%	119.215%	106.638%	106.465%	108.118%	103.183%	95.930%	110.901%
σ		9.751	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.619%
%RSD		94.252	71.657	13.045	6.543	8.094	6.146	10.159	8.693	5.969

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:41:13	274.642	7405.201	9268.009	10176.422	3541.569	3020.412	1626.420	5140.513	10612.565
2	16:41:35	234.394	6540.535	8475.707	8919.846	3257.424	3050.779	1455.361	4579.322	9477.617
3	16:41:58	185.729	6204.585	8427.939	8990.677	3002.611	2976.142	1499.163	4547.414	9399.400
x		93.906%	94.223%	98.132%	96.391%	97.135%	98.362%	96.487%	99.951%	99.794%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		19.225	9.222	5.408	7.540	8.252	1.245	5.819	7.015	6.907

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:41:13	401.403	120.576	11137.471	93.629%	5789.321	91.566%	2107.374	423.479	96.407%
2	16:41:35	365.706	101.481	10486.504	100.962%	5021.591	101.283%	2341.519	421.372	106.379%
3	16:41:58	364.700	113.505	9567.353	105.573%	4856.918	100.680%	2215.270	465.675	103.423%
x		101.327%	101.653%	105.751%	100.055%	96.069%	97.843%	97.346%	102.369%	102.070%
σ		n/a	n/a	n/a	6.023%	n/a	5.444%	n/a	n/a	5.122%
%RSD		5.542	8.631	7.587	6.020	9.529	5.564	5.276	5.721	5.018

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:41:13	9837.774	7361.301	2257.405	92.507%	18701.342	5902.133	91.110%	110304.150
2	16:41:35	9565.586	6855.374	2292.174	100.056%	19668.521	5954.090	95.759%	110624.290
3	16:41:58	9133.280	7144.784	2065.067	100.400%	18208.934	5908.646	98.435%	109740.730
x		95.318%	91.991%	102.265%	97.654%	95.329%	92.973%	95.101%	110223.050
σ		n/a	n/a	n/a	4.461%	n/a	n/a	3.706%	447.327
%RSD		3.735	3.565	5.548	4.568	3.937	0.478	3.897	0.406

500-164208-b-1-a, 5/31/2019 4:45:25 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:45:25	0.000	0.000	10.857	99023.628	54470.375	5486.785	106546.180	13139.332	108.263%
2	16:45:46	11.490	0.574	16.442	99741.722	51546.355	5410.030	103149.000	13038.218	116.047%
3	16:46:09	0.000	0.605	9.113	100220.800	51945.756	5380.663	103648.290	13356.300	110.212%
x		3.830	0.393	12.137	99662.051	52654.162	5425.826	104447.820	13177.950	111.507%
σ		6.634	0.341	3.829	602.551	1585.514	54.796	1834.296	162.520	4.050%
%RSD		173.205	86.689	31.544	0.605	3.011	1.010	1.756	1.233	3.632

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:45:25	91.485	434.251	1362.214	9189.570	31444.824	17613.944	2808.539	29222.128	9334.912
2	16:45:46	87.066	455.421	1106.459	8739.151	28964.479	16623.594	2661.705	27234.940	8799.559
3	16:46:09	83.766	393.916	1265.092	8867.680	29491.862	17164.812	2784.927	27213.355	9170.055
x		87.439	427.862	1244.588	8932.134	29967.055	17134.117	2751.724	27890.141	9101.509
σ		3.873	31.246	129.105	232.024	1306.669	495.888	78.847	1153.585	274.180
%RSD		4.429	7.303	10.373	2.598	4.360	2.894	2.865	4.136	3.012

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:45:25	127.607	24.172	33048.776	110.185%	3.396	91.587%	5.167	32.998	94.903%
2	16:45:46	111.985	14.575	30398.850	120.708%	53.879	99.984%	50.622	17.674	100.834%
3	16:46:09	108.017	11.998	29548.188	124.578%	45.268	99.433%	-8.882	36.198	104.297%
x		115.870	16.915	30998.605	118.490%	34.181	97.001%	15.636	28.957	100.011%
σ		10.357	6.416	1825.735	7.448%	27.006	4.697%	31.102	9.901	4.751%
%RSD		8.938	37.930	5.890	6.286	79.009	4.842	198.920	34.193	4.750

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:45:25	83.842	93.760	14239.999	91.884%	263.343	884.235	91.528%	3270.001
2	16:45:46	64.890	141.281	12763.967	102.440%	1029.787	1060.774	99.328%	3166.405
3	16:46:09	112.970	88.195	13860.734	102.331%	1031.906	968.640	99.173%	3157.954
x		87.234	107.745	13621.567	98.885%	775.012	971.216	96.676%	3198.120
σ		24.219	29.176	766.530	6.063%	443.119	88.297	4.459%	62.394
%RSD		27.763	27.078	5.627	6.132	57.176	9.091	4.613	1.951

500-164208-b-2-a, 5/31/2019 4:49:34 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:49:34	0.000	0.000	20.103	256659.760	71148.608	30913.850	257013.060	21003.117	100.754%
2	16:49:57	11.501	0.575	15.023	239974.990	64062.049	27126.552	226172.130	19005.639	115.932%
3	16:50:19	0.000	0.000	19.235	233924.390	62819.733	26733.288	220103.830	18244.024	116.477%
x		3.834	0.192	18.120	243519.710	66010.130	28257.897	234429.670	19417.593	111.054%
σ		6.640	0.332	2.717	11774.894	4493.195	2308.512	19791.744	1424.931	8.924%
%RSD		173.205	173.205	14.996	4.835	6.807	8.169	8.443	7.338	8.036

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:49:34	967.574	2838.216	4173.969	189422.090	129040.820	61037.225	2993.918	18302.575	5755.061
2	16:49:57	771.503	2249.142	3771.352	172580.060	120819.240	54546.343	2635.698	17126.366	5468.162
3	16:50:19	765.973	2449.614	3626.013	166451.210	114895.810	54170.107	2708.678	16614.635	5319.216
x		835.017	2512.324	3857.111	176151.120	121585.290	56584.559	2779.431	17347.858	5514.146
σ		114.831	299.502	283.866	11894.522	7103.551	3860.708	189.301	865.494	221.532
%RSD		13.752	11.921	7.360	6.752	5.842	6.823	6.811	4.989	4.018

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:49:34	237.051	24.071	41137.665	112.513%	85.223	90.974%	11.653	18.356	97.397%
2	16:49:57	228.498	13.295	39964.647	120.223%	187.391	98.167%	23.076	16.931	104.304%
3	16:50:19	230.351	19.370	39463.760	122.545%	155.671	102.255%	16.591	4.143	104.686%
x		231.967	18.912	40188.691	118.427%	142.762	97.132%	17.106	13.143	102.129%
σ		4.500	5.403	859.149	5.252%	52.293	5.711%	5.729	7.827	4.103%
%RSD		1.940	28.567	2.138	4.434	36.629	5.880	33.491	59.553	4.017

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:49:34	173.302	143.303	19594.956	92.163%	138.922	2128.025	88.736%	3335.777
2	16:49:57	89.091	100.966	18887.364	102.008%	751.538	2126.090	97.119%	3170.122
3	16:50:19	73.339	240.300	18693.203	104.030%	950.218	1849.236	98.201%	3413.461
x		111.911	161.523	19058.508	99.400%	613.559	2034.450	94.686%	3306.453
σ		53.747	71.432	474.613	6.348%	422.882	160.403	5.180%	124.292
%RSD		48.027	44.224	2.490	6.387	68.923	7.884	5.471	3.759

500-164208-b-3-a, 5/31/2019 4:53:45 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:53:45	6.405	0.641	8.180	157455.780	68306.807	963.542	242980.300	18322.569	104.078%
2	16:54:07	0.000	0.000	10.254	149500.160	67780.022	904.098	226757.390	17593.906	106.815%
3	16:54:29	0.000	0.000	10.508	138413.820	61904.544	843.017	214386.910	16534.027	117.767%
x		2.135	0.214	9.648	148456.590	65997.124	903.552	228041.530	17483.501	109.554%
σ		3.698	0.370	1.277	9563.776	3554.052	60.264	14339.880	899.368	7.244%
%RSD		173.205	173.205	13.237	6.442	5.385	6.670	6.288	5.144	6.612

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:53:45	37.632	370.882	1111.376	1432.051	5191.373	1376.051	1412.191	6459.121	4790.964
2	16:54:07	13.707	240.093	1075.594	1568.781	5035.787	1330.083	1418.628	6116.906	4320.024
3	16:54:29	19.707	223.089	894.325	1466.641	4423.683	1163.764	1205.423	6040.462	4336.678
x		23.682	278.021	1027.098	1489.158	4883.614	1289.966	1345.414	6205.496	4482.555
σ		12.448	80.868	116.369	71.092	405.838	111.685	121.279	222.946	267.219
%RSD		52.561	29.087	11.330	4.774	8.310	8.658	9.014	3.593	5.961

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:53:45	22.238	8.739	19536.983	91.339%	29.229	89.560%	5.576	26.782	92.220%
2	16:54:07	13.691	2.117	17350.379	102.465%	7.499	98.785%	-2.484	29.868	104.197%
3	16:54:29	11.715	6.218	16983.496	102.057%	92.654	100.817%	16.866	30.015	103.569%
x		15.882	5.692	17956.953	98.620%	43.127	96.387%	6.653	28.889	99.996%
σ		5.593	3.342	1380.588	6.309%	44.246	5.999%	9.720	1.826	6.741%
%RSD		35.217	58.727	7.688	6.397	102.593	6.224	146.102	6.320	6.742

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:53:45	133.614	143.062	16039.880	93.685%	48.305	534.287	92.474%	265.649
2	16:54:07	47.153	88.384	14793.106	101.570%	446.660	471.691	100.087%	264.245
3	16:54:29	83.021	96.024	14814.587	104.123%	817.223	547.557	97.959%	243.099
x		87.930	109.157	15215.858	99.792%	437.396	517.845	96.840%	257.664
σ		43.439	29.610	713.706	5.442%	384.543	40.518	3.928%	12.634
%RSD		49.402	27.126	4.691	5.453	87.916	7.824	4.056	4.903

500-164208-f-4-a, 5/31/2019 4:57:54 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	16:57:54	0.000	0.000	10.676	191757.510	69783.990	1663.643	263995.980	18549.910	109.782%
2	16:58:16	0.000	0.578	12.951	195331.920	73464.494	1631.608	264746.650	17631.138	115.287%
3	16:58:38	6.300	0.000	14.310	204691.240	73462.765	1589.565	275377.420	18784.569	105.812%
x		2.100	0.193	12.646	197260.220	72237.083	1628.272	268040.020	18321.872	110.294%
σ		3.638	0.334	1.836	6679.004	2124.441	37.152	6365.452	609.591	4.758%
%RSD		173.205	173.205	14.521	3.386	2.941	2.282	2.375	3.327	4.314

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	16:57:54	17.306	166.993	737.001	2053.407	91062.230	29216.604	3292.439	9832.333	5604.414
2	16:58:16	4.774	177.013	834.694	2137.626	90625.341	27882.912	3227.702	9334.783	5099.541
3	16:58:38	28.566	218.577	856.110	2230.815	95433.260	30290.012	3410.078	8902.225	5030.222
x		16.882	187.528	809.268	2140.616	92373.610	29129.843	3310.073	9356.447	5244.726
σ		11.902	27.352	63.495	88.741	2658.724	1205.893	92.458	465.432	313.422
%RSD		70.500	14.586	7.846	4.146	2.878	4.140	2.793	4.974	5.976

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	16:57:54	61.450	5.345	39273.282	98.347%	287.883	90.660%	-1.669	19.348	92.421%
2	16:58:16	48.850	5.636	36763.347	104.970%	279.203	98.689%	-8.882	36.633	102.798%
3	16:58:38	54.415	5.658	37449.917	105.250%	367.005	98.472%	9.724	28.691	107.491%
x		54.905	5.546	37828.849	102.856%	311.363	95.941%	-0.276	28.224	100.903%
σ		6.315	0.175	1297.165	3.907%	48.382	4.574%	9.381	8.652	7.712%
%RSD		11.501	3.152	3.429	3.798	15.539	4.768	3404.747	30.654	7.643

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	16:57:54	86.149	84.803	24823.282	93.423%	22.862	535.482	89.608%	951.704
2	16:58:16	74.358	97.570	24115.184	99.626%	401.942	350.512	94.276%	783.592
3	16:58:38	149.308	63.700	25807.961	101.690%	348.013	413.442	100.895%	717.952
x		103.272	82.024	24915.476	98.246%	257.606	433.145	94.926%	817.750
σ		40.302	17.105	850.146	4.302%	205.074	94.046	5.671%	120.561
%RSD		39.026	20.854	3.412	4.379	79.608	21.712	5.974	14.743

ccv, 5/31/2019 5:02:03 PM QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:02:03	367.824	391.120	221.529	T 2446416.200	1380695.000	807571.620	T 2992901.000	172978.260	108.750%
2	17:02:24	340.021	401.465	221.468	T 2419564.400	1401700.100	797290.820	T 2955505.000	175956.000	111.760%
3	17:02:47	353.995	399.596	200.267	T 2450821.800	1407131.600	776402.180	T 2932849.000	171616.850	111.115%
x		353.947	98.739%	109.186%	T 96.769%	98.727%	99.577%	T 99.669%	94.884%	110.542%
σ		13.901	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	1.585%
%RSD		3.928	1.387	5.717	T 0.694	1.000	2.001	T 1.024	1.279	1.434

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:02:03	10866.956	330744.670	407746.020	2298309.600	317467.110	678325.540	178473.530	632705.910	134085.210
2	17:02:24	11476.161	315794.870	398240.230	2293789.400	318527.470	691472.800	181507.190	571751.830	123106.420
3	17:02:47	10863.894	320146.880	395987.740	2280830.500	308776.320	698897.980	184369.420	569237.280	122435.240
x		89.767%	90.405%	90.137%	94.348%	93.628%	89.962%	91.724%	99.406%	102.774%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.186	2.386	1.558	0.396	1.699	1.511	1.625	6.079	5.169

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:02:03	100115.310	12169.366	609296.040	98.101%	319812.450	84.343%	225401.860	219545.570	91.595%
2	17:02:24	92343.987	11344.091	601364.420	102.397%	320007.540	94.217%	216198.050	205002.930	98.561%
3	17:02:47	92062.075	11509.086	599685.870	103.823%	315962.780	94.263%	207767.580	202150.830	101.627%
x		101.889%	106.095%	98.205%	101.440%	93.768%	90.941%	94.856%	97.907%	97.261%
σ		n/a	n/a	n/a	2.978%	n/a	5.714%	n/a	n/a	5.141%
%RSD		4.819	3.741	0.851	2.936	0.716	6.283	4.075	4.466	5.286

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:02:03	506387.970	648877.100	223250.800	91.178%	2511774.800	3170587.600	84.339%	3046835.600
2	17:02:24	464702.430	615143.270	212675.540	99.370%	2369747.300	3041216.600	90.472%	2887619.900
3	17:02:47	481476.830	608228.210	213503.290	100.966%	2311847.500	3003254.400	93.776%	2867473.400
x		97.037%	96.752%	100.404%	97.171%	96.960%	96.455%	89.529%	2933976.300
σ		n/a	n/a	n/a	5.251%	n/a	n/a	4.788%	98256.759
%RSD		4.332	3.485	2.717	5.404	4.290	2.856	5.348	3.349

ccb, 5/31/2019 5:06:13 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:06:13	0.000	0.000	-0.662	502.385	115.838	55.696	1346.771	0.508	106.371%
2	17:06:36	0.000	0.000	0.740	390.712	123.321	59.660	150.661	-3.030	112.276%
3	17:06:59	0.000	0.000	-0.036	409.403	114.944	50.086	-538.702	-2.039	114.011%
x		0.000	0.000	0.014	434.167	118.035	55.147	319.577	-1.520	110.886%
σ		0.000	0.000	0.702	59.813	4.600	4.810	954.019	1.825	4.005%
%RSD		0.000	0.000	4943.017	13.777	3.897	8.722	298.526	120.021	3.612

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:06:13	-0.847	251.926	11.871	239.708	-17.784	48.682	-52.083	370.690	-111.166
2	17:06:36	-0.957	37.304	11.776	185.627	-67.996	23.723	-36.026	301.014	-98.464
3	17:06:59	-0.987	23.829	29.415	63.896	-32.058	60.215	-45.148	202.651	-118.098
x		-0.930	104.353	17.687	163.077	-39.279	44.207	-44.419	291.452	-109.243
σ		0.074	127.980	10.157	90.049	25.873	18.653	8.053	84.426	9.957
%RSD		7.919	122.641	57.424	55.219	65.870	42.195	18.130	28.968	9.115

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:06:13	12.530	5.226	387.913	97.482%	126.755	91.784%	47.245	18.856	95.022%
2	17:06:36	6.942	-1.205	250.860	103.670%	219.033	101.386%	29.003	4.076	105.584%
3	17:06:59	9.585	2.480	279.481	101.344%	343.646	101.340%	36.560	4.184	102.695%
x		9.686	2.167	306.085	100.832%	229.811	98.170%	37.603	9.038	101.101%
σ		2.795	3.227	72.296	3.126%	108.847	5.530%	9.166	8.502	5.459%
%RSD		28.860	148.936	23.620	3.100	47.364	5.633	24.376	94.069	5.399

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:06:13	54.302	58.424	37.803	92.006%	2492.147	310.747	87.272%	312.965
2	17:06:36	48.882	28.951	60.141	99.621%	5263.556	255.398	96.394%	157.388
3	17:06:59	239.752	71.810	12.014	103.589%	5062.310	274.817	100.866%	248.865
x		114.312	53.061	36.653	98.405%	4272.671	280.321	94.844%	239.739
σ		108.668	21.927	24.084	5.886%	1545.259	28.082	6.928%	78.189
%RSD		95.062	41.323	65.709	5.982	36.166	10.018	7.305	32.614

ccvl, 5/31/2019 5:10:27 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:10:27	12.670	0.633	39.739	21019.740	12232.042	3657.980	63678.907	1311.105	105.239%
2	17:10:48	6.529	1.306	47.559	23126.278	12868.674	3830.950	69912.084	1457.338	102.101%
3	17:11:11	28.215	1.129	40.094	19639.738	11234.441	3141.262	58018.486	1348.549	118.140%
x		15.805	63.524%	108.116%	105.450%	107.030%	111.131%	107.516%	93.804%	108.493%
σ		11.178	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.500%
%RSD		70.723	34.078	10.399	8.258	6.801	10.127	9.314	5.535	7.835

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:10:27	212.449	6848.124	9331.399	9362.724	3344.339	3092.702	1464.953	4968.977	10560.233
2	17:10:48	256.070	7486.334	9540.110	10454.901	3568.646	3127.154	1642.198	4622.882	9544.723
3	17:11:11	230.312	5804.082	8091.627	8755.190	3049.589	2783.783	1524.826	4772.668	9360.299
x		94.456%	94.168%	101.099%	98.058%	98.731%	97.886%	97.562%	100.632%	99.712%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		9.414	12.651	8.712	9.043	7.839	6.300	5.840	3.625	6.579

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:10:27	386.170	111.521	10302.473	99.510%	5464.274	92.047%	2450.465	424.474	94.617%
2	17:10:48	392.419	112.376	10285.755	101.675%	5274.680	100.054%	2245.466	364.484	106.475%
3	17:11:11	353.717	103.717	10048.224	102.040%	5085.658	102.395%	2378.244	397.140	106.140%
x		101.372%	99.246%	103.870%	101.075%	97.031%	98.165%	103.335%	92.650%	102.411%
σ		n/a	n/a	n/a	1.367%	n/a	5.426%	n/a	n/a	6.751%
%RSD		5.505	4.370	1.393	1.353	3.589	5.528	4.410	7.597	6.592

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:10:27	10126.365	7601.390	2163.823	94.028%	20321.559	6158.007	89.751%	114348.030
2	17:10:48	9571.500	6742.599	2195.182	97.814%	18307.734	5525.161	100.136%	103073.690
3	17:11:11	9056.066	6864.828	2379.935	102.787%	19386.967	5920.421	99.771%	108060.900
x		96.044%	91.334%	104.187%	98.210%	97.751%	92.129%	96.553%	108494.210
σ		n/a	n/a	n/a	4.393%	n/a	n/a	5.893%	5649.646
%RSD		5.585	6.571	5.199	4.473	5.211	5.448	6.103	5.207

lb 500-487691/1-b, 5/31/2019 5:14:36 PM QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:14:36	0.000	0.625	20.439	42532.034	1783.149	930.922	67273.114	1034.632	106.615%
2	17:14:59	0.000	0.565	12.604	36978.350	1782.413	916.726	57877.909	984.707	117.982%
3	17:15:20	0.000	0.579	25.990	39346.400	1684.138	776.463	59843.283	914.514	115.172%
x		0.000	0.590	19.678	39618.928	1749.900	874.704	61664.769	977.951	113.256%
σ		0.000	0.032	6.725	2786.854	56.953	85.374	4955.383	60.344	5.921%
%RSD		0.000	5.353	34.178	7.034	3.255	9.760	8.036	6.170	5.228

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:14:36	1.232	2616.296	1493.174	1397.906	543.985	152.762	327.118	6491.388	4887.854
2	17:14:59	4.598	2177.155	1411.982	1335.983	509.571	131.246	281.855	6351.985	4547.597
3	17:15:20	4.782	2287.190	1438.003	1324.101	529.432	154.034	311.032	6220.934	4757.800
x		3.537	2360.214	1447.719	1352.664	527.663	146.014	306.668	6354.769	4731.084
σ		1.998	228.496	41.459	39.629	17.275	12.805	22.945	135.248	171.695
%RSD		56.490	9.681	2.864	2.930	3.274	8.770	7.482	2.128	3.629

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:14:36	32.660	0.775	901.748	103.050%	104.207	98.645%	4.206	-2.178	101.874%
2	17:14:59	41.318	2.641	869.130	105.768%	194.767	106.630%	22.348	10.266	106.735%
3	17:15:20	25.653	0.010	788.789	103.687%	186.840	103.707%	22.655	-2.221	105.696%
x		33.210	1.142	853.222	104.169%	161.938	102.994%	16.403	1.956	104.768%
σ		7.847	1.353	58.135	1.421%	50.153	4.040%	10.564	7.197	2.560%
%RSD		23.628	118.558	6.814	1.364	30.971	3.922	64.403	367.980	2.444

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:14:36	777.356	204.161	1297.821	99.148%	423.164	3301.584	95.173%	61.537
2	17:14:59	821.076	264.807	1085.600	106.117%	1831.307	3122.557	102.306%	62.681
3	17:15:20	629.627	306.338	1118.697	108.303%	2009.231	3348.596	105.371%	41.426
x		742.686	258.435	1167.373	104.523%	1421.234	3257.579	100.950%	55.215
σ		100.323	51.386	114.177	4.781%	868.920	119.272	5.232%	11.955
%RSD		13.508	19.883	9.781	4.574	61.138	3.661	5.183	21.652

lcs 500-487948/2-a, 5/31/2019 5:18:45 PM QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:18:45	136.759	92.001	947.362	1055812.300	589708.140	64764.535	1239421.300	68491.087	107.245%
2	17:19:07	149.745	84.456	941.959	1036386.800	581975.960	63374.042	1215258.700	69363.720	111.301%
3	17:19:28	128.819	88.885	985.701	1054690.300	604714.540	66611.406	1304620.200	71073.250	103.505%
x		138.441	109.881%	121.999%	104.049%	104.653%	101.798%	105.471%	95.207%	107.351%
σ		10.564	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.899%
%RSD		7.631	4.287	2.488	1.040	1.953	2.502	3.689	1.886	3.632

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:18:45	45408.143	659622.550	326370.950	93044.360	636422.940	1452121.800	382517.880	576710.210	234057.640
2	17:19:07	46696.450	659126.770	325819.830	91383.187	644634.060	1449605.600	371624.050	569634.080	231099.910
3	17:19:28	49326.533	704150.670	347414.230	99209.096	698722.380	1507261.100	389082.500	551511.030	226285.190
x		95.581%	94.591%	93.702%	97.340%	98.099%	95.868%	96.318%	95.156%	93.595%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.236	3.834	3.695	4.361	5.129	2.217	2.314	2.296	1.702

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:18:45	35063.356	4311.911	2511316.900	99.408%	1244751.800	93.750%	229992.160	43726.635	96.844%
2	17:19:07	34047.817	4169.239	2455213.500	104.587%	1262276.800	98.693%	218958.010	39303.097	104.371%
3	17:19:28	34167.879	4046.920	2412604.000	105.963%	1278720.700	99.243%	221044.090	39170.048	104.350%
x		92.462%	94.880%	100.073%	103.320%	92.851%	97.229%	97.869%	95.454%	101.855%
σ		n/a	n/a	n/a	3.456%	n/a	3.025%	n/a	n/a	4.340%
%RSD		1.612	3.176	2.013	3.345	1.346	3.112	2.625	6.366	4.261

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:18:45	1902543.500	1212320.200	422776.500	100.787%	988863.150	1278340.300	90.439%	1195038.700
2	17:19:07	1889211.200	1149127.700	400325.710	107.655%	903486.410	1205164.100	99.660%	1143741.300
3	17:19:28	1887901.600	1150590.400	399252.890	110.685%	901787.700	1200752.500	102.256%	1120796.400
x		94.856%	90.746%	94.490%	106.376%	94.156%	96.409%	97.452%	1153192.100
σ		n/a	n/a	n/a	5.071%	n/a	n/a	6.211%	38012.743
%RSD		0.428	3.081	3.260	4.767	5.346	3.548	6.373	3.296

500-163607-e-1-f, 5/31/2019 5:22:52 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:22:52	81.977	2.928	146.356	439142.350	833687.110	879308.410	1564811.700	156590.930	113.853%
2	17:23:15	87.557	1.642	138.685	411563.590	818935.250	820041.590	1544781.600	153478.000	121.825%
3	17:23:36	68.819	4.588	149.748	430936.090	848880.100	860522.200	1596894.600	157134.710	116.247%
x		79.451	3.052	144.930	427214.010	833834.150	853290.730	1568829.300	155734.550	117.309%
σ		9.621	1.477	5.668	14161.121	14972.968	30287.945	26287.773	1973.050	4.091%
%RSD		12.110	48.390	3.911	3.315	1.796	3.550	1.676	1.267	3.487

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:22:52	16943.287	64925.400	62280.626	1840765.600	261308.010	32750.351	22133.400	48280.146	43004.087
2	17:23:15	16572.837	60946.799	58897.935	1824548.200	252743.190	32214.647	22535.586	46018.188	41614.804
3	17:23:36	16416.100	62660.542	61551.010	1805460.900	259643.200	33194.709	23304.589	45863.133	40656.834
x		16644.075	62844.247	60909.857	1823591.500	257898.130	32719.902	22657.859	46720.489	41758.575
σ		270.717	1995.652	1780.157	17671.779	4541.252	490.740	595.091	1352.925	1180.213
%RSD		1.627	3.176	2.923	0.969	1.761	1.500	2.626	2.896	2.826

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:22:52	2105.004	62.029	754380.230	129.411%	12855.102	91.579%	319.559	56.735	97.432%
2	17:23:15	2048.460	64.130	718318.420	138.180%	13075.349	98.504%	248.077	26.666	103.779%
3	17:23:36	2028.188	55.528	750634.430	133.897%	13510.212	98.404%	251.413	70.759	105.011%
x		2060.551	60.562	741111.030	133.829%	13146.888	96.162%	273.016	51.386	102.074%
σ		39.810	4.485	19827.634	4.385%	333.362	3.969%	40.342	22.528	4.067%
%RSD		1.932	7.405	2.675	3.276	2.536	4.128	14.776	43.839	3.984

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:22:52	2726.793	2866.961	126004.920	101.858%	3925.569	97458.441	95.193%	23951.800
2	17:23:15	3046.442	2890.507	119349.980	107.650%	5692.328	95561.124	100.948%	22883.427
3	17:23:36	2948.009	3039.504	119788.180	111.970%	6244.312	97082.528	104.554%	23244.405
x		2907.082	2932.324	121714.360	107.159%	5287.403	96700.698	100.232%	23359.877
σ		163.708	93.564	3722.186	5.074%	1211.246	1004.639	4.721%	543.466
%RSD		5.631	3.191	3.058	4.735	22.908	1.039	4.710	2.326

500-163607-e-2-b, 5/31/2019 5:27:00 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:27:00	126.231	7.459	169.905	344241.010	1845574.200	1993984.000	T 3279413.200	324568.120	116.190%
2	17:27:23	144.521	2.141	159.020	334967.890	1783872.400	1971110.400	T 2971018.300	311204.350	124.551%
3	17:27:44	174.725	6.006	167.036	326720.830	1725193.700	1872048.300	T 3048814.100	320472.970	122.098%
x		148.492	5.202	165.320	335309.910	1784880.100	1945714.200	T 3099748.500	318748.480	120.946%
σ		24.490	2.749	5.642	8765.097	60196.624	64813.570	T 160382.610	6846.747	4.298%
%RSD		16.492	52.838	3.413	2.614	3.373	3.331	T 5.174	2.148	3.553

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:27:00	35064.163	135321.170	137995.410	T 4364951.800	684902.210	80158.868	52576.974	114200.850	51232.939
2	17:27:23	34246.290	131907.310	134640.670	T 4245229.700	661735.070	76563.766	50268.103	115243.480	51366.418
3	17:27:44	33451.441	133079.060	131967.270	T 4240674.200	670784.000	76652.855	51982.266	113079.540	50988.471
x		34253.965	133435.850	134867.780	T 4283618.500	672473.760	77791.829	51609.114	114174.620	51195.943
σ		806.388	1734.673	3020.477	T 70473.452	11675.637	2050.400	1198.813	1082.212	191.670
%RSD		2.354	1.300	2.240	T 1.645	1.736	2.636	2.323	0.948	0.374

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:27:00	3273.098	100.889	694834.470	183.014%	10451.006	91.718%	521.454	127.914	94.282%
2	17:27:23	3300.474	103.887	686501.480	189.583%	10101.250	95.583%	504.954	113.909	99.905%
3	17:27:44	3263.343	99.716	658120.640	193.365%	10006.342	96.339%	418.824	110.449	102.877%
x		3278.972	101.497	679818.860	188.654%	10186.199	94.546%	481.744	117.424	99.021%
σ		19.250	2.151	19247.578	5.237%	234.188	2.479%	55.111	9.248	4.365%
%RSD		0.587	2.119	2.831	2.776	2.299	2.622	11.440	7.875	4.408

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:27:00	5223.920	2379.336	246819.240	105.409%	6253.611	259328.030	93.444%	50899.900
2	17:27:23	4581.284	2292.639	244258.020	108.854%	6842.485	249755.320	101.690%	49414.221
3	17:27:44	5215.807	2586.229	244409.060	111.927%	6906.854	258534.780	100.046%	52766.547
x		5007.004	2419.401	245162.110	108.730%	6667.650	255872.710	98.393%	51026.890
σ		368.706	150.840	1437.103	3.261%	360.010	5312.641	4.364%	1679.767
%RSD		7.364	6.235	0.586	2.999	5.399	2.076	4.436	3.292

500-163607-e-3-d, 5/31/2019 5:31:08 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:31:08	18.355	0.000	31.421	224305.460	953102.140	2007.001	246762.290	861785.290	108.965%
2	17:31:31	11.824	0.000	22.898	207041.600	902307.480	2065.599	242768.170	839779.410	112.763%
3	17:31:52	12.031	0.000	23.336	221859.360	929542.850	1968.287	261212.000	885427.940	110.828%
x		14.070	0.000	25.885	217735.480	928317.490	2013.629	250247.490	862330.880	110.852%
σ		3.712	0.000	4.799	9341.575	25419.490	48.993	9703.282	22829.159	1.899%
%RSD		26.384	0.000	18.541	4.290	2.738	2.433	3.877	2.647	1.713

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:31:08	15.418	2353.278	1295.999	2683.313	8906.899	214.472	337.802	1191.653	6732.463
2	17:31:31	36.478	2181.120	1291.254	2331.965	8387.112	210.788	340.013	1277.407	6421.424
3	17:31:52	15.110	2223.526	1260.031	2412.193	8678.581	222.697	316.016	1484.389	6552.572
x		22.335	2252.641	1282.428	2475.824	8657.531	215.986	331.277	1317.816	6568.819
σ		12.249	89.696	19.541	184.114	260.532	6.097	13.262	150.493	156.155
%RSD		54.840	3.982	1.524	7.436	3.009	2.823	4.003	11.420	2.377

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:31:08	148.464	6.451	1054030.000	99.544%	18888.119	93.720%	4.841	7.629	97.159%
2	17:31:31	150.612	4.036	1025338.200	105.386%	17616.464	98.437%	17.806	0.819	99.920%
3	17:31:52	181.361	7.149	1042404.400	104.375%	18626.005	97.303%	-2.370	0.271	102.370%
x		160.146	5.878	1040590.900	103.102%	18376.863	96.487%	6.759	2.906	99.817%
σ		18.405	1.633	14431.641	3.122%	671.439	2.462%	10.224	4.099	2.607%
%RSD		11.492	27.783	1.387	3.028	3.654	2.552	151.258	141.045	2.612

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:31:08	647.809	233.125	9581.840	99.893%	847.138	1074.766	91.446%	5315.105
2	17:31:31	481.283	243.663	9139.694	107.556%	1575.732	935.911	96.750%	5539.948
3	17:31:52	680.397	202.636	9948.738	106.527%	1602.420	1071.098	99.570%	5215.122
x		603.163	226.475	9556.757	104.659%	1341.763	1027.258	95.922%	5356.725
σ		106.801	21.307	405.105	4.159%	428.565	79.131	4.125%	166.365
%RSD		17.707	9.408	4.239	3.974	31.940	7.703	4.300	3.106

500-163607-e-4-d, 5/31/2019 5:35:19 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:35:19	32.054	0.000	38.640	498610.440	1259405.000	2332.275	297649.560	1106129.300	103.992%
2	17:35:41	28.896	0.000	36.058	456861.110	1159038.200	2137.318	264118.250	1014642.600	115.358%
3	17:36:03	17.873	0.000	29.048	451090.270	1131605.500	2228.906	272055.950	1049987.400	111.903%
x		26.274	0.000	34.582	468853.940	1183349.600	2232.833	277941.250	1056919.800	110.418%
σ		7.445	0.000	4.963	25930.923	67278.982	97.538	17523.262	46135.633	5.827%
%RSD		28.337	0.000	14.352	5.531	5.685	4.368	6.305	4.365	5.277

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:35:19	16.296	2528.324	1518.689	2345.413	18119.569	498.833	1043.717	113086.210	36569.421
2	17:35:41	14.401	1910.623	1250.116	2076.338	16430.047	531.350	907.559	106625.860	35317.993
3	17:36:03	8.979	2091.191	1500.635	2210.944	17043.240	518.333	929.450	108059.260	35669.039
x		13.225	2176.713	1423.147	2210.898	17197.619	516.172	960.242	109257.110	35852.151
σ		3.798	317.607	150.120	134.537	855.275	16.366	73.116	3392.663	645.496
%RSD		28.715	14.591	10.548	6.085	4.973	3.171	7.614	3.105	1.800

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:35:19	173.050	8.719	1844724.700	94.283%	20341.850	89.700%	39.495	-6.341	96.465%
2	17:35:41	196.095	9.773	1742794.900	105.547%	18564.212	96.216%	37.120	-6.364	101.444%
3	17:36:03	176.222	11.951	1728354.500	105.479%	18728.220	96.449%	36.809	13.159	102.135%
x		181.789	10.148	1771958.000	101.770%	19211.427	94.121%	37.808	0.151	100.015%
σ		12.490	1.648	63430.039	6.484%	982.403	3.831%	1.469	11.265	3.094%
%RSD		6.871	16.242	3.580	6.371	5.114	4.070	3.886	7449.712	3.093

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:35:19	1166.343	221.774	14748.098	95.097%	853.878	47245.275	89.784%	5658.940
2	17:35:41	1043.100	310.642	14945.603	104.818%	1390.957	46823.942	94.337%	5590.132
3	17:36:03	971.109	333.908	14226.278	105.658%	1421.896	46654.963	96.873%	5608.643
x		1060.184	288.775	14639.993	101.858%	1222.244	46908.060	93.665%	5619.238
σ		98.732	59.179	371.648	5.870%	319.389	304.013	3.592%	35.607
%RSD		9.313	20.493	2.539	5.763	26.131	0.648	3.835	0.634

500-163607-e-5-b, 5/31/2019 5:39:29 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:39:29	12.668	0.000	47.651	663551.760	638513.040	14523.212	285082.250	151359.390	105.253%
2	17:39:50	11.767	0.588	55.873	633827.240	614951.250	13327.587	261721.290	147573.330	113.308%
3	17:40:12	0.000	0.000	51.393	626564.350	587143.150	13148.916	260807.490	143221.340	110.341%
x		8.145	0.196	51.639	641314.450	613535.810	13666.572	269203.680	147384.690	109.634%
σ		7.068	0.340	4.116	19597.474	25714.179	747.232	13758.838	4072.307	4.074%
%RSD		86.779	173.205	7.971	3.056	4.191	5.468	5.111	2.763	3.716

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:39:29	349.660	3610.406	2078.973	21464.409	24216.825	1362.668	1553.429	3170.176	6031.341
2	17:39:50	263.794	3572.626	2048.354	21472.756	23203.848	1453.261	1475.439	2997.324	5979.435
3	17:40:12	331.388	3402.527	2109.258	21104.954	23507.158	1462.447	1397.566	2921.864	6309.448
x		314.947	3528.519	2078.862	21347.373	23642.610	1426.125	1475.478	3029.788	6106.741
σ		45.232	110.736	30.452	209.982	519.895	55.147	77.931	127.299	177.457
%RSD		14.362	3.138	1.465	0.984	2.199	3.867	5.282	4.202	2.906

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:39:29	237.883	52.312	954884.360	100.682%	11683.282	94.577%	58.635	-2.039	98.741%
2	17:39:50	239.721	39.106	988486.850	100.707%	11759.856	100.612%	69.682	-8.631	101.828%
3	17:40:12	269.964	44.813	946315.100	106.142%	11136.277	98.154%	102.744	11.059	101.530%
x		249.189	45.410	963228.770	102.510%	11526.472	97.781%	77.020	0.130	100.700%
σ		18.015	6.623	22289.822	3.145%	340.080	3.035%	22.952	10.023	1.703%
%RSD		7.229	14.586	2.314	3.068	2.950	3.104	29.800	7723.264	1.691

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:39:29	520.815	2597.861	44883.379	98.852%	249.997	2850.274	91.331%	11677.729
2	17:39:50	408.176	2522.327	43179.518	107.404%	1012.104	2489.011	98.144%	11423.768
3	17:40:12	646.100	2359.269	41620.867	107.273%	1185.985	2856.437	99.652%	11953.931
x		525.030	2493.152	43227.921	104.510%	816.029	2731.907	96.376%	11685.143
σ		119.018	121.942	1631.794	4.900%	497.848	210.377	4.433%	265.159
%RSD		22.669	4.891	3.775	4.688	61.009	7.701	4.600	2.269

500-163607-e-6-b, 5/31/2019 5:43:37 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:43:37	12.499	0.000	62.612	688984.720	621924.050	13596.882	288097.170	135695.730	106.672%
2	17:43:59	11.827	0.000	64.299	689049.540	646283.380	13073.832	275868.090	131853.970	112.735%
3	17:44:21	17.955	0.000	56.875	688461.060	608978.930	12259.570	276219.190	129180.260	111.387%
x		14.094	0.000	61.262	688831.780	625728.790	12976.762	280061.480	132243.320	110.265%
σ		3.361	0.000	3.892	322.680	18941.027	673.920	6961.326	3275.141	3.184%
%RSD		23.846	0.000	6.353	0.047	3.027	5.193	2.486	2.477	2.887

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:43:37	265.805	3560.766	2138.141	17930.744	16659.193	1165.203	1249.846	4126.620	6775.868
2	17:43:59	265.151	3272.344	2074.438	17885.411	16645.689	1111.756	1243.040	3634.924	6782.191
3	17:44:21	250.438	3297.137	2125.916	18189.721	16316.982	1059.504	1335.391	3782.312	6801.680
x		260.464	3376.749	2112.832	18001.959	16540.621	1112.154	1276.092	3847.952	6786.580
σ		8.689	159.845	33.807	164.179	193.795	52.851	51.467	252.335	13.454
%RSD		3.336	4.734	1.600	0.912	1.172	4.752	4.033	6.558	0.198

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:43:37	249.622	37.473	883362.750	96.429%	12533.024	92.426%	108.789	4.698	96.314%
2	17:43:59	226.053	45.130	863541.280	104.987%	12041.464	98.603%	68.273	-2.517	103.688%
3	17:44:21	252.371	48.642	877991.820	106.456%	12351.185	99.114%	89.775	3.770	101.362%
x		242.682	43.748	874965.280	102.624%	12308.558	96.714%	88.946	1.984	100.455%
σ		14.467	5.711	10251.466	5.415%	248.537	3.722%	20.271	3.925	3.770%
%RSD		5.961	13.054	1.172	5.276	2.019	3.849	22.790	197.875	3.753

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:43:37	565.083	2077.582	41546.170	100.117%	204.873	1967.769	92.834%	10330.983
2	17:43:59	656.035	2243.565	40516.408	107.816%	747.172	1878.667	100.017%	9781.417
3	17:44:21	524.116	2521.257	40641.192	106.628%	776.774	2144.000	100.357%	10020.851
x		581.745	2280.801	40901.257	104.854%	576.273	1996.812	97.736%	10044.417
σ		67.520	224.169	561.986	4.145%	321.982	135.030	4.249%	275.540
%RSD		11.606	9.829	1.374	3.953	55.873	6.762	4.347	2.743

500-163607-e-7-b, 5/31/2019 5:47:48 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:47:48	35.477	3.548	112.333	392207.440	809678.690	809994.940	1496820.300	161954.970	112.749%
2	17:48:10	64.056	2.329	114.237	422563.400	825707.120	819334.610	1542184.400	163002.780	114.484%
3	17:48:33	67.536	2.251	93.448	395918.200	797041.210	800297.230	1476145.400	160617.160	118.455%
x		55.690	2.709	106.673	403563.010	810809.010	809875.590	1505050.100	161858.300	115.229%
σ		17.591	0.727	11.493	16559.089	14366.346	9519.249	33779.939	1195.748	2.925%
%RSD		31.587	26.834	10.774	4.103	1.772	1.175	2.244	0.739	2.539

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:47:48	16660.853	56177.042	54704.046	1640030.900	238705.030	30702.539	20863.175	44921.375	20070.232
2	17:48:10	16890.764	58920.343	57869.255	1732184.900	240897.110	31486.234	21662.354	43087.705	19707.001
3	17:48:33	15974.676	56019.691	56457.211	1671673.800	236162.840	30283.246	21261.132	42188.154	19916.146
x		16508.764	57039.025	56343.504	1681296.500	238588.330	30824.007	21262.220	43399.078	19897.793
σ		476.605	1631.167	1585.665	46824.552	2369.290	610.623	399.591	1392.961	182.310
%RSD		2.887	2.860	2.814	2.785	0.993	1.981	1.879	3.210	0.916

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:47:48	1471.465	55.503	603039.790	130.620%	12280.625	91.316%	241.354	66.882	93.246%
2	17:48:10	1393.046	54.163	626779.260	136.298%	13138.982	98.420%	203.986	33.322	103.352%
3	17:48:33	1385.681	60.575	602153.080	137.695%	12175.692	99.790%	130.460	52.290	105.257%
x		1416.731	56.747	610657.380	134.871%	12531.766	96.509%	191.934	50.831	100.618%
σ		47.544	3.382	13968.996	3.747%	528.475	4.549%	56.421	16.827	6.455%
%RSD		3.356	5.959	2.288	2.778	4.217	4.713	29.396	33.104	6.415

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:47:48	1968.291	2263.969	114832.610	102.723%	2255.381	92112.820	92.707%	25560.610
2	17:48:10	2080.232	2147.997	111133.100	109.199%	2624.550	88791.822	99.656%	24421.041
3	17:48:33	2203.403	2195.809	115052.280	113.181%	2863.448	88462.785	103.700%	23841.948
x		2083.976	2202.592	113672.660	108.368%	2581.126	89789.142	98.688%	24607.867
σ		117.601	58.283	2202.069	5.278%	306.351	2019.078	5.560%	874.430
%RSD		5.643	2.646	1.937	4.870	11.869	2.249	5.634	3.553

500-163607-e-9-d, 5/31/2019 5:51:58 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:51:58	172.797	8.640	196.218	531588.760	1680453.800	T 2667390.700	T 3586889.000	190248.790	123.461%
2	17:52:21	141.036	7.594	177.457	532816.800	1671764.100	T 2760068.200	T 3578441.900	192658.720	122.901%
3	17:52:42	142.147	8.950	157.029	486881.810	1627646.000	T 2508319.000	T 3459062.500	184703.520	126.631%
x		151.993	8.395	176.901	517095.790	1659954.600	T 2645259.300	T 3541464.500	189203.680	124.331%
σ		18.025	0.710	19.600	26173.276	28315.415	T 127325.420	T 71487.077	4079.274	2.011%
%RSD		11.859	8.462	11.080	5.062	1.706	T 4.813	T 2.019	2.156	1.618

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:51:58	50108.292	179051.060	183541.760	T 8339369.700	393662.230	62801.182	66802.843	247561.960	143860.260
2	17:52:21	52180.727	186533.320	179687.000	T 8311395.800	406488.010	63059.715	68762.556	240966.670	137892.470
3	17:52:42	50848.851	182361.200	177964.600	T 8026336.100	389239.230	60536.720	66236.064	237031.560	133788.920
x		51045.957	182648.530	180397.780	T 8225700.600	396463.160	62132.539	67267.154	241853.400	138513.880
σ		1050.184	3749.393	2855.711	T 173220.290	8959.019	1388.052	1325.699	5320.906	5064.347
%RSD		2.057	2.053	1.583	T 2.106	2.260	2.234	1.971	2.200	3.656

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:51:58	15676.851	68.097	98741.587	204.563%	17592.135	86.854%	638.818	175.620	93.668%
2	17:52:21	15170.748	63.579	98984.673	207.322%	18090.288	91.845%	536.915	242.429	97.719%
3	17:52:42	15047.690	51.785	101979.610	207.056%	18575.912	94.514%	530.404	189.839	96.427%
x		15298.430	61.154	99901.956	206.314%	18086.112	91.071%	568.712	202.629	95.938%
σ		333.448	8.422	1803.400	1.522%	491.902	3.888%	60.800	35.193	2.069%
%RSD		2.180	13.772	1.805	0.738	2.720	4.269	10.691	17.368	2.157

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:51:58	6161.851	2530.933	310784.290	97.201%	23723.150	457128.660	91.004%	52014.851
2	17:52:21	6240.586	2660.294	301563.200	103.343%	22032.891	450973.320	96.869%	52490.313
3	17:52:42	6152.102	2718.177	299624.550	107.107%	23352.925	455423.140	98.808%	54357.732
x		6184.846	2636.468	303990.680	102.550%	23036.322	454508.370	95.560%	52954.299
σ		48.517	95.869	5962.757	5.000%	888.494	3177.997	4.063%	1238.440
%RSD		0.784	3.636	1.961	4.876	3.857	0.699	4.252	2.339

ccv, 5/31/2019 5:56:07 PM QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	17:56:07	340.537	401.216	222.989	T 2466653.300	1389879.200	753274.980	T 2949751.200	171933.300	107.675%
2	17:56:30	287.904	407.769	218.839	T 2328744.700	1331045.000	746867.610	T 2794475.400	T 156946.060	113.466%
3	17:56:53	327.886	408.038	211.048	T 2432434.900	1354870.200	783112.220	T 2785468.100	167530.520	109.796%
x		318.776	100.797%	110.817%	T 95.592%	96.047%	95.479%	T 95.723%	T 90.484%	110.312%
σ		27.474	n/a	n/a	T n/a	n/a	n/a	T n/a	T n/a	2.930%
%RSD		8.619	0.952	2.786	T 2.981	2.178	2.542	T 3.248	T 4.655	2.656

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	17:56:07	11549.976	326684.610	412272.750	2274867.600	310057.970	686172.150	181881.950	616468.800	131422.650
2	17:56:30	10364.193	304141.090	394879.110	2215352.400	315493.620	694657.170	178428.090	570036.440	122694.950
3	17:56:53	11478.788	334884.110	408696.760	2246175.300	305092.480	700561.060	177902.580	568143.910	121726.150
x		90.270%	90.313%	91.178%	92.474%	92.228%	90.515%	90.690%	98.339%	101.750%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		5.974	4.945	2.266	1.326	1.677	1.043	1.205	4.680	4.263

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	17:56:07	98049.751	12095.558	641427.630	94.495%	333962.720	86.783%	232979.100	222233.690	91.787%
2	17:56:30	92068.268	11191.778	589883.140	102.363%	322192.870	94.702%	218103.930	207556.000	98.763%
3	17:56:53	92455.464	11179.843	605171.710	102.643%	322814.770	94.875%	220774.230	202619.700	101.014%
x		101.192%	104.413%	99.623%	99.833%	96.043%	92.120%	98.141%	98.799%	97.188%
σ		n/a	n/a	n/a	4.626%	n/a	4.622%	n/a	n/a	4.811%
%RSD		3.554	4.572	4.325	4.633	2.030	5.018	3.541	4.840	4.950

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	17:56:07	503897.920	658190.710	221440.240	93.546%	2524750.300	3212558.000	85.452%	3115650.300
2	17:56:30	469395.710	627694.180	203734.920	102.344%	2332971.100	2998315.000	93.780%	2851809.700
3	17:56:53	491518.100	612646.390	207738.670	106.104%	2254951.000	2920784.700	97.660%	2881707.700
x		97.855%	98.110%	97.851%	100.665%	95.873%	95.582%	92.297%	2949722.600
σ		n/a	n/a	n/a	6.445%	n/a	n/a	6.238%	144473.150
%RSD		3.580	3.667	4.401	6.403	5.856	4.965	6.758	4.898

ccb, 5/31/2019 6:00:19 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:00:19	0.000	0.000	1.114	367.170	184.395	67.692	2480.859	13.146	99.708%
2	18:00:41	0.000	0.000	-0.761	156.643	152.791	130.782	77.080	12.113	113.538%
3	18:01:02	0.000	0.000	3.137	307.752	143.090	118.689	542.168	8.734	108.707%
x		0.000	0.000	1.164	277.188	160.092	105.721	1033.369	11.331	107.318%
σ		0.000	0.000	1.950	108.541	21.599	33.484	1274.950	2.308	7.018%
%RSD		0.000	0.000	167.522	39.158	13.492	31.672	123.378	20.368	6.540

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:00:19	-0.708	125.554	86.172	199.525	-24.844	90.618	-56.251	265.573	-112.093
2	18:00:41	-0.979	73.373	-37.443	203.984	-62.993	58.558	-36.994	185.670	-165.308
3	18:01:02	-0.892	72.279	1.700	201.405	-24.586	55.557	-41.344	176.235	-101.424
x		-0.860	90.402	16.810	201.638	-37.475	68.245	-44.863	209.159	-126.275
σ		0.139	30.447	63.178	2.239	22.100	19.434	10.100	49.083	34.222
%RSD		16.127	33.680	375.839	1.110	58.974	28.478	22.513	23.467	27.101

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:00:19	14.905	0.787	390.843	91.670%	174.392	93.233%	5.161	11.831	94.947%
2	18:00:41	5.135	2.081	240.875	106.558%	274.280	103.478%	54.277	22.990	105.553%
3	18:01:02	5.543	0.356	263.851	100.707%	313.041	101.735%	28.870	-2.284	105.955%
x		8.528	1.075	298.523	99.645%	253.904	99.482%	29.436	10.846	102.152%
σ		5.527	0.898	80.773	7.501%	71.535	5.481%	24.563	12.666	6.243%
%RSD		64.807	83.527	27.057	7.527	28.174	5.510	83.446	116.779	6.111

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:00:19	51.255	-4.637	43.612	94.079%	2194.154	249.280	91.782%	282.297
2	18:00:41	-6.515	28.992	24.325	104.893%	4384.451	244.874	98.668%	254.754
3	18:01:02	-23.857	59.925	49.322	105.537%	4770.109	223.493	100.497%	203.399
x		6.961	28.093	39.086	101.503%	3782.904	239.215	96.982%	246.816
σ		39.328	32.290	13.098	6.438%	1389.345	13.793	4.596%	40.043
%RSD		564.978	114.940	33.511	6.342	36.727	5.766	4.739	16.224

500-163607-e-10-d, 5/31/2019 6:04:28 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:04:28	0.000	0.000	30.450	443398.120	376245.360	28550.932	190139.420	94620.789	109.653%
2	18:04:50	5.341	0.000	24.476	403522.310	348377.080	24377.425	168920.000	86178.365	124.823%
3	18:05:13	0.000	0.610	25.217	444224.160	373983.490	27147.818	185091.080	93631.809	109.309%
x		1.780	0.203	26.714	430381.530	366201.980	26692.058	181383.500	91476.988	114.595%
σ		3.084	0.352	3.257	23264.435	15478.186	2123.753	11084.923	4615.309	8.859%
%RSD		173.205	173.205	12.191	5.406	4.227	7.956	6.111	5.045	7.731

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:04:28	641.546	4226.494	3162.784	45519.814	7207.917	1273.058	1380.757	3862.520	4718.152
2	18:04:50	582.805	4063.060	2769.508	38750.659	6552.071	1152.504	1233.599	3536.671	4767.449
3	18:05:13	617.143	4333.196	3188.126	45906.602	7285.839	1356.400	1375.322	3921.618	4863.140
x		613.831	4207.583	3040.139	43392.358	7015.276	1260.654	1329.893	3773.603	4782.914
σ		29.510	136.057	234.716	4024.479	403.035	102.512	83.437	207.306	73.721
%RSD		4.808	3.234	7.721	9.275	5.745	8.132	6.274	5.494	1.541

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:04:28	174.477	131.692	358651.910	103.764%	30726.548	96.629%	88.900	-6.540	102.269%
2	18:04:50	205.541	116.808	342523.010	108.010%	29485.529	101.676%	41.910	-12.755	105.004%
3	18:05:13	203.457	134.137	355493.610	103.832%	31904.933	99.929%	67.227	-7.082	105.113%
x		194.492	127.546	352222.840	105.202%	30705.670	99.412%	66.012	-8.792	104.129%
σ		17.364	9.379	8547.443	2.432%	1209.837	2.563%	23.518	3.442	1.611%
%RSD		8.928	7.354	2.427	2.312	3.940	2.578	35.628	39.153	1.547

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:04:28	755.130	2145.809	20516.160	103.645%	1206.156	5480.183	96.586%	2787.232
2	18:04:50	776.182	2220.419	17892.285	113.306%	2697.289	5263.908	102.117%	2544.011
3	18:05:13	605.415	2319.511	19992.383	108.161%	2947.275	5697.969	103.081%	2856.483
x		712.242	2228.580	19466.943	108.371%	2283.573	5480.687	100.595%	2729.242
σ		93.112	87.138	1388.613	4.834%	941.405	217.031	3.505%	164.109
%RSD		13.073	3.910	7.133	4.461	41.225	3.960	3.484	6.013

500-163607-e-11-d, 5/31/2019 6:08:38 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:08:38	0.000	0.000	50.727	483619.710	387075.870	57094.148	253029.780	100854.960	102.287%
2	18:09:01	0.000	0.000	39.455	452638.550	374667.870	54511.748	230279.180	96436.059	113.953%
3	18:09:23	11.654	0.583	39.288	452338.080	363866.500	54811.194	229858.120	93082.836	114.412%
x		3.885	0.194	43.157	462865.450	375203.410	55472.363	237722.360	96791.285	110.218%
σ		6.728	0.336	6.557	17974.352	11613.951	1412.464	13258.283	3898.219	6.872%
%RSD		173.205	173.205	15.192	3.883	3.095	2.546	5.577	4.027	6.235

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:08:38	1448.433	6580.122	5392.803	79440.166	9059.543	1476.405	1675.924	10310.529	115828.500
2	18:09:01	1487.091	5740.466	5314.489	75865.074	8758.529	1425.462	1776.525	9656.066	112730.620
3	18:09:23	1271.312	5540.130	5324.753	71573.577	8237.331	1394.444	1547.437	9549.731	111092.620
x		1402.279	5953.573	5344.015	75626.272	8685.134	1432.103	1666.629	9838.776	113217.250
σ		115.056	551.776	42.562	3938.728	415.991	41.382	114.827	411.996	2405.154
%RSD		8.205	9.268	0.796	5.208	4.790	2.890	6.890	4.187	2.124

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:08:38	271.213	100.202	300484.400	100.962%	30109.740	95.891%	90.676	-5.793	100.445%
2	18:09:01	240.219	92.127	287268.660	108.766%	28677.453	101.705%	71.953	0.243	107.214%
3	18:09:23	242.543	95.001	299698.920	105.284%	30447.400	103.863%	65.352	-0.217	107.768%
x		251.325	95.776	295817.330	105.004%	29744.864	100.486%	75.994	-1.922	105.142%
σ		17.263	4.093	7413.772	3.910%	939.696	4.123%	13.136	3.360	4.078%
%RSD		6.869	4.273	2.506	3.723	3.159	4.103	17.286	174.811	3.878

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:08:38	678.598	1868.124	18010.456	101.596%	692.550	7141.209	98.168%	3319.497
2	18:09:01	697.255	2135.060	17285.842	112.104%	1641.046	7272.608	101.350%	3070.037
3	18:09:23	615.631	1807.964	17573.943	109.774%	1716.897	6932.475	106.089%	3120.794
x		663.828	1937.050	17623.414	107.825%	1350.164	7115.431	101.869%	3170.109
σ		42.770	174.100	364.831	5.518%	570.772	171.526	3.986%	131.839
%RSD		6.443	8.988	2.070	5.118	42.274	2.411	3.913	4.159

500-163607-e-12-d, 5/31/2019 6:12:47 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:12:47	226.868	6.187	183.390	348287.010	T 2444284.400	T 3530752.800	T 4120930.000	256832.070	129.299%
2	18:13:09	195.977	12.598	179.166	317640.770	T 2400797.900	T 3355026.400	T 3624461.900	243748.190	142.876%
3	18:13:31	256.875	9.989	167.831	317455.320	T 2258821.500	T 3236796.800	T 3648869.700	244037.930	140.149%
x		226.573	9.592	176.796	327794.370	T 2367967.900	T 3374192.000	T 3798087.200	248206.060	137.441%
σ		30.450	3.224	8.046	17747.391	T 96992.144	T 147912.200	T 279856.290	7471.750	7.182%
%RSD		13.440	33.613	4.551	5.414	T 4.096	T 4.384	T 7.368	3.010	5.226

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:12:47	58401.832	239333.920	245690.540	T 12269506.000	638968.630	93120.239	96930.253	406116.690	183815.950
2	18:13:09	57365.274	224222.610	232044.550	T 11612952.000	614525.210	84441.799	92717.557	397765.130	175946.240
3	18:13:31	56843.692	234821.520	235602.960	T 11766776.000	609476.380	86752.349	91510.247	392430.880	177119.050
x		57536.932	232792.680	237779.350	T 11883078.000	620990.070	88104.796	93719.352	398770.900	178960.410
σ		793.127	7757.262	7078.544	T 343380.870	15773.206	4494.515	2845.490	6898.114	4245.709
%RSD		1.378	3.332	2.977	T 2.890	2.540	5.101	3.036	1.730	2.372

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:12:47	23608.306	136.630	85754.542	315.956%	8428.832	86.436%	778.718	356.735	90.574%
2	18:13:09	23159.738	134.062	89544.380	323.968%	8689.742	92.277%	921.871	401.142	95.268%
3	18:13:31	22912.113	148.287	87375.793	331.110%	8141.716	91.540%	726.522	388.606	93.376%
x		23226.719	139.660	87558.238	323.678%	8420.097	90.084%	809.037	382.161	93.073%
σ		352.897	7.581	1901.495	7.581%	274.117	3.181%	101.142	22.894	2.362%
%RSD		1.519	5.428	2.172	2.342	3.256	3.531	12.502	5.991	2.537

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:12:47	9696.651	3320.601	491983.980	102.427%	33513.980	737898.410	93.522%	62279.348
2	18:13:09	8488.131	3333.582	490950.400	108.966%	33512.241	707845.070	100.587%	58304.081
3	18:13:31	9031.455	3224.794	471579.610	111.359%	36007.813	731200.080	101.009%	61468.556
x		9072.079	3292.992	484837.990	107.584%	34344.678	725647.850	98.373%	60683.995
σ		605.284	59.417	11493.723	4.624%	1440.317	15777.240	4.206%	2100.557
%RSD		6.672	1.804	2.371	4.298	4.194	2.174	4.276	3.461

500-163607-e-13-d, 5/31/2019 6:16:55 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:16:55	0.000	0.656	61.775	244635.410	755036.650	3573.780	270445.980	642812.530	101.557%
2	18:17:17	0.000	0.618	48.749	227294.360	727292.080	3189.609	269908.970	635129.570	107.890%
3	18:17:39	0.000	0.000	50.128	214999.580	688113.370	3077.148	247107.850	594318.440	114.599%
x		0.000	0.425	53.551	228976.450	723480.700	3280.179	262487.600	624086.850	108.015%
σ		0.000	0.368	7.156	14889.346	33624.043	260.409	13321.962	26064.833	6.522%
%RSD		0.000	86.721	13.363	6.503	4.648	7.939	5.075	4.176	6.038

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:16:55	18.945	2436.807	2019.145	3718.371	75074.629	1771.626	1557.553	2441.350	63367.140
2	18:17:17	30.019	2277.541	1930.619	3189.387	72030.113	1640.145	1619.580	2489.633	63211.390
3	18:17:39	31.968	1966.013	1662.328	2873.661	68489.760	1504.647	1523.385	2228.365	63528.374
x		26.978	2226.787	1870.697	3260.473	71864.834	1638.806	1566.839	2386.449	63368.968
σ		7.024	239.465	185.803	426.818	3295.544	133.495	48.765	139.017	158.500
%RSD		26.037	10.754	9.932	13.091	4.586	8.146	3.112	5.825	0.250

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:16:55	165.010	49.005	1316182.900	99.901%	18987.710	95.440%	79.949	0.659	97.564%
2	18:17:17	150.971	56.693	1304805.900	103.348%	19613.333	97.836%	66.982	12.406	105.452%
3	18:17:39	174.226	49.229	1302334.900	103.067%	19783.484	99.519%	66.757	-12.914	105.766%
x		163.402	51.643	1307774.600	102.105%	19461.509	97.598%	71.229	0.050	102.927%
σ		11.711	4.375	7385.903	1.914%	419.049	2.050%	7.552	12.671	4.647%
%RSD		7.167	8.472	0.565	1.875	2.153	2.101	10.603	25159.828	4.515

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:16:55	361.136	921.901	18673.490	102.710%	1189.788	1053.052	96.750%	8353.396
2	18:17:17	600.958	1002.780	19400.561	107.741%	2038.684	1249.392	100.661%	8724.309
3	18:17:39	628.590	1031.004	18688.045	111.094%	2095.762	1139.120	105.461%	8434.094
x		530.228	985.228	18920.699	107.182%	1774.745	1147.188	100.957%	8503.933
σ		147.088	56.630	415.637	4.220%	507.391	98.419	4.363%	195.070
%RSD		27.741	5.748	2.197	3.937	28.589	8.579	4.322	2.294

500-163607-e-14-d, 5/31/2019 6:21:03 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:21:03	84.862	2.263	105.971	455772.000	983847.190	1219399.600	T 1951607.600	133698.380	117.839%
2	18:21:25	86.720	5.420	96.009	467069.000	916500.930	1226661.000	T 2002065.400	135174.820	123.002%
3	18:21:47	105.641	7.228	117.313	469900.800	949016.780	1185461.800	T 1983201.700	130418.460	119.904%
x		92.408	4.970	106.431	464247.270	949788.300	1210507.500	T 1978958.200	133097.220	120.248%
σ		11.498	2.513	10.659	7475.116	33679.758	21991.953	T 25495.139	2434.501	2.599%
%RSD		12.443	50.558	10.015	1.610	3.546	1.817	T 1.288	1.829	2.161

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:21:03	21012.883	87284.770	88777.211	T 3907507.800	349659.170	38001.485	38087.370	105434.360	100901.310
2	18:21:25	20853.650	84299.881	87002.372	T 3815861.400	354181.280	37560.755	37139.040	101665.340	98409.359
3	18:21:47	21450.109	83889.625	88363.251	T 3799668.400	357550.400	37423.200	37162.992	103019.680	96396.870
x		21105.548	85158.092	88047.612	T 3841012.500	353796.950	37661.814	37463.134	103373.130	98569.182
σ		308.838	1853.145	928.566	T 58152.991	3959.628	302.097	540.737	1909.208	2256.471
%RSD		1.463	2.176	1.055	T 1.514	1.119	0.802	1.443	1.847	2.289

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:21:03	5654.524	31.338	108274.310	156.088%	25151.587	94.119%	180.277	128.889	95.159%
2	18:21:25	5373.367	37.524	109717.900	159.876%	26238.267	101.228%	241.454	167.814	103.862%
3	18:21:47	5470.088	35.139	108826.350	164.373%	24634.809	99.238%	217.701	161.793	100.038%
x		5499.326	34.667	108939.520	160.112%	25341.555	98.195%	213.144	152.832	99.686%
σ		142.840	3.120	728.419	4.148%	818.435	3.668%	30.842	20.952	4.362%
%RSD		2.597	9.000	0.669	2.591	3.230	3.735	14.470	13.709	4.376

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:21:03	2939.896	1263.280	121680.430	106.433%	5389.591	206772.600	96.836%	19391.203
2	18:21:25	2888.154	1173.891	121277.050	113.100%	5850.342	203816.560	102.039%	18657.042
3	18:21:47	3211.014	1316.273	116835.330	115.847%	6983.600	206390.830	104.111%	19633.108
x		3013.021	1251.148	119930.940	111.793%	6074.511	205660.000	100.995%	19227.118
σ		173.408	71.962	2688.448	4.841%	820.308	1607.834	3.748%	508.301
%RSD		5.755	5.752	2.242	4.331	13.504	0.782	3.711	2.644

500-163607-e-15-d, 5/31/2019 6:25:11 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:25:11	255.786	16.409	163.066	┬1690176.500	┬1979524.000	┬4611346.600	┬3089945.900	181450.010	138.139%
2	18:25:33	194.258	11.479	137.394	┬1650834.200	┬1861776.800	┬4390552.700	┬2870488.400	172318.790	151.004%
3	18:25:54	198.912	8.589	146.955	┬1670948.000	┬1853548.600	┬4412436.200	┬2950791.100	180984.580	147.471%
x		216.319	12.159	149.138	┬1670652.900	┬1898283.100	┬4471445.200	┬2970408.500	178251.130	145.538%
σ		34.259	3.954	12.975	┬19672.799	┬70476.852	┬121651.260	┬111036.120	5142.822	6.647%
%RSD		15.837	32.518	8.700	┬1.178	┬3.713	┬2.721	┬3.738	2.885	4.567

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:25:11	27463.039	294644.030	312203.230	┬12142019.000	826318.820	128272.280	111816.950	394862.290	283448.350
2	18:25:33	26108.738	276226.050	296137.710	┬11628142.000	788273.340	124230.650	107108.820	384554.480	276775.940
3	18:25:54	25938.301	283354.730	307954.250	┬11552069.000	801561.630	124911.190	109007.600	368449.220	274329.300
x		26503.359	284741.600	305431.730	┬11774077.000	805384.600	125804.710	109311.120	382622.000	278184.530
σ		835.464	9286.987	8324.513	┬320909.400	19308.702	2163.901	2368.695	13312.155	4719.893
%RSD		3.152	3.262	2.725	┬2.726	2.397	1.720	2.167	3.479	1.697

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:25:11	14146.641	244.487	87655.299	342.000%	6330.858	86.372%	1441.872	1406.767	92.832%
2	18:25:33	14158.966	229.709	86966.022	364.307%	6191.414	91.825%	1562.595	1520.025	93.338%
3	18:25:54	13811.798	247.301	86558.978	371.413%	6224.936	93.671%	1573.032	1422.595	97.359%
x		14039.135	240.499	87060.099	359.240%	6249.069	90.623%	1525.833	1449.796	94.510%
σ		196.976	9.450	554.182	15.347%	72.787	3.795%	72.900	61.333	2.480%
%RSD		1.403	3.929	0.637	4.272	1.165	4.188	4.778	4.230	2.624

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:25:11	14951.046	2411.042	624486.400	104.383%	34955.137	1681122.300	92.736%	89171.085
2	18:25:33	14796.391	2561.703	606871.040	109.820%	34462.941	1653270.600	97.107%	90430.234
3	18:25:54	14273.853	2225.342	631497.630	110.409%	34316.344	1649569.000	99.894%	89840.576
x		14673.763	2399.362	620951.690	108.204%	34578.141	1661320.600	96.579%	89813.965
σ		354.860	168.484	12688.099	3.322%	334.615	17248.353	3.608%	629.996
%RSD		2.418	7.022	2.043	3.070	0.968	1.038	3.736	0.701

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User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:29:19	231.446	9.721	147.631	┬1692740.500	┬1938899.300	┬4864410.500	┬3122562.600	185837.930	144.025%
2	18:29:41	216.684	8.844	159.731	┬1664081.400	┬1903363.400	┬4535792.700	┬3132565.300	181557.760	150.760%
3	18:30:02	219.393	11.391	151.240	┬1536692.200	┬1792532.700	┬4379101.800	┬2921797.400	165954.070	158.015%
x		222.507	9.985	152.867	┬1631171.400	┬1878265.100	┬4593101.600	┬3058975.100	177783.250	150.933%
σ		7.858	1.294	6.212	┬83066.691	┬76342.910	┬247677.950	┬118904.610	10465.520	6.997%
%RSD		3.532	12.960	4.063	┬5.092	┬4.065	┬5.392	┬3.887	5.887	4.636

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:29:19	27513.560	291496.020	320998.380	┬12035591.000	845524.440	132228.220	110885.590	394476.280	294301.030
2	18:29:41	26968.272	288480.140	313504.110	┬11716899.000	824335.510	127550.180	110864.970	398149.740	290296.410
3	18:30:02	25123.985	273754.560	297937.590	┬11063257.000	774827.710	118484.450	103244.630	390179.630	283224.370
x		26535.272	284576.910	310813.360	┬11605249.000	814895.880	126087.620	108331.730	394268.550	289273.930
σ		1252.251	9492.959	11763.508	┬495688.890	36281.358	6987.642	4405.568	3989.116	5608.671
%RSD		4.719	3.336	3.785	┬4.271	4.452	5.542	4.067	1.012	1.939

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:29:19	15054.136	242.287	90232.710	348.043%	6312.214	86.602%	1632.429	1409.852	92.617%
2	18:29:41	14394.059	229.938	89921.474	357.587%	6503.109	90.939%	1574.624	1312.077	98.945%
3	18:30:02	14301.312	223.449	86823.432	373.194%	6073.194	92.124%	1466.046	1412.486	98.544%
x		14583.169	231.891	88992.539	359.608%	6296.172	89.888%	1557.700	1378.138	96.702%
σ		410.498	9.570	1884.936	12.697%	215.406	2.907%	84.473	57.226	3.544%
%RSD		2.815	4.127	2.118	3.531	3.421	3.234	5.423	4.152	3.664

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:29:19	15149.969	2460.109	653167.890	103.811%	34270.602	1694035.500	92.695%	90640.343
2	18:29:41	14707.046	2342.906	658329.120	105.957%	35600.370	1658547.600	96.603%	88986.161
3	18:30:02	15088.480	2522.072	633429.390	110.441%	35367.734	1671256.400	96.820%	93945.504
x		14981.832	2441.696	648308.800	106.736%	35079.569	1674613.200	95.372%	91190.669
σ		239.949	90.991	13141.811	3.383%	710.176	17980.529	2.321%	2525.057
%RSD		1.602	3.727	2.027	3.170	2.024	1.074	2.434	2.769

500-163607-e-15-f ms, 5/31/2019 6:33:26 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:33:26	262.062	54.317	550.496	T 2112659.600	T 2010783.100	T 4578364.600	T 3813684.600	221510.340	139.919%
2	18:33:49	197.751	57.567	591.594	T 1970875.300	T 1869873.400	T 4307692.100	T 3657417.300	200920.270	151.708%
3	18:34:10	266.090	59.640	597.637	T 2004527.900	T 1958097.100	T 4282604.000	T 3722604.400	203305.300	145.317%
x		241.968	57.175	579.909	T 2029354.300	T 1946251.200	T 4389553.600	T 3731235.400	208578.640	145.648%
σ		38.345	2.683	25.651	T 74080.762	T 71197.827	T 163995.600	T 78490.361	11262.494	5.902%
%RSD		15.847	4.692	4.423	T 3.650	T 3.658	T 3.736	T 2.104	5.400	4.052

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:33:26	47748.630	671400.920	487165.670	T 9343056.400	1073943.400	948680.070	311330.380	783114.610	427618.190
2	18:33:49	45466.410	615110.290	453049.380	T 8893660.400	1014612.300	876907.440	294703.900	774010.440	424727.480
3	18:34:10	46695.722	662756.700	467224.410	T 9106400.900	1085430.100	937188.660	306941.230	750716.170	419251.200
x		46636.921	649755.970	469146.490	T 9114372.600	1057995.300	920925.390	304325.170	769280.410	423865.620
σ		1142.246	30313.742	17139.171	T 224804.000	38007.203	38551.242	8616.427	16709.115	4249.558
%RSD		2.449	4.665	3.653	T 2.466	3.592	4.186	2.831	2.172	1.003

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:33:26	39842.643	3282.775	708814.230	324.496%	281757.660	88.026%	181592.730	34699.378	91.500%
2	18:33:49	39546.787	3120.550	699402.590	342.044%	268089.130	91.059%	172411.050	32296.061	99.153%
3	18:34:10	38812.129	3127.801	704807.960	336.272%	270062.930	92.177%	177209.010	34157.063	97.174%
x		39400.520	3177.042	704341.590	334.270%	273303.240	90.420%	177070.930	33717.501	95.942%
σ		530.599	91.639	4723.118	8.944%	7387.954	2.148%	4592.395	1260.514	3.972%
%RSD		1.347	2.884	0.671	2.676	2.703	2.375	2.594	3.738	4.140

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:33:26	1205587.000	355106.090	945563.670	103.776%	765848.750	2463623.700	90.848%	1019325.300
2	18:33:49	1188551.400	336393.410	946612.180	107.896%	726231.680	2376019.800	96.746%	974705.230
3	18:34:10	1187387.500	348968.890	909544.930	111.635%	741848.990	2380886.400	98.422%	1014874.700
x		1193842.000	346822.790	933906.930	107.769%	744643.140	2406843.300	95.339%	1002968.400
σ		10188.106	9539.148	21104.619	3.931%	19955.789	49233.452	3.978%	24577.581
%RSD		0.853	2.750	2.260	3.648	2.680	2.046	4.173	2.450

500-163607-e-15-d SD@5, 5/31/2019 6:37:36 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:37:36	36.714	2.448	39.075	519187.470	596462.950	1450173.700	942380.740	55697.849	108.951%
2	18:37:58	79.465	1.589	50.748	465251.310	529806.880	1369674.200	818951.220	48084.975	125.842%
3	18:38:19	65.699	1.642	43.624	461019.710	514203.480	1324632.100	844127.090	49976.573	121.768%
x		60.626	1.893	44.482	481819.500	546824.440	1381493.300	868486.350	51253.132	118.853%
σ		21.823	0.481	5.884	32430.706	43690.422	63599.879	65220.718	3963.731	8.815%
%RSD		35.995	25.404	13.228	6.731	7.990	4.604	7.510	7.734	7.416

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:37:36	9247.961	89029.886	99786.940	T 3672216.300	251181.690	41073.897	35493.789	94068.936	70106.247
2	18:37:58	8076.986	78976.658	87977.653	T 3327139.300	221840.730	35630.198	30777.004	85315.790	63643.123
3	18:38:19	7969.104	77060.287	85448.403	T 3256575.200	225616.360	35573.699	31059.306	86396.943	63053.635
x		8431.350	81688.944	91070.999	T 3418643.600	232879.590	37425.932	32443.366	88593.890	65601.002
σ		709.260	6429.246	7653.431	T 222416.640	15962.106	3159.358	2645.512	4772.245	3912.774
%RSD		8.412	7.870	8.404	T 6.506	6.854	8.442	8.154	5.387	5.965

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:37:36	3496.071	61.849	45908.569	160.311%	3405.779	91.022%	356.486	346.596	98.533%
2	18:37:58	3126.085	54.535	41766.359	176.253%	3278.557	100.968%	371.528	261.070	105.152%
3	18:38:19	3128.952	57.627	43818.777	169.753%	3366.771	100.664%	336.345	383.288	108.143%
x		3250.369	58.004	43831.235	168.772%	3350.369	97.551%	354.787	330.318	103.943%
σ		212.789	3.672	2071.133	8.016%	65.177	5.656%	17.653	62.714	4.918%
%RSD		6.547	6.330	4.725	4.750	1.945	5.798	4.976	18.986	4.732

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:37:36	3557.600	674.923	165305.090	98.332%	9175.433	406897.470	93.641%	20895.313
2	18:37:58	3635.765	524.067	148765.380	108.998%	9098.323	372685.580	102.769%	19759.583
3	18:38:19	3329.149	629.831	143876.640	112.527%	8770.646	369300.170	104.345%	19544.241
x		3507.505	609.607	152649.040	106.619%	9014.801	382961.070	100.252%	20066.379
σ		159.328	77.435	11229.725	7.391%	214.931	20798.524	5.779%	725.907
%RSD		4.542	12.702	7.357	6.932	2.384	5.431	5.764	3.618

/ccv, 5/31/2019 6:41:46 PM

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:41:46	0.000	0.000	-0.688	-619.895	57.710	361.918	-20467.527	-50.339	216.381%
2	18:42:09	0.000	0.000	0.344	-608.343	7.379	120.134	-20304.224	-42.469	194.329%
3	18:42:30	0.000	0.000	1.400	-646.652	2.221	64.380	-20815.614	-47.194	206.684%
x		0.000	0.000	0.352	-624.963	22.436	182.144	-20529.122	-46.667	205.798%
σ		0.000	0.000	1.044	19.651	30.656	158.165	261.200	3.962	11.052%
%RSD		0.000	0.000	296.544	3.144	136.637	86.835	1.272	8.489	5.371

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:41:46	37.117	-539.745	-102.323	391.241	-103.211	-7.795	-99.492	-399.449	-319.120
2	18:42:09	15.360	-569.251	-167.290	50.808	-127.947	-10.760	-111.678	-390.369	-320.868
3	18:42:30	5.665	-573.844	-153.379	4.179	-127.868	-8.678	-102.685	-392.313	-313.459
x		19.381	-560.946	-140.997	148.743	-119.675	-9.077	-104.618	-394.044	-317.816
σ		16.107	18.504	34.208	211.300	14.258	1.522	6.319	4.781	3.873
%RSD		83.106	3.299	24.261	142.057	11.914	16.768	6.040	1.213	1.219

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:41:46	-3.125	-1.604	34.822	244.334%	-26.501	261.059%	-6.442	-2.102	273.258%
2	18:42:09	-6.356	-2.951	-27.287	249.123%	-26.973	264.579%	-3.985	-2.102	272.247%
3	18:42:30	-5.034	-1.479	-35.289	247.911%	-34.923	268.256%	-3.860	-2.098	265.473%
x		-4.838	-2.011	-9.251	247.123%	-29.466	264.631%	-4.762	-2.101	270.326%
σ		1.624	0.816	38.378	2.490%	4.732	3.599%	1.456	0.002	4.233%
%RSD		33.572	40.578	414.841	1.007	16.059	1.360	30.584	0.107	1.566

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:41:46	-77.968	-75.804	28.608	314.388%	-237.056	-149.898	299.653%	4.507
2	18:42:09	-83.857	-97.716	-9.007	298.754%	-245.362	-153.970	297.253%	6.912
3	18:42:30	-82.166	-89.870	13.226	319.457%	-252.755	-149.492	310.223%	-4.771
x		-81.330	-87.796	10.942	310.866%	-245.057	-151.120	302.376%	2.216
σ		3.032	11.102	18.911	10.791%	7.854	2.477	6.900%	6.169
%RSD		3.728	12.645	172.826	3.471	3.205	1.639	2.282	278.395

CCV 5/31/2019 6:45:56 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:45:56	373.869	458.842	228.039	T 2601545.300	1506648.800	831493.200	T 3258951.600	186415.380	98.075%
2	18:46:18	307.559	394.026	177.663	T 2319979.200	1366837.600	754049.710	T 2744048.500	162565.910	114.885%
3	18:46:40	293.898	414.587	196.308	T 2417404.500	1393324.000	797451.520	T 2912022.900	179040.770	106.615%
x		325.109	104.974%	102.183%	T 97.062%	100.548%	99.650%	T 100.048%	96.246%	106.525%
σ		42.777	n/a	n/a	T n/a	n/a	n/a	T n/a	n/a	8.405%
%RSD		13.158	7.840	12.692	T 5.845	5.222	4.887	T 8.836	6.938	7.890

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:45:56	12435.746	365867.470	446474.600	2527166.900	344906.160	773384.710	201731.860	600360.690	126894.140
2	18:46:18	11041.868	314734.380	390524.310	T 2133865.600	T 287024.260	661799.220	178577.990	563278.480	121722.210
3	18:46:40	11554.272	334593.710	421512.780	T 2307322.600	311053.360	720757.090	193058.840	554957.870	118096.500
x		94.700%	94.941%	94.377%	T 95.658%	T 93.451%	93.757%	96.614%	96.318%	99.278%
σ		n/a	n/a	n/a	T n/a	T n/a	n/a	n/a	n/a	n/a
%RSD		6.038	7.618	6.682	T 8.486	T 9.251	7.768	6.121	4.220	3.617

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:45:56	97285.621	11705.580	661706.370	92.518%	344694.780	88.755%	244634.410	219818.500	90.953%
2	18:46:18	91062.718	11056.577	609829.720	105.139%	315976.740	97.006%	215172.340	200598.250	101.787%
3	18:46:40	91301.894	10981.399	613820.860	103.985%	317346.450	97.062%	227540.000	211444.960	99.743%
x		100.145%	102.221%	102.274%	100.547%	95.950%	94.274%	100.404%	98.713%	97.495%
σ		n/a	n/a	n/a	6.978%	n/a	4.780%	n/a	n/a	5.757%
%RSD		3.782	3.540	4.593	6.940	4.969	5.071	6.457	4.575	5.905

Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:45:56	519439.900	647753.660	220564.600	95.745%	2503018.300	3214171.600	86.617%	3101978.300
2	18:46:18	475742.700	598452.730	208041.690	103.252%	2398722.100	3028258.100	94.022%	2926343.500
3	18:46:40	482879.060	609633.050	209014.440	105.695%	2347245.700	3014313.100	96.488%	2910550.100
x		98.740%	95.904%	98.579%	101.564%	97.710%	96.891%	92.376%	2979624.000
σ		n/a	n/a	n/a	5.186%	n/a	n/a	5.137%	106255.820
%RSD		4.758	4.178	3.278	5.106	3.285	3.616	5.561	3.566

CCB, 5/31/2019 6:50:07 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	7Li	9Be	11B	23Na	24Mg	27Al	39K	44Ca	45Sc
1	18:50:07	0.000	0.000	3.372	36.001	76.550	47.434	1212.154	0.412	104.150%
2	18:50:28	0.000	0.000	2.102	-96.397	57.160	33.355	-908.408	8.991	115.444%
3	18:50:51	0.000	0.000	1.620	-60.855	71.995	74.234	380.964	-3.639	108.277%
x		0.000	0.000	2.365	-40.417	68.568	51.674	228.237	1.922	109.290%
σ		0.000	0.000	0.905	68.524	10.139	20.767	1068.499	6.449	5.715%
%RSD		0.000	0.000	38.284	169.545	14.787	40.188	468.154	335.599	5.229

Run	Time	47Ti	51V	52Cr	54Fe	55Mn	59Co	60Ni	63Cu	66Zn
1	18:50:07	-2.936	82.146	34.871	82.520	-49.105	32.904	-52.702	-26.632	-69.285
2	18:50:28	-2.936	97.033	-48.649	58.649	-75.808	20.821	-59.590	-83.060	-69.359
3	18:50:51	1.168	44.130	21.634	95.809	-28.145	8.620	-49.228	-75.732	-89.715
x		-1.568	74.436	2.618	78.993	-51.019	20.782	-53.840	-61.808	-76.120
σ		2.370	27.281	44.890	18.829	23.889	12.142	5.274	30.683	11.774
%RSD		151.132	36.650	1714.375	23.837	46.824	58.426	9.796	49.642	15.468

Run	Time	75As	78Se	88Sr	89Y	95Mo	103Rh	107Ag	111Cd	115In
1	18:50:07	0.765	2.035	103.010	95.895%	122.745	95.883%	4.676	18.152	98.346%
2	18:50:28	9.160	1.340	72.571	105.972%	263.497	102.887%	17.215	-2.273	102.184%
3	18:50:51	11.633	0.544	95.123	103.101%	214.057	103.289%	16.901	4.208	103.426%
x		7.186	1.306	90.235	101.656%	200.100	100.686%	12.931	6.696	101.319%
σ		5.696	0.746	15.797	5.192%	71.406	4.164%	7.151	10.437	2.648%
%RSD		79.269	57.128	17.507	5.107	35.685	4.136	55.301	155.876	2.614

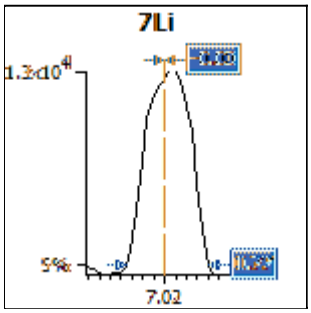
Run	Time	118Sn	121Sb	137Ba	159Tb	205Tl	208Pb	209Bi	238U
1	18:50:07	-44.470	778.105	-6.354	96.545%	1523.005	120.249	93.366%	55.888
2	18:50:28	-44.616	1410.299	11.241	106.139%	2952.385	105.607	97.824%	66.264
3	18:50:51	38.914	1501.653	23.669	106.465%	2912.302	120.755	103.577%	106.777
x		-16.724	1230.019	9.519	103.050%	2462.564	115.537	98.256%	76.309
σ		48.184	394.026	15.085	5.636%	813.929	8.603	5.119%	26.891
%RSD		288.106	32.034	158.481	5.469	33.052	7.446	5.210	35.239

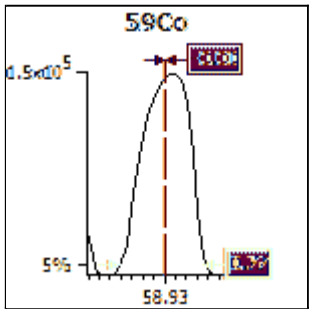
Performance Report

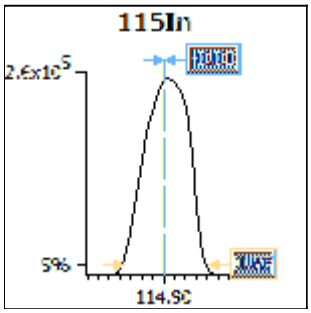
Sample details
Acquired at : 5/31/2019 9:12:11 AM
Report name : 1] XSII Xt Tune Standard Mode 3/13/19 [3/13/2019 2:14:29 PM]

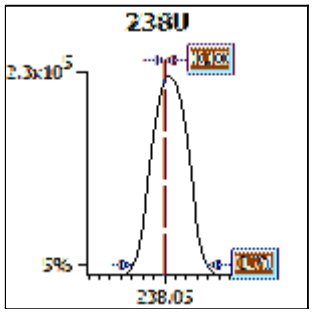
Mass Calibration verification

Acquisition parameters
Sweeps : 30
Dwell : 1.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum









Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.85	0.65	0.10	0.77	-0.00
59Co	0.85	0.65	0.10	0.77	-0.00
115In	0.85	0.65	0.10	0.77	-0.00
238U	0.85	0.65	0.10	0.71	0.00

Sample details
Acquired at : 5/31/2019 9:12:11 AM
Report name : 1] XSII Xt Tune Standard Mode 3/13/19 [3/13/2019 2:14:29 PM]

Tune conditions

Major	
Extraction	-121.6
Lens 1	-1231
Lens 2	-82.4
Focus	16.3
D1	-44.7
D2	-140
Pole Bias	-2.0
Hexapole Bias	-4.0
Nebuliser	0.84

Minor	
Lens 3	-195.3
Forward power	1404
Horizontal	43
Vertical	361
DA	-25.1
Cool	13.0
Auxiliary	0.70
Sampling Depth	100

Global	
Standard resolution	120
High resolution	125
Analogue Detector	1804
PC Detector	3382

Add. Gases	
CCT-He	0.00
CCT-He	0.00

Sensitivity and stability results

Acquisition parameters
Sweeps : 100

Run	Time	7Li	59Co	137Ba++	138Ba++	138Ba++	115In	137Ba	140Ce	156Ce O
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	5.0%	5.0%	-	-	-	5.0%	-	-	-
	Countrate	>5000	>10000	-	-	-	>80000	-	-	-
1	9:12:17 AM	10137.649	146926.79	920.047	6002.981	6208.119	260674.49	35811.396	311913.71	5360.580
2	9:12:33 AM	10331.868	147226.59	970.052	6231.135	6315.193	260555.14	35830.471	313065.30	5574.709
3	9:12:48 AM	10336.873	148383.16	935.048	6245.144	6266.159	261880.42	36318.402	313423.32	5507.668
4	9:13:03 AM	10513.075	148351.66	985.053	6345.214	6289.175	260641.57	36054.354	314314.30	5490.658
5	9:13:19 AM	9729.203	146047.80	937.048	5996.977	6096.043	260645.68	35878.661	313051.85	5410.610
x		10209.734	147387.20	949.450	6164.290	6234.938	260879.46	35978.657	313153.70	5468.845
σ		299.67	994.22	27.01	156.33	87.13	561.33	212.77	862.48	84.12
%RSD		2.935	0.675	2.845	2.536	1.397	0.215	0.591	0.275	1.538

Run	Time	238U
Dwell (mSecs)		10.0
Limits	%RSD	5.0%
	Countrate	>150000
1	9:12:17 AM	235048.86
2	9:12:33 AM	236891.78
3	9:12:48 AM	236305.82
4	9:13:03 AM	236053.39
5	9:13:19 AM	236079.04
x		236075.78
σ		665.93
%RSD		0.282

Ratio results

Run	Time	137Ba++/137Ba	156Ce O/140Ce
Ratio limits		<0.0400	<0.0200
1	9:12:17 AM	0.026	0.017
2	9:12:33 AM	0.027	0.018
3	9:12:48 AM	0.026	0.018
4	9:13:03 AM	0.027	0.017
5	9:13:19 AM	0.026	0.017
x		0.0264	0.0175
σ		0.00	0.00
%RSD		2.8807	1.4003

Result : The performance report passed.

Performance Report

Sample details
Acquired at : 5/31/2019 9:20:35 AM
Report name : CCT KED [11/27/2018 4:58:37 PM]

Tune conditions

Major	
Extraction	-109.8
Lens 1	-1231
Lens 2	-80.0
Focus	0.0
D1	-55.7
D2	-140
Pole Bias	-14.0
Hexapole Bias	-16.2
Nebuliser	0.84

Minor	
Lens 3	-195.3
Forward power	1404
Horizontal	43
Vertical	361
DA	-33.7
Cool	13.0
Auxiliary	0.70
Sampling Depth	120

Global	
Standard resolution	120
High resolution	125
Analogue Detector	1804
PC Detector	3382

Add. Gases	
CCT-He	4.31
CCT-He	0.00

Sensitivity and stability results

Acquisition parameters
Sweeps : 100

Run	Time	51V	51Cl O	59Co	75Ar Cl	78Ar2	115In	140Ce	156Ce O	238U
Dwell (mSecs)		10.0	10.0	10.0	10.0	100.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	-	-	-	-	5.0%	-	-	-
	Countrate	<1000	-	-	-	<20	>10000	-	-	-
1	9:20:36 AM	7.000	3.000	44516.729	7.000	7.200	91838.556	153269.23	1565.135	166849.20
2	9:20:59 AM	4.000	6.000	45636.260	4.000	6.000	92148.671	156706.08	1397.107	171242.78
3	9:21:21 AM	9.000	8.000	46220.199	3.000	6.800	93403.378	157701.07	1346.100	172177.18
4	9:21:44 AM	7.000	7.000	46598.121	1.000	6.500	94262.174	158325.79	1221.082	173393.98
5	9:22:07 AM	6.000	4.000	46160.899	3.000	4.000	93706.473	160012.94	1257.087	172662.25
x		6.600	5.600	45826.442	3.600	6.100	93071.851	157203.02	1357.302	171265.08
σ		1.82	2.07	808.38	2.19	1.25	1037.16	2506.29	135.56	2589.24
%RSD		27.524	37.029	1.764	60.858	20.541	1.114	1.594	9.987	1.512

Ratio results

Run	Time	51Cl O/59Co	75Ar Cl/115In	156Ce O/140Ce
Ratio limits		<0.1000	<0.0100	<0.0200
1	9:20:36 AM	0.000	0.000	0.010
2	9:20:59 AM	0.000	0.000	0.009
3	9:21:21 AM	0.000	0.000	0.009
4	9:21:44 AM	0.000	0.000	0.008
5	9:22:07 AM	0.000	0.000	0.008
x		0.0001	0.0000	0.0086
σ		0.00	0.00	0.00
%RSD		36.0959	61.7770	11.6110

Result : The performance report passed.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG No.:

Project: Will County CCR

Client Sample ID	Lab Sample ID
MW-05	500-164188-1
MW-06	500-164188-2
MW-09	500-164188-3
MW-10	500-164188-4
MW-11	500-164188-5
MW-12	500-164188-6
Duplicate	500-164188-7

Comments:

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job Number: 500-164188-1

SDG No.:

Project: Will County CCR

Client Sample ID	Lab Sample ID
MW-05	500-164188-1
MW-06	500-164188-2
MW-09	500-164188-3
MW-10	500-164188-4
MW-11	500-164188-5
MW-12	500-164188-6
Duplicate	500-164188-7

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-05 Lab Sample ID: 500-164188-1

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 13:46

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	870	10		mg/L			1	SM 2540C
16887-00-6	Chloride	91	10		mg/L			5	SM 4500 Cl- E
16984-48-8	Fluoride	0.59	0.10		mg/L			1	SM 4500 F C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-06 Lab Sample ID: 500-164188-2

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 13:05

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	1000	10		mg/L			1	SM 2540C
16887-00-6	Chloride	38	2.0		mg/L			1	SM 4500 Cl- E
16984-48-8	Fluoride	0.21	0.10		mg/L			1	SM 4500 F C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-09 Lab Sample ID: 500-164188-3

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 08:33

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	750	10		mg/L			1	SM 2540C
16887-00-6	Chloride	280	10		mg/L			5	SM 4500 Cl- E
16984-48-8	Fluoride	0.29	0.10		mg/L			1	SM 4500 F C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-10 Lab Sample ID: 500-164188-4

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 10:02

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	860	10		mg/L			1	SM 2540C
16887-00-6	Chloride	140	10		mg/L			5	SM 4500 Cl- E
16984-48-8	Fluoride	0.82	0.10		mg/L			1	SM 4500 F C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-11 Lab Sample ID: 500-164188-5

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 09:20

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	610	10		mg/L			1	SM 2540C
16887-00-6	Chloride	110	10		mg/L			5	SM 4500 Cl- E
16984-48-8	Fluoride	0.49	0.10		mg/L			1	SM 4500 F C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-12 Lab Sample ID: 500-164188-6

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 11:01

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	930	10		mg/L			1	SM 2540C
16887-00-6	Chloride	140	10		mg/L			5	SM 4500 Cl- E
16984-48-8	Fluoride	0.42	0.10		mg/L			1	SM 4500 F C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: Duplicate
Lab Sample ID: 500-164188-7
Lab Name: Eurofins TestAmerica, Chicago
Job No.: 500-164188-1
SDG ID.:
Matrix: Water
Date Sampled: 05/29/2019 00:00
Reporting Basis: WET
Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	600	10		mg/L			1	SM 2540C
16887-00-6	Chloride	110	10		mg/L			5	SM 4500 Cl- E
16984-48-8	Fluoride	0.53	0.10		mg/L			1	SM 4500 F C

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-05 Lab Sample ID: 500-164188-1

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 13:46

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	380	150		mg/L			30	SM 4500 SO4 E

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-06 Lab Sample ID: 500-164188-2

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 13:05

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	350	150		mg/L			30	SM 4500 SO4 E

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-09 Lab Sample ID: 500-164188-3

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 08:33

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	150	100		mg/L			20	SM 4500 SO4 E

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-10 Lab Sample ID: 500-164188-4

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 10:02

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	260	150		mg/L			30	SM 4500 SO4 E

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-11 Lab Sample ID: 500-164188-5

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 09:20

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	120	100		mg/L			20	SM 4500 SO4 E

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-12 Lab Sample ID: 500-164188-6

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG ID.:

Matrix: Water Date Sampled: 05/29/2019 11:01

Reporting Basis: WET Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	190	150		mg/L			30	SM 4500 SO4 E

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: Duplicate
Lab Sample ID: 500-164188-7
Lab Name: Eurofins TestAmerica, Pensacola
Job No.: 500-164188-1
SDG ID.:
Matrix: Water
Date Sampled: 05/29/2019 00:00
Reporting Basis: WET
Date Received: 05/29/2019 17:37

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
14808-79-8	Sulfate	110	50		mg/L			10	SM 4500 SO4 E

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Analyst: EAT Batch Start Date: 06/11/2019

Reporting Units: mg/L Analytical Batch No.: 489759

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	15:41	Chloride	61.5	60.0	102	90-110		WSTICCL2_00020
10	ICVL	15:42	Chloride	20.4	20.0	102	90-110		WSTICCL2_00020
11	ICB	15:42	Chloride	<2.0					
20	CCVH	15:51	Chloride	60.9	60.0	102	90-110		WSTICCL1_00019
21	CCV	15:52	Chloride	20.4	20.0	102	90-110		WSTICCL1_00019
22	CCB	15:53	Chloride	<2.0					
32	CCVH	16:00	Chloride	62.7	60.0	104	90-110		WSTICCL1_00019
33	CCV	16:01	Chloride	19.8	20.0	99	90-110		WSTICCL1_00019
34	CCB	16:01	Chloride	<2.0					
44	CCVH	16:06	Chloride	61.4	60.0	102	90-110		WSTICCL1_00019
45	CCV	16:07	Chloride	20.1	20.0	101	90-110		WSTICCL1_00019
46	CCB	16:07	Chloride	<2.0					
52	CCVH	16:32	Chloride	62.2	60.0	104	90-110		WSTICCL1_00019
53	CCV	16:33	Chloride	19.9	20.0	100	90-110		WSTICCL1_00019
54	CCB	16:34	Chloride	<2.0					
62	CCVH	16:38	Chloride	61.3	60.0	102	90-110		WSTICCL1_00019
63	CCV	16:39	Chloride	20.2	20.0	101	90-110		WSTICCL1_00019
64	CCB	16:39	Chloride	<2.0					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Analyst: EAT Batch Start Date: 06/08/2019

Reporting Units: mg/L Analytical Batch No.: 489354

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	14:38	Fluoride	21.0	20.0	105	90-110		WSTICF2_00017
2	ICB	14:45	Fluoride	<0.10					
13	CCV	15:39	Fluoride	5.01	5.00	100	90-110		WSTICF1_00012
14	CCB	15:46	Fluoride	<0.10					
25	CCV	16:30	Fluoride	5.11	5.00	102	90-110		WSTICF1_00012
26	CCB	16:36	Fluoride	<0.10					
37	CCV	17:23	Fluoride	5.06	5.00	101	90-110		WSTICF1_00012
38	CCB	17:30	Fluoride	<0.10					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Analyst: RRC Batch Start Date: 06/10/2019

Reporting Units: mg/L Analytical Batch No.: 443937

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	10:21	Sulfate	14.9	15.0	99	90-110		SO4-CCV-W_00032
2	CCB	10:21	Sulfate	<5.0					
4	ICV	10:21	Sulfate	14.8	15.0	99	90-110		SO4-ICV-W_00062
5	ICB	10:21	Sulfate	<5.0					
13	CCV	10:27	Sulfate	14.6	15.0	98	90-110		SO4-CCV-W_00032
14	CCB	10:27	Sulfate	<5.0					
25	CCV	10:32	Sulfate	14.8	15.0	99	90-110		SO4-CCV-W_00032
26	CCB	10:32	Sulfate	<5.0					
44	CCV	10:52	Sulfate	14.6	15.0	97	90-110		SO4-CCV-W_00032
45	CCB	10:52	Sulfate	<5.0					
50	CCV	10:55	Sulfate	14.5	15.0	97	90-110		SO4-CCV-W_00032
51	CCB	10:55	Sulfate	<5.0					
55	CCV	10:57	Sulfate	14.7	15.0	98	90-110		SO4-CCV-W_00032
56	CCB	10:57	Sulfate	<5.0					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Analyst: RRC Batch Start Date: 06/11/2019

Reporting Units: mg/L Analytical Batch No.: 444124

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	19:04	Sulfate	16.0	15.0	107	90-110		SO4-CCV-W_00032
2	CCB	19:04	Sulfate	<5.0					
4	ICV	19:04	Sulfate	15.7	15.0	105	90-110		SO4-ICV-W_00062
5	ICB	19:04	Sulfate	<5.0					
8	CCV	19:05	Sulfate	16.0	15.0	107	90-110		SO4-CCV-W_00032
9	CCB	19:05	Sulfate	<5.0					
44	CCV	20:05	Sulfate	15.5	15.0	103	90-110		SO4-CCV-W_00032
45	CCB	20:05	Sulfate	<5.0					
50	CCV	20:09	Sulfate	15.5	15.0	104	90-110		SO4-CCV-W_00032
51	CCB	20:09	Sulfate	<5.0					
56	CCV	20:13	Sulfate	15.3	15.0	102	90-110		SO4-CCV-W_00032
57	CCB	20:13	Sulfate	<5.0					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 488006 Date: 05/31/2019 05:58							
SM 2540C	MB 500-488006/1	Total Dissolved Solids	<10		mg/L	10	1
Batch ID: 489759 Date: 06/11/2019 15:43							
SM 4500 Cl- E	MB 500-489759/12	Chloride	<2.0		mg/L	2.0	1
Batch ID: 489354 Date: 06/08/2019 14:52							
SM 4500 F C	MB 500-489354/3	Fluoride	<0.10		mg/L	0.10	1
Batch ID: 489354 Date: 06/08/2019 16:58							
SM 4500 F C	MB 500-489354/31	Fluoride	<0.10		mg/L	0.10	1

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 443937 Date: 06/10/2019 10:21							
SM 4500 SO4 E	MB 400-443937/6	Sulfate	<5.0		mg/L	5.0	1
Batch ID: 444124 Date: 06/11/2019 19:04							
SM 4500 SO4 E	MB 400-444124/6	Sulfate	<5.0		mg/L	5.0	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 489759 Date: 06/11/2019 15:54											
SM 4500 Cl- E	500-164188-2	Chloride	38		mg/L						
SM 4500 Cl- E MS	500-164188-2	Chloride	86.9		mg/L	50.0	98	75-125			
Batch ID: 489354 Date: 06/08/2019 17:11											
SM 4500 F C	500-164188-6	Fluoride	0.42		mg/L						
SM 4500 F C MS	500-164188-6	Fluoride	5.56		mg/L	5.00	103	75-125			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 489759 Date: 06/11/2019 15:55											
SM 4500 Cl- E	500-164188-2 MSD	Chloride	85.1		mg/L	50.0	95	75-125	2	20	
Batch ID: 489354 Date: 06/08/2019 17:13											
SM 4500 F C	500-164188-6 MSD	Fluoride	5.43		mg/L	5.00	100	75-125	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 444124 Date: 06/11/2019 20:05											
SM 4500 SO4 E	500-164188-4	Sulfate	260		mg/L						
SM 4500 SO4 E	500-164188-4 MS	Sulfate	260		mg/L	9.90	-4	77-128			4

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 444124 Date: 06/11/2019 20:05											
SM 4500 SO4 E	500-164188-4 MSD	Sulfate	253		mg/L	9.90	-74	77-128	3	5	4

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 488006	Date: 05/31/2019 06:00										
						LCS Source: WSTTDS1_00024					
SM 2540C	LCS 500-488006/2	Total Dissolved Solids	260		mg/L	250	104	80-120			
Batch ID: 489759	Date: 06/11/2019 15:44										
						LCS Source: WSTICCL2_00020					
SM 4500 Cl- E	LCS 500-489759/13	Chloride	52.2		mg/L	50.0	104	85-115			
Batch ID: 489354	Date: 06/08/2019 14:58										
						LCS Source: WSTICF2_00017					
SM 4500 F C	LCS 500-489354/4	Fluoride	10.3		mg/L	10.0	103	80-120			
Batch ID: 489354	Date: 06/08/2019 17:01										
						LCS Source: WSTICF2_00017					
SM 4500 F C	LCS 500-489354/32	Fluoride	10.4		mg/L	10.0	104	80-120			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 443937	Date: 06/10/2019 10:21										
						LCS Source: SO4-ICV-W_00062					
SM 4500 SO4 E	LCS 400-443937/7	Sulfate	14.7		mg/L	15.0	98	90-110			
Batch ID: 444124	Date: 06/11/2019 19:04										
						LCS Source: SO4-ICV-W_00062					
SM 4500 SO4 E	LCS 400-444124/7	Sulfate	15.7		mg/L	15.0	105	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN
METHOD REPORTING LIMIT CHECK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 443937	Date: 06/10/2019 10:21										
						LCS Source: SO4-CCVL-W_00037					
SM 4500 SO4 E	MRL 400-443937/3	Sulfate	<5.0		mg/L	5.00	90	50-150			
Batch ID: 444124	Date: 06/11/2019 19:04										
						LCS Source: SO4-CCVL-W_00037					
SM 4500 SO4 E	MRL 400-444124/3	Sulfate	5.16		mg/L	5.00	103	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540C MDL Date: 05/15/2016 08:43

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	4.34

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540C XMDL Date: 05/15/2016 08:44

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	4.34

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: SEAL2

Method: SM 4500 Cl- E MDL Date: 03/30/2017 12:24

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chloride		2	0.995

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: SEAL2

Method: SM 4500 Cl- E XMDL Date: 03/30/2017 12:24

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chloride		2	0.995

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: PC-Titrate

Method: SM 4500 F C MDL Date: 03/30/2017 10:41

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Fluoride		0.1	0.0563

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: PC-Titrate

Method: SM 4500 F C XMDL Date: 03/30/2017 10:41

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Fluoride		0.1	0.0563

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: KONELAB-M

Method: SM 4500 SO4 E MDL Date: 11/03/2010 15:08

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfate		5	1.4

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job Number: 500-164188-1

SDG Number:

Matrix: Water Instrument ID: KONELAB-M

Method: SM 4500 SO4 E XMDL Date: 11/03/2010 15:09

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfate		5	1.4

11-IN
LINEAR RANGES
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No: 500-164188-1

SDG No.:

Instrument ID: PC-Titrate Date: 02/06/2007 14:17

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Fluoride		30	SM 4500 F C

11-IN
LINEAR RANGES
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No: 500-164188-1

SDG No.:

Instrument ID: SEAL2 Date: 02/21/2014 12:18

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Chloride		75	SM 4500 Cl- E

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2540C

Start Date: 05/31/2019 05:58 End Date: 05/31/2019 06:57

Lab Sample Id	D/F	Type	Time	Analytes																								
				TDS																								
MB 500-488006/1	1	T	05:58	X																								
LCS 500-488006/2	1	T	06:00	X																								
ZZZZZZ			06:03																									
ZZZZZZ			06:05																									
ZZZZZZ			06:08																									
ZZZZZZ			06:10																									
ZZZZZZ			06:13																									
ZZZZZZ			06:16																									
500-164188-1	1	T	06:18	X																								
500-164188-2	1	T	06:21	X																								
500-164188-3	1	T	06:23	X																								
500-164188-4	1	T	06:26	X																								
500-164188-5	1	T	06:29	X																								
500-164188-6	1	T	06:31	X																								
500-164188-7	1	T	06:34	X																								
ZZZZZZ			06:36																									
ZZZZZZ			06:39																									
ZZZZZZ			06:41																									
ZZZZZZ			06:44																									
ZZZZZZ			06:47																									
ZZZZZZ			06:49																									
ZZZZZZ			06:52																									
ZZZZZZ			06:54																									
ZZZZZZ			06:57																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: SEAL2 Analysis Method: SM 4500 Cl- E

Start Date: 06/11/2019 15:33 End Date: 06/11/2019 16:44

Lab Sample Id	D/F	Type	Time	Analytes																								
				CL-																								
ZZZZZZ			15:33																									
ZZZZZZ			15:34																									
ZZZZZZ			15:35																									
ZZZZZZ			15:36																									
ZZZZZZ			15:37																									
ZZZZZZ			15:38																									
ZZZZZZ			15:39																									
ZZZZZZ			15:40																									
ICV 500-489759/9	1		15:41	X																								
ICVL 500-489759/10	1		15:42	X																								
ICB 500-489759/11	1		15:42	X																								
MB 500-489759/12	1	T	15:43	X																								
LCS 500-489759/13	1	T	15:44	X																								
ZZZZZZ			15:45																									
ZZZZZZ			15:46																									
ZZZZZZ			15:47																									
ZZZZZZ			15:48																									
ZZZZZZ			15:49																									
500-164188-2	1	T	15:50	X																								
CCVH 500-489759/20	1		15:51	X																								
CCV 500-489759/21	1		15:52	X																								
CCB 500-489759/22	1		15:53	X																								
500-164188-2 MS	1	T	15:54	X																								
500-164188-2 MSD	1	T	15:55	X																								
ZZZZZZ			15:55																									
ZZZZZZ			15:56																									
ZZZZZZ			15:57																									
ZZZZZZ			15:58																									
ZZZZZZ			15:59																									
ZZZZZZ			15:59																									
ZZZZZZ			16:00																									
CCVH 500-489759/32	1		16:00	X																								
CCV 500-489759/33	1		16:01	X																								
CCB 500-489759/34	1		16:01	X																								
ZZZZZZ			16:02																									
ZZZZZZ			16:02																									
ZZZZZZ			16:03																									
ZZZZZZ			16:03																									
ZZZZZZ			16:04																									
ZZZZZZ			16:04																									
ZZZZZZ			16:05																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: SEAL2 Analysis Method: SM 4500 Cl- E

Start Date: 06/11/2019 15:33 End Date: 06/11/2019 16:44

Lab Sample Id	D/F	Type	Time	Analytes																								
				Cl-																								
ZZZZZZ			16:05																									
ZZZZZZ			16:06																									
CCVH 500-489759/44	1		16:06	X																								
CCV 500-489759/45	1		16:07	X																								
CCB 500-489759/46	1		16:07	X																								
ZZZZZZ			16:27																									
ZZZZZZ			16:28																									
ZZZZZZ			16:29																									
ZZZZZZ			16:30																									
500-164188-1	5	T	16:31	X																								
CCVH 500-489759/52	1		16:32	X																								
CCV 500-489759/53	1		16:33	X																								
CCB 500-489759/54	1		16:34	X																								
500-164188-3	5	T	16:34	X																								
500-164188-4	5	T	16:35	X																								
500-164188-5	5	T	16:36	X																								
500-164188-6	5	T	16:36	X																								
500-164188-7	5	T	16:37	X																								
ZZZZZZ			16:37																									
ZZZZZZ			16:38																									
CCVH 500-489759/62	1		16:38	X																								
CCV 500-489759/63	1		16:39	X																								
CCB 500-489759/64	1		16:39	X																								
ZZZZZZ			16:40																									
ZZZZZZ			16:40																									
ZZZZZZ			16:41																									
ZZZZZZ			16:41																									
ZZZZZZ			16:42																									
ZZZZZZ			16:42																									
CCVH 500-489759/71			16:43																									
CCV 500-489759/72			16:43																									
CCB 500-489759/73			16:44																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: PC-Titrate Analysis Method: SM 4500 F C

Start Date: 06/08/2019 14:38 End Date: 06/08/2019 18:59

Lab Sample Id	D/F	Type	Time	Analytes
				F
ICV 500-489354/1	1		14:38	X
ICB 500-489354/2	1		14:45	X
MB 500-489354/3	1	T	14:52	X
LCS 500-489354/4	1	T	14:58	X
ZZZZZZ			15:05	
ZZZZZZ			15:09	
ZZZZZZ			15:11	
ZZZZZZ			15:15	
ZZZZZZ			15:17	
ZZZZZZ			15:24	
ZZZZZZ			15:29	
ZZZZZZ			15:36	
CCV 500-489354/13	1		15:39	X
CCB 500-489354/14	1		15:46	X
ZZZZZZ			15:52	
ZZZZZZ			15:56	
ZZZZZZ			15:59	
ZZZZZZ			16:03	
ZZZZZZ			16:06	
ZZZZZZ			16:10	
ZZZZZZ			16:13	
ZZZZZZ			16:17	
ZZZZZZ			16:22	
500-164188-1	1	T	16:26	X
CCV 500-489354/25	1		16:30	X
CCB 500-489354/26	1		16:36	X
500-164188-2	1	T	16:39	X
500-164188-3	1	T	16:43	X
500-164188-4	1	T	16:47	X
500-164188-5	1	T	16:51	X
MB 500-489354/31	1	T	16:58	X
LCS 500-489354/32	1	T	17:01	X
500-164188-6	1	T	17:08	X
500-164188-6 MS	1	T	17:11	X
500-164188-6 MSD	1	T	17:13	X
500-164188-7	1	T	17:20	X
CCV 500-489354/37	1		17:23	X
CCB 500-489354/38	1		17:30	X
ZZZZZZ			17:34	
ZZZZZZ			17:38	
ZZZZZZ			17:42	
ZZZZZZ			17:46	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Instrument ID: PC-Titrate Analysis Method: SM 4500 F C

Start Date: 06/08/2019 14:38 End Date: 06/08/2019 18:59

Lab Sample Id	D/F	Type	Time	Analytes																								
				F																								
ZZZZZZ			17:50																									
ZZZZZZ			17:53																									
ZZZZZZ			17:58																									
ZZZZZZ			18:02																									
ZZZZZZ			18:04																									
ZZZZZZ			18:08																									
CCV 500-489354/49			18:12																									
CCB 500-489354/50			18:18																									
ZZZZZZ			18:22																									
ZZZZZZ			18:25																									
ZZZZZZ			18:28																									
ZZZZZZ			18:31																									
ZZZZZZ			18:35																									
ZZZZZZ			18:42																									
ZZZZZZ			18:44																									
ZZZZZZ			18:49																									
CCV 500-489354/59			18:52																									
CCB 500-489354/60			18:59																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Instrument ID: KONELAB-M Analysis Method: SM 4500 SO4 E

Start Date: 06/10/2019 10:21 End Date: 06/10/2019 12:28

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
CCV 400-443937/1	1		10:21	X																								
CCB 400-443937/2	1		10:21	X																								
MRL 400-443937/3	1	T	10:21	X																								
ICV 400-443937/4	1		10:21	X																								
ICB 400-443937/5	1		10:21	X																								
MB 400-443937/6	1	T	10:21	X																								
LCS 400-443937/7	1	T	10:21	X																								
ZZZZZZ			10:21																									
ZZZZZZ			10:21																									
ZZZZZZ			10:21																									
ZZZZZZ			10:21																									
ZZZZZZ			10:21																									
CCV 400-443937/13	1		10:27	X																								
CCB 400-443937/14	1		10:27	X																								
ZZZZZZ			10:27																									
ZZZZZZ			10:27																									
ZZZZZZ			10:27																									
ZZZZZZ			10:27																									
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ZZZZZZ			10:27																									
ZZZZZZ			10:27																									
ZZZZZZ			10:27																									
CCV 400-443937/25	1		10:32	X																								
CCB 400-443937/26	1		10:32	X																								
ZZZZZZ			10:32																									
ZZZZZZ			10:32																									
ZZZZZZ			10:32																									
ZZZZZZ			10:32																									
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ZZZZZZ			10:32																									
ZZZZZZ			10:32																									
ZZZZZZ			10:32																									
CCV 400-443937/36			10:33																									
CCB 400-443937/37			10:33																									
CCV 400-443937/38			10:47																									
CCB 400-443937/39			10:47																									
ZZZZZZ			10:47																									
ZZZZZZ			10:47																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Instrument ID: KONELAB-M Analysis Method: SM 4500 SO4 E

Start Date: 06/10/2019 10:21 End Date: 06/10/2019 12:28

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
ZZZZZZ			10:47																									
ZZZZZZ			10:47																									
CCV 400-443937/44	1		10:52	X																								
CCB 400-443937/45	1		10:52	X																								
ZZZZZZ			10:52																									
ZZZZZZ			10:52																									
ZZZZZZ			10:52																									
500-164188-1	30	T	10:52	X																								
CCV 400-443937/50	1		10:55	X																								
CCB 400-443937/51	1		10:55	X																								
500-164188-2	30	T	10:55	X																								
500-164188-3	20	T	10:55	X																								
ZZZZZZ			10:56																									
CCV 400-443937/55	1		10:57	X																								
CCB 400-443937/56	1		10:57	X																								
CCV 400-443937/57			12:27																									
CCB 400-443937/58			12:27																									
ZZZZZZ			12:27																									
ZZZZZZ			12:27																									
ZZZZZZ			12:27																									
ZZZZZZ			12:27																									
CCV 400-443937/63			12:28																									
CCB 400-443937/64			12:28																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Instrument ID: KONELAB-M Analysis Method: SM 4500 SO4 E

Start Date: 06/11/2019 19:04 End Date: 06/11/2019 21:12

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
CCV 400-444124/1	1		19:04	X																								
CCB 400-444124/2	1		19:04	X																								
MRL 400-444124/3	1	T	19:04	X																								
ICV 400-444124/4	1		19:04	X																								
ICB 400-444124/5	1		19:04	X																								
MB 400-444124/6	1	T	19:04	X																								
LCS 400-444124/7	1	T	19:04	X																								
CCV 400-444124/8	1		19:05	X																								
CCB 400-444124/9	1		19:05	X																								
CCV 400-444124/10			19:24																									
CCB 400-444124/11			19:24																									
ZZZZZZ			19:24																									
ZZZZZZ			19:24																									
ZZZZZZ			19:24																									
ZZZZZZ			19:24																									
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ZZZZZZ			19:24																									
ZZZZZZ			19:24																									
ZZZZZZ			19:24																									
ZZZZZZ			19:24																									
CCV 400-444124/22			19:41																									
CCB 400-444124/23			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
ZZZZZZ			19:41																									
CCV 400-444124/33			19:44																									
CCB 400-444124/34			19:44																									
ZZZZZZ			19:44																									
ZZZZZZ			19:44																									
ZZZZZZ			19:44																									
CCV 400-444124/38			19:47																									
CCB 400-444124/39			19:47																									
CCV 400-444124/40			20:00																									
CCB 400-444124/41			20:00																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Instrument ID: KONELAB-M Analysis Method: SM 4500 SO4 E

Start Date: 06/11/2019 19:04 End Date: 06/11/2019 21:12

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
ZZZZZZ			20:00																									
ZZZZZZ			20:00																									
CCV 400-444124/44	1		20:05	X																								
CCB 400-444124/45	1		20:05	X																								
500-164188-4	30	T	20:05	X																								
500-164188-4 MS	30	T	20:05	X																								
500-164188-4 MSD	30	T	20:05	X																								
500-164188-5	20	T	20:05	X																								
CCV 400-444124/50	1		20:09	X																								
CCB 400-444124/51	1		20:09	X																								
500-164188-6	30	T	20:09	X																								
500-164188-7	10	T	20:09	X																								
ZZZZZZ			20:09																									
ZZZZZZ			20:09																									
CCV 400-444124/56	1		20:13	X																								
CCB 400-444124/57	1		20:13	X																								
ZZZZZZ			20:13																									
ZZZZZZ			20:13																									
ZZZZZZ			20:13																									
ZZZZZZ			20:13																									
CCV 400-444124/62			20:18																									
CCB 400-444124/63			20:18																									
ZZZZZZ			20:18																									
ZZZZZZ			20:18																									
ZZZZZZ			20:18																									
ZZZZZZ			20:18																									
CCV 400-444124/68			20:22																									
CCB 400-444124/69			20:22																									
ZZZZZZ			20:22																									
ZZZZZZ			20:22																									
ZZZZZZ			20:22																									
ZZZZZZ			20:22																									
CCV 400-444124/74			20:24																									
CCB 400-444124/75			20:24																									
ZZZZZZ			20:24																									
CCV 400-444124/77			20:26																									
CCB 400-444124/78			20:26																									
CCV 400-444124/79			20:48																									
CCB 400-444124/80			20:48																									
ZZZZZZ			20:48																									
ZZZZZZ			20:48																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Pensacola Job No.: 500-164188-1

SDG No.:

Instrument ID: KONELAB-M Analysis Method: SM 4500 SO4 E

Start Date: 06/11/2019 19:04 End Date: 06/11/2019 21:12

Lab Sample Id	D/F	Type	Time	Analytes																								
				SO4																								
ZZZZZZ			20:48																									
ZZZZZZ			20:48																									
CCV 400-444124/85			20:53																									
CCB 400-444124/86			20:53																									
ZZZZZZ			20:53																									
ZZZZZZ			20:53																									
ZZZZZZ			20:53																									
ZZZZZZ			20:53																									
CCV 400-444124/91			20:57																									
CCB 400-444124/92			20:57																									
ZZZZZZ			20:57																									
ZZZZZZ			20:57																									
ZZZZZZ			20:57																									
ZZZZZZ			20:57																									
CCV 400-444124/97			20:58																									
CCB 400-444124/98			20:58																									
CCV 400-444124/99			21:10																									
CCB 400-444124/100			21:10																									
ZZZZZZ			21:10																									
ZZZZZZ			21:10																									
CCV 400-444124/103			21:12																									
CCB 400-444124/104			21:12																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Batch Number: 488006 Batch Start Date: 05/31/19 05:58 Batch Analyst: Boyd, Cheryl L

Batch Method: SM 2540C Batch End Date: 05/31/19 07:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	Weight3
MB 500-488006/1		SM 2540C		AD	61.7175 g	50 mL	61.7173 g	61.7175 g	0 g
LCS 500-488006/2		SM 2540C		55	65.4954 g	50 mL	65.5081 g	65.5084 g	0 g
500-164188-B-1	MW-05	SM 2540C	T	QT	61.7497 g	50 mL	61.7931 g	61.7933 g	0 g
500-164188-B-2	MW-06	SM 2540C	T	32	47.8344 g	50 mL	47.8845 g	47.8848 g	0 g
500-164188-B-3	MW-09	SM 2540C	T	VJ	66.5405 g	50 mL	66.5780 g	66.5782 g	0 g
500-164188-B-4	MW-10	SM 2540C	T	42	52.9385 g	50 mL	52.9812 g	52.9813 g	0 g
500-164188-B-5	MW-11	SM 2540C	T	S	71.4887 g	50 mL	71.5190 g	71.5191 g	0 g
500-164188-B-6	MW-12	SM 2540C	T	37	65.6485 g	50 mL	65.6945 g	65.6949 g	0 g
500-164188-B-7	Duplicate	SM 2540C	T	T	69.6961 g	50 mL	69.7258 g	69.7260 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 500-488006/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	-0.0002 g	0 g	N/A g
LCS 500-488006/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.0127 g	0.013 g	N/A g
500-164188-B-1	MW-05	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0434 g	0.0436 g	N/A g
500-164188-B-2	MW-06	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0501 g	0.0504 g	N/A g
500-164188-B-3	MW-09	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0375 g	0.0377 g	N/A g
500-164188-B-4	MW-10	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0427 g	0.0428 g	N/A g
500-164188-B-5	MW-11	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0303 g	0.0304 g	N/A g
500-164188-B-6	MW-12	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.046 g	0.0464 g	N/A g
500-164188-B-7	Duplicate	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0297 g	0.0299 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	WSTTDS1 00024		
MB 500-488006/1		SM 2540C		N/A g	50 mL	OK			
LCS 500-488006/2		SM 2540C		N/A g	50 mL	OK	500 uL		
500-164188-B-1	MW-05	SM 2540C	T	N/A g	50 mL	OK			
500-164188-B-2	MW-06	SM 2540C	T	N/A g	50 mL	OK			
500-164188-B-3	MW-09	SM 2540C	T	N/A g	50 mL	OK			
500-164188-B-4	MW-10	SM 2540C	T	N/A g	50 mL	OK			
500-164188-B-5	MW-11	SM 2540C	T	N/A g	50 mL	OK			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Batch Number: 488006 Batch Start Date: 05/31/19 05:58 Batch Analyst: Boyd, Cheryl L

Batch Method: SM 2540C Batch End Date: 05/31/19 07:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	WSTTDS1 00024		
500-164188-B-6	MW-12	SM 2540C	T	N/A g	50 mL	OK			
500-164188-B-7	Duplicate	SM 2540C	T	N/A g	50 mL	OK			

Batch Notes	
Balance ID	1634
Date/Time - In - CW (WT2)	05/31/2019 00:00
Date/Time - Out - CW (WT2)	05/31/2019 00:00
Temperature - Start - CW (WT2) - Correct	See Book #5280 Celsius
Temperature - End - CW (WT2) - Correct	See Book #5280 Celsius
Temperature - Start-CW(WT2) -Uncorrected	See Book #5280 Celsius
Temperature - End-CW(WT2) -Uncorrected	See Book #5280 Celsius
Filter ID	16826051
Nominal Amount Used	50 mL
Oven ID	2819/2165
Thermometer ID	QC
Weight(WT1) Start Date/Time	05/31/2019 00:00 No Unit
Weight(WT1) Date/Time Out	05/31/2019 00:00
Weight(WT1) Start Temp	See Book #5280 Celsius
Weight(WT1) Temp Out	See Book #5280 Celsius
Uncorrected Weight(WT1) Start Temp	See Book #5280 Celsius
Uncorrected Weight(WT1) Temp Out	See Book #5280 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Batch Number: 489759 Batch Start Date: 06/11/19 15:33 Batch Analyst: Treadwell, Eliane A

Batch Method: SM 4500 Cl- E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WSTICCL1 00019	WSTICCL2 00020		
ICV 500-489759/9		SM 4500 Cl- E		25 mL	25 mL		1500 uL		
ICVL 500-489759/10		SM 4500 Cl- E		25 mL	25 mL		500 uL		
LCS 500-489759/13		SM 4500 Cl- E		25 mL	25 mL		1250 uL		
CCVH 500-489759/20		SM 4500 Cl- E		25 mL	25 mL	1500 uL			
CCV 500-489759/21		SM 4500 Cl- E		25 mL	25 mL	500 uL			
500-164188-B-2 MS	MW-06	SM 4500 Cl- E	T	10 mL	10 mL		500 uL		
500-164188-B-2 MSD	MW-06	SM 4500 Cl- E	T	10 mL	10 mL		500 uL		
CCVH 500-489759/32		SM 4500 Cl- E		25 mL	25 mL	1500 uL			
CCV 500-489759/33		SM 4500 Cl- E		25 mL	25 mL	500 uL			
CCVH 500-489759/44		SM 4500 Cl- E		25 mL	25 mL	1500 uL			
CCV 500-489759/45		SM 4500 Cl- E		25 mL	25 mL	500 uL			
CCVH 500-489759/52		SM 4500 Cl- E		25 mL	25 mL	1500 uL			
CCV 500-489759/53		SM 4500 Cl- E		25 mL	25 mL	500 uL			
CCVH 500-489759/62		SM 4500 Cl- E		25 mL	25 mL	1500 uL			
CCV 500-489759/63		SM 4500 Cl- E		25 mL	25 mL	500 uL			

Batch Notes	
Color Reagent ID	CLCOLOR00025
Filter Paper ID	14820051WHATMAN0.45
Pipette/Syringe/Dispenser ID	8145679

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-164188-1

SDG No.:

Batch Number: 489354 Batch Start Date: 06/08/19 14:38 Batch Analyst: Treadwell, Eliane A

Batch Method: SM 4500 F C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WSTICF1 00012	WSTICF2 00017		
ICV 500-489354/1		SM 4500 F C		100 mL	100 mL		2000 uL		
LCS 500-489354/4		SM 4500 F C		100 mL	100 mL		1000 uL		
CCV 500-489354/13		SM 4500 F C		100 mL	100 mL	500 uL			
CCV 500-489354/25		SM 4500 F C		100 mL	100 mL	500 uL			
LCS 500-489354/32		SM 4500 F C		100 mL	100 mL		1000 uL		
500-164188-B-6 MS	MW-12	SM 4500 F C	T	100 mL	100 mL		500 uL		
500-164188-B-6 MSD	MW-12	SM 4500 F C	T	100 mL	100 mL		500 uL		
CCV 500-489354/37		SM 4500 F C		100 mL	100 mL	500 uL			

Batch Notes	
Probe ID	PCE_1001
TISAB ID	TISAB_00020

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pensacol Job No.: 500-164188-1

SDG No.:

Batch Number: 443937 Batch Start Date: 06/10/19 10:21 Batch Analyst: Chandler, Rebecca R

Batch Method: SM 4500 SO4 E Batch End Date: 06/10/19 14:39

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SO4-CCV-W 00032	SO4-CCVL-W 00037	SO4-ICV-W 00062	
CCV 400-443937/1		SM 4500 SO4 E		10 mL	10 mL	10 mL			
CCB 400-443937/2		SM 4500 SO4 E		10 mL	10 mL				
MRL 400-443937/3		SM 4500 SO4 E		10 mL	10 mL		10 mL		
ICV 400-443937/4		SM 4500 SO4 E		10 mL	10 mL			10 mL	
ICB 400-443937/5		SM 4500 SO4 E		10 mL	10 mL				
MB 400-443937/6		SM 4500 SO4 E		10 mL	10 mL				
LCS 400-443937/7		SM 4500 SO4 E		10 mL	10 mL			10 mL	
CCV 400-443937/13		SM 4500 SO4 E		10 mL	10 mL	10 mL			
CCB 400-443937/14		SM 4500 SO4 E		10 mL	10 mL				
CCV 400-443937/25		SM 4500 SO4 E		10 mL	10 mL	10 mL			
CCB 400-443937/26		SM 4500 SO4 E		10 mL	10 mL				
CCV 400-443937/44		SM 4500 SO4 E		10 mL	10 mL	10 mL			
CCB 400-443937/45		SM 4500 SO4 E		10 mL	10 mL				
500-164188-C-1	MW-05	SM 4500 SO4 E	T	10 mL	10 mL				
CCV 400-443937/50		SM 4500 SO4 E		10 mL	10 mL	10 mL			
CCB 400-443937/51		SM 4500 SO4 E		10 mL	10 mL				
500-164188-C-2	MW-06	SM 4500 SO4 E	T	10 mL	10 mL				
500-164188-C-3	MW-09	SM 4500 SO4 E	T	10 mL	10 mL				
CCV 400-443937/55		SM 4500 SO4 E		10 mL	10 mL	10 mL			
CCB 400-443937/56		SM 4500 SO4 E		10 mL	10 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pensacol Job No.: 500-164188-1

SDG No.:

Batch Number: 443937 Batch Start Date: 06/10/19 10:21 Batch Analyst: Chandler, Rebecca R

Batch Method: SM 4500 SO4 E Batch End Date: 06/10/19 14:39

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pensacol Job No.: 500-164188-1

SDG No.:

Batch Number: 444124 Batch Start Date: 06/11/19 19:04 Batch Analyst: Chandler, Rebecca R

Batch Method: SM 4500 SO4 E Batch End Date: 06/11/19 21:13

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SO4-CCV-C-S 00016	SO4-CCV-W 00032	SO4-CCVL-W 00037	SO4-ICV-W 00062
CCV 400-444124/1		SM 4500 SO4 E		10 mL	10 mL		10 mL		
CCB 400-444124/2		SM 4500 SO4 E		10 mL	10 mL				
MRL 400-444124/3		SM 4500 SO4 E		10 mL	10 mL			10 mL	
ICV 400-444124/4		SM 4500 SO4 E		10 mL	10 mL				10 mL
ICB 400-444124/5		SM 4500 SO4 E		10 mL	10 mL				
MB 400-444124/6		SM 4500 SO4 E		10 mL	10 mL				
LCS 400-444124/7		SM 4500 SO4 E		10 mL	10 mL				10 mL
CCV 400-444124/8		SM 4500 SO4 E		10 mL	10 mL		10 mL		
CCB 400-444124/9		SM 4500 SO4 E		10 mL	10 mL				
CCV 400-444124/44		SM 4500 SO4 E		10 mL	10 mL		10 mL		
CCB 400-444124/45		SM 4500 SO4 E		10 mL	10 mL				
500-164188-C-4	MW-10	SM 4500 SO4 E	T	10 mL	10 mL				
500-164188-C-4 MS	MW-10	SM 4500 SO4 E	T	10 mL	10 mL	0.0033 mL			
500-164188-C-4 MSD	MW-10	SM 4500 SO4 E	T	10 mL	10 mL	0.0033 mL			
500-164188-C-5	MW-11	SM 4500 SO4 E	T	10 mL	10 mL				
CCV 400-444124/50		SM 4500 SO4 E		10 mL	10 mL		10 mL		
CCB 400-444124/51		SM 4500 SO4 E		10 mL	10 mL				
500-164188-C-6	MW-12	SM 4500 SO4 E	T	10 mL	10 mL				
500-164188-C-7	Duplicate	SM 4500 SO4 E	T	10 mL	10 mL				
CCV 400-444124/56		SM 4500 SO4 E		10 mL	10 mL		10 mL		
CCB 400-444124/57		SM 4500 SO4 E		10 mL	10 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Pensacol Job No.: 500-164188-1

SDG No.:

Batch Number: 444124 Batch Start Date: 06/11/19 19:04 Batch Analyst: Chandler, Rebecca R

Batch Method: SM 4500 SO4 E Batch End Date: 06/11/19 21:13

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

ICAL Batch: 441827

Calibration results Aquakem 7.2.AQ2 Page: 1

TestAmerica Pensacola Konelab M
BB LS SH CM ST CC KR JH

1st Lev RRL 6-10-19

5/22/2019 13:20

Test SULFATE

Accepted - -

Resp. = A * Conc. ^ 2 + B * Conc. + C
A = 0
B = 0.007
C = -0.003

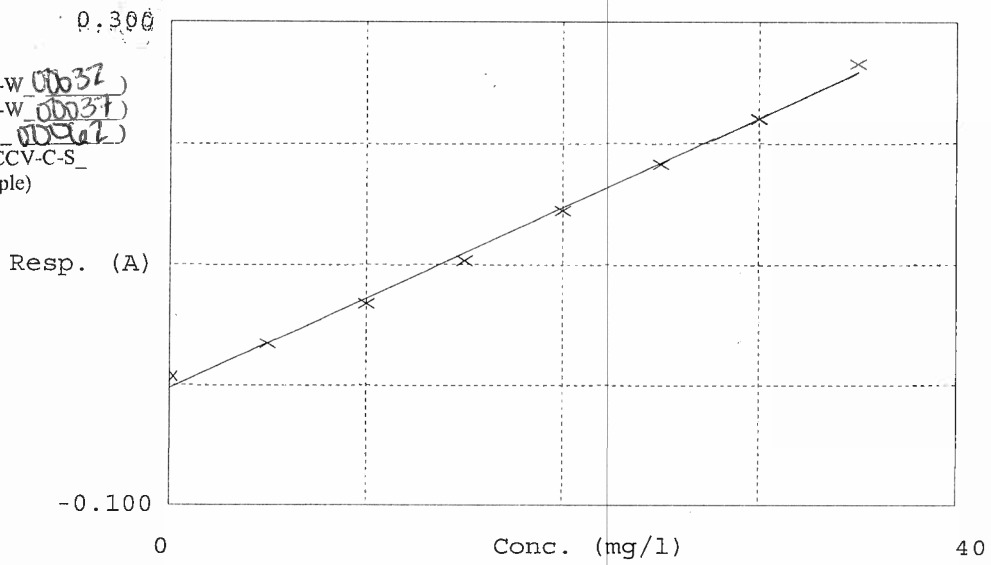
Coeff. of det. 0.996431

Errors

DATE	ICV	ICB	CCV-FIRST	CCV-LAST
6.10.19	99	ND	99	98
BATCH	**LCS**	**MS%R**	**MSD%R**	**RPD**
443937	98	99	98	0
		93	93	1

Correlation Coefficient must be ≥0.995 in order to pass

SO4 CCVH: TV=15ppm (SO4 -CCV-W_00037)
SO4 CCVL: TV= 5ppm (SO4-CCVL-W_00037)
SO4 ICV: TV= 15ppm (SO4 -ICV-W_00062)
MS/MSD: TV= 10ppm (0.1mL SO4-CCV-C-S_00616 spiked into 10mL of sample)



	Calibrator	Response	Calc. con.	Conc.	Errors
1	S0	0.007	1.23548	0.00000	
2	S1	0.034	4.89377	5.00000	
3	S2	0.068	9.41198	10.00000	
4	S3	0.103	14.13644	15.00000	
5	S4	0.144	19.61169	20.00000	
6	S5	0.182	24.80687	25.00000	
7	S6	0.220	29.93452	30.00000	
8	S7	0.265	35.96924	35.00000	
9	CCV-SO4 (control	0.102	14.06691	15.00000	
10	ICB-SO4 (control	0.007	1.22836	0.00000	
11	ICV-SO4 (control	0.103	14.10982	15.00000	

SO4: AQ LIMIT

ICV/LCS/CCV	90-110%
CCVL AT RL (5ppm)	50-150%
MS/MSD%R	70-128%
RPD	5
R.L.	5.0mg/L

SO4: NAq LIMIT

ICV/LCS/CCV	90-110%
MS/MSD%R	59-146%
RPD	20
R.L.	100mg/kg

TestAmerica Pensacola Konelab M
BB LS SH CM ST CC KR JH

6/10/2019 14:39

Test: SULFATE

X=Rejected RRC 6.10.19

Sample Id	Result	Dil.	1 +	Response	Errors
CCV-SO4	14.8971	0.0		0.108	
CCB-SO4	0.9079	0.0		0.004	
mrl so4	4.4881	0.0		0.031	
icv so4	14.8315	0.0		0.108	
icb so4	0.9379	0.0		0.004	
mb so4	0.9147	0.0		0.004	
lcs so4	14.7160	0.0		0.107	
400-170879-B-1	19.1154	0.0		0.140	
170879-b-1 ms	28.9952	0.0		0.213	
170879-b-1 msd	28.9290	0.0		0.213	
400-170798-K-2	-2.4115	0.0		-0.021	
400-170840-D-1	353.2412	0.0		2.629	Init abs., Test limit hig
CCV-SO4	14.6281	0.0		0.106	
CCB-SO4	0.9564	0.0		0.005	
400-170840-D-2	340.5088	0.0		2.535	Init abs., Test limit hig
400-170840-D-3	358.9583	0.0		2.672	Init abs., Test limit hig
400-170840-D-4	354.7545	0.0		2.641	Init abs., Test limit hig
400-170695-A-2	1.2982	0.0		0.007	
400-170695-A-3	1.0252	0.0		0.005	
400-170879-B-2	22.6356	0.0		0.166	
400-170879-B-3	68.9328	0.0		0.511	Test limit high
400-170695-A-1	1.0540	0.0		0.005	
170695-a-1 ms	9.2748	0.0		0.067	
170695-a-1 msd	9.3436	0.0		0.067	
CCV-SO4	14.8357	0.0		0.108	
CCB-SO4	1.0654	0.0		0.005	
400-170879-B-4	4.5950	0.0		0.032	
400-170884-K-1	367.4445	0.0		2.735	Init abs., Test limit hig
400-170884-K-2	15.3628	0.0		0.112	
400-170884-K-4	87.7260	0.0		0.651	Test limit high
500-164188-C-1	244.0208	0.0		1.816	Test limit high
500-164188-C-2	238.4545	0.0		1.774	Test limit high
500-164188-C-3	140.1615	0.0		1.042	Test limit high
400-170888-G-1	16.9285	0.0		0.124	
400-170888-H-2	72.7729	0.0		0.540	Test limit high
CCV-SO4	14.6189	0.0		0.106	
CCB-SO4	1.0227	0.0		0.005	
CCV-SO4	14.6244	0.0		0.106	
CCB-SO4	0.9309	0.0		0.004	
400-170840-D-1	1039.4030	29.0		0.256	Test limit high
400-170840-D-2	943.0551	29.0		0.232	Test limit high
400-170840-D-3	1102.1338	29.0		0.271	Test limit high
400-170840-D-4	1021.2528	29.0		0.251	Test limit high
CCV-SO4	14.5705	0.0		0.106	
CCB-SO4	0.8751	0.0		0.004	
400-170879-B-3	60.9959	4.0		0.088	Test limit high
400-170884-K-1	1090.2489	29.0		0.268	Test limit high
400-170884-K-4	74.5299	4.0		0.109	Test limit high
500-164188-C-1	383.3846	29.0		0.093	Test limit high
CCV-SO4	14.5484	0.0		0.106	
CCB-SO4	0.8705	0.0		0.004	
500-164188-C-2	352.3680	29.0		0.085	Test limit high
500-164188-C-3	146.6786	19.0		0.052	Test limit high
400-170888-H-2	64.2674	4.0		0.093	Test limit high
CCV-SO4	14.6597	0.0		0.107	

TestAmerica Pensacola Konelab M
BB LS SH CM ST CC KR JH

6/10/2019 14:39

Test: SULFATE

Sample Id	Result	Dil. 1 +	Response	Errors
CCB-SO4	0.8554	0.0	0.004	
CCV-SO4	14.4336	0.0	0.105	
CCB-SO4	0.6535	0.0	0.002	
400-170840-D-1	990.8118	49.0	0.145	Test limit high
400-170840-D-3	1032.0055	49.0	0.151	Test limit high
400-170840-D-4	957.9186	49.0	0.140	Test limit high
400-170884-K-1	1058.0509	49.0	0.155	Test limit high
CCV-SO4	14.6303	0.0	0.106	
CCB-SO4	0.6846	0.0	0.003	

N	44
Mean	298.5481
SD	393.91055
CV%	131.94

Colorimetric Data Review Checklist

LIMS Batch Number:	**Filename:**	**Instrument ID (circle one):** Konelab M
Analyst/1st Reviewer:	**Method (circle):** 375.4 7196A 325.2 375.4 365.1	**QC Type (circle):** Standard
Matrix (circle): Drinking Water Non-potable Water Solid Leachate		**Circle One:** Total Soluble

Review Items	NA	Yes	No	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Number of Points: 1st order: 3 standards 2nd order: 6 standards					
2. Linearity and intercept: $r \geq 0.995$ |x-intercept| < RL or < ½ RL (special projects)					
3. ICV, second source: run before samples 90-110% recovery					
4. CCV: 10% frequency & closing 90-110% recovery					If no, list details:
5. Cadmium Column Efficiency Check (353.2 & 4500NO3-E): 85-115% NO2 recovery					If no, list details:
6. ICB/CCB: run before samples, 10% frequency, & closing Result < RL Result < ½ RL (DoD or special project)					If no, list details:
B. Client Sample and QC Sample Results					
7. Samples with results > linear range diluted and reanalyzed?					Comments:
8. On-instrument response of diluted sample is >10X MB on-instrument response					Comments:
C. Preparation/Matrix QC					
9. Method Blank: one per preparation batch Result < RL Result < ½ RL (DoD or special project) *If no, list blank ID & explain:*					□ No analyte > RL in associated samples □ Sample results >10x blank □ Insufficient sample for reanalysis
10. LCS: one per preparation batch 90-110% recovery *If no, list LCS ID & explain:*					□ Insufficient sample for reanalysis □ LCS %R > QC limits & samples < RL
11. MS/MSD or MS/Dup frequency: A pair per 10 samples (routine) A pair per batch (4500-x) Laboratory derived limits (routine) 90-110% recovery (drinking water) *If no, list QC ID & explain:*					□ Insufficient sample

Review Items	Yes	No	2nd Rev	If No, why is data reportable?
D. Raw Data & TALS Data Entry				
12. Raw Data				
a. Unused data is clearly identified				
b. All crossed out data is initialed and dated				
c. Out of control QC is clearly identified				
d. Any data that has a qualifier tick is commented on with appropriate action taken				
e. The first page of the run includes the filename, instrument, and analyst initials/signature				
13. Run Log				
a. Unused data is clearly identified				
b. All crossed out data is initialed and dated				
c. Analyst initials/signature provided				
14. TALS Samples Tab				
a. LIMS Sample IDs / Containers are correct				
b. Method and matrix are correct				
c. Date and time match raw data				
d. Dilutions are correct				
e. Correct suffix designated (where applicable)				
15. TALS Worksheet Tab is complete and correct				
16. TALS Reagent Tab is complete and correct				
17. TALS QC Links Tab is correct				
18. TALS Sample Results Tab				
a. All unused data are marked Rejected or Accepted				
b. All reported analytes are marked Primary or Secondary				
19. TALS Batch Information Screen documentation is complete				
20. TALS Status set to appropriate review level				
E. Final Report and NCMs (2nd level review only)				
21. Were all job/project requirements met?				
22. Results for samples and QC correct on final report?				
23. Are all necessary scanned documents in TALS?				
24. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				

2nd Reviewer: _____ **Review Date:** _____

Comments: _____

ICAL Batch: 444124

Calibration results Aquakem 7.2.AQ2 Page: 1

TestAmerica Pensacola Konelab M
BB LS SH CM ST CC KR JH

5/22/2019 13:20

1st level ICC 6.11.19

Test SULFATE

Accepted - -

Resp. = A * Conc. ^ 2 + B * Conc. + C
A = 0
B = 0.007
C = -0.003

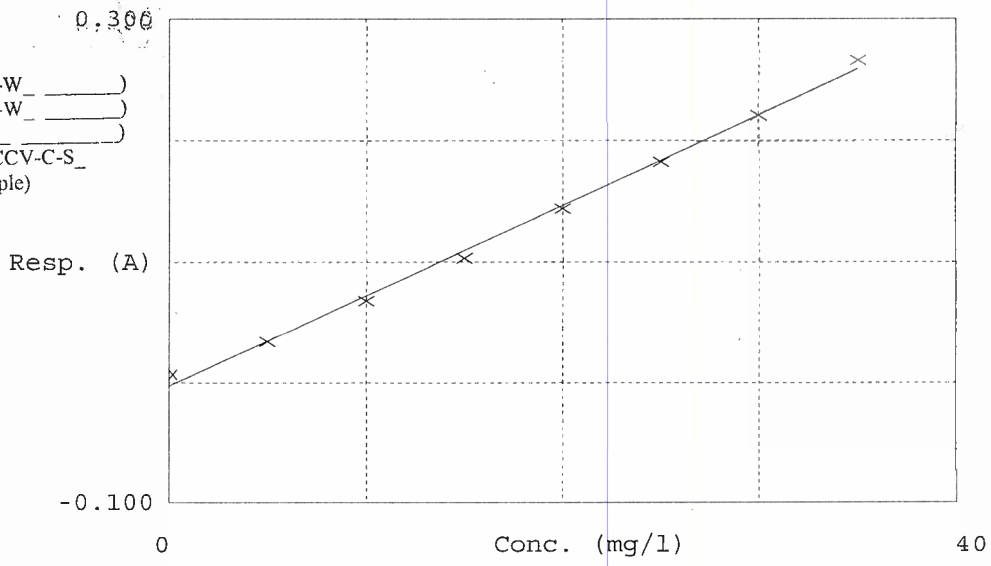
Coeff. of det. 0.996431

Errors

DATE	ICV	ICB	CCV-FIRST	CCV-LAST
6.11.19	105	ND	107	103
BATCH	**LCS**	**MS%R**	**MSD%R**	**RPD**
444124	105	-4	-74	3
		740	752	0

Correlation Coefficient must be ≥0.995 in order to pass

SO4 CCVH: TV=15ppm (SO4 -CCV-W_ _____)
SO4 CCVL: TV= 5ppm (SO4-CCVL-W_ _____)
SO4 ICV: TV= 15ppm (SO4 -ICV-W_ _____)
MS/MSD: TV= 10ppm (0.1mL SO4-CCV-C-S_ _____ spiked into 10mL of sample)



	Calibrator	Response	Calc. con.	Conc.	Errors
1	S0	0.007	1.23548	0.00000	
2	S1	0.034	4.89377	5.00000	
3	S2	0.068	9.41198	10.00000	
4	S3	0.103	14.13644	15.00000	
5	S4	0.144	19.61169	20.00000	
6	S5	0.182	24.80687	25.00000	
7	S6	0.220	29.93452	30.00000	
8	S7	0.265	35.96924	35.00000	
9	CCV-SO4 (control	0.102	14.06691	15.00000	
10	ICB-SO4 (control	0.007	1.22836	0.00000	
11	ICV-SO4 (control	0.103	14.10982	15.00000	

SO4: AQ LIMIT

ICV/LCS/CCV	90-110%
CCVL AT RL (5ppm)	50-150%
MS/MSD%R	70-128%
RPD	5
R.L.	5.0mg/L

SO4: NAq LIMIT

ICV/LCS/CCV	90-110%
MS/MSD%R	59-146%
RPD	20
R.L.	100mg/kg

TestAmerica Pensacola Konelab M
BB LS SH CM ST CC KR JH

6/11/2019 21:13

Test: SULFATE

X=Rejected
RKC 6.11.19

Sample Id	Result	Dil.	1 +	Response		Errors
CCV-SO4	15.9900	0.0		0.117		
CCB-SO4	1.3454	0.0		0.007		
mrl so4	5.1550	0.0		0.036		
icv so4	15.7317	0.0		0.115		
icb so4	1.3324	0.0		0.007		
mb so4	1.3542	0.0		0.008		
lcs so4	15.7142	0.0		0.115		
CCV-SO4	15.9984	0.0		0.117		
CCB-SO4	1.3447	0.0		0.007		
CCV-SO4	15.9266	0.0		0.116		
CCB-SO4	1.3495	0.0		0.008		
500-164188-C-4	177.6465	0.0		1.321		Test limit high
164188-c-4 ms	177.7100	0.0		1.322		Test limit high
164188-c-4 msd	177.5326	0.0		1.320		Test limit high
400-171338-K-1	25.6022	0.0		0.188		
500-164188-C-5	100.1030	0.0		0.743		Test limit high
500-164188-C-6	141.2679	0.0		1.050		Test limit high
500-164188-C-7	97.2889	0.0		0.722		Test limit high
400-171203-A-1	280.1334	0.0		2.085		Test limit high
400-171203-A-2	334.5169	0.0		2.490		Init abs., Test limit hig
400-171203-A-3	340.0509	0.0		2.531		Init abs., Test limit hig
CCV-SO4	15.9643	0.0		0.116		
CCB-SO4	1.6823	0.0		0.010		
400-171203-A-4	326.4293	0.0		2.430		Init abs., Test limit hig
400-171203-A-5	329.8475	0.0		2.455		Init abs., Test limit hig
400-171203-A-14	357.8525	0.0		2.664		Init abs., Test limit hig
171203-a-14 ms	354.8557	0.0		2.641		Init abs., Test limit hig
171203-a-14 msd	356.6715	0.0		2.655		Init abs., Test limit hig
400-171203-A-6	341.5801	0.0		2.543		Init abs., Test limit hig
400-171203-A-7	353.5445	0.0		2.632		Init abs., Test limit hig
400-171203-A-9	344.0645	0.0		2.561		Init abs., Test limit hig
400-171203-A-10	352.8330	0.0		2.626		Init abs., Test limit hig
CCV-SO4	16.3296	0.0		0.119		
CCB-SO4	2.1763	0.0		0.014		Rule 1 violated
400-171203-A-11	359.8478	0.0		2.679		Init abs., Test limit hig
400-171203-A-12	349.3088	0.0		2.600		Init abs., Test limit hig
400-171203-A-13	364.8424	0.0		2.716		Init abs., Test limit hig
CCV-SO4	15.6223	0.0		0.114		
CCB-SO4	1.9185	0.0		0.012		
CCV-SO4	15.5162	0.0		0.113		
CCB-SO4	1.5380	0.0		0.009		
400-171203-A-8	1.6459	0.0		0.010	R	
400-171203-A-15	1.5671	0.0		0.009	R	
CCV-SO4	15.5033	0.0		0.113		
CCB-SO4	1.5295	0.0		0.009		
500-164188-C-4	260.1852	29.0		0.062		Test limit high
164188-c-4 ms	259.7672	29.0		0.062		Test limit high
164188-c-4 msd	252.8372	29.0		0.060		Test limit high
500-164188-C-5	117.5702	19.0		0.041		Test limit high
CCV-SO4	15.5333	0.0		0.113		
CCB-SO4	1.4109	0.0		0.008		
500-164188-C-6	185.6233	29.0		0.044		Test limit high
500-164188-C-7	107.4076	9.0		0.077		Test limit high
400-171203-A-1	616.0732	59.0		0.074		Test limit high
400-171203-A-2	1928.6206	59.0		0.237		Test limit high

TestAmerica Pensacola Konelab M
BB LS SH CM ST CC KR JH

6/11/2019 21:13

Test: SULFATE

Sample Id	Result	Dil. 1 +	Response	Errors
CCV-SO4	15.3450	0.0	0.112	
CCB-SO4	1.3789	0.0	0.008	
400-171203-A-3	8570.6191	59.0	1.062	Test limit high
400-171203-A-4	4621.2715	59.0	0.571	Test limit high
400-171203-A-5	4434.2871	59.0	0.548	Test limit high
400-171203-A-14	2376.3630	59.0	0.293	Test limit high
CCV-SO4	15.7240	0.0	0.115	
CCB-SO4	1.3673	0.0	0.008	
171203-a-14 ms	2323.6069	59.0	0.286	Test limit high
171203-a-14 msd	2335.0681	59.0	0.287	Test limit high
400-171203-A-6	8022.1709	59.0	0.994	Test limit high
400-171203-A-7	2328.2581	59.0	0.287	Test limit high
CCV-SO4	15.6040	0.0	0.114	
CCB-SO4	1.3816	0.0	0.008	
400-171203-A-9	1791.2156	59.0	0.220	Test limit high
400-171203-A-10	2887.4846	59.0	0.356	Test limit high
400-171203-A-11	4760.7031	59.0	0.589	Test limit high
400-171203-A-12	6790.7505	59.0	0.841	Test limit high
CCV-SO4	15.3917	0.0	0.112	
CCB-SO4	1.3607	0.0	0.008	
400-171203-A-13	4462.5225	59.0	0.552	Test limit high
CCV-SO4	15.4586	0.0	0.113	
CCB-SO4	1.3919	0.0	0.008	
CCV-SO4	15.5161	0.0	0.113	
CCB-SO4	1.3505	0.0	0.008	
171203-a-3 10x	11811.9688	29.0	0.291	Test limit high
171203-a-4 10x	4503.3364	29.0	0.109	Test limit high
171203-a-5 10x	4337.2827	29.0	0.105	Test limit high
171203-a-6 10x	10192.5635	29.0	0.251	Test limit high
CCV-SO4	15.3610	0.0	0.112	
CCB-SO4	1.3233	0.0	0.007	
400-171203-A-14	2281.3943	99.0	0.167	Test limit high
171203-a-11 10x	4395.4355	29.0	0.107	Test limit high
171203-a-12 10x	7798.2588	29.0	0.191	Test limit high
171203-a-13 10x	4159.4912	29.0	0.101	Test limit high
CCV-SO4	15.7699	0.0	0.115	
CCB-SO4	1.3556	0.0	0.008	
171203-a-14 ms	2355.3538	99.0	0.173	Test limit high
171203-a-14 msd	2356.5740	99.0	0.173	Test limit high
400-171203-A-7	2281.7449	99.0	0.167	Test limit high
400-171203-A-10	2951.5127	99.0	0.217	Test limit high
CCV-SO4	15.2379	0.0	0.111	
CCB-SO4	1.3116	0.0	0.007	
CCV-SO4	15.4483	0.0	0.113	
CCB-SO4	1.3175	0.0	0.007	
171203-a-3 10x	11445.3008	59.0	0.140	Test limit high
171203-a-6 10x	9866.1855	59.0	0.120	Test limit high
CCV-SO4	15.3967	0.0	0.112	
CCB-SO4	1.3558	0.0	0.008	

6/11/2019 21:13

Test: SULFATE

Sample Id	Result	Dil. 1 +	Response	Ô„

N	64
Mean	2285.2317
SD	3115.56299
CV%	136.33

Colorimetric Data Review Checklist

LIMS Batch Number:	**Filename:**	**Instrument ID (circle one):** Konelab M
Analyst/1st Reviewer:	**Method (circle):** 375.4 7196A 325.2 375.4 365.1	**QC Type (circle):** Standard
Matrix (circle): Drinking Water Non-potable Water Solid Leachate		**Circle One:** Total Soluble

Review Items	NA	Yes	No	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Number of Points: 1st order: 3 standards 2nd order: 6 standards					
2. Linearity and intercept: $r \geq 0.995$ |x-intercept| < RL or < ½ RL (special projects)					
3. ICV, second source: run before samples 90-110% recovery					
4. CCV: 10% frequency & closing 90-110% recovery					If no, list details:
5. Cadmium Column Efficiency Check (353.2 & 4500NO3-E): 85-115% NO2 recovery					If no, list details:
6. ICB/CCB: run before samples, 10% frequency, & closing Result < RL Result < ½ RL (DoD or special project)					If no, list details:
B. Client Sample and QC Sample Results					
7. Samples with results > linear range diluted and reanalyzed?					Comments:
8. On-instrument response of diluted sample is >10X MB on-instrument response					Comments:
C. Preparation/Matrix QC					
9. Method Blank: one per preparation batch Result < RL Result < ½ RL (DoD or special project) *If no, list blank ID & explain:*					□ No analyte > RL in associated samples □ Sample results >10x blank □ Insufficient sample for reanalysis
10. LCS: one per preparation batch 90-110% recovery *If no, list LCS ID & explain:*					□ Insufficient sample for reanalysis □ LCS %R > QC limits & samples < RL
11. MS/MSD or MS/Dup frequency: A pair per 10 samples (routine) A pair per batch (4500-x) Laboratory derived limits (routine) 90-110% recovery (drinking water) *If no, list QC ID & explain:*					□ Insufficient sample

Review Items	Yes	No	2nd Rev	If No, why is data reportable?
D. Raw Data & TALS Data Entry				
12. Raw Data				
a. Unused data is clearly identified				
b. All crossed out data is initialed and dated				
c. Out of control QC is clearly identified				
d. Any data that has a qualifier tick is commented on with appropriate action taken				
e. The first page of the run includes the filename, instrument, and analyst initials/signature				
13. Run Log				
a. Unused data is clearly identified				
b. All crossed out data is initialed and dated				
c. Analyst initials/signature provided				
14. TALS Samples Tab				
a. LIMS Sample IDs / Containers are correct				
b. Method and matrix are correct				
c. Date and time match raw data				
d. Dilutions are correct				
e. Correct suffix designated (where applicable)				
15. TALS Worksheet Tab is complete and correct				
16. TALS Reagent Tab is complete and correct				
17. TALS QC Links Tab is correct				
18. TALS Sample Results Tab				
a. All unused data are marked Rejected or Accepted				
b. All reported analytes are marked Primary or Secondary				
19. TALS Batch Information Screen documentation is complete				
20. TALS Status set to appropriate review level				
E. Final Report and NCMs (2nd level review)				
21. Were all job/project requirements met?				
22. Results for samples and QC correct on final report?				
23. Are all necessary scanned documents in TALS?				
24. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				

2nd Reviewer: _____ **Review Date:** _____

Comments: _____

TestAmerica Chicago
TS / TDS / VDS / TVS

LIMS Batch# 488006

Page# 56
Book# 5280
NCM#

Circle Method Used:
(A) TDS - SM 2540C-97
B. TS - SM 2540B-97
C. VDS/TVS - E 160.4; SM 2540E-97
D. Drinking Water

Calculations: TDS / TS
mg/L = (A - B) / C x 1,000,000
mg/L = [gross(g) - tare(g)] / vol(ml) x 1,000,000

Calculations: VDS / TVS
mg/L = (A - D) / C x 1,000,000

A =Petri Dish & Dry Residue Wt. (g)
B =Petri Dish Tare Wt. (g)
C =Sample Volume (ml)
D =Petri Dish+Residue after ignition (g)

Oven #: 2619/2165
Initial Temp.: 105.8/179.9 °C
Final Temp.: 105.2/180.5 °C

Balance #: 1634
Desiccator #: 7
Filter Paper Lot #: 168260S7

Muffle Furnace #: 3 5/31/19
Furnace Temp.: / °C

Sample #	Crud. ID	Sample Vol. (ml)	Tare B (g)	1st A (g)	2nd A (g)	3rd A or D (Circle) (g)	4th A or D (Circle) (g)	5th A or D (Circle) (g)	% Rec RPD
-MB	AD	50	See Tares	See Tares	See Tares	N/A	N/A	N/A	
-LCS	55								104%
720-93222-2	Mon								
-2 DU	87								2RPD
-2 MS	MT								118%
500-163832-12	75		63.2440	63.2908	63.2914	63.2917			
-12 DU	HUN		See Tares	See Tares	See Tares	N/A			2RPD
-13	4								
500-164188-1	QT								
-2	32								
-3	VJ								
-4	42								
-5	S								
-6	37								
-7	T								
500-164215-1	30	40							
-2	BJ	50							
-3	69								
-4	R								
-5	35	40							
-6	A	50							
-7	23	40							
-8	H								
500-164216-1	58	50							
180°.Oven Time: IN				23:00	00:40	02:20			
Date				6/2/19	6/3/19	6/3/19			
180° Oven Time: Out				00:00	01:40	03:20			
Date				6/3/19	6/3/19	6/3/19			

Stock Soln. I ID# (LCS / MS / MRL / DLCK): WSTTDSI-00024

Sample #	Spiking Levels (mg/L)
720-93222-2	250
LCS	250
MRL / DLCK	

Spiking Calculation: Conc. of Stk. Soln. x Vol. of Stk Soln. added (mLs) / Vol. of Sample used (mLs)

Analyst Signature: Cheryl L Boyd

Filtration Date / Time: 5/31/19 05:58-07

Reviewer Signature: Nikki x Chokshi

Date: 6/3/19

CHI-22-12-023/K-11/12

General Chemistry Worksheet

Batch Number: 500-488006
Method: SM 2540C
Analyst: Boyd, Cheryl L

Date Open: May 31 2019 5:58AM
Batch End: May 31 2019 7:00AM

Lab ID	Client ID	Method Chain	Basis	CrucibleID	Tare Weight	Initial weight/volume of sample	First Weighing	Second Weighing	Third Weighing
MB~500-488006/1		2540C_Calcd		AD	61.7175 g	50 mL	61.7173 g	61.7175 g	0 g
LCS~500-488006/2		2540C_Calcd		55	65.4954 g	50 mL	65.5081 g	65.5084 g	0 g
720-93222-O-2	EFF-001	2540C_Calcd	T	Mon	67.3643 g	50 mL	67.4001 g	67.4003 g	0 g
720-93222-O-2~DU		2540C_Calcd	T	87	67.8862 g	50 mL	67.9227 g	67.9228 g	0 g
720-93222-O-2~MS		2540C_Calcd	T	MT	68.7690 g	50 mL	68.8198 g	68.8198 g	0 g
500-163832-G-12	T01S	2540C	T	75	63.2440 g	50 mL	63.2908 g	63.2914 g	63.2917 g
500-163832-G-12~DU		2540C	T	HUN	66.4873 g	50 mL	66.5337 g	66.5339 g	0 g
500-163832-G-13	G47WT	2540C	T	4	63.7404 g	50 mL	63.7644 g	63.7645 g	0 g
500-164188-B-1	MW-05	2540C	T	QT	61.7497 g	50 mL	61.7931 g	61.7933 g	0 g
500-164188-B-2	MW-06	2540C	T	32	47.8344 g	50 mL	47.8845 g	47.8848 g	0 g
500-164188-B-3	MW-09	2540C	T	VJ	66.5405 g	50 mL	66.5780 g	66.5782 g	0 g
500-164188-B-4	MW-10	2540C	T	42	52.9385 g	50 mL	52.9812 g	52.9813 g	0 g
500-164188-B-5	MW-11	2540C	T	S	71.4887 g	50 mL	71.5190 g	71.5191 g	0 g
500-164188-B-6	MW-12	2540C	T	37	65.6485 g	50 mL	65.6945 g	65.6949 g	0 g
500-164188-B-7	Duplicate	2540C	T	T	69.6961 g	50 mL	69.7258 g	69.7260 g	0 g
500-164215-L-1	G17D	2540C	D	30	69.9522 g	40 mL	70.1099 g	70.1102 g	0 g
500-164215-L-2	G17S	2540C	D	BJ	73.1601 g	50 mL	73.1681 g	73.1683 g	0 g
500-164215-L-3	G07D	2540C	D	69	61.1045 g	50 mL	61.2310 g	61.2311 g	0 g
500-164215-L-4	G07S	2540C	D	R	54.3734 g	50 mL	54.3915 g	54.3918 g	0 g
500-164215-L-5	G08D	2540C	D	35	59.7148 g	40 mL	59.8543 g	59.8544 g	0 g
500-164215-L-6	G08S	2540C	D	A	65.2785 g	50 mL	65.3159 g	65.3161 g	0 g
500-164215-L-7	G103	2540C	D	23	65.7737 g	40 mL	65.9276 g	65.9277 g	0 g
500-164215-L-8	G105	2540C	D	H	65.5634 g	40 mL	65.7213 g	65.7215 g	0 g
500-164216-A-1	Outfall 001 Grab	2540C	T	58	52.7092 g	50 mL	52.7924 g	52.7925 g	0 g

General Chemistry Worksheet

Batch Number: 500-488006
Method: SM 2540C
Analyst: Boyd, Cheryl L

Date Open: May 31 2019 5:58AM
Batch End: May 31 2019 7:00AM

Lab ID	Client ID	Method Chain	Basis	Percent different between 1st & 2nd	Percent different between 2nd & 3rd	QC Check for third weight Comparison	RawResidue	Weight of Residue 2	Weight of Residue 3
MB~500-488006/1		2540C_Calcd		Pass No Unit	N/A No Unit	N/A	-0.0002 g	0 g	N/A g
LCS~500-488006/2		2540C_Calcd		Pass No Unit	N/A No Unit	N/A	0.0127 g	0.013 g	N/A g
720-93222-O-2	EFF-001	2540C_Calcd	T	Pass No Unit	N/A No Unit	N/A	0.0358 g	0.036 g	N/A g
720-93222-O-2~DU		2540C_Calcd	T	Pass No Unit	N/A No Unit	N/A	0.0365 g	0.0366 g	N/A g
720-93222-O-2~MS		2540C_Calcd	T	Pass No Unit	N/A No Unit	N/A	0.0508 g	0.0508 g	N/A g
500-163832-G-12	T01S	2540C	T	Fail >0.5mg No Unit	Pass No Unit	N/A	0.0468 g	0.0474 g	0.0477 g
500-163832-G-12~DU		2540C	T	Pass No Unit	N/A No Unit	N/A	0.0464 g	0.0466 g	N/A g
500-163832-G-13	G47WT	2540C	T	Pass No Unit	N/A No Unit	N/A	0.024 g	0.0241 g	N/A g
500-164188-B-1	MW-05	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0434 g	0.0436 g	N/A g
500-164188-B-2	MW-06	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0501 g	0.0504 g	N/A g
500-164188-B-3	MW-09	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0375 g	0.0377 g	N/A g
500-164188-B-4	MW-10	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0427 g	0.0428 g	N/A g
500-164188-B-5	MW-11	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0303 g	0.0304 g	N/A g
500-164188-B-6	MW-12	2540C	T	Pass No Unit	N/A No Unit	N/A	0.046 g	0.0464 g	N/A g
500-164188-B-7	Duplicate	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0297 g	0.0299 g	N/A g
500-164215-L-1	G17D	2540C	D	Pass No Unit	N/A No Unit	N/A	0.1577 g	0.158 g	N/A g
500-164215-L-2	G17S	2540C	D	Pass No Unit	N/A No Unit	N/A	0.008 g	0.0082 g	N/A g
500-164215-L-3	G07D	2540C	D	Pass No Unit	N/A No Unit	N/A	0.1265 g	0.1266 g	N/A g
500-164215-L-4	G07S	2540C	D	Pass No Unit	N/A No Unit	N/A	0.0181 g	0.0184 g	N/A g
500-164215-L-5	G08D	2540C	D	Pass No Unit	N/A No Unit	N/A	0.1395 g	0.1396 g	N/A g
500-164215-L-6	G08S	2540C	D	Pass No Unit	N/A No Unit	N/A	0.0374 g	0.0376 g	N/A g
500-164215-L-7	G103	2540C	D	Pass No Unit	N/A No Unit	N/A	0.1539 g	0.154 g	N/A g
500-164215-L-8	G105	2540C	D	Pass No Unit	N/A No Unit	N/A	0.1579 g	0.1581 g	N/A g
500-164216-A-1	Outfall 001 Grab	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0832 g	0.0833 g	N/A g

Page 69 of 557

General Chemistry Worksheet

Batch Number: 500-488006
Method: SM 2540C
Analyst: Boyd, Cheryl L

Date Open: May 31 2019 5:58AM
Batch End: May 31 2019 7:00AM

Lab ID	Client ID	Method Chain	Basis	Weight of Residue 4	Final weight/volume of sample	Calculation Message	WSTTDS1_00024
MB~500-488006/1		2540C_Calcd		N/A g	50 mL	OK	
LCS~500-488006/2		2540C_Calcd		N/A g	50 mL	OK	500 uL
720-93222-O-2	EFF-001	2540C_Calcd	T	N/A g	50 mL	OK	
720-93222-O-2~DU		2540C_Calcd	T	N/A g	50 mL	OK	
720-93222-O-2~MS		2540C_Calcd	T	N/A g	50 mL	OK	500 uL
500-163832-G-12	T01S	2540C	T	N/A g	50 mL	OK	
500-163832-G-12~DU		2540C	T	N/A g	50 mL	OK	
500-163832-G-13	G47WT	2540C	T	N/A g	50 mL	OK	
500-164188-B-1	MW-05	2540C	T	N/A g	50 mL	OK	
500-164188-B-2	MW-06	2540C	T	N/A g	50 mL	OK	
500-164188-B-3	MW-09	2540C	T	N/A g	50 mL	OK	
500-164188-B-4	MW-10	2540C	T	N/A g	50 mL	OK	
500-164188-B-5	MW-11	2540C	T	N/A g	50 mL	OK	
500-164188-B-6	MW-12	2540C	T	N/A g	50 mL	OK	
500-164188-B-7	Duplicate	2540C	T	N/A g	50 mL	OK	
500-164215-L-1	G17D	2540C	D	N/A g	50 mL	OK	
500-164215-L-2	G17S	2540C	D	N/A g	50 mL	OK	
500-164215-L-3	G07D	2540C	D	N/A g	50 mL	OK	
500-164215-L-4	G07S	2540C	D	N/A g	50 mL	OK	
500-164215-L-5	G08D	2540C	D	N/A g	50 mL	OK	
500-164215-L-6	G08S	2540C	D	N/A g	50 mL	OK	
500-164215-L-7	G103	2540C	D	N/A g	50 mL	OK	
500-164215-L-8	G105	2540C	D	N/A g	50 mL	OK	
500-164216-A-1	Outfall 001 Grab	2540C	T	N/A g	50 mL	OK	

Page 3 of 597

Nominal Amount Used:	50 mL	Date/Time - In - CW (WT2):	05/31/2019 00:00
Filter ID:	16826051	Temperature - Start-CW(WT2) -Uncorrected:	See Book #5280 Celsius
Balance ID:	1634	Temperature - Start - CW (WT2) - Correct:	See Book #5280 Celsius
Oven ID:	2819/2165	Date/Time - Out - CW (WT2):	05/31/2019 00:00
Thermometer ID:	QC	Temperature - End-CW(WT2) -Uncorrected:	See Book #5280 Celsius
Weight(WT1) Start Date/Time:	05/31/2019 00:00 No Unit	Temperature - End - CW (WT2) - Correct:	See Book #5280 Celsius
Uncorrected Weight(WT1) Start Temp:	See Book #5280 Celsius		
Weight(WT1) Start Temp:	See Book #5280 Celsius		
Weight(WT1) Date/Time Out:	05/31/2019 00:00		
Uncorrected Weight(WT1) Temp Out:	See Book #5280 Celsius		
Weight(WT1) Temp Out:	See Book #5280 Celsius		

TestAmerica Chicago

Fluoride by ISE - PC Titrate

Method:

Standard Methods 4500 F⁻ C-97

Analytical Batch #: 489354
Prep Batch #:
NCM #

Calculations:

mg/L = mg/L X dilution

mg/Kg = $\frac{\text{mg/L X final vol. in mL}}{\text{grams sample}}$

Calibration Range: 0.1 – 30.0 mg/L
Reporting Limit: 0.1 mg/L

Dry weight correction of solids is done automatically in ADII.

Standards Traceability:

Stock I : Calibration Curve; CCV : WSTIC41.00012

Stock II: LCS, ICV, Matrix spikes WSTIC72.0007

Spiking Levels:

			ICAL Standards mg/L	100 mg/L Stock Spike Amt. uLs	1000 mg/L Stock Spike Amt. uLs	DI Amt. mL
LCS	10 mg/L	100 mg/Kg	0	100		100
ICV	20 mg/L		0.3	300		100
CCV	5 mg/L		1.0	1000		100
MRL (RLx2)	0.2 mg/L		5.0		500	100
DLCK (RL)	0.1 mg/L		10		1000	100
MS/MSD	5 mg/L	50 mg/Kg	30		3000	100

ICAL Prep Verification
Initial EC Date 6-8-19

Comments:

Analyst: [signature] **Date of analysis:** 6-8-19

Reviewer: [signature] **Date:** 6/9/19

CHI-22-12-124/E-02/13

PC-TitratION PLUS
Calibration Report

484754

Calibration Record # 1686

Calibration Settings

Calibration ID	FLUORIDE	Date	06/08/2019
Channel	2	Time	2:36 PM
Probe Type	ISE	Temperature	-999.00 K -1272.15 C
Probe ID	F ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-56.149	CorrCoeff	0.9994
Intercept	15.491	Equation:	Y = (-56.149) X + (15.491)

Calibration Validity True Operator

	Result	Minimum	Maximum
Slope	-56.149	-60.00	-54.00
Intercept	15.491	-100.00	100.00
Correlation Coefficient	0.9994	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	Standard	Reading
	0.10	68.96
	0.30	46.99
	1.00	16.72
	5.00	-23.07
	10.00	-40.64
	30.00	-68.84

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TestAmerica
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TestAmerica Chicago

Water Analysis Report

489354

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Run Number 4011 **Order Number** 20190608-1

SampleID	RunDate	RunTime	Temp	pH	pH (mV)	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	EP @ 8.3 (ml)	EP @ 4.5 (ml)	EP @ 4.2 (ml)	F-ppm	F (mV)
ICV	6/8/2019	2:38 PM	23.23	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	20.97	-58.59
ICB	6/8/2019	2:45 PM	23.19	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.03	100.83
MB	6/8/2019	2:52 PM	23.33	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.01	118.16
LCS	6/8/2019	2:58 PM	23.46	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	10.25	-41.25
500-163733-W-1	6/8/2019	3:05 PM	23.28	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.62	27.09
500-164187-I-1	6/8/2019	3:09 PM	23.25	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.78	21.60
500-164187-I-2	6/8/2019	3:11 PM	23.12	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.24	50.53
500-164187-I-2 ms	6/8/2019	3:15 PM	23.12	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.27	-25.02
500-164187-I-2 msd	6/8/2019	3:17 PM	23.15	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.32	-25.26
500-164187-I-3	6/8/2019	3:24 PM	23.23	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.29	45.65
500-164187-I-4	6/8/2019	3:29 PM	23.30	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.39	38.57
500-164187-I-5	6/8/2019	3:36 PM	23.31	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.64	26.36
CCV-1	6/8/2019	3:39 PM	23.17	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.01	-23.80
CCB-1	6/8/2019	3:46 PM	23.23	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.02	115.47
500-164187-I-6	6/8/2019	3:52 PM	23.20	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.21	53.83
500-164187-I-7	6/8/2019	3:56 PM	23.06	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.68	24.78
500-164187-I-8	6/8/2019	3:59 PM	22.98	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.48	33.56
500-164187-I-9	6/8/2019	4:03 PM	23.14	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.29	45.28
500-164187-I-10	6/8/2019	4:06 PM	22.83	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.81	20.75
500-164187-I-11	6/8/2019	4:10 PM	22.66	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.83	20.14
500-163837-J-1	6/8/2019	4:13 PM	22.55	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.29	-25.26
500-164243-F-1	6/8/2019	4:17 PM	22.57	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.08	76.17
500-164254-I-1	6/8/2019	4:22 PM	22.78	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.13	65.55
500-164188-B-1	6/8/2019	4:26 PM	23.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.59	28.19
CCV-2	6/8/2019	4:30 PM	23.23	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.11	-24.16
CCB-2	6/8/2019	4:36 PM	23.14	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.02	116.57

PC-TitratION PLUS by Man-Tech Associates, Inc.

Report Date: 6/8/2019 : 7:01 PM

WATER ANALYSIS REPORT.SRW
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489354

Run Number 4011 **Order Number** 20190608-1

SampleID	RunDate	RunTime	Temp	pH	pH (mV)	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	EP @ 8.3 (ml)	EP @ 4.5 (ml)	EP @ 4.2 (ml)	F-ppm	F (mV)
500-164188-B-2	6/8/2019	4:39 PM	22.75	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.21	53.58
500-164188-B-3	6/8/2019	4:43 PM	22.54	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.29	45.65
500-164188-B-4	6/8/2019	4:47 PM	22.54	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.82	20.38
500-164188-B-5	6/8/2019	4:51 PM	22.58	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.49	33.08
MB	6/8/2019	4:58 PM	22.95	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.01	122.68
LCS	6/8/2019	5:01 PM	23.15	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	10.40	-41.62
500-164188-B-6	6/8/2019	5:08 PM	23.03	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.42	36.49
500-164188-B-6 ms	6/8/2019	5:11 PM	22.67	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.56	-26.36
500-164188-B-6 msd	6/8/2019	5:13 PM	22.46	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.43	-25.75
500-164188-B-7	6/8/2019	5:20 PM	22.74	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.53	31.12
CCV-3	6/8/2019	5:23 PM	22.83	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.06	-24.04
CCB-3	6/8/2019	5:30 PM	23.04	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.02	116.21
500-164273-N-1	6/8/2019	5:34 PM	23.20	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.53	30.76
500-164273-N-2	6/8/2019	5:38 PM	23.15	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.68	24.65
500-164273-N-3	6/8/2019	5:42 PM	22.86	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.67	25.39
500-164598-C-1	6/8/2019	5:46 PM	22.75	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	10.25	-41.25
500-164294-H-1	6/8/2019	5:50 PM	22.66	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.42	36.86
500-163832-H-5	6/8/2019	5:53 PM	22.75	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.13	65.30
500-163832-H-6	6/8/2019	5:58 PM	22.93	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.11	69.94
500-163832-H-7	6/8/2019	6:02 PM	23.12	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.60	27.83
500-163832-H-8	6/8/2019	6:04 PM	22.99	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.23	51.51
500-163832-H-9	6/8/2019	6:08 PM	22.89	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.69	24.41
CCV-4	6/8/2019	6:12 PM	22.93	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.06	-24.04
CCB-4	6/8/2019	6:18 PM	23.01	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.02	116.57
500-163832-H-10	6/8/2019	6:22 PM	23.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.41	36.98
500-163832-H-11	6/8/2019	6:25 PM	23.07	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.29	45.28
500-163832-H-13	6/8/2019	6:28 PM	23.14	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.19	55.78
500-163832-H-12	6/8/2019	6:31 PM	23.27	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	1.08	13.67
500-163832-H-16	6/8/2019	6:35 PM	23.15	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.24	50.04
500-164525-A-1	6/8/2019	6:42 PM	23.22	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	8.82	-37.59

PC-TitratION PLUS by Man-Tech Associates, Inc.

Report Date: 6/8/2019 : 7:01 PM

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Run Number 4011 **Order Number** 20190608-1

SampleID	RunDate	RunTime	Temp	pH	pH (mV)	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	EP @ 8.3 (ml)	EP @ 4.5 (ml)	EP @ 4.2 (ml)	F-ppm	F (mV)
500-164147-A-2	6/8/2019	6:44 PM	23.15	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.41	36.86
500-164490-A-1	6/8/2019	6:49 PM	23.14	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	1.06	14.03
CCV-5	6/8/2019	6:52 PM	23.11	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	5.06	-24.16
CCB-5	6/8/2019	6:59 PM	23.25	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.02	114.25

PC-TitratION PLUS by Man-Tech Associates, Inc.

Report Date: 6/8/2019 : 7:01 PM

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PC-Titrate For Windows V3

Exported Equation Results

Sample ID	FI	FmV	stbT	Temp
ICV	20.966	-58.590	58.969	23.234
ICB	0.030	100.830	302.533	23.186
MB	0.015	118.160	274.999	23.330
LCS	10.246	-41.250	302.532	23.459
500-163733-W-1	0.621	27.090	289.584	23.282
500-164187-I-1	0.782	21.600	126.610	23.250
500-164187-I-2	0.238	50.530	40.295	23.122
500-164187-I-2 ms	5.266	-25.020	97.688	23.122
500-164187-I-2 ms	5.318	-25.260	57.533	23.154
500-164187-I-3	0.290	45.650	302.533	23.234
500-164187-I-4	0.386	38.570	207.372	23.298
500-164187-I-5	0.640	26.360	302.533	23.314
CCV-1	5.009	-23.800	61.542	23.170
CCB-1	0.017	115.470	302.533	23.234
500-164187-I-6	0.208	53.830	301.300	23.202
500-164187-I-7	0.683	24.780	142.398	23.057
500-164187-I-8	0.477	33.560	72.120	22.978
500-164187-I-9	0.295	45.280	127.812	23.138
500-164187-I-10	0.806	20.750	52.245	22.826
500-164187-I-11	0.826	20.140	115.971	22.659
500-163837-J-1	5.292	-25.260	98.640	22.553
500-164243-F-1	0.083	76.170	164.940	22.568
500-164254-I-1	0.128	65.550	174.222	22.781
500-164188-B-1	0.594	28.190	159.635	23.041
CCV-2	5.111	-24.160	80.076	23.234
CCB-2	0.016	116.570	302.533	23.138
500-164188-B-2	0.210	53.580	74.927	22.750
500-164188-B-3	0.289	45.650	118.561	22.537
500-164188-B-4	0.818	20.380	134.441	22.537
500-164188-B-5	0.486	33.080	125.144	22.583
MB	0.012	122.680	302.532	22.948
LCS	10.403	-41.620	114.192	23.154
500-164188-B-6	0.423	36.490	302.564	23.025
500-164188-B-6 ms	5.564	-26.360	50.904	22.674
500-164188-B-6 ms	5.426	-25.750	50.903	22.461
500-164188-B-7	0.527	31.120	296.216	22.735
CCV-3	5.059	-24.040	90.685	22.826
CCB-3	0.016	116.210	302.518	23.041
500-164273-N-1	0.535	30.760	150.354	23.202
500-164273-N-2	0.683	24.650	130.464	23.154
500-164273-N-3	0.666	25.390	142.430	22.857
500-164598-C-1	10.246	-41.250	133.115	22.750
500-164294-H-1	0.416	36.860	92.011	22.659
500-163832-H-5	0.130	65.300	73.446	22.750
500-163832-H-6	0.107	69.940	208.683	22.933

Date: 6/8/2019

PC-Titrate For Windows V3

489354

Exported Equation Results

Sample ID	FI	FmV	stbT	Temp
500-163832-H-7	0.603	27.830	131.790	23.122
500-163832-H-8	0.228	51.510	38.954	22.994
500-163832-H-9	0.694	24.410	105.270	22.887
CCV-4	5.059	-24.040	126.486	22.933
CCB-4	0.016	116.570	301.925	23.009
500-163832-H-10	0.414	36.980	110.574	23.073
500-163832-H-11	0.295	45.280	89.357	23.073
500-163832-H-13	0.192	55.780	76.099	23.138
500-163832-H-12	1.078	13.670	69.467	23.266
500-163832-H-16	0.244	50.040	126.485	23.154
500-164525-A-1	8.818	-37.590	302.532	23.218
500-164147-A-2	0.414	36.860	39.000	23.154
500-164490-A-1	1.062	14.030	158.311	23.138
CCV-5	5.059	-24.160	78.749	23.106
CCB-5	0.017	114.250	302.533	23.250

PC-Titrate For Windows V3

489354

Exported Equation Results

Sample ID	pH	palk	talk	bcarb	carb	hydrx	flrd	Temp	ep1	ep2a	ep2b	FmV	mV
ICV	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	20.966	23.234	-1.000	-1.000	-1.000	-58.590	-1.000
ICB	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.030	23.186	-1.000	-1.000	-1.000	100.830	-1.000
MB	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.015	23.330	-1.000	-1.000	-1.000	118.160	-1.000
LCS	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	10.246	23.459	-1.000	-1.000	-1.000	-41.250	-1.000
500-163733-W-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.621	23.282	-1.000	-1.000	-1.000	27.090	-1.000
500-164187-I-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.782	23.250	-1.000	-1.000	-1.000	21.600	-1.000
500-164187-I-2	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.238	23.122	-1.000	-1.000	-1.000	50.530	-1.000
500-164187-I-2 ms	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.266	23.122	-1.000	-1.000	-1.000	-25.020	-1.000
500-164187-I-2 msd	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.318	23.154	-1.000	-1.000	-1.000	-25.260	-1.000
500-164187-I-3	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.290	23.234	-1.000	-1.000	-1.000	45.650	-1.000
500-164187-I-4	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.386	23.298	-1.000	-1.000	-1.000	38.570	-1.000
500-164187-I-5	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.640	23.314	-1.000	-1.000	-1.000	26.360	-1.000
CCV-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.009	23.170	-1.000	-1.000	-1.000	-23.800	-1.000
CCB-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.017	23.234	-1.000	-1.000	-1.000	115.470	-1.000
500-164187-I-6	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.208	23.202	-1.000	-1.000	-1.000	53.830	-1.000
500-164187-I-7	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.683	23.057	-1.000	-1.000	-1.000	24.780	-1.000
500-164187-I-8	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.477	22.978	-1.000	-1.000	-1.000	33.560	-1.000
500-164187-I-9	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.295	23.138	-1.000	-1.000	-1.000	45.280	-1.000
500-164187-I-10	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.806	22.826	-1.000	-1.000	-1.000	20.750	-1.000
500-164187-I-11	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.826	22.659	-1.000	-1.000	-1.000	20.140	-1.000
500-163837-J-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.292	22.553	-1.000	-1.000	-1.000	-25.260	-1.000
500-164243-F-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.083	22.568	-1.000	-1.000	-1.000	76.170	-1.000
500-164254-I-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.128	22.781	-1.000	-1.000	-1.000	65.550	-1.000
500-164188-B-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.594	23.041	-1.000	-1.000	-1.000	28.190	-1.000
CCV-2	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.111	23.234	-1.000	-1.000	-1.000	-24.160	-1.000
CCB-2	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.016	23.138	-1.000	-1.000	-1.000	116.570	-1.000
500-164188-B-2	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.210	22.750	-1.000	-1.000	-1.000	53.580	-1.000
500-164188-B-3	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.289	22.537	-1.000	-1.000	-1.000	45.650	-1.000
500-164188-B-4	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.818	22.537	-1.000	-1.000	-1.000	20.380	-1.000
500-164188-B-5	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.486	22.583	-1.000	-1.000	-1.000	33.080	-1.000
MB	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.012	22.948	-1.000	-1.000	-1.000	122.680	-1.000
LCS	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	10.403	23.154	-1.000	-1.000	-1.000	-41.620	-1.000
500-164188-B-6	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.423	23.025	-1.000	-1.000	-1.000	36.490	-1.000
500-164188-B-6 ms	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.564	22.674	-1.000	-1.000	-1.000	-26.360	-1.000
500-164188-B-6 msd	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.426	22.461	-1.000	-1.000	-1.000	-25.750	-1.000
500-164188-B-7	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.527	22.735	-1.000	-1.000	-1.000	31.120	-1.000
CCV-3	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.059	22.826	-1.000	-1.000	-1.000	-24.040	-1.000
CCB-3	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.016	23.041	-1.000	-1.000	-1.000	116.210	-1.000
500-164273-N-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.535	23.202	-1.000	-1.000	-1.000	30.760	-1.000
500-164273-N-2	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.683	23.154	-1.000	-1.000	-1.000	24.650	-1.000
500-164273-N-3	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.666	22.857	-1.000	-1.000	-1.000	25.390	-1.000
500-164598-C-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	10.246	22.750	-1.000	-1.000	-1.000	-41.250	-1.000
500-164294-H-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.416	22.659	-1.000	-1.000	-1.000	36.860	-1.000
500-163832-H-5	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.130	22.750	-1.000	-1.000	-1.000	65.300	-1.000
500-163832-H-6	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.107	22.933	-1.000	-1.000	-1.000	69.940	-1.000

Date: 6/8/2019

d89354

PC-Titrate For Windows V3

Exported Equation Results

Sample ID	pH	palk	talk	bcarb	carb	hydrx	flrd	Temp	ep1	ep2a	ep2b	FmV	mV
500-163832-H-7	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.603	23.122	-1.000	-1.000	-1.000	27.830	-1.000
500-163832-H-8	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.228	22.994	-1.000	-1.000	-1.000	51.510	-1.000
500-163832-H-9	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.694	22.887	-1.000	-1.000	-1.000	24.410	-1.000
CCV-4	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.059	22.933	-1.000	-1.000	-1.000	-24.040	-1.000
CCB-4	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.016	23.009	-1.000	-1.000	-1.000	116.570	-1.000
500-163832-H-10	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.414	23.073	-1.000	-1.000	-1.000	36.980	-1.000
500-163832-H-11	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.295	23.073	-1.000	-1.000	-1.000	45.280	-1.000
500-163832-H-13	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.192	23.138	-1.000	-1.000	-1.000	55.780	-1.000
500-163832-H-12	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	1.078	23.266	-1.000	-1.000	-1.000	13.670	-1.000
500-163832-H-16	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.244	23.154	-1.000	-1.000	-1.000	50.040	-1.000
500-164525-A-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	8.818	23.218	-1.000	-1.000	-1.000	-37.590	-1.000
500-164147-A-2	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.414	23.154	-1.000	-1.000	-1.000	36.860	-1.000
500-164490-A-1	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	1.062	23.138	-1.000	-1.000	-1.000	14.030	-1.000
CCV-5	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	5.059	23.106	-1.000	-1.000	-1.000	-24.160	-1.000
CCB-5	-1.000	-1.000	-1.000	-1.000	-1.000	-1.000	0.017	23.250	-1.000	-1.000	-1.000	114.250	-1.000

Date: 6/8/2019

General Chemistry Worksheet

Batch Number: 500-489354
Method: SM 4500 F C
Analyst: Treadwell, Eliane A

Date Open: Jun 08 2019 2:38PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	WSTICF1_00012	WSTICF2_00017
ICV~500-489354/1		4500_F_C		100 mL	100 mL		2000 uL
ICB~500-489354/2		4500_F_C					
MB~500-489354/3		4500_F_C					
LCS~500-489354/4		4500_F_C		100 mL	100 mL		1000 uL
500-163733-W-1	L301	4500_F_C	T				
500-164187-I-1	MW-01	4500_F_C	D				
500-164187-I-2	MW-02	4500_F_C	D				
500-164187-I-2~MS		4500_F_C	D	100 mL	100 mL		500 uL
500-164187-I-2~MSD		4500_F_C	D	100 mL	100 mL		500 uL
500-164187-I-3	MW-03	4500_F_C	D				
500-164187-I-4	MW-04	4500_F_C	D				
500-164187-I-5	MW-05	4500_F_C	D				
CCV~500-489354/13		4500_F_C		100 mL	100 mL	500 uL	
CCB~500-489354/14		4500_F_C					
500-164187-I-6	MW-06	4500_F_C	D				
500-164187-I-7	MW-07	4500_F_C	D				
500-164187-I-8	MW-08	4500_F_C	D				
500-164187-I-9	MW-09	4500_F_C	D				
500-164187-I-10	MW-10	4500_F_C	D				
500-164187-I-11	Duplicate	4500_F_C	D				
500-163837-J-1	EFF-1	4500_F_C	T				
500-164243-F-1	Effluent - Composite	4500_F_C	T				
500-164254-I-1	Effluent - Composite	4500_F_C	T				
500-164188-B-1	MW-05	4500_F_C	T				
CCV~500-489354/25		4500_F_C		100 mL	100 mL	500 uL	

General Chemistry Worksheet

Batch Number: 500-489354
Method: SM 4500 F C
Analyst: Treadwell, Eliane A

Date Open: Jun 08 2019 2:38PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	WSTICF1_00012	WSTICF2_00017
CCB~500-489354/26		4500_F_C					
500-164188-B-2	MW-06	4500_F_C	T				
500-164188-B-3	MW-09	4500_F_C	T				
500-164188-B-4	MW-10	4500_F_C	T				
500-164188-B-5	MW-11	4500_F_C	T				
MB~500-489354/31		4500_F_C					
LCS~500-489354/32		4500_F_C		100 mL	100 mL		1000 uL
500-164188-B-6	MW-12	4500_F_C	T				
500-164188-B-6~MS		4500_F_C	T	100 mL	100 mL		500 uL
500-164188-B-6~MSD		4500_F_C	T	100 mL	100 mL		500 uL
500-164188-B-7	Duplicate	4500_F_C	T				
CCV~500-489354/37		4500_F_C		100 mL	100 mL	500 uL	
CCB~500-489354/38		4500_F_C					
500-164273-N-1	MW101 (G101)	4500_F_C	T				
500-164273-N-2	MW102 (G102)	4500_F_C	T				
500-164273-N-3	MW103 (G103)	4500_F_C	T				
500-164598-C-1	Flume Discharge - Composite	4500_F_C	T				
500-164294-H-1	Plant Effluent CAT 01	4500_F_C	T				
500-163832-H-5	G48WT	4500_F_C	D				
500-163832-H-6	G46WT	4500_F_C	D				
500-163832-H-7	T02S	4500_F_C	D				
500-163832-H-8	T03S	4500_F_C	D				
500-163832-H-9	T08S	4500_F_C	D				
CCV~500-489354/49		4500_F_C		100 mL	100 mL	500 uL	
CCB~500-489354/50		4500_F_C					

Page 257 of 280

General Chemistry Worksheet

Batch Number: 500-489354
Method: SM 4500 F C
Analyst: Treadwell, Eliane A

Date Open: Jun 08 2019 2:38PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	WSTICF1_00012	WSTICF2_00017
500-163832-H-10	T07S	4500_F_C	D				
500-163832-H-11	T10S	4500_F_C	D				
500-163832-H-13	G47WT	4500_F_C	D				
500-163832-H-12	T01S	4500_F_C	D				
500-163832-H-16	TO4S	4500_F_C	D				
500-164525-A-1	Flume Discharge - Composite	4500_F_C	T				
500-164147-A-2	Santa Fe WRF Effluent Comp.	4500_F_C	T				
500-164490-A-1	Flume Discharge - Composite	4500_F_C	T				
CCV~500-489354/59		4500_F_C		100 mL	100 mL	500 uL	
CCB~500-489354/60		4500_F_C					

TISAB ID: TISAB_00020
Probe ID: PCE_1001
Pipette ID: n/a

Page 57 of 97

General Chemistry Worksheet

Batch Number: 500-489354
Method: SM 4500 F C
Analyst: Treadwell, Eliane A

Date Open: Jun 08 2019 2:38PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Analysis comment	Comments
ICV~500-489354/1		4500_F_C			
ICB~500-489354/2		4500_F_C			
MB~500-489354/3		4500_F_C			
LCS~500-489354/4		4500_F_C			
500-163733-W-1	L301	4500_F_C	T		
500-164187-I-1	MW-01	4500_F_C	D		
500-164187-I-2	MW-02	4500_F_C	D		
500-164187-I-2~MS		4500_F_C	D		
500-164187-I-2~MSD		4500_F_C	D		
500-164187-I-3	MW-03	4500_F_C	D		
500-164187-I-4	MW-04	4500_F_C	D		
500-164187-I-5	MW-05	4500_F_C	D		
CCV~500-489354/13		4500_F_C			
CCB~500-489354/14		4500_F_C			
500-164187-I-6	MW-06	4500_F_C	D		
500-164187-I-7	MW-07	4500_F_C	D		
500-164187-I-8	MW-08	4500_F_C	D		
500-164187-I-9	MW-09	4500_F_C	D		
500-164187-I-10	MW-10	4500_F_C	D		
500-164187-I-11	Duplicate	4500_F_C	D		
500-163837-J-1	EFF-1	4500_F_C	T		
500-164243-F-1	Effluent - Composite	4500_F_C	T		
500-164254-I-1	Effluent - Composite	4500_F_C	T		
500-164188-B-1	MW-05	4500_F_C	T		
CCV~500-489354/25		4500_F_C			

Page 87 of 87

General Chemistry Worksheet

Batch Number: 500-489354
Method: SM 4500 F C
Analyst: Treadwell, Eliane A

Date Open: Jun 08 2019 2:38PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Comments: Analysis comment
CCB~500-489354/26		4500_F_C		
500-164188-B-2	MW-06	4500_F_C	T	
500-164188-B-3	MW-09	4500_F_C	T	
500-164188-B-4	MW-10	4500_F_C	T	
500-164188-B-5	MW-11	4500_F_C	T	
MB~500-489354/31		4500_F_C		
LCS~500-489354/32		4500_F_C		
500-164188-B-6	MW-12	4500_F_C	T	
500-164188-B-6~MS		4500_F_C	T	
500-164188-B-6~MSD		4500_F_C	T	
500-164188-B-7	Duplicate	4500_F_C	T	
CCV~500-489354/37		4500_F_C		
CCB~500-489354/38		4500_F_C		
500-164273-N-1	MW101 (G101)	4500_F_C	T	
500-164273-N-2	MW102 (G102)	4500_F_C	T	
500-164273-N-3	MW103 (G103)	4500_F_C	T	
500-164598-C-1	Flume Discharge - Composite	4500_F_C	T	
500-164294-H-1	Plant Effluent CAT 01	4500_F_C	T	
500-163832-H-5	G48WT	4500_F_C	D	
500-163832-H-6	G46WT	4500_F_C	D	
500-163832-H-7	T02S	4500_F_C	D	
500-163832-H-8	T03S	4500_F_C	D	
500-163832-H-9	T08S	4500_F_C	D	
CCV~500-489354/49		4500_F_C		
CCB~500-489354/50		4500_F_C		

General Chemistry Worksheet

Batch Number: 500-489354
Method: SM 4500 F C
Analyst: Treadwell, Eliane A

Date Open: Jun 08 2019 2:38PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Analysis comment	Comments
500-163832-H-10	T07S	4500_F_C	D		
500-163832-H-11	T10S	4500_F_C	D		
500-163832-H-13	G47WT	4500_F_C	D		
500-163832-H-12	T01S	4500_F_C	D		
500-163832-H-16	TO4S	4500_F_C	D		
500-164525-A-1	Flume Discharge - Composite	4500_F_C	T		
500-164147-A-2	Santa Fe WRF Effluent Comp.	4500_F_C	T		
500-164490-A-1	Flume Discharge - Composite	4500_F_C	T		
CCV~500-489354/59		4500_F_C			
CCB~500-489354/60		4500_F_C			

Batch Comment: n/a

TestAmerica Chicago

Chloride by Seal AQ2

Method:

Analytical Batch #: 489759
Prep Batch #: _____

____ EPA 325.2
__✓__ SW-846 9251M
__✓__ Standard Methods 4500 Cl⁻ E-97

NCM # _____

Calculations:

mg/L = mg/L X dilution

mg/Kg = mg/L X final vol. in mL / grams sample

Calibration Range: 2.0 – 75.0 mg/L
Reporting Limit: 2.0 mg/L

Dry weight correction of solids is done automatically in ADII.

Standards Traceability:

Stock I : Calibration Curve, CCV : 109TICCS1-00016
Stock II: LCS, ICV, Matrix spikes MRL, DLCK 109TICCS2-00020

Spiking Levels:

			ICAL Standards mg/L	Stock I Spike Amount uLs	DI Amount mL
LCS	50 mg/L	____ mg/Kg	0	0	100
ICV / CCV	60 mg/L		2.0	0.2	100
ICVL / CCVL	20 mg/L		5.0	0.5	100
MS/MSD	50 mg/L		10	1.0	100
MS/MSD	50 mg/Kg		25	2.5	100
MRL	2 mg/L		50	5.0	100
DLCK	1 mg/L		75	7.5	100

ICAL Prep Verification
Initial EJ Date 6-11-19

Comments:

Analyst: Elaine Goodwill **Date of analysis:** 6-11-19

Reviewer: Miller V CHECKS **Date:** 6/13/19

CHI-22-12-116/H-11/12

AQ-2 Test Parameters

L99759

Date & Time:	06/11/2019 16:48:57		
Test Number:	3		
Long Test Name:	Chloride	**Short Test Name:**	CL
Units:	mg/L	**Decimal Places:**	3
Test Type:	1. End Point		

Main Parameters

Sample Volume:	75	**Water Volume:**	175	**Number of Mixes:**	2
Cuvette primes:	2	**Cuvette Washes:**	2	**Baseline on Wash:**	YES
Cadmium Volume:	0	**Reduction Time:**	0	**Diluent Location:**	Water Bottle

Math Parameters

Reaction Time:	420	**Wavelength:**	480nm	**Polynomial Order:**	2
Repeat Delta Check:	0.250	**Auto Dilution Factor:**	1.000	**Manual Dilution Factor:**	1.000
Linearity Low:	0.1843	**Linearity High:**	0.7357	**Latest Slope:**	1.0000
Alert Low:	-2.000	**Alert High:**	75.000	**Latest Intercept:**	0.0000

Reagent Parameters

Number of Reagents: 1

Reagent	Name	Volume	Delay	Replaced in Blank
1	CL combined	250	0	NO
Blank	Water Bottle	0		

Standards

Auto Std. Number: 6 **Auto Std. Concentration :** 75.0000 **Exclude the Blank :** NO

Auto Std. Position: Cup 1 **Standard 1 (Blank) Position :** From Bottle **Correlation limit :** 0.9950

Standard	Value	Standard	Value	Auto Standard	Percentage	Value
1	0.0000	11	0.0000	1	2.6667	2.0000
2	0.0000	12	0.0000	2	6.6667	5.0000
3	0.0000	13	0.0000	3	13.3333	10.0000
4	0.0000	14	0.0000	4	33.3333	25.0000
5	0.0000	15	0.0000	5	66.6667	50.0000
6	0.0000	16	0.0000	6	100.0000	75.0000

Controls

Control	Low Value	High Value	Location	Frequency	Start Before

QC PRO

Control	Low Value	High Value	Location	Frequency	Start Before
C C V	18.0000	22.0000	Reagent 14	10	14
C C B	-2.0000	2.0000	Reagent 13	10	14
I C V	54.0000	66.0000	As Scheduled	0	Off
L C S	40.0000	60.0000	As Scheduled	0	Off
I C B	-2.0000	2.0000	As Scheduled	0	Off
M B	-2.0000	2.0000	As Scheduled	0	Off

Duplicate allowed Percentage: 0.00 **Spike allowed Percentage :** 0.00

Spiked Concentration Added : 0.0000 **Spiking Stock Concentration :** 0.0000



AQ-2 Report

489759

Serial Number: 090867
Report Requested By: Eliane
Date & Time: 06/11/2019 16:53:00
Tray Number: 4
Tray Name: 19.06.11 (15-11)

Worklist

Cup	Type	ID	Details	Tests
2	ICV	ICV		CL
3	U1	ICVL		CL
4	ICB	ICB		CL
5	MB	MB		CL
6	LCS	LCS		CL
7	U2	500-164187-I-10		CL
8	U3	500-164187-I-11		CL
9	U4	500-164187-I-11 ms		CL
10	U5	500-164187-I-11 msd		CL
11	U6	500-164188-B-1		CL
12	U7	500-164188-B-2		CL
13	U8	CCVH		CL
14	U9	500-164188-B-2 ms		CL
15	U10	500-164188-B-2 msd		CL
16	U11	500-164188-B-3		CL
17	U12	500-164188-B-4		CL
18	U13	500-164188-B-5		CL
19	U14	500-164188-B-6		CL
20	U15	500-164188-B-7		CL
21	U16	500-164497-C-1		CL
22	U17	500-163837-J-1		CL
23	U18	CCVH		CL
24	U19	500-164511-C-1		CL
25	U20	500-164511-C-2		CL
26	U21	500-164511-C-3		CL
27	U22	500-164537-C-1		CL
28	U23	500-164430-A-1		CL
29	U24	500-164556-H-1		CL
30	U25	500-164446-C-1		CL
31	U26	500-164479-A-1		CL
32	U27	500-164602-A-1		CL
33	U28	CCVH		CL

Chloride

499759

Tray	Cup	Type	Sample ID	Test #	Test Name	Result	Well Result	Absorbance	Auto Dil Factor	Manual Dil factor	Time
4	1	S1	STANDARD 1	3	Chloride	0.1843	0.3386	0.1843	0	0	6/11/2019 15:33
4	2	S90	STANDARD 90	3	Chloride	0.1982	1.6178	0.1982	0	0	6/11/2019 15:34
4	3	S91	STANDARD 91	3	Chloride	0.2318	4.827	0.2318	0	0	6/11/2019 15:35
4	4	S92	STANDARD 92	3	Chloride	0.2758	9.2916	0.2758	0	0	6/11/2019 15:36
4	5	S93	STANDARD 93	3	Chloride	0.4188	25.7878	0.4188	0	0	6/11/2019 15:37
4	6	S94	STANDARD 94	3	Chloride	0.5903	49.6271	0.5903	0	0	6/11/2019 15:38
4	7	S95	STANDARD 95	3	Chloride	0.7357	73.289	0.7357	0	0	6/11/2019 15:39
4	8	S0	STANDARD 0	3	Chloride	0.1839	0.3086	0.1839	0	0	6/11/2019 15:40
4	9	C15	ICV	3	Chloride	61.4538	61.4538	0.6599	0	0	6/11/2019 15:41
4	10	1	ICVL	3	Chloride	20.4438	20.4438	0.3777	0	0	6/11/2019 15:42
4	11	C17	ICB	3	Chloride	0.6704	0.6704	0.1845	0	0	6/11/2019 15:42
4	12	C18	MB	3	Chloride	0.6083	0.6083	0.1838	0	0	6/11/2019 15:43
4	13	C16	LCS	3	Chloride	52.2398	52.2398	0.6043	0	0	6/11/2019 15:44
4	14	2	500-164187-I-10	3	Chloride	129.5994	129.5994	0.9982	0	0	6/11/2019 15:45
4	15	3	500-164187-I-11	3	Chloride	133.3293	133.3293	1.0141	0	0	6/11/2019 15:46 over range
4	16	4	500-164187-I-11 ms	3	Chloride	164.1947	164.1947	1.1395	0	0	6/11/2019 15:47
4	17	5	500-164187-I-11 msd	3	Chloride	169.6108	169.6108	1.1604	0	0	6/11/2019 15:48
4	18	6	500-164188-B-1	3	Chloride	74.977	74.977	0.736	0	0	6/11/2019 15:49
4	19	7	500-164188-B-2	3	Chloride	37.6949	37.6949	0.5087	0	0	6/11/2019 15:50
4	20	8	CCVH	3	Chloride	60.9222	60.9222	0.6568	0	0	6/11/2019 15:51
4	21	C11	C C V	3	Chloride	20.4366	20.4366	0.3776	0	0	6/11/2019 15:52
4	22	C12	C C B	3	Chloride	0.8371	0.8371	0.1865	0	0	6/11/2019 15:53
4	23	9	500-164188-B-2 ms	3	Chloride	86.8814	86.8814	0.7985	0	0	6/11/2019 15:54
4	24	10	500-164188-B-2 msd	3	Chloride	85.0597	85.0597	0.7892	0	0	6/11/2019 15:55
4	25	11	500-164188-B-3	3	Chloride	228.9567	228.9567	1.3719	0	0	6/11/2019 15:55
4	26	12	500-164188-B-4	3	Chloride	128.2675	128.2675	0.9924	0	0	6/11/2019 15:56
4	27	13	500-164188-B-5	3	Chloride	107.0761	107.0761	0.8971	0	0	6/11/2019 15:57 over range
4	28	14	500-164188-B-6	3	Chloride	130.2419	130.2419	1.0009	0	0	6/11/2019 15:58
4	29	15	500-164188-B-7	3	Chloride	109.5164	109.5164	0.9085	0	0	6/11/2019 15:59
4	30	16	500-164497-C-1	3	Chloride	416.466	416.466	1.9103	0	0	6/11/2019 15:59
4	31	17	500-163837-J-1	3	Chloride	249.2164	249.2164	1.4382	0	0	6/11/2019 16:00
4	32	18	CCVH	3	Chloride	62.6979	62.6979	0.6671	0	0	6/11/2019 16:00
4	33	C11	C C V	3	Chloride	19.7924	19.7924	0.3722	0	0	6/11/2019 16:01
4	34	C12	C C B	3	Chloride	0.832	0.832	0.1864	0	0	6/11/2019 16:01
4	35	19	500-164511-C-1	3	Chloride	327.226	327.226	1.6726	0	0	6/11/2019 16:02 over range
4	36	20	500-164511-C-2	3	Chloride	57.5271	57.5271	0.6366	0	0	6/11/2019 16:02
4	37	21	500-164511-C-3	3	Chloride	224.8604	224.8604	1.3582	0	0	6/11/2019 16:03 over range

499759

4	38	22	500-164537-C-1	3	Chloride	260.1772	260.1772	1.4731	0	0	6/11/2019 16:03
4	39	23	500-164430-A-1	3	Chloride	436.3253	436.3253	1.9598	0	0	6/11/2019 16:04
4	40	24	500-164556-H-1	3	Chloride	46.1081	46.1081	0.5653	0	0	6/11/2019 16:04
4	41	25	500-164446-C-1	3	Chloride	255.4477	255.4477	1.4581	0	0	6/11/2019 16:05
4	42	26	500-164479-A-1	3	Chloride	234.5677	234.5677	1.3906	0	0	6/11/2019 16:05
4	43	27	500-164602-A-1	3	Chloride	27.0994	27.0994	0.4311	0	0	6/11/2019 16:06
4	44	28	CCVH	3	Chloride	61.4272	61.4272	0.6597	0	0	6/11/2019 16:06
4	45	C11	C C V	3	Chloride	20.1451	20.1451	0.3752	0	0	6/11/2019 16:07
4	46	C12	C C B	3	Chloride	0.7554	0.7554	0.1855	0	0	6/11/2019 16:07
4	14	2	500-164187-I-10	3	Chloride	136.3511	27.2702	0.4324	5	0	6/11/2019 16:27
4	15	3	500-164187-I-11	3	Chloride	140.3053	28.0611	0.4385	5	0	6/11/2019 16:28
4	16	4	500-164187-I-11 ms	3	Chloride	188.1865	37.6373	0.5083	5	0	6/11/2019 16:29
4	17	5	500-164187-I-11 msd	3	Chloride	186.1703	37.2341	0.5055	5	0	6/11/2019 16:30
4	18	6	500-164188-B-1	3	Chloride	90.5831	18.1166	0.358	5	0	6/11/2019 16:31
4	20	8	CCVH	3	Chloride	62.2215	62.2215	0.6644	0	0	6/11/2019 16:32
4	21	C11	C C V	3	Chloride	19.9492	19.9492	0.3736	0	0	6/11/2019 16:33
4	22	C12	C C B	3	Chloride	0.7853	0.7853	0.1859	0	0	6/11/2019 16:34
4	25	11	500-164188-B-3	3	Chloride	276.2448	55.249	0.6228	5	0	6/11/2019 16:34
4	26	12	500-164188-B-4	3	Chloride	141.6513	28.3303	0.4405	5	0	6/11/2019 16:35
4	27	13	500-164188-B-5	3	Chloride	114.1505	22.8301	0.3973	5	0	6/11/2019 16:36
4	28	14	500-164188-B-6	3	Chloride	135.3509	27.0702	0.4309	5	0	6/11/2019 16:36
4	29	15	500-164188-B-7	3	Chloride	111.734	22.3468	0.3934	5	0	6/11/2019 16:37
4	30	16	500-164497-C-1	3	Chloride	787.8299	31.5132	0.4644	25	0	6/11/2019 16:37
4	31	17	500-163837-J-1	3	Chloride	295.9661	11.8386	0.3015	25	0	6/11/2019 16:38
4	32	18	CCVH	3	Chloride	61.2924	61.2924	0.6589	0	0	6/11/2019 16:38
4	33	C11	C C V	3	Chloride	20.2324	20.2324	0.3759	0	0	6/11/2019 16:39
4	34	C12	C C B	3	Chloride	0.5972	0.5972	0.1837	0	0	6/11/2019 16:39
4	35	19	500-164511-C-1	3	Chloride	468.1999	18.728	0.3632	25	0	6/11/2019 16:40
4	37	21	500-164511-C-3	3	Chloride	259.7636	10.3905	0.2877	25	0	6/11/2019 16:40
4	38	22	500-164537-C-1	3	Chloride	330.5627	13.2225	0.3144	25	0	6/11/2019 16:41
4	39	23	500-164430-A-1	3	Chloride	973.5596	38.9424	0.5174	25	0	6/11/2019 16:41
4	41	25	500-164446-C-1	3	Chloride	330.7926	13.2317	0.3145	25	0	6/11/2019 16:42
4	42	26	500-164479-A-1	3	Chloride	287.714	11.5086	0.2984	25	0	6/11/2019 16:42
4	44	28	CCVH	3	Chloride	62.5498	62.5498	0.6663	0	0	6/11/2019 16:43
4	45	C11	C C V	3	Chloride	20.0343	20.0343	0.3743	0	0	6/11/2019 16:43
4	46	C12	C C B	3	Chloride	0.7508	0.7508	0.1855	0	0	6/11/2019 16:44

General Chemistry Worksheet

Batch Number: 500-489759
Method: SM 4500 Cl- E
Analyst: Treadwell, Eliane A

Date Open: Jun 11 2019 3:33PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	WSTICCL1_00019	WSTICCL2_00020
STANDARD~1							
500-3-A-5-A~STANDARD							
STANDARD~91							
STANDARD~92							
STANDARD~93							
STANDARD~94							
STANDARD~95							
STANDARD~0							
ICV~500-489759/9		9251		25 mL	25 mL		1500 uL
ICVL~500-489759/10		9251		25 mL	25 mL		500 uL
CCB~500-489759/11		9251					
MB~500-489759/12		9251					
LCS~500-489759/13		9251		25 mL	25 mL		1250 uL
500-164187-I-10	MW-10	9251	D				
500-164187-I-11	Duplicate	9251	D				
500-164187-I-11~MS		9251	D	10 mL	10 mL		500 uL
500-164187-I-11~MSD		9251	D	10 mL	10 mL		500 uL
500-164188-B-1	MW-05	SM4500_Cl_E	T				
500-164188-B-2	MW-06	SM4500_Cl_E	T				
CCVH~500-489759/20		9251		25 mL	25 mL	1500 uL	
CCV~500-489759/21		SM4500_Cl_E		25 mL	25 mL	500 uL	
CCB~500-489759/22		SM4500_Cl_E					
500-164188-B-2~MS		SM4500_Cl_E	T	10 mL	10 mL		500 uL
500-164188-B-2~MSD		SM4500_Cl_E	T	10 mL	10 mL		500 uL
500-164188-B-3	MW-09	SM4500_Cl_E	T				

General Chemistry Worksheet

Batch Number: 500-489759
Method: SM 4500 Cl- E
Analyst: Treadwell, Eliane A

Date Open: Jun 11 2019 3:33PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	WSTICCL1_00019	WSTICCL2_00020
500-164188-B-4	MW-10	SM4500_Cl_E	T				
500-164188-B-5	MW-11	SM4500_Cl_E	T				
500-164188-B-6	MW-12	SM4500_Cl_E	T				
500-164188-B-7	Duplicate	SM4500_Cl_E	T				
500-164497-C-1	Outfall 001 Grab	SM4500_Cl_E	T				
500-163837-J-1	EFF-1	SM4500_Cl_E	T				
CCVH~500-489759/32		SM4500_Cl_E		25 mL	25 mL	1500 uL	
CCV~500-489759/33				25 mL	25 mL	500 uL	
CCB~500-489759/34							
500-164511-C-1	L3	SM4500_Cl_E	T				
500-164511-C-2	GEM A Effluent	SM4500_Cl_E	T				
500-164511-C-3	GEM B Effluent	SM4500_Cl_E	T				
500-164537-C-1	T-8 Composte	SM4500_Cl_E	T				
500-164430-A-1	Outfall 101-Week 22	SM4500_Cl_E	T				
500-164556-H-1	Raw Leachate	SM4500_Cl_E	T				
500-164446-C-1	T-8 Composite	SM4500_Cl_E	T				
500-164479-A-1	AP Pond Outfall #002	SM4500_Cl_E	T				
500-164602-A-1	Cell 7 Stormwater Pond	SM4500_Cl_E	T				
CCVH~500-489759/44				25 mL	25 mL	1500 uL	
CCV~500-489759/45		9251		25 mL	25 mL	500 uL	
CCB~500-489759/46		9251					
500-164187-I-10	MW-10	9251	D				
500-164187-I-11	Duplicate	9251	D				
500-164187-I-11~MS		9251	D	10 mL	10 mL		100 uL
500-164187-I-11~MSD		9251	D	10 mL	10 mL		100 uL

TestAmerica Edison

General Chemistry Worksheet

Batch Number: 500-489759
Method: SM 4500 Cl- E
Analyst: Treadwell, Eliane A

Date Open: Jun 11 2019 3:33PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Initial weight/volume of sample	Final weight/volume of sample	WSTICCL1_00019	WSTICCL2_00020
500-164188-B-1	MW-05	SM4500_Cl_E	T				
CCVH~500-489759/52		9251		25 mL	25 mL	1500 uL	
CCV~500-489759/53		SM4500_Cl_E		25 mL	25 mL	500 uL	
CCB~500-489759/54		SM4500_Cl_E					
500-164188-B-3	MW-09	SM4500_Cl_E	T				
500-164188-B-4	MW-10	SM4500_Cl_E	T				
500-164188-B-5	MW-11	SM4500_Cl_E	T				
500-164188-B-6	MW-12	SM4500_Cl_E	T				
500-164188-B-7	Duplicate	SM4500_Cl_E	T				
500-164497-C-1	Outfall 001 Grab	SM4500_Cl_E	T				
500-163837-J-1	EFF-1	SM4500_Cl_E	T				
CCVH~500-489759/62		SM4500_Cl_E		25 mL	25 mL	1500 uL	
CCV~500-489759/63		SM4500_Cl_E		25 mL	25 mL	500 uL	
CCB~500-489759/64		SM4500_Cl_E					
500-164511-C-1	L3	SM4500_Cl_E	T				
500-164511-C-3	GEM B Effluent	SM4500_Cl_E	T				
500-164537-C-1	T-8 Composte	SM4500_Cl_E	T				
500-164430-A-1	Outfall 101-Week 22	SM4500_Cl_E	T				
500-164446-C-1	T-8 Composite	SM4500_Cl_E	T				
500-164479-A-1	AP Pond Outfall #002	SM4500_Cl_E	T				
CCVH~500-489759/71		SM4500_Cl_E		25 mL	25 mL	1500 uL	
CCV~500-489759/72		SM4500_Cl_E		25 mL	25 mL	500 uL	
CCB~500-489759/73		SM4500_Cl_E					

Filter Paper ID: 14820051WHATMAN0.45
Color Reagent ID: CLCOLOR00025
Pipette/Syringe/Dispenser ID: 8145679

General Chemistry Worksheet

Batch Number: 500-489759
Method: SM 4500 Cl- E
Analyst: Treadwell, Eliane A

Date Open: Jun 11 2019 3:33PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Analysis comment	Comments
STANDARD~1					
500-3-A-5-A~STANDARD					
STANDARD~91					
STANDARD~92					
STANDARD~93					
STANDARD~94					
STANDARD~95					
STANDARD~0					
ICV~500-489759/9		9251			
ICVL~500-489759/1		9251			
CCB~500-489759/11		9251			
MB~500-489759/12		9251			
LCS~500-489759/13		9251			
500-164187-I-10	MW-10	9251	D		
500-164187-I-11	Duplicate	9251	D		
500-164187-I-11~MS		9251	D		
500-164187-I-11~MSD		9251	D		
500-164188-B-1	MW-05	SM4500_Cl_E	T		
500-164188-B-2	MW-06	SM4500_Cl_E	T		
CCVH~500-489759/20		9251			
CCV~500-489759/21		SM4500_Cl_E			
CCB~500-489759/22		SM4500_Cl_E			
500-164188-B-2~MS		SM4500_Cl_E	T		
500-164188-B-2~MSD		SM4500_Cl_E	T		
500-164188-B-3	MW-09	SM4500_Cl_E	T		

Page 38 of 69

General Chemistry Worksheet

Batch Number: 500-489759
Method: SM 4500 Cl- E
Analyst: Treadwell, Eliane A

Date Open: Jun 11 2019 3:33PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Comments / Analysis comment
500-164188-B-4	MW-10	SM4500_Cl_E	T	
500-164188-B-5	MW-11	SM4500_Cl_E	T	
500-164188-B-6	MW-12	SM4500_Cl_E	T	
500-164188-B-7	Duplicate	SM4500_Cl_E	T	
500-164497-C-1	Outfall 001 Grab	SM4500_Cl_E	T	
500-163837-J-1	EFF-1	SM4500_Cl_E	T	
CCVH~500-489759/32		SM4500_Cl_E		
CCV~500-489759/33				
CCB~500-489759/34				
500-164511-C-1	L3	SM4500_Cl_E	T	
500-164511-C-2	GEM A Effluent	SM4500_Cl_E	T	
500-164511-C-3	GEM B Effluent	SM4500_Cl_E	T	
500-164537-C-1	T-8 Composte	SM4500_Cl_E	T	
500-164430-A-1	Outfall 101-Week 22	SM4500_Cl_E	T	
500-164556-H-1	Raw Leachate	SM4500_Cl_E	T	
500-164446-C-1	T-8 Composite	SM4500_Cl_E	T	
500-164479-A-1	AP Pond Outfall #002	SM4500_Cl_E	T	
500-164602-A-1	Cell 7 Stormwater Pond	SM4500_Cl_E	T	
CCVH~500-489759/44		9251		
CCV~500-489759/45		9251		
CCB~500-489759/46		9251		
500-164187-I-10	MW-10	9251	D	
500-164187-I-11	Duplicate	9251	D	
500-164187-I-11~MS		9251	D	
500-164187-I-11~MSD		9251	D	

General Chemistry Worksheet

Batch Number: 500-489759
Method: SM 4500 Cl- E
Analyst: Treadwell, Eliane A

Date Open: Jun 11 2019 3:33PM
Batch End:

Lab ID	Client ID	Method Chain	Basis	Comments Analysis comment
500-164188-B-1	MW-05	SM4500_Cl_E	T	
CCVH-500-489759/52		9251		
CCV-500-489759/53		SM4500_Cl_E		
CCB-500-489759/54		SM4500_Cl_E		
500-164188-B-3	MW-09	SM4500_Cl_E	T	
500-164188-B-4	MW-10	SM4500_Cl_E	T	
500-164188-B-5	MW-11	SM4500_Cl_E	T	
500-164188-B-6	MW-12	SM4500_Cl_E	T	
500-164188-B-7	Duplicate	SM4500_Cl_E	T	
500-164497-C-1	Outfall 001 Grab	SM4500_Cl_E	T	
500-163837-J-1	EFF-1	SM4500_Cl_E	T	
CCVH-500-489759/		SM4500_Cl_E		
CCV-500-489759/6		SM4500_Cl_E		
CCB-500-489759/6		SM4500_Cl_E		
500-164511-C-1	L3	SM4500_Cl_E	T	
500-164511-C-3	GEM B Effluent	SM4500_Cl_E	T	
500-164537-C-1	T-8 Composte	SM4500_Cl_E	T	
500-164430-A-1	Outfall 101-Week 22	SM4500_Cl_E	T	
500-164446-C-1	T-8 Composite	SM4500_Cl_E	T	
500-164479-A-1	AP Pond Outfall #002	SM4500_Cl_E	T	
CCVH-500-489759/71		SM4500_Cl_E		
CCV-500-489759/72		SM4500_Cl_E		
CCB-500-489759/73		SM4500_Cl_E		

Batch Comment: NA

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-164188 COC

Chain of Custody Record

Lab Job #: 500-164188

Chain of Custody Number:

Page 1 of 2

Temperature °C of Cooler: 4.6

(optional) Report To	(optional) Bill To
Contact: Richard Gnat	Contact:
Company: KPRG 19	Company:
Address: 14665 W Lisbon Rd	Address:
Address: Brookfield, WI 53005	Address:
Phone: 262-781-0475	Phone:
Fax:	Fax:
E-Mail: richardg@kprg.com	PO#/Reference#

Client: KPRG | Client Project #:

Project Name: Willow 060343 NRG-CCR

Project Location/State: IL | Lab Project #: 12313.3

Sampler: Erin Burlson | Lab PM:

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Parameter: Total Metals B, Ca	Parameter: Total TDS F, Cl, SO4	Comments
1		MW-05	5-29	1316	2	W	3	8	
2		MW-06	5-29	1305					
3		MW-09 (Time 0833)	5-29	0833					
4		MW-10	5-29	1002					
5		MW-11	5-29	0920					
6		MW-12	5-29	1101					

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	5-29	1720	[signature]	TAKE	05/29/19	17:37
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered X

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-16488

Chain of Custody Number:

Page 2 of 2

Temperature °C of Cooler:

Client	Client Project #	Preservative	3	8								
KPRG												
Project Name: NRG-Will Cty CCR		Parameter	Total Metals B Ca	Total TDS, Fl, Cl, SO4								
Project Location/State	Lab Project # 10313.3											
Sampler	Lab PM											

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix									Comments
7		Duplicate	5/29	—	2	W	X	X							

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	5-29	1730	[signature]	TMHS	05/29/19	17:37
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered X

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-121782.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-164188-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 6/11/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-05 (500-164188-1)	5/29/19	13:46 Central		Water			X	1	
MW-06 (500-164188-2)	5/29/19	13:05 Central		Water			X	1	
MW-09 (500-164188-3)	5/29/19	08:33 Central		Water			X	1	
MW-10 (500-164188-4)	5/29/19	10:02 Central		Water			X	1	
MW-11 (500-164188-5)	5/29/19	09:20 Central		Water			X	1	
MW-12 (500-164188-6)	5/29/19	11:01 Central		Water			X	1	
Duplicate (500-164188-7)	5/29/19	Central		Water			X	1	

Page 69 of 567

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/31/19 1500	TA	[signature]	6/1/19	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: ~~0.3°C IR7~~ 0.0°C IR-7

Ver: 01/16/2019

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Part # 159469-434 RIT2 EXP 10/19
ORIGIN ID:JOTA (708) 534-5200
SAMPLE LOGIN
TESTAMERICA LABS
2417 BOND ST
UNIVERSITY PARK, IL 60484
UNITED STATES US
SHIP DATE: 31MAY19
ACTWGT: 31.00 LB MAN
CAD: 3328647CAFE3211
BILL RECIPIENT
TO SAMPLE RECEIVING
TESTAMERICA PENSACOLA
3355 MCLEMORE DR.
PENSACOLA FL 32514
(850) 474-1001
REF: 164188 SS
FedEx Express
SATURDAY 12:00P
PRIORITY OVERNIGHT
1 of 2
TRK# 4059 7181 2624
0201
MASTER
XO PNSA
32514
FL-US BFM
eal
TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
767837

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-164188-1

Login Number: 164188
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-164188-1

Login Number: 164188
List Number: 2
Creator: Conrady, Hank W

List Source: Eurofins TestAmerica, Pensacola
List Creation: 06/01/19 01:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Job Number: 500-166219-1

Job Description: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, WI 53005

Attention: Richard Gnat

Approved for release.
Eric A. Lang
Manager of Project Management
7/10/2019 9:36 AM

Eric A. Lang, Manager of Project Management
2417 Bond Street, University Park, IL, 60484
(708)534-5200
eric.lang@testamericainc.com
07/10/2019

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Table of Contents

Cover Title Page 1

Data Summaries 4

- Definitions 4
- Case Narrative 5
- Detection Summary 6
- Client Sample Results 7
- Default Detection Limits 8
- QC Sample Results 9
- QC Association 10
- Chronicle 11
- Certification Summary 12
- Method Summary 13
- Sample Summary 14

Inorganic Sample Data 15

- Metals Data 15
  - Met Cover Page 16
  - Met Sample Data 17
  - Met QC Data 18
    - Met ICV/CCV 18
    - Met CRQL 21
    - Met Blanks 22
    - Met ICSA/ICSAB 25
    - Met LCS/LCSD 27
  - Met MDL 28
  - Met Linear Ranges 30
  - Met Preparation Log 31

Table of Contents

Met Analysis Run Log 32
Met Internal Standards 36
Met Prep Data 37
Met Raw Data 38
General Chemistry Data 136
Gen Chem Cover Page 137
Gen Chem Sample Data 138
Gen Chem QC Data 139
Gen Chem Blanks 139
Gen Chem MS/MSD/PDS 140
Gen Chem Duplicates 141
Gen Chem LCS/LCSD 142
Gen Chem MDL 143
Gen Chem Analysis Run Log 145
Gen Chem Prep Data 146
Gen Chem Raw Data 148
Shipping and Receiving Documents 152
Client Chain of Custody 152
Sample Receipt Checklist 153

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
500-166219-1

Comments
No additional comments.

Receipt
The sample was received on 7/3/2019 3:50 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 9.4° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Client Sample ID: MW-06

Lab Sample ID: 500-166219-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.2		0.050		mg/L	1		6020A	Total Recoverable
Total Dissolved Solids	740		10		mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Client Sample ID: MW-06

Date Collected: 07/03/19 14:36
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166219-1

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.2		0.050		mg/L		07/05/19 08:36	07/05/19 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	740		10		mg/L			07/04/19 20:30	1

Default Detection Limits

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Prep: 3005A

Analyte	RL	MDL	Units
Boron	0.050	0.013	mg/L

General Chemistry

Analyte	RL	MDL	Units
Total Dissolved Solids	10	4.3	mg/L

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-493474/1-A
Matrix: Water
Analysis Batch: 493751

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 493474

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		07/05/19 08:36	07/05/19 15:23	1

Lab Sample ID: LCS 500-493474/2-A
Matrix: Water
Analysis Batch: 493751

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 493474

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-493422/1
Matrix: Water
Analysis Batch: 493422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			07/04/19 20:10	1

Lab Sample ID: LCS 500-493422/2
Matrix: Water
Analysis Batch: 493422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	296		mg/L		118	80 - 120

Lab Sample ID: 500-166219-1 MS
Matrix: Water
Analysis Batch: 493422

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	740		250	974		mg/L		92	75 - 125

Lab Sample ID: 500-166219-1 DU
Matrix: Water
Analysis Batch: 493422

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	740		764		mg/L		3	5

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Metals

Prep Batch: 493474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166219-1	MW-06	Total Recoverable	Water	3005A	
MB 500-493474/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-493474/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 493751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166219-1	MW-06	Total Recoverable	Water	6020A	493474
MB 500-493474/1-A	Method Blank	Total Recoverable	Water	6020A	493474
LCS 500-493474/2-A	Lab Control Sample	Total Recoverable	Water	6020A	493474

General Chemistry

Analysis Batch: 493422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166219-1	MW-06	Total/NA	Water	SM 2540C	
MB 500-493422/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-493422/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-166219-1 MS	MW-06	Total/NA	Water	SM 2540C	
500-166219-1 DU	MW-06	Total/NA	Water	SM 2540C	

Lab Chronicle

Client: KPRG and Associates, Inc.
Job ID: 500-166219-1
Project/Site: Will County CCR

Client Sample ID: MW-06
Lab Sample ID: 500-166219-1

Date Collected: 07/03/19 14:36
Matrix: Water
Date Received: 07/03/19 15:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			493474	07/05/19 08:36	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	493751	07/05/19 16:55	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	493422	07/04/19 20:30	CLB	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: KPRG and Associates, Inc. Job ID: 500-166219-1
Project/Site: Will County CCR

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-20

Method Summary

Client: KPRG and Associates, Inc. Job ID: 500-166219-1
Project/Site: Will County CCR

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166219-1	MW-06	Water	07/03/19 14:36	07/03/19 15:50	

METALS

COVER PAGE
METALS

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-166219-1

SDG No.:

Project: Will County CCR

Client Sample ID	Lab Sample ID
MW-06	500-166219-1

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: MW-06 Lab Sample ID: 500-166219-1

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG ID.:

Matrix: Water Date Sampled: 07/03/2019 14:36

Reporting Basis: WET Date Received: 07/03/2019 15:50

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
7440-42-8	Boron	3.2	0.050		mg/L			1	6020A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

ICV Source: M19FICVMS_00001 Concentration Units: ug/L

CCV Source: M19DCCVMS_00006

Analyte	ICV 500-493751/7 07/05/2019 11:00				CCV 500-493751/49 07/05/2019 14:40				CCV 500-493751/58 07/05/2019 15:49			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Boron	207		200	103	244		250	98	261		250	104

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

ICV Source: M19FICVMS_00001 Concentration Units: ug/L

CCV Source: M19DCCVMS_00006

Analyte	CCV 500-493751/71 07/05/2019 16:40				CCV 500-493751/82 07/05/2019 17:21							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Boron	265		250	106	259		250	104				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

ICV Source: M19EMRLMS_00002 Concentration Units: ug/L

CCV Source: M19EMRLMS_00002

Analyte	ICVL 500-493751/9 07/05/2019 11:07				CCVL 500-493751/60 07/05/2019 15:57				CCVL 500-493751/84 07/05/2019 17:29			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Boron	53.0		50.0	106	60.3		50.0	121	56.9		50.0	114

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Method: 6020A Instrument ID: ICPMS4

Lab Sample ID: CRI 500-493751/12 Concentration Units: ug/L

CRQL Check Standard Source: M19ECRIMS_00005

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Boron	100	104		104	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 500-493751/8 07/05/2019 11:04		CCB 500-493751/50 07/05/2019 14:43		CCB 500-493751/59 07/05/2019 15:53		CCB 500-493751/72 07/05/2019 16:44	
		Found	C	Found	C	Found	C	Found	C
Boron	50	<50		<50		<50		<50	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 500-493751/83 07/05/2019 17:25							
		Found	C	Found	C	Found	C	Found	C
Boron	50	<50							

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 500-493474/1-A

Instrument Code: ICPMS4 Batch No.: 493751

CAS No.	Analyte	Concentration	C	Q	Method
7440-42-8	Boron	<0.050			6020A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Lab Sample ID: ICSA 500-493751/10 Instrument ID: ICPMS4

Lab File ID: 010ICSA.d ICS Source: M19FICSAMS_00006

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Boron		**1.86**	
Aluminum	*100000*	*98207*	*98*
Antimony		*0.161*	
Arsenic		*-0.150*	
Barium		*0.714*	
Beryllium		*0.0890*	
Cadmium		*0.309*	
Calcium	*100000*	*99704*	*100*
Chromium		*1.52*	
Cobalt		*0.321*	
Copper		*-0.751*	
Iron	*100000*	*95548*	*96*
Lead		*0.360*	
Lithium		*0.444*	
Magnesium	*100000*	*98560*	*99*
Manganese		*0.684*	
Molybdenum	*2000*	*2017*	*101*
Nickel		*0.380*	
Potassium	*100000*	*99388*	*99*
Selenium		*0.236*	
Silver		*0.0600*	
Sodium	*100000*	*99950*	*100*
Strontium		*1.90*	
Thallium		*0.0340*	
Tin		*0.0710*	
Titanium	*2000*	*1987*	*99*
Vanadium		*-1.16*	
Zinc		*0.981*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Lab Sample ID: ICSAB 500-493751/11 Instrument ID: ICPMS4

Lab File ID: 011ICSB.d ICS Source: M19FICSABMS_00006

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Boron	**50.0**	**46.7**	**93**
Aluminum	*100000*	*98430*	*98*
Antimony	*10.0*	*10.6*	*106*
Arsenic	*20.0*	*22.1*	*110*
Barium	*20.0*	*21.2*	*106*
Beryllium	*20.0*	*18.5*	*93*
Cadmium	*20.0*	*21.3*	*106*
Calcium	*100000*	*99165*	*99*
Chromium	*20.0*	*20.8*	*104*
Cobalt	*20.0*	*19.2*	*96*
Copper	*20.0*	*20.3*	*102*
Iron	*100000*	*96535*	*97*
Lead	*20.0*	*20.5*	*103*
Lithium	*20.0*	*19.2*	*96*
Magnesium	*100000*	*98540*	*99*
Manganese	*20.0*	*20.4*	*102*
Molybdenum	*2000*	*2061*	*103*
Nickel	*20.0*	*19.3*	*96*
Potassium	*100000*	*99341*	*99*
Selenium	*20.0*	*23.6*	*118*
Silver	*20.0*	*21.1*	*105*
Sodium	*100000*	*99065*	*99*
Thallium	*10.0*	*9.97*	*100*
Tin	*20.0*	*21.9*	*109*
Titanium	*2000*	*1984*	*99*
Vanadium	*20.0*	*18.7*	*94*
Zinc	*20.0*	*22.5*	*113*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 500-493474/2-A

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

Sample Matrix: Water LCS Source: M19FSPKIC_00001

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Boron	1.00	1.00		100	80	120		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-166219-1

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 6020A MDL Date: 03/29/2017 10:17

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Boron		50	12.7

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - TOTAL RECOVERABLE

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-166219-1

SDG Number:

Matrix: Water Instrument ID: ICPMS4

Method: 6020A XMDL Date: 03/29/2017 10:18

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Boron		50	12.7

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No: 500-166219-1

SDG No.:

Instrument ID: ICPMS4 Date: 05/31/2016 14:50

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Boron		5000	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 500-493474/1-A	07/05/2019 08:36	493474		50	50
LCS 500-493474/2-A	07/05/2019 08:36	493474		50	50
500-166219-1	07/05/2019 08:36	493474		50	50

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 6020A

Start Date: 07/05/2019 10:37 End Date: 07/05/2019 22:18

Lab Sample Id	D/F	Type	Time	Analytes
				B
ZZZZZZ			10:37	
ICIS 500-493751/2			10:41	X
STD1 500-493751/3 IC	1		10:45	X
STD2 500-493751/4 IC	1		10:48	X
STD3 500-493751/5 IC	1		10:52	X
ZZZZZZ			10:56	
ICV 500-493751/7	1		11:00	X
ICB 500-493751/8	1		11:04	X
ICVL 500-493751/9	1		11:07	X
ICSA 500-493751/10	1		11:11	X
ICSAB 500-493751/11	1		11:15	X
CRI 500-493751/12	1		11:19	X
CCV 500-493751/13			11:22	
CCB 500-493751/14			11:26	
ZZZZZZ			12:31	
ZZZZZZ			12:35	
ZZZZZZ			12:38	
ZZZZZZ			12:42	
ZZZZZZ			12:46	
ZZZZZZ			12:50	
ZZZZZZ			12:53	
ZZZZZZ			12:58	
ZZZZZZ			13:02	
ZZZZZZ			13:05	
CCV 500-493751/25			13:09	
CCB 500-493751/26			13:13	
CCV 500-493751/27			13:17	
CCB 500-493751/28			13:20	
ZZZZZZ			13:24	
ZZZZZZ			13:28	
ZZZZZZ			13:32	
CCV 500-493751/32			13:36	
CCB 500-493751/33			13:39	
CCVL 500-493751/34	1		13:43	X
ZZZZZZ			13:47	
ZZZZZZ			13:51	
ZZZZZZ			13:55	
ZZZZZZ			13:58	
ZZZZZZ			14:02	
ZZZZZZ			14:06	
ZZZZZZ			14:10	
CCV 500-493751/42			14:13	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 6020A

Start Date: 07/05/2019 10:37 End Date: 07/05/2019 22:18

Lab Sample Id	D/F	Type	Time	Analytes																								
				B																								
CCB 500-493751/43			14:17																									
ZZZZZZ			14:21																									
ZZZZZZ			14:25																									
ZZZZZZ			14:28																									
ZZZZZZ			14:32																									
ZZZZZZ			14:36																									
CCV 500-493751/49	1		14:40	X																								
CCB 500-493751/50	1		14:43	X																								
MB 500-493474/1-A	1	R	15:23	X																								
LCS 500-493474/2-A	1	R	15:26	X																								
ZZZZZZ			15:30																									
ZZZZZZ			15:34																									
ZZZZZZ			15:38																									
ZZZZZZ			15:41																									
ZZZZZZ			15:45																									
CCV 500-493751/58	1		15:49	X																								
CCB 500-493751/59	1		15:53	X																								
CCVL 500-493751/60	1		15:57	X																								
ZZZZZZ			16:00																									
ZZZZZZ			16:04																									
ZZZZZZ			16:08																									
ZZZZZZ			16:12																									
ZZZZZZ			16:15																									
ZZZZZZ			16:19																									
ZZZZZZ			16:23																									
ZZZZZZ			16:27																									
ZZZZZZ			16:30																									
ZZZZZZ			16:36																									
CCV 500-493751/71	1		16:40	X																								
CCB 500-493751/72	1		16:44	X																								
ZZZZZZ			16:47																									
ZZZZZZ			16:51																									
500-166219-1	1	R	16:55	X																								
ZZZZZZ			16:59																									
ZZZZZZ			17:02																									
ZZZZZZ			17:06																									
ZZZZZZ			17:10																									
ZZZZZZ			17:14																									
ZZZZZZ			17:17																									
CCV 500-493751/82	1		17:21	X																								
CCB 500-493751/83	1		17:25	X																								
CCVL 500-493751/84	1		17:29	X																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 6020A

Start Date: 07/05/2019 10:37 End Date: 07/05/2019 22:18

Lab Sample Id	D/F	Type	Time	Analytes
				B
ZZZZZZ			17:32	
ZZZZZZ			17:36	
ZZZZZZ			17:40	
ZZZZZZ			17:44	
ZZZZZZ			17:48	
ZZZZZZ			17:51	
ZZZZZZ			17:55	
CCV 500-493751/92			17:59	
CCB 500-493751/93			18:03	
CCVL 500-493751/94			18:06	
CCV 500-493751/95			20:10	
CCB 500-493751/96			20:14	
ZZZZZZ			20:18	
ZZZZZZ			20:21	
ZZZZZZ			20:25	
ZZZZZZ			20:29	
ZZZZZZ			20:33	
ZZZZZZ			20:36	
ZZZZZZ			20:40	
ZZZZZZ			20:44	
ZZZZZZ			20:48	
ZZZZZZ			20:51	
CCV 500-493751/107			20:55	
CCB 500-493751/108			20:59	
ZZZZZZ			21:03	
ZZZZZZ			21:07	
ZZZZZZ			21:10	
ZZZZZZ			21:14	
ZZZZZZ			21:18	
ZZZZZZ			21:22	
ZZZZZZ			21:25	
ZZZZZZ			21:29	
ZZZZZZ			21:33	
ZZZZZZ			21:37	
CCV 500-493751/119			21:40	
CCB 500-493751/120			21:44	
ZZZZZZ			21:48	
ZZZZZZ			21:52	
ZZZZZZ			21:55	
ZZZZZZ			21:59	
ZZZZZZ			22:03	
ZZZZZZ			22:07	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Instrument ID: ICPMS4 Analysis Method: 6020A

Start Date: 07/05/2019 10:37 End Date: 07/05/2019 22:18

Lab Sample Id	D/F	Type	Time	Analytes																								
				B																								
CCV 500-493751/127			22:10																									
CCB 500-493751/128			22:14																									
CCVL 500-493751/129			22:18																									

Prep Types:
R = Total Recoverable

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

ICP-MS Instrument ID: ICPMS4 Start Date: 07/05/2019 End Date: 07/05/2019

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc	Q	Element Y-89	Q	Element Rh-103	Q	Element Tb	Q	Element Bi	Q
STD1 500-493751/3 IC	10:45	111		111		112		112		109	
STD2 500-493751/4 IC	10:48	111		109		109		113		108	
STD3 500-493751/5 IC	10:52	109		108		106		111		103	
ICV 500-493751/7	11:00	111		111		109		113		104	
ICB 500-493751/8	11:04	98		98		101		102		102	
ICVL 500-493751/9	11:07	103		103		106		109		106	
ICSA 500-493751/10	11:11	115		113		103		110		100	
ICSAB 500-493751/11	11:15	115		112		101		110		99	
CRI 500-493751/12	11:19	107		107		108		110		109	
CCVL 500-493751/34	13:43	109		110		111		113		111	
CCV 500-493751/49	14:40	136		125		114		114		104	
CCB 500-493751/50	14:43	112		109		108		102		103	
MB 500-493474/1-A	15:23	116		114		115		114		117	
LCS 500-493474/2-A	15:26	121		117		114		117			
CCV 500-493751/58	15:49	111		110		107		111		105	
CCB 500-493751/59	15:53	100		100		101		102		101	
CCVL 500-493751/60	15:57	106		106		108		107		106	
CCV 500-493751/71	16:40	112		112		109		111		105	
CCB 500-493751/72	16:44	101		100		103		101		102	
500-166219-1	16:55	114		113		107		112		106	
CCV 500-493751/82	17:21	108		108		106		111		104	
CCB 500-493751/83	17:25	98		98		101		99		99	
CCVL 500-493751/84	17:29	105		105		107		106		104	

METALS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Batch Number: 493474 Batch Start Date: 07/05/19 08:36 Batch Analyst: Heiligstedt, Stephanie A

Batch Method: 3005A Batch End Date: 07/05/19 09:06

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	M19FSPKIC 00001			
MB 500-493474/1		3005A, 6020A		50 mL	50 mL				
LCS 500-493474/2		3005A, 6020A		50 mL	50 mL	0.5 mL			
500-166219-A-1	MW-06	3005A, 6020A	R	50 mL	50 mL				

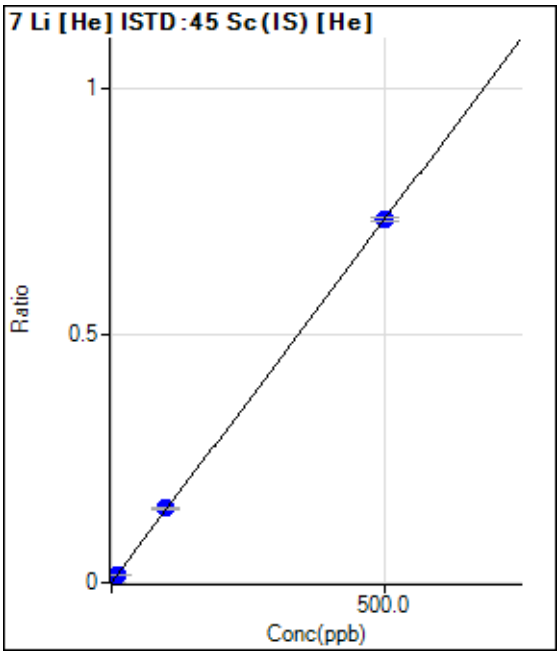
Batch Notes	
Batch Comment	filter/plungers: 90219752
Temperature - Corrected - End	99 Degrees C
Temperature - Corrected - Start	99 Degrees C
Digestion End Time	07/05/2019 09:06
Digestion Start Time	07/05/2019 08:36
Digestion Unit ID	1565
Hydrochloric Acid ID	221681
Nitric Acid ID	212262
Pipette/Syringe/Dispenser ID	2850
Thermometer ID	2102558
Digestion Tube/Cup ID	1812114
Temperature - Uncorrected - End	100 Degrees C
Temperature - Uncorrected - Start	100 Degrees C

Basis	Basis Description
R	Total Recoverable

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Batch Folder: C:\Agilent\ICPMH\1\DATA\MS4070519He-1.b\
Analysis File: MS4070519He-1.batch.bin
DA Date-Time: 7/8/2019 10:07:38 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

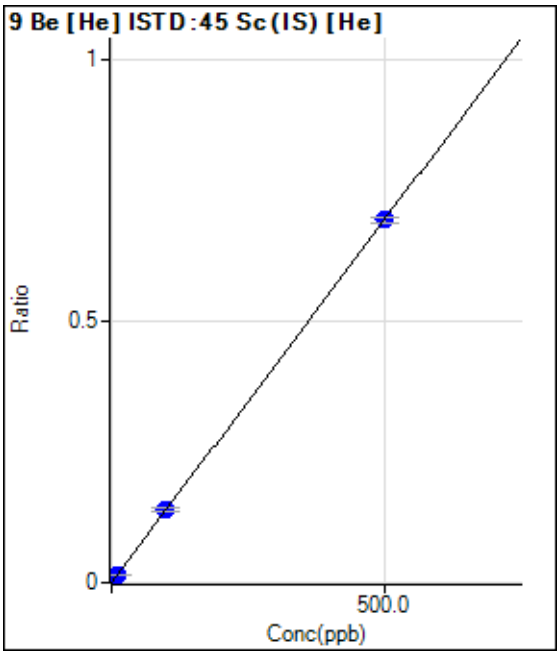
Level	Standard Data File	Sample Name	Acq. Date-Time
1	002CALB.d	ICIS	7/5/2019 10:41:24 AM
2	003CALS.d	Std1	7/5/2019 10:45:10 AM
3	004CALS.d	Std2	7/5/2019 10:48:57 AM
4	005CALS.d	Std3	7/5/2019 10:52:42 AM



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0003	P	19.4
2	☐	10.000	10.079	3543.81	0.0151	P	5.3
3	☐	100.000	101.882	35022.17	0.1498	P	2.0
4	☐	500.000	499.622	169590.22	0.7335	P	1.2

y = 0.0015 * x + 2.6760E-004
R = 1.0000
DL = 0.1061
BEC = 0.1823

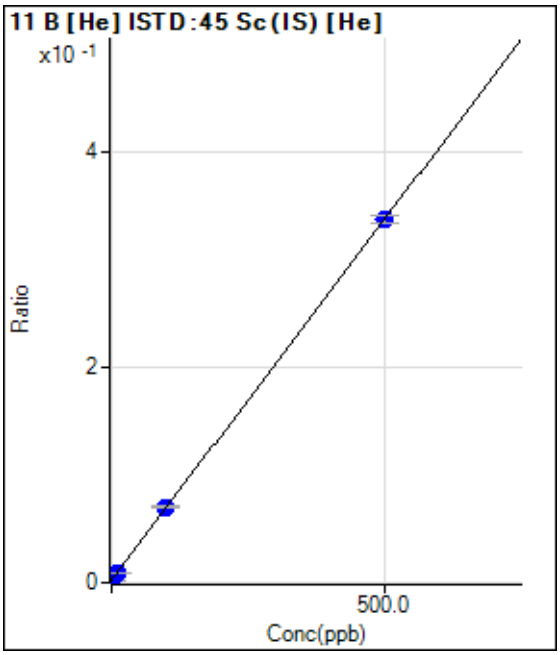
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	10.000	10.276	3357.13	0.0143	P	4.0
3	☐	100.000	100.569	32641.10	0.1396	P	3.0
4	☐	500.000	499.881	160440.85	0.6940	P	1.6

y = 0.0014 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

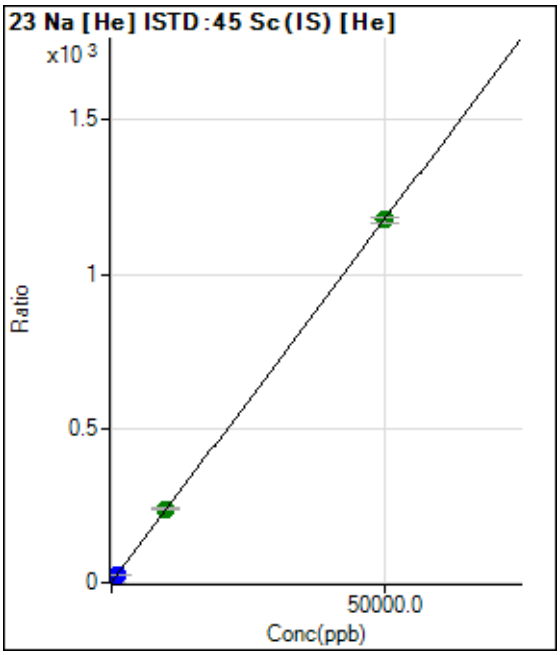
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	483.36	0.0023	P	18.3
2	☐	10.000	10.489	2193.56	0.0093	P	7.3
3	☐	100.000	101.255	16404.89	0.0702	P	2.6
4	☐	500.000	499.739	77976.13	0.3373	P	2.1

y = 6.7034E-004 * x + 0.0023
R = 1.0000
DL = 1.881
BEC = 3.422

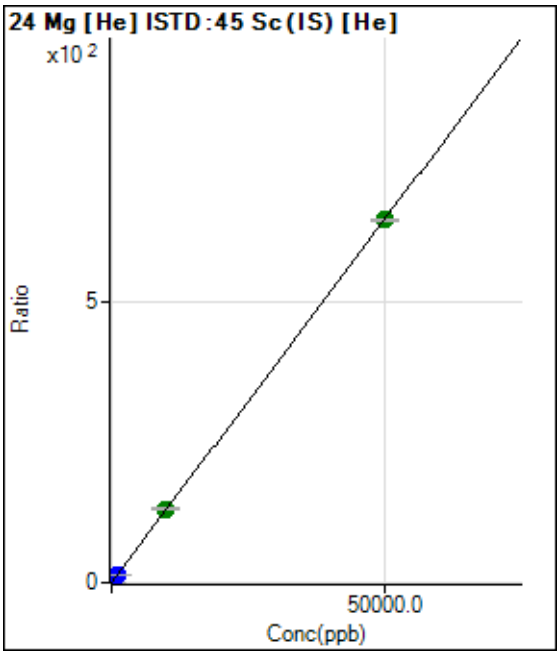
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180196.25	0.8520	P	2.5
2	☐	1000.000	1040.395	5959435.75	25.3211	P	2.2
3	☐	10000.00	10159.31	56063972.50	239.7892	A	1.5
4	☐	50000.00	49967.33	271891122.61	1,176.035	A	1.6

y = 0.0235 * x + 0.8520
R = 1.0000
DL = 2.753
BEC = 36.23

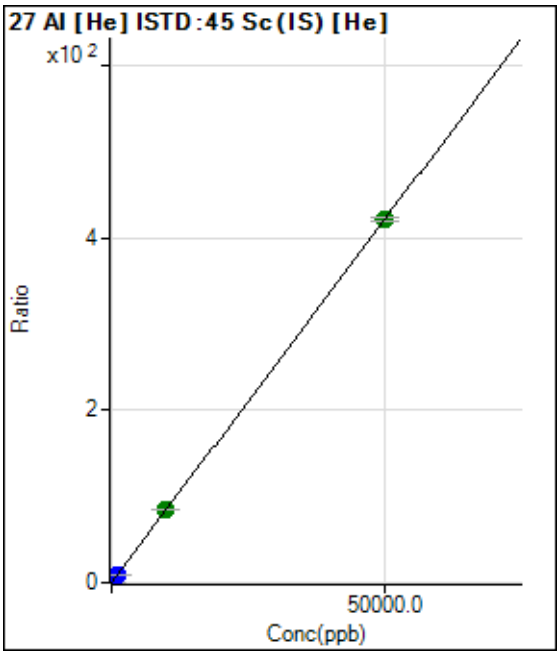
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15691.01	0.0742	P	4.3
2	☐	1000.000	1043.489	3193306.93	13.5690	P	2.8
3	☐	10000.00	10150.79	30710101.21	131.3477	A	1.2
4	☐	50000.00	49968.97	149424137.77	646.2901	A	0.9

y = 0.0129 * x + 0.0742
R = 1.0000
DL = 0.7421
BEC = 5.739

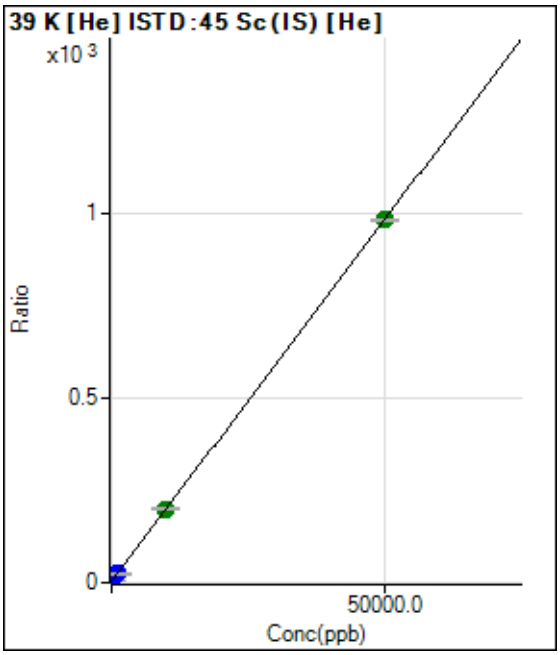
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2707.00	0.0128	P	11.8
2	☐	1000.000	1018.347	2022792.78	8.5947	P	2.3
3	☐	10000.00	10027.48	19760355.95	84.5174	A	1.7
4	☐	50000.00	49994.13	97410838.55	421.3283	A	1.1

y = 0.0084 * x + 0.0128
R = 1.0000
DL = 0.5376
BEC = 1.522

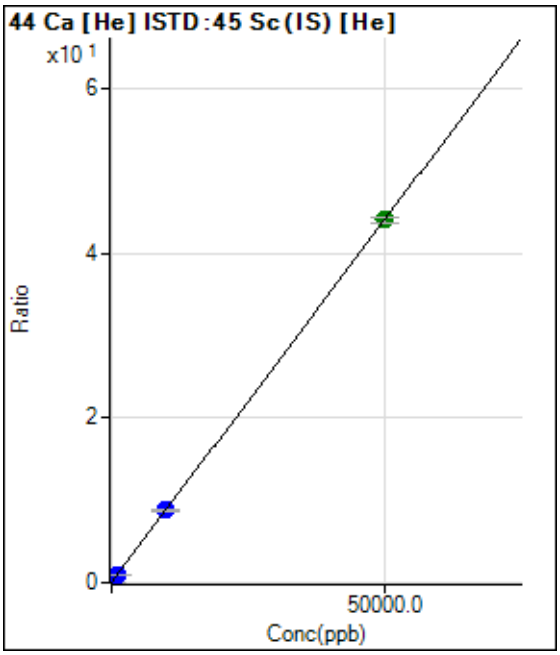
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	679508.77	3.2137	P	3.6
2	☐	1000.000	1037.399	5542508.67	23.5489	P	2.0
3	☐	10000.00	10024.38	46693379.31	199.7119	A	1.6
4	☐	50000.00	49994.37	227318903.28	983.2037	A	0.9

y = 0.0196 * x + 3.2137
R = 1.0000
DL = 17.51
BEC = 163.9

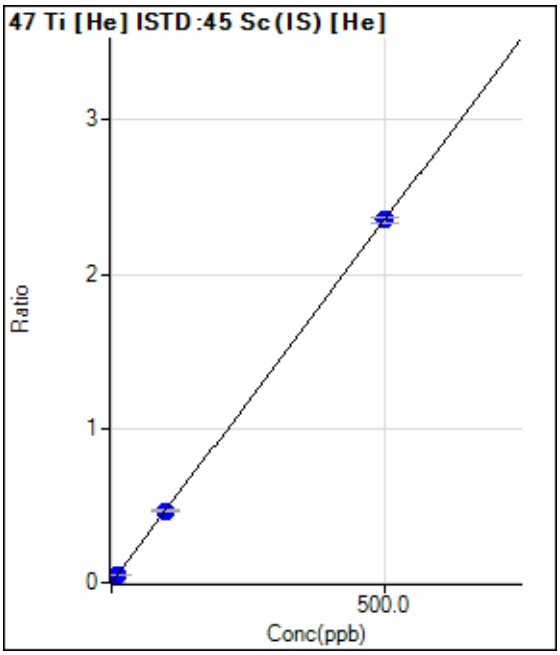
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7283.72	0.0344	P	5.7
2	☐	1000.000	1016.628	218652.61	0.9288	P	1.4
3	☐	10000.00	9947.921	2054124.11	8.7857	P	1.7
4	☐	50000.00	50010.08	10179189.44	44.0287	A	1.4

y = 8.7971E-004 * x + 0.0344
R = 1.0000
DL = 6.705
BEC = 39.16

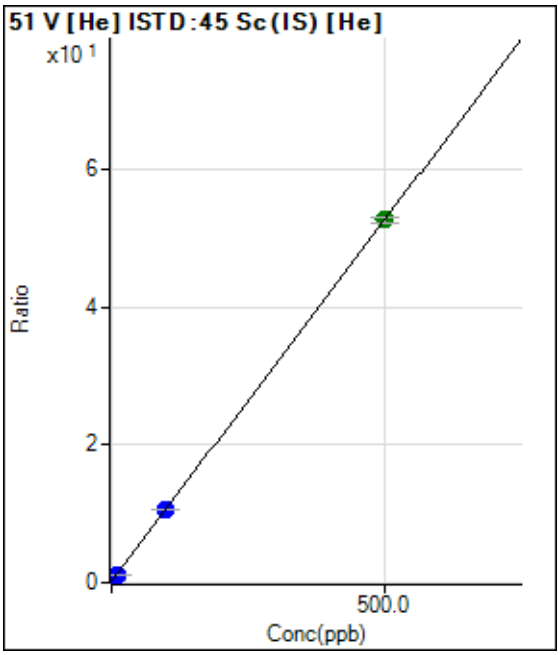
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0001	P	32.2
2	☐	10.000	10.109	11224.19	0.0477	P	4.0
3	☐	100.000	98.967	108868.28	0.4657	P	2.8
4	☐	500.000	500.204	543980.03	2.3530	P	1.8

y = 0.0047 * x + 1.4165E-004
R = 1.0000
DL = 0.02908
BEC = 0.03012

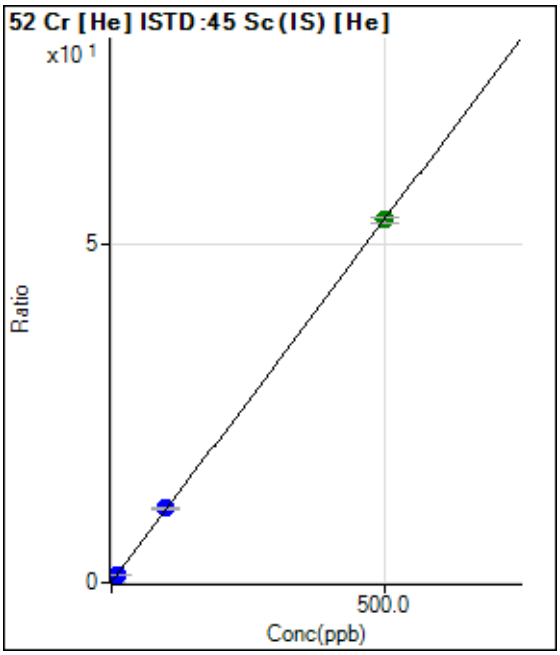
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43295.80	0.2047	P	2.1
2	☐	10.000	9.815	290685.83	1.2351	P	2.1
3	☐	100.000	99.200	2482585.43	10.6182	P	1.6
4	☐	500.000	500.164	12186191.49	52.7097	A	1.4

y = 0.1050 * x + 0.2047
R = 1.0000
DL = 0.1232
BEC = 1.95

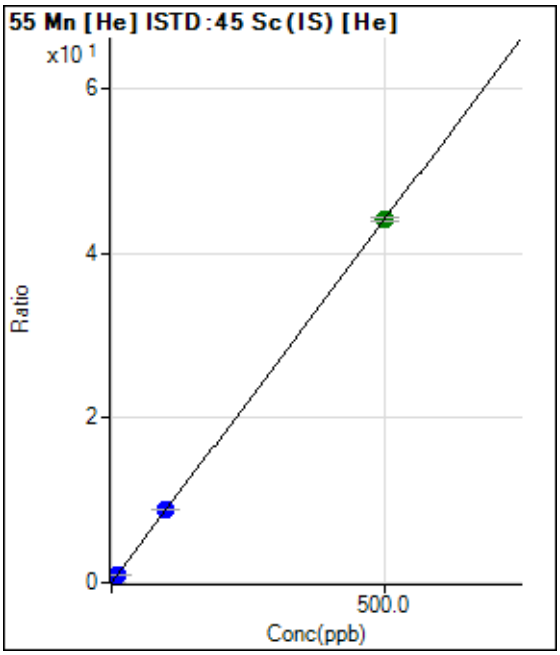
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10133.37	0.0479	P	4.4
2	☐	10.000	10.315	271688.46	1.1541	P	0.4
3	☐	100.000	102.215	2574179.13	11.0100	P	1.5
4	☐	500.000	499.551	12397331.07	53.6225	A	1.3

y = 0.1072 * x + 0.0479
R = 1.0000
DL = 0.0584
BEC = 0.4468

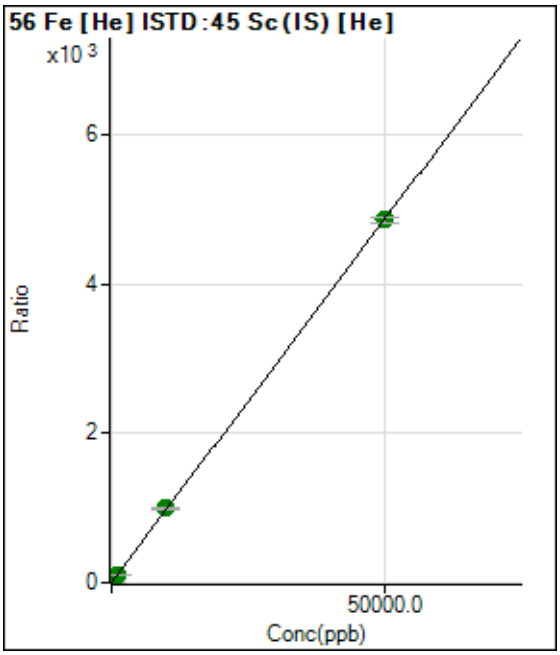
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1200.09	0.0057	P	13.2
2	☐	10.000	10.335	216022.16	0.9178	P	2.0
3	☐	100.000	101.165	2088854.92	8.9341	P	1.3
4	☐	500.000	499.760	10198813.60	44.1127	A	1.1

y = 0.0883 * x + 0.0057
R = 1.0000
DL = 0.02545
BEC = 0.06445

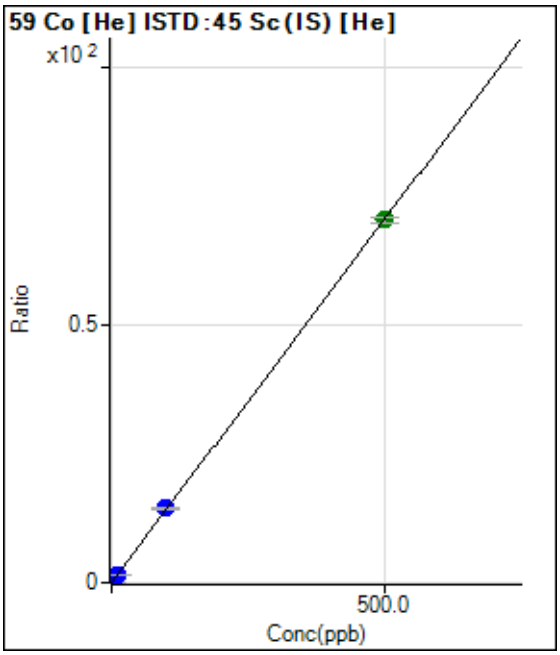
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	93768.14	0.4434	P	3.9
2	☐	1000.000	1047.511	24115580.47	102.4557	A	1.5
3	☐	10000.00	10215.98	232714943.20	995.3310	A	1.3
4	☐	50000.00	49955.85	1124833929.9	4,865.414	A	1.7

y = 0.0974 * x + 0.4434
R = 1.0000
DL = 0.5352
BEC = 4.553

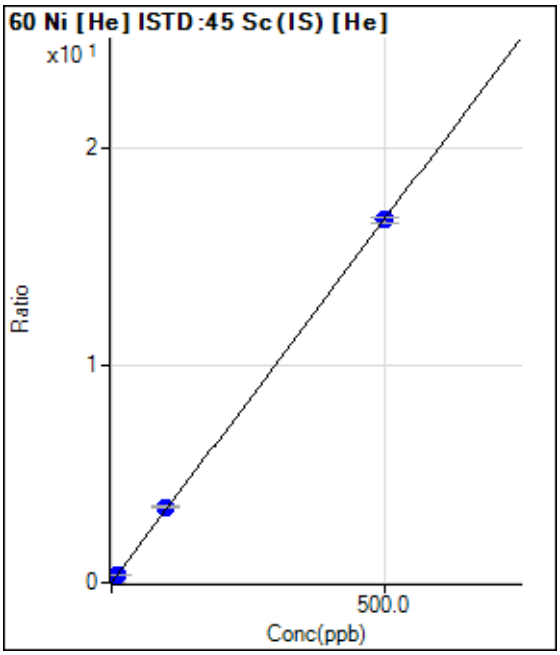
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	696.72	0.0033	P	3.1
2	☐	10.000	10.481	347786.35	1.4777	P	2.3
3	☐	100.000	102.037	3356756.41	14.3571	P	1.5
4	☐	500.000	499.583	16248649.34	70.2811	A	1.4

y = 0.1407 * x + 0.0033
R = 1.0000
DL = 0.00218
BEC = 0.02341

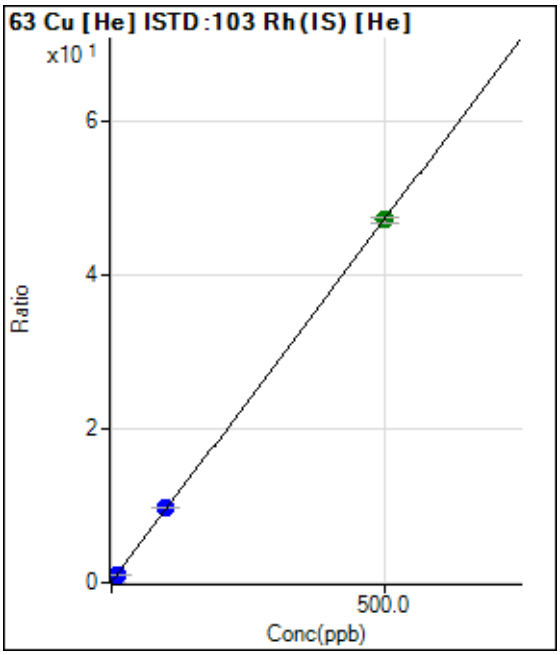
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	423.36	0.0020	P	29.2
2	☐	10.000	10.932	86346.17	0.3669	P	3.7
3	☐	100.000	104.159	813488.40	3.4793	P	1.2
4	☐	500.000	499.150	3853024.11	16.6659	P	1.5

y = 0.0334 * x + 0.0020
R = 1.0000
DL = 0.0524
BEC = 0.05988

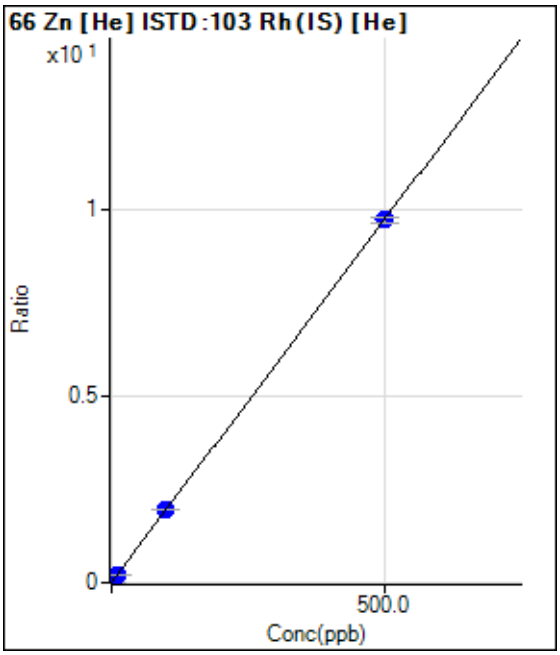
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21111.04	0.1112	P	0.9
2	☐	10.000	10.265	228327.98	1.0771	P	1.2
3	☐	100.000	102.880	2028389.01	9.7923	P	1.3
4	☐	500.000	499.419	9436624.35	47.1072	A	1.9

y = 0.0941 * x + 0.1112
R = 1.0000
DL = 0.03332
BEC = 1.181

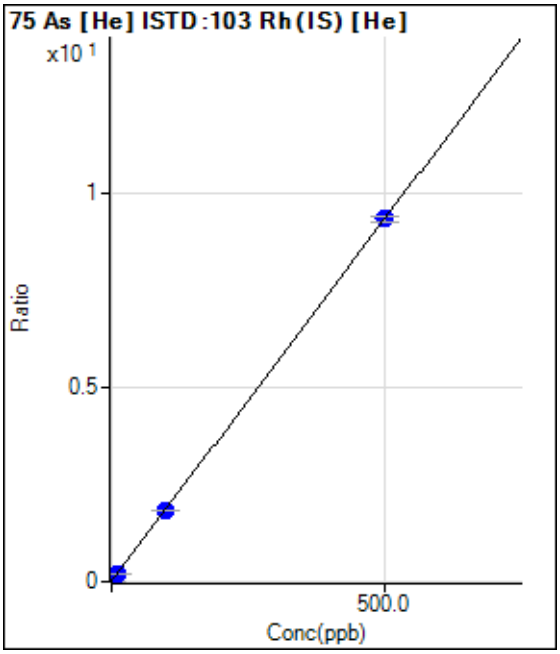
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	803.39	0.0042	P	19.1
2	☐	10.000	10.215	42959.16	0.2026	P	2.0
3	☐	100.000	100.999	407172.35	1.9656	P	0.8
4	☐	500.000	499.796	1945233.10	9.7104	P	1.5

y = 0.0194 * x + 0.0042
R = 1.0000
DL = 0.1249
BEC = 0.2175

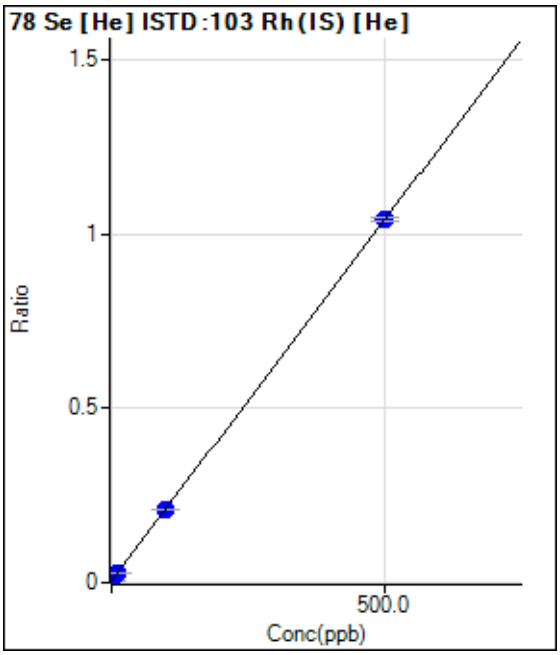
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1723.76	0.0091	P	3.2
2	☐	10.000	9.654	40114.72	0.1892	P	0.9
3	☐	100.000	97.570	379029.13	1.8298	P	1.4
4	☐	500.000	500.493	1872800.71	9.3488	P	1.4

y = 0.0187 * x + 0.0091
R = 1.0000
DL = 0.04613
BEC = 0.4864

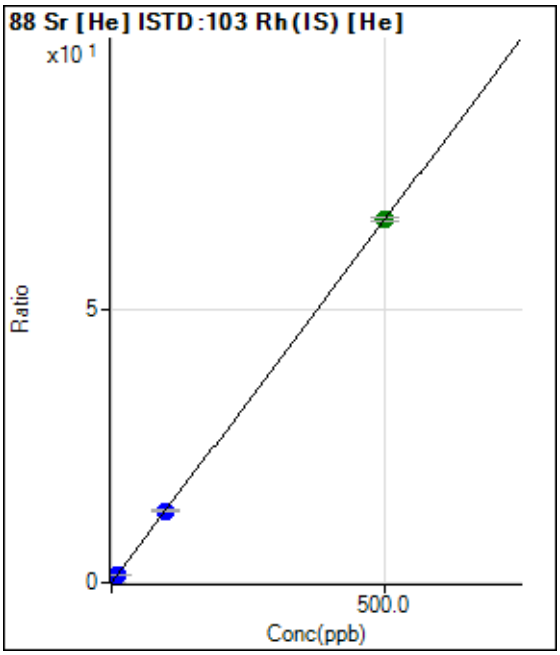
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1107.04	0.0058	P	3.4
2	☐	10.000	9.717	5500.92	0.0260	P	3.5
3	☐	100.000	98.474	43463.38	0.2098	P	0.9
4	☐	500.000	500.311	208795.15	1.0422	P	0.9

y = 0.0021 * x + 0.0058
R = 1.0000
DL = 0.2858
BEC = 2.813

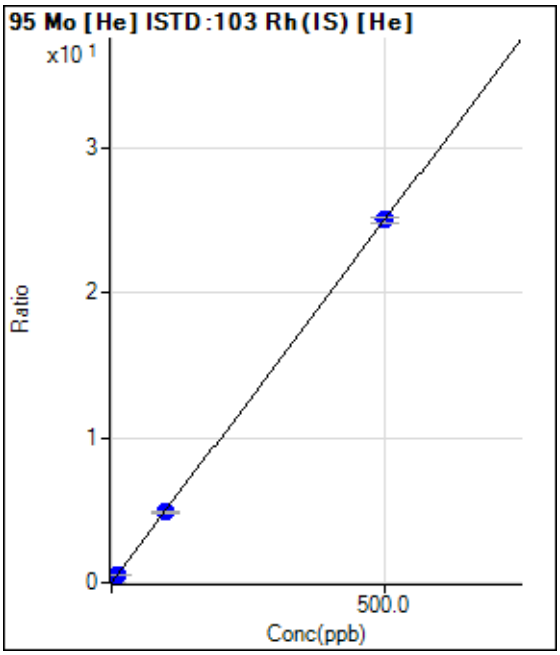
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	750.05	0.0040	P	10.2
2	☐	10.000	9.867	279388.69	1.3181	P	2.0
3	☐	100.000	99.296	2740036.00	13.2280	P	1.5
4	☐	500.000	500.143	13344493.97	66.6120	A	0.9

y = 0.1332 * x + 0.0040
R = 1.0000
DL = 0.009058
BEC = 0.02967

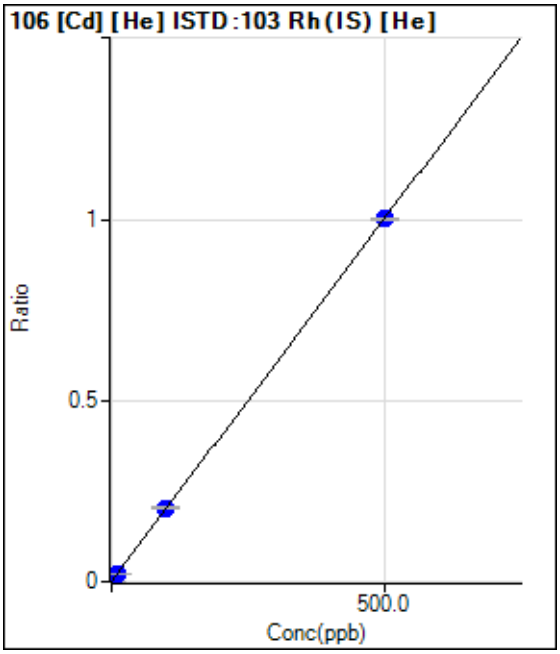
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.01	0.0009	P	34.0
2	☐	10.000	9.662	102587.63	0.4840	P	1.8
3	☐	100.000	97.509	1010056.16	4.8762	P	1.6
4	☐	500.000	500.505	5013222.95	25.0253	P	1.4

y = 0.0500 * x + 8.9770E-004
R = 1.0000
DL = 0.01832
BEC = 0.01795

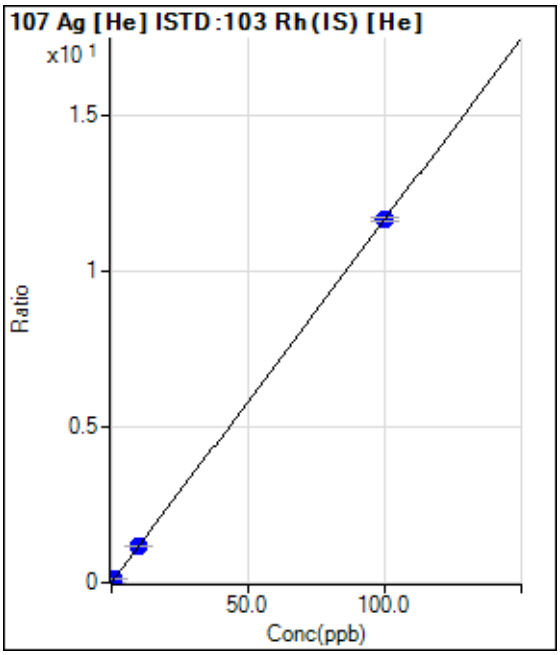
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.34	0.0006	P	5.0
2	☐	10.000	9.924	4337.42	0.0205	P	2.5
3	☐	100.000	101.347	42144.93	0.2035	P	3.5
4	☐	500.000	499.732	200525.02	1.0010	P	0.7

y = 0.0020 * x + 5.9680E-004
R = 1.0000
DL = 0.04496
BEC = 0.2981

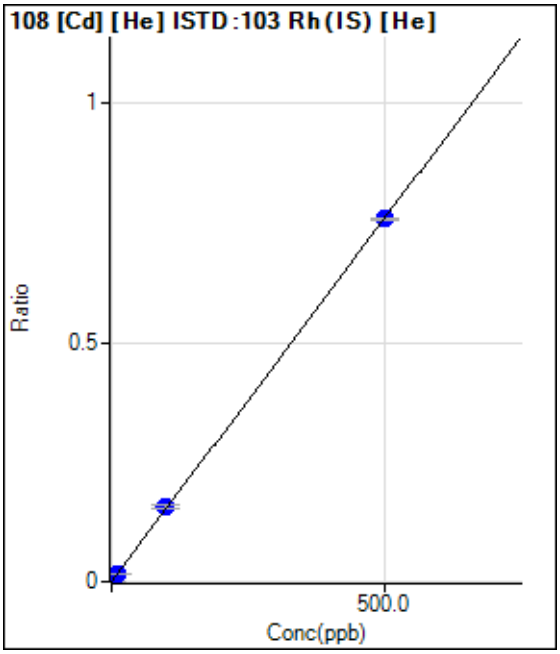
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	53.33	0.0003	P	59.2
2	☐	1.000	1.037	25707.57	0.1213	P	0.7
3	☐	10.000	10.215	246815.25	1.1915	P	1.5
4	☐	100.000	99.978	2335703.30	11.6593	P	1.2

y = 0.1166 * x + 2.7964E-004
R = 1.0000
DL = 0.004261
BEC = 0.002398

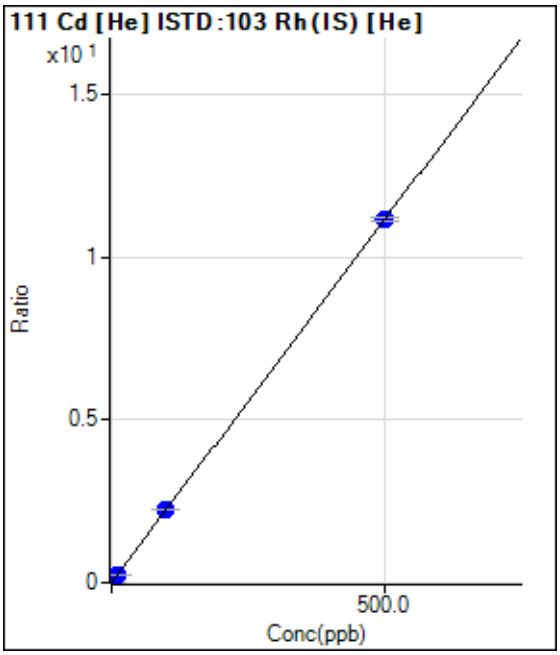
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0001	P	124.
2	☐	10.000	10.365	3353.80	0.0158	P	6.8
3	☐	100.000	102.573	32249.32	0.1557	P	4.2
4	☐	500.000	499.478	151838.59	0.7579	P	0.8

y = 0.0015 * x + 8.6945E-005
R = 1.0000
DL = 0.2142
BEC = 0.05731

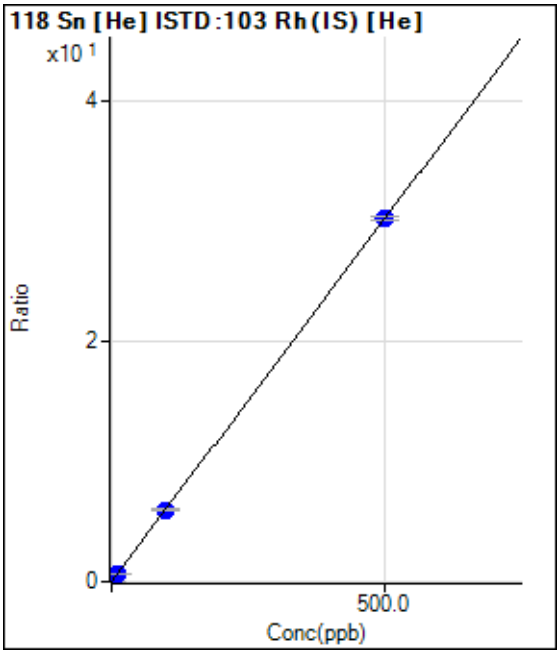
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	78.71	0.0004	P	42.1
2	☐	10.000	10.123	47893.96	0.2259	P	2.4
3	☐	100.000	100.315	462992.41	2.2351	P	1.0
4	☐	500.000	499.934	2231164.05	11.1374	P	1.0

y = 0.0223 * x + 4.1546E-004
R = 1.0000
DL = 0.02356
BEC = 0.01865

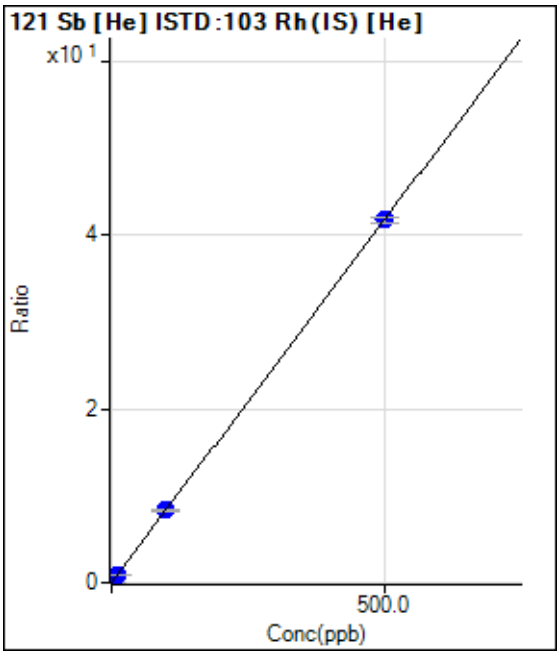
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1606.82	0.0085	P	2.8
2	☐	10.000	10.029	130108.17	0.6138	P	1.4
3	☐	100.000	99.044	1240062.45	5.9866	P	1.5
4	☐	500.000	500.191	6049883.24	30.1995	P	1.1

y = 0.0604 * x + 0.0085
R = 1.0000
DL = 0.01172
BEC = 0.1402

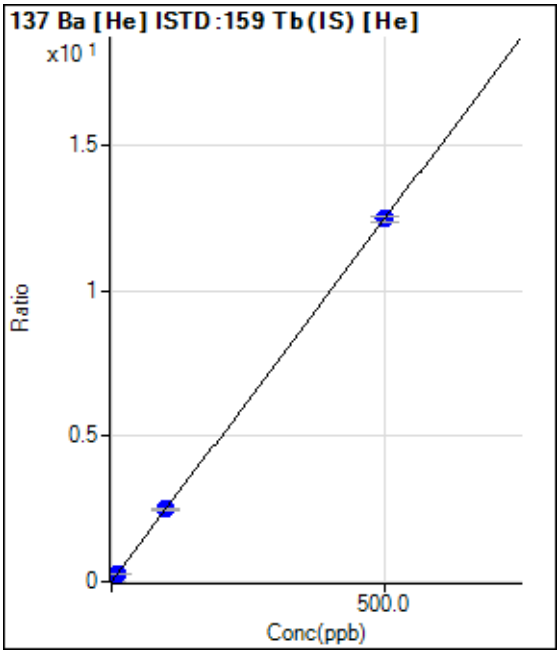
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	590.04	0.0031	P	25.7
2	☐	10.000	9.825	174367.80	0.8225	P	1.4
3	☐	100.000	100.138	1730695.76	8.3553	P	1.7
4	☐	500.000	499.976	8354404.88	41.7043	P	1.5

y = 0.0834 * x + 0.0031
R = 1.0000
DL = 0.02872
BEC = 0.03729

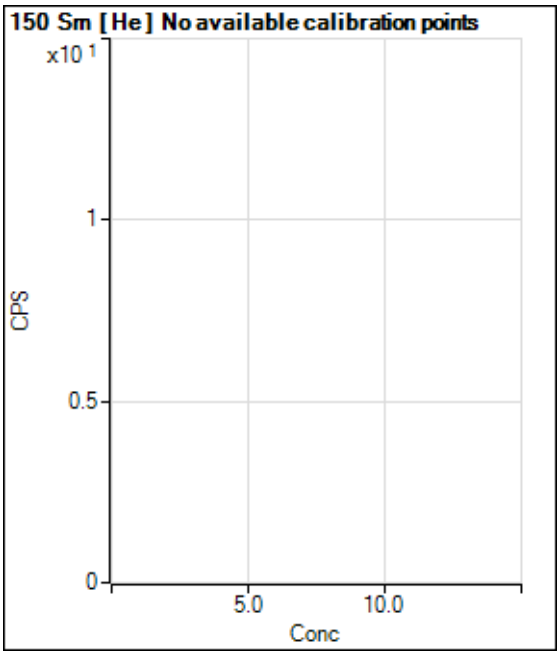
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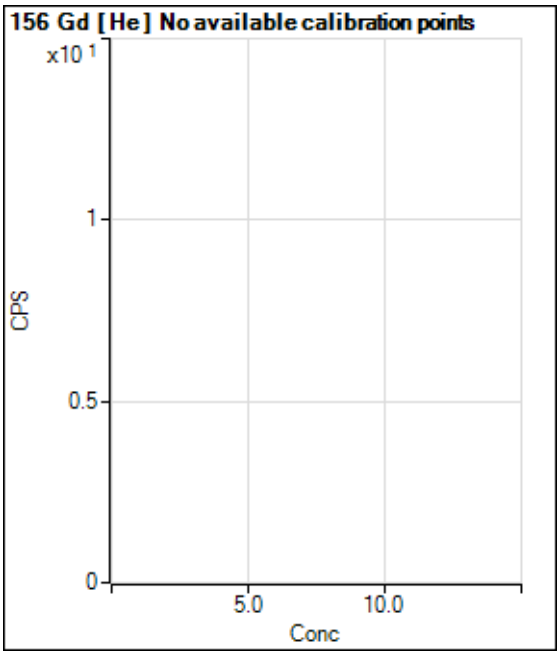
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103.34	0.0005	P	9.2
2	☐	10.000	10.356	60980.44	0.2592	P	1.0
3	☐	100.000	99.720	595521.09	2.4918	P	2.6
4	☐	500.000	500.049	2915709.75	12.4929	P	1.3

y = 0.0250 * x + 4.8924E-004
R = 1.0000
DL = 0.005397
BEC = 0.01958

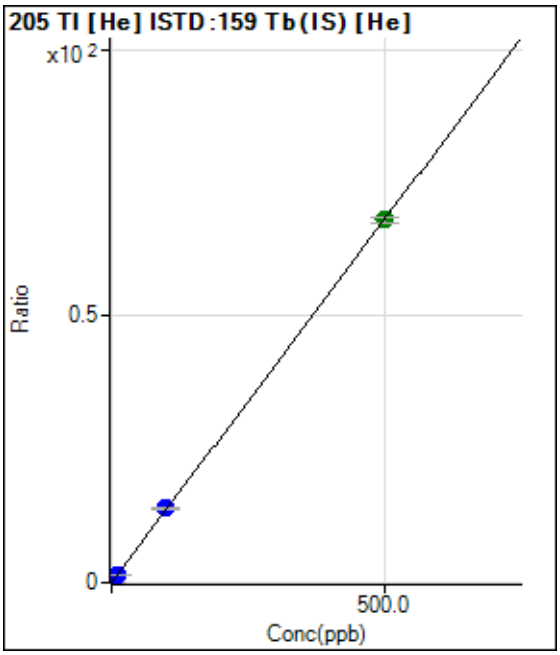
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						



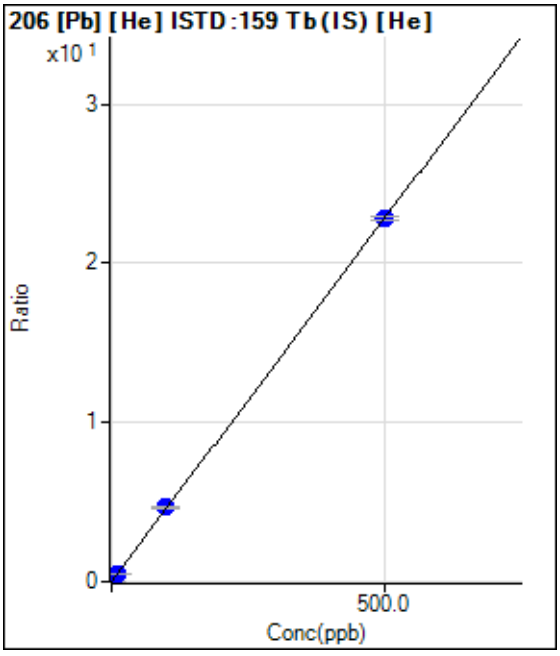
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐						
2	☐						
3	☐						
4	☐						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	966.73	0.0046	P	6.4
2	☐	10.000	10.567	339368.67	1.4428	P	2.0
3	☐	100.000	102.124	3323078.28	13.9041	P	2.3
4	☐	500.000	499.564	15869516.01	67.9975	A	1.6

y = 0.1361 * x + 0.0046
R = 1.0000
DL = 0.006492
BEC = 0.03365

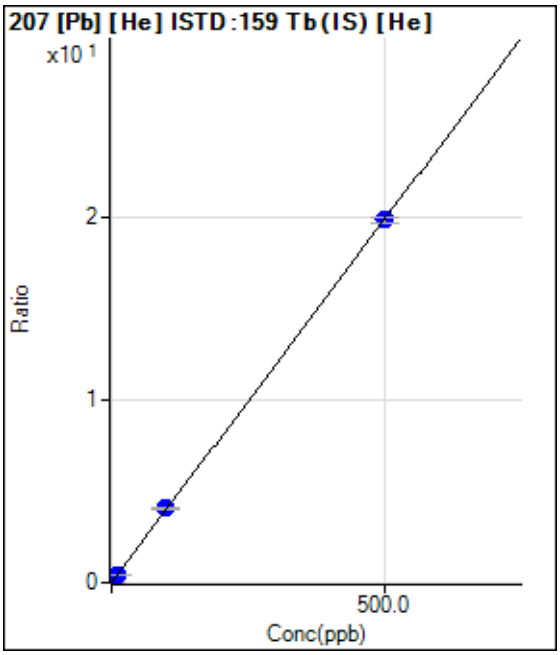
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0003	P	33.0
2	☐	10.000	10.648	114355.32	0.4861	P	1.8
3	☐	100.000	102.197	1114603.91	4.6637	P	2.6
4	☐	500.000	499.548	5320196.38	22.7953	P	1.2

y = 0.0456 * x + 2.8451E-004
R = 1.0000
DL = 0.00617
BEC = 0.006235

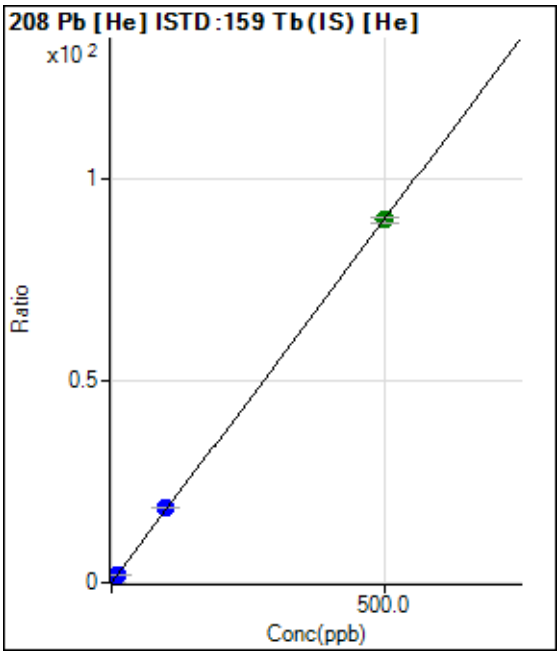
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Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96.67	0.0005	P	50.2
2	☐	10.000	10.520	98472.15	0.4187	P	2.5
3	☐	100.000	102.270	971755.43	4.0660	P	2.5
4	☐	500.000	499.536	4634714.51	19.8584	P	1.3

y = 0.0398 * x + 4.6154E-004
R = 1.0000
DL = 0.01748
BEC = 0.01161

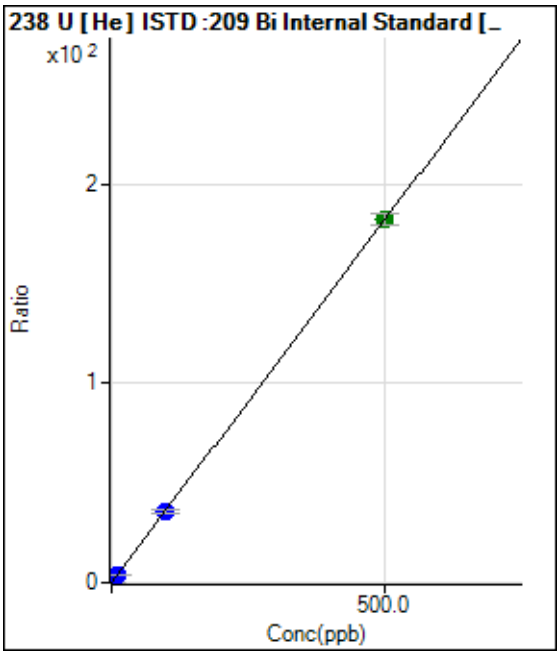
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	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	373.35	0.0018	P	16.8
2	☐	10.000	10.708	453649.70	1.9286	P	1.6
3	☐	100.000	103.361	4445503.37	18.6001	P	2.1
4	☐	500.000	499.314	20968991.99	89.8461	A	1.3

y = 0.1799 * x + 0.0018
R = 1.0000
DL = 0.004972
BEC = 0.009854

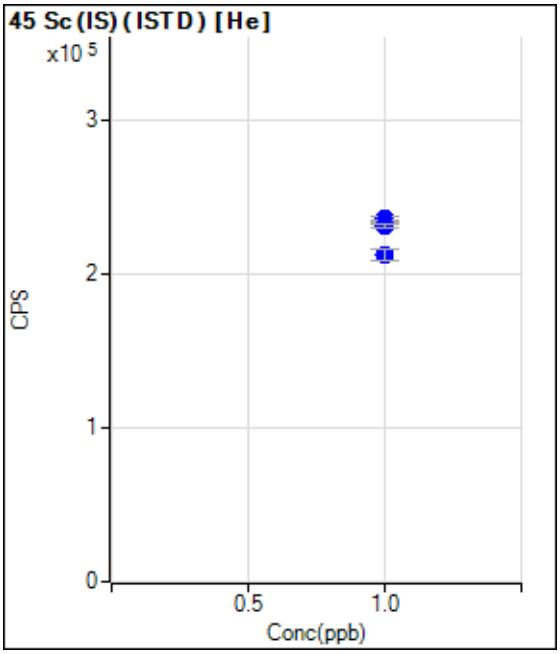
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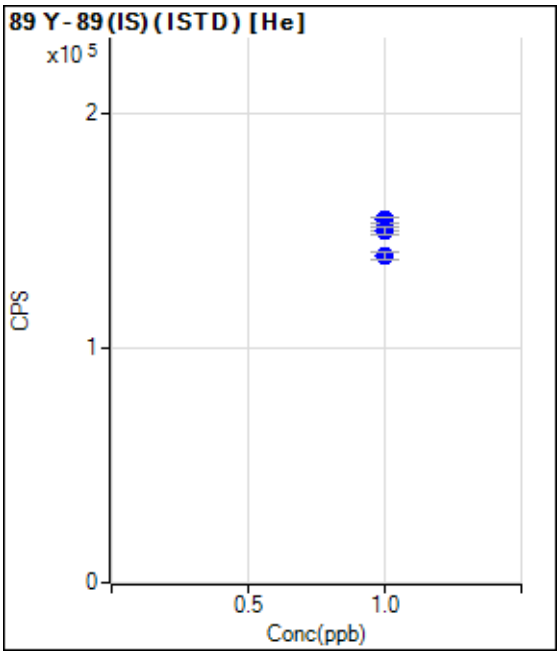
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46.67	0.0004	P	13.5
2	☐	10.000	9.568	438773.82	3.4856	P	2.1
3	☐	100.000	98.029	4437167.23	35.7071	P	3.7
4	☐	500.000	500.403	21549444.68	182.2701	A	3.1

y = 0.3642 * x + 4.0548E-004
R = 1.0000
DL = 0.0004525
BEC = 0.001113

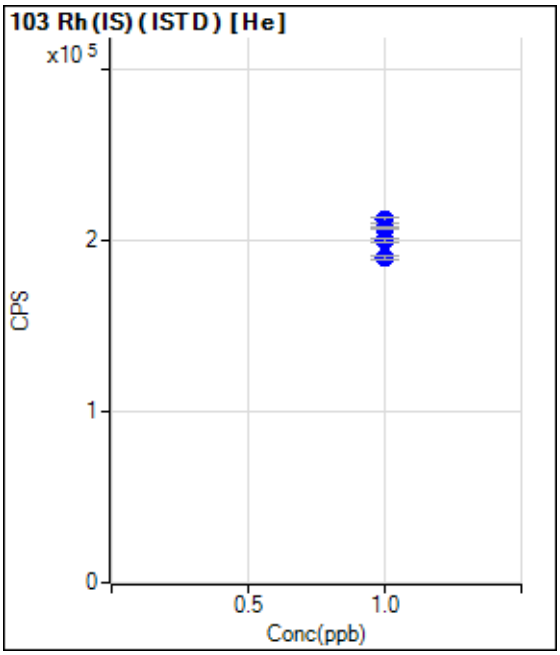
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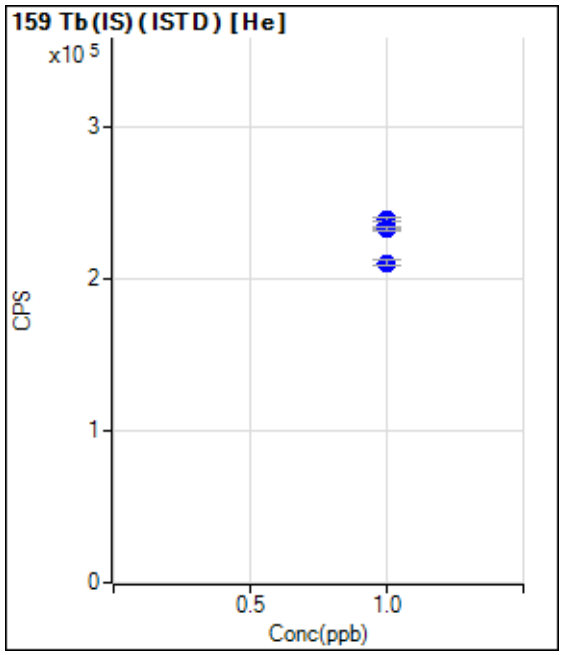
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		211613.72		P	3.5
2	☐	1.000		235421.16		P	1.9
3	☐	1.000		233819.99		P	0.7
4	☐	1.000		231215.51		P	1.0



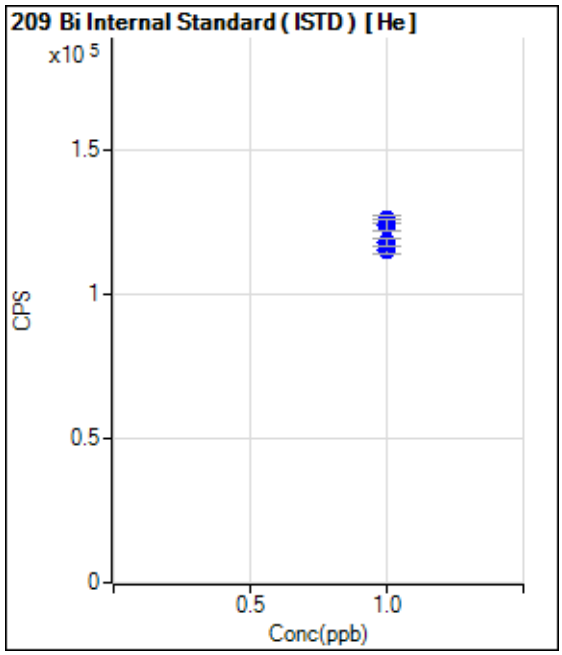
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		139552.79		P	2.5
2	☐	1.000		154610.01		P	1.7
3	☐	1.000		151691.14		P	2.4
4	☐	1.000		150238.32		P	2.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		189919.82		P	1.2
2	☐	1.000		212012.41		P	1.7
3	☐	1.000		207153.11		P	0.7
4	☐	1.000		200343.79		P	1.0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		210952.42		P	2.1
2	☐	1.000		235273.32		P	2.0
3	☐	1.000		239044.36		P	1.2
4	☐	1.000		233405.99		P	0.9



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		115235.54		P	2.4
2	☐	1.000		125917.79		P	1.9
3	☐	1.000		124360.79		P	3.1
4	☐	1.000		118277.68		P	2.1

Batch Summary Report

Batch Folder: C:\Agilent\ICPMH\1\DATA\MS4070519He-1.b\
Analysis File: MS4070519He-1.batch.bin
Tune Step: #1 He

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		7/5/2019 10:37:39 AM	001CALB.d	blk I.S /tune	CalBlk	1	1.0000
2		7/5/2019 10:41:24 AM	002CALB.d	ICIS	CalBlk	1	1.0000
3		7/5/2019 10:45:10 AM	003CALS.d	Std1	CalStd	2	1.0000
4		7/5/2019 10:48:57 AM	004CALS.d	Std2	CalStd	3	1.0000
5		7/5/2019 10:52:42 AM	005CALS.d	Std3	CalStd	4	1.0000
6		7/5/2019 10:56:28 AM	006_QCS.d	S1	QCS		1.0000
7		7/5/2019 11:00:14 AM	007_ICV.d	ICV	ICV		1.0000
8		7/5/2019 11:04:00 AM	008_ICB.d	ICB	ICB		1.0000
9		7/5/2019 11:07:46 AM	009LICV.d	ICVL	LLICV		1.0000
10		7/5/2019 11:11:31 AM	010ICSA.d	icsa	ICSA		1.0000
11		7/5/2019 11:15:17 AM	011ICSB.d	icsab	ICSB		1.0000
12		7/5/2019 11:19:02 AM	012SMPL.d	CRI	Sample		1.0000
13		7/5/2019 11:22:47 AM	013_CCV.d	CCV	CCV		1.0000
14		7/5/2019 11:26:32 AM	014_CCB.d	CCB	CCB		1.0000
15		7/5/2019 12:31:26 PM	015_PB.d	mb 500-492494/1-a	PB		1.0000
16		7/5/2019 12:35:12 PM	016_LCS.d	lcs 500-492494/2-a	LCS		1.0000
17		7/5/2019 12:38:57 PM	017SMPL.d	500-165815-b-3-a	Sample		1.0000
18		7/5/2019 12:42:42 PM	018SMPL.d	500-165815-b-4-a	Sample		1.0000
19		7/5/2019 12:46:27 PM	019SMPL.d	500-165815-b-5-a	Sample		1.0000
20		7/5/2019 12:50:14 PM	020SMPL.d	500-165815-b-6-a	Sample		1.0000
21		7/5/2019 12:53:59 PM	021SMPL.d	500-165815-b-7-a	Sample		1.0000
22		7/5/2019 12:58:18 PM	022SMPL.d	500-165815-b-7-a @100	Sample		1.0000
23		7/5/2019 1:02:03 PM	023SMPL.d	500-165700-e-1-a @5	Sample		1.0000
24		7/5/2019 1:05:48 PM	024SMPL.d	500-165700-e-1-a @100	Sample		1.0000
25		7/5/2019 1:09:33 PM	025_CCV.d	CCV	CCV		1.0000
26		7/5/2019 1:13:18 PM	026_CCB.d	CCB	CCB		1.0000
27		7/5/2019 1:17:03 PM	027_CCV.d	CCV	CCV		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
28		7/5/2019 1:20:48 PM	028_CCB.d	CCB	CCB		1.0000
29		7/5/2019 1:24:34 PM	029_PB.d	mb 500-492736/1-a	PB		1.0000
30		7/5/2019 1:28:19 PM	030_LCS.d	lcs 500-492736/2-a	LCS		1.0000
31		7/5/2019 1:32:25 PM	031SMPL.d	500-165906-g-1-a	Sample		1.0000
32		7/5/2019 1:36:12 PM	032_CCV.d	CCV	CCV		1.0000
33		7/5/2019 1:39:58 PM	033_CCB.d	CCB	CCB		1.0000
34		7/5/2019 1:43:42 PM	034LCCV.d	CCVL	LLCCV		1.0000
35		7/5/2019 1:47:28 PM	035_PB.d	mb 500-492737/1-a	PB		1.0000
36		7/5/2019 1:51:15 PM	036_LCS.d	lcs 500-492737/2-a	LCS		1.0000
37		7/5/2019 1:55:02 PM	037SMPL.d	500-165875-b-1-a @100	Sample		1.0000
38		7/5/2019 1:58:49 PM	038SMPL.d	500-165875-b-2-a @100	Sample		1.0000
39		7/5/2019 2:02:34 PM	039SMPL.d	500-165875-b-3-a @100	Sample		1.0000
40		7/5/2019 2:06:20 PM	040SMPL.d	500-165947-j-1-a @5	Sample		1.0000
41		7/5/2019 2:10:06 PM	041SMPL.d	500-165954-c-1-a @100	Sample		1.0000
42		7/5/2019 2:13:52 PM	042_CCV.d	CCV	CCV		1.0000
43		7/5/2019 2:17:37 PM	043_CCB.d	CCB	CCB		1.0000
44		7/5/2019 2:21:22 PM	044SMPL.d	500-165875-b-1-a @2	Sample		1.0000
45		7/5/2019 2:25:07 PM	045SMPL.d	500-165875-b-2-a @2	Sample		1.0000
46		7/5/2019 2:28:52 PM	046SMPL.d	500-165875-b-3-a @2	Sample		1.0000
47		7/5/2019 2:32:38 PM	047SMPL.d	500-165947-j-1-a	Sample		1.0000
48		7/5/2019 2:36:24 PM	048SMPL.d	500-165954-c-1-a @2	Sample		1.0000
49		7/5/2019 2:40:09 PM	049_CCV.d	CCV	CCV		1.0000
50		7/5/2019 2:43:55 PM	050_CCB.d	CCB	CCB		1.0000
51		7/5/2019 3:23:07 PM	051_PB.d	mb 500-493474/1-a	PB		1.0000
52		7/5/2019 3:26:51 PM	052_LCS.d	lcs 500-493474/2-a	LCS		1.0000
53		7/5/2019 3:30:37 PM	053SMPL.d	500-166208-i-1-a	Sample		1.0000
54		7/5/2019 3:34:24 PM	054SMPL.d	500-166208-j-1-a	Sample		1.0000
55		7/5/2019 3:38:11 PM	055SMPL.d	500-166208-i-2-a	Sample		1.0000
56		7/5/2019 3:41:59 PM	056SMPL.d	500-166208-j-2-a	Sample		1.0000
57		7/5/2019 3:45:44 PM	057SMPL.d	500-166208-i-4-a	Sample		1.0000
58		7/5/2019 3:49:31 PM	058_CCV.d	CCV	CCV		1.0000
59		7/5/2019 3:53:16 PM	059_CCB.d	CCB	CCB		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
60		7/5/2019 3:57:01 PM	060LCCV.d	CCVL	LLCCV		1.0000
61		7/5/2019 4:00:47 PM	061SMPL.d	500-166208-j-4-a	Sample		1.0000
62		7/5/2019 4:04:32 PM	062SMPL.d	500-166208-j-4-b du	Sample		1.0000
63		7/5/2019 4:08:17 PM	063SMPL.d	500-166208-j-4-c ms	Sample		1.0000
64		7/5/2019 4:12:05 PM	064SMPL.d	500-166208-j-4-d msd	Sample		1.0000
65		7/5/2019 4:15:52 PM	065SMPL.d	500-166208-j-4-a SD@5	Sample		1.0000
66		7/5/2019 4:19:38 PM	066SMPL.d	500-166209-i-1-a	Sample		1.0000
67		7/5/2019 4:23:23 PM	067SMPL.d	500-166209-j-1-a	Sample		1.0000
68		7/5/2019 4:27:08 PM	068SMPL.d	500-166209-i-2-a	Sample		1.0000
69		7/5/2019 4:30:53 PM	069SMPL.d	500-166209-j-2-a	Sample		1.0000
70		7/5/2019 4:36:39 PM	070SMPL.d	500-166209-i-3-a	Sample		1.0000
71		7/5/2019 4:40:24 PM	071_CCV.d	CCV	CCV		1.0000
72		7/5/2019 4:44:10 PM	072_CCB.d	CCB	CCB		1.0000
73		7/5/2019 4:47:55 PM	073SMPL.d	500-166209-j-3-a	Sample		1.0000
74		7/5/2019 4:51:40 PM	074SMPL.d	500-166216-a-2-a	Sample		1.0000
75		7/5/2019 4:55:25 PM	075SMPL.d	500-166219-a-1-a	Sample		1.0000
76		7/5/2019 4:59:09 PM	076SMPL.d	500-164003-f-2-c	Sample		1.0000
77		7/5/2019 5:02:55 PM	077SMPL.d	500-164003-f-3-c	Sample		1.0000
78		7/5/2019 5:06:40 PM	078SMPL.d	500-164003-f-5-c	Sample		1.0000
79		7/5/2019 5:10:25 PM	079SMPL.d	500-164003-f-6-c	Sample		1.0000
80		7/5/2019 5:14:11 PM	080SMPL.d	500-164003-h-8-c	Sample		1.0000
81		7/5/2019 5:17:57 PM	081SMPL.d	500-164003-f-9-c	Sample		1.0000
82		7/5/2019 5:21:42 PM	082_CCV.d	CCV	CCV		1.0000
83		7/5/2019 5:25:27 PM	083_CCB.d	CCB	CCB		1.0000
84		7/5/2019 5:29:13 PM	084LCCV.d	CCVL	LLCCV		1.0000
85		7/5/2019 5:32:59 PM	085_PB.d	mb 500-493133/1-a	PB		1.0000
86		7/5/2019 5:36:45 PM	086_LCS.d	lcs 500-493133/2-a	LCS		1.0000
87		7/5/2019 5:40:30 PM	087SMPL.d	500-165934-j-1-a @5	Sample		1.0000
88		7/5/2019 5:44:17 PM	088SMPL.d	500-165934-j-1-a @10	Sample		1.0000
89		7/5/2019 5:48:01 PM	089SMPL.d	500-165934-j-2-a @5	Sample		1.0000
90		7/5/2019 5:51:47 PM	090SMPL.d	500-165934-j-2-a @10	Sample		1.0000
91		7/5/2019 5:55:34 PM	091SMPL.d	500-166079-k-5-a @20	Sample		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
92		7/5/2019 5:59:20 PM	092_CCV.d	CCV	CCV		1.0000
93		7/5/2019 6:03:05 PM	093_CCB.d	CCB	CCB		1.0000
94		7/5/2019 6:06:51 PM	094LCCV.d	CCVL	LLCCV		1.0000
95		7/5/2019 8:10:39 PM	095_CCV.d	CCV	CCV		1.0000
96		7/5/2019 8:14:24 PM	096_CCB.d	CCB	CCB		1.0000
97		7/5/2019 8:18:09 PM	097_PB.d	mb 500-493206/1-a	PB		1.0000
98		7/5/2019 8:21:55 PM	098_LCS.d	lcs 500-493206/2-a	LCS		1.0000
99		7/5/2019 8:25:40 PM	099SMPL.d	500-166099-e-1-a	Sample		1.0000
100		7/5/2019 8:29:25 PM	100SMPL.d	500-166099-f-1-a	Sample		1.0000
101		7/5/2019 8:33:10 PM	101SMPL.d	500-166099-e-2-a	Sample		1.0000
102		7/5/2019 8:36:56 PM	102SMPL.d	500-166099-f-2-a	Sample		1.0000
103		7/5/2019 8:40:41 PM	103SMPL.d	500-166101-i-1-a	Sample		1.0000
104		7/5/2019 8:44:26 PM	104SMPL.d	500-166101-j-1-a	Sample		1.0000
105		7/5/2019 8:48:12 PM	105SMPL.d	500-166101-i-2-a	Sample		1.0000
106		7/5/2019 8:51:57 PM	106SMPL.d	500-166101-j-2-a	Sample		1.0000
107		7/5/2019 8:55:43 PM	107_CCV.d	CCV	CCV		1.0000
108		7/5/2019 8:59:28 PM	108_CCB.d	CCB	CCB		1.0000
109		7/5/2019 9:03:15 PM	109SMPL.d	500-166101-i-3-a	Sample		1.0000
110		7/5/2019 9:07:00 PM	110SMPL.d	500-166101-j-3-a	Sample		1.0000
111		7/5/2019 9:10:46 PM	111SMPL.d	500-166101-i-4-a	Sample		1.0000
112		7/5/2019 9:14:32 PM	112SMPL.d	500-166101-j-4-a	Sample		1.0000
113		7/5/2019 9:18:18 PM	113SMPL.d	500-166101-i-6-a	Sample		1.0000
114		7/5/2019 9:22:04 PM	114SMPL.d	500-166101-j-6-a	Sample		1.0000
115		7/5/2019 9:25:51 PM	115SMPL.d	500-166101-i-7-a	Sample		1.0000
116		7/5/2019 9:29:36 PM	116SMPL.d	500-166101-j-7-a	Sample		1.0000
117		7/5/2019 9:33:22 PM	117SMPL.d	500-166101-i-8-a	Sample		1.0000
118		7/5/2019 9:37:07 PM	118SMPL.d	500-166101-j-8-a	Sample		1.0000
119		7/5/2019 9:40:53 PM	119_CCV.d	CCV	CCV		1.0000
120		7/5/2019 9:44:40 PM	120_CCB.d	CCB	CCB		1.0000
121		7/5/2019 9:48:27 PM	121SMPL.d	500-166101-i-9-a	Sample		1.0000
122		7/5/2019 9:52:12 PM	122SMPL.d	500-166101-j-9-a	Sample		1.0000
123		7/5/2019 9:55:58 PM	123SMPL.d	500-166101-j-9-b du	Sample		1.0000

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
124		7/5/2019 9:59:43 PM	124SMPL.d	500-166101-j-9-c ms	Sample		1.0000
125		7/5/2019 10:03:28 PM	125SMPL.d	500-166101-j-9-d msd	Sample		1.0000
126		7/5/2019 10:07:14 PM	126SMPL.d	500-166101-j-9-a SD@5	Sample		1.0000
127		7/5/2019 10:10:59 PM	127_CCV.d	CCV	CCV		1.0000
128		7/5/2019 10:14:44 PM	128_CCB.d	CCB	CCB		1.0000
129		7/5/2019 10:18:29 PM	129LCCV.d	CCVL	LLCCV		1.0000

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	<0.000	46.67	N/A	0.087	26.67	78.488	0.222	540.03	153.006
2	ICIS	0.000	56.67	N/A	0.000	0.00	N/A	0.000	483.36	N/A
3	Std1	10.079	3543.81	5.415	10.276	3357.13	4.046	10.489	2193.56	9.665
4	Std2	101.882	35022.17	1.993	100.569	32641.10	3.043	101.255	16404.89	2.735
5	Std3	499.622	169590.22	1.180	499.881	160440.85	1.634	499.739	77976.13	2.142
6	S1	491.743	167892.98	1.662	501.551	161928.21	1.886	494.815	77661.28	3.816
7	ICV	199.430	68533.49	2.791	200.806	65227.48	1.904	206.558	32914.88	5.692
8	ICB	0.357	163.34	15.869	0.211	60.00	68.839	3.732	986.73	49.577
9	ICVL	10.093	3287.10	1.620	1.167	353.35	26.683	52.963	8238.93	1.532
10	icsa	0.444	223.34	17.995	0.089	30.00	66.910	1.861	860.06	26.517
11	icsab	19.180	6931.61	1.640	18.500	6268.00	3.977	46.652	8192.17	2.728
12	CRI	21.224	7098.41	3.846	1.795	563.37	9.861	104.202	16301.54	5.568
13	CCV	255.342	86729.28	1.063	258.590	83021.87	1.826	252.570	39682.01	2.385
14	CCB	0.543	223.34	44.195	0.149	43.33	27.691	1.557	703.38	65.739
15	mb 500-49249...	0.037	73.33	84.570	0.010	3.33	173.205	<0.000	490.03	N/A
16	lcs 500-492494...	107.709	37567.25	2.570	53.237	17536.02	4.447	1039.525	165861.32	1.161
17	500-165815-b-...	2.427	896.73	8.261	0.062	20.00	88.121	31.628	5497.76	8.621
18	500-165815-b-...	2.532	956.73	5.266	0.020	6.67	173.205	27.472	4974.19	7.357
19	500-165815-b-...	2.895	1100.08	14.965	0.000	0.00	N/A	27.644	5087.62	1.959
20	500-165815-b-...	2.657	1060.08	10.348	0.038	13.33	86.646	26.359	5080.94	2.432
21	500-165815-b-...	2.424	953.40	3.996	0.000	0.00	N/A	23.142	4430.71	11.240
22	500-165815-b-...	0.318	183.34	62.716	0.000	0.00	N/A	0.664	690.04	48.959
23	500-165700-e-...	0.646	326.68	18.293	0.000	0.00	N/A	4.572	1440.11	17.538
24	500-165700-e-...	0.306	176.68	44.587	0.000	0.00	N/A	<0.000	536.70	N/A
25	CCV	253.863	92471.54	0.847	257.188	88555.28	1.551	252.445	42535.45	3.714
26	CCB	0.417	196.68	3.759	0.043	13.33	43.119	1.183	690.04	51.459

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	253.250	93326.41	3.426	258.597	90108.98	1.034	253.861	43280.71	2.340
28	CCB	0.672	276.68	23.747	0.119	36.67	77.615	1.180	680.04	85.785
29	mb 500-49273...	0.311	170.01	53.174	0.041	13.33	173.205	0.773	660.04	96.213
30	lcs 500-492736...	102.243	37597.44	3.554	50.748	17619.26	3.998	1023.069	172149.89	0.948
31	500-165906-g-...	5.652	2186.89	3.608	0.028	10.00	100.269	397.710	68670.91	0.975
32	CCV	253.355	93895.00	0.712	258.405	90524.73	0.617	259.089	44410.21	1.857
33	CCB	0.680	280.01	33.861	0.130	40.00	26.184	6.026	1403.45	13.983
34	CCVL	10.611	3667.19	5.223	1.285	413.36	12.543	54.133	8932.59	2.550
35	mb 500-49273...	0.216	136.67	67.159	0.062	20.00	0.864	3.158	1030.08	18.704
36	lcs 500-492737...	100.153	36902.67	2.972	50.268	17489.23	3.080	1005.139	169478.78	1.255
37	500-165875-b-...	0.556	270.01	41.570	0.029	10.00	98.719	9.871	2216.89	10.358
38	500-165875-b-...	0.424	220.01	3.904	0.010	3.33	173.205	3.586	1160.09	18.224
39	500-165875-b-...	0.315	183.34	38.272	0.009	3.33	173.205	3.762	1203.42	30.546
40	500-165947-j-1-...	16.246	6071.27	5.210	0.028	10.00	98.184	226.116	38730.35	7.539
41	500-165954-c-...	0.268	170.01	36.968	0.000	0.00	N/A	3.962	1273.42	15.604
42	CCV	255.908	94293.78	1.774	257.697	89748.15	2.520	257.036	43798.42	2.728
43	CCB	0.302	156.67	51.606	0.119	36.67	62.473	3.473	1020.08	45.662
44	500-165875-b-...	6.705	2343.57	6.202	0.010	3.33	173.205	72.619	11817.77	2.532
45	500-165875-b-...	6.395	2243.55	5.075	0.031	10.00	102.070	67.322	11007.20	2.319
46	500-165875-b-...	6.869	2400.26	10.863	0.010	3.33	173.205	68.022	11097.24	1.850
47	500-165947-j-1-a	65.049	27588.88	4.648	0.042	16.67	91.702	955.728	185368.77	1.779
48	500-165954-c-...	6.001	2226.90	4.698	0.010	3.33	173.205	75.498	12985.20	0.929
49	CCV	230.161	97005.69	2.939	239.516	95430.30	1.814	244.285	47655.60	2.481
50	CCB	0.780	333.35	15.862	0.081	26.67	77.985	4.920	1320.10	13.308
51	mb 500-49347...	0.115	106.67	79.393	0.039	13.33	42.388	0.046	570.03	1231.850
52	lcs 500-493474...	496.118	185933.17	0.483	49.134	17412.60	1.693	1000.951	171864.07	2.170
53	500-166208-i-1-a	67.106	24768.21	4.550	0.000	0.00	N/A	2000.419	337067.11	2.565
54	500-166208-j-1-a	67.807	23833.28	2.518	0.010	3.33	173.205	2029.840	325555.09	1.994
55	500-166208-i-2-a	66.357	23776.69	1.305	0.010	3.33	173.205	908.921	148871.78	2.394
56	500-166208-j-2-a	68.388	24491.04	5.916	0.019	6.67	173.205	942.409	154375.60	3.198

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	0.360	186.68	42.351	0.000	0.00	N/A	17.503	3280.44	9.487
58	CCV	255.258	88219.41	2.850	255.086	83336.35	2.901	260.592	41640.20	3.745
59	CCB	0.419	186.68	12.408	0.125	36.67	88.438	10.609	1990.19	11.701
60	CCVL	10.753	3590.50	6.538	0.986	306.69	9.234	60.306	9562.94	1.917
61	500-166208-j-4-a	0.410	193.34	63.183	0.000	0.00	N/A	7.508	1596.81	38.238
62	500-166208-j-4-...	0.114	100.00	117.258	0.021	6.67	173.205	5.830	1423.44	21.781
63	500-166208-j-4-...	518.648	180798.75	1.489	52.881	17432.57	1.717	1030.686	164619.66	2.198
64	500-166208-j-4-...	517.630	180012.13	0.432	52.953	17412.48	1.880	1044.659	166415.65	1.230
65	500-166208-j-4-...	1.065	396.69	33.814	0.022	6.67	173.205	15.897	2817.02	7.906
66	500-166209-i-1-a	38.635	13909.38	5.104	0.049	16.67	69.933	622.515	102519.63	2.541
67	500-166209-j-1-a	36.428	13158.65	2.203	0.020	6.67	86.641	607.615	100310.74	2.180
68	500-166209-i-2-a	13.695	4947.55	1.620	0.000	0.00	N/A	169.308	28126.40	3.425
69	500-166209-j-2-a	13.124	4774.20	4.274	0.039	13.33	86.636	167.751	28043.03	2.147
70	500-166209-i-3-a	32.614	11974.53	5.226	0.087	30.00	87.949	676.310	113285.05	2.071
71	CCV	255.149	88976.94	1.258	256.268	84481.79	2.059	265.053	42729.36	2.646
72	CCB	0.315	156.68	28.617	0.067	20.00	48.880	9.055	1790.17	5.624
73	500-166209-j-3-a	33.567	12044.47	1.256	0.050	16.67	71.495	717.014	117414.56	2.572
74	500-166216-a-...	18.318	7812.02	0.352	0.542	216.68	13.956	229.410	44901.47	2.047
75	500-166219-a-...	13.501	4837.50	5.386	0.030	10.00	99.168	3199.157	516892.13	1.630
76	500-164003-f-2-c	2.953	1103.41	12.799	0.030	10.00	100.259	47.051	8112.21	6.452
77	500-164003-f-3-c	2.748	1016.74	7.150	0.041	13.33	86.603	32.771	5737.84	2.464
78	500-164003-f-5-c	5.817	2070.21	2.275	0.000	0.00	N/A	43.573	7408.49	0.409
79	500-164003-f-6-c	0.977	403.35	14.776	0.031	10.00	100.926	34.318	5987.94	5.074
80	500-164003-h-...	1.460	563.37	5.136	0.020	6.67	86.808	86.093	13992.71	6.638
81	500-164003-f-9-c	2.787	1043.40	10.472	0.000	0.00	N/A	40.142	6995.03	0.424
82	CCV	255.309	85925.57	1.605	258.424	82207.24	2.475	258.935	40290.35	4.023
83	CCB	0.434	186.68	5.491	0.093	26.67	20.441	7.685	1536.80	19.195
84	CCVL	10.374	3437.13	7.287	1.062	326.68	28.715	56.883	8972.60	2.569
85	mb 500-49313...	0.147	110.00	33.380	0.031	10.00	173.205	5.940	1430.11	24.728
86	lcs 500-493133...	104.844	36291.69	3.096	51.968	16985.43	2.035	1034.922	163885.64	1.327

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	37.327	20065.36	2.623	1.067	540.03	6.387	125.352	31465.47	2.091
88	500-165934-j-1-...	24.109	10513.56	5.422	0.462	190.01	30.240	80.833	16652.12	6.325
89	500-165934-j-2-...	36.627	18917.30	1.758	0.782	380.02	1.755	121.689	29358.73	3.664
90	500-165934-j-2-...	22.514	9652.89	0.898	0.406	163.34	9.432	78.038	15830.93	4.080
91	500-166079-k-...	0.984	400.02	6.868	0.000	0.00	N/A	176.653	28189.88	2.437
92	CCV	246.369	82478.54	2.855	248.337	78601.72	0.936	251.676	38990.81	1.031
93	CCB	0.382	166.67	33.795	0.096	26.67	23.213	7.718	1500.12	4.170
94	CCVL	10.241	3333.77	5.557	0.980	296.68	5.742	56.566	8765.88	1.913
95	CCV	251.805	85958.68	2.007	256.612	82797.10	3.109	245.740	38813.79	4.404
96	CCB	0.132	96.67	87.604	0.105	30.00	88.909	1.952	750.05	19.699
97	mb 500-49320...	0.052	76.67	287.199	0.000	0.00	N/A	1.169	683.38	67.229
98	lcs 500-493206...	103.204	36391.62	3.598	53.240	17726.16	4.355	1009.314	162844.39	0.572
99	500-166099-e-...	143.251	47554.90	0.524	0.021	6.67	173.205	607.511	92508.78	0.362
100	500-166099-f-1-a	142.082	45198.28	1.043	0.022	6.67	173.205	609.585	88950.04	0.984
101	500-166099-e-...	110.764	37330.25	0.692	0.052	16.67	123.843	589.697	91142.04	1.560
102	500-166099-f-2-a	115.799	38155.42	1.664	0.032	10.00	173.205	596.092	90086.22	0.915
103	500-166101-i-1-a	47.440	15567.33	2.853	0.033	10.00	99.576	614.684	92266.72	3.224
104	500-166101-j-1-a	44.727	14262.92	1.724	0.023	6.67	173.205	582.173	84934.02	2.667
105	500-166101-i-2-a	46.200	14956.78	0.536	0.032	10.00	173.205	593.713	87892.13	4.174
106	500-166101-j-2-a	44.919	14329.78	3.783	0.022	6.67	173.205	603.907	88099.73	1.454
107	CCV	235.214	74637.38	3.327	232.751	69818.61	1.559	245.413	36040.96	2.412
108	CCB	0.242	126.67	23.886	0.048	13.33	114.802	9.101	1710.16	2.584
109	500-166101-i-3-a	55.762	18113.25	1.428	0.054	16.67	90.941	1055.413	156610.42	0.602
110	500-166101-j-3-a	55.683	17769.46	3.862	0.011	3.33	173.205	1049.314	152956.60	2.131
111	500-166101-i-4-a	53.119	16978.75	0.922	0.055	16.67	35.604	997.082	145558.51	1.950
112	500-166101-j-4-a	60.113	19027.42	1.748	0.034	10.00	173.205	1160.955	167704.39	4.143
113	500-166101-i-6-a	40.876	13058.61	3.255	0.167	50.00	87.724	781.975	114049.94	3.156
114	500-166101-j-6-a	41.154	12628.34	3.146	0.000	0.00	N/A	790.191	110724.91	1.763
115	500-166101-i-7-a	39.712	12177.95	0.611	0.093	26.67	45.255	792.178	110883.64	3.128
116	500-166101-j-7-a	41.340	12371.46	5.990	0.047	13.33	115.305	795.898	108787.09	1.564

Analyte Table

		7 Li [He]			9 Be [He]			11 B [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	70.648	21139.95	0.793	0.036	10.00	101.192	1431.723	195575.87	1.476
118	500-166101-j-8-a	71.872	21597.10	5.465	0.024	6.67	86.624	1421.595	195171.41	1.349
119	CCV	232.638	68593.23	0.839	234.490	65351.43	1.659	259.064	35323.00	0.852
120	CCB	0.363	150.01	26.215	0.154	40.00	25.324	18.806	2793.65	9.138
121	500-166101-i-9-a	0.153	100.00	135.311	0.083	23.33	98.340	14.060	2373.58	8.308
122	500-166101-j-9-a	0.285	140.01	72.276	0.036	10.00	100.105	12.092	2120.21	2.966
123	500-166101-j-9-...	0.361	163.34	37.613	0.047	13.33	114.433	8.323	1610.14	17.780
124	500-166101-j-9-...	95.131	30106.35	3.068	47.530	14206.22	3.316	996.259	144251.29	2.530
125	500-166101-j-9-...	98.376	31145.15	2.378	47.516	14196.17	7.787	994.250	144039.26	0.128
126	500-166101-j-9-...	0.244	133.34	50.185	0.045	13.33	86.658	17.738	3007.05	9.608
127	CCV	232.210	73750.73	1.480	234.086	70277.21	1.310	243.667	35817.29	0.906
128	CCB	0.248	123.34	22.243	0.074	20.00	50.823	10.721	1853.52	4.711
129	CCVL	9.135	2853.68	11.844	0.953	276.68	13.356	57.358	8509.03	3.866

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	8.656	233315.69	7.037	10.252	45710.85	8.393	10.501	22392.00	15.228
2	ICIS	0.000	180196.25	N/A	0.000	15691.01	N/A	0.000	2707.00	N/A
3	Std1	1040.395	5959435.75	2.296	1043.489	3193306.93	2.806	1018.347	2022792.78	2.333
4	Std2	10159.311	56063972.50	1.462	10150.791	30710101.21	1.209	10027.485	19760355.95	1.702
5	Std3	49967.330	2.71891E+08	1.583	49968.972	1.49424E+08	0.871	49994.136	97410838.55	1.065
6	S1	50175.473	2.74638E+08	1.541	49898.565	1.50101E+08	0.708	49856.925	97721918.54	0.745
7	ICV	20011.540	1.10316E+08	2.349	20004.840	60532484.10	3.720	20001.936	39433170.25	3.466
8	ICB	4.413	197326.78	25.925	0.421	16448.33	51.525	2.602	7175.28	12.425
9	ICVL	203.786	1230417.95	1.892	203.290	589171.21	2.420	98.437	183609.92	1.840
10	icsa	99950.192	5.70756E+08	2.209	98559.539	3.09372E+08	2.135	98206.582	2.00873E+08	2.019
11	icsab	99065.165	5.68519E+08	2.027	98539.803	3.10865E+08	1.727	98430.275	2.02351E+08	1.583
12	CRI	419.329	2421227.62	1.697	415.511	1231120.66	1.621	204.454	392267.38	1.104
13	CCV	26042.937	1.41846E+08	1.692	25969.459	77682438.84	2.014	25734.441	50156479.26	1.887
14	CCB	8.606	221873.64	9.249	2.268	21794.34	7.806	3.861	9549.61	5.459
15	mb 500-49249...	24.711	325625.80	4.769	2.401	23913.78	12.685	14.378	30440.87	3.306
16	lcs 500-492494...	10530.625	58960745.79	0.354	10605.304	32556103.68	0.452	2031.241	4064138.58	0.837
17	500-165815-b-...	OR			974.007	2967120.90	0.654	14.865	32341.12	1.219
18	500-165815-b-...	OR			1465.302	4569327.12	1.378	6.263	15761.12	4.160
19	500-165815-b-...	OR			2044.191	6475474.70	2.509	7.281	18130.06	3.429
20	500-165815-b-...	OR			1855.888	6126277.62	1.750	16.108	37811.79	0.630
21	500-165815-b-...	OR			1625.257	5253296.69	2.221	4.414	12458.24	3.902
22	500-165815-b-...	18028.847	1.06752E+08	3.557	15.525	69103.98	4.414	11.279	27082.62	8.532
23	500-165700-e-...	296164.940	1.87334E+09	4.491	338.716	1197918.34	4.543	8.350	22355.04	8.439
24	500-165700-e-...	16363.955	94968358.58	3.203	15.839	68715.74	4.617	0.615	4437.56	6.221
25	CCV	26270.477	1.53452E+08	0.638	25916.519	83146142.10	0.274	25915.478	54170619.19	0.995
26	CCB	193.626	1208816.99	1.636	<0.000	9643.05	N/A	1.337	5387.70	14.253

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	26170.027	1.54670E+08	2.604	25944.276	84220515.41	2.116	25727.625	54413260.85	2.452
28	CCB	165.105	1045794.23	2.951	<0.000	10003.29	N/A	1.780	6148.02	7.288
29	mb 500-49273...	177.757	1183671.07	3.531	2.083	23786.87	17.051	11.273	25352.70	5.639
30	lcs 500-492736...	10589.564	62511589.07	2.163	10393.951	33640524.50	2.408	1994.517	4207712.54	1.969
31	500-165906-g-...	44591.615	2.68041E+08	1.322	18842.987	62246657.41	1.884	5755.791	12390603.57	1.110
32	CCV	26010.192	1.54567E+08	1.388	25853.793	84379962.08	1.665	25818.815	54903707.52	1.342
33	CCB	144.520	942441.81	4.167	<0.000	11704.40	N/A	1.964	6514.81	2.300
34	CCVL	302.749	1845690.03	1.343	204.127	628288.22	2.229	100.403	198830.14	2.950
35	mb 500-49273...	121.641	867278.60	4.098	2.230	24070.83	17.704	12.284	27185.19	1.643
36	lcs 500-492737...	10408.945	61578590.75	1.266	10258.911	33272377.83	1.869	1950.883	4124379.73	1.183
37	500-165875-b-...	74713.452	4.37021E+08	3.452	79.976	275539.65	4.270	0.820	4907.57	30.991
38	500-165875-b-...	70655.677	4.10836E+08	2.051	65.339	227161.71	1.989	0.549	4317.39	15.799
39	500-165875-b-...	67470.820	3.96790E+08	3.119	62.082	219216.55	2.771	0.579	4427.41	9.046
40	500-165947-j-1-...	35099.297	2.08163E+08	3.085	19729.749	64289587.38	3.311	3.457	10566.98	6.644
41	500-165954-c-...	68833.688	4.17205E+08	2.141	61.228	223080.91	2.233	0.521	4437.38	3.752
42	CCV	25895.274	1.53008E+08	1.630	25782.527	83670283.76	1.955	25566.368	54056469.19	1.677
43	CCB	80.546	607368.61	2.511	<0.000	10633.64	N/A	1.380	5404.37	12.081
44	500-165875-b-...	OR			4461.450	13394302.30	3.068	13.356	29071.82	0.529
45	500-165875-b-...	OR			3881.879	11671906.91	2.147	14.063	30484.32	2.198
46	500-165875-b-...	OR			4209.715	12630688.98	2.343	16.193	34595.35	2.626
47	500-165947-j-1-a	157930.195	1.07091E+09	3.109	89700.288	3.34426E+08	2.618	13.250	35901.38	1.602
48	500-165954-c-...	OR			3531.211	11223719.00	2.624	10.897	25679.74	5.341
49	CCV	27732.386	1.87434E+08	1.866	26211.058	97303318.55	2.529	27027.007	65368069.03	2.592
50	CCB	965.110	5559153.87	5.666	<0.000	12708.36	N/A	1.224	5464.40	5.198
51	mb 500-49347...	225.781	1513686.85	2.514	3.213	28440.61	4.479	9.593	23009.16	2.864
52	lcs 500-493474...	10546.308	63533630.72	1.372	10457.542	34541100.32	1.333	1986.315	4276215.77	1.499
53	500-166208-i-1-a	113111.929	6.67532E+08	4.003	159534.195	5.17541E+08	4.040	47.798	104188.15	6.974
54	500-166208-j-1-a	113628.109	6.38551E+08	1.661	161105.009	4.97684E+08	1.651	7.903	18967.63	5.848
55	500-166208-i-2-a	525064.133	3.00628E+09	2.270	86141.728	2.71205E+08	2.147	16.147	36245.66	3.171
56	500-166208-j-2-a	550420.032	3.15222E+09	3.178	89493.674	2.81868E+08	2.568	13.855	31549.60	4.979

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	261.242	1637052.68	3.113	16.339	66801.81	5.911	9.528	21787.59	4.654
58	CCV	26023.515	1.44227E+08	2.872	25903.242	78843965.49	3.106	25715.784	51003675.91	2.519
59	CCB	154.642	950358.97	3.907	1.628	20158.96	27.284	1.647	5651.12	13.698
60	CCVL	332.017	1936453.20	4.133	205.741	611607.48	3.061	98.976	189352.74	4.052
61	500-166208-j-4-a	160.950	1017909.36	18.082	8.818	41359.70	23.705	10.908	23072.72	12.825
62	500-166208-j-4-...	130.241	898563.24	1.662	7.557	39462.23	3.350	12.137	26417.47	2.322
63	500-166208-j-4-...	10816.674	60615795.76	1.147	10901.422	33492223.67	2.147	2046.268	4097649.73	1.859
64	500-166208-j-4-...	10884.741	60843304.09	0.090	10948.744	33555930.33	1.537	2060.042	4115280.88	1.119
65	500-166208-j-4-...	87.931	634810.90	3.020	<0.000	15537.44	N/A	2.291	6985.01	4.379
66	500-166209-i-1-a	104210.903	5.98831E+08	3.468	81379.320	2.57058E+08	3.564	9.910	23533.24	4.069
67	500-166209-j-1-a	100595.689	5.79631E+08	1.844	78389.835	2.48285E+08	2.119	20.542	45543.97	1.465
68	500-166209-i-2-a	27232.687	1.55786E+08	1.076	45329.967	1.42419E+08	0.577	11.716	27102.03	3.029
69	500-166209-j-2-a	27553.772	1.58583E+08	2.039	45373.465	1.43414E+08	2.632	9.772	23259.62	4.329
70	500-166209-i-3-a	81076.287	4.74256E+08	1.993	127739.772	4.10686E+08	2.242	2039.351	4276231.19	0.964
71	CCV	26338.693	1.47284E+08	1.640	26140.337	80286752.14	1.373	25936.570	51899702.56	1.789
72	CCB	72.068	545252.19	2.972	2.134	21797.65	6.745	2.141	6611.51	7.991
73	500-166209-j-3-a	78518.884	4.49186E+08	2.422	142942.381	4.49447E+08	2.610	15.978	35857.72	2.472
74	500-166216-a-...	117682.468	7.96456E+08	1.759	95722.418	3.56145E+08	1.467	9215.638	22344392.17	2.295
75	500-166219-a-...	102505.733	5.80641E+08	1.915	28667.999	89277295.34	2.075	44.244	92844.41	3.396
76	500-164003-f-2-c	7998.048	45301874.33	0.550	51363.812	1.59269E+08	1.153	65.297	134983.00	6.595
77	500-164003-f-3-c	8922.190	49827064.25	1.300	50611.020	1.54807E+08	1.088	44.366	91463.11	3.722
78	500-164003-f-5-c	15535.093	86109475.38	2.071	47811.768	1.45417E+08	0.757	19.472	41688.93	29.076
79	500-164003-f-6-c	7141.700	39964966.90	1.951	32149.634	98447568.53	1.605	4.378	11771.12	3.451
80	500-164003-h-...	35590.670	1.95349E+08	4.490	46454.189	1.40081E+08	4.408	13.021	28915.37	43.107
81	500-164003-f-9-c	26541.153	1.49708E+08	1.644	54348.597	1.68351E+08	2.021	6.341	15871.10	4.164
82	CCV	26056.453	1.40616E+08	2.201	26014.820	77114218.85	1.305	25789.408	49804335.92	1.916
83	CCB	55.592	445948.25	1.484	1.535	19414.91	35.036	2.317	6674.87	18.043
84	CCVL	248.697	1487230.60	2.535	205.708	606834.46	2.973	98.878	187792.39	1.768
85	mb 500-49313...	80.046	622036.78	3.659	1.334	20806.44	15.103	4.718	11957.94	9.656
86	lcs 500-493133...	10827.876	60158589.10	1.324	10810.657	32934756.18	0.920	2013.605	3998218.07	1.563

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	24434.592	2.09789E+08	1.023	67151.812	3.16580E+08	1.343	16294.039	50057812.59	1.045
88	500-165934-j-1-...	15380.488	1.06942E+08	1.352	42008.120	1.60265E+08	0.786	10203.426	25366664.62	0.895
89	500-165934-j-2-...	24546.615	2.02412E+08	2.664	63532.526	2.87682E+08	2.306	16024.383	47282417.63	2.572
90	500-165934-j-2-...	14495.728	99048435.19	1.022	38804.050	1.45456E+08	0.728	9651.548	23575058.82	1.332
91	500-166079-k-...	22263.445	1.22488E+08	1.293	4123.381	12471571.89	0.938	7.734	18217.01	2.729
92	CCV	25748.277	1.38256E+08	1.364	25520.791	75258473.88	1.525	25403.741	48808259.27	1.636
93	CCB	49.662	405568.90	3.883	1.681	19267.85	11.501	3.229	8038.81	8.862
94	CCVL	238.957	1410805.97	2.160	201.594	584489.89	1.958	97.370	181671.90	1.637
95	CCV	25830.645	1.41413E+08	1.561	25692.327	77250043.85	1.587	25656.962	50261980.92	1.608
96	CCB	27.564	312603.78	3.936	<0.000	14713.43	N/A	2.963	7868.78	12.171
97	mb 500-49320...	42.035	408151.91	4.092	<0.000	14526.60	N/A	11.291	23940.48	4.356
98	lcs 500-493206...	10455.746	59190587.45	0.859	10539.342	32712542.01	0.495	1965.435	3976153.90	0.768
99	500-166099-e-...	62654.331	3.32983E+08	1.742	244546.007	7.14177E+08	2.600	44.120	86843.73	3.781
100	500-166099-f-1-a	63011.042	3.20931E+08	1.930	247857.407	6.93737E+08	2.356	15.743	31479.32	5.923
101	500-166099-e-...	64445.288	3.47656E+08	0.997	124767.237	3.69899E+08	1.423	458.938	889616.29	2.043
102	500-166099-f-2-a	67859.348	3.57963E+08	0.348	129307.035	3.74875E+08	0.843	5.123	12555.03	4.441
103	500-166101-i-1-a	84810.191	4.44455E+08	1.656	175174.707	5.04540E+08	1.897	10.541	22673.92	9.448
104	500-166101-j-1-a	85006.502	4.32780E+08	2.200	169203.802	4.73473E+08	2.429	3.171	8562.43	4.919
105	500-166101-i-2-a	84621.392	4.37325E+08	2.253	171553.611	4.87354E+08	1.820	5.594	13158.94	10.185
106	500-166101-j-2-a	85909.971	4.37322E+08	2.594	177854.997	4.97655E+08	2.386	12.432	25436.49	4.078
107	CCV	25082.397	1.27642E+08	2.081	25138.786	70259528.95	1.910	25282.863	46040912.65	1.814
108	CCB	33.963	336185.48	4.188	8.304	36983.31	7.024	2.957	7688.65	9.366
109	500-166101-i-3-a	87102.888	4.52143E+08	1.269	158917.715	4.53421E+08	1.452	24.586	48550.87	8.348
110	500-166101-j-3-a	87644.665	4.46989E+08	1.118	161005.172	4.51333E+08	1.400	6.151	14016.21	6.225
111	500-166101-i-4-a	115409.952	5.89232E+08	2.238	129188.480	3.62600E+08	1.808	211.570	389716.46	2.192
112	500-166101-j-4-a	104973.033	5.30792E+08	2.439	154153.552	4.28462E+08	2.599	5.792	13245.53	4.196
113	500-166101-i-6-a	39487.137	2.01393E+08	1.294	38227.344	1.07121E+08	1.800	2205.390	4029183.79	2.073
114	500-166101-j-6-a	41015.062	2.00965E+08	1.461	39186.227	1.05475E+08	2.799	15.426	29733.10	1.604
115	500-166101-i-7-a	39537.697	1.93543E+08	1.778	39365.626	1.05878E+08	1.755	939.405	1648944.66	1.682
116	500-166101-j-7-a	41482.262	1.98255E+08	1.593	39966.330	1.04954E+08	1.522	15.638	29356.45	3.562

Analyte Table

		23 Na [He]			24 Mg [He]			27 Al [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	137997.951	6.59903E+08	1.925	127340.550	3.34751E+08	2.051	13.996	26567.87	5.372
118	500-166101-j-8-a	137734.220	6.61997E+08	1.826	126787.956	3.35009E+08	1.731	8.880	17909.88	5.256
119	CCV	25267.564	1.19475E+08	0.579	25441.156	66066307.35	0.144	25600.039	43314124.36	0.325
120	CCB	42.970	349293.16	1.933	5.638	27592.50	6.209	3.342	7688.68	11.818
121	500-166101-i-9-a	79.166	549623.03	1.626	16.646	58622.24	3.205	20.524	37625.13	2.244
122	500-166101-j-9-a	64.475	482924.20	0.902	8.389	37257.17	1.504	9.510	18957.69	7.373
123	500-166101-j-9-...	64.628	485471.62	4.111	6.787	33152.17	5.627	5.825	12668.42	6.109
124	500-166101-j-9-...	10547.713	53587725.87	1.609	10710.460	29833940.39	1.667	1997.404	3626322.76	1.834
125	500-166101-j-9-...	10474.442	53229294.21	1.856	10605.213	29549172.06	1.652	2004.121	3639526.30	1.818
126	500-166101-j-9-...	26.798	314502.96	3.072	<0.000	15130.40	N/A	4.455	10683.73	6.497
127	CCV	25137.763	1.28032E+08	0.994	24948.165	69786347.29	0.478	25227.274	45976695.98	0.591
128	CCB	29.834	303589.07	5.433	0.837	16618.48	26.544	3.529	8319.01	7.674
129	CCVL	217.334	1245720.11	1.420	197.691	549545.16	1.756	97.462	174244.96	1.525

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	4.601	730253.45	25.370	11.863	9918.13	38.895	0.355	400.03	28.713
2	ICIS	0.000	679508.77	N/A	0.000	7283.72	N/A	0.000	30.00	N/A
3	Std1	1037.399	5542508.67	2.301	1016.628	218652.61	1.490	10.109	11224.19	4.056
4	Std2	10024.388	46693379.31	1.657	9947.921	2054124.11	1.719	98.967	108868.28	2.845
5	Std3	49994.374	2.27319E+08	0.871	50010.083	10179189.44	1.408	500.204	543980.03	1.751
6	S1	50160.413	2.29418E+08	1.144	50368.019	10312419.35	1.746	498.433	545296.51	0.878
7	ICV	20128.954	93057421.95	2.939	19764.757	4075443.79	3.312	197.491	217351.71	2.912
8	ICB	<0.000	634529.02	N/A	<0.000	5846.93	N/A	0.073	100.00	16.316
9	ICVL	496.071	2819812.46	2.874	182.769	42565.54	1.578	4.985	5144.31	7.798
10	icsa	99388.277	4.73632E+08	2.057	99703.840	21296634.90	2.497	1986.854	2268411.01	1.875
11	icsab	99341.476	4.75794E+08	1.894	99164.763	21286299.40	2.154	1984.407	2276489.70	2.642
12	CRI	1031.956	5297426.38	1.674	393.251	85962.78	1.196	10.045	10707.10	5.990
13	CCV	26155.570	1.19312E+08	1.742	25696.603	5235690.57	1.854	256.604	279171.98	2.114
14	CCB	<0.000	663361.07	N/A	<0.000	5974.14	N/A	0.145	173.34	26.445
15	mb 500-49249...	<0.000	716361.79	N/A	18.421	11508.26	7.576	0.136	176.68	34.071
16	lcs 500-492494...	10373.331	49003410.94	0.469	9620.642	2016064.83	0.469	1022.393	1140960.97	0.408
17	500-165815-b-...	44807.517	2.06450E+08	0.162	469.192	104729.22	0.611	1.890	2116.88	9.615
18	500-165815-b-...	21136.497	1.00285E+08	2.389	453.514	104095.29	2.122	0.462	556.70	6.814
19	500-165815-b-...	16530.580	79927918.81	2.822	24355.524	5242121.08	2.344	0.408	503.36	12.491
20	500-165815-b-...	3274.705	17152154.33	1.820	14606.052	3278365.10	1.938	0.410	526.70	18.623
21	500-165815-b-...	7913.711	39434889.41	2.382	14490.281	3183624.05	1.605	0.511	633.37	16.532
22	500-165815-b-...	72.793	1165943.13	12.131	149.119	41606.86	6.263	0.010	46.67	194.997
23	500-165700-e-...	507.733	3540793.70	5.662	272.082	73598.17	6.756	73.120	92529.63	4.364
24	500-165700-e-...	17.464	875479.44	37.234	2.709	9077.18	25.617	3.969	4634.16	1.999
25	CCV	26286.695	1.28594E+08	0.822	25455.935	5562583.89	1.172	253.857	296188.24	0.962
26	CCB	<0.000	694518.95	N/A	<0.000	5477.31	N/A	0.017	50.00	145.071

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	26025.565	1.28831E+08	2.457	25259.574	5584965.42	2.527	254.074	299975.35	1.598
28	CCB	<0.000	696596.55	N/A	<0.000	5061.71	N/A	0.038	70.00	91.925
29	mb 500-49273...	<0.000	736087.28	N/A	15.580	11330.72	6.488	0.120	166.68	24.673
30	lcs 500-492736...	10406.868	51833192.56	1.811	9580.173	2116676.41	2.335	996.553	1172634.12	1.657
31	500-165906-g-...	19939.382	1.00635E+08	1.226	23065.671	5190498.36	1.620	1.972	2406.96	11.231
32	CCV	26174.369	1.30266E+08	1.657	25304.738	5625571.70	1.215	252.797	300063.82	1.519
33	CCB	<0.000	701730.72	N/A	<0.000	5090.30	N/A	0.040	73.33	113.652
34	CCVL	518.791	3098104.64	2.782	188.453	46362.63	2.061	5.242	5741.20	2.821
35	mb 500-49273...	<0.000	736486.06	N/A	14.618	11052.90	19.836	0.143	190.01	7.382
36	lcs 500-492737...	10197.425	50910717.58	1.345	9276.851	2054452.65	0.959	976.971	1151883.60	1.731
37	500-165875-b-...	178.538	1668979.45	5.688	994.964	226164.77	2.915	0.190	256.68	11.243
38	500-165875-b-...	692.435	4147980.77	2.833	664.437	152918.50	3.771	0.082	130.01	8.456
39	500-165875-b-...	156.343	1569272.37	4.682	530.189	125156.58	4.221	0.041	83.34	75.410
40	500-165947-j-1-...	4281.376	21948232.17	3.684	41646.430	9237492.36	3.149	0.147	210.01	9.089
41	500-165954-c-...	4052.865	21292700.52	1.974	19.036	13178.49	20.266	0.615	783.38	11.313
42	CCV	25943.332	1.28390E+08	1.584	24985.817	5522998.91	1.749	252.396	297863.11	2.374
43	CCB	<0.000	701145.09	N/A	<0.000	5064.57	N/A	0.050	83.34	30.637
44	500-165875-b-...	11132.024	51337057.57	4.018	56905.312	11614568.09	3.491	1.438	1600.14	17.348
45	500-165875-b-...	42181.810	1.92710E+08	1.503	39946.148	8166397.81	1.395	0.770	873.39	8.509
46	500-165875-b-...	11920.446	54881640.85	3.099	35198.945	7181393.00	4.533	0.417	486.70	29.009
47	500-165947-j-1-a	20284.910	1.15552E+08	2.523	190474.301	48322078.34	1.513	0.478	690.05	9.568
48	500-165954-c-...	232818.481	1.12062E+09	2.692	1837.273	405018.27	2.923	33.088	38213.44	3.993
49	CCV	27202.765	1.53963E+08	2.083	25376.123	6416716.86	1.994	249.543	336956.48	0.651
50	CCB	18.797	845696.06	22.642	<0.000	6537.91	N/A	0.069	110.01	1.825
51	mb 500-49347...	<0.000	788013.56	N/A	144.961	39777.95	5.831	0.065	110.01	112.426
52	lcs 500-493474...	10397.202	52845237.55	1.315	9702.565	2187559.62	1.647	989.512	1188161.49	1.040
53	500-166208-i-1-a	12712.732	63318230.72	3.882	229538.241	50660809.59	3.979	1.526	1828.32	43.161
54	500-166208-j-1-a	12725.673	60356157.44	1.081	230187.754	48377703.11	1.685	0.356	433.36	19.812
55	500-166208-i-2-a	18751.172	90247418.65	3.166	127203.407	27245642.79	3.139	0.432	530.03	19.703
56	500-166208-j-2-a	19394.106	93352631.94	3.106	131914.475	28263829.09	3.372	0.196	260.01	15.658

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	1.493	758877.43	231.594	162.452	41501.06	3.099	0.105	150.01	84.456
58	CCV	26085.153	1.21086E+08	2.682	24987.750	5181203.56	2.506	250.253	277101.31	1.586
59	CCB	1.338	685838.58	486.526	<0.000	5879.77	N/A	0.080	110.01	75.212
60	CCVL	520.387	2999284.75	4.980	182.907	43698.40	2.358	5.003	5301.04	9.626
61	500-166208-j-4-a	2.935	718091.47	827.470	81.789	23378.86	19.969	0.081	116.67	12.564
62	500-166208-j-4-...	1.123	742598.69	264.987	99.890	28073.75	2.030	0.041	76.67	45.241
63	500-166208-j-4-...	10773.215	50904167.57	2.452	9818.111	2058869.68	2.901	1028.091	1148253.94	2.463
64	500-166208-j-4-...	10824.617	51022119.24	0.877	9823.992	2055224.31	1.367	1026.706	1143967.93	1.166
65	500-166208-j-4-...	0.356	700204.18	866.749	5.233	8491.33	16.636	0.178	213.34	22.781
66	500-166209-i-1-a	18314.599	88473475.35	3.386	65959.797	14181054.65	3.370	0.275	353.35	28.282
67	500-166209-j-1-a	17690.543	85705322.06	2.531	63716.359	13734802.25	2.604	0.253	326.68	10.525
68	500-166209-i-2-a	6908.692	33676994.50	0.606	59592.818	12742665.61	1.029	0.136	190.01	40.391
69	500-166209-j-2-a	6922.570	33947124.49	2.424	59417.694	12782801.95	2.006	0.141	196.68	18.591
70	500-166209-i-3-a	9966.823	49367464.26	2.151	117262.831	25653200.59	2.049	34.919	40872.74	2.436
71	CCV	26430.525	1.23778E+08	1.616	25148.669	5260906.22	1.989	253.404	283055.65	1.520
72	CCB	3.687	703429.73	103.409	<0.000	4974.17	N/A	0.056	86.67	24.537
73	500-166209-j-3-a	9628.023	46668620.97	2.212	114411.471	24477250.91	2.902	0.281	356.68	27.872
74	500-166216-a-...	7247.096	41791588.54	1.615	184916.424	46808587.34	1.334	236.592	320294.57	1.535
75	500-166219-a-...	11615.851	55592872.51	2.073	88688.179	18791786.49	2.208	1.550	1790.24	6.934
76	500-164003-f-2-c	2583.848	12913209.39	0.967	86533.764	18258818.48	0.994	2.157	2467.43	21.674
77	500-164003-f-3-c	2156.015	10754769.84	1.095	85609.359	17818625.90	1.566	1.340	1523.84	28.520
78	500-164003-f-5-c	3942.600	18928638.89	1.104	77245.658	15987782.69	0.526	0.453	533.37	17.803
79	500-164003-f-6-c	1004.486	5422126.79	2.161	38771.012	8082686.53	1.668	0.101	146.68	25.853
80	500-164003-h-...	1218.611	6317574.07	5.502	84080.685	17249514.04	5.085	0.364	433.37	21.792
81	500-164003-f-9-c	351.973	2422176.89	1.837	97570.358	20566393.13	1.051	0.183	240.01	1.202
82	CCV	26256.258	1.18666E+08	2.364	25056.150	5058663.46	2.042	250.359	269861.75	2.492
83	CCB	6.823	691244.70	32.060	<0.000	5166.36	N/A	0.032	60.00	54.506
84	CCVL	521.136	2980250.17	3.430	183.416	43454.21	2.985	5.083	5334.38	7.127
85	mb 500-49313...	6.812	761444.60	51.421	12.837	10403.51	15.485	0.073	110.00	23.668
86	lcs 500-493133...	10847.326	50818849.24	1.259	9571.354	1990442.19	2.001	1015.166	1124232.85	2.071

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	3748.047	27951659.58	1.532	135287.677	43394291.36	1.517	132.974	228037.07	2.229
88	500-165934-j-1-...	2351.917	14545756.87	1.442	85018.411	22069689.08	1.215	81.886	113644.73	1.523
89	500-165934-j-2-...	3877.040	27730946.25	2.997	128877.307	39703678.17	2.771	138.605	228328.33	2.035
90	500-165934-j-2-...	2291.716	13950241.04	0.947	76904.310	19615337.25	1.571	83.040	113243.48	1.275
91	500-166079-k-...	4061.019	19342081.38	1.280	8446.121	1743265.63	2.003	0.164	213.35	29.762
92	CCV	26167.999	1.17673E+08	1.645	24738.956	4969196.90	1.761	248.960	267004.63	1.806
93	CCB	5.074	665168.90	88.529	<0.000	4723.25	N/A	0.065	90.00	68.066
94	CCVL	514.054	2897106.62	2.321	186.385	43238.46	5.808	4.903	5057.61	5.543
95	CCV	26126.835	1.19791E+08	1.638	24856.937	5090895.34	1.642	248.610	271863.33	1.256
96	CCB	<0.000	668212.21	N/A	<0.000	4247.53	N/A	0.017	46.67	61.300
97	mb 500-49320...	<0.000	697238.92	N/A	9.503	9494.99	9.018	0.076	110.00	84.658
98	lcs 500-493206...	10553.799	50394765.92	0.730	9389.649	1989669.21	0.626	1004.222	1133076.65	0.962
99	500-166099-e-...	9859.524	44366851.01	2.875	555071.175	1.10270E+08	2.674	1.374	1490.60	51.682
100	500-166099-f-1-a	9895.223	42677104.36	1.826	559199.466	1.06472E+08	2.459	0.350	386.69	19.908
101	500-166099-e-...	8319.420	38121750.27	0.928	276589.519	55788157.65	0.781	9.088	9827.70	4.775
102	500-166099-f-2-a	8025.501	35985413.63	0.913	291557.275	57502201.95	1.115	0.359	410.02	8.587
103	500-166101-i-1-a	23193.210	1.01960E+08	2.309	183308.734	35923547.55	1.922	0.224	266.68	12.461
104	500-166101-j-1-a	22687.309	96921185.22	2.146	180848.103	34430858.67	2.168	0.205	240.01	19.833
105	500-166101-i-2-a	22824.812	98987871.86	1.668	181812.415	35143205.82	1.493	0.129	163.34	27.605
106	500-166101-j-2-a	23658.458	1.01034E+08	2.280	187320.318	35661238.56	2.242	0.310	346.69	14.248
107	CCV	25860.293	1.10222E+08	1.899	24677.548	4698144.35	1.931	248.027	252090.54	2.750
108	CCB	3.153	667016.60	143.510	<0.000	5984.16	N/A	0.050	76.67	34.588
109	500-166101-i-3-a	9004.246	39647171.91	1.637	264840.337	51403891.61	2.202	0.739	796.74	14.606
110	500-166101-j-3-a	9085.851	39300060.25	1.589	268312.243	51167370.37	1.997	0.264	300.02	19.587
111	500-166101-i-4-a	5280.744	23161183.82	2.337	239362.577	45705160.03	2.038	3.268	3367.21	5.166
112	500-166101-j-4-a	5906.156	25572735.45	2.521	284741.830	53844471.53	2.188	0.250	283.35	4.254
113	500-166101-i-6-a	10808.120	46595005.97	1.872	196709.030	37495691.02	2.368	38.720	39489.60	1.777
114	500-166101-j-6-a	10553.055	43717697.68	2.780	190694.012	34921230.91	2.082	0.382	403.36	17.627
115	500-166101-i-7-a	10187.260	42195786.04	1.205	188936.493	34569881.40	1.729	17.892	17531.80	4.461
116	500-166101-j-7-a	10593.883	42814407.69	1.570	190821.017	34089955.98	1.464	0.343	356.69	10.633

Analyte Table

		39 K [He]			44 Ca [He]			47 Ti [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	6286.673	25701057.12	2.339	270544.510	48381114.41	2.197	0.252	270.01	12.814
118	500-166101-j-8-a	6267.441	25756417.12	1.761	267507.652	48088253.43	1.263	0.251	270.01	20.744
119	CCV	26431.497	1.04659E+08	0.042	25293.774	4474023.17	0.314	253.507	239412.57	0.577
120	CCB	18.501	670667.00	3.210	<0.000	5913.11	N/A	0.042	63.33	122.562
121	500-166101-i-9-a	16.363	715805.43	10.815	39.743	14055.80	5.627	0.110	133.34	57.215
122	500-166101-j-9-a	12.304	704475.95	6.918	18.632	10362.04	22.461	0.099	123.34	62.400
123	500-166101-j-9-...	11.357	703307.05	38.138	13.752	9530.42	1.629	0.106	130.01	44.970
124	500-166101-j-9-...	10864.274	46534105.97	2.162	9641.402	1833089.34	2.444	1032.400	1045427.12	1.715
125	500-166101-j-9-...	10834.864	46423965.98	1.973	9579.923	1822178.46	1.546	1026.157	1039385.95	1.736
126	500-166101-j-9-...	7.621	713493.11	46.242	<0.000	5136.65	N/A	0.214	243.34	16.872
127	CCV	26318.592	1.12254E+08	1.209	24792.121	4723783.46	0.651	249.293	253611.38	0.803
128	CCB	12.177	674636.03	28.167	<0.000	4405.57	N/A	0.126	143.34	11.467
129	CCVL	525.488	2823024.65	1.654	183.599	40931.37	4.454	5.024	4967.60	10.268

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.099	47540.10	91.448	3.368	90428.94	2.369	0.476	10533.74	5.556
2	ICIS	0.000	43295.80	N/A	0.000	10133.37	N/A	0.000	1200.09	N/A
3	Std1	9.815	290685.83	2.527	10.315	271688.46	0.428	10.335	216022.16	2.034
4	Std2	99.200	2482585.43	1.627	102.215	2574179.13	1.484	101.165	2088854.92	1.269
5	Std3	500.164	12186191.49	1.386	499.551	12397331.07	1.265	499.760	10198813.60	1.083
6	S1	500.592	12268399.82	1.849	504.031	12582372.73	1.380	497.809	10219022.14	1.270
7	ICV	196.808	4880807.63	3.342	202.270	5086023.05	2.892	201.418	4159775.25	3.189
8	ICB	<0.000	36192.78	N/A	<0.000	7585.26	N/A	0.017	1476.80	29.092
9	ICVL	4.769	153788.39	1.174	5.058	128661.32	2.501	2.619	51632.61	2.100
10	icsa	<0.000	20229.36	N/A	1.519	51184.94	3.125	0.684	16031.37	6.604
11	icsab	18.727	529393.72	2.657	20.752	554453.25	2.958	20.367	439755.79	2.951
12	CRI	10.698	300031.59	1.792	11.161	281318.58	1.270	5.333	107647.99	1.357
13	CCV	259.345	6342984.91	2.365	262.491	6521153.86	1.934	258.892	5285231.80	2.085
14	CCB	0.135	46053.31	6.886	<0.000	7278.54	N/A	0.014	1463.47	47.417
15	mb 500-49249...	<0.000	35390.85	N/A	0.273	17546.24	0.835	0.234	5977.96	4.223
16	lcs 500-492494...	522.189	13053780.64	0.036	214.312	5464246.38	0.109	537.325	11252230.66	0.427
17	500-165815-b-...	<0.000	44759.87	N/A	4.625	127446.58	42.729	1.046	22956.21	2.142
18	500-165815-b-...	<0.000	43479.62	N/A	0.228	17389.41	4.512	0.416	10180.07	7.303
19	500-165815-b-...	<0.000	46353.91	N/A	0.139	15334.18	13.092	1.141	25990.57	1.601
20	500-165815-b-...	<0.000	45628.48	N/A	0.267	19475.07	11.376	1.237	29219.25	3.238
21	500-165815-b-...	<0.000	42834.62	N/A	2.470	77905.41	5.484	1.172	27185.80	2.442
22	500-165815-b-...	<0.000	39784.04	N/A	1.232	45257.55	4.281	0.186	5554.45	3.557
23	500-165700-e-...	7.236	259315.21	5.478	0.461	26160.90	13.950	1.275	31757.20	7.521
24	500-165700-e-...	0.127	53715.59	30.980	<0.000	8142.23	N/A	0.612	14686.92	8.125
25	CCV	256.344	6725039.90	1.009	258.306	6882596.57	0.889	256.801	5622641.38	0.573
26	CCB	<0.000	41925.62	N/A	<0.000	6758.28	N/A	<0.000	1226.77	N/A

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	254.653	6760302.82	2.058	256.712	6921480.73	2.144	254.297	5633654.29	2.511
28	CCB	<0.000	42741.30	N/A	<0.000	6554.86	N/A	0.000	1263.43	1111.364
29	mb 500-49273...	<0.000	33096.41	N/A	0.201	16355.10	13.244	0.233	6181.35	2.775
30	lcs 500-492736...	509.360	13425906.88	2.335	240.655	6468385.11	1.480	532.378	11755397.74	1.422
31	500-165906-g-...	0.563	67370.67	9.821	1.662	57755.13	1.530	2.563	59223.85	0.832
32	CCV	254.857	6802150.11	1.413	257.160	6970877.19	1.430	254.078	5659416.17	1.517
33	CCB	0.136	48543.17	46.289	<0.000	7088.47	N/A	0.013	1513.47	60.473
34	CCVL	5.313	176486.86	3.557	5.174	139576.13	1.020	2.636	55176.89	0.434
35	mb 500-49273...	<0.000	37959.76	N/A	10.834	282635.72	0.528	1.748	37368.75	3.647
36	lcs 500-492737...	505.324	13348695.22	1.009	204.684	5514386.79	1.401	520.405	11514047.33	1.550
37	500-165875-b-...	0.019	51381.57	258.537	2.817	86928.92	12.858	0.398	10136.67	14.144
38	500-165875-b-...	<0.000	48262.63	N/A	<0.000	7428.57	N/A	0.029	2040.21	30.916
39	500-165875-b-...	<0.000	47947.97	N/A	2.002	65633.97	2.741	0.230	6494.83	3.400
40	500-165947-j-1-...	<0.000	49863.68	N/A	<0.000	11974.63	N/A	12.656	282803.74	3.228
41	500-165954-c-...	0.099	55424.10	29.156	<0.000	7271.85	N/A	0.040	2376.93	4.826
42	CCV	253.617	6730855.32	1.401	256.689	6918436.98	1.663	254.158	5628971.17	1.587
43	CCB	<0.000	44619.36	N/A	<0.000	6958.33	N/A	<0.000	1220.11	N/A
44	500-165875-b-...	1.607	86563.35	11.541	0.352	19862.18	6.491	4.161	86456.83	4.776
45	500-165875-b-...	0.642	63171.24	6.129	0.363	20135.79	13.640	2.138	45127.72	0.091
46	500-165875-b-...	0.606	62160.72	11.448	0.237	16995.80	12.811	1.992	42059.66	2.595
47	500-165947-j-1-a	<0.000	57487.91	N/A	0.119	17489.56	4.026	53.877	1372459.51	2.121
48	500-165954-c-...	1.744	95137.58	4.601	0.269	18841.07	16.455	3.224	71229.77	2.169
49	CCV	247.479	7513472.18	3.787	242.162	7467861.14	1.138	244.852	6203220.53	2.340
50	CCB	<0.000	48205.51	N/A	<0.000	7401.95	N/A	0.007	1490.13	66.121
51	mb 500-49347...	<0.000	40448.72	N/A	0.130	15197.40	14.069	0.363	9272.94	2.484
52	lcs 500-493474...	512.595	13787784.79	1.771	204.593	5613150.75	1.409	525.130	11831604.41	1.902
53	500-166208-i-1-a	0.594	67035.80	9.838	0.135	15641.19	31.527	155.315	3439872.97	4.031
54	500-166208-j-1-a	0.999	73947.65	9.127	<0.000	10520.22	N/A	156.293	3296322.76	1.322
55	500-166208-i-2-a	1.691	93032.70	7.197	0.588	27028.78	4.491	172.876	3715373.17	2.409
56	500-166208-j-2-a	1.325	83718.85	7.882	0.089	13982.88	27.914	179.010	3848161.51	3.200

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	0.640	63602.68	14.416	18.601	478006.70	2.675	2.814	59441.58	2.098
58	CCV	253.309	6306050.12	2.495	254.760	6441154.49	2.419	254.074	5277988.46	2.931
59	CCB	0.377	51739.24	16.401	<0.000	6594.86	N/A	0.020	1583.48	63.472
60	CCVL	5.576	176681.96	3.580	5.055	131942.68	3.545	2.623	53003.68	5.614
61	500-166208-j-4-a	<0.000	44304.91	N/A	0.008	10767.09	501.502	0.218	5471.09	17.309
62	500-166208-j-4-...	<0.000	43469.78	N/A	13.003	330958.69	3.987	1.520	32090.91	1.289
63	500-166208-j-4-...	538.100	13460735.63	2.784	211.223	5390536.38	0.480	541.839	11357076.50	0.334
64	500-166208-j-4-...	538.636	13442032.30	1.066	212.963	5421335.54	0.948	549.094	11480276.91	1.145
65	500-166208-j-4-...	0.609	58397.25	12.809	<0.000	7972.21	N/A	0.078	2740.32	2.092
66	500-166209-i-1-a	0.976	75099.16	4.257	184.044	4833901.49	2.382	23.652	511243.41	3.426
67	500-166209-j-1-a	0.674	67453.63	9.920	<0.000	10767.16	N/A	6.040	131927.88	3.255
68	500-166209-i-2-a	0.750	68856.06	5.834	<0.000	9386.21	N/A	1.525	34081.44	2.252
69	500-166209-j-2-a	0.809	70784.07	7.239	<0.000	11430.90	N/A	1.343	30341.35	4.554
70	500-166209-i-3-a	4.373	164987.05	4.624	2.777	85950.23	1.498	85.022	1866824.14	2.020
71	CCV	255.796	6424160.11	1.830	258.179	6585414.49	1.876	255.198	5348904.30	1.900
72	CCB	0.682	59146.67	10.630	<0.000	7015.10	N/A	0.014	1476.79	27.980
73	500-166209-j-3-a	1.195	80268.58	8.556	2.622	80034.37	1.756	92.526	1986733.41	2.574
74	500-166216-a-...	32.346	1035729.54	1.333	18.204	575476.38	0.646	1027.288	26083457.11	1.703
75	500-166219-a-...	1.563	88777.26	5.299	0.030	12304.91	98.508	148.306	3152669.02	1.972
76	500-164003-f-2-c	1.525	87463.81	2.278	1.715	55588.29	1.335	25.878	548917.29	1.035
77	500-164003-f-3-c	1.691	90388.84	2.646	1.083	38788.15	2.410	113.678	2374113.45	0.639
78	500-164003-f-5-c	1.263	79308.43	6.136	2.484	73903.27	1.775	12.864	268311.42	0.847
79	500-164003-f-6-c	1.827	93854.60	3.172	22.021	570444.64	1.452	43.237	904709.85	1.966
80	500-164003-h-...	1.395	81933.08	5.799	22.058	562787.27	3.936	516.248	10624757.76	4.408
81	500-164003-f-9-c	<0.000	34205.34	N/A	0.350	20456.52	6.018	678.271	14337900.20	2.164
82	CCV	255.496	6192859.91	1.798	257.458	6337725.74	2.262	254.631	5150842.01	1.988
83	CCB	0.943	62719.02	2.172	<0.000	7061.71	N/A	0.044	1976.87	33.448
84	CCVL	6.156	188829.22	3.648	5.072	131351.75	2.766	2.665	53457.97	2.580
85	mb 500-49313...	0.372	55464.49	6.024	0.149	14536.70	8.836	1.077	22919.54	0.936
86	lcs 500-493133...	533.733	13239839.38	1.308	210.841	5335012.21	1.407	550.237	11434999.00	1.160

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	28.936	1181818.65	1.860	43.001	1698617.00	1.980	968.909	31171981.20	1.633
88	500-165934-j-1-...	18.098	620673.62	2.105	20.079	649199.57	1.997	617.784	16082861.01	1.428
89	500-165934-j-2-...	28.472	1118019.23	3.286	32.925	1252994.54	2.443	914.696	28264959.58	2.403
90	500-165934-j-2-...	17.089	579182.08	1.529	25.948	820389.72	0.336	558.384	14283624.37	0.955
91	500-166079-k-...	0.617	62939.32	10.337	1555.005	38958530.25	1.679	11.489	238125.72	2.006
92	CCV	251.752	6071443.66	1.762	255.367	6254541.58	1.449	251.589	5063050.13	2.054
93	CCB	0.425	50060.99	16.880	<0.000	7642.01	N/A	0.063	2270.25	15.541
94	CCVL	5.438	169032.95	3.932	5.091	129447.18	2.839	2.686	52889.96	5.467
95	CCV	251.959	6195704.70	1.553	255.595	6382911.57	1.458	253.438	5200342.52	1.979
96	CCB	0.362	50569.20	7.386	<0.000	6701.57	N/A	0.015	1453.46	61.708
97	mb 500-49320...	<0.000	42123.10	N/A	0.350	18954.51	6.402	0.194	5060.96	6.252
98	lcs 500-493206...	526.511	13306984.80	0.778	207.682	5354148.26	0.752	538.386	11398667.33	1.478
99	500-166099-e-...	1.430	80127.91	5.997	69.572	1695921.48	1.628	713.453	14222183.54	1.505
100	500-166099-f-1-a	1.623	81173.55	5.604	14.178	339476.75	1.797	720.775	13768713.96	2.284
101	500-166099-e-...	3.095	121408.88	1.819	1.242	41525.07	2.963	349.210	7066753.44	0.965
102	500-166099-f-2-a	2.196	97571.53	1.773	0.641	26145.49	5.972	397.688	7869586.13	2.874
103	500-166101-i-1-a	1.963	91484.93	2.798	0.240	16398.45	6.499	13.104	258832.16	2.415
104	500-166101-j-1-a	2.070	91300.35	5.626	0.987	33266.68	3.252	12.388	237795.23	2.189
105	500-166101-i-2-a	2.130	94079.03	3.143	6.694	168232.79	1.241	12.996	253204.77	1.795
106	500-166101-j-2-a	2.244	95258.17	5.124	0.006	10503.55	173.817	12.369	237402.63	2.703
107	CCV	252.079	5761865.12	1.924	251.933	5848103.04	2.112	253.595	4837133.37	1.889
108	CCB	1.643	76832.97	2.391	<0.000	7061.74	N/A	0.023	1576.80	23.086
109	500-166101-i-3-a	2.110	94028.28	2.213	<0.000	9993.37	N/A	49.358	962293.68	1.540
110	500-166101-j-3-a	2.297	96653.04	0.672	0.164	14203.08	6.222	47.022	900738.58	1.756
111	500-166101-i-4-a	2.714	106255.72	4.792	0.202	15113.81	10.155	251.399	4816193.06	2.378
112	500-166101-j-4-a	2.395	98047.03	3.296	1.133	36396.32	5.226	252.776	4795984.41	2.288
113	500-166101-i-6-a	4.864	154955.00	4.571	121.950	2843791.52	1.959	1112.024	21263789.68	1.703
114	500-166101-j-6-a	2.607	99538.89	5.337	25.451	578095.53	1.579	1049.449	19279757.21	1.511
115	500-166101-i-7-a	3.227	113001.95	4.421	0.675	25029.04	2.509	1044.186	19165798.88	1.261
116	500-166101-j-7-a	2.757	100323.66	1.234	0.040	10600.39	40.782	1042.635	18684911.80	1.081

Analyte Table

		51 V [He]			52 Cr [He]			55 Mn [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	2.186	88228.07	7.508	0.659	24087.68	8.822	200.905	3605227.65	2.137
118	500-166101-j-8-a	2.154	88023.26	2.381	1.406	40582.61	6.349	169.659	3060445.79	1.378
119	CCV	257.129	5459978.67	0.109	257.862	5561372.63	0.499	261.112	4627545.66	0.166
120	CCB	2.027	78276.35	4.833	<0.000	6848.29	N/A	0.068	2200.23	15.371
121	500-166101-i-9-a	1.115	65164.95	2.856	0.096	11801.13	21.114	0.462	9413.04	3.852
122	500-166101-j-9-a	1.125	65824.92	5.505	6.193	145188.01	1.022	1.280	24191.37	2.751
123	500-166101-j-9-...	1.043	64302.32	10.644	<0.000	8835.91	N/A	0.387	8152.29	0.757
124	500-166101-j-9-...	547.563	12417740.65	1.930	215.592	4987739.82	1.660	569.679	10825026.51	1.654
125	500-166101-j-9-...	545.764	12380313.15	2.163	213.006	4929134.82	2.057	562.660	10692534.42	2.949
126	500-166101-j-9-...	1.885	85383.11	6.533	<0.000	8609.13	N/A	0.223	5384.38	7.401
127	CCV	252.596	5778304.29	1.144	252.011	5854848.04	0.958	252.709	4824225.56	0.882
128	CCB	1.339	67477.39	4.444	<0.000	7325.15	N/A	0.045	1886.85	12.179
129	CCVL	6.403	183165.92	2.226	5.030	122685.12	2.123	2.594	49008.33	1.492

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	40.707	974162.35	3.496	0.100	3827.26	14.722	0.194	1876.84	19.328
2	ICIS	0.000	93768.14	N/A	0.000	696.72	N/A	0.000	423.36	N/A
3	Std1	1047.511	24115580.47	1.518	10.481	347786.35	2.288	10.932	86346.17	3.726
4	Std2	10215.982	2.32715E+08	1.339	102.037	3356756.41	1.511	104.159	813488.40	1.192
5	Std3	49955.853	1.12483E+09	1.748	499.583	16248649.34	1.386	499.150	3853024.11	1.536
6	S1	50141.129	1.13582E+09	0.265	498.958	16324704.76	1.157	500.231	3884215.78	1.604
7	ICV	20288.466	4.62333E+08	2.799	198.086	6520230.94	2.396	204.065	1594068.47	3.527
8	ICB	2.610	144007.24	9.099	0.030	1540.13	6.902	0.049	750.05	10.443
9	ICVL	107.985	2388519.65	2.676	1.071	33550.76	2.254	2.181	16308.40	2.314
10	icsa	95547.552	2.25848E+09	2.070	0.321	11767.86	3.546	0.380	3563.84	1.633
11	icsab	96535.148	2.29280E+09	2.891	19.235	660812.96	1.891	19.253	157282.93	1.399
12	CRI	234.768	5266841.80	1.232	2.085	67026.36	2.809	4.411	33730.99	3.389
13	CCV	26267.116	5.91685E+08	1.590	263.896	8585590.91	2.064	264.418	2041761.69	2.429
14	CCB	4.894	193636.29	0.988	0.012	1043.41	34.396	0.009	486.70	104.405
15	mb 500-49249...	11.988	366030.93	1.421	0.006	956.73	48.326	0.130	1440.13	10.031
16	lcs 500-492494...	1124.778	26091972.94	1.016	532.023	17756438.07	0.635	542.242	4295231.81	0.239
17	500-165815-b-...	136.443	3215562.97	0.480	0.073	3160.43	15.159	2.348	18824.43	3.431
18	500-165815-b-...	32.042	856017.98	1.825	0.042	2223.57	16.123	2.392	19658.67	3.059
19	500-165815-b-...	31.447	856378.74	2.810	0.049	2500.28	16.150	2.025	17002.49	2.303
20	500-165815-b-...	25.186	736914.31	3.053	0.042	2346.91	4.245	2.256	19672.10	3.829
21	500-165815-b-...	56.433	1479153.05	3.046	0.034	2003.53	11.538	2.116	18086.84	5.722
22	500-165815-b-...	11.492	392660.53	4.162	<0.000	450.02	N/A	0.028	736.71	40.511
23	500-165700-e-...	181.823	4881038.05	4.434	0.084	4063.98	10.450	0.585	5784.56	9.880
24	500-165700-e-...	9.357	333496.04	5.676	<0.000	570.04	N/A	0.003	520.03	226.497
25	CCV	26184.147	6.32555E+08	0.647	262.044	9143519.24	0.373	260.310	2155866.69	1.128
26	CCB	0.817	116945.77	19.288	0.006	920.07	104.746	<0.000	390.02	N/A

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	26039.877	6.36544E+08	1.951	261.072	9218154.45	1.823	259.455	2174098.20	2.729
28	CCB	1.266	125150.17	14.382	0.007	946.73	73.868	0.004	470.03	172.744
29	mb 500-49273...	9.630	324939.39	2.262	0.009	1060.08	7.892	0.165	1763.50	2.911
30	lcs 500-492736...	1320.751	32284132.02	2.142	520.860	18329085.15	1.977	529.755	4424295.56	2.259
31	500-165906-g-...	86.783	2271668.09	0.612	0.124	5291.05	3.516	0.960	8692.52	4.489
32	CCV	26078.025	6.40912E+08	1.251	261.138	9269830.90	1.299	258.908	2181480.70	1.194
33	CCB	1.190	123988.51	22.581	0.012	1103.42	11.089	0.004	470.02	259.826
34	CCVL	108.706	2553453.66	1.628	1.066	35491.35	1.485	2.244	17809.92	2.770
35	mb 500-49273...	103.997	2469638.24	0.626	0.024	1560.14	7.915	0.395	3550.52	7.291
36	lcs 500-492737...	1091.816	26762688.77	1.566	515.382	18173973.48	1.348	516.118	4319421.19	1.527
37	500-165875-b-...	22.538	655351.81	10.946	0.027	1763.50	9.199	0.232	2423.63	4.700
38	500-165875-b-...	0.288	116500.39	28.740	0.004	966.74	23.240	0.134	1600.13	4.402
39	500-165875-b-...	14.351	460110.61	4.054	<0.000	786.71	N/A	0.120	1496.80	13.577
40	500-165947-j-1-...	105.478	2699122.15	3.502	3.230	115318.95	2.355	14.335	121019.37	4.568
41	500-165954-c-...	2.011	164668.29	6.741	<0.000	606.71	N/A	0.159	1883.51	11.225
42	CCV	26157.877	6.39187E+08	2.137	265.309	9364633.40	1.167	259.219	2171525.43	2.045
43	CCB	1.300	125986.44	27.159	0.009	1016.74	58.668	0.025	626.70	78.023
44	500-165875-b-...	124.299	2909404.44	2.832	0.180	6648.25	6.565	6.372	49790.60	0.291
45	500-165875-b-...	48.234	1193500.40	1.564	0.081	3413.82	9.718	5.676	44485.76	4.520
46	500-165875-b-...	47.896	1183524.70	2.057	0.077	3267.10	4.880	5.669	44305.30	3.220
47	500-165947-j-1-a	439.729	12471046.06	3.318	12.875	523007.32	3.079	56.305	542432.88	2.801
48	500-165954-c-...	118.987	2951896.93	2.726	0.230	8742.58	1.136	7.120	58795.94	3.949
49	CCV	24924.072	6.96730E+08	1.819	244.952	9890175.27	1.960	238.684	2287503.15	1.786
50	CCB	1.225	132840.68	15.130	0.004	903.39	72.351	0.003	496.70	531.912
51	mb 500-49347...	13.528	432550.03	2.576	0.014	1280.10	39.019	0.181	1973.53	6.098
52	lcs 500-493474...	1072.620	26777604.60	1.302	525.152	18858921.80	0.868	522.212	4450919.83	0.821
53	500-166208-i-1-a	4381.345	1.07130E+08	4.428	1.462	52428.61	2.932	3.031	25890.62	2.596
54	500-166208-j-1-a	4340.910	1.01084E+08	1.731	1.419	48466.68	0.882	2.642	21547.78	2.156
55	500-166208-i-2-a	7172.903	1.70152E+08	2.194	0.578	20586.46	4.649	0.808	7048.43	8.684
56	500-166208-j-2-a	7195.609	1.70733E+08	3.083	0.599	21334.07	1.052	1.022	8789.24	4.434

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	168.158	3935560.05	3.234	0.039	2050.20	8.388	0.634	5417.75	3.947
58	CCV	26220.195	6.00992E+08	2.825	263.776	8732684.66	2.785	257.035	2019784.24	2.818
59	CCB	1.786	130667.27	16.230	0.007	893.40	69.677	<0.000	363.35	N/A
60	CCVL	107.765	2446040.48	3.168	1.042	33527.35	3.806	2.212	16962.49	3.535
61	500-166208-j-4-a	2.989	161213.50	37.656	0.004	856.72	133.370	0.116	1283.44	25.842
62	500-166208-j-4-...	97.984	2291216.63	4.285	0.016	1256.77	19.335	0.443	3853.92	6.679
63	500-166208-j-4-...	1117.339	25941188.78	2.695	545.788	18230633.48	2.692	538.230	4267322.54	0.546
64	500-166208-j-4-...	1125.322	26063986.28	0.874	548.721	18284748.48	1.527	539.609	4267702.75	0.857
65	500-166208-j-4-...	0.640	109932.92	21.186	0.036	1810.16	7.102	0.041	730.05	17.997
66	500-166209-i-1-a	1838.599	43840846.01	3.406	0.469	16912.35	6.414	4.593	37963.58	0.669
67	500-166209-j-1-a	333.250	8056857.17	1.640	0.216	8242.32	6.861	0.689	6121.35	5.784
68	500-166209-i-2-a	6.865	270121.51	0.797	0.792	27850.29	0.649	10.491	85562.43	0.911
69	500-166209-j-2-a	6.142	254524.66	4.474	0.765	27095.72	2.941	10.614	87086.74	2.359
70	500-166209-i-3-a	2154.615	52275647.55	1.643	1.571	55759.10	2.996	11.393	95052.80	2.158
71	CCV	26667.311	6.16648E+08	2.680	268.152	8957116.74	1.845	259.595	2058134.45	1.921
72	CCB	2.205	140884.07	9.069	0.013	1090.09	36.898	0.006	470.03	309.129
73	500-166209-j-3-a	175.446	4261715.46	2.681	0.896	31443.45	3.074	7.461	61037.04	3.745
74	500-166216-a-...	17825.611	4.99511E+08	1.772	69.084	2796635.48	1.660	26.691	256908.07	1.884
75	500-166219-a-...	525.797	12434888.15	1.963	0.138	5467.79	3.550	1.918	15897.91	2.163
76	500-164003-f-2-c	274.482	6515119.90	1.518	1.429	48984.81	0.678	4.219	34245.78	1.948
77	500-164003-f-3-c	2049.834	47315247.63	0.677	8.096	270127.37	0.815	2.591	20927.00	5.586
78	500-164003-f-5-c	83.879	2024830.33	2.789	3.579	119175.53	1.312	2.412	19398.38	3.938
79	500-164003-f-6-c	960.608	22251152.17	2.001	3.337	111897.60	2.520	6.872	54782.82	1.674
80	500-164003-h-...	216.556	5021029.30	4.030	0.395	13732.65	3.976	5.206	41003.76	3.233
81	500-164003-f-9-c	23.954	664933.71	1.099	4.712	159545.11	2.459	22.005	176413.53	2.771
82	CCV	26782.963	5.97728E+08	2.614	269.067	8673143.20	2.800	258.130	1975226.69	1.506
83	CCB	2.885	149560.62	7.139	0.014	1096.74	27.931	0.004	440.02	89.863
84	CCVL	108.710	2447937.78	2.535	1.056	33714.45	0.927	2.239	17029.07	3.233
85	mb 500-49313...	153.849	3509254.95	1.589	0.008	1003.41	7.399	0.208	2030.19	13.323
86	lcs 500-493133...	1186.740	27314590.43	1.468	543.741	18009648.90	1.315	534.147	4198795.98	1.794

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	42731.083	1.51703E+09	1.428	23.698	1216357.56	2.115	56.593	689410.90	1.415
88	500-165934-j-1-...	26873.554	7.72090E+08	0.663	14.975	622311.32	1.362	36.135	356401.60	1.214
89	500-165934-j-2-...	40952.242	1.39638E+09	2.784	22.568	1112648.00	2.292	54.296	635322.94	2.164
90	500-165934-j-2-...	25063.363	7.07475E+08	1.405	13.919	568394.15	1.501	33.105	320890.40	0.579
91	500-166079-k-...	30.209	790644.96	1.459	0.697	23667.30	4.170	1.331	10850.53	3.688
92	CCV	26537.865	5.89261E+08	1.788	265.225	8506002.37	2.207	256.511	1952522.11	2.555
93	CCB	4.616	179241.70	7.418	0.021	1240.09	7.015	0.013	486.70	75.794
94	CCVL	109.220	2415185.22	2.122	1.064	33343.48	2.977	2.145	16044.86	4.456
95	CCV	26329.771	5.96114E+08	1.865	264.740	8656940.08	2.155	256.312	1989403.62	1.906
96	CCB	3.416	161662.79	9.666	0.019	1226.76	30.210	0.022	570.04	84.899
97	mb 500-49320...	11.565	348097.75	1.690	<0.000	606.70	N/A	0.054	843.39	13.421
98	lcs 500-493206...	1132.835	26570685.44	0.887	531.826	17946183.06	1.073	525.050	4205089.31	1.000
99	500-166099-e-...	732.190	16201176.01	2.849	22.676	721025.38	3.118	81.062	611543.88	2.755
100	500-166099-f-1-a	140.266	3052370.58	2.150	23.171	706151.92	2.279	81.025	585883.31	1.904
101	500-166099-e-...	684.074	15374244.77	0.823	12.861	415498.83	0.744	40.146	307726.38	0.513
102	500-166099-f-2-a	38.565	941323.97	0.354	13.955	440810.30	1.162	43.203	323759.78	1.105
103	500-166101-i-1-a	344.938	7580479.89	1.813	5.348	168295.06	1.540	22.552	168136.81	1.342
104	500-166101-j-1-a	250.388	5372270.34	1.813	5.100	155941.90	2.431	21.255	153965.04	2.562
105	500-166101-i-2-a	291.008	6322468.86	2.042	5.184	160931.79	1.053	21.630	159048.20	2.286
106	500-166101-j-2-a	256.474	5500030.75	2.239	5.366	164076.06	0.964	22.009	159417.66	2.012
107	CCV	26280.067	5.53078E+08	1.831	248.834	7563900.30	1.986	253.259	1827228.25	2.016
108	CCB	3.683	163318.57	7.181	0.016	1136.75	15.880	0.010	476.69	188.137
109	500-166101-i-3-a	3216.213	69197757.30	1.428	0.549	17769.88	2.130	2.262	17105.98	2.617
110	500-166101-j-3-a	3020.641	63858037.38	1.360	0.525	16718.79	1.783	2.284	16955.83	5.611
111	500-166101-i-4-a	567.316	12085920.24	2.264	4.318	132539.94	2.779	5.707	41775.64	3.063
112	500-166101-j-4-a	783.496	16495535.59	2.043	4.605	139959.25	1.653	6.335	45886.32	2.313
113	500-166101-i-6-a	11208.610	2.36573E+08	2.357	3.377	103628.38	2.355	13.126	95360.54	3.126
114	500-166101-j-6-a	5597.052	1.13523E+08	2.775	3.099	91399.05	3.963	9.264	64791.09	1.202
115	500-166101-i-7-a	7306.147	1.48051E+08	1.559	3.279	96614.47	1.093	9.561	66801.71	1.534
116	500-166101-j-7-a	5317.744	1.05231E+08	1.990	3.112	89545.48	1.527	8.367	57120.24	1.152

Analyte Table

		56 Fe [He]			59 Co [He]			60 Ni [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	23.845	562216.30	1.873	1.218	35487.87	1.743	7.116	48714.41	2.045
118	500-166101-j-8-a	91.278	1906646.17	2.070	0.865	25526.55	3.446	6.731	46317.59	2.096
119	CCV	27175.079	5.31373E+08	0.715	255.452	7214903.23	0.445	260.893	1748950.91	0.341
120	CCB	4.603	167215.88	2.675	0.023	1236.76	6.873	0.015	470.03	50.924
121	500-166101-i-9-a	32.801	736680.82	1.776	<0.000	653.38	N/A	0.157	1470.12	7.970
122	500-166101-j-9-a	84.011	1758503.67	1.371	<0.000	663.37	N/A	0.239	2036.88	8.717
123	500-166101-j-9-...	28.830	665412.96	2.363	<0.000	503.36	N/A	0.118	1213.43	12.255
124	500-166101-j-9-...	1157.566	24361925.47	2.067	557.365	16879453.92	1.715	544.868	3916149.21	1.943
125	500-166101-j-9-...	1154.381	24300932.14	2.551	552.096	16723048.08	2.407	538.487	3871394.32	1.910
126	500-166101-j-9-...	8.674	273284.07	3.030	0.049	2160.22	6.185	0.055	813.38	23.177
127	CCV	26519.691	5.58591E+08	0.375	249.892	7602647.18	0.111	254.482	1837663.93	0.154
128	CCB	4.350	169402.60	6.916	0.038	1686.82	12.454	0.023	540.03	27.565
129	CCVL	108.885	2307681.94	1.426	1.077	32351.70	2.030	2.120	15207.44	3.694

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.104	23939.23	28.411	0.140	1373.45	6.373	0.058	2011.13	24.966
2	ICIS	0.000	21111.04	N/A	0.000	803.39	N/A	0.000	1723.76	N/A
3	Std1	10.265	228327.98	1.309	10.215	42959.16	2.061	9.654	40114.72	0.988
4	Std2	102.880	2028389.01	1.307	100.999	407172.35	0.836	97.570	379029.13	1.397
5	Std3	499.419	9436624.35	1.926	499.796	1945233.10	1.531	500.493	1872800.71	1.409
6	S1	506.639	9526159.34	0.435	504.222	1952884.45	0.301	505.041	1880525.67	0.937
7	ICV	202.166	3941881.23	1.691	200.879	804508.27	1.624	195.531	753524.94	1.629
8	ICB	<0.000	19503.51	N/A	0.058	1023.40	27.401	<0.000	1511.41	N/A
9	ICVL	2.083	61962.18	2.792	20.114	79637.79	2.076	0.891	5185.14	2.958
10	icsa	<0.000	7941.95	N/A	0.981	4570.81	5.962	<0.000	1234.05	N/A
11	icsab	20.331	386523.68	0.313	22.513	84283.70	1.223	22.050	80299.45	0.380
12	CRI	3.526	90661.80	1.602	40.299	161029.88	1.785	1.913	9163.83	2.930
13	CCV	262.546	5030126.05	2.301	260.371	1025741.52	2.272	256.222	970958.21	2.347
14	CCB	<0.000	7740.75	N/A	0.062	1060.07	84.023	<0.000	1486.07	N/A
15	mb 500-49249...	<0.000	18539.12	N/A	4.838	20573.26	2.322	<0.000	1305.72	N/A
16	lcs 500-492494...	268.809	5353059.93	1.972	536.742	2197093.35	2.088	103.053	407089.62	2.135
17	500-165815-b-...	6.036	122012.23	0.381	6.557	23630.61	4.167	0.807	4337.90	0.596
18	500-165815-b-...	10.987	208169.65	4.017	5.190	19087.99	5.660	0.332	2778.24	9.344
19	500-165815-b-...	6.255	125588.02	0.911	5.374	19465.20	7.102	0.449	3131.63	5.805
20	500-165815-b-...	7.720	155328.24	3.603	6.235	23236.68	3.637	0.316	2776.24	3.211
21	500-165815-b-...	9.261	178707.93	2.273	21.874	78023.64	2.182	0.405	3023.62	9.653
22	500-165815-b-...	<0.000	16512.60	N/A	10.215	44011.66	8.020	<0.000	1585.08	N/A
23	500-165700-e-...	16.145	339427.37	4.235	3.026	13112.26	5.538	3.684	16205.78	3.963
24	500-165700-e-...	0.511	35203.09	5.136	0.185	1726.84	21.732	0.069	2293.83	18.999
25	CCV	262.726	5303496.18	1.824	263.252	1092618.81	2.409	259.152	1034685.50	2.010
26	CCB	<0.000	11100.42	N/A	0.020	940.06	124.664	<0.000	1512.74	N/A

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	262.073	5323719.79	2.546	262.320	1095713.87	2.430	258.330	1037924.04	2.576
28	CCB	<0.000	11463.96	N/A	0.005	890.06	514.076	<0.000	1576.08	N/A
29	mb 500-49273...	<0.000	16037.70	N/A	12.645	54465.58	0.592	<0.000	1132.38	N/A
30	lcs 500-492736...	262.761	5467207.84	1.940	528.502	2260204.66	1.811	101.669	419604.13	2.291
31	500-165906-g-...	62.097	1263352.17	2.896	23.721	98616.84	3.830	1.332	7202.55	4.358
32	CCV	262.958	5350989.93	1.285	263.169	1101148.65	1.642	259.513	1044512.64	1.146
33	CCB	<0.000	12351.28	N/A	0.036	1000.07	54.567	<0.000	1729.76	N/A
34	CCVL	1.645	56008.50	3.919	20.390	84266.39	1.568	0.962	5692.98	3.423
35	mb 500-49273...	<0.000	21682.83	N/A	2.801	12561.80	7.877	<0.000	1297.72	N/A
36	lcs 500-492737...	256.439	5352474.23	0.570	515.429	2210983.09	0.835	99.803	413209.60	0.590
37	500-165875-b-...	<0.000	22782.05	N/A	0.170	1643.48	13.143	<0.000	1881.45	N/A
38	500-165875-b-...	<0.000	20540.30	N/A	0.097	1330.11	19.063	<0.000	1795.10	N/A
39	500-165875-b-...	<0.000	21675.08	N/A	0.210	1806.83	7.780	<0.000	1825.77	N/A
40	500-165947-j-1-...	0.249	29244.14	7.480	16.591	70922.53	1.710	1.093	6405.57	3.105
41	500-165954-c-...	0.190	28985.89	12.120	0.099	1380.12	28.787	<0.000	1912.78	N/A
42	CCV	257.540	5317364.37	3.508	258.076	1095611.23	3.259	253.069	1033381.00	3.682
43	CCB	<0.000	13176.38	N/A	0.025	953.40	39.704	<0.000	1662.09	N/A
44	500-165875-b-...	37.385	582084.70	4.191	3.320	11017.33	6.646	1.595	6229.83	3.573
45	500-165875-b-...	35.730	540819.04	1.560	3.137	10136.74	8.173	1.293	5168.80	3.295
46	500-165875-b-...	40.936	600052.77	4.036	4.714	14503.48	2.896	1.159	4649.65	5.203
47	500-165947-j-1-a	4.065	100940.66	5.537	78.213	311484.22	3.293	5.983	24692.30	2.615
48	500-165954-c-...	54.542	827353.96	2.575	5.021	16054.81	0.334	1.273	5179.48	4.228
49	CCV	272.796	5564918.67	1.834	276.824	1161291.26	2.091	278.312	1122979.33	1.871
50	CCB	<0.000	11483.99	N/A	0.047	1050.08	4.195	<0.000	1826.44	N/A
51	mb 500-49347...	<0.000	20172.09	N/A	14.570	62908.25	2.545	<0.000	1744.77	N/A
52	lcs 500-493474...	268.163	5501414.78	1.331	549.769	2318340.54	1.231	103.929	422926.31	1.471
53	500-166208-i-1-a	<0.000	15062.35	N/A	13.964	58441.80	2.537	5.324	23003.96	3.424
54	500-166208-j-1-a	<0.000	6763.64	N/A	9.694	39590.79	1.704	5.292	22182.53	0.842
55	500-166208-i-2-a	<0.000	21507.07	N/A	20.483	77912.94	3.231	6.097	23813.76	2.418
56	500-166208-j-2-a	<0.000	6316.80	N/A	9.018	34125.22	0.805	6.241	23874.48	3.549

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	<0.000	15164.67	N/A	11.849	49185.77	1.830	0.005	1925.45	157.107
58	CCV	259.071	4975495.22	2.376	260.175	1027393.37	2.168	255.380	970064.71	2.198
59	CCB	<0.000	9643.95	N/A	0.024	903.39	78.245	0.068	1993.79	25.177
60	CCVL	1.444	50521.51	4.341	20.224	81172.40	3.173	1.086	6003.75	2.164
61	500-166208-j-4-a	<0.000	11342.79	N/A	7.139	28391.67	14.621	<0.000	1706.76	N/A
62	500-166208-j-4-...	<0.000	18044.19	N/A	8.041	33026.68	2.536	<0.000	1627.75	N/A
63	500-166208-j-4-...	269.589	5291096.87	0.908	540.690	2181396.27	0.404	104.383	406378.78	1.070
64	500-166208-j-4-...	269.806	5301573.96	1.794	543.309	2194591.69	1.270	104.677	408020.12	1.176
65	500-166208-j-4-...	<0.000	7114.91	N/A	1.391	6168.06	11.744	0.054	1990.79	22.699
66	500-166209-i-1-a	3.685	92896.00	2.370	7.312	29663.69	3.695	0.538	3876.46	6.770
67	500-166209-j-1-a	<0.000	8427.75	N/A	6.588	26882.21	2.946	0.552	3938.47	7.364
68	500-166209-i-2-a	<0.000	12551.42	N/A	6.106	25423.30	2.678	0.575	4102.51	3.868
69	500-166209-j-2-a	<0.000	12843.84	N/A	7.055	29065.93	2.137	0.576	4081.84	2.843
70	500-166209-i-3-a	5.818	132282.08	3.567	102.855	402016.19	2.805	2.141	9849.22	2.785
71	CCV	257.745	5057401.60	3.041	257.627	1039313.86	3.304	254.360	987122.33	3.004
72	CCB	<0.000	6483.53	N/A	0.034	950.06	80.051	0.150	2313.84	18.872
73	500-166209-j-3-a	1.817	56928.32	1.990	30.653	120964.07	1.541	1.089	5930.39	2.715
74	500-166216-a-...	28.064	541236.99	1.871	80.192	307103.62	2.021	14.780	56028.54	1.839
75	500-166219-a-...	<0.000	16640.48	N/A	6.284	25610.17	2.446	3.767	16098.66	1.863
76	500-164003-f-2-c	<0.000	18487.96	N/A	7.509	30912.47	2.154	0.864	5193.15	1.850
77	500-164003-f-3-c	0.291	28285.87	4.652	3.096	13132.28	3.048	4.049	17269.49	3.916
78	500-164003-f-5-c	<0.000	21050.92	N/A	2.528	10753.74	5.781	0.689	4423.93	4.531
79	500-164003-f-6-c	0.050	23753.39	67.885	7.316	30004.32	2.742	92.175	354623.09	2.326
80	500-164003-h-...	0.320	28134.47	9.415	10.759	42427.66	4.330	0.761	4636.65	0.828
81	500-164003-f-9-c	<0.000	18257.69	N/A	7.514	29579.94	4.687	4.099	16861.08	1.709
82	CCV	254.727	4864932.45	2.170	255.959	1005160.30	1.383	251.865	951332.96	2.187
83	CCB	<0.000	4701.82	N/A	0.030	923.39	35.133	0.200	2454.52	21.092
84	CCVL	1.207	45555.43	4.260	20.198	80374.06	3.182	1.220	6457.92	3.255
85	mb 500-49313...	0.219	26876.95	16.666	4.598	19074.79	4.241	0.067	2106.47	26.672
86	lcs 500-493133...	268.650	5196315.91	1.481	547.403	2176468.61	1.045	105.416	404430.75	1.588

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	89.524	1694165.39	3.299	170.953	659839.58	3.003	28.004	105528.02	3.152
88	500-165934-j-1-...	45.867	882761.77	1.977	88.768	344583.60	1.654	14.129	54375.92	2.675
89	500-165934-j-2-...	82.804	1550838.93	2.366	160.146	611138.11	1.911	26.942	100437.64	2.560
90	500-165934-j-2-...	40.630	799233.82	0.648	79.521	314563.51	0.665	13.083	51436.78	0.253
91	500-166079-k-...	<0.000	14974.51	N/A	0.782	4037.30	5.382	0.037	2031.13	25.193
92	CCV	253.528	4807601.06	1.512	254.191	991010.51	1.334	250.690	940154.21	1.551
93	CCB	<0.000	4127.21	N/A	0.072	1063.41	61.858	0.043	1867.44	49.269
94	CCVL	1.101	43195.95	3.992	20.083	79275.81	2.312	1.038	5721.99	3.243
95	CCV	254.632	4900554.66	0.667	254.478	1006923.74	0.699	250.716	954280.56	0.897
96	CCB	<0.000	4392.84	N/A	0.174	1453.46	16.653	0.089	2052.80	27.443
97	mb 500-49320...	<0.000	12698.14	N/A	5.751	23557.18	0.372	<0.000	1635.09	N/A
98	lcs 500-493206...	264.880	5223898.54	1.484	531.902	2156110.18	1.635	103.230	403829.49	1.416
99	500-166099-e-...	4.149	96771.76	2.428	9.211	35321.07	2.212	3.625	14798.50	3.048
100	500-166099-f-1-a	3.902	88207.94	0.662	13.940	50693.73	2.565	3.613	14103.89	0.752
101	500-166099-e-...	1.224	44012.51	2.252	10.346	39891.39	1.615	4.433	17847.75	2.285
102	500-166099-f-2-a	1.339	45555.28	3.262	9.115	34820.34	1.163	3.621	14723.42	1.934
103	500-166101-i-1-a	<0.000	12889.47	N/A	3.394	13272.31	0.703	2.828	11703.39	0.355
104	500-166101-j-1-a	<0.000	8257.63	N/A	3.104	12008.03	5.412	2.666	10950.56	1.081
105	500-166101-i-2-a	0.308	25957.65	0.994	3.141	12078.03	3.200	2.767	11249.76	1.296
106	500-166101-j-2-a	<0.000	6575.78	N/A	3.257	12348.33	1.686	2.976	11821.82	1.267
107	CCV	247.564	4495235.93	2.007	250.250	934081.16	2.365	247.089	887230.86	2.109
108	CCB	<0.000	2449.10	N/A	0.034	916.73	82.878	0.273	2657.88	8.136
109	500-166101-i-3-a	<0.000	16380.27	N/A	3.380	13332.45	2.030	4.778	18740.72	3.031
110	500-166101-j-3-a	<0.000	12115.55	N/A	3.937	15240.77	3.828	4.562	17798.02	4.025
111	500-166101-i-4-a	2.939	71371.18	4.900	103.433	370574.81	2.277	2.749	11114.34	2.478
112	500-166101-j-4-a	0.005	20673.84	727.840	31.877	115423.10	0.655	3.018	12108.68	2.177
113	500-166101-i-6-a	15.672	292797.23	1.750	264.200	948033.95	1.501	11.059	39774.55	1.551
114	500-166101-j-6-a	1.040	37880.01	1.938	191.485	674640.10	0.142	9.315	33144.01	0.141
115	500-166101-i-7-a	4.229	91992.40	2.148	228.648	803005.32	2.322	8.077	28873.59	2.104
116	500-166101-j-7-a	0.408	26640.96	13.672	187.484	649361.28	1.849	8.992	31506.58	2.578

Analyte Table

		63 Cu [He]			66 Zn [He]			75 As [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	0.325	25252.23	5.818	4.978	17980.34	4.217	1.549	6765.37	0.692
118	500-166101-j-8-a	<0.000	16500.39	N/A	3.968	14600.27	5.803	1.547	6812.73	3.155
119	CCV	248.948	4288934.83	0.834	254.276	900585.77	0.635	252.567	860447.34	1.202
120	CCB	<0.000	2022.37	N/A	0.042	890.06	86.410	0.339	2723.23	4.134
121	500-166101-i-9-a	<0.000	15273.64	N/A	3.453	13642.72	4.721	0.160	2309.17	20.558
122	500-166101-j-9-a	<0.000	9686.20	N/A	3.040	12074.75	3.523	0.172	2346.17	8.711
123	500-166101-j-9-...	1.956	56120.05	3.115	2.528	10136.76	6.714	0.163	2303.17	15.256
124	500-166101-j-9-...	266.288	4856704.39	0.319	541.494	2030008.30	0.153	106.465	385117.64	0.157
125	500-166101-j-9-...	261.207	4818532.86	2.061	527.977	2001820.07	1.977	104.279	381528.44	2.025
126	500-166101-j-9-...	<0.000	3617.10	N/A	0.911	4260.68	12.781	0.222	2571.54	12.799
127	CCV	245.332	4526981.90	0.961	247.451	938625.74	1.124	246.137	898118.54	1.257
128	CCB	<0.000	2470.22	N/A	0.066	1023.41	70.133	0.243	2526.54	3.535
129	CCVL	0.977	39750.86	5.681	19.622	75391.79	3.127	1.194	6136.79	0.901

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.080	1186.71	146.829	0.108	3613.87	10.715	0.234	2490.28	9.742
2	ICIS	0.000	1107.04	N/A	0.000	750.05	N/A	0.000	170.01	N/A
3	Std1	9.717	5500.92	4.557	9.867	279388.69	1.995	9.662	102587.63	1.769
4	Std2	98.474	43463.38	0.935	99.296	2740036.00	1.475	97.509	1010056.16	1.577
5	Std3	500.311	208795.15	0.901	500.143	13344493.97	0.944	500.505	5013222.95	1.366
6	S1	504.927	209668.25	0.955	507.070	13462217.72	1.332	503.654	5020179.61	0.144
7	ICV	196.752	85163.64	1.132	198.111	5435956.17	1.531	196.006	2019035.23	1.134
8	ICB	<0.000	1098.04	N/A	0.016	1156.75	11.718	0.081	946.74	17.575
9	ICVL	2.188	2090.14	12.303	3.857	104417.56	0.671	3.835	38859.88	1.820
10	icsa	0.236	1240.05	25.106	1.901	50477.68	2.778	2017.390	19804377.62	0.857
11	icsab	23.598	10446.60	1.516	24.207	616302.22	1.007	2060.518	19670898.87	1.378
12	CRI	4.868	3256.66	1.116	7.867	215237.44	1.764	8.173	83803.53	2.781
13	CCV	256.262	108769.39	3.018	257.273	6945995.94	1.722	253.178	2565981.26	2.041
14	CCB	<0.000	1108.71	N/A	0.014	1123.42	27.030	0.143	1573.47	3.379
15	mb 500-49249...	<0.000	1130.71	N/A	0.071	2800.35	10.667	0.045	656.71	20.990
16	lcs 500-492494...	104.015	46626.43	2.040	1020.143	28627409.57	1.691	1003.970	10576834.42	1.759
17	500-165815-b-...	1.682	1672.42	7.451	1.171	28725.78	3.254	9.455	85099.92	1.012
18	500-165815-b-...	1.948	1792.77	13.975	0.903	22589.47	5.083	8.869	80787.61	2.893
19	500-165815-b-...	1.897	1750.76	6.302	17.732	424466.72	0.550	9.468	85092.92	1.759
20	500-165815-b-...	1.591	1691.76	8.035	17.686	437544.60	2.268	9.369	87049.47	1.199
21	500-165815-b-...	1.710	1703.43	12.412	8.860	215360.02	0.509	10.130	92277.41	2.275
22	500-165815-b-...	0.017	1274.38	911.635	0.087	3370.48	12.169	0.111	1396.78	29.781
23	500-165700-e-...	0.553	1452.73	4.449	1.419	40172.96	2.645	2.113	22195.58	1.819
24	500-165700-e-...	<0.000	1145.04	N/A	0.057	2550.31	8.913	0.091	1200.09	5.721
25	CCV	260.998	116704.81	1.983	258.790	7360749.89	2.194	253.643	2708313.71	2.269
26	CCB	<0.000	1138.71	N/A	0.012	1126.75	10.977	0.047	663.37	12.314

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	259.072	116590.07	2.282	257.600	7373614.68	2.586	252.291	2711130.79	2.282
28	CCB	<0.000	1171.38	N/A	0.008	1043.40	3.722	0.055	753.38	10.062
29	mb 500-49273...	<0.000	1170.04	N/A	0.076	3067.07	4.091	0.435	4934.25	2.614
30	lcs 500-492736...	102.509	48020.33	2.854	1014.271	29730967.05	2.871	996.236	10963118.17	2.899
31	500-165906-g-...	<0.000	1161.71	N/A	229.815	6494200.53	3.057	6.369	67736.52	4.176
32	CCV	261.418	117840.81	0.556	258.859	7422409.68	1.398	254.477	2739256.00	1.420
33	CCB	<0.000	1151.04	N/A	0.029	1573.47	25.468	0.066	850.06	9.374
34	CCVL	2.324	2240.16	7.591	3.967	112072.92	2.474	3.899	41236.08	1.750
35	mb 500-49273...	<0.000	1171.04	N/A	0.065	2693.69	20.471	0.211	2450.29	9.188
36	lcs 500-492737...	101.283	47610.82	0.756	1007.873	29636617.06	0.704	976.221	10776845.26	0.808
37	500-165875-b-...	<0.000	1203.05	N/A	0.633	19241.83	2.517	0.936	10403.64	5.345
38	500-165875-b-...	<0.000	1255.05	N/A	0.391	12204.97	4.408	0.747	8325.76	3.013
39	500-165875-b-...	<0.000	1203.38	N/A	0.389	12108.24	1.654	0.609	6811.66	2.160
40	500-165947-j-1-...	<0.000	1123.71	N/A	167.941	4860327.63	1.787	4.607	50237.43	2.500
41	500-165954-c-...	<0.000	1249.38	N/A	0.132	4837.58	4.691	0.635	7331.92	1.575
42	CCV	253.635	116024.33	3.737	252.254	7338044.27	3.611	251.466	2746325.58	3.283
43	CCB	<0.000	1111.04	N/A	0.010	1073.42	37.822	0.060	786.72	8.002
44	500-165875-b-...	8.329	3701.42	7.960	37.030	791671.03	3.451	42.481	340814.38	3.676
45	500-165875-b-...	8.973	3799.78	1.870	25.691	533250.29	0.247	43.011	334855.31	1.358
46	500-165875-b-...	9.577	3887.13	3.874	28.814	581599.32	4.113	39.943	302532.43	2.880
47	500-165947-j-1-a	0.723	1497.40	37.571	869.346	23677875.48	3.188	21.641	221435.73	3.839
48	500-165954-c-...	9.294	3957.81	2.551	8.374	176599.10	1.798	37.330	294629.22	2.668
49	CCV	285.319	128830.07	2.098	288.420	8292002.80	1.541	259.582	2801668.40	1.427
50	CCB	0.119	1239.38	114.541	0.019	1330.11	23.127	0.061	803.39	11.432
51	mb 500-49347...	<0.000	1229.38	N/A	0.201	6721.64	2.046	0.039	623.38	21.943
52	lcs 500-493474...	104.574	48284.39	1.577	1049.668	30342727.05	1.610	1013.534	10999117.34	1.860
53	500-166208-i-1-a	<0.000	1189.71	N/A	10763.246	3.04029E+08	4.589	9.944	105653.39	4.099
54	500-166208-j-1-a	<0.000	1128.04	N/A	10597.817	2.90279E+08	1.388	8.825	90929.99	1.558
55	500-166208-i-2-a	0.548	1348.72	40.008	2688.968	69419352.30	1.560	9.100	88376.90	1.148
56	500-166208-j-2-a	0.644	1362.39	16.792	2851.320	72232162.26	2.244	8.875	84594.15	2.163

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	<0.000	1139.04	N/A	0.660	19281.98	3.113	0.180	2080.22	13.463
58	CCV	253.613	107919.63	2.293	255.105	6903067.19	2.421	252.930	2569403.97	2.290
59	CCB	0.003	1124.04	3226.194	0.196	5781.23	1.718	0.063	783.38	12.284
60	CCVL	2.202	2122.81	14.764	4.102	112512.26	3.413	3.774	38786.63	0.811
61	500-166208-j-4-a	<0.000	1138.38	N/A	0.247	7308.56	19.312	0.043	610.04	27.453
62	500-166208-j-4-...	<0.000	1092.04	N/A	0.226	7005.13	5.610	0.593	6291.43	4.191
63	500-166208-j-4-...	103.820	45871.03	0.801	1068.649	29554522.89	1.381	1033.270	10728260.26	0.706
64	500-166208-j-4-...	103.078	45608.66	0.941	1070.384	29636016.22	2.380	1035.087	10760262.76	1.149
65	500-166208-j-4-...	0.021	1159.04	143.639	0.114	3787.27	13.765	0.199	2136.89	20.934
66	500-166209-i-1-a	<0.000	1166.04	N/A	775.288	20946128.86	2.332	6.727	68419.03	1.688
67	500-166209-j-1-a	<0.000	1158.04	N/A	746.706	20222789.70	2.437	2.209	22639.62	3.919
68	500-166209-i-2-a	0.253	1314.72	60.867	331.980	9152925.70	2.820	4.999	51929.31	2.885
69	500-166209-j-2-a	0.197	1283.38	31.599	340.587	9336252.78	1.316	4.937	50989.64	1.793
70	500-166209-i-3-a	0.563	1404.06	29.132	530.602	14194526.46	2.062	22.767	228800.56	2.573
71	CCV	253.511	110207.83	3.337	253.465	7007455.52	2.999	250.679	2601559.08	3.319
72	CCB	0.041	1153.05	80.894	0.055	2193.58	7.932	0.059	753.38	10.786
73	500-166209-j-3-a	0.250	1280.39	79.648	516.744	13885162.29	1.755	23.288	235118.54	0.673
74	500-166216-a-...	2.195	2040.13	5.912	511.736	13405265.22	0.896	11.646	114699.91	1.567
75	500-166219-a-...	0.073	1212.38	247.810	3316.197	89573052.00	2.361	26.329	267169.53	2.193
76	500-164003-f-2-c	<0.000	1175.05	N/A	117.397	3222021.93	1.009	0.564	5994.66	2.227
77	500-164003-f-3-c	<0.000	1128.38	N/A	129.222	3512929.12	2.350	0.492	5204.37	2.040
78	500-164003-f-5-c	<0.000	1096.04	N/A	80.922	2173223.14	3.355	0.563	5847.95	6.007
79	500-164003-f-6-c	<0.000	1138.38	N/A	105.925	2893867.04	2.474	2.505	25877.77	3.260
80	500-164003-h-...	<0.000	1126.37	N/A	167.383	4438269.73	2.860	0.952	9656.53	1.629
81	500-164003-f-9-c	<0.000	1083.04	N/A	292.442	7674801.97	1.067	0.997	9996.74	1.504
82	CCV	251.382	106373.17	2.669	252.862	6803559.27	2.547	252.359	2549236.79	2.012
83	CCB	<0.000	1094.04	N/A	0.042	1833.51	9.517	0.057	716.72	6.754
84	CCVL	2.285	2140.81	9.187	3.968	107952.74	2.113	3.889	39608.45	2.689
85	mb 500-49313...	<0.000	1120.38	N/A	0.075	2843.68	6.711	0.036	553.36	19.164
86	lcs 500-493133...	104.971	45691.22	2.302	1087.874	29650694.56	1.264	1048.970	10733166.09	1.881

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	1.528	1785.10	9.960	325.547	8605113.83	4.139	11.372	113055.22	2.325
88	500-165934-j-1-...	0.737	1466.07	21.091	160.402	4259765.15	2.390	5.538	55397.43	1.129
89	500-165934-j-2-...	1.398	1712.09	7.776	317.486	8297731.54	2.397	11.128	109364.58	1.020
90	500-165934-j-2-...	0.486	1388.40	12.238	146.774	3971473.17	0.219	5.733	58411.31	2.356
91	500-166079-k-...	<0.000	1115.38	N/A	55.352	1533553.05	1.306	0.156	1806.84	7.135
92	CCV	247.617	104053.15	1.810	251.593	6721380.11	1.785	251.975	2527208.61	1.276
93	CCB	<0.000	1092.04	N/A	0.042	1810.16	11.861	0.066	793.39	18.999
94	CCVL	2.349	2151.14	8.498	3.915	105655.73	0.872	3.850	38886.88	2.295
95	CCV	248.984	106177.88	1.523	252.835	6855198.23	1.266	250.647	2551337.15	0.918
96	CCB	<0.000	1093.37	N/A	0.030	1520.13	12.854	0.071	853.39	14.659
97	mb 500-49320...	<0.000	1138.71	N/A	0.063	2493.62	12.671	0.039	576.71	13.490
98	lcs 500-493206...	103.058	45758.09	1.926	1057.899	29396005.39	1.930	1022.021	10661784.84	1.662
99	500-166099-e-...	3.856	2665.22	3.159	6625.798	1.70227E+08	1.618	37.233	359275.91	2.001
100	500-166099-f-1-a	3.478	2402.52	7.387	6633.075	1.62885E+08	0.150	35.657	328891.51	0.501
101	500-166099-e-...	2.953	2322.17	4.153	3737.137	96752885.23	2.129	30.454	296163.73	2.232
102	500-166099-f-2-a	4.265	2816.91	0.337	3859.035	98724295.19	1.605	32.614	313393.06	2.077
103	500-166101-i-1-a	<0.000	1052.71	N/A	1728.781	43571819.35	0.573	12.597	119361.52	0.526
104	500-166101-j-1-a	<0.000	1077.37	N/A	1629.171	40389616.06	1.534	12.037	112193.34	2.464
105	500-166101-i-2-a	0.055	1100.37	242.096	1679.037	41426304.38	0.669	12.108	112330.75	0.793
106	500-166101-j-2-a	0.160	1126.04	140.904	1752.354	42702517.70	0.673	12.648	115855.64	2.480
107	CCV	246.955	99355.48	2.646	254.013	6497080.32	2.487	250.139	2401682.62	2.872
108	CCB	0.113	1136.71	34.077	0.147	4404.08	7.034	0.080	916.72	7.379
109	500-166101-i-3-a	<0.000	1097.71	N/A	8943.586	2.27210E+08	2.642	12.275	117246.99	2.736
110	500-166101-j-3-a	<0.000	1088.04	N/A	8656.952	2.17837E+08	2.786	12.812	121189.99	3.525
111	500-166101-i-4-a	0.235	1162.71	39.859	6818.485	1.67157E+08	3.310	10.483	96665.76	1.981
112	500-166101-j-4-a	0.075	1108.04	101.839	8071.495	1.99031E+08	1.905	9.679	89757.42	2.955
113	500-166101-i-6-a	<0.000	1040.70	N/A	651.561	16021316.84	0.874	9.710	89793.62	2.068
114	500-166101-j-6-a	0.057	1077.37	27.044	644.517	15555042.69	0.778	7.579	68834.31	0.917
115	500-166101-i-7-a	0.093	1087.04	160.293	642.318	15457524.77	1.424	7.262	65775.04	1.273
116	500-166101-j-7-a	0.212	1116.04	56.460	650.094	15422525.19	2.471	7.441	66421.49	3.623

Analyte Table

		78 Se [He]			88 Sr [He]			95 Mo [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	0.129	1085.71	100.451	11827.753	2.80613E+08	0.746	20.539	183109.51	1.492
118	500-166101-j-8-a	0.105	1085.37	116.735	11735.205	2.80686E+08	0.755	21.379	192135.24	2.083
119	CCV	250.731	95701.84	1.249	261.684	6350956.16	1.132	255.161	2324800.07	1.028
120	CCB	0.059	1051.70	296.655	0.476	11904.78	1.496	0.080	863.39	11.649
121	500-166101-i-9-a	<0.000	1083.04	N/A	1.104	28905.98	3.590	0.044	593.37	13.077
122	500-166101-j-9-a	<0.000	1107.04	N/A	0.431	11691.23	6.817	0.068	823.39	29.580
123	500-166101-j-9-...	0.222	1195.05	49.625	0.322	8919.37	4.963	0.022	376.69	23.125
124	500-166101-j-9-...	106.652	43756.82	0.508	1123.866	28882568.74	0.563	1074.002	10361972.35	0.122
125	500-166101-j-9-...	104.202	43262.83	1.979	1103.003	28664221.24	2.898	1048.478	10230247.55	2.196
126	500-166101-j-9-...	<0.000	1133.04	N/A	0.201	5971.29	11.659	0.272	2817.02	3.238
127	CCV	245.615	100430.03	1.049	253.452	6587815.11	1.197	246.763	2407755.38	1.632
128	CCB	0.161	1143.04	73.140	0.108	3400.48	7.401	0.112	1203.43	8.104
129	CCVL	2.292	2069.80	1.365	4.027	105718.60	1.901	3.833	37677.14	1.710

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.222	206.68	48.516	0.013	363.35	23.463	0.066	36.67	108.920
2	ICIS	0.000	113.34	N/A	0.000	53.33	N/A	0.000	16.67	N/A
3	Std1	9.924	4337.42	2.600	1.037	25707.57	0.729	10.365	3353.80	6.887
4	Std2	101.347	42144.93	3.494	10.215	246815.25	1.455	102.573	32249.32	4.163
5	Std3	499.732	200525.02	0.748	99.978	2335703.30	1.197	499.478	151838.59	0.810
6	S1	505.209	201718.61	0.848	100.639	2339589.55	0.597	505.541	152914.40	0.787
7	ICV	199.312	82314.17	1.314	40.470	972246.00	1.811	199.470	62369.57	1.696
8	ICB	<0.000	76.67	N/A	0.010	266.68	21.311	0.059	33.33	193.189
9	ICVL	0.304	243.34	14.672	0.525	12395.20	3.259	0.510	173.34	45.542
10	icsa	0.287	230.01	46.304	0.060	1423.45	16.237	22.672	6771.68	1.895
11	icsab	21.825	8455.89	1.587	21.096	469778.65	0.703	45.389	13165.78	4.027
12	CRI	1.043	550.03	17.776	1.059	25337.06	3.514	1.231	400.02	25.231
13	CCV	260.061	105629.42	2.908	53.821	1272229.80	2.126	261.978	80582.26	2.060
14	CCB	<0.000	66.67	N/A	0.004	146.67	66.345	<0.000	3.33	N/A
15	mb 500-49249...	<0.000	63.33	N/A	0.004	146.68	41.523	<0.000	0.00	N/A
16	lcs 500-492494...	54.031	22910.17	3.297	54.467	1338320.66	2.027	62.669	20062.99	4.173
17	500-165815-b-...	0.054	126.67	191.778	0.188	3980.65	2.679	0.041	26.67	189.493
18	500-165815-b-...	0.031	120.01	221.946	2.425	51471.83	1.827	0.125	50.00	79.304
19	500-165815-b-...	0.016	113.34	380.420	0.053	1156.76	16.663	0.151	56.67	29.384
20	500-165815-b-...	0.088	143.34	85.682	0.171	3747.23	7.387	0.108	46.67	82.840
21	500-165815-b-...	0.012	113.34	511.071	0.316	6755.02	1.083	0.173	63.33	68.294
22	500-165815-b-...	<0.000	53.33	N/A	0.001	96.67	91.086	<0.000	6.67	N/A
23	500-165700-e-...	4.144	1853.51	3.983	0.017	460.02	12.957	1.531	500.03	32.344
24	500-165700-e-...	<0.000	130.01	N/A	0.001	80.00	169.752	0.002	20.00	1370.904
25	CCV	265.664	113686.70	2.602	53.474	1331802.69	1.600	258.351	83737.41	0.868
26	CCB	<0.000	76.67	N/A	0.004	153.34	34.232	0.029	26.67	282.360

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	262.872	113212.82	2.578	53.387	1338017.22	2.450	258.684	84364.23	2.321
28	CCB	0.051	143.34	196.476	0.006	203.34	6.397	0.018	23.33	210.978
29	mb 500-49273...	<0.000	113.34	N/A	0.004	166.68	29.539	<0.000	10.00	N/A
30	lcs 500-492736...	51.987	23040.44	2.735	52.881	1357477.06	2.101	62.747	20967.43	4.884
31	500-165906-g-...	<0.000	110.00	N/A	0.023	630.04	20.126	0.089	46.67	78.240
32	CCV	259.189	111827.05	0.780	53.658	1347125.19	1.609	260.404	85074.64	0.887
33	CCB	<0.000	120.01	N/A	0.006	210.01	19.186	<0.000	10.00	N/A
34	CCVL	0.540	353.36	23.226	0.506	12491.90	4.314	0.494	176.68	38.844
35	mb 500-49273...	0.021	136.67	717.713	0.001	90.00	61.642	<0.000	0.00	N/A
36	lcs 500-492737...	51.384	22840.04	3.745	52.005	1339050.14	1.305	59.446	19932.96	1.010
37	500-165875-b-...	0.015	136.67	1230.146	0.010	323.35	7.255	<0.000	10.00	N/A
38	500-165875-b-...	<0.000	116.67	N/A	0.004	170.01	46.145	<0.000	3.33	N/A
39	500-165875-b-...	<0.000	110.00	N/A	0.005	183.34	8.783	<0.000	3.33	N/A
40	500-165947-j-1-...	<0.000	73.33	N/A	0.004	160.01	45.940	0.003	20.00	1839.888
41	500-165954-c-...	<0.000	76.67	N/A	0.010	316.68	29.108	<0.000	6.67	N/A
42	CCV	256.155	112152.27	2.376	52.265	1331080.50	4.065	255.275	84592.10	4.860
43	CCB	<0.000	50.00	N/A	0.004	153.34	38.390	<0.000	10.00	N/A
44	500-165875-b-...	0.108	130.01	156.865	0.055	1073.41	8.753	0.682	180.01	17.468
45	500-165875-b-...	0.100	123.34	196.985	0.047	893.40	15.751	0.451	120.01	8.843
46	500-165875-b-...	0.031	100.01	375.701	0.074	1343.44	2.900	0.639	160.01	27.048
47	500-165947-j-1-a	0.069	150.01	71.142	0.010	300.02	9.495	0.266	100.00	34.064
48	500-165954-c-...	0.397	220.01	45.986	0.622	11481.11	6.890	0.861	220.01	11.379
49	CCV	263.021	113773.54	1.855	52.831	1329897.95	1.688	261.687	85728.11	1.664
50	CCB	<0.000	90.00	N/A	0.007	233.34	36.411	<0.000	6.67	N/A
51	mb 500-49347...	<0.000	76.67	N/A	0.000	73.34	131.330	<0.000	16.67	N/A
52	lcs 500-493474...	53.665	23450.95	1.307	53.142	1345122.38	1.966	63.577	20950.91	3.814
53	500-166208-i-1-a	0.077	160.01	153.511	0.014	400.02	33.737	0.132	60.00	88.267
54	500-166208-j-1-a	0.114	170.01	81.370	0.007	223.34	13.931	0.125	56.67	54.692
55	500-166208-i-2-a	0.044	133.34	227.328	0.002	103.34	59.983	0.033	26.67	154.110
56	500-166208-j-2-a	<0.000	90.00	N/A	0.002	106.67	100.009	0.220	80.00	3.261

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	<0.000	66.67	N/A	0.001	86.67	79.982	<0.000	10.00	N/A
58	CCV	258.056	105041.80	4.069	52.969	1255060.34	2.049	254.153	78351.37	2.839
59	CCB	<0.000	73.33	N/A	0.005	160.01	49.353	<0.000	13.33	N/A
60	CCVL	0.477	316.68	28.640	0.534	12785.48	3.225	0.482	166.68	30.315
61	500-166208-j-4-a	<0.000	76.67	N/A	0.002	90.00	63.157	<0.000	16.67	N/A
62	500-166208-j-4-...	<0.000	90.00	N/A	0.002	116.67	41.180	<0.000	16.67	N/A
63	500-166208-j-4-...	49.642	20757.22	3.790	53.349	1291901.15	2.032	63.208	19929.59	4.531
64	500-166208-j-4-...	52.164	21835.18	3.616	53.479	1296736.67	1.240	63.678	20103.04	3.036
65	500-166208-j-4-...	<0.000	50.00	N/A	0.008	243.35	38.426	<0.000	3.33	N/A
66	500-166209-i-1-a	<0.000	103.34	N/A	0.009	276.68	34.265	0.019	23.33	403.510
67	500-166209-j-1-a	<0.000	90.00	N/A	0.004	156.68	40.098	0.008	20.00	807.007
68	500-166209-i-2-a	<0.000	73.33	N/A	0.002	113.34	41.605	0.060	36.67	85.154
69	500-166209-j-2-a	<0.000	90.00	N/A	0.004	143.34	11.354	0.040	30.00	295.047
70	500-166209-i-3-a	0.714	406.75	47.424	0.018	480.02	18.181	0.631	210.01	16.390
71	CCV	258.941	107719.16	2.847	52.582	1272973.00	2.510	251.569	79245.70	2.918
72	CCB	<0.000	80.00	N/A	0.007	206.68	28.035	<0.000	16.67	N/A
73	500-166209-j-3-a	0.001	120.00	33916.721	0.008	243.35	41.850	0.575	193.34	14.525
74	500-166216-a-...	3.468	1483.48	4.048	0.342	7895.53	1.814	1.607	496.69	16.104
75	500-166219-a-...	0.056	143.34	143.937	0.004	153.34	56.525	0.515	176.68	34.658
76	500-164003-f-2-c	<0.000	83.34	N/A	0.031	790.05	17.874	0.038	30.00	219.133
77	500-164003-f-3-c	<0.000	103.34	N/A	0.003	130.01	61.594	<0.000	3.33	N/A
78	500-164003-f-5-c	<0.000	96.67	N/A	0.003	120.01	29.705	0.018	23.33	449.759
79	500-164003-f-6-c	<0.000	50.00	N/A	0.003	133.34	50.732	0.018	23.33	111.666
80	500-164003-h-...	<0.000	63.33	N/A	0.003	126.67	46.922	<0.000	13.33	N/A
81	500-164003-f-9-c	<0.000	116.67	N/A	0.002	96.67	76.411	<0.000	13.33	N/A
82	CCV	255.552	103472.64	1.639	52.683	1241279.96	1.637	255.394	78294.59	2.323
83	CCB	<0.000	80.00	N/A	0.004	146.67	97.989	0.022	23.33	350.871
84	CCVL	0.402	283.35	66.842	0.507	12041.48	1.433	0.638	213.35	39.580
85	mb 500-49313...	<0.000	70.00	N/A	0.003	123.34	45.852	<0.000	3.33	N/A
86	lcs 500-493133...	52.663	21695.11	2.797	55.053	1313959.98	0.699	63.314	19675.83	3.113

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	2.161	976.74	9.906	0.181	4237.40	2.852	0.826	266.68	22.907
88	500-165934-j-1-...	0.964	503.36	21.189	0.103	2443.61	5.519	0.494	166.68	41.661
89	500-165934-j-2-...	2.181	973.40	14.922	0.173	4010.67	6.704	1.060	333.35	25.432
90	500-165934-j-2-...	1.081	560.03	42.474	0.077	1883.52	6.255	0.310	113.33	25.832
91	500-166079-k-...	<0.000	96.67	N/A	0.002	110.00	35.137	<0.000	3.33	N/A
92	CCV	253.887	102060.55	1.381	52.284	1223093.08	0.643	249.983	76084.08	2.835
93	CCB	<0.000	63.33	N/A	0.009	253.34	9.143	<0.000	0.00	N/A
94	CCVL	0.448	300.01	31.447	0.538	12672.01	5.245	0.608	203.34	14.149
95	CCV	254.031	103630.56	1.970	52.578	1248234.36	0.932	249.722	77142.68	2.561
96	CCB	<0.000	60.00	N/A	0.009	260.02	3.243	<0.000	10.00	N/A
97	mb 500-49320...	<0.000	120.01	N/A	0.003	133.34	71.925	0.084	43.33	92.332
98	lcs 500-493206...	53.190	22346.04	2.084	53.322	1297416.83	1.851	62.064	19669.06	0.796
99	500-166099-e-...	0.415	276.68	45.032	0.021	516.70	27.099	0.760	240.01	25.195
100	500-166099-f-1-a	0.479	286.68	51.827	0.008	220.01	27.528	0.681	206.68	5.573
101	500-166099-e-...	0.403	273.35	22.038	0.009	263.35	17.705	0.588	190.01	17.080
102	500-166099-f-2-a	0.284	223.35	49.451	0.004	150.01	64.802	0.594	190.01	20.365
103	500-166101-i-1-a	<0.000	83.34	N/A	0.001	76.67	147.676	0.256	90.00	75.213
104	500-166101-j-1-a	0.042	126.67	207.380	0.002	86.67	100.888	0.120	50.00	0.816
105	500-166101-i-2-a	<0.000	70.00	N/A	0.003	123.34	8.825	0.144	56.67	26.177
106	500-166101-j-2-a	0.094	143.34	86.738	0.004	136.67	84.787	0.098	43.33	74.817
107	CCV	251.606	96845.45	1.668	52.475	1175256.57	1.904	251.750	73345.05	4.243
108	CCB	<0.000	66.67	N/A	0.006	173.34	23.538	<0.000	13.33	N/A
109	500-166101-i-3-a	0.054	133.34	282.177	0.006	196.68	22.515	0.127	53.33	10.886
110	500-166101-j-3-a	<0.000	93.34	N/A	0.005	173.34	31.236	0.221	80.00	24.541
111	500-166101-i-4-a	0.056	130.01	252.618	0.008	213.34	49.257	0.194	70.00	49.516
112	500-166101-j-4-a	0.203	186.68	102.234	0.004	133.34	43.986	0.144	56.67	13.215
113	500-166101-i-6-a	0.450	276.68	19.211	0.023	553.37	18.579	0.335	110.00	1.073
114	500-166101-j-6-a	0.069	133.34	303.379	0.002	90.00	87.632	0.294	96.67	43.604
115	500-166101-i-7-a	0.385	246.68	39.331	0.018	436.70	9.554	0.364	116.67	76.018
116	500-166101-j-7-a	0.150	160.01	60.953	0.003	103.34	55.833	0.140	53.33	41.635

Analyte Table

		106 [Cd] [He]			107 Ag [He]			108 [Cd] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	0.179	170.01	72.853	0.004	140.01	11.758	0.251	83.34	44.691
118	500-166101-j-8-a	0.295	213.34	43.436	0.005	150.01	9.512	0.285	93.34	53.555
119	CCV	263.052	96054.26	1.604	53.611	1139189.23	1.582	257.767	71286.07	1.236
120	CCB	<0.000	60.00	N/A	0.006	183.34	23.008	<0.000	6.67	N/A
121	500-166101-i-9-a	0.249	210.01	42.241	0.005	173.35	80.224	0.183	70.00	31.226
122	500-166101-j-9-a	<0.000	83.34	N/A	0.003	123.34	58.434	<0.000	6.67	N/A
123	500-166101-j-9-...	<0.000	80.00	N/A	0.000	56.67	1062.420	<0.000	13.33	N/A
124	500-166101-j-9-...	55.585	21584.98	1.947	55.621	1251642.90	0.680	65.395	19161.88	1.748
125	500-166101-j-9-...	53.306	20947.37	0.286	53.915	1227137.48	1.532	65.115	19298.67	2.383
126	500-166101-j-9-...	<0.000	73.33	N/A	0.005	173.34	20.899	<0.000	10.00	N/A
127	CCV	248.409	97160.85	1.468	51.445	1170777.59	1.426	249.078	73763.01	1.333
128	CCB	<0.000	46.67	N/A	0.011	296.68	16.704	<0.000	0.00	N/A
129	CCVL	0.409	276.68	37.578	0.517	11858.06	2.716	0.324	113.34	52.399

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.116	595.25	7.044	0.300	5257.72	11.746	0.199	3897.29	4.841
2	ICIS	0.000	78.71	N/A	0.000	1606.82	N/A	0.000	590.04	N/A
3	Std1	10.123	47893.96	2.449	10.029	130108.17	1.430	9.825	174367.80	1.367
4	Std2	100.315	462992.41	0.986	99.044	1240062.45	1.485	100.138	1730695.76	1.663
5	Std3	499.934	2231164.05	1.000	500.191	6049883.24	1.115	499.976	8354404.88	1.482
6	S1	503.221	2234803.65	0.410	506.262	6093230.53	0.524	505.014	8397450.71	0.334
7	ICV	199.707	916529.70	2.131	198.168	2465839.39	0.953	200.166	3439880.99	1.374
8	ICB	0.013	132.81	32.963	0.219	4137.34	7.432	0.327	5801.27	11.464
9	ICVL	0.533	2480.22	1.954	5.036	63013.02	1.952	3.134	53372.53	2.843
10	icsa	0.309	1432.32	25.517	0.071	2506.96	21.548	0.161	3253.79	14.483
11	icsab	21.298	90669.66	1.218	21.859	253537.65	0.922	10.599	169386.32	1.129
12	CRI	0.988	4588.51	6.656	9.977	124978.22	1.797	5.983	102768.02	1.172
13	CCV	257.989	1165037.68	1.854	258.365	3162476.10	2.506	247.412	4183079.63	2.581
14	CCB	0.011	130.69	75.117	0.144	3350.49	12.245	0.149	3033.75	9.248
15	mb 500-49249...	<0.000	48.39	N/A	<0.000	1753.51	N/A	0.027	1126.76	41.410
16	lcs 500-492494...	53.048	249042.33	3.245	1029.284	13090185.22	2.828	522.377	9181231.11	1.491
17	500-165815-b-...	0.010	114.83	114.080	1.338	16031.96	0.707	1.523	23374.35	3.044
18	500-165815-b-...	0.012	124.70	178.827	13.739	152325.72	2.043	1.544	23985.23	3.659
19	500-165815-b-...	0.009	112.45	54.358	0.611	8139.02	4.385	1.324	20360.15	4.614
20	500-165815-b-...	0.016	142.78	62.749	0.393	5964.70	4.510	1.014	16272.10	1.396
21	500-165815-b-...	0.001	78.63	1246.037	3.141	36007.52	4.405	1.554	24142.08	2.272
22	500-165815-b-...	<0.000	53.59	N/A	0.032	2263.59	23.225	<0.000	590.04	N/A
23	500-165700-e-...	0.188	962.89	12.780	0.038	2233.59	42.169	0.496	9256.32	11.175
24	500-165700-e-...	<0.000	81.20	N/A	0.014	2056.87	70.112	0.000	693.37	1510.071
25	CCV	261.769	1245402.94	1.873	258.806	3337647.14	2.361	247.477	4408541.39	2.188
26	CCB	<0.000	69.96	N/A	0.144	3493.85	9.725	0.114	2566.98	9.145

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	259.150	1240710.77	2.688	256.522	3329417.45	2.160	245.850	4407618.99	2.159
28	CCB	0.016	157.81	44.922	0.158	3703.87	17.390	0.149	3197.12	6.340
29	mb 500-49273...	0.009	132.53	176.500	0.082	2920.38	4.397	0.046	1506.79	16.260
30	lcs 500-492736...	51.949	254838.67	1.551	1025.464	13626882.30	1.694	521.089	9567198.61	2.261
31	500-165906-g-...	0.008	123.97	77.262	37.433	481228.87	2.225	0.120	2790.36	9.153
32	CCV	260.950	1251580.89	0.814	257.362	3345967.03	1.510	246.429	4425536.29	1.018
33	CCB	0.027	207.62	94.567	0.231	4557.56	7.059	0.150	3177.09	2.534
34	CCVL	0.516	2507.33	9.612	5.131	66998.91	0.726	3.051	54238.47	0.900
35	mb 500-49273...	0.010	134.42	152.440	0.016	2020.22	100.115	0.015	926.73	50.265
36	lcs 500-492737...	50.857	250231.60	0.783	1010.201	13464618.55	0.214	509.519	9383665.90	0.933
37	500-165875-b-...	0.011	143.69	87.318	0.479	8149.04	10.525	0.158	3557.19	9.088
38	500-165875-b-...	0.007	125.56	78.822	0.153	3857.29	8.543	0.080	2123.56	1.970
39	500-165875-b-...	<0.000	87.13	N/A	0.112	3310.48	27.552	0.039	1383.45	15.298
40	500-165947-j-1-...	0.017	171.24	57.662	0.065	2697.00	22.124	0.029	1196.76	30.907
41	500-165954-c-...	<0.000	58.09	N/A	0.025	2246.92	59.726	0.103	2630.32	9.327
42	CCV	254.988	1240695.44	3.557	250.894	3309269.22	3.616	234.992	4281593.90	3.313
43	CCB	0.016	154.14	58.404	0.171	3803.95	4.649	0.670	11971.63	8.574
44	500-165875-b-...	0.017	126.19	144.211	0.622	7381.95	4.418	4.699	63367.90	3.518
45	500-165875-b-...	0.036	188.81	85.637	0.837	9186.31	6.330	4.461	58419.68	2.963
46	500-165875-b-...	0.020	131.39	40.614	1.925	18871.53	5.799	2.732	34968.96	4.990
47	500-165947-j-1-a	0.047	297.32	23.751	0.140	3457.18	11.843	0.171	3553.87	6.393
48	500-165954-c-...	0.034	185.36	40.261	0.400	5141.01	4.512	7.013	92769.43	3.534
49	CCV	260.460	1252534.02	1.275	260.370	3394129.74	1.419	242.841	4372732.75	1.615
50	CCB	0.015	151.61	23.466	0.165	3763.95	8.420	0.622	11224.33	12.843
51	mb 500-49347...	<0.000	77.36	N/A	0.008	1953.53	201.337	0.119	2853.71	16.393
52	lcs 500-493474...	52.840	255582.34	1.805	1044.584	13685983.96	2.221	531.073	9615183.19	1.153
53	500-166208-i-1-a	0.011	141.20	141.206	0.478	7918.91	4.507	0.416	8025.59	5.874
54	500-166208-j-1-a	0.011	135.75	80.543	0.124	3280.46	17.345	0.286	5547.85	1.747
55	500-166208-i-2-a	0.022	176.59	55.020	0.244	4490.77	2.954	0.096	2163.56	6.035
56	500-166208-j-2-a	<0.000	26.25	N/A	0.083	2566.98	23.327	0.069	1686.83	13.082

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	<0.000	66.87	N/A	0.012	1923.52	115.260	<0.000	583.37	N/A
58	CCV	255.867	1158011.39	2.877	255.040	3129320.16	2.073	240.380	4073715.25	2.639
59	CCB	0.010	125.06	46.065	0.192	3860.61	13.264	0.619	10560.59	9.966
60	CCVL	0.474	2246.68	4.392	5.078	64418.57	1.769	3.188	55007.34	2.968
61	500-166208-j-4-a	<0.000	74.02	N/A	0.112	3063.75	7.027	0.084	2006.89	30.019
62	500-166208-j-4-...	<0.000	70.88	N/A	0.058	2450.63	154.922	0.040	1316.78	43.768
63	500-166208-j-4-...	53.046	245468.10	2.003	1063.578	13331797.30	2.628	539.279	9341054.65	1.292
64	500-166208-j-4-...	52.424	242880.22	1.844	1064.145	13356056.88	1.434	545.020	9451899.65	1.412
65	500-166208-j-4-...	<0.000	81.29	N/A	0.462	7165.19	15.945	0.115	2513.64	13.106
66	500-166209-i-1-a	0.005	107.25	274.028	0.357	6098.01	6.511	0.075	1896.88	6.731
67	500-166209-j-1-a	<0.000	70.64	N/A	0.140	3440.51	16.791	0.039	1300.11	0.449
68	500-166209-i-2-a	0.000	86.68	4396.547	0.115	3187.13	13.384	1.190	21197.95	1.329
69	500-166209-j-2-a	0.000	86.57	9937.947	0.052	2390.28	43.607	1.146	20306.79	7.361
70	500-166209-i-3-a	0.063	365.44	73.323	0.618	9192.97	3.359	0.674	11918.17	2.850
71	CCV	255.077	1179585.76	2.860	252.460	3164966.41	2.654	238.126	4123227.13	2.932
72	CCB	0.023	183.24	51.610	0.201	4017.31	4.253	0.620	10683.95	13.966
73	500-166209-j-3-a	0.013	140.91	211.568	0.102	2943.71	26.785	0.753	13299.28	3.292
74	500-166216-a-...	1.221	5434.63	4.326	0.737	10413.72	5.469	0.682	11794.66	3.215
75	500-166219-a-...	0.019	169.95	39.995	0.058	2426.97	8.194	0.095	2236.92	5.520
76	500-164003-f-2-c	0.002	94.81	634.796	0.028	2096.89	73.553	0.235	4670.85	2.625
77	500-164003-f-3-c	0.004	102.04	220.481	0.036	2173.55	47.835	0.193	3923.97	8.603
78	500-164003-f-5-c	0.008	122.15	47.898	0.028	2043.54	34.689	0.340	6348.15	5.412
79	500-164003-f-6-c	<0.000	46.50	N/A	0.028	2086.89	77.620	0.027	1100.08	9.598
80	500-164003-h-...	0.018	160.75	32.947	0.057	2376.95	20.442	0.051	1466.79	20.654
81	500-164003-f-9-c	0.029	208.17	44.105	0.409	6528.19	5.964	0.210	4057.31	5.165
82	CCV	254.239	1144368.40	1.353	252.799	3084484.43	1.743	238.654	4021684.11	2.536
83	CCB	0.010	122.75	72.634	0.138	3220.45	6.740	0.624	10597.20	2.161
84	CCVL	0.478	2244.47	11.912	4.960	62414.20	2.145	3.140	53730.02	1.748
85	mb 500-49313...	0.001	89.90	410.454	0.045	2276.91	4.226	0.076	1923.52	11.930
86	lcs 500-493133...	53.859	245633.04	0.886	1082.613	13374450.22	1.613	550.974	9405241.11	1.398

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	0.632	2877.02	6.769	0.849	11854.78	4.829	0.364	6641.61	8.589
88	500-165934-j-1-...	0.343	1605.84	6.973	0.351	5914.67	3.373	0.160	3273.80	8.055
89	500-165934-j-2-...	0.619	2786.26	11.351	0.557	8259.11	2.679	0.258	4827.60	12.032
90	500-165934-j-2-...	0.342	1633.03	8.191	0.287	5237.72	14.791	0.128	2797.03	4.840
91	500-166079-k-...	0.002	93.61	519.273	0.029	2120.23	70.527	<0.000	643.37	N/A
92	CCV	252.727	1129310.66	1.856	251.268	3043821.93	1.387	237.465	3973406.92	1.262
93	CCB	0.022	171.72	35.992	0.175	3590.53	5.399	0.575	9659.92	6.282
94	CCVL	0.489	2274.61	11.838	5.026	62705.22	1.923	3.152	53472.70	5.161
95	CCV	252.972	1147230.75	1.439	250.635	3081415.58	0.584	238.367	4048020.57	0.405
96	CCB	0.030	205.12	49.382	0.179	3690.57	10.326	0.530	9059.59	6.678
97	mb 500-49320...	<0.000	61.85	N/A	0.037	2173.57	27.084	0.112	2526.96	14.204
98	lcs 500-493206...	52.130	242360.61	2.677	1059.788	13347983.97	1.893	542.350	9438612.36	1.912
99	500-166099-e-...	0.132	647.23	28.472	2.042	25397.29	5.643	1.911	31341.22	4.513
100	500-166099-f-1-a	0.141	653.97	7.045	1.179	14680.52	3.477	1.769	27774.74	2.403
101	500-166099-e-...	0.092	481.66	12.899	0.876	11921.44	4.711	1.620	26873.07	1.788
102	500-166099-f-2-a	0.080	420.12	22.490	0.465	7018.48	2.555	1.651	27056.64	2.998
103	500-166101-i-1-a	<0.000	40.43	N/A	0.095	2687.00	16.480	0.062	1563.48	14.872
104	500-166101-j-1-a	0.011	123.13	54.719	0.087	2550.30	19.494	0.081	1843.53	18.092
105	500-166101-i-2-a	0.001	79.34	1619.037	0.053	2160.23	24.155	0.076	1743.49	10.766
106	500-166101-j-2-a	0.013	129.68	51.921	0.076	2390.28	7.704	0.049	1323.44	21.084
107	CCV	253.069	1082671.68	2.405	252.961	2933646.41	2.441	242.162	3879353.59	2.178
108	CCB	0.023	173.30	86.127	0.203	3890.64	6.576	0.515	8642.65	13.614
109	500-166101-i-3-a	0.028	194.66	67.931	0.214	4074.02	9.815	0.201	3787.26	8.878
110	500-166101-j-3-a	<0.000	55.46	N/A	0.102	2763.67	16.528	0.087	1960.19	14.973
111	500-166101-i-4-a	0.026	184.22	72.663	0.148	3203.79	11.891	0.773	12445.21	4.857
112	500-166101-j-4-a	0.042	251.83	85.076	0.057	2200.23	43.416	0.139	2727.02	5.278
113	500-166101-i-6-a	0.251	1110.10	12.190	1.182	14733.85	4.893	0.451	7525.37	5.046
114	500-166101-j-6-a	0.142	648.18	31.832	0.114	2783.76	18.751	0.159	2973.75	9.727
115	500-166101-i-7-a	0.239	1036.68	17.232	0.686	9016.17	0.784	0.267	4594.18	2.581
116	500-166101-j-7-a	0.176	771.74	7.245	0.104	2633.66	27.571	0.141	2643.65	2.786

Analyte Table

		111 Cd [He]			118 Sn [He]			121 Sb [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	0.044	250.48	42.960	0.242	4110.66	4.983	0.284	4767.56	3.857
118	500-166101-j-8-a	0.035	216.19	17.990	0.153	3177.10	16.262	0.201	3570.53	6.447
119	CCV	262.571	1065858.11	1.485	261.448	2877091.83	1.158	249.946	3799468.69	0.530
120	CCB	0.028	185.36	16.310	0.173	3343.83	5.125	0.543	8559.23	11.458
121	500-166101-i-9-a	0.008	112.00	150.110	0.063	2346.94	18.879	0.140	2837.03	17.256
122	500-166101-j-9-a	0.001	83.18	923.234	0.029	1953.53	28.460	0.078	1833.51	24.411
123	500-166101-j-9-...	<0.000	60.15	N/A	0.003	1640.15	211.790	0.036	1163.44	49.527
124	500-166101-j-9-...	55.207	237390.11	0.784	1124.289	13096629.81	1.107	572.216	9210076.53	0.307
125	500-166101-j-9-...	53.708	233539.33	2.982	1094.344	12891271.48	2.603	558.394	9088849.24	2.573
126	500-166101-j-9-...	0.007	111.96	67.813	0.501	7538.70	7.815	0.110	2393.60	4.913
127	CCV	248.045	1078434.36	0.807	249.779	2943780.16	1.173	238.103	3876053.69	1.332
128	CCB	0.044	259.00	36.845	0.245	4317.41	7.220	0.559	9222.99	15.880
129	CCVL	0.510	2303.36	13.291	5.104	61949.05	0.739	3.165	52265.28	2.883

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
1	blk I.S /tune	0.112	713.38	9.436						
2	ICIS	0.000	103.34	N/A						
3	Std1	10.356	60980.44	0.959						
4	Std2	99.720	595521.09	2.556						
5	Std3	500.049	2915709.75	1.302						
6	S1	499.649	2924745.16	0.352						
7	ICV	200.239	1188263.16	2.356						
8	ICB	0.029	256.68	74.270						
9	ICVL	2.479	14387.04	4.891						
10	icsa	0.714	4230.72	0.179						
11	icsab	21.204	122684.95	1.073						
12	CRI	4.954	28830.04	4.064						
13	CCV	261.482	1523690.24	1.319						
14	CCB	0.019	206.68	80.174						
15	mb 500-49249...	0.405	2410.28	4.058						
16	lcs 500-492494...	523.877	3125811.41	0.772						
17	500-165815-b-...	0.435	2363.61	6.333						
18	500-165815-b-...	0.291	1643.49	3.362						
19	500-165815-b-...	0.564	2977.09	6.583						
20	500-165815-b-...	0.751	4094.04	6.986						
21	500-165815-b-...	0.293	1623.48	6.644						
22	500-165815-b-...	<0.000	80.00	N/A						
23	500-165700-e-...	0.639	4347.45	12.829						
24	500-165700-e-...	0.065	513.37	12.023						
25	CCV	258.582	1593451.54	1.672						
26	CCB	0.029	270.01	42.628						

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
27	CCV	262.074	1594464.51	2.059						
28	CCB	0.024	243.35	30.767						
29	mb 500-49273...	0.180	1186.76	9.927						
30	lcs 500-492736...	517.024	3199060.05	2.753						
31	500-165906-g-...	202.542	1257850.11	2.100						
32	CCV	259.844	1604093.26	0.789						
33	CCB	0.027	260.01	17.991						
34	CCVL	2.530	15117.66	2.697						
35	mb 500-49273...	0.089	633.37	14.592						
36	lcs 500-492737...	503.150	3123014.02	1.897						
37	500-165875-b-...	0.040	363.35	52.448						
38	500-165875-b-...	0.011	186.67	83.340						
39	500-165875-b-...	0.018	230.01	36.431						
40	500-165947-j-1-...	15.350	95843.43	3.536						
41	500-165954-c-...	0.004	146.67	355.662						
42	CCV	258.307	1585954.14	2.559						
43	CCB	0.024	243.35	65.714						
44	500-165875-b-...	0.417	2036.89	7.105						
45	500-165875-b-...	0.390	1843.51	4.838						
46	500-165875-b-...	0.203	946.73	11.041						
47	500-165947-j-1-a	73.727	424230.14	2.635						
48	500-165954-c-...	0.243	1180.10	7.063						
49	CCV	270.095	1614847.74	1.974						
50	CCB	0.016	190.01	83.177						
51	mb 500-49347...	0.158	1063.41	20.762						
52	lcs 500-493474...	2097.148	12976293.56	2.178						
53	500-166208-i-1-a	27.379	165684.54	2.099						
54	500-166208-j-1-a	26.916	157064.64	1.590						
55	500-166208-i-2-a	595.379	3328239.74	2.663						
56	500-166208-j-2-a	617.001	3417390.47	1.808						

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
57	500-166208-i-4-a	0.218	1356.78	14.427						
58	CCV	255.980	1499151.96	2.631						
59	CCB	0.050	370.02	11.773						
60	CCVL	2.651	15004.30	1.738						
61	500-166208-j-4-a	0.118	736.71	26.106						
62	500-166208-j-4-...	0.123	803.39	17.272						
63	500-166208-j-4-...	2133.341	12531120.65	0.599						
64	500-166208-j-4-...	2155.820	12656236.06	1.563						
65	500-166208-j-4-...	0.206	1206.76	3.731						
66	500-166209-i-1-a	39.841	235040.53	2.341						
67	500-166209-j-1-a	38.328	224359.46	1.958						
68	500-166209-i-2-a	23.812	141446.82	2.277						
69	500-166209-j-2-a	22.235	132632.70	2.718						
70	500-166209-i-3-a	65.692	387736.02	0.347						
71	CCV	259.719	1512761.54	1.793						
72	CCB	0.044	340.02	6.215						
73	500-166209-j-3-a	62.181	366364.04	2.761						
74	500-166216-a-...	147.821	935162.64	1.187						
75	500-166219-a-...	77.609	456204.38	1.348						
76	500-164003-f-2-c	184.763	1089551.81	1.904						
77	500-164003-f-3-c	194.361	1141061.47	2.151						
78	500-164003-f-5-c	121.749	705395.20	2.071						
79	500-164003-f-6-c	354.564	2065126.17	1.943						
80	500-164003-h-...	148.798	873728.97	4.484						
81	500-164003-f-9-c	170.034	988064.13	2.328						
82	CCV	253.109	1473031.28	2.828						
83	CCB	0.044	333.35	36.821						
84	CCVL	2.540	14333.63	3.623						
85	mb 500-49313...	0.095	640.04	20.994						
86	lcs 500-493133...	525.026	3067748.91	1.224						

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
87	500-165934-j-1-...	105.504	757275.20	2.165						
88	500-165934-j-1-...	58.536	387501.97	0.656						
89	500-165934-j-2-...	99.902	706556.61	1.359						
90	500-165934-j-2-...	54.113	357940.54	1.074						
91	500-166079-k-...	2.854	16742.65	3.185						
92	CCV	251.278	1465936.80	2.279						
93	CCB	0.027	243.34	45.779						
94	CCVL	2.553	14176.85	8.909						
95	CCV	253.587	1483741.59	1.306						
96	CCB	0.045	346.68	51.925						
97	mb 500-49320...	0.070	496.70	29.905						
98	lcs 500-493206...	515.104	3081904.85	2.500						
99	500-166099-e-...	15.464	88099.55	2.747						
100	500-166099-f-1-a	14.873	82265.74	3.581						
101	500-166099-e-...	18.691	108224.92	0.594						
102	500-166099-f-2-a	17.402	98680.25	0.155						
103	500-166101-i-1-a	15.896	89798.41	3.490						
104	500-166101-j-1-a	16.451	90157.33	2.173						
105	500-166101-i-2-a	16.711	92376.30	0.739						
106	500-166101-j-2-a	16.161	89034.41	0.642						
107	CCV	254.094	1427497.01	2.032						
108	CCB	0.030	263.34	4.425						
109	500-166101-i-3-a	20.548	114159.02	1.353						
110	500-166101-j-3-a	19.608	108915.22	2.621						
111	500-166101-i-4-a	32.829	180640.07	2.726						
112	500-166101-j-4-a	25.174	138182.44	0.409						
113	500-166101-i-6-a	175.308	996045.87	1.905						
114	500-166101-j-6-a	120.411	654255.11	2.029						
115	500-166101-i-7-a	143.214	781734.65	1.898						
116	500-166101-j-7-a	117.878	635114.71	2.285						

Analyte Table

		137 Ba [He]			150 Sm [He]			156 Gd [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc.	CPS	Conc. RSD	Conc.	CPS	Conc. RSD
117	500-166101-i-8-a	23.120	121609.55	2.242						
118	500-166101-j-8-a	22.605	120125.16	1.119						
119	CCV	257.643	1403473.78	0.956						
120	CCB	0.039	293.35	37.651						
121	500-166101-i-9-a	0.114	710.05	7.383						
122	500-166101-j-9-a	0.133	820.06	10.118						
123	500-166101-j-9-...	0.078	520.03	21.802						
124	500-166101-j-9-...	548.061	3062104.33	0.950						
125	500-166101-j-9-...	526.782	3002446.10	1.273						
126	500-166101-j-9-...	0.071	480.03	25.150						
127	CCV	254.836	1436570.40	0.321						
128	CCB	0.063	423.35	11.333						
129	CCVL	2.654	14627.29	4.174						

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.117	4447.49	12.027	0.107	1123.43	12.091	0.108	1033.41	8.909
2	ICIS	0.000	966.73	N/A	0.000	60.00	N/A	0.000	96.67	N/A
3	Std1	10.567	339368.67	2.007	10.648	114355.32	1.788	10.520	98472.15	2.467
4	Std2	102.124	3323078.28	2.329	102.197	1114603.91	2.624	102.270	971755.43	2.481
5	Std3	499.564	15869516.01	1.597	499.548	5320196.38	1.196	499.536	4634714.51	1.259
6	S1	499.810	15939606.84	0.745	503.258	5380590.13	0.662	501.614	4672148.79	0.553
7	ICV	201.511	6515064.49	2.655	203.088	2201110.70	2.650	201.807	1905581.69	2.108
8	ICB	0.069	2987.09	14.724	0.073	770.05	4.346	0.073	720.05	10.889
9	ICVL	2.121	67567.35	3.403	0.586	6224.87	2.927	0.563	5254.46	10.365
10	icsa	0.034	2133.58	12.324	0.383	4104.07	6.566	0.376	3563.89	1.227
11	icsab	9.966	314949.75	0.161	20.284	214216.41	2.398	20.238	186253.54	1.741
12	CRI	4.161	132493.70	2.187	1.060	11291.24	1.372	1.115	10390.58	3.128
13	CCV	265.268	8421597.16	1.558	264.756	2817814.13	0.703	263.951	2447373.71	0.820
14	CCB	0.045	2290.27	17.377	0.052	570.04	3.980	0.039	423.36	27.347
15	mb 500-49249...	<0.000	723.38	N/A	0.052	600.04	31.878	0.037	440.02	20.377
16	lcs 500-492494...	110.627	3597003.49	0.923	111.497	1215088.21	1.637	111.760	1061106.31	1.469
17	500-165815-b-...	0.019	1486.79	10.416	0.085	870.07	8.872	0.059	583.37	8.813
18	500-165815-b-...	0.014	1366.78	34.564	0.062	663.37	14.765	0.055	556.71	15.182
19	500-165815-b-...	0.016	1366.79	36.764	0.046	486.69	12.121	0.045	463.36	2.229
20	500-165815-b-...	0.011	1280.11	63.166	0.048	523.36	6.084	0.033	380.02	16.277
21	500-165815-b-...	0.009	1196.77	51.952	0.037	410.02	28.749	0.038	406.69	5.296
22	500-165815-b-...	<0.000	530.03	N/A	0.002	86.67	178.072	<0.000	76.67	N/A
23	500-165700-e-...	<0.000	740.05	N/A	0.567	6921.85	5.714	0.478	5147.76	5.544
24	500-165700-e-...	<0.000	460.03	N/A	0.043	540.03	26.409	0.022	320.02	59.319
25	CCV	267.765	8989791.95	1.785	262.495	2954431.00	1.588	261.083	2560136.16	1.105
26	CCB	0.032	1980.22	18.534	0.040	466.69	42.113	0.022	296.68	28.200

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	271.030	8983677.99	2.192	266.523	2961611.21	1.983	264.829	2563638.29	2.199
28	CCB	0.036	2113.57	26.724	0.047	546.70	15.805	0.027	346.69	29.096
29	mb 500-49273...	0.001	1133.42	389.957	0.099	1143.42	9.051	0.096	1020.08	9.064
30	lcs 500-492736...	109.103	3678315.47	3.362	110.033	1243329.90	3.681	109.448	1077462.27	3.675
31	500-165906-g-...	0.008	1396.79	18.922	0.651	7448.77	4.266	0.603	6068.13	8.137
32	CCV	271.048	9116517.78	0.495	264.247	2979417.46	0.788	262.626	2579770.33	0.246
33	CCB	0.035	2070.23	2.913	0.036	426.69	31.552	0.031	373.35	13.853
34	CCVL	2.132	69988.63	2.099	0.545	5971.41	1.999	0.549	5294.48	4.833
35	mb 500-49273...	<0.000	950.07	N/A	0.159	1760.17	8.176	0.130	1313.44	13.410
36	lcs 500-492737...	106.709	3609610.36	1.022	107.188	1215284.64	1.350	105.990	1046933.34	1.821
37	500-165875-b-...	0.000	1133.42	1390.852	0.021	306.68	8.605	0.019	296.68	47.212
38	500-165875-b-...	<0.000	730.05	N/A	0.017	260.01	20.438	0.004	153.34	95.135
39	500-165875-b-...	<0.000	616.71	N/A	0.015	236.68	55.749	0.008	186.68	87.366
40	500-165947-j-1-...	<0.000	510.03	N/A	0.486	5604.56	2.492	0.483	4914.32	2.348
41	500-165954-c-...	<0.000	460.03	N/A	0.006	136.68	42.727	0.005	163.34	119.465
42	CCV	271.383	9078392.16	2.400	263.829	2958532.77	2.605	262.225	2561797.25	2.531
43	CCB	0.022	1703.50	4.647	0.034	406.69	12.606	0.032	390.02	3.204
44	500-165875-b-...	0.037	1806.85	13.710	0.110	993.40	10.666	0.102	843.40	8.495
45	500-165875-b-...	0.028	1503.47	24.173	0.241	2030.23	9.965	0.238	1783.52	1.165
46	500-165875-b-...	0.011	1043.42	22.413	0.140	1133.42	4.292	0.146	1066.75	19.746
47	500-165947-j-1-a	<0.000	523.37	N/A	2.101	22136.89	2.594	2.056	18925.88	3.256
48	500-165954-c-...	0.024	1406.78	19.310	0.064	570.03	30.580	0.055	473.37	28.436
49	CCV	255.476	8324734.04	0.881	252.596	2758558.92	1.338	250.702	2385193.82	1.338
50	CCB	0.023	1656.82	6.846	0.031	366.69	10.055	0.029	350.02	9.404
51	mb 500-49347...	<0.000	726.71	N/A	0.087	1026.74	7.477	0.079	863.39	1.884
52	lcs 500-493474...	106.943	3606148.91	2.112	108.312	1224280.06	1.631	107.453	1058104.93	2.001
53	500-166208-i-1-a	0.002	1160.10	483.610	0.323	3640.59	2.119	0.291	2903.74	12.699
54	500-166208-j-1-a	<0.000	703.38	N/A	0.056	660.04	14.259	0.061	673.38	8.151
55	500-166208-i-2-a	<0.000	573.37	N/A	0.334	3473.85	6.705	0.311	2870.38	7.284
56	500-166208-j-2-a	<0.000	400.02	N/A	0.064	710.04	14.291	0.056	593.37	15.422

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	<0.000	570.03	N/A	0.129	1410.13	11.067	0.119	1183.43	4.807
58	CCV	271.790	8672454.04	2.477	261.865	2801301.83	2.163	260.193	2424943.82	2.259
59	CCB	0.026	1740.17	25.888	0.032	376.69	14.796	0.024	306.68	36.318
60	CCVL	2.147	66720.39	2.932	0.543	5634.62	7.574	0.540	4927.70	2.909
61	500-166208-j-4-a	<0.000	756.72	N/A	0.073	786.72	15.967	0.070	696.71	32.824
62	500-166208-j-4-...	<0.000	746.72	N/A	0.082	910.06	2.638	0.084	853.40	4.150
63	500-166208-j-4-...	109.108	3492074.84	2.040	111.288	1193988.73	1.280	109.755	1025931.21	0.864
64	500-166208-j-4-...	110.069	3521484.74	1.246	111.593	1196717.22	0.882	110.416	1031566.42	1.363
65	500-166208-j-4-...	0.006	1160.10	88.318	0.032	373.36	19.393	0.022	286.68	23.783
66	500-166209-i-1-a	<0.000	750.05	N/A	0.114	1293.45	12.006	0.097	1016.75	15.708
67	500-166209-j-1-a	<0.000	676.71	N/A	0.088	1006.74	9.591	0.082	870.06	9.665
68	500-166209-i-2-a	0.033	2170.24	18.152	0.052	633.37	6.100	0.044	523.37	18.180
69	500-166209-j-2-a	0.035	2216.93	22.970	0.080	943.40	6.507	0.069	766.72	26.864
70	500-166209-i-3-a	0.147	5794.66	11.719	4.660	50287.46	1.368	4.210	39636.01	2.084
71	CCV	279.031	8855145.29	1.489	265.931	2828893.71	2.272	264.977	2455662.31	2.268
72	CCB	0.034	1960.21	7.916	0.037	420.02	19.723	0.033	373.35	4.324
73	500-166209-j-3-a	0.093	4060.73	6.482	0.132	1490.14	1.372	0.141	1430.12	6.862
74	500-166216-a-...	0.485	17891.31	2.078	16.284	188210.43	1.196	14.837	149443.05	1.909
75	500-166219-a-...	<0.000	616.70	N/A	0.108	1230.10	6.986	0.108	1116.76	19.329
76	500-164003-f-2-c	<0.000	663.37	N/A	0.950	10297.22	4.266	0.848	8069.11	2.229
77	500-164003-f-3-c	<0.000	660.04	N/A	0.447	4854.32	6.240	0.420	4027.39	3.732
78	500-164003-f-5-c	<0.000	810.05	N/A	1.072	11411.30	3.398	0.874	8165.87	1.480
79	500-164003-f-6-c	0.049	2626.99	8.872	0.185	2033.57	8.257	0.178	1760.18	7.700
80	500-164003-h-...	<0.000	683.38	N/A	0.425	4620.87	3.477	0.391	3770.61	9.030
81	500-164003-f-9-c	0.023	1783.51	55.725	0.461	4964.32	5.400	0.414	3934.00	4.053
82	CCV	276.034	8753722.37	1.713	262.383	2788842.56	3.153	260.864	2415638.30	2.861
83	CCB	0.029	1783.51	18.420	0.034	380.02	8.129	0.032	363.35	12.654
84	CCVL	2.115	65595.46	1.780	0.534	5524.55	0.271	0.528	4810.96	5.603
85	mb 500-49313...	<0.000	623.37	N/A	0.084	920.07	14.211	0.072	746.72	22.994
86	lcs 500-493133...	111.197	3540721.20	1.259	112.410	1199728.86	0.996	111.325	1035149.00	0.758

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	1.344	53846.22	1.562	52.458	687678.82	2.560	48.264	551242.88	3.085
88	500-165934-j-1-...	0.738	27806.13	1.246	29.921	361767.34	1.600	27.305	287665.96	0.546
89	500-165934-j-2-...	1.246	49271.03	3.293	48.952	632332.72	1.788	44.763	503765.42	2.057
90	500-165934-j-2-...	0.675	25512.11	3.029	26.730	322939.68	0.344	25.071	263912.33	1.457
91	500-166079-k-...	<0.000	860.06	N/A	0.023	306.68	24.785	0.022	310.02	24.275
92	CCV	265.784	8449954.67	2.795	258.151	2750519.75	2.585	255.269	2369571.89	2.320
93	CCB	0.041	2133.58	13.198	0.053	560.03	11.833	0.047	483.36	5.989
94	CCVL	2.142	65340.74	3.442	0.566	5767.97	0.907	0.545	4881.00	9.909
95	CCV	273.984	8733947.37	1.419	260.951	2788544.44	1.846	259.453	2415384.49	2.029
96	CCB	0.037	2043.56	27.951	0.049	540.03	13.291	0.037	410.02	21.808
97	mb 500-49320...	<0.000	863.39	N/A	0.052	590.04	10.647	0.037	426.69	16.323
98	lcs 500-493206...	108.766	3546197.97	2.642	109.885	1200896.28	2.467	108.692	1034928.06	2.168
99	500-166099-e-...	0.170	6308.24	8.053	0.353	3737.31	4.773	0.328	3073.79	9.929
100	500-166099-f-1-a	0.137	5154.43	4.993	0.215	2233.61	5.608	0.193	1796.85	17.152
101	500-166099-e-...	0.139	5447.85	10.252	0.660	7035.25	4.047	0.583	5474.54	4.305
102	500-166099-f-2-a	0.099	4100.70	5.202	0.278	2943.73	3.725	0.286	2683.69	8.263
103	500-166101-i-1-a	0.039	2233.61	12.643	0.060	686.71	11.624	0.056	610.03	16.301
104	500-166101-j-1-a	0.037	2093.55	16.321	0.074	800.05	15.953	0.057	600.04	23.883
105	500-166101-i-2-a	0.026	1800.18	29.882	0.053	603.37	15.580	0.038	433.36	38.229
106	500-166101-j-2-a	0.034	2023.57	13.702	0.061	680.04	11.754	0.053	563.37	26.540
107	CCV	262.957	8049025.71	1.585	263.427	2703279.23	1.032	261.684	2339466.27	1.223
108	CCB	0.044	2230.25	22.392	0.052	556.70	0.802	0.044	463.36	20.604
109	500-166101-i-3-a	<0.000	913.40	N/A	0.189	1976.87	17.162	0.180	1686.83	15.042
110	500-166101-j-3-a	<0.000	620.03	N/A	0.041	483.36	28.320	0.034	406.69	17.038
111	500-166101-i-4-a	0.014	1413.46	57.164	1.075	10854.19	6.952	0.989	8762.88	2.896
112	500-166101-j-4-a	0.016	1486.80	33.050	0.238	2446.96	5.374	0.218	2003.55	11.754
113	500-166101-i-6-a	0.095	3977.35	14.382	12.367	128392.33	1.556	11.593	104897.04	3.824
114	500-166101-j-6-a	0.052	2546.99	16.084	0.173	1776.85	6.805	0.142	1323.45	7.414
115	500-166101-i-7-a	0.084	3483.88	12.364	5.314	53026.76	3.143	4.975	43302.67	3.032
116	500-166101-j-7-a	0.065	2907.06	10.176	0.172	1750.18	9.001	0.165	1516.80	13.241

Analyte Table

		205 Tl [He]			206 [Pb] [He]			207 [Pb] [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	0.011	1273.44	13.536	0.193	1910.19	11.168	0.161	1443.46	3.068
118	500-166101-j-8-a	0.022	1596.81	14.134	0.064	683.38	10.319	0.073	716.71	11.427
119	CCV	267.914	7951628.63	0.586	269.542	2681798.92	0.802	267.196	2315894.81	1.461
120	CCB	0.032	1803.52	4.633	0.050	513.36	27.833	0.049	483.36	16.124
121	500-166101-i-9-a	<0.000	860.06	N/A	0.079	823.39	7.002	0.053	546.70	8.872
122	500-166101-j-9-a	<0.000	606.70	N/A	0.053	580.03	9.342	0.044	476.70	14.638
123	500-166101-j-9-...	<0.000	480.03	N/A	0.059	636.71	25.499	0.060	610.04	11.175
124	500-166101-j-9-...	115.437	3514718.80	1.069	117.476	1198903.00	0.913	116.281	1033859.41	1.171
125	500-166101-j-9-...	111.707	3469599.64	1.054	113.059	1176991.81	1.589	111.780	1013909.72	0.302
126	500-166101-j-9-...	0.008	1206.76	74.143	0.034	386.68	9.860	0.036	406.69	21.441
127	CCV	261.135	8020294.67	0.391	261.631	2693761.21	1.048	259.558	2328155.12	0.807
128	CCB	0.048	2286.93	10.356	0.056	583.36	2.721	0.038	406.69	17.664
129	CCVL	2.107	63781.24	1.957	0.538	5441.20	0.261	0.531	4720.90	7.838

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
1	blk I.S /tune	0.105	4493.80	4.691	0.010	463.36	34.149
2	ICIS	0.000	373.35	N/A	0.000	46.67	N/A
3	Std1	10.708	453649.70	1.642	9.568	438773.82	2.107
4	Std2	103.361	4445503.37	2.081	98.029	4437167.23	3.741
5	Std3	499.314	20968991.99	1.318	500.403	21549444.68	3.076
6	S1	503.176	21213537.91	0.741	512.681	21692090.51	1.496
7	ICV	204.577	8743445.23	2.372	204.947	8937494.87	1.789
8	ICB	0.071	3133.59	3.185	0.033	1440.14	11.236
9	ICVL	0.569	23994.95	3.385	9.654	429705.25	1.538
10	icsa	0.360	15370.22	2.973	0.056	2403.63	17.580
11	icsab	20.503	853993.56	1.609	20.441	847758.84	2.555
12	CRI	1.102	46416.04	1.307	19.301	879101.13	3.282
13	CCV	267.791	11238782.54	0.933	259.893	11331321.08	2.290
14	CCB	0.047	2193.49	10.287	0.019	890.07	21.680
15	mb 500-49249...	0.044	2203.49	4.057	0.001	113.34	32.876
16	lcs 500-492494...	112.859	4850090.06	1.538	95.974	4801846.39	1.490
17	500-165815-b-...	0.074	3126.94	6.957	3.591	140322.90	0.261
18	500-165815-b-...	0.059	2603.55	12.370	0.615	23923.37	0.877
19	500-165815-b-...	0.051	2226.83	4.520	27.386	1040310.97	1.270
20	500-165815-b-...	0.037	1800.12	13.192	0.612	24257.31	3.161
21	500-165815-b-...	0.036	1710.10	12.462	1.447	55484.70	2.813
22	500-165815-b-...	<0.000	376.68	N/A	0.014	713.38	17.608
23	500-165700-e-...	0.594	28756.18	3.772	183.157	8220873.21	3.459
24	500-165700-e-...	0.035	1940.14	14.798	8.717	421789.46	2.459
25	CCV	265.558	11786481.44	1.363	261.187	11925944.82	1.742
26	CCB	0.030	1570.10	12.865	0.019	890.07	5.730

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
27	CCV	268.700	11773290.45	2.316	260.744	11979186.07	0.757
28	CCB	0.035	1803.45	19.542	0.022	1053.42	11.896
29	mb 500-49273...	0.092	4340.43	5.969	0.008	450.03	29.473
30	lcs 500-492736...	110.587	4927585.21	3.706	100.642	4853359.51	2.660
31	500-165906-g-...	0.631	28644.97	3.445	0.032	1640.16	4.157
32	CCV	266.327	11841372.69	0.509	257.157	12078828.15	2.090
33	CCB	0.036	1846.80	7.119	0.023	1050.08	3.949
34	CCVL	0.539	23451.25	2.105	9.592	447322.51	1.900
35	mb 500-49273...	0.153	6830.92	5.911	0.006	340.02	52.697
36	lcs 500-492737...	107.589	4810224.77	1.839	100.661	4774487.95	1.936
37	500-165875-b-...	0.018	1246.74	8.199	1.791	83924.10	2.786
38	500-165875-b-...	0.009	836.71	10.283	0.031	1523.48	5.937
39	500-165875-b-...	0.009	836.71	46.224	0.031	1496.80	11.790
40	500-165947-j-1-...	0.488	22350.60	1.379	0.349	16092.67	1.703
41	500-165954-c-...	0.005	663.37	76.707	0.443	21412.70	3.844
42	CCV	265.605	11744804.31	2.683	259.040	12117703.15	2.113
43	CCB	0.035	1793.46	10.429	0.021	976.74	5.990
44	500-165875-b-...	0.099	3646.98	7.656	102.667	3350806.41	3.603
45	500-165875-b-...	0.235	7941.12	3.081	1.514	46373.28	2.570
46	500-165875-b-...	0.144	4713.83	3.886	1.912	55939.54	4.818
47	500-165947-j-1-a	2.142	89143.27	2.649	1.531	62659.84	0.495
48	500-165954-c-...	0.060	2263.50	14.038	24.977	754424.44	3.108
49	CCV	254.228	10947950.98	1.374	254.657	11054020.25	2.788
50	CCB	0.027	1446.76	15.826	0.023	1056.76	7.702
51	mb 500-49347...	0.081	3920.37	12.903	0.002	170.01	32.902
52	lcs 500-493474...	108.790	4848966.83	1.920	<0.000	116.67	N/A
53	500-166208-i-1-a	0.311	13959.75	7.416	1.230	56910.00	1.011
54	500-166208-j-1-a	0.058	2830.23	8.416	1.264	56424.79	2.165
55	500-166208-i-2-a	0.323	13386.20	7.314	0.330	14017.10	3.843
56	500-166208-j-2-a	0.059	2760.21	10.541	0.347	14090.58	2.428

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
57	500-166208-i-4-a	0.114	5073.86	3.740	0.000	60.00	533.420
58	CCV	264.485	11156281.82	2.553	262.180	11559913.58	2.179
59	CCB	0.030	1536.76	12.972	0.023	1000.08	10.955
60	CCVL	0.538	22173.93	2.982	9.449	418394.95	0.400
61	500-166208-j-4-a	0.072	3196.94	18.231	0.005	253.35	60.122
62	500-166208-j-4-...	0.083	3783.67	3.827	0.002	133.34	6.918
63	500-166208-j-4-...	111.812	4730248.03	1.620	<0.000	146.67	N/A
64	500-166208-j-4-...	112.067	4739034.95	1.331	<0.000	160.01	N/A
65	500-166208-j-4-...	0.027	1436.76	9.556	0.001	76.67	80.403
66	500-166209-i-1-a	0.104	4850.53	4.720	0.334	14771.24	8.123
67	500-166209-j-1-a	0.081	3843.68	8.263	0.320	14490.83	2.508
68	500-166209-i-2-a	0.051	2620.21	8.663	1.403	63629.85	1.967
69	500-166209-j-2-a	0.076	3690.35	6.259	1.396	64309.73	2.609
70	500-166209-i-3-a	4.460	189942.06	1.589	9.727	435059.22	2.719
71	CCV	268.668	11270269.89	2.059	264.362	11670908.58	1.459
72	CCB	0.034	1666.77	6.977	0.025	1136.76	6.365
73	500-166209-j-3-a	0.129	5890.68	3.526	8.657	385070.09	0.730
74	500-166216-a-...	15.517	707378.86	1.551	2.019	89767.24	3.409
75	500-166219-a-...	0.107	4927.19	5.964	1.308	58248.39	4.177
76	500-164003-f-2-c	0.893	38326.76	2.422	0.596	26614.87	1.500
77	500-164003-f-3-c	0.427	18481.77	6.306	0.414	18485.49	0.342
78	500-164003-f-5-c	0.964	40619.05	2.774	0.520	23052.03	3.146
79	500-164003-f-6-c	0.177	7861.11	2.163	0.195	8879.68	4.499
80	500-164003-h-...	0.407	17628.03	2.244	0.953	42548.62	0.987
81	500-164003-f-9-c	0.444	18975.37	4.289	0.447	20407.99	3.176
82	CCV	264.016	11066235.15	2.817	264.001	11541991.91	3.966
83	CCB	0.032	1586.76	2.381	0.029	1230.11	1.651
84	CCVL	0.539	22173.88	2.687	9.506	413433.99	1.200
85	mb 500-49313...	0.080	3627.02	5.228	0.005	270.02	46.175
86	lcs 500-493133...	112.737	4744777.61	0.733	104.829	4631640.14	2.819

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
87	500-165934-j-1-...	50.440	2607546.06	2.657	5.572	278462.66	2.312
88	500-165934-j-1-...	28.628	1365073.37	0.573	3.027	144102.76	0.360
89	500-165934-j-2-...	46.950	2391602.16	2.049	5.437	267015.35	3.266
90	500-165934-j-2-...	26.057	1241431.94	1.095	2.907	137450.76	2.702
91	500-166079-k-...	0.022	1333.41	8.375	0.046	2153.57	5.644
92	CCV	258.788	10872909.68	2.567	260.221	11312989.83	2.331
93	CCB	0.051	2270.16	11.876	0.030	1280.11	17.803
94	CCVL	0.561	22647.46	5.085	9.452	412779.59	2.771
95	CCV	262.222	11049844.47	1.734	258.878	11506636.50	1.320
96	CCB	0.041	1970.13	8.364	0.035	1510.14	4.064
97	mb 500-49320...	0.047	2270.16	8.360	0.004	226.68	17.880
98	lcs 500-493206...	110.020	4741561.44	2.270	102.795	4652648.68	3.172
99	500-166099-e-...	0.342	14419.96	6.047	35.940	1477038.21	1.348
100	500-166099-f-1-a	0.196	8194.53	10.049	34.379	1401582.48	2.285
101	500-166099-e-...	0.617	26089.69	3.672	21.327	898112.36	1.323
102	500-166099-f-2-a	0.276	11645.54	3.671	25.016	1038803.89	1.774
103	500-166101-i-1-a	0.060	2833.56	10.017	5.215	215788.37	0.276
104	500-166101-j-1-a	0.063	2890.22	3.140	4.994	201585.05	3.815
105	500-166101-i-2-a	0.047	2250.15	6.955	5.118	210859.34	1.951
106	500-166101-j-2-a	0.053	2500.18	4.831	5.213	210796.04	2.051
107	CCV	265.020	10724274.58	1.058	262.846	11213934.41	1.589
108	CCB	0.049	2236.82	11.493	0.036	1563.48	12.842
109	500-166101-i-3-a	0.188	7894.45	7.187	0.633	26384.25	2.987
110	500-166101-j-3-a	0.039	1936.81	9.791	0.655	26918.56	3.557
111	500-166101-i-4-a	1.031	41199.86	4.925	3.422	140182.69	2.396
112	500-166101-j-4-a	0.231	9498.23	0.755	3.623	145159.88	2.831
113	500-166101-i-6-a	12.003	491530.58	1.870	6.350	269502.21	0.882
114	500-166101-j-6-a	0.154	6417.46	4.073	5.973	249053.14	0.708
115	500-166101-i-7-a	5.145	202660.06	1.573	6.163	254643.33	2.902
116	500-166101-j-7-a	0.167	6854.24	6.913	6.151	247776.29	0.998

Analyte Table

		208 Pb [He]			238 U [He]		
	Sample Name	Conc. [ppb]	CPS	Conc. RSD	Conc. [ppb]	CPS	Conc. RSD
117	500-166101-i-8-a	0.176	7034.25	5.509	4.380	171688.45	1.119
118	500-166101-j-8-a	0.064	2826.88	12.641	4.353	172369.60	1.260
119	CCV	270.313	10605201.98	1.083	268.012	11137006.50	1.989
120	CCB	0.045	1976.80	2.845	0.037	1560.14	4.696
121	500-166101-i-9-a	0.068	2963.57	8.166	0.008	410.02	26.544
122	500-166101-j-9-a	0.052	2386.85	4.926	0.005	253.35	25.992
123	500-166101-j-9-...	0.060	2656.87	12.801	0.002	116.67	63.968
124	500-166101-j-9-...	117.947	4746680.92	1.004	105.698	4645932.43	1.572
125	500-166101-j-9-...	113.273	4650345.04	0.938	103.240	4554215.97	0.640
126	500-166101-j-9-...	0.036	1760.11	17.892	0.015	696.71	12.163
127	CCV	262.736	10667092.29	0.808	261.536	11167395.25	0.849
128	CCB	0.053	2320.17	1.566	0.041	1710.17	18.590
129	CCVL	0.546	21897.13	1.452	9.395	406194.59	0.730

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
1	blk I.S /tune	221034.05	100.0	140583.84	100.0	197936.30	100.0
2	ICIS	211613.72	100.0	139552.79	100.0	189919.82	100.0
3	Std1	235421.16	111.3	154610.01	110.8	212012.41	111.6
4	Std2	233819.99	110.5	151691.14	108.7	207153.11	109.1
5	Std3	231215.51	109.3	150238.32	107.7	200343.79	105.5
6	S1	232585.49	109.9	153206.17	109.8	199351.41	105.0
7	ICV	234048.64	110.6	154917.30	111.0	206016.19	108.5
8	ICB	206567.76	97.6	136032.59	97.5	190916.70	100.5
9	ICVL	218023.65	103.0	144308.92	103.4	201742.00	106.2
10	icsa	242767.50	114.7	157119.17	112.6	196355.23	103.4
11	icsab	244001.71	115.3	156713.02	112.3	190937.85	100.5
12	CRI	225996.63	106.8	149444.38	107.1	204670.69	107.8
13	CCV	231304.47	109.3	152459.83	109.2	202745.16	106.8
14	CCB	210454.21	99.5	137779.34	98.7	195175.75	102.8
15	mb 500-49249...	227245.48	107.4	149071.36	106.8	209640.86	110.4
16	lcs 500-492494...	237247.09	112.1	154428.90	110.7	210753.11	111.0
17	500-165815-b-...	234191.92	110.7	157693.09	113.0	179655.52	94.6
18	500-165815-b-...	240194.54	113.5	150009.58	107.5	181859.30	95.8
19	500-165815-b-...	244419.27	115.5	152145.43	109.0	179453.80	94.5
20	500-165815-b-...	254520.12	120.3	154863.44	111.0	185493.95	97.7
21	500-165815-b-...	249126.76	117.7	154996.59	111.1	181910.86	95.8
22	500-165815-b-...	251463.35	118.8	163032.90	116.8	217671.95	114.6
23	500-165700-e-...	269255.02	127.2	904574.00	648.2	208380.10	109.7
24	500-165700-e-...	246379.26	116.4	197885.67	141.8	221138.43	116.4
25	CCV	248025.12	117.2	161723.29	115.9	213596.72	112.5
26	CCB	223616.01	105.7	146794.53	105.2	203573.60	107.2

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
27	CCV	251025.91	118.6	161806.02	115.9	214981.64	113.2
28	CCB	220908.34	104.4	146949.02	105.3	205390.58	108.1
29	mb 500-49273...	235296.75	111.2	153234.99	109.8	218049.87	114.8
30	lcs 500-492736...	250204.69	118.2	162973.82	116.8	220174.88	115.9
31	500-165906-g-...	255401.25	120.7	165017.41	118.2	212278.06	111.8
32	CCV	252343.20	119.2	163478.55	117.1	215294.79	113.4
33	CCB	221789.45	104.8	145543.79	104.3	203246.95	107.0
34	CCVL	231531.22	109.4	152853.29	109.5	210581.90	110.9
35	mb 500-49273...	233626.92	110.4	151088.80	108.3	214349.08	112.9
36	lcs 500-492737...	250703.89	118.5	163966.68	117.5	220792.01	116.3
37	500-165875-b-...	248710.95	117.5	163024.56	116.8	218184.56	114.9
38	500-165875-b-...	247174.18	116.8	162206.86	116.2	217740.91	114.6
39	500-165875-b-...	250041.14	118.2	160985.76	115.4	217406.33	114.5
40	500-165947-j-1-...	252056.76	119.1	162298.31	116.3	217314.05	114.4
41	500-165954-c-...	257676.88	121.8	168746.71	120.9	224585.25	118.3
42	CCV	250912.60	118.6	163079.16	116.9	218565.13	115.1
43	CCB	221225.91	104.5	144768.11	103.7	202593.79	106.7
44	500-165875-b-...	231866.60	109.6	141642.09	101.5	160452.17	84.5
45	500-165875-b-...	232202.66	109.7	137342.30	98.4	155671.90	82.0
46	500-165875-b-...	231712.83	109.5	136657.40	97.9	151455.43	79.7
47	500-165947-j-1-a	288394.32	136.3	171283.06	122.7	204591.26	107.7
48	500-165954-c-...	245429.51	116.0	150149.76	107.6	157815.77	83.1
49	CCV	287050.94	135.6	173825.26	124.6	215878.77	113.7
50	CCB	236127.72	111.6	151851.56	108.8	204094.48	107.5
51	mb 500-49347...	245709.18	116.1	159669.76	114.4	219091.57	115.4
52	lcs 500-493474...	255283.09	120.6	162965.98	116.8	217079.85	114.3
53	500-166208-i-1-a	251097.96	118.7	166721.27	119.5	212336.68	111.8
54	500-166208-j-1-a	238898.53	112.9	156561.55	112.2	205688.54	108.3
55	500-166208-i-2-a	243500.70	115.1	155365.11	111.3	193880.13	102.1
56	500-166208-j-2-a	243639.86	115.1	154162.06	110.5	190283.22	100.2

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
57	500-166208-i-4-a	234052.42	110.6	152422.78	109.2	209937.58	110.5
58	CCV	235440.04	111.3	153408.10	109.9	203236.33	107.0
59	CCB	211838.29	100.1	139249.39	99.8	192658.70	101.4
60	CCVL	223776.26	105.7	147300.08	105.6	204595.27	107.7
61	500-166208-j-4-a	222420.90	105.1	144771.86	103.7	201311.21	106.0
62	500-166208-j-4-...	229538.32	108.5	150334.13	107.7	206011.08	108.5
63	500-166208-j-4-...	237468.27	112.2	155900.38	111.7	207665.39	109.3
64	500-166208-j-4-...	236883.03	111.9	156095.20	111.9	207934.80	109.5
65	500-166208-j-4-...	217451.80	102.8	141225.02	101.2	197460.97	104.0
66	500-166209-i-1-a	244454.44	115.5	156297.01	112.0	202931.06	106.9
67	500-166209-j-1-a	244960.58	115.8	157168.68	112.6	203411.47	107.1
68	500-166209-i-2-a	242919.63	114.8	156853.45	112.4	207105.21	109.0
69	500-166209-j-2-a	244446.74	115.5	157377.10	112.8	205837.18	108.4
70	500-166209-i-3-a	248661.15	117.5	191425.84	137.2	200909.80	105.8
71	CCV	237482.38	112.2	156573.08	112.2	207688.14	109.4
72	CCB	214131.33	101.2	139686.78	100.1	195025.05	102.7
73	500-166209-j-3-a	243209.78	114.9	160077.48	114.7	201780.76	106.2
74	500-166216-a-...	287727.74	136.0	603434.13	432.4	196701.37	103.6
75	500-166219-a-...	240812.02	113.8	157194.77	112.6	202865.71	106.8
76	500-164003-f-2-c	239747.14	113.3	158128.69	113.3	206039.03	108.5
77	500-164003-f-3-c	236501.94	111.8	164274.63	117.7	204134.77	107.5
78	500-164003-f-5-c	235165.15	111.1	155270.81	111.3	201687.57	106.2
79	500-164003-f-6-c	236776.44	111.9	155383.59	111.3	205136.02	108.0
80	500-164003-h-...	233439.27	110.3	159114.52	114.0	199146.98	104.9
81	500-164003-f-9-c	239528.41	113.2	155025.64	111.1	197048.10	103.8
82	CCV	229194.43	108.3	150708.71	108.0	202075.39	106.4
83	CCB	206521.21	97.6	136156.79	97.6	191960.08	101.1
84	CCVL	221996.23	104.9	145916.22	104.6	202793.94	106.8
85	mb 500-49313...	227525.08	107.5	148131.04	106.1	204041.76	107.4
86	lcs 500-493133...	235462.56	111.3	151642.55	108.7	204665.99	107.8

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
87	500-165934-j-1-...	364524.99	172.3	1083021.42	776.1	198588.53	104.6
88	500-165934-j-1-...	294987.55	139.4	629513.87	451.1	199453.24	105.0
89	500-165934-j-2-...	350178.85	165.5	1010737.70	724.3	196265.05	103.3
90	500-165934-j-2-...	289827.02	137.0	588505.51	421.7	203134.98	107.0
91	500-166079-k-...	233566.71	110.4	152225.11	109.1	207949.29	109.5
92	CCV	228006.06	107.7	150466.46	107.8	200603.18	105.6
93	CCB	200835.95	94.9	133875.15	95.9	189004.01	99.5
94	CCVL	218030.77	103.0	144111.12	103.3	201135.18	105.9
95	CCV	232486.00	109.9	152644.11	109.4	203583.38	107.2
96	CCB	208407.44	98.5	138534.36	99.3	191374.54	100.8
97	mb 500-49320...	221791.42	104.8	148269.81	106.2	203231.57	107.0
98	lcs 500-493206...	239881.30	113.4	156231.29	112.0	208676.52	109.9
99	500-166099-e-...	225897.17	106.7	154690.60	110.8	192956.01	101.6
100	500-166099-f-1-a	216480.22	102.3	148280.89	106.3	184387.65	97.1
101	500-166099-e-...	229271.11	108.3	166772.66	119.5	194447.45	102.4
102	500-166099-f-2-a	224173.01	105.9	150968.91	108.2	192118.34	101.2
103	500-166101-i-1-a	222767.30	105.3	147887.42	106.0	189244.15	99.6
104	500-166101-j-1-a	216431.94	102.3	142586.81	102.2	186160.34	98.0
105	500-166101-i-2-a	219733.83	103.8	145595.61	104.3	185269.79	97.6
106	500-166101-j-2-a	216448.32	102.3	143863.62	103.1	182987.33	96.3
107	CCV	216112.22	102.1	145439.66	104.2	192097.19	101.1
108	CCB	203703.04	96.3	136496.03	97.8	187516.52	98.7
109	500-166101-i-3-a	220650.17	104.3	147700.18	105.8	190865.99	100.5
110	500-166101-j-3-a	216768.64	102.4	144644.38	103.6	189022.02	99.5
111	500-166101-i-4-a	217059.83	102.6	153032.29	109.7	184154.79	97.0
112	500-166101-j-4-a	215002.09	101.6	145454.95	104.2	185202.29	97.5
113	500-166101-i-6-a	216677.13	102.4	200609.78	143.8	184634.01	97.2
114	500-166101-j-6-a	208189.61	98.4	141831.48	101.6	181212.86	95.4
115	500-166101-i-7-a	207987.74	98.3	164825.54	118.1	180727.88	95.2
116	500-166101-j-7-a	203057.98	96.0	140568.03	100.7	178187.60	93.8

ISTD Table

		45 Sc (IS) (ISTD) [He]		89 Y - 89 (IS) (ISTD) [He]		103 Rh (IS) (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%	CPS	Recovery%
117	500-166101-i-8-a	203337.25	96.1	138125.79	99.0	178150.15	93.8
118	500-166101-j-8-a	204342.02	96.6	140150.97	100.4	179598.20	94.6
119	CCV	200756.64	94.9	135720.38	97.3	182225.68	95.9
120	CCB	187526.52	88.6	127269.14	91.2	176762.64	93.1
121	500-166101-i-9-a	202531.19	95.7	137839.94	98.8	191470.06	100.8
122	500-166101-j-9-a	203900.59	96.4	139934.52	100.3	190838.25	100.5
123	500-166101-j-9-...	204735.05	96.7	138925.57	99.6	190176.38	100.1
124	500-166101-j-9-...	215328.16	101.8	143503.55	102.8	192962.65	101.6
125	500-166101-j-9-...	215381.24	101.8	146113.62	104.7	195207.74	102.8
126	500-166101-j-9-...	212219.95	100.3	139491.00	100.0	194745.23	102.5
127	CCV	216253.36	102.2	146336.86	104.9	195168.15	102.8
128	CCB	195445.86	92.4	134431.57	96.3	185520.71	97.7
129	CCVL	208911.71	98.7	142871.35	102.4	195702.03	103.0

ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
1	blk I.S /tune	216617.21	100.0	119190.64	100.0
2	ICIS	210952.42	100.0	115235.54	100.0
3	Std1	235273.32	111.5	125917.79	109.3
4	Std2	239044.36	113.3	124360.79	107.9
5	Std3	233405.99	110.6	118277.68	102.6
6	S1	234300.90	111.1	116178.07	100.8
7	ICV	237579.21	112.6	119731.72	103.9
8	ICB	214164.27	101.5	116963.56	101.5
9	ICVL	230449.52	109.2	122208.42	106.1
10	icsa	230973.07	109.5	115452.51	100.2
11	icsab	231402.29	109.7	113880.72	98.8
12	CRI	232094.07	110.0	125079.73	108.5
13	CCV	233239.36	110.6	119729.68	103.9
14	CCB	212981.18	101.0	118595.96	102.9
15	mb 500-49249...	227532.26	107.9	139417.71	121.0
16	lcs 500-492494...	238839.38	113.2	137374.92	119.2
17	500-165815-b-...	208399.27	98.8	107232.66	93.1
18	500-165815-b-...	211724.33	100.4	106651.11	92.6
19	500-165815-b-...	204250.41	96.8	104306.19	90.5
20	500-165815-b-...	212876.48	100.9	108571.45	94.2
21	500-165815-b-...	208080.73	98.6	105219.41	91.3
22	500-165815-b-...	237040.30	112.4	126757.70	110.0
23	500-165700-e-...	264935.77	125.6	123312.12	107.0
24	500-165700-e-...	242098.99	114.8	132874.69	115.3
25	CCV	246683.86	116.9	125378.57	108.8
26	CCB	220928.67	104.7	120989.09	105.0

ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
27	CCV	243582.07	115.5	126133.52	109.5
28	CCB	223803.14	106.1	123775.65	107.4
29	mb 500-49273...	237824.96	112.7	129621.95	112.5
30	lcs 500-492736...	247806.18	117.5	132431.01	114.9
31	500-165906-g-...	248631.37	117.9	133983.05	116.3
32	CCV	247093.27	117.1	128989.06	111.9
33	CCB	221886.88	105.2	121673.60	105.6
34	CCVL	237434.30	112.6	128040.69	111.1
35	mb 500-49273...	233724.47	110.8	129881.48	112.7
36	lcs 500-492737...	248474.75	117.8	130230.68	113.0
37	500-165875-b-...	245241.92	116.3	128610.21	111.6
38	500-165875-b-...	242853.39	115.1	129510.15	112.4
39	500-165875-b-...	245061.36	116.2	127996.72	111.1
40	500-165947-j-1-...	249702.90	118.4	126295.50	109.6
41	500-165954-c-...	252770.05	119.8	132360.03	114.9
42	CCV	245833.36	116.5	128457.55	111.5
43	CCB	223325.38	105.9	122508.36	106.3
44	500-165875-b-...	186763.59	88.5	89677.77	77.8
45	500-165875-b-...	179974.07	85.3	84061.40	72.9
46	500-165875-b-...	170439.12	80.8	80340.39	69.7
47	500-165947-j-1-a	230306.08	109.2	112292.51	97.4
48	500-165954-c-...	179658.99	85.2	82955.24	72.0
49	CCV	239364.59	113.5	119228.91	103.5
50	CCB	215710.54	102.3	118833.93	103.1
51	mb 500-49347...	240741.65	114.1	134419.23	116.6
52	lcs 500-493474...	247751.27	117.4	20202116.37	17531.2
53	500-166208-i-1-a	242148.96	114.8	126930.20	110.1
54	500-166208-j-1-a	233420.36	110.7	122446.14	106.3
55	500-166208-i-2-a	223849.44	106.1	116124.14	100.8
56	500-166208-j-2-a	221742.07	105.1	110966.38	96.3

ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
57	500-166208-i-4-a	228404.70	108.3	131838.53	114.4
58	CCV	234516.15	111.2	121087.77	105.1
59	CCB	214037.69	101.5	115829.31	100.5
60	CCVL	224943.03	106.6	121553.27	105.5
61	500-166208-j-4-a	218992.96	103.8	123119.61	106.8
62	500-166208-j-4-...	225441.68	106.9	127629.47	110.8
63	500-166208-j-4-...	235127.57	111.5	19701426.38	17096.7
64	500-166208-j-4-...	235014.77	111.4	19801544.70	17183.5
65	500-166208-j-4-...	214233.99	101.6	121356.47	105.3
66	500-166209-i-1-a	236102.34	111.9	121213.76	105.2
67	500-166209-j-1-a	234228.08	111.0	124031.18	107.6
68	500-166209-i-2-a	237618.99	112.6	124413.39	108.0
69	500-166209-j-2-a	238644.29	113.1	126449.81	109.7
70	500-166209-i-3-a	236190.44	112.0	122829.73	106.6
71	CCV	233178.32	110.5	121217.61	105.2
72	CCB	212522.28	100.7	117824.85	102.2
73	500-166209-j-3-a	235832.12	111.8	122111.67	106.0
74	500-166216-a-...	253225.86	120.0	122041.32	105.9
75	500-166219-a-...	235260.80	111.5	122248.44	106.1
76	500-164003-f-2-c	236060.01	111.9	122350.13	106.2
77	500-164003-f-3-c	235034.92	111.4	122386.31	106.2
78	500-164003-f-5-c	231935.86	109.9	121436.02	105.4
79	500-164003-f-6-c	233171.87	110.5	124331.45	107.9
80	500-164003-h-...	235243.54	111.5	122465.45	106.3
81	500-164003-f-9-c	232631.12	110.3	125114.16	108.6
82	CCV	233027.65	110.5	120169.99	104.3
83	CCB	208678.64	98.9	113940.04	98.9
84	CCVL	224315.80	106.3	119402.44	103.6
85	mb 500-49313...	223573.08	106.0	122787.31	106.6
86	lcs 500-493133...	233885.94	110.9	121354.02	105.3

ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
87	500-165934-j-1-...	287302.63	136.2	137194.35	119.1
88	500-165934-j-1-...	264903.10	125.6	130663.77	113.4
89	500-165934-j-2-...	283067.27	134.2	134868.28	117.0
90	500-165934-j-2-...	264693.95	125.5	129767.97	112.6
91	500-166079-k-...	233298.60	110.6	125531.77	108.9
92	CCV	233596.35	110.7	119387.56	103.6
93	CCB	208938.69	99.0	113724.29	98.7
94	CCVL	220801.86	104.7	119935.55	104.1
95	CCV	234210.81	111.0	122033.45	105.9
96	CCB	214070.53	101.5	115602.00	100.3
97	mb 500-49320...	222796.18	105.6	123123.04	106.8
98	lcs 500-493206...	239564.40	113.6	124328.60	107.9
99	500-166099-e-...	227829.51	108.0	112835.33	97.9
100	500-166099-f-1-a	221199.28	104.9	111950.79	97.1
101	500-166099-e-...	231532.56	109.8	115635.34	100.3
102	500-166099-f-2-a	226731.93	107.5	114020.11	98.9
103	500-166101-i-1-a	225923.91	107.1	113564.83	98.6
104	500-166101-j-1-a	219122.72	103.9	110867.83	96.2
105	500-166101-i-2-a	221007.93	104.8	113111.22	98.2
106	500-166101-j-2-a	220268.62	104.4	111021.28	96.3
107	CCV	224908.54	106.6	117150.99	101.7
108	CCB	210786.48	99.9	114509.44	99.4
109	500-166101-i-3-a	222215.10	105.3	114199.61	99.1
110	500-166101-j-3-a	222178.40	105.3	112772.23	97.9
111	500-166101-i-4-a	220224.44	104.4	112439.47	97.6
112	500-166101-j-4-a	219559.19	104.1	110016.26	95.5
113	500-166101-i-6-a	227429.58	107.8	116495.38	101.1
114	500-166101-j-6-a	217509.57	103.1	114444.29	99.3
115	500-166101-i-7-a	218518.20	103.6	113468.79	98.5
116	500-166101-j-7-a	215673.17	102.2	110588.58	96.0

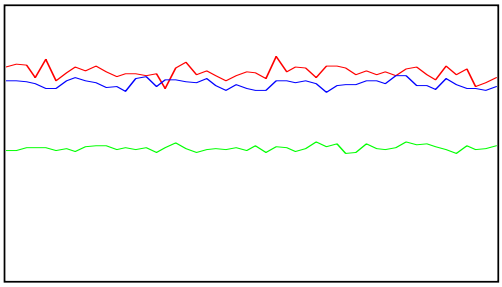
ISTD Table

		159 Tb (IS) (ISTD) [He]		209 Bi Internal Standard (ISTD) [He]	
	Sample Name	CPS	Recovery%	CPS	Recovery%
117	500-166101-i-8-a	210400.65	99.7	107598.93	93.4
118	500-166101-j-8-a	212537.69	100.8	108681.22	94.3
119	CCV	218047.03	103.4	114100.30	99.0
120	CCB	200495.10	95.0	111726.71	97.0
121	500-166101-i-9-a	212146.76	100.6	119646.19	103.8
122	500-166101-j-9-a	214954.61	101.9	119196.31	103.4
123	500-166101-j-9-...	212775.13	100.9	118655.27	103.0
124	500-166101-j-9-...	223643.61	106.0	120691.79	104.7
125	500-166101-j-9-...	228156.85	108.2	121111.41	105.1
126	500-166101-j-9-...	212559.08	100.8	116231.47	100.9
127	CCV	225630.19	107.0	117231.32	101.7
128	CCB	205052.73	97.2	112183.29	97.4
129	CCVL	218951.08	103.8	118694.82	103.0

Tune Report

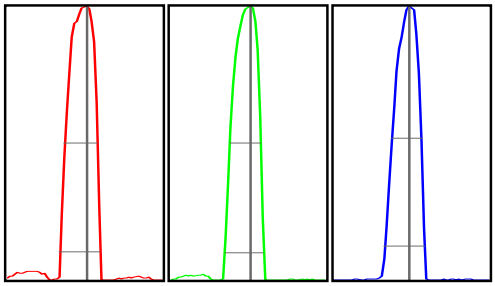
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Acq. Date-Time 7/5/2019 10:23
Report Comment 072015Atune
Instrument Name G3281A JP11040848

[He]



Mass	Range	Count	RSD%	Background
59	5000	3792	3.064	
89	10000	4824	2.162	
205	5000	3581	2.218	

Ratio 156/140 1.178 %
Integration Time [sec] 0.1 **Sampling Period [sec]** 0.31



Mass	Peak Height	Axis	W-50%	W-10%
59	3714.91	59.05	0.60	0.762
89	4841.66	89.05	0.58	0.748
205	3598.86	205.00	0.54	0.746

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.54 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1500 W	Nebulizer Pump	0.10 rps
RF Matching	1.80 V	S/C Temp	2 ℃
Smpl Depth	9.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-50 V
Extract 2	-200.0 V	Cell Exit	-80 V
Omega Bias	-100 V	Deflect	3.0 V
Omega Lens	8.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V

Tune Report

He Flow	3.5 mL/min	OctP RF	190 V
H2 Flow	0.0 mL/min	Energy Discrimination	3.0 V
3rd Gas Flow	0 %		

[no gas]

Mass	Range	Count	RSD%	Background
7	5000	3077	3.335	5.800
89	20000	10621	2.333	5.500
205	10000	5423	2.824	16.300

Ratio 156/140 1.519 % **Ratio** 70/140 15.595 %

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.311

Mass	Peak Height	Axis	W-50%	W-10%
7	3111.60	7.05	0.65	0.783
89	10648.60	89.00	0.57	0.752
205	5448.85	204.95	0.56	0.758

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.74 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.80 V	S/C Temp	2 ℃
Smpl Depth	9.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.00 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-34 V
Extract 2	-200.0 V	Cell Exit	-60 V
Omega Bias	-80 V	Deflect	14.2 V
Omega Lens	10.1 V	Plate Bias	-50 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V
He Flow	0.0 mL/min	OctP RF	190 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-166219-1

SDG No.:

Project: Will County CCR

Client Sample ID	Lab Sample ID
MW-06	500-166219-1

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-06 Lab Sample ID: 500-166219-1

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG ID.:

Matrix: Water Date Sampled: 07/03/2019 14:36

Reporting Basis: WET Date Received: 07/03/2019 15:50

CAS No.	Analyte	Result	RL		Units	C	Q	DIL	Method
	Total Dissolved Solids	740	10		mg/L			1	SM 2540C

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 493422 Date: 07/04/2019 20:10							
SM 2540C	MB 500-493422/1	Total Dissolved Solids	<10		mg/L	10	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 493422 Date: 07/04/2019 20:36											
SM 2540C	500-166219-1	Total Dissolved Solids	740		mg/L						
SM 2540C	500-166219-1 MS	Total Dissolved Solids	974		mg/L	250	92	75-125			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

6-IN
DUPLICATE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 493422 Date: 07/04/2019 20:33								
SM 2540C	MW-06	500-166219-1	Total Dissolved Solids	740	mg/L			
SM 2540C	MW-06	500-166219-1 DU	Total Dissolved Solids	764	mg/L	3	5	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VI-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 493422 Date: 07/04/2019 20:12											
						LCS Source: WSTTDS1_00024					
SM 2540C	LCS 500-493422/2	Total Dissolved Solids	296		mg/L	250	118	80-120			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-166219-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540C MDL Date: 05/15/2016 08:43

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Dissolved Solids		10	4.34

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job Number: 500-166219-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: SM 2540C XMDL Date: 05/15/2016 08:44

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Dissolved Solids		10	4.34

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: SM 2540C

Start Date: 07/04/2019 20:10 End Date: 07/04/2019 20:36

Lab Sample Id	D/F	Type	Time	Analytes																								
				TDS																								
MB 500-493422/1	1	T	20:10	X																								
LCS 500-493422/2	1	T	20:12	X																								
ZZZZZZ			20:15																									
ZZZZZZ			20:18																									
ZZZZZZ			20:21																									
ZZZZZZ			20:24																									
ZZZZZZ			20:27																									
500-166219-1	1	T	20:30	X																								
500-166219-1 DU	1	T	20:33	X																								
500-166219-1 MS	1	T	20:36	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Batch Number: 493422 Batch Start Date: 07/04/19 20:10 Batch Analyst: Boyd, Cheryl L

Batch Method: SM 2540C Batch End Date: 07/04/19 20:39

Lab Sample ID	Client Sample ID	Method Chain	Basis	CrucibleID	TareWeight	InitialAmount	Weight1	Weight2	Weight3
MB 500-493422/1		SM 2540C		3.7537a0408974	3.7537 g	50 mL	3.7535 g	3.7537 g	0 g
LCS 500-493422/2		SM 2540C		3.0556a0408949	3.0556 g	50 mL	3.0706 g	3.0704 g	0 g
500-166219-B-1	MW-06	SM 2540C	T	3.5213a0408499	3.5213 g	50 mL	3.5583 g	3.5585 g	0 g
500-166219-B-1 DU	MW-06	SM 2540C	T	3.2352a0408699	3.2352 g	50 mL	3.2737 g	3.2734 g	0 g
500-166219-B-1 MS	MW-06	SM 2540C	T	3.3610a0408449	3.3610 g	50 mL	3.4096 g	3.4097 g	0 g

Lab Sample ID	Client Sample ID	Method Chain	Basis	WeightOne%Diff	WeightTwo%Diff	Weight4OK	Residue	Residue2	Residue3
MB 500-493422/1		SM 2540C		Pass No Unit	N/A No Unit	N/A	-0.0002 g	0 g	N/A g
LCS 500-493422/2		SM 2540C		Pass No Unit	N/A No Unit	N/A	0.015 g	0.0148 g	N/A g
500-166219-B-1	MW-06	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.037 g	0.0372 g	N/A g
500-166219-B-1 DU	MW-06	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0385 g	0.0382 g	N/A g
500-166219-B-1 MS	MW-06	SM 2540C	T	Pass No Unit	N/A No Unit	N/A	0.0486 g	0.0487 g	N/A g

Lab Sample ID	Client Sample ID	Method Chain	Basis	Residue4	FinalAmount	CalcMsg	WSTTDS1 00024		
MB 500-493422/1		SM 2540C		N/A g	50 mL	OK			
LCS 500-493422/2		SM 2540C		N/A g	50 mL	OK	500 uL		
500-166219-B-1	MW-06	SM 2540C	T	N/A g	50 mL	OK			
500-166219-B-1 DU	MW-06	SM 2540C	T	N/A g	50 mL	OK			
500-166219-B-1 MS	MW-06	SM 2540C	T	N/A g	50 mL	OK	500 uL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Chicago Job No.: 500-166219-1

SDG No.:

Batch Number: 493422 Batch Start Date: 07/04/19 20:10 Batch Analyst: Boyd, Cheryl L

Batch Method: SM 2540C Batch End Date: 07/04/19 20:39

Batch Notes	
Balance ID	1634
Date/Time - In - CW (WT2)	07/04/2019 00:00
Date/Time - Out - CW (WT2)	07/04/2019 00:00
Temperature - Start - CW (WT2) - Correct	See Book #5280 Celsius
Temperature - End - CW (WT2) - Correct	See Book #5280 Celsius
Temperature - Start-CW(WT2) -Uncorrected	See Book #5280 Celsius
Temperature - End-CW(WT2) -Uncorrected	See Book #5280 Celsius
Filter ID	600022-9148-DD
Nominal Amount Used	50 mL
Oven ID	2819/2165
Thermometer ID	QC
Vessel Lot ID	RW0004801-9156-EZ
Weight(WT1) Start Date/Time	07/04/2019 00:00 No Unit
Weight(WT1) Date/Time Out	07/04/2019 00:00
Weight(WT1) Start Temp	See Book #5280 Celsius
Weight(WT1) Temp Out	See Book #5280 Celsius
Uncorrected Weight(WT1) Start Temp	See Book #5280 Celsius
Uncorrected Weight(WT1) Temp Out	See Book #5280 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica Chicago
TS / TDS / VDS / TVS

LIMS Batch# 493422

Page# 93
Book# 5280
NCM#

Circle Method Used:
(A) TDS - SM 2540C-97
B TS - SM 2540B-97
C VDS/TVS - E 160.4; SM 2540E-97
D Drinking Water

Calculations: TDS / TS
mg/L = (A - B) / C x 1,000,000
mg/L = [gross(g) - tare(g)] / vol(ml) x 1,000,000

Calculations: VDS / TVS
mg/L = (A - D) / C x 1,000,000

A =Petri Dish & Dry Residue Wt. (g)
B =Petri Dish Tare Wt. (g)
C =Sample Volume (ml)
D =Petri Dish+Residue after Ignition (g)

Oven #: 2819/2165
Initial Temp.: 104.9/181.1 °C
Final Temp.: 104.3/179.0 °C

Balance #: 1634
Desiccator #: 7
Filter Paper Lot #: 600022-9/18-1DV

Muffle Furnace #: 3 7/4/19
Furnace Temp.: °C
Seal Lot # RW000480-9/18-EZ

Sample #	Crud. ID	Sample Vol. (ml)	Tare B (g)	1st A (g)	2nd A (g)	3rd A or D (Circle) (g)	4th A or D (Circle) (g)	5th A or D (Circle) (g)	% Rec RPD
-MB	974	50	See TARES	See TARES	See TARES	NA	NA	NA	
-LCS	949	↓							118%
500-165925-1	924	0.5							
500-166051-3	799	5							
500-166216-2	749	50							
-3	774								
-4	724								
500-166219-1	499								
-1DU	699								3RPD
-1MS	449	↓	↓	↓	↓	↓	↓	↓	92%
180° Oven Time: IN				22:20	23:30				
Date				7/8/19	7/8/19				
180° Oven Time: Out				23:20	00:30				
Date				7/8/19	7/8/19				

CB
7/4/19

Sample #	Spiking Levels (mg/L)
500-166219-1	250
LCS	250
MRL / DLCK	

Stock Soln. I ID# (LCS / MS / MRL / DLCK): WSTTDSL00024

Spiking Calculation: Conc. of Stk. Soln. x Vol. of Stk Soln. added (mLs) / Vol. of Sample used (mLs)

Analyst Signature: Cheryl L Boyd

Filtration Date / Time: 7/4/19 20:10-20:39

Reviewer Signature: Paul Kluft

Date: 7-9-19

CHI-22-12-023/K-11/12

General Chemistry Worksheet

Batch Number: 500-493422
Method: SM 2540C
Analyst: Boyd, Cheryl L

Date Open: Jul 04 2019 8:10PM
Batch End: Jul 04 2019 8:39PM

Lab ID	Client ID	Method Chain	Basis	CrucibleID	Tare Weight	Initial weight/volume of sample	First Weighing	Second Weighing	Third Weighing
MB~500-493422/1		2540C		3.7537a0408974	3.7537 g	50 mL	3.7535 g	3.7537 g	0 g
LCS~500-493422/2		2540C		3.0556a0408949	3.0556 g	50 mL	3.0706 g	3.0704 g	0 g
500-165925-C-1	V-601 Cresylate	2540C	T	3.2232a0408924	3.2232 g	0.5 mL	3.3410 g	3.3407 g	0 g
500-166051-B-3	Wastewater Pit	2540C	T	3.8753a0408799	3.8753 g	5 mL	3.9865 g	3.9866 g	0 g
500-166216-B-2	MW-04	2540C	T	3.8183a0408749	3.8183 g	50 mL	3.8615 g	3.8619 g	0 g
500-166216-A-3	MW-05	2540C	T	3.8995a0408774	3.8995 g	50 mL	3.9439 g	3.9440 g	0 g
500-166216-A-4	MW-10	2540C	T	3.3310a0408724	3.3310 g	50 mL	3.3728 g	3.3727 g	0 g
500-166219-B-1	MW-06	2540C	T	3.5213a0408499	3.5213 g	50 mL	3.5583 g	3.5585 g	0 g
500-166219-B-1~DU		2540C	T	3.2352a0408699	3.2352 g	50 mL	3.2737 g	3.2734 g	0 g
500-166219-B-1~MS		2540C	T	3.3610a0408449	3.3610 g	50 mL	3.4096 g	3.4097 g	0 g

General Chemistry Worksheet

Batch Number: 500-493422
Method: SM 2540C
Analyst: Boyd, Cheryl L

Date Open: Jul 04 2019 8:10PM
Batch End: Jul 04 2019 8:39PM

Lab ID	Client ID	Method Chain	Basis	Percent different between 1st & 2nd	Percent different between 2nd & 3rd	QC Check for third weight Comparison	RawResidue	Weight of Residue 2	Weight of Residue 3
MB~500-493422/1		2540C		Pass No Unit	N/A No Unit	N/A	-0.0002 g	0 g	N/A g
LCS~500-493422/2		2540C		Pass No Unit	N/A No Unit	N/A	0.015 g	0.0148 g	N/A g
500-165925-C-1	V-601 Cresylate	2540C	T	Pass No Unit	N/A No Unit	N/A	0.1178 g	0.1175 g	N/A g
500-166051-B-3	Wastewater Pit	2540C	T	Pass No Unit	N/A No Unit	N/A	0.1112 g	0.1113 g	N/A g
500-166216-B-2	MW-04	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0432 g	0.0436 g	N/A g
500-166216-A-3	MW-05	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0444 g	0.0445 g	N/A g
500-166216-A-4	MW-10	2540C	T	Pass No Unit	N/A No Unit	N/A	0.0418 g	0.0417 g	N/A g
500-166219-B-1	MW-06	2540C	T	Pass No Unit	N/A No Unit	N/A	0.037 g	0.0372 g	N/A g
500-166219-B-1~DU		2540C	T	Pass No Unit	N/A No Unit	N/A	0.0385 g	0.0382 g	N/A g
500-166219-B-1~MS		2540C	T	Pass No Unit	N/A No Unit	N/A	0.0486 g	0.0487 g	N/A g

General Chemistry Worksheet

Batch Number: 500-493422
Method: SM 2540C
Analyst: Boyd, Cheryl L

Date Open: Jul 04 2019 8:10PM
Batch End: Jul 04 2019 8:39PM

Lab ID	Client ID	Method Chain	Basis	Weight of Residue 4	Final weight/volume of sample	Calculation Message	WSTTDS1_00024
MB~500-493422/1		2540C		N/A g	50 mL	OK	
LCS~500-493422/2		2540C		N/A g	50 mL	OK	500 uL
500-165925-C-1	V-601 Cresylate	2540C	T	N/A g	50 mL	OK	
500-166051-B-3	Wastewater Pit	2540C	T	N/A g	50 mL	OK	
500-166216-B-2	MW-04	2540C	T	N/A g	50 mL	OK	
500-166216-A-3	MW-05	2540C	T	N/A g	50 mL	OK	
500-166216-A-4	MW-10	2540C	T	N/A g	50 mL	OK	
500-166219-B-1	MW-06	2540C	T	N/A g	50 mL	OK	
500-166219-B-1~DU		2540C	T	N/A g	50 mL	OK	
500-166219-B-1~MS		2540C	T	N/A g	50 mL	OK	500 uL

Nominal Amount Used: 50 mL
Filter ID: 600022-9148-DD
Balance ID: 1634
Oven ID: 2819/2165
Thermometer ID: QC
Weight(WT1) Start Date/Time: 07/04/2019 00:00 No Unit
Uncorrected Weight(WT1) Start Temp: See Book #5280 Celsius
Weight(WT1) Start Temp: See Book #5280 Celsius
Weight(WT1) Date/Time Out: 07/04/2019 00:00
Uncorrected Weight(WT1) Temp Out: See Book #5280 Celsius
Weight(WT1) Temp Out: See Book #5280 Celsius
Date/Time - In - CW (WT2): 07/04/2019 00:00
Temperature - Start-CW(WT2) -Uncorrected: See Book #5280 Celsius
Temperature - Start - CW (WT2) - Correct: See Book #5280 Celsius
Date/Time - Out - CW (WT2): 07/04/2019 00:00
Temperature - End-CW(WT2) -Uncorrected: See Book #5280 Celsius
Temperature - End - CW (WT2) - Correct: See Book #5280 Celsius
Vessel Lot ID: RW0004801-9156-EZ

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Richard Grat
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-166219
Chain of Custody Number:
Page 1 of 1
30qt Temperature °C of Cooler: 9.4

Client	Client Project #	Preservative	3	8									
KPRG	12313.3												
Project Name: Will Cty CCR		Parameter	Boron	TDS									
Project Location/State: IL	Lab Project #												
Sampler: Erin Bulson	Lab PM												

500-166219 COC

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix				Comments
1		MW-06	7/3	1430	2	W	X	X		

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days X 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	7/3	1550	Paula Buckley	TACHT	7/3/19	1550
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered X

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-166219-1

Login Number: 166219
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	9.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-174582-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/20/2019 9:46:04 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 9
QC Association 10
QC Sample Results 12
Chain of Custody 15
Receipt Checklists 18
Chronicle 20

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Job ID: 500-174582-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-174582-1

Comments
No additional comments.

Receipt
The samples were received on 12/5/2019 5:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-174582-1	MW-12	Water	12/05/19 10:43	12/05/19 17:55	
500-174582-2	MW-10	Water	12/05/19 11:56	12/05/19 17:55	
500-174582-3	MW-11	Water	12/05/19 13:25	12/05/19 17:55	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Client Sample ID: MW-12

Date Collected: 12/05/19 10:43
Date Received: 12/05/19 17:55

Lab Sample ID: 500-174582-1

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.25		mg/L		12/10/19 18:42	12/12/19 10:54	5
Calcium	140		0.20		mg/L		12/10/19 18:42	12/11/19 13:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	820		10		mg/L			12/09/19 03:06	1
Chloride	71		10		mg/L			12/14/19 15:38	5
Fluoride	0.53		0.10		mg/L			12/14/19 15:36	1
Sulfate	110		100		mg/L			12/18/19 15:10	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Client Sample ID: MW-10

Date Collected: 12/05/19 11:56
Date Received: 12/05/19 17:55

Lab Sample ID: 500-174582-2

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.7		0.50		mg/L		12/10/19 18:42	12/12/19 10:58	10
Calcium	120		0.20		mg/L		12/10/19 18:42	12/11/19 13:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	940		10		mg/L			12/09/19 03:09	1
Chloride	110		10		mg/L			12/17/19 13:29	5
Fluoride	0.93		0.10		mg/L			12/14/19 15:40	1
Sulfate	190		100		mg/L			12/18/19 15:10	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Client Sample ID: MW-11

Date Collected: 12/05/19 13:25
Date Received: 12/05/19 17:55

Lab Sample ID: 500-174582-3

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.25		mg/L		12/10/19 18:42	12/12/19 11:01	5
Calcium	100		0.20		mg/L		12/10/19 18:42	12/11/19 13:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	600		10		mg/L			12/09/19 03:11	1
Chloride	80		10		mg/L			12/17/19 13:30	5
Fluoride	0.55		0.10		mg/L			12/14/19 15:43	1
Sulfate	91		25		mg/L			12/18/19 15:10	5

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Metals

Prep Batch: 519863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-1	MW-12	Total Recoverable	Water	3005A	
500-174582-2	MW-10	Total Recoverable	Water	3005A	
500-174582-3	MW-11	Total Recoverable	Water	3005A	
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 520200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-1	MW-12	Total Recoverable	Water	6020A	519863
500-174582-2	MW-10	Total Recoverable	Water	6020A	519863
500-174582-3	MW-11	Total Recoverable	Water	6020A	519863
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	6020A	519863
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	6020A	519863

Analysis Batch: 520311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-1	MW-12	Total Recoverable	Water	6020A	519863
500-174582-2	MW-10	Total Recoverable	Water	6020A	519863
500-174582-3	MW-11	Total Recoverable	Water	6020A	519863
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	6020A	519863
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	6020A	519863

General Chemistry

Analysis Batch: 470734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-1	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-174582-2	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-174582-3	MW-11	Total/NA	Water	SM 4500 SO4 E	
MB 400-470734/17	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-470734/22	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-470734/14	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 519435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-1	MW-12	Total/NA	Water	SM 2540C	
500-174582-2	MW-10	Total/NA	Water	SM 2540C	
500-174582-3	MW-11	Total/NA	Water	SM 2540C	
MB 500-519435/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-519435/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 520628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-1	MW-12	Total/NA	Water	SM 4500 F C	
500-174582-2	MW-10	Total/NA	Water	SM 4500 F C	
500-174582-3	MW-11	Total/NA	Water	SM 4500 F C	
MB 500-520628/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-520628/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

General Chemistry

Analysis Batch: 520840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-1	MW-12	Total/NA	Water	SM 4500 Cl- E	
MB 500-520840/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-520840/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 521099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174582-2	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-174582-3	MW-11	Total/NA	Water	SM 4500 Cl- E	
MB 500-521099/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-521099/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-519863/1-A
Matrix: Water
Analysis Batch: 520200

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		12/10/19 18:42	12/11/19 12:30	1

Lab Sample ID: MB 500-519863/1-A
Matrix: Water
Analysis Batch: 520311

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		12/10/19 18:42	12/12/19 10:46	1

Lab Sample ID: LCS 500-519863/2-A
Matrix: Water
Analysis Batch: 520200

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.41		mg/L		94	80 - 120

Lab Sample ID: LCS 500-519863/2-A
Matrix: Water
Analysis Batch: 520311

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.07		mg/L		107	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-519435/1
Matrix: Water
Analysis Batch: 519435

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			12/09/19 02:33	1

Lab Sample ID: LCS 500-519435/2
Matrix: Water
Analysis Batch: 519435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	256		mg/L		102	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-520840/12
Matrix: Water
Analysis Batch: 520840

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/14/19 14:47	1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 500-520840/13
Matrix: Water
Analysis Batch: 520840

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.3		mg/L		101	85 - 115

Lab Sample ID: MB 500-521099/12
Matrix: Water
Analysis Batch: 521099

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/17/19 13:27	1

Lab Sample ID: LCS 500-521099/13
Matrix: Water
Analysis Batch: 521099

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	48.5		mg/L		97	85 - 115

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-520628/3
Matrix: Water
Analysis Batch: 520628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			12/14/19 14:13	1

Lab Sample ID: LCS 500-520628/4
Matrix: Water
Analysis Batch: 520628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.5		mg/L		105	80 - 120

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-470734/17
Matrix: Water
Analysis Batch: 470734

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/18/19 13:58	1

Lab Sample ID: LCS 400-470734/22
Matrix: Water
Analysis Batch: 470734

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	15.0	14.3		mg/L		96	90 - 110

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-470734/14
Matrix: Water
Analysis Batch: 470734

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	<5.0		mg/L		93	50 - 150		

Chain of Custody Record

387630

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Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Eric Lamy	Site Contact:	Date:	COC No:
Company Name: KPRG and Assoc.	Tel/Email:	Lab Contact:	Carrier:	_____ of _____ COCs
Address: 414 Plaza Dr,	Analysis Turnaround Time			Sampler:
City/State/Zip: Westmont, IL	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone:	TAT if different from Below 3 Day			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: NRG Will Co CCR	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			500-174582

500-174582 COC

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	MoD 6020A	Chloride SM4500	Fluoride 4500	Sulfate SM4500	TDS 2540C	Sample Specific Notes:
1	MW-12	12/5	1043	G	W		Y		X	X	X	X	X	
2	MW-10	↓	1156	G	W		Y		X	X	X	X	X	
3	MW-11	↓	1325	G	W		Y		X	X	X	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 5.0 Corr'd: _____ Therm ID No.: _____

	Company	Date/Time		Company	Date/Time
Relinquished by: Mark Welsh	KPRG	12-5-19 1755	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Paula Blakley	Company: TA	Date/Time: 12/5/19 1755

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-129373.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-174582-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 12/17/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-12 (500-174582-1)	12/5/19	10:43 Central		Water			X	1	
MW-10 (500-174582-2)	12/5/19	11:56 Central		Water			X	1	
MW-11 (500-174582-3)	12/5/19	13:25 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

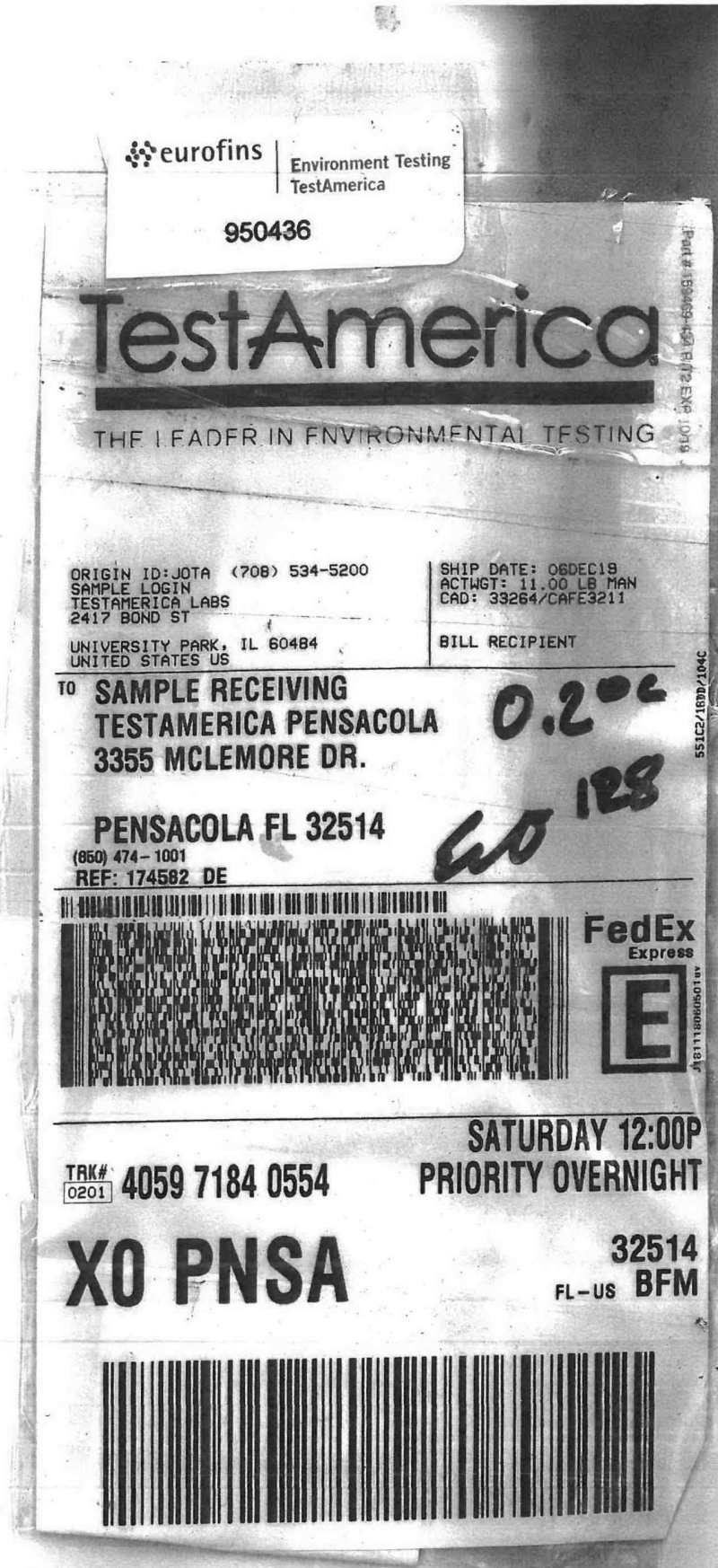
Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/6/19 1700	TA	Eodum	12-7-19 825	TAPen
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: ~~3.6~~ 0.2°C 1128

Ver: 01/16/2019


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Environment Testing
TestAmerica
950436
TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
ORIGIN ID:JOTA (708) 534-5200
SAMPLE LOGIN
TESTAMERICA LABS
2417 BOND ST
UNIVERSITY PARK, IL 60484
UNITED STATES US
SHIP DATE: 06DEC19
ACTWGT: 11.00 LB MAN
CAD: 33264/CAFE3211
BILL RECIPIENT
TO SAMPLE RECEIVING
TESTAMERICA PENSACOLA
3355 MCLEMORE DR.
PENSACOLA FL 32514
(850) 474-1001
REF: 174582 DE
0.2°C
40 128
FedEx
Express
SATURDAY 12:00P
PRIORITY OVERNIGHT
TRK# 0201 4059 7184 0554
XO PNSA
32514
FL-US BFM

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-174582-1

Login Number: 174582
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-174582-1

Login Number: 174582
List Number: 2
Creator: Odum, Edward L

List Source: Eurofins TestAmerica, Pensacola
List Creation: 12/07/19 10:49 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2°C IR8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174582-1

Client Sample ID: MW-12

Lab Sample ID: 500-174582-1
Matrix: Water
Date Collected: 12/05/19 10:43
Date Received: 12/05/19 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 13:27	FXG	TAL CHI
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	520311	12/12/19 10:54	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	519435	12/09/19 03:06	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	520840	12/14/19 15:38	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	520628	12/14/19 15:36	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	470734	12/18/19 15:10	RRC	TAL PEN

Client Sample ID: MW-10

Lab Sample ID: 500-174582-2
Matrix: Water
Date Collected: 12/05/19 11:56
Date Received: 12/05/19 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 13:31	FXG	TAL CHI
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	520311	12/12/19 10:58	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	519435	12/09/19 03:09	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	521099	12/17/19 13:29	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	520628	12/14/19 15:40	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	470734	12/18/19 15:10	RRC	TAL PEN

Client Sample ID: MW-11

Lab Sample ID: 500-174582-3
Matrix: Water
Date Collected: 12/05/19 13:25
Date Received: 12/05/19 17:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 13:35	FXG	TAL CHI
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	520311	12/12/19 11:01	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	519435	12/09/19 03:11	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	521099	12/17/19 13:30	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	520628	12/14/19 15:43	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	470734	12/18/19 15:10	RRC	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-166219-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
7/10/2019 9:36:07 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 7
QC Association 8
QC Sample Results 9
Chain of Custody 10
Receipt Checklists 11
Chronicle 12

Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Job ID: 500-166219-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-166219-1

Comments
No additional comments.

Receipt
The sample was received on 7/3/2019 3:50 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 9.4° C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166219-1	MW-06	Water	07/03/19 14:36	07/03/19 15:50	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Client Sample ID: MW-06
Date Collected: 07/03/19 14:36
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166219-1
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.2		0.050		mg/L		07/05/19 08:36	07/05/19 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	740		10		mg/L			07/04/19 20:30	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Metals

Prep Batch: 493474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166219-1	MW-06	Total Recoverable	Water	3005A	
MB 500-493474/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-493474/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 493751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166219-1	MW-06	Total Recoverable	Water	6020A	493474
MB 500-493474/1-A	Method Blank	Total Recoverable	Water	6020A	493474
LCS 500-493474/2-A	Lab Control Sample	Total Recoverable	Water	6020A	493474

General Chemistry

Analysis Batch: 493422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166219-1	MW-06	Total/NA	Water	SM 2540C	
MB 500-493422/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-493422/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-166219-1 MS	MW-06	Total/NA	Water	SM 2540C	
500-166219-1 DU	MW-06	Total/NA	Water	SM 2540C	

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-493474/1-A
Matrix: Water
Analysis Batch: 493751

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 493474

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		07/05/19 08:36	07/05/19 15:23	1

Lab Sample ID: LCS 500-493474/2-A
Matrix: Water
Analysis Batch: 493751

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 493474

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-493422/1
Matrix: Water
Analysis Batch: 493422

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			07/04/19 20:10	1

Lab Sample ID: LCS 500-493422/2
Matrix: Water
Analysis Batch: 493422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	296		mg/L		118	80 - 120

Lab Sample ID: 500-166219-1 MS
Matrix: Water
Analysis Batch: 493422

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	740		250	974		mg/L		92	75 - 125

Lab Sample ID: 500-166219-1 DU
Matrix: Water
Analysis Batch: 493422

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	740		764		mg/L		3	5

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)

Report To
Contact: Richard Grat
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)

Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-166219

Chain of Custody Number:

Page 1 of 1

30qt

Temperature °C of Cooler: 9.4

Client	KPRG	Client Project #	12313.3
Project Name	Will Cty CCR		
Project Location/State	IL	Lab Project #	
Sampler	Erin Bulson	Lab PM	

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

500-166219 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	Parameter: Boron	Parameter: TDS	Comments
1		MW-06	7/3	1430	2	W	3	X	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days X 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	7/3	1550	Paula Buckley	TACHI	7/3/19	1550
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered X

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

7/10/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-166219-1

Login Number: 166219
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	9.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-166219-1

Client Sample ID: MW-06

Date Collected: 07/03/19 14:36
Date Received: 07/03/19 15:50

Lab Sample ID: 500-166219-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			493474	07/05/19 08:36	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	493751	07/05/19 16:55	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	493422	07/04/19 20:30	CLB	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

eurofins | Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-174781-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/20/2019 9:53:19 AM

Eric Lang, Manager of Project Management
(708)534-5200
eric.lang@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 10
QC Association 11
QC Sample Results 13
Chain of Custody 16
Receipt Checklists 19
Chronicle 21

Job ID: 500-174781-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-174781-1

Comments
No additional comments.

Receipt
The samples were received on 12/9/2019 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

Receipt Exceptions
The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): MW-05 (500-174781-4) Added to COC and logged in.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-174781-1	MW-06	Water	12/06/19 17:56	12/09/19 15:15	
500-174781-2	MW-09	Water	12/06/19 15:49	12/09/19 15:15	
500-174781-3	Duplicate	Water	12/06/19 17:56	12/09/19 15:15	
500-174781-4	MW-05	Water	12/06/19 11:32	12/09/19 15:15	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Client Sample ID: MW-06

Date Collected: 12/06/19 17:56
Date Received: 12/09/19 15:15

Lab Sample ID: 500-174781-1

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.2		0.50		mg/L		12/10/19 18:42	12/12/19 11:05	10
Calcium	98		0.20		mg/L		12/10/19 18:42	12/11/19 14:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	740		10		mg/L			12/11/19 04:58	1
Chloride	31		2.0		mg/L			12/17/19 18:02	1
Fluoride	0.33		0.10		mg/L			12/14/19 17:51	1
Sulfate	210		100		mg/L			12/18/19 15:14	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Client Sample ID: MW-09

Date Collected: 12/06/19 15:49
Date Received: 12/09/19 15:15

Lab Sample ID: 500-174781-2

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.25		mg/L		12/10/19 18:42	12/12/19 11:09	5
Calcium	38		0.20		mg/L		12/10/19 18:42	12/11/19 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	630		10		mg/L			12/11/19 05:01	1
Chloride	140		10		mg/L			12/17/19 18:36	5
Fluoride	0.46		0.10		mg/L			12/14/19 17:55	1
Sulfate	160		100		mg/L			12/18/19 15:14	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Client Sample ID: Duplicate

Date Collected: 12/06/19 17:56
Date Received: 12/09/19 15:15

Lab Sample ID: 500-174781-3

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.0		0.50		mg/L		12/10/19 18:42	12/12/19 11:13	10
Calcium	98		0.20		mg/L		12/10/19 18:42	12/11/19 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	740		10		mg/L			12/11/19 05:03	1
Chloride	29		2.0		mg/L			12/17/19 18:07	1
Fluoride	0.33		0.10		mg/L			12/14/19 18:10	1
Sulfate	210		100		mg/L			12/18/19 15:14	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Client Sample ID: MW-05

Date Collected: 12/06/19 11:32
Date Received: 12/09/19 15:15

Lab Sample ID: 500-174781-4

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.9		1.0		mg/L		12/10/19 18:42	12/12/19 11:17	20
Calcium	170		0.20		mg/L		12/10/19 18:42	12/11/19 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1200		10		mg/L			12/11/19 05:06	1
Chloride	31		2.0		mg/L			12/17/19 18:09	1
Fluoride	0.41		0.10		mg/L			12/14/19 18:13	1
Sulfate	440		100		mg/L			12/18/19 15:14	20

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 519863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-1	MW-06	Total Recoverable	Water	3005A	
500-174781-2	MW-09	Total Recoverable	Water	3005A	
500-174781-3	Duplicate	Total Recoverable	Water	3005A	
500-174781-4	MW-05	Total Recoverable	Water	3005A	
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 520200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-1	MW-06	Total Recoverable	Water	6020A	519863
500-174781-2	MW-09	Total Recoverable	Water	6020A	519863
500-174781-3	Duplicate	Total Recoverable	Water	6020A	519863
500-174781-4	MW-05	Total Recoverable	Water	6020A	519863
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	6020A	519863
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	6020A	519863

Analysis Batch: 520311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-1	MW-06	Total Recoverable	Water	6020A	519863
500-174781-2	MW-09	Total Recoverable	Water	6020A	519863
500-174781-3	Duplicate	Total Recoverable	Water	6020A	519863
500-174781-4	MW-05	Total Recoverable	Water	6020A	519863
MB 500-519863/1-A	Method Blank	Total Recoverable	Water	6020A	519863
LCS 500-519863/2-A	Lab Control Sample	Total Recoverable	Water	6020A	519863

General Chemistry

Analysis Batch: 470734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-1	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-174781-2	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-174781-3	Duplicate	Total/NA	Water	SM 4500 SO4 E	
500-174781-4	MW-05	Total/NA	Water	SM 4500 SO4 E	
MB 400-470734/17	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-470734/22	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-470734/14	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 519871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-1	MW-06	Total/NA	Water	SM 2540C	
500-174781-2	MW-09	Total/NA	Water	SM 2540C	
500-174781-3	Duplicate	Total/NA	Water	SM 2540C	
500-174781-4	MW-05	Total/NA	Water	SM 2540C	
MB 500-519871/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-519871/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 520628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-1	MW-06	Total/NA	Water	SM 4500 F C	
500-174781-2	MW-09	Total/NA	Water	SM 4500 F C	
500-174781-3	Duplicate	Total/NA	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 520628 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-4	MW-05	Total/NA	Water	SM 4500 F C	
MB 500-520628/31	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-520628/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Analysis Batch: 521145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-174781-1	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-174781-2	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-174781-3	Duplicate	Total/NA	Water	SM 4500 Cl- E	
500-174781-4	MW-05	Total/NA	Water	SM 4500 Cl- E	
MB 500-521145/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-521145/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-174781-3 MS	Duplicate	Total/NA	Water	SM 4500 Cl- E	
500-174781-3 MSD	Duplicate	Total/NA	Water	SM 4500 Cl- E	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-519863/1-A
Matrix: Water
Analysis Batch: 520200

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		12/10/19 18:42	12/11/19 12:30	1

Lab Sample ID: MB 500-519863/1-A
Matrix: Water
Analysis Batch: 520311

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		12/10/19 18:42	12/12/19 10:46	1

Lab Sample ID: LCS 500-519863/2-A
Matrix: Water
Analysis Batch: 520200

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.41		mg/L		94	80 - 120

Lab Sample ID: LCS 500-519863/2-A
Matrix: Water
Analysis Batch: 520311

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 519863

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.07		mg/L		107	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-519871/1
Matrix: Water
Analysis Batch: 519871

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			12/11/19 04:07	1

Lab Sample ID: LCS 500-519871/2
Matrix: Water
Analysis Batch: 519871

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	274		mg/L		110	80 - 120

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-521145/12
Matrix: Water
Analysis Batch: 521145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/17/19 17:56	1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 500-521145/13
Matrix: Water
Analysis Batch: 521145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	50.2		mg/L		100	85 - 115		

Lab Sample ID: 500-174781-3 MS
Matrix: Water
Analysis Batch: 521145

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	29		50.0	75.9		mg/L		93	75 - 125		

Lab Sample ID: 500-174781-3 MSD
Matrix: Water
Analysis Batch: 521145

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	29		50.0	75.4		mg/L		92	75 - 125	1	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-520628/31
Matrix: Water
Analysis Batch: 520628

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			12/14/19 16:29	1

Lab Sample ID: LCS 500-520628/32
Matrix: Water
Analysis Batch: 520628

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.8		mg/L		108	80 - 120		

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-470734/17
Matrix: Water
Analysis Batch: 470734

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/18/19 13:58	1

Lab Sample ID: LCS 400-470734/22
Matrix: Water
Analysis Batch: 470734

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	14.3		mg/L		96	90 - 110		

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-470734/14
Matrix: Water
Analysis Batch: 470734

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	<5.0		mg/L		93	50 - 150

TestAmerica

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2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-174781 COC

Chain of Custody Record

Lab Job #: 500-174781

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: 3.4

Report To (optional)	Bill To (optional)
Contact:	Contact:
Company: KPRG and Associates	Company:
Address:	Address:
Address:	Address:
Phone:	Phone:
Fax:	Fax:
E-Mail:	PO#/Reference#

Client: KPRG	Client Project #	Preservative	
Project Name: NRG Will Co. CCR		Parameter	
Project Location/State: Romeoville, IL	Lab Project #		
Sampler: Mark Wilson	Lab PM: Eric Lang		

Preservative Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	MOD 6020A Chloride SM4500	Fluoride 4500 Sulfate SM4500	TDS 2540C	Comments
1		MW-6	12-6-19	1756		W	X	X	X	
2		MW-9		1549			X	X	X	
3		DUP		1756			X	X	X	
4		MW-05		1132						Added by TA

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Mark Wilson	KPRG	12-9-19	1355		TA	12/9/19	1355
	TA	12/9/19	1515		TA-CHI	12/9/19	1515

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-129484.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: eric.lang@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-174781-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 12/23/2019			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-06 (500-174781-1)	12/6/19	17:56 Central		Water			X	1	
MW-09 (500-174781-2)	12/6/19	15:49 Central		Water			X	1	
Duplicate (500-174781-3)	12/6/19	17:56 Central		Water			X	1	
MW-05 (500-174781-4)	12/6/19	11:32 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

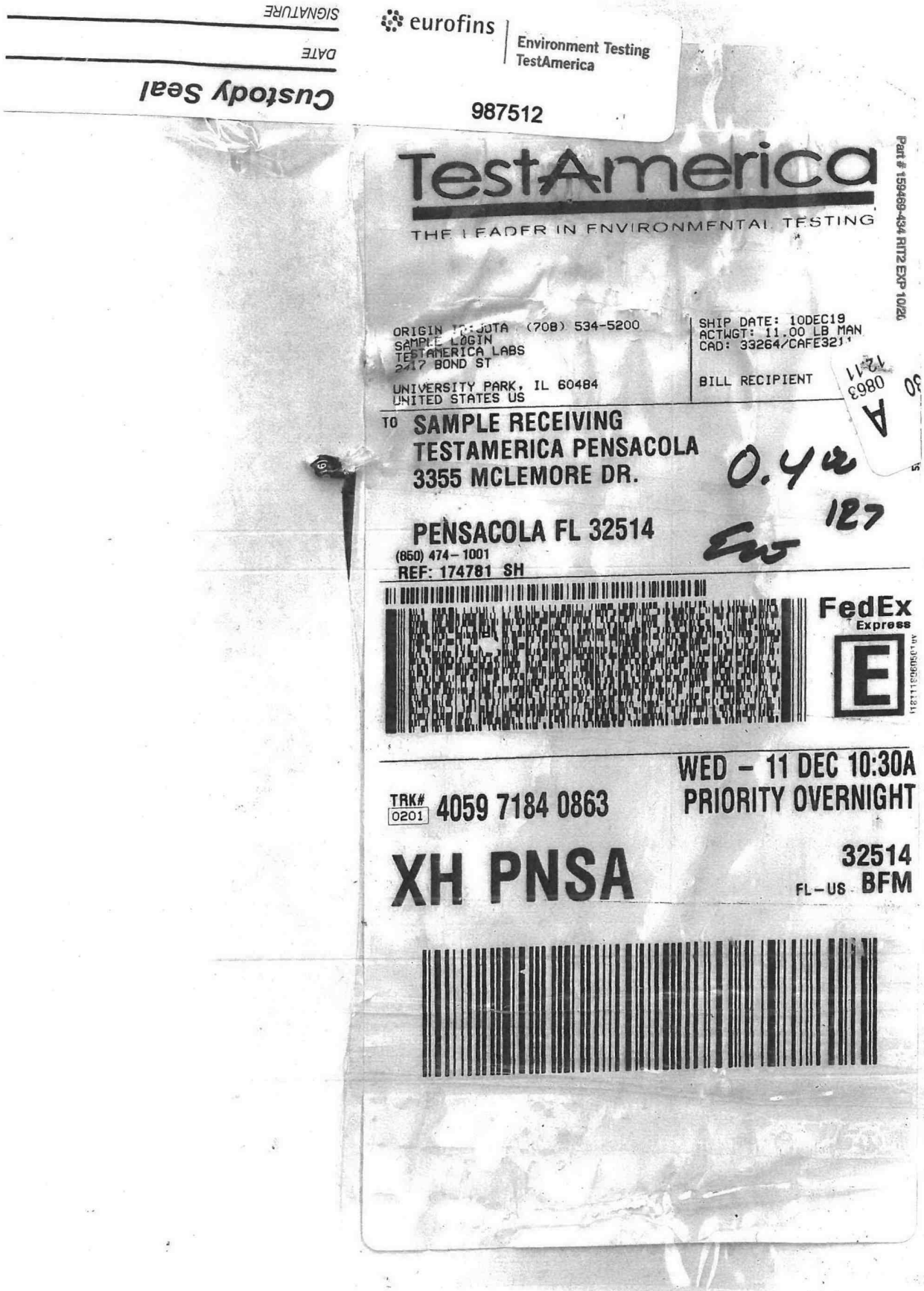
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Stephanie Hernandez	12/10/19 16:00	TA		12/11/19 9:08	TAL
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.4°C IR7

Ver: 01/16/2019

Page 17 of 22

12/20/2019


Custody Seal
DATE
SIGNATURE
eurofins | Environment Testing TestAmerica
987512
TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Part # 158468-434 REV2 EXP 10/20
ORIGIN ID: JOTA (708) 534-5200
SAMPLE LOGIN
TESTAMERICA LABS
2417 BOND ST
UNIVERSITY PARK, IL 60484
UNITED STATES US
SHIP DATE: 10DEC19
ACTWGT: 11.00 LB MAN
CAD: 33264/CAFE3211
BILL RECIPIENT
TO SAMPLE RECEIVING
TESTAMERICA PENSACOLA
3355 MCLEMORE DR.
PENSACOLA FL 32514
(850) 474-1001
REF: 174781 SH
0.42
127
FedEx Express
TRK# 0201 4059 7184 0863
WED - 11 DEC 10:30A
PRIORITY OVERNIGHT
XH PNSA
32514
FL-US BFM

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-174781-1

Login Number: 174781
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-174781-1

Login Number: 174781
List Number: 2
Creator: Odum, Edward L

List Source: Eurofins TestAmerica, Pensacola
List Creation: 12/11/19 05:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Client Sample ID: MW-06

Lab Sample ID: 500-174781-1
Matrix: Water
Date Collected: 12/06/19 17:56
Date Received: 12/09/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 14:06	FXG	TAL CHI
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	520311	12/12/19 11:05	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	519871	12/11/19 04:58	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	521145	12/17/19 18:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	520628	12/14/19 17:51	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	470734	12/18/19 15:14	RRC	TAL PEN

Client Sample ID: MW-09

Lab Sample ID: 500-174781-2
Matrix: Water
Date Collected: 12/06/19 15:49
Date Received: 12/09/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 14:10	FXG	TAL CHI
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		5	520311	12/12/19 11:09	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	519871	12/11/19 05:01	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	521145	12/17/19 18:36	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	520628	12/14/19 17:55	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	470734	12/18/19 15:14	RRC	TAL PEN

Client Sample ID: Duplicate

Lab Sample ID: 500-174781-3
Matrix: Water
Date Collected: 12/06/19 17:56
Date Received: 12/09/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 14:13	FXG	TAL CHI
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	520311	12/12/19 11:13	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	519871	12/11/19 05:03	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	521145	12/17/19 18:07	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	520628	12/14/19 18:10	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	470734	12/18/19 15:14	RRC	TAL PEN

Client Sample ID: MW-05

Lab Sample ID: 500-174781-4
Matrix: Water
Date Collected: 12/06/19 11:32
Date Received: 12/09/19 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	520200	12/11/19 14:17	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-174781-1

Client Sample ID: MW-05

Date Collected: 12/06/19 11:32
Date Received: 12/09/19 15:15

Lab Sample ID: 500-174781-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			519863	12/10/19 18:42	BDE	TAL CHI
Total Recoverable	Analysis	6020A		20	520311	12/12/19 11:17	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	519871	12/11/19 05:06	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		1	521145	12/17/19 18:09	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	520628	12/14/19 18:13	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	470734	12/18/19 15:14	RRC	TAL PEN

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-182493-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/11/2020 1:22:07 PM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 22
Receipt Checklists 26
Chronicle 28

Job ID: 500-182493-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-182493-1

Comments
No additional comments.

Receipt
The samples were received on 5/22/2020 2:53 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 4.5º C, 5.3º C, 5.5º C and 5.9º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-05 (500-182493-1), MW-06 (500-182493-2), MW-12 (500-182493-3) and Dup (500-182493-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-182493-1	MW-05	Water	05/22/20 12:41	05/22/20 14:53	
500-182493-2	MW-06	Water	05/22/20 10:01	05/22/20 14:53	
500-182493-3	MW-12	Water	05/22/20 11:02	05/22/20 14:53	
500-182493-4	Dup	Water	05/22/20 12:41	05/22/20 14:53	
500-182493-5	MW-09	Water	05/26/20 15:31	05/27/20 09:00	
500-182493-6	MW-11	Water	05/26/20 12:34	05/27/20 09:00	
500-182493-7	MW-10	Water	05/27/20 11:32	05/28/20 10:21	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-05

Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-1

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.5		1.0		mg/L		05/26/20 06:38	06/04/20 17:19	20
Calcium	52		4.0		mg/L		05/26/20 06:38	06/04/20 17:19	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	870		10		mg/L			05/23/20 01:02	1
Chloride	70		10		mg/L			06/05/20 16:21	5
Fluoride	0.59		0.10		mg/L			06/09/20 16:35	1
Sulfate	300		100		mg/L			05/28/20 14:47	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-06

Date Collected: 05/22/20 10:01
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-2

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.4		0.50		mg/L		05/26/20 06:38	06/04/20 17:23	10
Calcium	98		2.0		mg/L		05/26/20 06:38	06/04/20 17:23	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	710		10		mg/L			05/23/20 01:05	1
Chloride	56		10		mg/L			06/05/20 16:06	5
Fluoride	0.31		0.10		mg/L			06/09/20 16:38	1
Sulfate	180		100		mg/L			05/28/20 14:47	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-12

Date Collected: 05/22/20 11:02
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-3

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.50		mg/L		05/26/20 06:38	06/04/20 17:26	10
Calcium	180		2.0		mg/L		05/26/20 06:38	06/04/20 17:26	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			05/23/20 01:07	1
Chloride	120		10		mg/L			06/05/20 16:06	5
Fluoride	0.40		0.10		mg/L			06/09/20 16:41	1
Sulfate	140		100		mg/L			05/28/20 14:47	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: Dup

Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-4

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.4		0.50		mg/L		05/26/20 06:38	06/04/20 17:30	10
Calcium	60		2.0		mg/L		05/26/20 06:38	06/04/20 17:30	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	880		10		mg/L			05/23/20 01:10	1
Chloride	84		10		mg/L			06/05/20 16:06	5
Fluoride	0.69		0.10		mg/L			06/09/20 16:44	1
Sulfate	270		100		mg/L			05/28/20 14:47	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-09
Date Collected: 05/26/20 15:31
Date Received: 05/27/20 09:00

Lab Sample ID: 500-182493-5
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.50		mg/L		05/27/20 17:35	06/05/20 12:20	10
Calcium	55		0.20		mg/L		05/27/20 17:35	05/29/20 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	720		10		mg/L			05/28/20 01:46	1
Chloride	320		40		mg/L			06/05/20 16:06	20
Fluoride	0.32		0.10		mg/L			06/09/20 16:48	1
Sulfate	140		25		mg/L			06/04/20 15:01	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-11

Date Collected: 05/26/20 12:34
Date Received: 05/27/20 09:00

Lab Sample ID: 500-182493-6

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.50		mg/L		05/27/20 17:35	06/05/20 12:39	10
Calcium	89		0.20		mg/L		05/27/20 17:35	05/29/20 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	540		10		mg/L			05/28/20 01:49	1
Chloride	100		10		mg/L			06/05/20 16:07	5
Fluoride	0.54		0.10		mg/L			06/09/20 17:01	1
Sulfate	90		25		mg/L			06/04/20 15:02	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-10

Date Collected: 05/27/20 11:32
Date Received: 05/28/20 10:21

Lab Sample ID: 500-182493-7

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.50		mg/L		05/29/20 06:51	06/04/20 18:36	10
Calcium	100		2.0		mg/L		05/29/20 06:51	06/04/20 18:36	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	850		10		mg/L			05/28/20 22:46	1
Chloride	170		10		mg/L			06/05/20 16:07	5
Fluoride	0.90		0.10		mg/L			06/09/20 17:04	1
Sulfate	280		100		mg/L			06/04/20 15:08	20

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 544222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total Recoverable	Water	3005A	
500-182493-2	MW-06	Total Recoverable	Water	3005A	
500-182493-3	MW-12	Total Recoverable	Water	3005A	
500-182493-4	Dup	Total Recoverable	Water	3005A	
MB 500-544222/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-544222/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 500-544222/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 544610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total Recoverable	Water	3005A	
500-182493-6	MW-11	Total Recoverable	Water	3005A	
MB 500-544610/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-544610/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-182493-5 MS	MW-09	Total Recoverable	Water	3005A	
500-182493-5 MSD	MW-09	Total Recoverable	Water	3005A	
500-182493-5 DU	MW-09	Total Recoverable	Water	3005A	

Prep Batch: 544931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-7	MW-10	Total Recoverable	Water	3005A	
MB 500-544931/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-544931/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 545254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total Recoverable	Water	6020A	544610
500-182493-6	MW-11	Total Recoverable	Water	6020A	544610
MB 500-544610/1-A	Method Blank	Total Recoverable	Water	6020A	544610
LCS 500-544610/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544610
500-182493-5 MS	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 MSD	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 DU	MW-09	Total Recoverable	Water	6020A	544610

Analysis Batch: 546160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total Recoverable	Water	6020A	544222
500-182493-2	MW-06	Total Recoverable	Water	6020A	544222
500-182493-3	MW-12	Total Recoverable	Water	6020A	544222
500-182493-4	Dup	Total Recoverable	Water	6020A	544222
500-182493-7	MW-10	Total Recoverable	Water	6020A	544931
MB 500-544222/1-A	Method Blank	Total Recoverable	Water	6020A	544222
MB 500-544931/1-A	Method Blank	Total Recoverable	Water	6020A	544931
LCS 500-544222/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544222
LCS 500-544931/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544931
LCSD 500-544222/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	544222

Analysis Batch: 546193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total Recoverable	Water	6020A	544610
500-182493-6	MW-11	Total Recoverable	Water	6020A	544610

Metals (Continued)

Analysis Batch: 546193 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-544610/1-A	Method Blank	Total Recoverable	Water	6020A	544610
LCS 500-544610/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544610
500-182493-5 MS	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 MSD	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 DU	MW-09	Total Recoverable	Water	6020A	544610

General Chemistry

Analysis Batch: 490726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-182493-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-182493-3	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-182493-4	Dup	Total/NA	Water	SM 4500 SO4 E	
MB 400-490726/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-490726/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-490726/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 544145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 2540C	
500-182493-2	MW-06	Total/NA	Water	SM 2540C	
500-182493-3	MW-12	Total/NA	Water	SM 2540C	
500-182493-4	Dup	Total/NA	Water	SM 2540C	
MB 500-544145/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544145/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 544661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total/NA	Water	SM 2540C	
500-182493-6	MW-11	Total/NA	Water	SM 2540C	
MB 500-544661/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544661/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 544911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-7	MW-10	Total/NA	Water	SM 2540C	
MB 500-544911/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544911/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-182493-7 DU	MW-10	Total/NA	Water	SM 2540C	

Analysis Batch: 545969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-182493-6	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-182493-7	MW-10	Total/NA	Water	SM 4500 SO4 E	
MB 500-545969/60	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-545969/61	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

General Chemistry

Analysis Batch: 546379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-182493-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-182493-3	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-182493-4	Dup	Total/NA	Water	SM 4500 Cl- E	
500-182493-5	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-182493-6	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-182493-7	MW-10	Total/NA	Water	SM 4500 Cl- E	
MB 500-546379/49	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-546379/54	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 546770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 4500 F C	
500-182493-2	MW-06	Total/NA	Water	SM 4500 F C	
500-182493-3	MW-12	Total/NA	Water	SM 4500 F C	
500-182493-4	Dup	Total/NA	Water	SM 4500 F C	
500-182493-5	MW-09	Total/NA	Water	SM 4500 F C	
500-182493-6	MW-11	Total/NA	Water	SM 4500 F C	
500-182493-7	MW-10	Total/NA	Water	SM 4500 F C	
MB 500-546770/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-546770/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-544222/1-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544222

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/26/20 06:38	06/04/20 17:08	1
Calcium	<0.20		0.20		mg/L		05/26/20 06:38	06/04/20 17:08	1

Lab Sample ID: LCS 500-544222/2-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544222

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120
Calcium	10.0	10.6		mg/L		106	80 - 120

Lab Sample ID: LCSD 500-544222/3-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 544222

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.07		mg/L		107	80 - 120	1	20
Calcium	10.0	10.3		mg/L		103	80 - 120	3	20

Lab Sample ID: MB 500-544610/1-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/27/20 17:35	05/29/20 15:49	1

Lab Sample ID: MB 500-544610/1-A
Matrix: Water
Analysis Batch: 546193

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/27/20 17:35	06/05/20 12:13	1

Lab Sample ID: LCS 500-544610/2-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	11.9		mg/L		119	80 - 120

Lab Sample ID: LCS 500-544610/2-A
Matrix: Water
Analysis Batch: 546193

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.946		mg/L		95	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-182493-5 MS
Matrix: Water
Analysis Batch: 545254

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	55		10.0	64.1	4	mg/L		89	75 - 125

Lab Sample ID: 500-182493-5 MS
Matrix: Water
Analysis Batch: 546193

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.3		1.00	2.14		mg/L		81	75 - 125

Lab Sample ID: 500-182493-5 MSD
Matrix: Water
Analysis Batch: 545254

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	55		10.0	64.5	4	mg/L		92	75 - 125	1	20

Lab Sample ID: 500-182493-5 MSD
Matrix: Water
Analysis Batch: 546193

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.3		1.00	2.25		mg/L		92	75 - 125	5	20

Lab Sample ID: 500-182493-5 DU
Matrix: Water
Analysis Batch: 545254

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	55		54.8		mg/L		0.8	20

Lab Sample ID: 500-182493-5 DU
Matrix: Water
Analysis Batch: 546193

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	1.3		1.30		mg/L		2	20

Lab Sample ID: MB 500-544931/1-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/29/20 06:51	06/04/20 18:21	1
Calcium	<0.20		0.20		mg/L		05/29/20 06:51	06/04/20 18:21	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-544931/2-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.957		mg/L		96	80 - 120
Calcium	10.0	9.96		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-544145/1
Matrix: Water
Analysis Batch: 544145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/23/20 00:11	1

Lab Sample ID: LCS 500-544145/2
Matrix: Water
Analysis Batch: 544145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	246		mg/L		98	80 - 120

Lab Sample ID: MB 500-544661/1
Matrix: Water
Analysis Batch: 544661

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/28/20 01:16	1

Lab Sample ID: LCS 500-544661/2
Matrix: Water
Analysis Batch: 544661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	250		mg/L		100	80 - 120

Lab Sample ID: MB 500-544911/1
Matrix: Water
Analysis Batch: 544911

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/28/20 22:33	1

Lab Sample ID: LCS 500-544911/2
Matrix: Water
Analysis Batch: 544911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	238		mg/L		95	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 500-182493-7 DU
Matrix: Water
Analysis Batch: 544911

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	850			868		mg/L				3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-546379/49
Matrix: Water
Analysis Batch: 546379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/05/20 16:09	1

Lab Sample ID: LCS 500-546379/54
Matrix: Water
Analysis Batch: 546379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	18.8		mg/L		94	85 - 115		

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-546770/3
Matrix: Water
Analysis Batch: 546770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/09/20 15:40	1

Lab Sample ID: LCS 500-546770/4
Matrix: Water
Analysis Batch: 546770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.8		mg/L		108	80 - 120		

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-490726/6
Matrix: Water
Analysis Batch: 490726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/28/20 14:20	1

Lab Sample ID: LCS 400-490726/7
Matrix: Water
Analysis Batch: 490726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	13.9		mg/L		93	90 - 110		

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-490726/3
Matrix: Water
Analysis Batch: 490726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	<5.0		mg/L		96	50 - 150		

Lab Sample ID: MB 500-545969/60
Matrix: Water
Analysis Batch: 545969

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			06/04/20 14:56	1

Lab Sample ID: LCS 500-545969/61
Matrix: Water
Analysis Batch: 545969

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	20.6		mg/L		103	80 - 120		

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: Michael Ross	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-81733-37389.1
Client Contact: Richard Gnat	Phone: 630-325-1300	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-182493

Address: 14665 West Lisbon Road. Suite 1A	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Brookfield	TAT Requested (days):		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WI, 53005	PO #: 4502009653		
Phone: 815-671-2258(Tel) 500-182493 COC	WO #:		Other:
Email: richardg@kprginc.com	Project #: 50011609		
Project Name: Will County CCR Event Desc: Quarterly GW Monitoring	SSOW#:		
Site: Illinois			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N		
1 MW-05	5/22/20	12:41	G	Water	N		X	X		
2 MW-06	5/22/20	1001		Water						
MW-09				Water						
MW-10				Water						
MW-11				Water						
3 MW-12	5/22/20	11:02	G	Water	N		X	X		
4 Dup	5/22/20	12:41	G	Water	N		X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Michael Ross	Date/Time: 5/22/20 2:53pm	Company: KPRG	Received by: Paula Buckley	Date/Time: 5/22/20 1453	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.5 484

Chain of Custody Record

433713 eurofins | Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Richard Grant	Site Contact:	Date: 5/27/20	COC No: 500-81733-37389.1
Company Name: KPRG & Associates, Inc	Tel/Email: richardg@KPRGinc.com	Lab Contact: Lang, Erica	Carrier:	___ of ___ COCs
Address: 14665 W Lisbon Road, Suite 1A	**Analysis Turnaround Time**			Sampler:
City/State/Zip: Brookfield, WI 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
Phone: 815-671-2258	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Will County CCR; Quarterly GW Mon.	☐ 1 week			Job / SDG No.:
Site: Illinois	☐ 2 days			500-182493
PO # 4502009653	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	6020A-(MOD) Sr-90 Ba-133	25 40C, 4SW F, SM4500-Cl - E, SM4500-SO4 - E
MW-09	5/26/20	12:31	G	Water	2	N		X	X
MW-XX11	5/26/20	12:34	G	Water	2	N		X	X

500-182493 COC

Sample Specific Notes:

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

5.5, 5.9 48hr.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michael Ness	KPRG	9:15 5/27/20			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA-CHI	5/27/20 0900

Chain of Custody Record 457801

eurofins | Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Richard Grant	Site Contact:	Date:	COC No:
Company Name: KPRG	Tel/Email: richardg@KPRGinc.com	Lab Contact:	Carrier:	_____ of _____ COCs
Address: 14665 W Lisbon Rd, Suite 1A	Analysis Turnaround Time			Sampler:
City/State/Zip: Brookfield, WI, 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 815-671-2254	TAT if different from Below _____			Walk-in Client: X
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Will County, CCR, Event: Quarterly Monit	☐ 1 week			
Site: Illinois	☐ 2 days			Job / SDG No.: 500-182493
PO # 4502009653	☐ 1 day			

500-182493 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500	-504-E	Sample Specific Notes:
1 MW-10	5/27/20	11:32	G	Water	2	N	X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

5.3 30 gt.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____ Corr'd: _____	Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michael Ross	KPRG	5/28 10:21			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA-CHI	5/28/20 1021

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-135535.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-182493-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 6/8/2020			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-05 (500-182493-1)	5/22/20	12:41 Central		Water			X	1	
MW-06 (500-182493-2)	5/22/20	10:01 Central		Water			X	1	
MW-12 (500-182493-3)	5/22/20	11:02 Central		Water			X	1	
Dup (500-182493-4)	5/22/20	12:41 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/22/20 1600	TAL	Megan Anderson	5-23-20 933	TAL-EN
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.7°C IR9

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182493-1

Login Number: 182493
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5,5.5,5.9,5.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182493-1

Login Number: 182493
List Number: 2
Creator: Hinrichsen, Megan E

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/23/20 12:58 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.7°C IR-9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-05

Lab Sample ID: 500-182493-1
Matrix: Water
Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		20	546160	06/04/20 17:19	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:02	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:21	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:35	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Client Sample ID: MW-06

Lab Sample ID: 500-182493-2
Matrix: Water
Date Collected: 05/22/20 10:01
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 17:23	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:05	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:38	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Client Sample ID: MW-12

Lab Sample ID: 500-182493-3
Matrix: Water
Date Collected: 05/22/20 11:02
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 17:26	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:07	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:41	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Client Sample ID: Dup

Lab Sample ID: 500-182493-4
Matrix: Water
Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 17:30	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:10	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:44	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-09

Lab Sample ID: 500-182493-5

Date Collected: 05/26/20 15:31

Matrix: Water

Date Received: 05/27/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:53	FXG	TAL CHI
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	546193	06/05/20 12:20	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544661	05/28/20 01:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:48	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	545969	06/04/20 15:01	RES	TAL CHI

Client Sample ID: MW-11

Lab Sample ID: 500-182493-6

Date Collected: 05/26/20 12:34

Matrix: Water

Date Received: 05/27/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 16:02	FXG	TAL CHI
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	546193	06/05/20 12:39	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544661	05/28/20 01:49	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:07	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 17:01	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	545969	06/04/20 15:02	RES	TAL CHI

Client Sample ID: MW-10

Lab Sample ID: 500-182493-7

Date Collected: 05/27/20 11:32

Matrix: Water

Date Received: 05/28/20 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544931	05/29/20 06:51	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 18:36	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544911	05/28/20 22:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:07	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 17:04	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	545969	06/04/20 15:08	RES	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-182493-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
6/11/2020 1:22:07 PM

Diana Mockler, Project Manager I
(219)252-7570
diana.mockler@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 17
Chain of Custody 22
Receipt Checklists 26
Chronicle 28

Job ID: 500-182493-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-182493-1

Comments
No additional comments.

Receipt
The samples were received on 5/22/2020 2:53 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 4.5º C, 5.3º C, 5.5º C and 5.9º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 4500 SO4 E: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-05 (500-182493-1), MW-06 (500-182493-2), MW-12 (500-182493-3) and Dup (500-182493-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL PEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-182493-1	MW-05	Water	05/22/20 12:41	05/22/20 14:53	
500-182493-2	MW-06	Water	05/22/20 10:01	05/22/20 14:53	
500-182493-3	MW-12	Water	05/22/20 11:02	05/22/20 14:53	
500-182493-4	Dup	Water	05/22/20 12:41	05/22/20 14:53	
500-182493-5	MW-09	Water	05/26/20 15:31	05/27/20 09:00	
500-182493-6	MW-11	Water	05/26/20 12:34	05/27/20 09:00	
500-182493-7	MW-10	Water	05/27/20 11:32	05/28/20 10:21	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-05

Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-1

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.5		1.0		mg/L		05/26/20 06:38	06/04/20 17:19	20
Calcium	52		4.0		mg/L		05/26/20 06:38	06/04/20 17:19	20

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	870		10		mg/L			05/23/20 01:02	1
Chloride	70		10		mg/L			06/05/20 16:21	5
Fluoride	0.59		0.10		mg/L			06/09/20 16:35	1
Sulfate	300		100		mg/L			05/28/20 14:47	20

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-06

Date Collected: 05/22/20 10:01
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-2

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.4		0.50		mg/L		05/26/20 06:38	06/04/20 17:23	10
Calcium	98		2.0		mg/L		05/26/20 06:38	06/04/20 17:23	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	710		10		mg/L			05/23/20 01:05	1
Chloride	56		10		mg/L			06/05/20 16:06	5
Fluoride	0.31		0.10		mg/L			06/09/20 16:38	1
Sulfate	180		100		mg/L			05/28/20 14:47	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-12

Date Collected: 05/22/20 11:02
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-3

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.50		mg/L		05/26/20 06:38	06/04/20 17:26	10
Calcium	180		2.0		mg/L		05/26/20 06:38	06/04/20 17:26	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		10		mg/L			05/23/20 01:07	1
Chloride	120		10		mg/L			06/05/20 16:06	5
Fluoride	0.40		0.10		mg/L			06/09/20 16:41	1
Sulfate	140		100		mg/L			05/28/20 14:47	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: Dup

Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Lab Sample ID: 500-182493-4

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.4		0.50		mg/L		05/26/20 06:38	06/04/20 17:30	10
Calcium	60		2.0		mg/L		05/26/20 06:38	06/04/20 17:30	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	880		10		mg/L			05/23/20 01:10	1
Chloride	84		10		mg/L			06/05/20 16:06	5
Fluoride	0.69		0.10		mg/L			06/09/20 16:44	1
Sulfate	270		100		mg/L			05/28/20 14:47	20

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-09
Date Collected: 05/26/20 15:31
Date Received: 05/27/20 09:00

Lab Sample ID: 500-182493-5
Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.50		mg/L		05/27/20 17:35	06/05/20 12:20	10
Calcium	55		0.20		mg/L		05/27/20 17:35	05/29/20 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	720		10		mg/L			05/28/20 01:46	1
Chloride	320		40		mg/L			06/05/20 16:06	20
Fluoride	0.32		0.10		mg/L			06/09/20 16:48	1
Sulfate	140		25		mg/L			06/04/20 15:01	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-11

Date Collected: 05/26/20 12:34
Date Received: 05/27/20 09:00

Lab Sample ID: 500-182493-6

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.50		mg/L		05/27/20 17:35	06/05/20 12:39	10
Calcium	89		0.20		mg/L		05/27/20 17:35	05/29/20 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	540		10		mg/L			05/28/20 01:49	1
Chloride	100		10		mg/L			06/05/20 16:07	5
Fluoride	0.54		0.10		mg/L			06/09/20 17:01	1
Sulfate	90		25		mg/L			06/04/20 15:02	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-10

Date Collected: 05/27/20 11:32
Date Received: 05/28/20 10:21

Lab Sample ID: 500-182493-7

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3		0.50		mg/L		05/29/20 06:51	06/04/20 18:36	10
Calcium	100		2.0		mg/L		05/29/20 06:51	06/04/20 18:36	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	850		10		mg/L			05/28/20 22:46	1
Chloride	170		10		mg/L			06/05/20 16:07	5
Fluoride	0.90		0.10		mg/L			06/09/20 17:04	1
Sulfate	280		100		mg/L			06/04/20 15:08	20

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 544222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total Recoverable	Water	3005A	
500-182493-2	MW-06	Total Recoverable	Water	3005A	
500-182493-3	MW-12	Total Recoverable	Water	3005A	
500-182493-4	Dup	Total Recoverable	Water	3005A	
MB 500-544222/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-544222/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 500-544222/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 544610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total Recoverable	Water	3005A	
500-182493-6	MW-11	Total Recoverable	Water	3005A	
MB 500-544610/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-544610/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-182493-5 MS	MW-09	Total Recoverable	Water	3005A	
500-182493-5 MSD	MW-09	Total Recoverable	Water	3005A	
500-182493-5 DU	MW-09	Total Recoverable	Water	3005A	

Prep Batch: 544931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-7	MW-10	Total Recoverable	Water	3005A	
MB 500-544931/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-544931/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 545254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total Recoverable	Water	6020A	544610
500-182493-6	MW-11	Total Recoverable	Water	6020A	544610
MB 500-544610/1-A	Method Blank	Total Recoverable	Water	6020A	544610
LCS 500-544610/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544610
500-182493-5 MS	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 MSD	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 DU	MW-09	Total Recoverable	Water	6020A	544610

Analysis Batch: 546160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total Recoverable	Water	6020A	544222
500-182493-2	MW-06	Total Recoverable	Water	6020A	544222
500-182493-3	MW-12	Total Recoverable	Water	6020A	544222
500-182493-4	Dup	Total Recoverable	Water	6020A	544222
500-182493-7	MW-10	Total Recoverable	Water	6020A	544931
MB 500-544222/1-A	Method Blank	Total Recoverable	Water	6020A	544222
MB 500-544931/1-A	Method Blank	Total Recoverable	Water	6020A	544931
LCS 500-544222/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544222
LCS 500-544931/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544931
LCSD 500-544222/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	544222

Analysis Batch: 546193

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total Recoverable	Water	6020A	544610
500-182493-6	MW-11	Total Recoverable	Water	6020A	544610

Metals (Continued)

Analysis Batch: 546193 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-544610/1-A	Method Blank	Total Recoverable	Water	6020A	544610
LCS 500-544610/2-A	Lab Control Sample	Total Recoverable	Water	6020A	544610
500-182493-5 MS	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 MSD	MW-09	Total Recoverable	Water	6020A	544610
500-182493-5 DU	MW-09	Total Recoverable	Water	6020A	544610

General Chemistry

Analysis Batch: 490726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-182493-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-182493-3	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-182493-4	Dup	Total/NA	Water	SM 4500 SO4 E	
MB 400-490726/6	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 400-490726/7	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	
MRL 400-490726/3	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 544145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 2540C	
500-182493-2	MW-06	Total/NA	Water	SM 2540C	
500-182493-3	MW-12	Total/NA	Water	SM 2540C	
500-182493-4	Dup	Total/NA	Water	SM 2540C	
MB 500-544145/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544145/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 544661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total/NA	Water	SM 2540C	
500-182493-6	MW-11	Total/NA	Water	SM 2540C	
MB 500-544661/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544661/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 544911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-7	MW-10	Total/NA	Water	SM 2540C	
MB 500-544911/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 500-544911/2	Lab Control Sample	Total/NA	Water	SM 2540C	
500-182493-7 DU	MW-10	Total/NA	Water	SM 2540C	

Analysis Batch: 545969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-5	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-182493-6	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-182493-7	MW-10	Total/NA	Water	SM 4500 SO4 E	
MB 500-545969/60	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-545969/61	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

General Chemistry

Analysis Batch: 546379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-182493-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-182493-3	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-182493-4	Dup	Total/NA	Water	SM 4500 Cl- E	
500-182493-5	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-182493-6	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-182493-7	MW-10	Total/NA	Water	SM 4500 Cl- E	
MB 500-546379/49	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-546379/54	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 546770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-182493-1	MW-05	Total/NA	Water	SM 4500 F C	
500-182493-2	MW-06	Total/NA	Water	SM 4500 F C	
500-182493-3	MW-12	Total/NA	Water	SM 4500 F C	
500-182493-4	Dup	Total/NA	Water	SM 4500 F C	
500-182493-5	MW-09	Total/NA	Water	SM 4500 F C	
500-182493-6	MW-11	Total/NA	Water	SM 4500 F C	
500-182493-7	MW-10	Total/NA	Water	SM 4500 F C	
MB 500-546770/3	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-546770/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-544222/1-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544222

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/26/20 06:38	06/04/20 17:08	1
Calcium	<0.20		0.20		mg/L		05/26/20 06:38	06/04/20 17:08	1

Lab Sample ID: LCS 500-544222/2-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544222

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120
Calcium	10.0	10.6		mg/L		106	80 - 120

Lab Sample ID: LCSD 500-544222/3-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 544222

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.07		mg/L		107	80 - 120	1	20
Calcium	10.0	10.3		mg/L		103	80 - 120	3	20

Lab Sample ID: MB 500-544610/1-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		05/27/20 17:35	05/29/20 15:49	1

Lab Sample ID: MB 500-544610/1-A
Matrix: Water
Analysis Batch: 546193

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/27/20 17:35	06/05/20 12:13	1

Lab Sample ID: LCS 500-544610/2-A
Matrix: Water
Analysis Batch: 545254

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	11.9		mg/L		119	80 - 120

Lab Sample ID: LCS 500-544610/2-A
Matrix: Water
Analysis Batch: 546193

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.946		mg/L		95	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-182493-5 MS
Matrix: Water
Analysis Batch: 545254

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	55		10.0	64.1	4	mg/L		89	75 - 125

Lab Sample ID: 500-182493-5 MS
Matrix: Water
Analysis Batch: 546193

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.3		1.00	2.14		mg/L		81	75 - 125

Lab Sample ID: 500-182493-5 MSD
Matrix: Water
Analysis Batch: 545254

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	55		10.0	64.5	4	mg/L		92	75 - 125	1	20

Lab Sample ID: 500-182493-5 MSD
Matrix: Water
Analysis Batch: 546193

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.3		1.00	2.25		mg/L		92	75 - 125	5	20

Lab Sample ID: 500-182493-5 DU
Matrix: Water
Analysis Batch: 545254

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Calcium	55		54.8		mg/L		0.8	20

Lab Sample ID: 500-182493-5 DU
Matrix: Water
Analysis Batch: 546193

Client Sample ID: MW-09
Prep Type: Total Recoverable
Prep Batch: 544610

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	1.3		1.30		mg/L		2	20

Lab Sample ID: MB 500-544931/1-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 544931

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		05/29/20 06:51	06/04/20 18:21	1
Calcium	<0.20		0.20		mg/L		05/29/20 06:51	06/04/20 18:21	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-544931/2-A
Matrix: Water
Analysis Batch: 546160

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 544931

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.957		mg/L		96	80 - 120
Calcium	10.0	9.96		mg/L		100	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-544145/1
Matrix: Water
Analysis Batch: 544145

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/23/20 00:11	1

Lab Sample ID: LCS 500-544145/2
Matrix: Water
Analysis Batch: 544145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	246		mg/L		98	80 - 120

Lab Sample ID: MB 500-544661/1
Matrix: Water
Analysis Batch: 544661

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/28/20 01:16	1

Lab Sample ID: LCS 500-544661/2
Matrix: Water
Analysis Batch: 544661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	250		mg/L		100	80 - 120

Lab Sample ID: MB 500-544911/1
Matrix: Water
Analysis Batch: 544911

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			05/28/20 22:33	1

Lab Sample ID: LCS 500-544911/2
Matrix: Water
Analysis Batch: 544911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	238		mg/L		95	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 500-182493-7 DU
Matrix: Water
Analysis Batch: 544911

Client Sample ID: MW-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	850			868		mg/L				3	5

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-546379/49
Matrix: Water
Analysis Batch: 546379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			06/05/20 16:09	1

Lab Sample ID: LCS 500-546379/54
Matrix: Water
Analysis Batch: 546379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	18.8		mg/L		94	85 - 115		

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-546770/3
Matrix: Water
Analysis Batch: 546770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			06/09/20 15:40	1

Lab Sample ID: LCS 500-546770/4
Matrix: Water
Analysis Batch: 546770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.8		mg/L		108	80 - 120		

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 400-490726/6
Matrix: Water
Analysis Batch: 490726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			05/28/20 14:20	1

Lab Sample ID: LCS 400-490726/7
Matrix: Water
Analysis Batch: 490726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			15.0	13.9		mg/L		93	90 - 110		

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Method: SM 4500 SO4 E - Sulfate, Total (Continued)

Lab Sample ID: MRL 400-490726/3
Matrix: Water
Analysis Batch: 490726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	<5.0		mg/L		96	50 - 150		

Lab Sample ID: MB 500-545969/60
Matrix: Water
Analysis Batch: 545969

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			06/04/20 14:56	1

Lab Sample ID: LCS 500-545969/61
Matrix: Water
Analysis Batch: 545969

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	20.6		mg/L		103	80 - 120		

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins

Client Information	Sampler: Michael Ross	Lab PM: Lang, Eric A.	Carrier Tracking No(s):	COC No: 500-81733-37389.1
Client Contact: Richard Gnat	Phone: 630-325-1300	E-Mail: eric.lang@testamericainc.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-182493

Address: 14665 West Lisbon Road. Suite 1A	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Brookfield	TAT Requested (days):		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WI, 53005	PO #: 4502009653		
Phone: 815-671-2258(Tel) 500-182493 COC	WO #:		Other:
Email: richardg@kprginc.com	Project #: 50011609		
Project Name: Will County CCR Event Desc: Quarterly GW Monitoring	SSOW#:		
Site: Illinois			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N		
1 MW-05	5/22/20	12:41	G	Water	N		X	X		
2 MW-06	5/22/20	1001		Water						
MW-09				Water						
MW-10				Water						
MW-11				Water						
3 MW-12	5/22/20	11:02	G	Water	N		X	X		
4 Dup	5/22/20	12:41	G	Water	N		X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Michael Ross	Date/Time: 5/22/20 2:53pm	Company: KPRG	Received by: Paula Buckley	Date/Time: 5/22/20 1453	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.5 484

Chain of Custody Record

433713 eurofins | Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Richard Grant	Site Contact:	Date: 5/27/20	COC No: 500-81733-37389.1
Company Name: KPRG & Associates, Inc	Tel/Email: richardg@KPRGinc.com	Lab Contact: Lang, Erica	Carrier:	___ of ___ COCs
Address: 14665 W Lisbon Road, Suite 1A	**Analysis Turnaround Time**			Sampler:
City/State/Zip: Brookfield, WI 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
Phone: 815-671-2258	TAT if different from Below _____			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Will County CCR; Quarterly GW Mon.	☐ 1 week			Job / SDG No.:
Site: Illinois	☐ 2 days			500-182493
PO # 4502009653	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	6020A-(MOD) Sr-90 Ba-133	25 40C, 4SW F, SM4500-Cl - E, SM4500-SO4 - E
MW-09	5/26/20	12:31	G	Water	2	N		X	X
MW-XX11	5/26/20	12:34	G	Water	2	N		X	X

500-182493 COC

Sample Specific Notes:

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

5.5, 5.9 48hr.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michael Ness	KPRG	9:15 5/27/20			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA-CHI	5/27/20 0900

Chain of Custody Record 457801

eurofins | Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Richard Grant	Site Contact:	Date:	COC No:
Company Name: KPRG	Tel/Email: richardg@KPRGinc.com	Lab Contact:	Carrier:	_____ of _____ COCs
Address: 14665 W Lisbon Rd, Suite 1A	Analysis Turnaround Time			Sampler:
City/State/Zip: Brookfield, WI, 53005	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 815-671-2254	TAT if different from Below _____			Walk-in Client: X
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Will County, CCR, Event: Quarterly Monit	☐ 1 week			
Site: Illinois	☐ 2 days			Job / SDG No.: 500-182493
PO # 4502009653	☐ 1 day			

500-182493 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500	-504-E	Sample Specific Notes:
1 MW-10	5/27/20	11:32	G	Water	2	N	X	X	X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

5.3 30 gt.

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____ Corr'd: _____	Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Michael Ross	KPRG	5/28 10:21			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA-CHI	5/28/20 1021

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-135535.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: diana.mockler@testamericainc.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Illinois		Job #: 500-182493-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 6/8/2020			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-05 (500-182493-1)	5/22/20	12:41 Central		Water			X	1	
MW-06 (500-182493-2)	5/22/20	10:01 Central		Water			X	1	
MW-12 (500-182493-3)	5/22/20	11:02 Central		Water			X	1	
Dup (500-182493-4)	5/22/20	12:41 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	5/22/20 1600	TAL	Megan Anderson	5-23-20 933	TAL-EN
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.7°C IR9

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182493-1

Login Number: 182493
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.5,5.5,5.9,5.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-182493-1

Login Number: 182493
List Number: 2
Creator: Hinrichsen, Megan E

List Source: Eurofins TestAmerica, Pensacola
List Creation: 05/23/20 12:58 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.7°C IR-9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-05

Lab Sample ID: 500-182493-1
Matrix: Water
Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		20	546160	06/04/20 17:19	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:02	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:21	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:35	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Client Sample ID: MW-06

Lab Sample ID: 500-182493-2
Matrix: Water
Date Collected: 05/22/20 10:01
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 17:23	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:05	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:38	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Client Sample ID: MW-12

Lab Sample ID: 500-182493-3
Matrix: Water
Date Collected: 05/22/20 11:02
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 17:26	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:07	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:41	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Client Sample ID: Dup

Lab Sample ID: 500-182493-4
Matrix: Water
Date Collected: 05/22/20 12:41
Date Received: 05/22/20 14:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544222	05/26/20 06:38	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 17:30	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544145	05/23/20 01:10	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:44	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	490726	05/28/20 14:47	HES	TAL PEN

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-182493-1

Client Sample ID: MW-09

Lab Sample ID: 500-182493-5

Date Collected: 05/26/20 15:31

Matrix: Water

Date Received: 05/27/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 15:53	FXG	TAL CHI
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	546193	06/05/20 12:20	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544661	05/28/20 01:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		20	546379	06/05/20 16:06	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 16:48	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	545969	06/04/20 15:01	RES	TAL CHI

Client Sample ID: MW-11

Lab Sample ID: 500-182493-6

Date Collected: 05/26/20 12:34

Matrix: Water

Date Received: 05/27/20 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		1	545254	05/29/20 16:02	FXG	TAL CHI
Total Recoverable	Prep	3005A			544610	05/27/20 17:35	BDE	TAL CHI
Total Recoverable	Analysis	6020A		10	546193	06/05/20 12:39	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544661	05/28/20 01:49	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:07	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 17:01	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	545969	06/04/20 15:02	RES	TAL CHI

Client Sample ID: MW-10

Lab Sample ID: 500-182493-7

Date Collected: 05/27/20 11:32

Matrix: Water

Date Received: 05/28/20 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			544931	05/29/20 06:51	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	546160	06/04/20 18:36	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	544911	05/28/20 22:46	CLB	TAL CHI
Total/NA	Analysis	SM 4500 Cl- E		5	546379	06/05/20 16:07	RES	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	546770	06/09/20 17:04	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		20	545969	06/04/20 15:08	RES	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-190573-1
Client Project/Site: Will County CCR

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 1A
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Diana Mockler

Authorized for release by:
11/23/2020 9:19:24 AM

Diana Mockler, Project Manager I
(219)252-7570
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Method Summary 4
Sample Summary 5
Client Sample Results 6
Definitions 13
QC Association 14
QC Sample Results 16
Chain of Custody 19
Receipt Checklists 22
Chronicle 24

Job ID: 500-190573-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-190573-1

Comments
No additional comments.

Receipt
The samples were received on 11/4/2020 3:30 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.8º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CF
SM 4500 Cl- E	Chloride, Total	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 SO4 E	Sulfate, Total	SM	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-190573-1	MW-05	Water	11/04/20 11:45	11/04/20 15:30	
500-190573-2	MW-06	Water	11/03/20 11:55	11/04/20 15:30	
500-190573-3	MW-09	Water	11/03/20 12:10	11/04/20 15:30	
500-190573-4	MW-10	Water	11/03/20 13:10	11/04/20 15:30	
500-190573-5	MW-11	Water	11/03/20 14:26	11/04/20 15:30	
500-190573-6	MW-12	Water	11/03/20 10:50	11/04/20 15:30	
500-190573-7	Dup	Water	11/03/20 00:00	11/04/20 15:30	

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: MW-05

Date Collected: 11/04/20 11:45
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-1

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.0		1.0		mg/L		11/11/20 08:01	11/13/20 11:36	20
Calcium	130		0.20		mg/L		11/11/20 08:01	11/12/20 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1100		60		mg/L			11/10/20 15:39	1
Chloride	29		2.0		mg/L			11/12/20 08:25	1
Fluoride	0.38		0.10		mg/L			11/18/20 14:49	1
Sulfate	410		50		mg/L			11/10/20 15:18	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: MW-06

Date Collected: 11/03/20 11:55
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-2

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.3		0.50		mg/L		11/11/20 08:01	11/13/20 12:00	10
Calcium	100		0.20		mg/L		11/11/20 08:01	11/12/20 12:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	700		30		mg/L			11/09/20 16:02	1
Chloride	43		2.0		mg/L			11/12/20 08:26	1
Fluoride	0.36		0.10		mg/L			11/18/20 14:52	1
Sulfate	170		25		mg/L			11/10/20 15:18	5

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: MW-09

Date Collected: 11/03/20 12:10
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-3

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.50		mg/L		11/11/20 08:01	11/13/20 12:04	10
Calcium	43		0.20		mg/L		11/11/20 08:01	11/12/20 12:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750		30		mg/L			11/09/20 16:02	1
Chloride	240		10		mg/L			11/12/20 09:05	5
Fluoride	0.55		0.10		mg/L			11/18/20 14:56	1
Sulfate	180		25		mg/L			11/10/20 15:18	5

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: MW-10

Date Collected: 11/03/20 13:10
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-4

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.7		0.50		mg/L		11/11/20 08:01	11/13/20 12:07	10
Calcium	130		0.20		mg/L		11/11/20 08:01	11/12/20 12:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	920		30		mg/L			11/09/20 16:02	1
Chloride	140		10		mg/L			11/12/20 09:06	5
Fluoride	0.87		0.10		mg/L			11/18/20 14:59	1
Sulfate	180		50		mg/L			11/10/20 15:20	10

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: MW-11

Date Collected: 11/03/20 14:26
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-5

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.3		1.0		mg/L		11/11/20 08:01	11/13/20 12:11	20
Calcium	85		0.20		mg/L		11/11/20 08:01	11/12/20 12:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	710		30		mg/L			11/09/20 16:02	1
Chloride	140		10		mg/L			11/12/20 09:07	5
Fluoride	0.72		0.10		mg/L			11/18/20 15:04	1
Sulfate	68		15		mg/L			11/10/20 15:20	3

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: MW-12

Date Collected: 11/03/20 10:50
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-6

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.50		mg/L		11/11/20 08:01	11/13/20 12:14	10
Calcium	160		0.20		mg/L		11/11/20 08:01	11/12/20 12:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		30		mg/L			11/09/20 16:02	1
Chloride	190		10		mg/L			11/12/20 09:07	5
Fluoride	0.52		0.10		mg/L			11/18/20 15:07	1
Sulfate	160		25		mg/L			11/10/20 15:20	5

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: Dup

Date Collected: 11/03/20 00:00
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-7

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.50		mg/L		11/11/20 08:01	11/13/20 12:18	10
Calcium	160		0.20		mg/L		11/11/20 08:01	11/12/20 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		60		mg/L			11/09/20 16:02	1
Chloride	200		10		mg/L			11/12/20 09:08	5
Fluoride	0.53		0.10		mg/L			11/18/20 15:24	1
Sulfate	150		25		mg/L			11/10/20 15:21	5

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Metals

Prep Batch: 571464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-1	MW-05	Total Recoverable	Water	3005A	
500-190573-2	MW-06	Total Recoverable	Water	3005A	
500-190573-3	MW-09	Total Recoverable	Water	3005A	
500-190573-4	MW-10	Total Recoverable	Water	3005A	
500-190573-5	MW-11	Total Recoverable	Water	3005A	
500-190573-6	MW-12	Total Recoverable	Water	3005A	
500-190573-7	Dup	Total Recoverable	Water	3005A	
MB 500-571464/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-571464/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-190573-1 MS	MW-05	Total Recoverable	Water	3005A	
500-190573-1 MSD	MW-05	Total Recoverable	Water	3005A	
500-190573-1 DU	MW-05	Total Recoverable	Water	3005A	

Analysis Batch: 571798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-1	MW-05	Total Recoverable	Water	6020A	571464
500-190573-2	MW-06	Total Recoverable	Water	6020A	571464
500-190573-3	MW-09	Total Recoverable	Water	6020A	571464
500-190573-4	MW-10	Total Recoverable	Water	6020A	571464
500-190573-5	MW-11	Total Recoverable	Water	6020A	571464
500-190573-6	MW-12	Total Recoverable	Water	6020A	571464
500-190573-7	Dup	Total Recoverable	Water	6020A	571464
MB 500-571464/1-A	Method Blank	Total Recoverable	Water	6020A	571464
LCS 500-571464/2-A	Lab Control Sample	Total Recoverable	Water	6020A	571464
500-190573-1 MS	MW-05	Total Recoverable	Water	6020A	571464
500-190573-1 MSD	MW-05	Total Recoverable	Water	6020A	571464
500-190573-1 DU	MW-05	Total Recoverable	Water	6020A	571464

Analysis Batch: 572048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-1	MW-05	Total Recoverable	Water	6020A	571464
500-190573-2	MW-06	Total Recoverable	Water	6020A	571464
500-190573-3	MW-09	Total Recoverable	Water	6020A	571464
500-190573-4	MW-10	Total Recoverable	Water	6020A	571464
500-190573-5	MW-11	Total Recoverable	Water	6020A	571464
500-190573-6	MW-12	Total Recoverable	Water	6020A	571464
500-190573-7	Dup	Total Recoverable	Water	6020A	571464
MB 500-571464/1-A	Method Blank	Total Recoverable	Water	6020A	571464
LCS 500-571464/2-A	Lab Control Sample	Total Recoverable	Water	6020A	571464
500-190573-1 MS	MW-05	Total Recoverable	Water	6020A	571464
500-190573-1 MSD	MW-05	Total Recoverable	Water	6020A	571464
500-190573-1 DU	MW-05	Total Recoverable	Water	6020A	571464

General Chemistry

Analysis Batch: 298666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-2	MW-06	Total/NA	Water	SM 2540C	
500-190573-3	MW-09	Total/NA	Water	SM 2540C	
500-190573-4	MW-10	Total/NA	Water	SM 2540C	
500-190573-5	MW-11	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 298666 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-6	MW-12	Total/NA	Water	SM 2540C	
500-190573-7	Dup	Total/NA	Water	SM 2540C	
MB 310-298666/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-298666/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 298833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-1	MW-05	Total/NA	Water	SM 2540C	
MB 310-298833/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 310-298833/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 571365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-1	MW-05	Total/NA	Water	SM 4500 SO4 E	
500-190573-2	MW-06	Total/NA	Water	SM 4500 SO4 E	
500-190573-3	MW-09	Total/NA	Water	SM 4500 SO4 E	
500-190573-4	MW-10	Total/NA	Water	SM 4500 SO4 E	
500-190573-5	MW-11	Total/NA	Water	SM 4500 SO4 E	
500-190573-6	MW-12	Total/NA	Water	SM 4500 SO4 E	
500-190573-7	Dup	Total/NA	Water	SM 4500 SO4 E	
MB 500-571365/27	Method Blank	Total/NA	Water	SM 4500 SO4 E	
LCS 500-571365/28	Lab Control Sample	Total/NA	Water	SM 4500 SO4 E	

Analysis Batch: 571749

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-1	MW-05	Total/NA	Water	SM 4500 Cl- E	
500-190573-2	MW-06	Total/NA	Water	SM 4500 Cl- E	
500-190573-3	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-190573-4	MW-10	Total/NA	Water	SM 4500 Cl- E	
500-190573-5	MW-11	Total/NA	Water	SM 4500 Cl- E	
500-190573-6	MW-12	Total/NA	Water	SM 4500 Cl- E	
500-190573-7	Dup	Total/NA	Water	SM 4500 Cl- E	
MB 500-571749/12	Method Blank	Total/NA	Water	SM 4500 Cl- E	
LCS 500-571749/13	Lab Control Sample	Total/NA	Water	SM 4500 Cl- E	
500-190573-3 MS	MW-09	Total/NA	Water	SM 4500 Cl- E	
500-190573-3 MSD	MW-09	Total/NA	Water	SM 4500 Cl- E	

Analysis Batch: 572899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-190573-1	MW-05	Total/NA	Water	SM 4500 F C	
500-190573-2	MW-06	Total/NA	Water	SM 4500 F C	
500-190573-3	MW-09	Total/NA	Water	SM 4500 F C	
500-190573-4	MW-10	Total/NA	Water	SM 4500 F C	
500-190573-5	MW-11	Total/NA	Water	SM 4500 F C	
500-190573-6	MW-12	Total/NA	Water	SM 4500 F C	
500-190573-7	Dup	Total/NA	Water	SM 4500 F C	
MB 500-572899/32	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 500-572899/31	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-571464/1-A
Matrix: Water
Analysis Batch: 571798

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<0.20		0.20		mg/L		11/11/20 08:01	11/12/20 11:23	1

Lab Sample ID: MB 500-571464/1-A
Matrix: Water
Analysis Batch: 572048

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/11/20 08:01	11/13/20 11:15	1

Lab Sample ID: LCS 500-571464/2-A
Matrix: Water
Analysis Batch: 571798

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	9.96		mg/L		100	80 - 120

Lab Sample ID: LCS 500-571464/2-A
Matrix: Water
Analysis Batch: 572048

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.990		mg/L		99	80 - 120

Lab Sample ID: 500-190573-1 MS
Matrix: Water
Analysis Batch: 571798

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	130		10.0	139	4	mg/L		86	75 - 125

Lab Sample ID: 500-190573-1 MS
Matrix: Water
Analysis Batch: 572048

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	5.0		1.00	5.85	4	mg/L		81	75 - 125

Lab Sample ID: 500-190573-1 MSD
Matrix: Water
Analysis Batch: 571798

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	130		10.0	145	4	mg/L		149	75 - 125	4	20

Lab Sample ID: 500-190573-1 MSD
Matrix: Water
Analysis Batch: 572048

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	5.0		1.00	6.27	4	mg/L		122	75 - 125	7	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-190573-1 DU
Matrix: Water
Analysis Batch: 571798

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Calcium	130			132		mg/L				1	20

Lab Sample ID: 500-190573-1 DU
Matrix: Water
Analysis Batch: 572048

Client Sample ID: MW-05
Prep Type: Total Recoverable
Prep Batch: 571464

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	5.0			4.84		mg/L				4	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 310-298666/1
Matrix: Water
Analysis Batch: 298666

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<30		30		mg/L			11/09/20 16:02	1

Lab Sample ID: LCS 310-298666/2
Matrix: Water
Analysis Batch: 298666

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	988		mg/L		99	90 - 110		

Lab Sample ID: MB 310-298833/1
Matrix: Water
Analysis Batch: 298833

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<30		30		mg/L			11/10/20 15:39	1

Lab Sample ID: LCS 310-298833/2
Matrix: Water
Analysis Batch: 298833

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	990		mg/L		99	90 - 110		

Method: SM 4500 Cl- E - Chloride, Total

Lab Sample ID: MB 500-571749/12
Matrix: Water
Analysis Batch: 571749

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/12/20 08:15	1

Method: SM 4500 Cl- E - Chloride, Total (Continued)

Lab Sample ID: LCS 500-571749/13
Matrix: Water
Analysis Batch: 571749

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	49.4		mg/L		99	85 - 115		

Lab Sample ID: 500-190573-3 MS
Matrix: Water
Analysis Batch: 571749

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	240		50.0	277	4	mg/L		81	75 - 125		

Lab Sample ID: 500-190573-3 MSD
Matrix: Water
Analysis Batch: 571749

Client Sample ID: MW-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	240		50.0	281	4	mg/L		88	75 - 125	1	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-572899/32
Matrix: Water
Analysis Batch: 572899

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/18/20 14:06	1

Lab Sample ID: LCS 500-572899/31
Matrix: Water
Analysis Batch: 572899

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	11.1		mg/L		111	80 - 120		

Method: SM 4500 SO4 E - Sulfate, Total

Lab Sample ID: MB 500-571365/27
Matrix: Water
Analysis Batch: 571365

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/10/20 14:57	1

Lab Sample ID: LCS 500-571365/28
Matrix: Water
Analysis Batch: 571365

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			20.0	20.7		mg/L		103	80 - 120		

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information	Sampler: Erin Bilson	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-85984-38850.1
Client Contact: Richard Gnat	Phone:	E-Mail: Diana.Mockler@Eurofinset.com		Page: Page 1 of 1
Company: KPRG and Associates, Inc.				Job #: 500-190573
Address: 14665 West Lisbon Road, Suite 1A	Due Date Requested:			
City: Brookfield	TAT Requested (days):			
State, Zip: WI, 53005				
Phone: 815-671-2258(Tel)	PO #: 4502009653			
Email: richardg@kprginc.com	WO #:			
Project Name: Will County CCR Event Desc: Quarterly GW Monitoring	Project #: 50011609			
Site: Illinois	SSOW#:			

500-190573 COC

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A - (MOD) Single Element	2540C, 4500_F_C, SM4500_Cl_E, SM4500_SO4_E	Total Number of containers	Special Instructions/Note:
				Preservation Code:				D	N		
1	MW-05	11/4	1145		Water			X	X		
2	MW-06	11/3	1155		Water			X	X		
3	MW-09	11/3	1210		Water			X	X		
4	MW-10	11/3	1310		Water			X	X		
5	MW-11	11/3	1426		Water			X	X		
6	MW-12	11/3	1050		Water			X	X		
7	Dup	11/3	—		Water			X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 11/4/20 3:30 pm	Company: KPRG	Received by:	Date/Time: 11/4/20 1530	Company: ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 5.4-T58

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500-190573 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: ETA - Chicago

City/State: CITY University Park STATE IL Project: NKG

Receipt Information

Date/Time Received: DATE 11/5/20 TIME 1010 Received By: MRH

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee
☐ Lab Courier ☐ Lab Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler?	☒ Yes ☐ No	*If yes:* Cooler ID:	
Multiple Coolers?	☐ Yes ☒ No	*If yes:* Cooler # ____ of ____	
Cooler Custody Seals Present?	☒ Yes ☐ No	*If yes:* Cooler custody seals intact?	☒ Yes ☐ No
Sample Custody Seals Present?	☐ Yes ☒ No	*If yes:* Sample custody seals intact?	☐ Yes ☐ No
Trip Blank Present?	☐ Yes ☒ No	*If yes:* Which VOA samples are in cooler? ↓	

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Thermometer ID: 0 Correction Factor (°C): 0

• Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): Corrected Temp (°C):

• Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used:	500mL Plas NS	
Uncorrected Temp (°C):	1.2	
Corrected Temp (°C):	1.2	

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mockler, Diana J	Carrier Tracking No(s):	COC No: 500-141788.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Diana.Mockler@Eurofinset.com	State of Origin: Illinois	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): NELAP - Illinois		Job #: 500-190573-1
Address: 3019 Venture Way, ,	Due Date Requested: 11/18/2020			
City: Cedar Falls	TAT Requested (days):			
State, Zip: IA, 50613				
Phone: 319-277-2401(Tel) 319-277-2425(Fax)	PO #:			
Email:	WO #:			
Project Name: Will County CCR	Project #: 50011609			
Site: NRG Midwest Generation Will County	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd/ Total Dissolved Solids	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-05 (500-190573-1)	11/4/20	11:45 Central		Water			X	1	
MW-06 (500-190573-2)	11/3/20	11:55 Central		Water			X	1	
MW-09 (500-190573-3)	11/3/20	12:10 Central		Water			X	1	
MW-10 (500-190573-4)	11/3/20	13:10 Central		Water			X	1	
MW-11 (500-190573-5)	11/3/20	14:26 Central		Water			X	1	
MW-12 (500-190573-6)	11/3/20	10:50 Central		Water			X	1	
Dup (500-190573-7)	11/3/20	Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11/4/20 1700	ETA		11/5/20 1010	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-190573-1

Login Number: 190573
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-190573-1

Login Number: 190573
List Number: 2
Creator: Homolar, Dana J

List Source: Eurofins TestAmerica, Cedar Falls
List Creation: 11/05/20 12:18 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: MW-05

Lab Sample ID: 500-190573-1

Date Collected: 11/04/20 11:45

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	571798	11/12/20 11:44	FXG	TAL CHI
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		20	572048	11/13/20 11:36	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	298833	11/10/20 15:39	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		1	571749	11/12/20 08:25	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	572899	11/18/20 14:49	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	571365	11/10/20 15:18	RES	TAL CHI

Client Sample ID: MW-06

Lab Sample ID: 500-190573-2

Date Collected: 11/03/20 11:55

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	571798	11/12/20 12:08	FXG	TAL CHI
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	572048	11/13/20 12:00	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	298666	11/09/20 16:02	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		1	571749	11/12/20 08:26	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	572899	11/18/20 14:52	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	571365	11/10/20 15:18	RES	TAL CHI

Client Sample ID: MW-09

Lab Sample ID: 500-190573-3

Date Collected: 11/03/20 12:10

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	571798	11/12/20 12:29	FXG	TAL CHI
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	572048	11/13/20 12:04	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	298666	11/09/20 16:02	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	571749	11/12/20 09:05	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	572899	11/18/20 14:56	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	571365	11/10/20 15:18	RES	TAL CHI

Client Sample ID: MW-10

Lab Sample ID: 500-190573-4

Date Collected: 11/03/20 13:10

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	571798	11/12/20 12:32	FXG	TAL CHI

Client Sample ID: MW-10

Lab Sample ID: 500-190573-4

Date Collected: 11/03/20 13:10

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	572048	11/13/20 12:07	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	298666	11/09/20 16:02	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	571749	11/12/20 09:06	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	572899	11/18/20 14:59	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		10	571365	11/10/20 15:20	RES	TAL CHI

Client Sample ID: MW-11

Lab Sample ID: 500-190573-5

Date Collected: 11/03/20 14:26

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	571798	11/12/20 12:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		20	572048	11/13/20 12:11	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	298666	11/09/20 16:02	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	571749	11/12/20 09:07	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	572899	11/18/20 15:04	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		3	571365	11/10/20 15:20	RES	TAL CHI

Client Sample ID: MW-12

Lab Sample ID: 500-190573-6

Date Collected: 11/03/20 10:50

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	571798	11/12/20 12:39	FXG	TAL CHI
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	572048	11/13/20 12:14	FXG	TAL CHI
Total/NA	Analysis	SM 2540C		1	298666	11/09/20 16:02	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	571749	11/12/20 09:07	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	572899	11/18/20 15:07	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	571365	11/10/20 15:20	RES	TAL CHI

Client Sample ID: Dup

Lab Sample ID: 500-190573-7

Date Collected: 11/03/20 00:00

Matrix: Water

Date Received: 11/04/20 15:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		1	571798	11/12/20 12:50	FXG	TAL CHI
Total Recoverable	Prep	3005A			571464	11/11/20 08:01	LMN	TAL CHI
Total Recoverable	Analysis	6020A		10	572048	11/13/20 12:18	FXG	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Will County CCR

Job ID: 500-190573-1

Client Sample ID: Dup

Date Collected: 11/03/20 00:00
Date Received: 11/04/20 15:30

Lab Sample ID: 500-190573-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	298666	11/09/20 16:02	SAS	TAL CF
Total/NA	Analysis	SM 4500 Cl- E		5	571749	11/12/20 09:08	EAT	TAL CHI
Total/NA	Analysis	SM 4500 F C		1	572899	11/18/20 15:24	MS	TAL CHI
Total/NA	Analysis	SM 4500 SO4 E		5	571365	11/10/20 15:21	RES	TAL CHI

Laboratory References:

TAL CF = Eurofins TestAmerica, Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200