UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5 CHICAGO REGIONAL LABORATORY
536 SOUTH CLARK STREET (ML-10C)
CHICAGO, ILLINOIS 60605

ELECTRONIC LABORATORY DATA PACKAGE
FINAL LEVEL IV
COVER PAGE

LIMS Work order(s):	1912011
Analysis:	ICP-AES (w) metals
Primary Analyst:	Amanda Wroble
Date:	01.16.20
Data Reporting Qualtrax Workflow ID:	20663

Digital Signature of Primary Analyst:

Amanda Wroble

Digitally signed by AMANDA WROBLE
DN: c=US, o=U.S. Government, ou=Environmental Protection Agency, cn=AMANDA WROBLE, 0.9.2342.19200300.100.1.1=68001003680145
Date: 2020.01.16 15:18:24 -06'00'

Digital Signature Agreement: By signing above the primary analyst understands and agrees that they will be held legally bound, obligated, and responsible for the use of their digital signature as they would be by using their hand-written signature.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

US EPA Region 5 LSASD Analytical Services Branch

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: **1/16/2020**

Title: **ASB Data Report for SE Rockford GW Contamination**

To: **Superfund, US EPA Region 5**
77 West Jackson Boulevard
Chicago, IL 60604

From: **Amanda Wroble, Chemist**
wroble.amanda@epa.gov
US EPA Region 5 LSASD Analytical Services Branch

The results reported in this document apply to the samples as received and relate only to the items tested. The data transmitted under this cover memo successfully passed the data review process and applicable Analytical Services Branch (ASB) laboratory Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation*, ASB performs data verification on all the data generated internally. ASB does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

Amanda Wroble

Please contact the analyst with any technical report issues, Amanda Wroble at (312)-353-0375 for sample project concerns, and Robert Snyder at (312)-353-9083 with data transmittal questions. Thank you.

Attached are Results for: **SE Rockford GW Contamination**

Analyses included in this report:

Metals ICP-AES (w)

Report Name: 1912011 Metals ICP-AES (w) FINAL Jan 16 20 1511

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Accredited Analyses included in this Report

Method: ***EPA 200.7 in Water***
Analysis: ***Metals ICP-AES (w)***

Analyte	Certifications
Aluminum	ISO/IEC 17025:2005
Antimony	ISO/IEC 17025:2005
Arsenic	ISO/IEC 17025:2005
Barium	ISO/IEC 17025:2005
Beryllium	ISO/IEC 17025:2005
Boron	ISO/IEC 17025:2005
Cadmium	ISO/IEC 17025:2005
Calcium	ISO/IEC 17025:2005
Chromium	ISO/IEC 17025:2005
Cobalt	ISO/IEC 17025:2005
Copper	ISO/IEC 17025:2005
Iron	ISO/IEC 17025:2005
Lead	ISO/IEC 17025:2005
Lithium	ISO/IEC 17025:2005
Magnesium hi	ISO/IEC 17025:2005
Manganese	ISO/IEC 17025:2005
Molybdenum	ISO/IEC 17025:2005
Nickel	ISO/IEC 17025:2005

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Accredited Analyses included in this Report

Method: ***EPA 200.7 in Water***
Analysis: ***Metals ICP-AES (w)***

Analyte	Certifications
Potassium	ISO/IEC 17025:2005
Selenium	ISO/IEC 17025:2005
Silver	ISO/IEC 17025:2005
Sodium	ISO/IEC 17025:2005
Strontium	ISO/IEC 17025:2005
Thallium	ISO/IEC 17025:2005
Tin	ISO/IEC 17025:2005
Titanium	ISO/IEC 17025:2005
Vanadium	ISO/IEC 17025:2005
Zinc	ISO/IEC 17025:2005

Analytes not listed above are not accredited by ANAB.

ANALYSIS CASE NARRATIVE

GENERAL INFORMATION

ASB received 21 water samples for trace metals analysis by inductively coupled plasma-atomic emission spectroscopy (ICP-AES) on December 12, 2019. The assigned work order(s) and sample numbers to which this narrative applies are listed below:

Work Order (number of samples)	Batch Number
1912011 (21)	B19L022

The designated analyst for these samples, Amanda Wroble, can be reached at 312.353.0375. All holding times were met.

The samples were digested using ASB SOP METALS025, Rev. 4 (EPA Method 200.2) and analyzed using ASB SOP METALS003A, Rev. 7 (EPA Method 200.7/SW-846 Method 6010D).

SAMPLE ANALYSIS AND RESULTS

The data reported herein meet the requirements referenced in the SOP used for analysis and any laboratory specifications stated in the *Quality Assurance Project Plan, Southeast Rockford Groundwater Contamination Superfund Site, Source Area 7, Groundwater Management Zone Monitoring Activities*, dated November 2019, and email communication regarding the analyte list.

QUALITY CONTROL

All quality control audits that bracketed samples to which this narrative applies and the run in which a specific sample/analyte was reported were within ASB limits for the requested analytes or did not result in qualification of the data with the following exception.

Digestion Blank (BLK): Limit = ± Method Detection Limit (MDL). B19L022-BLK1 copper (0.0058 mg/L) was above the MDL (0.0035 mg/L) but less than the RL (0.02 mg/L). Copper results for 1912011-03 thru -05, -12, and -16 were above the RL but less than five times the BLK result; therefore, these results were flagged "K" for potential high bias.

Environmental Protection Agency Region 5
Chicago Regional Laboratory
536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

WORK ORDER **Printed: 12/18/2019 9:54:49AM**

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: **Superfund, US EPA Region 5** **Project Manager:** **Angela Ockrassa Davis**
Project: **SE Rockford GW Contamination** **Project Number:** **[none]**

Report To:

Karen Kirchner	77 West Jackson Boulevard	Phone: (312) 353-2310
Superfund, US EPA Region 5	Chicago, IL 60604	Fax: (312) 886-6171

Date Due:	Jan-27-20 15:00 (46 day TAT)		
Received By:	Robert Snyder	Date Received:	Dec-12-19 11:18
Logged In By:	Kelsey O'Malley	Date Logged In:	Dec-12-19 14:01

Sample tags/labels	**Yes**	**Work Order Comments:**
Seals Intact	**Yes**	Copy/Relog from 1912009. pH paper used in SC=18D1901
Received on ice	**Yes**	
Paperwork Included	**Yes**	

Cooler(s) information:
Cooler # 1 - 1.10 C
Cooler # 2 - 0.30 C
Cooler # 3 - 1.30 C
Cooler # 4 - 1.40 C

Sample ID: **1912011-01** **Sampled:** **Dec-11-19 10:30** **Matrix:** **Water**
Sample Name: **A7-Effluent-191211** **Sample Location/Comments:** **A7-Effluent**
Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:30	pH=1
VOA - 8260	14	Dec-25-19 10:30	

Sample ID: **1912011-02** **Sampled:** **Dec-11-19 10:30** **Matrix:** **Water**
Sample Name: **A7-Effluent-191211-D** **Sample Location/Comments:** **A7-Effluent**
Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:30	pH=1
VOA - 8260	14	Dec-25-19 10:30	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: Superfund, US EPA Region 5
Project: SE Rockford GW Contamination
Project Manager: Angela Ockrassa Davis
Project Number: [none]

Sample ID: 1912011-03 **Sampled:** Dec-11-19 10:00 **Matrix:** Water

Sample Name: A7-EWG001I-191211 **Sample Location/Comments:** A7-EWG001I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:00	pH=1
VOA - 8260	14	Dec-25-19 10:00	

Sample ID: 1912011-04 **Sampled:** Dec-11-19 10:03 **Matrix:** Water

Sample Name: A7-EWG002S-191211 **Sample Location/Comments:** A7-EWG002S

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:03	pH=1
VOA - 8260	14	Dec-25-19 10:03	

Sample ID: 1912011-05 **Sampled:** Dec-11-19 10:05 **Matrix:** Water

Sample Name: A7-EWG003S-191211 **Sample Location/Comments:** A7-EWG003S

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:05	pH=1
VOA - 8260	14	Dec-25-19 10:05	

Sample ID: 1912011-06 **Sampled:** Dec-11-19 10:22 **Matrix:** Water

Sample Name: A7-EWG004I-191211 **Sample Location/Comments:** A7-EWG004I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:22	pH=1
VOA - 8260	14	Dec-25-19 10:22	

Sample ID: 1912011-07 **Sampled:** Dec-11-19 10:30 **Matrix:** Water

Sample Name: A7-EWG005I-191211 **Sample Location/Comments:** A7-EWG005I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:30	pH=1
VOA - 8260	14	Dec-25-19 10:30	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: Superfund, US EPA Region 5
Project: SE Rockford GW Contamination
Project Manager: Angela Ockrassa Davis
Project Number: [none]

Sample ID: 1912011-07 **Sampled:** Dec-11-19 10:30 **Matrix:** Water

Sample Name: A7-EWG005I-191211 **Sample Location/Comments:** A7-EWG005I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments

Sample ID: 1912011-08 **Sampled:** Dec-11-19 10:33 **Matrix:** Water

Sample Name: A7-EWG006I-191211 **Sample Location/Comments:** A7-EWG006I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:33	pH=1
VOA - 8260	14	Dec-25-19 10:33	

Sample ID: 1912011-09 **Sampled:** Dec-11-19 10:33 **Matrix:** Water

Sample Name: A7-EWG006I-191211-D **Sample Location/Comments:** A7-EWG006I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:33	pH=1
VOA - 8260	14	Dec-25-19 10:33	

Sample ID: 1912011-10 **Sampled:** Dec-11-19 10:37 **Matrix:** Water

Sample Name: A7-EWG007D-191211 **Sample Location/Comments:** A7-EWG007D

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:37	pH=1
VOA - 8260	14	Dec-25-19 10:37	

Sample ID: 1912011-11 **Sampled:** Dec-11-19 10:52 **Matrix:** Water

Sample Name: A7-EWG008I-191211 **Sample Location/Comments:** A7-EWG008I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:52	pH=1
VOA - 8260	14	Dec-25-19 10:52	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: Superfund, US EPA Region 5
Project: SE Rockford GW Contamination
Project Manager: Angela Ockrassa Davis
Project Number: [none]

Sample ID: 1912011-12 **Sampled:** Dec-11-19 10:59 **Matrix:** Water *QC Source Sample*

Sample Name: A7-EWG009D-191211 **Sample Location/Comments:** A7-EWG009D

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 10:59	pH=1
VOA - 8260	14	Dec-25-19 10:59	

Sample ID: 1912011-13 **Sampled:** Dec-11-19 11:05 **Matrix:** Water

Sample Name: A7-EWG010I-191211 **Sample Location/Comments:** A7-EWG010I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 11:05	pH=1
VOA - 8260	14	Dec-25-19 11:05	

Sample ID: 1912011-14 **Sampled:** Dec-11-19 11:10 **Matrix:** Water

Sample Name: A7-EWG011D-191211 **Sample Location/Comments:** A7-EWG011D

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 11:10	pH=1
VOA - 8260	14	Dec-25-19 11:10	

Sample ID: 1912011-15 **Sampled:** Dec-11-19 11:27 **Matrix:** Water

Sample Name: A7-EWG012D-191211 **Sample Location/Comments:** A7-EWG012D

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 11:27	pH=1
VOA - 8260	14	Dec-25-19 11:27	

Sample ID: 1912011-16 **Sampled:** Dec-11-19 11:31 **Matrix:** Water

Sample Name: A7-EWG013D-191211 **Sample Location/Comments:** A7-EWG013D

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 11:31	pH=1
VOA - 8260	14	Dec-25-19 11:31	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: Superfund, US EPA Region 5
Project: SE Rockford GW Contamination
Project Manager: Angela Ockrassa Davis
Project Number: [none]

Sample ID: 1912011-16 **Sampled:** Dec-11-19 11:31 **Matrix:** Water

Sample Name: A7-EWG013D-191211 **Sample Location/Comments:** A7-EWG013D

Sample Comments:

Analysis	Hold time (days)	Expires	Comments

Sample ID: 1912011-17 **Sampled:** Dec-11-19 11:33 **Matrix:** Water

Sample Name: A7-EWG014D-191211 **Sample Location/Comments:** A7-EWG014D

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 11:33	pH=1
VOA - 8260	14	Dec-25-19 11:33	

Sample ID: 1912011-18 **Sampled:** Dec-11-19 15:50 **Matrix:** Water

Sample Name: A7-FB002-191211 **Sample Location/Comments:** Field Blank

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 15:50	

Sample ID: 1912011-19 **Sampled:** Dec-11-19 13:45 **Matrix:** Water

Sample Name: A7-FB004-191211 **Sample Location/Comments:** Field Blank

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 13:45	pH=1
VOA - 8260	14	Dec-25-19 13:45	

Sample ID: 1912011-20 **Sampled:** Dec-11-19 13:50 **Matrix:** Water

Sample Name: A7-FB005-191211 **Sample Location/Comments:** Field Blank

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 13:50	pH=1
VOA - 8260	14	Dec-25-19 13:50	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: Superfund, US EPA Region 5
Project: SE Rockford GW Contamination
Project Manager: Angela Ockrassa Davis
Project Number: [none]

Sample ID: 1912011-21 **Sampled:** Dec-11-19 11:30 **Matrix:** Water *QC Source Sample*

Sample Name: A7-Influent-191211 **Sample Location/Comments:** A7-Influent

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 11:30	pH=1
VOA - 8260	14	Dec-25-19 11:30	

Sample ID: 1912011-22 **Sampled:** Dec-11-19 14:30 **Matrix:** Water

Sample Name: A7-MW103B-191211 **Sample Location/Comments:** A7-MW103B

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 14:30	

Sample ID: 1912011-23 **Sampled:** Dec-11-19 12:00 **Matrix:** Water

Sample Name: A7-MW103C-191211 **Sample Location/Comments:** A7-MW103C

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 12:00	

Sample ID: 1912011-24 **Sampled:** Dec-11-19 11:45 **Matrix:** Water

Sample Name: A7-MW105A-191211 **Sample Location/Comments:** A7-MW105A

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 11:45	

Sample ID: 1912011-25 **Sampled:** Dec-11-19 11:45 **Matrix:** Water

Sample Name: A7-MW105A-191211-D **Sample Location/Comments:** A7-MW105A

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 11:45	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: Superfund, US EPA Region 5
Project: SE Rockford GW Contamination
Project Manager: Angela Ockrassa Davis
Project Number: [none]

Sample ID: 1912011-26 **Sampled:** Dec-11-19 15:05 **Matrix:** Water

Sample Name: A7-MW105B-191211 **Sample Location/Comments:** A7-MW105B

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 15:05	

Sample ID: 1912011-27 **Sampled:** Dec-11-19 09:00 **Matrix:** Water

Sample Name: A7-MW106B-191211 **Sample Location/Comments:** A7-MW106B

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 09:00	

Sample ID: 1912011-28 **Sampled:** Dec-11-19 14:00 **Matrix:** Water *QC Source Sample*

Sample Name: A7-MW106C-191211 **Sample Location/Comments:** A7-MW106C

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 14:00	

Sample ID: 1912011-29 **Sampled:** Dec-11-19 13:55 **Matrix:** Water

Sample Name: A7-MW135B-191211 **Sample Location/Comments:** A7-MW135B

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 13:55	

Sample ID: 1912011-30 **Sampled:** Dec-11-19 13:55 **Matrix:** Water

Sample Name: A7-MW135B-191211-D **Sample Location/Comments:** A7-MW135B

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 13:55	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client: Superfund, US EPA Region 5
Project: SE Rockford GW Contamination
Project Manager: Angela Ockrassa Davis
Project Number: [none]

Sample ID: 1912011-31 **Sampled:** Dec-11-19 10:35 **Matrix:** Water *QC Source Sample*

Sample Name: A7-MW143-191211 **Sample Location/Comments:** A7-MW143

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 10:35	

Sample ID: 1912011-32 **Sampled:** Dec-11-19 09:40 **Matrix:** Water

Sample Name: A7-MW144-191211 **Sample Location/Comments:** A7-MW144

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 09:40	

Sample ID: 1912011-33 **Sampled:** Dec-11-19 09:05 **Matrix:** Water

Sample Name: A7-MW147-191211 **Sample Location/Comments:** A7-MW147

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 09:05	

Sample ID: 1912011-34 **Sampled:** Dec-11-19 08:35 **Matrix:** Water

Sample Name: A7-TB002-191211 **Sample Location/Comments:** Trip Blank

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
VOA - 8260	14	Dec-25-19 08:35	

Sample ID: 1912011-35 **Sampled:** Dec-11-19 11:05 **Matrix:** Water

Sample Name: A7-EWG010I-191211-D **Sample Location/Comments:** A7-EWG010I

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Metals ICP-AES (w)	180	Jun-08-20 11:05	pH=1
VOA - 8260	14	Dec-25-19 11:05	

1912011

US EPA Region 5 LSASD Analytical Services Branch

Client:	**Superfund, US EPA Region 5**	**Project Manager:**	**Angela Ockrassa Davis**
Project:	**SE Rockford GW Contamination**	**Project Number:**	**[none]**

REVIEWED

By Amanda Wroble at 9:55 am, Dec 18, 2019

Reviewed By Date

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-Effluent-191211 (1912011-01) **Matrix: Water** **Sampled: Dec-11-19 10:30** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0489**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**102**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**0.291**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**47.9**			0.200	"	"	"	"	"
Manganese	**0.0767**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.30**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**33.3**			0.400	"	"	"	"	"
Strontium	**0.0919**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-Effluent-191211-D (1912011-02) **Matrix: Water** **Sampled: Dec-11-19 10:30** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0479**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**100**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**0.279**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**47.6**			0.200	"	"	"	"	"
Manganese	**0.0760**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.31**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**32.8**			0.400	"	"	"	"	"
Strontium	**0.0914**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG001I-191211 (1912011-03) **Matrix: Water** **Sampled: Dec-11-19 10:00** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0416**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**116**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.0263**	K		0.0200	"	"	"	"	"
Iron	**0.986**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**55.6**			0.200	"	"	"	"	"
Manganese	**0.156**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**2.11**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**76.9**			0.400	"	"	"	"	"
Strontium	**0.0968**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0343**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG002S-191211 (1912011-04) **Matrix: Water** **Sampled: Dec-11-19 10:03** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0396**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0753**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**104**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.0254**	K		0.0200	"	"	"	"	"
Iron	**11.9**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**44.3**			0.200	"	"	"	"	"
Manganese	**0.0794**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.43**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**9.07**			0.400	"	"	"	"	"
Strontium	**0.137**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0321**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG003S-191211 (1912011-05) **Matrix: Water** **Sampled: Dec-11-19 10:05** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0501**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0602**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**108**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.0272**	K		0.0200	"	"	"	"	"
Iron	**15.2**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**47.1**			0.200	"	"	"	"	"
Manganese	**0.0472**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.36**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**16.8**			0.400	"	"	"	"	"
Strontium	**0.145**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0378**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
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Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG004I-191211 (1912011-06) **Matrix: Water** **Sampled: Dec-11-19 10:22** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0655**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**100**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**2.98**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**49.1**			0.200	"	"	"	"	"
Manganese	**0.318**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.52**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**44.2**			0.400	"	"	"	"	"
Strontium	**0.0872**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
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Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG005I-191211 (1912011-07) **Matrix: Water** **Sampled: Dec-11-19 10:30** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0870**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**106**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**4.11**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**52.2**			0.200	"	"	"	"	"
Manganese	**0.274**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.80**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**59.6**			0.400	"	"	"	"	"
Strontium	**0.0954**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG006I-191211 (1912011-08) **Matrix: Water** **Sampled: Dec-11-19 10:33** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0550**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**113**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**1.67**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**53.3**			0.200	"	"	"	"	"
Manganese	**0.0883**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**2.08**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**70.7**			0.400	"	"	"	"	"
Strontium	**0.100**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG006I-191211-D (1912011-09) **Matrix: Water** **Sampled: Dec-11-19 10:33** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0561**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**114**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**1.70**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**54.4**			0.200	"	"	"	"	"
Manganese	**0.0935**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**2.05**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**71.9**			0.400	"	"	"	"	"
Strontium	**0.102**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

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Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG007D-191211 (1912011-10) **Matrix: Water** **Sampled: Dec-11-19 10:37** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0328**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**96.9**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**U**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**45.9**			0.200	"	"	"	"	"
Manganese	**U**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.17**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**27.7**			0.400	"	"	"	"	"
Strontium	**0.0749**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

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Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG008I-191211 (1912011-11) **Matrix: Water** **Sampled: Dec-11-19 10:52** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0356**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**U**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**98.3**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**0.164**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**46.3**			0.200	"	"	"	"	"
Manganese	**0.284**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.06**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**24.6**			0.400	"	"	"	"	"
Strontium	**0.0846**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG009D-191211 (1912011-12) **Matrix: Water** **Sampled: Dec-11-19 10:59** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0327**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0536**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**89.7**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.0274**	K		0.0200	"	"	"	"	"
Iron	**8.04**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**44.0**			0.200	"	"	"	"	"
Manganese	**0.0488**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**U**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**6.97**			0.400	"	"	"	"	"
Strontium	**0.0898**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG010I-191211 (1912011-13) **Matrix: Water** **Sampled: Dec-11-19 11:05** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0308**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0543**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**94.0**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.234**			0.0200	"	"	"	"	"
Iron	**U**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**44.1**			0.200	"	"	"	"	"
Manganese	**U**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.02**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**23.8**			0.400	"	"	"	"	"
Strontium	**0.0730**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**U**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG011D-191211 (1912011-14) **Matrix: Water** **Sampled: Dec-11-19 11:10** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**0.0403**			0.0400	"	"	"	"	"
Barium	**0.0534**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0510**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**105**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.278**			0.0200	"	"	"	"	"
Iron	**9.08**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**49.3**			0.200	"	"	"	"	"
Manganese	**0.0531**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**0.900**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**24.2**			0.400	"	"	"	"	"
Strontium	**0.0953**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.121**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG012D-191211 (1912011-15) **Matrix: Water** **Sampled: Dec-11-19 11:27** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0399**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0526**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**99.0**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.0444**			0.0200	"	"	"	"	"
Iron	**2.65**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**44.6**			0.200	"	"	"	"	"
Manganese	**0.0716**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.00**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**22.5**			0.400	"	"	"	"	"
Strontium	**0.0826**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0563**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG013D-191211 (1912011-16) **Matrix: Water** **Sampled: Dec-11-19 11:31** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0518**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0700**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**92.6**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.0275**	K		0.0200	"	"	"	"	"
Iron	**3.18**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**43.6**			0.200	"	"	"	"	"
Manganese	**0.0595**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.08**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**23.1**			0.400	"	"	"	"	"
Strontium	**0.0812**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0425**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG014D-191211 (1912011-17) **Matrix: Water** **Sampled: Dec-11-19 11:33** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.239**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0617**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**103**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.0846**			0.0200	"	"	"	"	"
Iron	**0.830**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**44.5**			0.200	"	"	"	"	"
Manganese	**0.140**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.17**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**13.7**			0.400	"	"	"	"	"
Strontium	**0.0928**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0820**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-FB004-191211 (1912011-19) **Matrix: Water** **Sampled: Dec-11-19 13:45** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	U			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	U			0.500	"	"	"	"	"
Chromium	U			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	U			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	U			0.200	"	"	"	"	"
Manganese	U			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	U			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	U			0.400	"	"	"	"	"
Strontium	U			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	U			0.006	"	"	"	"	"
Vanadium	U			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-FB005-191211 (1912011-20) **Matrix: Water** **Sampled: Dec-11-19 13:50** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	U			0.0200	"	"	"	"	"
Arsenic	U			0.0400	"	"	"	"	"
Barium	U			0.003	"	"	"	"	"
Beryllium	U			0.002	"	"	"	"	"
Boron	U			0.0500	"	"	"	"	"
Cadmium	U			0.002	"	"	"	"	"
Calcium	U			0.500	"	"	"	"	"
Chromium	U			0.005	"	"	"	"	"
Cobalt	U			0.006	"	"	"	"	"
Copper	U			0.0200	"	"	"	"	"
Iron	U			0.0800	"	"	"	"	"
Lead	U			0.0300	"	"	"	"	"
Lithium	U			0.0250	"	"	"	"	"
Magnesium hi	U			0.200	"	"	"	"	"
Manganese	U			0.008	"	"	"	"	"
Molybdenum	U			0.0120	"	"	"	"	"
Nickel	U			0.0120	"	"	"	"	"
Potassium	U			0.800	"	"	"	"	"
Selenium	U			0.0500	"	"	"	"	"
Silver	U			0.0100	"	"	"	"	"
Sodium	U			0.400	"	"	"	"	"
Strontium	U			0.003	"	"	"	"	"
Thallium	U			0.0600	"	"	"	"	"
Tin	U			0.0200	"	"	"	"	"
Titanium	U			0.006	"	"	"	"	"
Vanadium	U			0.005	"	"	"	"	"
Zinc	U			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

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Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-Influent-191211 (1912011-21) **Matrix: Water** **Sampled: Dec-11-19 11:30** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-19-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0558**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0514**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**108**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**U**			0.0200	"	"	"	"	"
Iron	**3.63**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**51.1**			0.200	"	"	"	"	"
Manganese	**0.0974**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**0.0265**			0.0120	"	"	"	"	"
Potassium	**1.32**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**33.8**			0.400	"	"	"	"	"
Strontium	**0.102**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0347**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified)

US EPA Region 5 LSASD Analytical Services Branch

A7-EWG010I-191211-D (1912011-35) **Matrix: Water** **Sampled: Dec-11-19 11:05** **Received: Dec-12-19 11:18**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	**U**			0.500	mg/L	1	B19L022	Dec-18-19	Dec-18-19
Antimony	**U**			0.0200	"	"	"	"	"
Arsenic	**U**			0.0400	"	"	"	"	"
Barium	**0.0318**			0.003	"	"	"	"	"
Beryllium	**U**			0.002	"	"	"	"	"
Boron	**0.0576**			0.0500	"	"	"	"	"
Cadmium	**U**			0.002	"	"	"	"	"
Calcium	**96.1**			0.500	"	"	"	"	"
Chromium	**U**			0.005	"	"	"	"	"
Cobalt	**U**			0.006	"	"	"	"	"
Copper	**0.112**			0.0200	"	"	"	"	"
Iron	**U**			0.0800	"	"	"	"	"
Lead	**U**			0.0300	"	"	"	"	"
Lithium	**U**			0.0250	"	"	"	"	"
Magnesium hi	**45.5**			0.200	"	"	"	"	"
Manganese	**U**			0.008	"	"	"	"	"
Molybdenum	**U**			0.0120	"	"	"	"	"
Nickel	**U**			0.0120	"	"	"	"	"
Potassium	**1.06**			0.800	"	"	"	"	"
Selenium	**U**			0.0500	"	"	"	"	"
Silver	**U**			0.0100	"	"	"	"	"
Sodium	**24.3**			0.400	"	"	"	"	"
Strontium	**0.0743**			0.003	"	"	"	"	"
Thallium	**U**			0.0600	"	"	"	"	"
Tin	**U**			0.0200	"	"	"	"	"
Titanium	**U**			0.006	"	"	"	"	"
Vanadium	**U**			0.005	"	"	"	"	"
Zinc	**0.0332**			0.0300	"	"	"	"	"

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Blank (B19L022-BLK1) **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	U			0.500	mg/L						
Antimony	U			0.0200	"						
Arsenic	U			0.0400	"						
Barium	U			0.003	"						
Beryllium	U			0.002	"						
Boron	U			0.0500	"						
Cadmium	U			0.002	"						
Calcium	U			0.500	"						
Chromium	U			0.005	"						
Cobalt	U			0.006	"						
Copper	U			0.0200	"						
Iron	U			0.0800	"						
Lead	U			0.0300	"						
Lithium	U			0.0250	"						
Magnesium hi	U			0.200	"						
Manganese	U			0.008	"						
Molybdenum	U			0.0120	"						
Nickel	U			0.0120	"						
Potassium	U			0.800	"						
Selenium	U			0.0500	"						
Silver	U			0.0100	"						
Sodium	U			0.400	"						
Strontium	U			0.003	"						
Thallium	U			0.0600	"						
Tin	U			0.0200	"						
Titanium	U			0.006	"						
Vanadium	U			0.005	"						
Zinc	U			0.0300	"						

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Blank (B19L022-BLK2) **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	U			0.500	mg/L						
Antimony	U			0.0200	"						
Arsenic	U			0.0400	"						
Barium	U			0.003	"						
Beryllium	U			0.002	"						
Boron	U			0.0500	"						
Cadmium	U			0.002	"						
Calcium	U			0.500	"						
Chromium	U			0.005	"						
Cobalt	U			0.006	"						
Copper	U			0.0200	"						
Iron	U			0.0800	"						
Lead	U			0.0300	"						
Lithium	U			0.0250	"						
Magnesium hi	U			0.200	"						
Manganese	U			0.008	"						
Molybdenum	U			0.0120	"						
Nickel	U			0.0120	"						
Potassium	U			0.800	"						
Selenium	U			0.0500	"						
Silver	U			0.0100	"						
Sodium	U			0.400	"						
Strontium	U			0.003	"						
Thallium	U			0.0600	"						
Tin	U			0.0200	"						
Titanium	U			0.006	"						
Vanadium	U			0.005	"						
Zinc	U			0.0300	"						

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

LCS (B19L022-BS1) **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**0.959**			0.500	mg/L	1.000		95.9%	85-115		
Antimony	**0.489**			0.0200	"	0.5000		97.7%	85-115		
Arsenic	**0.196**			0.0400	"	0.2000		97.8%	85-115		
Barium	**0.195**			0.003	"	0.2000		97.3%	85-115		
Beryllium	**0.0098**			0.002	"	1.000E-2		98.3%	85-115		
Boron	**0.949**			0.0500	"	1.000		94.9%	85-115		
Cadmium	**0.0494**			0.002	"	5.000E-2		98.9%	85-115		
Calcium	**47.4**			0.500	"	50.00		94.7%	85-115		
Chromium	**0.0952**			0.005	"	0.1000		95.2%	85-115		
Cobalt	**0.0961**			0.006	"	0.1000		96.1%	85-115		
Copper	**0.0956**			0.0200	"	0.1000		95.6%	85-115		
Iron	**0.948**			0.0800	"	1.000		94.8%	85-115		
Lead	**0.481**			0.0300	"	0.5000		96.2%	85-115		
Lithium	**0.0973**			0.0250	"	0.1000		97.3%	85-115		
Magnesium hi	**18.9**			0.200	"	20.00		94.6%	85-115		
Manganese	**0.193**			0.008	"	0.2000		96.3%	85-115		
Molybdenum	**0.100**			0.0120	"	0.1000		100%	85-115		
Nickel	**0.198**			0.0120	"	0.2000		98.9%	85-115		
Potassium	**23.7**			0.800	"	25.00		94.7%	85-115		
Selenium	**0.488**			0.0500	"	0.5000		97.6%	85-115		
Silver	**0.0218**			0.0100	"	2.500E-2		87.4%	85-115		
Sodium	**47.4**			0.400	"	50.00		94.8%	85-115		
Strontium	**0.931**			0.003	"	1.000		93.1%	85-115		
Thallium	**0.470**			0.0600	"	0.5000		94.0%	85-115		
Tin	**0.492**			0.0200	"	0.5000		98.4%	85-115		
Titanium	**0.0999**			0.006	"	0.1000		99.9%	85-115		
Vanadium	**0.0968**			0.005	"	0.1000		96.8%	85-115		
Zinc	**0.996**			0.0300	"	1.000		99.6%	85-115		

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

LCS (B19L022-BS2) **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**0.969**			0.500	mg/L	1.000		96.9%	85-115		
Antimony	**0.492**			0.0200	"	0.5000		98.5%	85-115		
Arsenic	**0.199**			0.0400	"	0.2000		99.4%	85-115		
Barium	**0.197**			0.003	"	0.2000		98.3%	85-115		
Beryllium	**0.0099**			0.002	"	1.000E-2		99.4%	85-115		
Boron	**0.943**			0.0500	"	1.000		94.3%	85-115		
Cadmium	**0.0503**			0.002	"	5.000E-2		101%	85-115		
Calcium	**48.0**			0.500	"	50.00		96.0%	85-115		
Chromium	**0.0978**			0.005	"	0.1000		97.8%	85-115		
Cobalt	**0.0966**			0.006	"	0.1000		96.6%	85-115		
Copper	**0.0960**			0.0200	"	0.1000		96.0%	85-115		
Iron	**0.963**			0.0800	"	1.000		96.3%	85-115		
Lead	**0.489**			0.0300	"	0.5000		97.7%	85-115		
Lithium	**0.0972**			0.0250	"	0.1000		97.2%	85-115		
Magnesium hi	**18.9**			0.200	"	20.00		94.4%	85-115		
Manganese	**0.194**			0.008	"	0.2000		97.2%	85-115		
Molybdenum	**0.103**			0.0120	"	0.1000		103%	85-115		
Nickel	**0.202**			0.0120	"	0.2000		101%	85-115		
Potassium	**23.7**			0.800	"	25.00		94.6%	85-115		
Selenium	**0.496**			0.0500	"	0.5000		99.3%	85-115		
Silver	**0.0216**			0.0100	"	2.500E-2		86.3%	85-115		
Sodium	**47.4**			0.400	"	50.00		94.8%	85-115		
Strontium	**0.934**			0.003	"	1.000		93.4%	85-115		
Thallium	**0.480**			0.0600	"	0.5000		96.0%	85-115		
Tin	**0.500**			0.0200	"	0.5000		99.9%	85-115		
Titanium	**0.101**			0.006	"	0.1000		101%	85-115		
Vanadium	**0.0977**			0.005	"	0.1000		97.7%	85-115		
Zinc	**1.01**			0.0300	"	1.000		101%	85-115		

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

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Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Duplicate (B19L022-DUP1) **Source: 1912011-01** **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**U**			0.500	mg/L		U				20
Antimony	**U**			0.0200	"		U				20
Arsenic	**U**			0.0400	"		U				20
Barium	**0.0487**			0.003	"		0.0489			0.438	20
Beryllium	**U**			0.002	"		U				20
Boron	**0.0517**			0.0500	"		0.0449			14.1	20
Cadmium	**U**			0.002	"		U				20
Calcium	**101**			0.500	"		102			0.901	20
Chromium	**U**			0.005	"		U				20
Cobalt	**U**			0.006	"		U				20
Copper	**U**			0.0200	"		U				20
Iron	**0.279**			0.0800	"		0.291			4.12	20
Lead	**U**			0.0300	"		U				20
Lithium	**U**			0.0250	"		U				20
Magnesium hi	**47.9**			0.200	"		47.9			0.0119	20
Manganese	**0.0756**			0.008	"		0.0767			1.53	20
Molybdenum	**U**			0.0120	"		U				20
Nickel	**U**			0.0120	"		U				20
Potassium	**1.29**			0.800	"		1.30			0.307	20
Selenium	**U**			0.0500	"		U				20
Silver	**U**			0.0100	"		U				20
Sodium	**33.0**			0.400	"		33.3			0.681	20
Strontium	**0.0909**			0.003	"		0.0919			1.00	20
Thallium	**U**			0.0600	"		U				20
Tin	**U**			0.0200	"		U				20
Titanium	**U**			0.006	"		U				20
Vanadium	**0.0009**			0.005	"		0.0009				20
Zinc	**U**			0.0300	"		0.0068				20

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Duplicate (B19L022-DUP2) **Source: 1912011-12** **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**U**			0.500	mg/L		U				20
Antimony	**U**			0.0200	"		U				20
Arsenic	**0.0340**			0.0400	"		0.0342			0.506	20
Barium	**0.0332**			0.003	"		0.0327			1.38	20
Beryllium	**U**			0.002	"		U				20
Boron	**0.0539**			0.0500	"		0.0536			0.559	20
Cadmium	**U**			0.002	"		U				20
Calcium	**91.0**			0.500	"		89.7			1.54	20
Chromium	**U**			0.005	"		U				20
Cobalt	**U**			0.006	"		U				20
Copper	**0.0275**			0.0200	"		0.0274			0.548	20
Iron	**8.10**			0.0800	"		8.04			0.764	20
Lead	**0.0066**			0.0300	"		0.0079			17.9	20
Lithium	**U**			0.0250	"		U				20
Magnesium hi	**44.3**			0.200	"		44.0			0.676	20
Manganese	**0.0489**			0.008	"		0.0488			0.121	20
Molybdenum	**U**			0.0120	"		U				20
Nickel	**U**			0.0120	"		U				20
Potassium	**0.600**			0.800	"		0.655			8.87	20
Selenium	**U**			0.0500	"		U				20
Silver	**U**			0.0100	"		U				20
Sodium	**6.99**			0.400	"		6.97			0.223	20
Strontium	**0.0902**			0.003	"		0.0898			0.509	20
Thallium	**U**			0.0600	"		U				20
Tin	**U**			0.0200	"		U				20
Titanium	**U**			0.006	"		U				20
Vanadium	**U**			0.005	"		U				20
Zinc	**0.0138**			0.0300	"		0.0137			1.16	20

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Duplicate (B19L022-DUP3) **Source: 1912011-21** **Prepared: Dec-18-19 Analyzed: Dec-19-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**U**			0.500	mg/L		U				20
Antimony	**U**			0.0200	"		U				20
Arsenic	**0.0157**			0.0400	"		0.0142			9.69	20
Barium	**0.0574**			0.003	"		0.0558			2.80	20
Beryllium	**U**			0.002	"		U				20
Boron	**0.0639**	Q		0.0500	"		0.0514			21.6	20
Cadmium	**U**			0.002	"		U				20
Calcium	**109**			0.500	"		108			0.916	20
Chromium	**U**			0.005	"		U				20
Cobalt	**U**			0.006	"		U				20
Copper	**0.0044**			0.0200	"		0.0036			18.5	20
Iron	**3.70**			0.0800	"		3.63			1.97	20
Lead	**U**			0.0300	"		U				20
Lithium	**0.0045**			0.0250	"		0.004			10.1	20
Magnesium hi	**51.9**			0.200	"		51.1			1.54	20
Manganese	**0.0991**			0.008	"		0.0974			1.71	20
Molybdenum	**U**			0.0120	"		U				20
Nickel	**0.0262**			0.0120	"		0.0265			1.37	20
Potassium	**1.38**			0.800	"		1.32			4.30	20
Selenium	**U**			0.0500	"		U				20
Silver	**U**			0.0100	"		U				20
Sodium	**34.7**			0.400	"		33.8			2.56	20
Strontium	**0.104**			0.003	"		0.102			1.89	20
Thallium	**U**			0.0600	"		U				20
Tin	**U**			0.0200	"		U				20
Titanium	**U**			0.006	"		U				20
Vanadium	**U**			0.005	"		0.0011				20
Zinc	**0.0348**			0.0300	"		0.0347			0.381	20

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

MRL Check (B19L022-MRL1) **Prepared: Dec-16-19 Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**0.494**			0.500	mg/L	0.5000		98.7%	65-135		
Antimony	**0.0204**			0.0200	"	2.000E-2		102%	65-135		
Arsenic	**0.0386**			0.0400	"	4.000E-2		96.4%	65-135		
Barium	**0.0028**			0.003	"	3.000E-3		92.3%	65-135		
Beryllium	**0.0019**			0.002	"	2.000E-3		95.3%	65-135		
Boron	**0.0568**			0.0500	"	5.000E-2		114%	65-135		
Cadmium	**0.0019**			0.002	"	2.000E-3		97.2%	65-135		
Calcium	**0.501**			0.500	"	0.5000		100%	65-135		
Chromium	**0.0044**			0.005	"	5.000E-3		88.5%	65-135		
Cobalt	**0.0057**			0.006	"	6.000E-3		95.0%	65-135		
Copper	**0.0184**			0.0200	"	2.000E-2		91.9%	65-135		
Iron	**0.0833**			0.0800	"	8.000E-2		104%	65-135		
Lead	**0.0308**			0.0300	"	3.000E-2		103%	65-135		
Lithium	**0.0226**			0.0250	"	2.500E-2		90.2%	65-135		
Magnesium hi	**0.197**			0.200	"	0.2000		98.6%	65-135		
Manganese	**0.0081**			0.008	"	8.000E-3		101%	65-135		
Molybdenum	**0.0119**			0.0120	"	1.200E-2		99.3%	65-135		
Nickel	**0.0131**			0.0120	"	1.200E-2		109%	65-135		
Potassium	**0.723**			0.800	"	0.8000		90.3%	65-135		
Selenium	**0.0514**			0.0500	"	5.000E-2		103%	65-135		
Silver	**0.0093**			0.0100	"	1.000E-2		92.6%	65-135		
Sodium	**0.386**			0.400	"	0.4000		96.5%	65-135		
Strontium	**0.0031**			0.003	"	3.000E-3		102%	65-135		
Thallium	**0.0622**			0.0600	"	6.000E-2		104%	65-135		
Tin	**0.0202**			0.0200	"	2.000E-2		101%	65-135		
Titanium	**0.0057**			0.006	"	6.000E-3		95.4%	65-135		
Vanadium	**0.0052**			0.005	"	5.000E-3		105%	65-135		
Zinc	**0.0306**			0.0300	"	3.000E-2		102%	65-135		

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

MRL Check (B19L022-MRL2) **Prepared: Dec-16-19 Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**0.498**			0.500	mg/L	0.5000		99.6%	65-135		
Antimony	**0.0206**			0.0200	"	2.000E-2		103%	65-135		
Arsenic	**0.0383**			0.0400	"	4.000E-2		95.9%	65-135		
Barium	**0.0029**			0.003	"	3.000E-3		97.6%	65-135		
Beryllium	**0.0019**			0.002	"	2.000E-3		97.3%	65-135		
Boron	**0.0578**			0.0500	"	5.000E-2		116%	65-135		
Cadmium	**0.002**			0.002	"	2.000E-3		99.7%	65-135		
Calcium	**0.514**			0.500	"	0.5000		103%	65-135		
Chromium	**0.005**			0.005	"	5.000E-3		99.2%	65-135		
Cobalt	**0.006**			0.006	"	6.000E-3		101%	65-135		
Copper	**0.0186**			0.0200	"	2.000E-2		93.1%	65-135		
Iron	**0.0797**			0.0800	"	8.000E-2		99.6%	65-135		
Lead	**0.0310**			0.0300	"	3.000E-2		103%	65-135		
Lithium	**0.0233**			0.0250	"	2.500E-2		93.3%	65-135		
Magnesium hi	**0.192**			0.200	"	0.2000		95.9%	65-135		
Manganese	**0.008**			0.008	"	8.000E-3		100%	65-135		
Molybdenum	**0.0123**			0.0120	"	1.200E-2		103%	65-135		
Nickel	**0.0126**			0.0120	"	1.200E-2		105%	65-135		
Potassium	**0.775**			0.800	"	0.8000		96.8%	65-135		
Selenium	**0.0508**			0.0500	"	5.000E-2		102%	65-135		
Silver	**0.0092**			0.0100	"	1.000E-2		92.4%	65-135		
Sodium	**0.398**			0.400	"	0.4000		99.5%	65-135		
Strontium	**0.0031**			0.003	"	3.000E-3		105%	65-135		
Thallium	**0.0622**			0.0600	"	6.000E-2		104%	65-135		
Tin	**0.0207**			0.0200	"	2.000E-2		104%	65-135		
Titanium	**0.0057**			0.006	"	6.000E-3		94.3%	65-135		
Vanadium	**0.005**			0.005	"	5.000E-3		99.5%	65-135		
Zinc	**0.0313**			0.0300	"	3.000E-2		104%	65-135		

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
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Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Matrix Spike (B19L022-MS1) **Source: 1912011-01** **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**0.964**			0.500	mg/L	1.000	U	96.4%	75-125		
Antimony	**0.478**			0.0200	"	0.5000	U	95.6%	75-125		
Arsenic	**0.196**			0.0400	"	0.2000	U	98.0%	75-125		
Barium	**0.241**			0.003	"	0.2000	0.0489	95.9%	75-125		
Beryllium	**0.0096**			0.002	"	1.000E-2	U	96.3%	75-125		
Boron	**0.981**			0.0500	"	1.000	0.0449	93.6%	75-125		
Cadmium	**0.0473**			0.002	"	5.000E-2	U	94.6%	75-125		
Calcium	**143**			0.500	"	50.00	102	82.3%	75-125		
Chromium	**0.0941**			0.005	"	0.1000	U	94.1%	75-125		
Cobalt	**0.0919**			0.006	"	0.1000	U	91.9%	75-125		
Copper	**0.0964**			0.0200	"	0.1000	U	96.4%	75-125		
Iron	**1.21**			0.0800	"	1.000	0.291	91.6%	75-125		
Lead	**0.460**			0.0300	"	0.5000	U	92.0%	75-125		
Lithium	**0.103**			0.0250	"	0.1000	U	103%	75-125		
Magnesium hi	**65.2**			0.200	"	20.00	47.9	86.7%	75-125		
Manganese	**0.260**			0.008	"	0.2000	0.0767	91.4%	75-125		
Molybdenum	**0.0991**			0.0120	"	0.1000	U	99.1%	75-125		
Nickel	**0.188**			0.0120	"	0.2000	U	94.2%	75-125		
Potassium	**25.4**			0.800	"	25.00	1.30	96.6%	75-125		
Selenium	**0.477**			0.0500	"	0.5000	U	95.3%	75-125		
Silver	**0.0211**			0.0100	"	2.500E-2	U	84.4%	75-125		
Sodium	**80.1**			0.400	"	50.00	33.3	93.7%	75-125		
Strontium	**1.01**			0.003	"	1.000	0.0919	92.2%	75-125		
Thallium	**0.440**			0.0600	"	0.5000	U	88.1%	75-125		
Tin	**0.464**			0.0200	"	0.5000	U	92.9%	75-125		
Titanium	**0.0993**			0.006	"	0.1000	U	99.3%	75-125		
Vanadium	**0.0956**			0.005	"	0.1000	0.0009	94.7%	75-125		
Zinc	**0.969**			0.0300	"	1.000	0.0068	96.2%	75-125		

Environmental Protection Agency Region 5

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Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Matrix Spike (B19L022-MS2) **Source: 1912011-12** **Prepared & Analyzed: Dec-18-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**0.970**			0.500	mg/L	1.000	U	97.0%	75-125		
Antimony	**0.490**			0.0200	"	0.5000	U	98.0%	75-125		
Arsenic	**0.229**			0.0400	"	0.2000	0.0342	97.3%	75-125		
Barium	**0.229**			0.003	"	0.2000	0.0327	98.1%	75-125		
Beryllium	**0.0097**			0.002	"	1.000E-2	U	97.3%	75-125		
Boron	**1.01**			0.0500	"	1.000	0.0536	96.0%	75-125		
Cadmium	**0.0474**			0.002	"	5.000E-2	U	94.7%	75-125		
Calcium	**133**			0.500	"	50.00	89.7	87.2%	75-125		
Chromium	**0.0954**			0.005	"	0.1000	U	95.4%	75-125		
Cobalt	**0.0930**			0.006	"	0.1000	U	93.0%	75-125		
Copper	**0.128**			0.0200	"	0.1000	0.0274	101%	75-125		
Iron	**8.88**			0.0800	"	1.000	8.04	84.0%	75-125		
Lead	**0.474**			0.0300	"	0.5000	0.0079	93.3%	75-125		
Lithium	**0.102**			0.0250	"	0.1000	U	102%	75-125		
Magnesium hi	**62.6**			0.200	"	20.00	44.0	93.1%	75-125		
Manganese	**0.239**			0.008	"	0.2000	0.0488	95.2%	75-125		
Molybdenum	**0.101**			0.0120	"	0.1000	U	101%	75-125		
Nickel	**0.192**			0.0120	"	0.2000	U	96.0%	75-125		
Potassium	**25.0**			0.800	"	25.00	0.655	97.5%	75-125		
Selenium	**0.484**			0.0500	"	0.5000	U	96.9%	75-125		
Silver	**0.0220**			0.0100	"	2.500E-2	U	88.0%	75-125		
Sodium	**55.6**			0.400	"	50.00	6.97	97.2%	75-125		
Strontium	**1.04**			0.003	"	1.000	0.0898	95.3%	75-125		
Thallium	**0.458**			0.0600	"	0.5000	U	91.5%	75-125		
Tin	**0.478**			0.0200	"	0.5000	U	95.5%	75-125		
Titanium	**0.102**			0.006	"	0.1000	U	102%	75-125		
Vanadium	**0.0986**			0.005	"	0.1000	U	98.6%	75-125		
Zinc	**0.985**			0.0300	"	1.000	0.0137	97.2%	75-125		

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Metals by ICP-AES using EPA 200.7 (modified) - Quality Control

US EPA Region 5 LSASD Analytical Services Branch

Batch B19L022 - Hot Block Digestion

Matrix Spike (B19L022-MS3) **Source: 1912011-21** **Prepared: Dec-18-19 Analyzed: Dec-19-19**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Aluminum	**1.08**			0.500	mg/L	1.000	U	108%	75-125		
Antimony	**0.523**			0.0200	"	0.5000	U	105%	75-125		
Arsenic	**0.221**			0.0400	"	0.2000	0.0142	104%	75-125		
Barium	**0.267**			0.003	"	0.2000	0.0558	106%	75-125		
Beryllium	**0.0106**			0.002	"	1.000E-2	U	106%	75-125		
Boron	**1.06**			0.0500	"	1.000	0.0514	101%	75-125		
Cadmium	**0.0507**			0.002	"	5.000E-2	U	101%	75-125		
Calcium	**155**			0.500	"	50.00	108	93.8%	75-125		
Chromium	**0.104**			0.005	"	0.1000	U	104%	75-125		
Cobalt	**0.0999**			0.006	"	0.1000	U	99.9%	75-125		
Copper	**0.113**			0.0200	"	0.1000	0.0036	110%	75-125		
Iron	**4.62**			0.0800	"	1.000	3.63	99.1%	75-125		
Lead	**0.502**			0.0300	"	0.5000	U	100%	75-125		
Lithium	**0.114**			0.0250	"	0.1000	0.004	110%	75-125		
Magnesium hi	**71.3**			0.200	"	20.00	51.1	101%	75-125		
Manganese	**0.295**			0.008	"	0.2000	0.0974	98.8%	75-125		
Molybdenum	**0.108**			0.0120	"	0.1000	U	108%	75-125		
Nickel	**0.232**			0.0120	"	0.2000	0.0265	103%	75-125		
Potassium	**27.7**			0.800	"	25.00	1.32	105%	75-125		
Selenium	**0.519**			0.0500	"	0.5000	U	104%	75-125		
Silver	**0.0236**			0.0100	"	2.500E-2	U	94.6%	75-125		
Sodium	**86.3**			0.400	"	50.00	33.8	105%	75-125		
Strontium	**1.14**			0.003	"	1.000	0.102	104%	75-125		
Thallium	**0.498**			0.0600	"	0.5000	U	99.6%	75-125		
Tin	**0.511**			0.0200	"	0.5000	U	102%	75-125		
Titanium	**0.111**			0.006	"	0.1000	U	111%	75-125		
Vanadium	**0.106**			0.005	"	0.1000	0.0011	105%	75-125		
Zinc	**1.07**			0.0300	"	1.000	0.0347	104%	75-125		

Environmental Protection Agency Region 5

US EPA Region 5 LSASD Analytical Services Branch

536 South Clark Street, Chicago, IL 60605
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Superfund, US EPA Region 5	Project: SE Rockford GW Contamination	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Karen Kirchner	Jan-16-20 15:11

Notes and Definitions

K	The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value.
U	Not Detected
NR	Not Reported
Q	QC limit Exceeded

CRL Metals Data Verification Checklist

Work Order Number: 1912011 Project: SE Rockford GW Contamination
Parameter: ICP-AES (w) metals

Checklist Instructions: Click the checkbox if the line item was reviewed; select "n/a" if not applicable.

Package Overview:		Analyst	2nd Rev
Raw data package complete?		✔	✔
Raw instrument data checked?		✔	✔
Results reported correctly? For results > RL, LIMS report results compared with raw data/spreadsheet? For samples with all results < RL, LIMS data entry time stamp compared with raw data/spreadsheet?		✔	✔
Special requests done? (RLs, QC limits, analytes, etc. not specified in SOP)	n/a		
Latest version of approved calculation spreadsheet/acquisition method used? If not, was it reviewed?		✔	✔
Calculations checked?		✔	✔
ICP-AES linear range not exceeded? ICP-MS calibration not exceeded unless valid linearity standard analyzed?		✔	✔
Field QC Checked?	-	✔	✔
Quality Control:			
Holding times met?		✔	✔
Preservation correct? (Y/N) If No, preservation corrected and documented in narrative?		✔	✔
Proper digestion verified?		✔	✔
Initial instrument performance checks verified?		✔	✔
Calibration verification checked?		✔	✔
Internal standards checked?		✔	✔
Digestion matrix QC checked?	-	✔	✔
Digestion blanks checked?		✔	✔
Digestion blank spikes checked?		✔	✔
Reference sample (filter or soil SRM, if applicable) checked?	n/a		
Final Check:			
ANAB logo used appropriately? Data on I: Drive?		✔	✔
LIMS QC limits checked against analytical SOP?		✔	✔
Technical review done?		✔	✔
Narrative complete and data verification determinations documented?		✔	✔
Internal work (DOC, MDL, etc.) meets relevant QMP policies and work instruction procedures?		✔	✔
Is the analyst submitting this data package qualified to report data for this analysis? DOC workflow ID #17271		✔	✔

Analyst: REVIEWED By Amanda Wroble at 2:56 pm, Dec 19, 2019 Date: 12/19/19

All concerns with this data package documented by the reviewer have been resolved to the satisfaction of the reviewer. The reviewer, by signing, verifies that this package is complete and supports the reported results in accordance with the CRL Quality Management Plan and applicable standard operating procedures (SOPs)

2nd Reviewer: REVIEWED By KSWAN at 12:27 pm, Jan 16, 2020 Date: 1/16/20

Environmental Protection Agency Region 5

Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605

Phone:(312)353-8370 Fax:(312)886-2591

Date: 12/18/2019

METALS SAMPLE PREPARATION RECORD

Batch Number: B19L022

Prepared By: AW

Digestion Method: Hot Block Digestion

Prepared Date: 12.18.19

Hotblock ID: EE#11

Block temp. & thermometer ID: S/N 181346315 93.4°C

Novamed pipette ID(s): P-1192 H-2417

Digestion tube lot: EE#1703076

pH paper LIMS ID: 18D1901

Vessel Number	Sample Number	Source ID	Spike #1	Spike #1 Amt (uL)	Spike #2	Spike #2 Amt (uL)	pH <2 Y/N*	Sample Description (Color, Clarity, Texture, Artifacts, etc...) Before Prep	After Prep	Remarks
	1912011-01						y			pH=1
	1912011-02						↓			pH=1
	1912011-03									pH=1
	1912011-04									pH=1
	1912011-05									pH=1
	1912011-06									pH=1
	1912011-07									pH=1
	1912011-08									pH=1
	1912011-09									pH=1
	1912011-10									pH=1
	1912011-11									pH=1
D	1912011-12									pH=1
	1912011-13									pH=1
	1912011-14									pH=1
	1912011-15									pH=1
	1912011-16									pH=1
	1912011-17									pH=1
	1912011-19									pH=1
	1912011-20						✓			pH=1

Environmental Protection Agency Region 5
Chicago Regional Laboratory
536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Date: 12/18/2019

See p.1

METALS SAMPLE PREPARATION RECORD

Batch Number: B19L022

Prepared By: _____ Hotblock ID: _____

Digestion Method: Hot Block Digestion Block temp. & thermometer ID: _____ Digestion tube lot: _____

Prepared Date: _____ Novamed pipette ID(s): _____ pH paper LIMS ID: _____

Vessel Number	Sample Number	Source ID	Spike #1	Spike #1 Amt (uL)	Spike #2	Spike #2 Amt (uL)	pH <2 Y/N*	Sample Description (Color, Clarity, Texture, Artifacts, etc...) Before Prep	After Prep	Remarks
K	1912011-21						y			pH=1
	1912011-35						y			pH=1
	B19L022-BLK1									
	B19L022-BLK2									
	B19L022-BS1		19E1409	1000						
	B19L022-BS2		19E1409	1000						
	B19L022-DUP1	1912011-01								
	B19L022-DUP2	1912011-12								
	B19L022-DUP3	1912011-21								
	B19L022-MRL1		19E1410	1000						
	B19L022-MRL2		19E1410	1000						
	B19L022-MS1	1912011-01	19E1409	1000						
	B19L022-MS2	1912011-12	19E1409	1000						
	B19L022-MS3	1912011-21	19E1409	1000						

** Please note: If pH > 2, record in the Remarks column the actual pH and the amount of acid needed to bring the pH to < 2. Also record the time and date of preservation. If in-laboratory preservation is necessary, a minimum of 24 hours must elapse between adjustment of pH to < 2 before subsampling can begin.*

Comments:

Environmental Protection Agency Region 5
Chicago Regional Laboratory
536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Date: 12/18/2019

See p. 1

METALS SAMPLE PREPARATION RECORD

Batch Number: B19L022

Prepared By: _____

Digestion Method: Hot Block Digestion

Prepared Date: _____

Hotblock ID: _____

Block temp. & thermometer ID: _____

Novamed pipette ID(s): _____

Digestion tube lot: _____

pH paper LIMS ID: _____

Analyses included in this batch:
Metals ICP-AES (w)

Acids used in batch preparation:
19I2608 Nitric Acid 1:1 in 10 mL dispenser
19K0401 Hydrochloric Acid 1:1 5 mL dispenser

U.S. Environmental Protection Agency Region 5
Analytical Services Branch

Memo

To: Files 1912011

From: Amanda Wroble

Date: 19 December 2019

Re: Data Storage for Work Orders 1912011

All analytical results files, sample information files, and reformat files for ICP-AES analysis are temporarily located on the R5CRL data server for data verification purposes using the following path:

I:\r5crl\vol1\Projects (New File Structure)\SE Rockford GW Contamination\2. Metals\AWroble\1912011\ICP-AES 6500 Duo

The narrative and QC summary spreadsheets are temporarily located on the R5CRL data server for data verification purposes using the following path:

I:\r5crl\vol1\ Projects (New File Structure)\SE Rockford GW Contamination\2. Metals\AWroble\1912011\Reports

Batch number B19L022

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

REVIEWED
By Amanda Wroble at 11:22 am, Dec 19, 2019

Sample Work Order: 1912011 Cal 1: 19I2001
Analysis Date: 12/18/19 Cal 2: 19E0902
Results Data Set: 2019-12-18b ICP FAST ISTD Y: 19D1201
Analysis: ICP-AES (w) metals
Analyst: AW

Sample List	Time	Initial Sample Volume (mL)	Sample Prep Volume (mL)	Aliquot Volume (mL)	Diluted to Volume (mL)	Y 224.306 Percent	Y 224.306 RSD	Y 360.073 Percent	Y 360.073 RSD	Y 371.030 Percent	Y 371.030 RSD
cal blank	3:36 PM					102.3	0.4	207.4	97.3	204.6	139.0
cal blank	3:39 PM					99.8	0.4	101.4	1.5	101.3	1.3
cal blank	3:42 PM					100.0	0.0	100.0	0.0	100.0	0.0
Cal 1	3:45 PM					96.9	0.1	99.8	0.1	99.7	0.2
Cal 2	3:48 PM					99.7	0.3	101.7	0.3	101.9	0.4
LCB	3:51 PM					100.4	0.1	100.1	0.9	99.9	0.8
RLC	3:54 PM					101.1	0.2	100.7	0.1	100.7	0.0
iLCM1	3:57 PM					101.0	0.1	101.3	0.6	101.2	0.4
iHiLCM	3:59 PM					94.4	0.2	98.8	0.5	99.2	0.7
iLCM2	4:02 PM					102.8	0.7	102.4	0.9	102.7	0.7
wash	4:05 PM					102.7	0.6	103.6	0.5	103.4	0.5
SIC Al	4:08 PM					102.2	0.8	100.0	0.8	100.2	0.7
SIC Ba	4:11 PM					103.1	0.7	102.6	0.6	102.7	0.5
SIC Ca	4:14 PM					96.8	0.8	100.8	0.2	100.8	0.2
SIC Cr	4:16 PM					103.8	0.6	102.5	0.1	102.7	0.2
SIC Cu	4:19 PM					102.2	0.6	102.9	0.3	103.1	0.5
SIC Fe	4:22 PM					100.3	0.5	100.6	0.1	100.9	0.2
SIC Mg	4:25 PM					98.1	0.4	101.4	0.1	101.8	0.0
SIC Mn	4:28 PM					104.0	0.4	102.6	0.3	102.9	0.2
SIC Mo	4:31 PM					104.3	0.5	102.8	0.9	103.2	0.8
SIC Ni	4:34 PM					104.6	0.1	103.2	0.3	103.5	0.1
SIC Si	4:37 PM					105.3	0.7	103.2	0.7	103.5	0.3
SIC Sn	4:40 PM					103.6	0.6	102.2	0.1	102.5	0.3
SIC Ti	4:43 PM					103.8	0.4	102.5	0.3	102.8	0.3
SIC V	4:46 PM					103.6	0.3	102.9	0.6	103.1	0.6
LCB	4:48 PM					103.7	0.5	103.1	1.1	103.3	0.9
RLC	4:51 PM					103.9	0.5	104.0	0.9	104.2	0.6
LCM1	4:54 PM					103.6	0.2	103.8	0.6	104.3	0.6
HiLCM	4:57 PM					96.2	0.3	100.8	0.4	101.2	0.5
LCM2	5:00 PM					104.1	0.3	104.6	0.6	104.9	0.5
wash	5:03 PM					104.4	0.2	102.8	0.3	103.1	0.4
B19L022-BLK1	5:06 PM					104.8	0.3	102.6	0.7	102.9	0.7
B19L022-MRL1	5:08 PM					104.5	0.2	102.7	0.7	103.0	0.5
B19L022-BS1	5:11 PM					99.3	0.0	101.7	0.9	102.0	0.5
1912011-01	5:14 PM					97.3	0.1	100.6	0.5	101.0	0.4
1912011-01 dil	5:17 PM	10	50			102.4	0.6	101.9	0.2	102.3	0.3
B19L022-DUP1	5:20 PM					97.8	0.1	100.9	0.4	101.2	0.5
B19L022-MS1	5:22 PM					95.5	0.2	100.1	0.5	100.5	0.5
1912011-02	5:25 PM					97.8	0.3	101.1	0.5	102.1	0.6
1912011-03	5:28 PM					96.3	0.1	99.7	0.2	100.7	0.2
1912011-04	5:31 PM					98.2	0.2	101.5	0.9	102.5	0.7
LCB	5:34 PM					105.1	0.2	102.5	0.7	103.2	0.7

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011 Cal 1: 19I2001
Analysis Date: 12/18/19 Cal 2: 19E0902
Results Data Set: 2019-12-18b ICP FAST ISTD Y: 19D1201
Analysis: ICP-AES (w) metals
Analyst: AW

Sample List	Time	Initial Sample Volume (mL)	Sample Prep Volume (mL)	Aliquot Volume (mL)	Diluted to Volume (mL)	Y 224.306 Percent	Y 224.306 RSD	Y 360.073 Percent	Y 360.073 RSD	Y 371.030 Percent	Y 371.030 RSD
RLC	5:37 PM					104.9	0.3	102.3	0.5	103.1	0.5
LCM1	5:40 PM					104.2	0.2	102.7	0.4	103.3	0.3
HiLCM	5:42 PM					95.3	0.2	98.9	0.5	99.6	0.6
LCM2	5:45 PM					103.7	0.2	101.0	0.5	101.5	0.6
wash	5:48 PM					104.5	0.2	101.9	0.5	102.3	0.7
1912011-05	5:51 PM					97.9	0.1	99.8	0.4	100.3	0.4
1912011-06	5:54 PM					97.9	0.1	101.1	0.4	101.6	0.5
1912011-07	5:56 PM					97.5	0.4	100.6	0.4	101.0	0.3
1912011-08	5:59 PM					97.0	0.4	100.2	0.4	100.6	0.5
1912011-09	6:02 PM					96.9	0.2	101.1	0.1	101.9	0.3
1912011-10	6:05 PM					98.8	0.1	101.3	0.2	101.9	0.6
1912011-11	6:08 PM					98.4	0.2	102.3	0.8	102.8	0.7
1912011-12	6:10 PM					99.6	0.1	102.1	0.5	102.6	0.5
B19L022-DUP2	6:13 PM					99.3	0.3	102.0	0.7	102.6	0.4
B19L022-MS2	6:16 PM					96.4	0.3	102.5	0.1	103.1	0.1
LCB	6:19 PM					105	0.2	105	0.3	105	0.2
RLC	6:22 PM					105	0.2	105	0.4	106	0.4
LCM1	6:25 PM					104	0.2	106	0.5	106	0.7
HiLCM	6:27 PM					96	0.2	103	0.1	103	0.3
LCM2	6:30 PM					105	0.3	105	0.5	105	0.4
wash	6:33 PM					106	0.2	103	0.6	103	0.4
1912011-13	6:36 PM					99	0.2	102	0.9	101	0.7
1912011-14	6:39 PM					98	0.2	101	0.4	100	0.4
1912011-15	6:42 PM					98	0.2	101	0.6	101	0.6
1912011-16	6:44 PM					99	0.3	102	0.6	101	0.5
1912011-17	6:47 PM					98	0.1	102	0.6	101	0.6
1912011-19	6:50 PM					105	0.3	105	0.7	104	0.6
1912011-20	6:53 PM					106	0.2	102	0.1	102	0.4
1912011-21	6:56 PM					99	0.1	102	0.3	101	0.5
B19L022-DUP3	6:58 PM	reanalyze with -21/-ms3 due to elevated IS recoveries				309	3.2	253	2.7	247	2.7
B19L022-MS3	7:01 PM					96	0.4	100	0.7	99	0.6
LCB	7:04 PM					105	0.2	102	0.4	101	0.4
RLC	7:07 PM					105	0.1	103	0.6	102	0.6
LCM1	7:10 PM					105	0.3	104	0.5	103	0.6
HiLCM	7:13 PM					98	0.4	101	0.6	100	0.2
LCM2	7:15 PM					103	0.4	104	0.3	103	0.5
wash	7:18 PM					103	0.4	101	0.5	100	0.4
B19L022-BLK2	7:21 PM					104	0.1	101	0.9	100	0.8
B19L022-MRL2	7:24 PM					105	0.3	102	0.6	102	0.6
B19L022-BS2	7:27 PM					99	0.2	101	0.6	101	0.4
1912011-35	7:30 PM					98	0.3	101	0.6	101	0.4
1912011-35 dil	7:33 PM	10	50			103	0.2	101	0.3	101	0.3

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011 Cal 1: 19I2001
Analysis Date: 12/18/19 Cal 2: 19E0902
Results Data Set: 2019-12-18b ICP FAST ISTD Y: 19D1201
Analysis: ICP-AES (w) metals
Analyst: AW

Sample List	Time	Initial Sample Volume (mL)	Sample Prep Volume (mL)	Aliquot Volume (mL)	Diluted to Volume (mL)	Y 224.306 Percent	Y 224.306 RSD	Y 360.073 Percent	Y 360.073 RSD	Y 371.030 Percent	Y 371.030 RSD
LCB	7:36 PM					105	0.2	101	0.3	101	0.3
RLC	7:38 PM					105	0.2	103	0.5	102	0.4
LCM1	7:41 PM					104	0.2	102	0.3	102	0.4
HiLCM	7:44 PM					97	0.2	100	0.9	100	0.7
LCM2	7:47 PM					105	0.5	102	0.3	101	0.1
Milli-Q	7:50 PM					106	0.1	103	0.7	102	0.5
Milli-Q	7:53 PM					106	0.3	102	0.4	102	0.6
Milli-Q	7:55 PM					106	0.4	104	0.8	103	0.8

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/18/19	LCM 2: 19I2002
Results Data Set:	2019-12-18b	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument Blank (LCB)
Limit = ± MDL

	Measured Conc							
LCB	3:51 PM	4:48 PM	5:34 PM	6:19 PM	7:04 PM	7:36 PM	MDL	RL
Ag 328.068	0.0002	0.0004	0.0002	0.0005	-0.0003	0.0000	0.0024	0.01
Ag 338.289	-0.0006	-0.0006	-0.0003	-0.0013	-0.0002	-0.0003	0.013	0.025
Al 308.215	-0.0076	-0.0610	-0.0562	-0.0403	-0.0075	-0.0171	0.29	0.5
Al 396.153	-0.0048	-0.0109	0.0012	-0.0057	-0.0073	-0.0046	0.093	0.5
As 189.042 (icap 3)	0.0018	0.0005	0.0004	0.0005	0.0005	-0.0009	0.0052	0.04
As 193.696	0.0002	-0.0014	-0.0012	-0.0015	-0.0017	-0.0007	0.0090	0.04
B 249.677	0.0037	0.0013	-0.0019	0.0083	0.0083	0.0059	0.013	0.05
Ba 455.403	0.0000	-0.0001	-0.0003	-0.0008	-0.0001	-0.0003	0.00087	0.003
Be 313.042	0.0002	-0.0001	-0.0001	-0.0001	0.0000	0.0000	0.00061	0.002
Ca 315.887	0.0136	0.0059	0.0206	0.0170	0.0496	0.0056	0.22	0.5
Cd 214.440	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.00028	0.002
Cd 226.502	0.0002	-0.0001	-0.0001	-0.0001	-0.0001	0.0000	0.00052	0.002
Co 228.616	0.0002	0.0000	-0.0001	-0.0002	0.0000	0.0001	0.00064	0.006
Cr 267.716	0.0004	0.0000	-0.0002	-0.0003	-0.0002	-0.0003	0.0010	0.005
Cu 324.752	0.0003	-0.0002	-0.0005	0.0001	-0.0004	-0.0006	0.0035	0.02
Cu 327.393	0.0001	0.0001	-0.0002	-0.0002	-0.0001	-0.0002	0.0043	0.02
Fe 259.939	0.0034	0.0033	0.0016	0.0004	0.0052	0.0020	0.019	0.08
Fe 273.955	-0.0102	0.0149	-0.0163	**0.0237**	0.0176	0.0086	0.021	0.08
K 766.490	0.0029	-0.0098	-0.0022	0.0246	0.0197	0.0297	0.10	0.8
Li 670.784	0.0004	-0.0011	-0.0015	-0.0010	-0.0006	-0.0003	0.0032	0.025
Mg 279.077	0.0051	**-0.0640**	0.0197	**0.0544**	-0.0043	**-0.0931**	0.048	0.2
Mg 280.271	0.0012	0.0021	0.0092	0.0054	0.0179	0.0026	0.020	0.2
Mn 257.610	0.0003	0.0003	0.0000	0.0000	0.0000	0.0000	0.0038	0.008
Mo 202.031	0.0014	0.0003	-0.0001	0.0000	0.0000	0.0000	0.0024	0.012
Mo 204.597	0.0015	0.0000	-0.0003	-0.0003	0.0001	0.0002	0.0018	0.012
Na 589.592	0.0049	-0.0060	0.0155	0.0165	0.0310	0.0139	0.14	0.4
Ni 231.604	0.0000	0.0001	0.0001	0.0000	0.0002	0.0000	0.0038	0.012
P 177.4 (icap 3)	0.0011	-0.0009	0.0003	-0.0024	-0.0006	-0.0005	0.033	0.2
Pb 220.353	0.0013	0.0000	0.0001	-0.0001	-0.0008	0.0002	0.0047	0.03
Sb 206.836	0.0012	0.0011	0.0014	0.0006	0.0011	-0.0001	0.0080	0.02
Se 196.026	0.0034	-0.0002	0.0005	0.0012	0.0007	0.0020	0.018	0.05
Si 251.611	0.0012	0.0005	0.0074	0.0041	0.0039	0.0014	0.087	0.2
Si 288.158 (n/a for icap 3)							n/a	n/a
Sn 189.927	0.0002	0.0006	-0.0002	0.0005	0.0004	-0.0004	0.0031	0.02
Sr 407.771	0.0002	-0.0001	0.0000	-0.0001	0.0001	-0.0001	0.0025	0.003
Sr 421.552	0.0002	-0.0001	0.0000	0.0000	0.0000	0.0000	0.0025	0.003
Ti 334.940	0.0008	0.0003	-0.0003	-0.0003	-0.0004	-0.0002	0.0013	0.006
Ti 336.121	0.0009	0.0005	-0.0003	-0.0002	-0.0001	-0.0003	0.0014	0.006
Tl 190.801	0.0023	-0.0011	0.0002	-0.0007	0.0003	-0.0006	0.014	0.06
V 292.402	0.0005	**0.0020**	-0.0001	0.0002	0.0002	0.0000	0.00090	0.005
Zn 213.857	0.0007	-0.0002	0.0000	-0.0002	0.0000	-0.0001	0.0068	0.03

mg/L *|LCB| < MDL* **MDL ≤ |LCB| < RL** **|LCB| ≥ RL**

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/18/19	LCM 2: 19I2002
Results Data Set:	2019-12-18b	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Reporting Limit Check (RLC)
% Recovery Limit = 100% ± 30%

	Measured Conc						Nominal
RLC	3:54 PM	4:51 PM	5:37 PM	6:22 PM	7:07 PM	7:38 PM	Conc
Ag 328.068	0.0094	0.0095	0.0094	0.0091	0.0098	0.0097	0.01
Ag 338.289	0.0084	0.0091	0.0084	0.0085	0.0093	0.0091	0.01
Al 308.215	0.5007	0.4759	0.4562	0.4736	0.4350	0.4833	0.5
Al 396.153	0.4978	0.4770	0.4758	0.4706	0.4784	0.4796	0.5
As 189.042 (icap 3)	0.0399	0.0388	0.0384	0.0374	0.0385	0.0396	0.04
As 193.696	0.0391	0.0372	0.0360	0.0370	0.0375	0.0359	0.04
B 249.677	0.0584	0.0535	0.0474	0.0513	0.0483	0.0487	0.05
Ba 455.403	0.0029	0.0025	0.0024	0.0024	0.0026	0.0026	0.003
Be 313.042	0.0021	0.0019	0.0019	0.0019	0.0019	0.0019	0.002
Ca 315.887	0.4970	0.4705	0.5081	0.4725	0.5118	0.4957	0.5
Cd 214.440	0.0021	0.0021	0.0020	0.0019	0.0020	0.0020	0.002
Cd 226.502	0.0021	0.0018	0.0018	0.0018	0.0020	0.0019	0.002
Co 228.616	0.0062	0.0059	0.0058	0.0059	0.0058	0.0061	0.006
Cr 267.716	0.0046	0.0048	0.0041	0.0048	0.0047	0.0048	0.005
Cu 324.752	0.0196	0.0189	0.0184	0.0197	0.0182	0.0186	0.02
Cu 327.393	0.0201	0.0190	0.0187	0.0193	0.0185	0.0192	0.02
Fe 259.939	0.0827	0.0837	0.0834	0.0754	0.0767	0.0757	0.08
Fe 273.955	0.0711	0.0679	0.0887	0.0515	0.0797	0.0631	0.08
K 766.490	0.7374	0.7131	0.7147	0.7409	0.7434	0.7600	0.8
Li 670.784	0.0240	0.0225	0.0227	0.0230	0.0233	0.0222	0.025
Mg 279.077	0.2116	0.1800	0.1630	0.1813	0.1845	0.1125	0.2
Mg 280.271	0.2054	0.1977	0.2054	0.1953	0.2015	0.1983	0.2
Mn 257.610	0.0084	0.0082	0.0080	0.0079	0.0079	0.0082	0.008
Mo 202.031	0.0128	0.0124	0.0118	0.0118	0.0118	0.0121	0.012
Mo 204.597	0.0125	0.0118	0.0115	0.0114	0.0114	0.0119	0.012
Na 589.592	0.3903	0.3735	0.3831	0.3939	0.4050	0.3956	0.4
Ni 231.604	0.0128	0.0124	0.0120	0.0120	0.0126	0.0128	0.012
P 177.4 (icap 3)	0.1989	0.1947	0.1955	0.1967	0.2006	0.2023	0.2
Pb 220.353	0.0319	0.0312	0.0295	0.0307	0.0303	0.0310	0.03
Sb 206.836	0.0217	0.0203	0.0192	0.0196	0.0208	0.0207	0.02
Se 196.026	0.0521	0.0503	0.0507	0.0510	0.0524	0.0529	0.05
Si 251.611	0.2547	0.2518	0.2527	0.2549	0.2434	0.2521	0.2
Si 288.158 (n/a for icap 3)							n/a
Sn 189.927	0.0204	0.0198	0.0191	0.0201	0.0200	0.0194	0.02
Sr 407.771	0.0031	0.0029	0.0028	0.0029	0.0029	0.0029	0.003
Sr 421.552	0.0032	0.0031	0.0031	0.0031	0.0030	0.0031	0.003
Ti 334.940	0.0063	0.0058	0.0055	0.0055	0.0055	0.0056	0.006
Ti 336.121	0.0062	0.0057	0.0055	0.0056	0.0056	0.0056	0.006
Tl 190.801	0.0640	0.0620	0.0616	0.0638	0.0613	0.0623	0.06
V 292.402	0.0051	0.0053	0.0049	0.0048	0.0047	0.0050	0.005
Zn 213.857	0.0319	0.0307	0.0303	0.0303	0.0307	0.0309	0.03

mg/L

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/18/19	LCM 2: 19I2002
Results Data Set:	2019-12-18b	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Reporting Limit Check (RLC)
% Recovery Limit = 100% ± 30%

RLC % recovery outside limit

RLC	Percent Recovery 3:54 PM	4:51 PM	5:37 PM	6:22 PM	7:07 PM	7:38 PM
Ag 328.068	93.87	95.35	94.32	91.19	97.76	96.99
Ag 338.289	84.47	90.56	84.15	84.66	92.57	91.19
Al 308.215	100.13	95.17	91.24	94.72	87.01	96.66
Al 396.153	99.57	95.41	95.16	94.12	95.67	95.93
As 189.042 (icap 3)	99.76	97.09	95.98	93.62	96.19	99.04
As 193.696	97.83	92.92	89.96	92.39	93.82	89.74
B 249.677	116.85	106.96	94.72	102.55	96.58	97.44
Ba 455.403	95.31	82.61	78.48	79.84	85.33	88.06
Be 313.042	102.58	95.10	93.88	92.65	95.25	96.39
Ca 315.887	99.40	94.10	101.62	94.49	102.35	99.14
Cd 214.440	106.53	104.48	98.89	96.48	100.64	97.51
Cd 226.502	104.27	92.04	92.35	91.94	97.78	96.80
Co 228.616	103.40	97.97	96.64	98.75	97.38	101.27
Cr 267.716	92.61	96.91	82.83	96.80	93.78	96.69
Cu 324.752	98.06	94.47	91.97	98.72	90.98	92.91
Cu 327.393	100.28	94.96	93.45	96.58	92.35	95.87
Fe 259.939	103.36	104.58	104.27	94.31	95.93	94.59
Fe 273.955	88.89	84.91	110.86	**64.43**	99.62	78.85
K 766.490	92.17	89.13	89.34	92.61	92.92	95.00
Li 670.784	95.84	89.83	90.95	91.91	93.32	88.98
Mg 279.077	105.78	89.99	81.48	90.63	92.26	**56.25**
Mg 280.271	102.71	98.87	102.71	97.67	100.74	99.17
Mn 257.610	104.82	101.93	99.72	99.19	98.80	102.14
Mo 202.031	106.65	103.49	98.64	98.24	98.27	100.85
Mo 204.597	104.00	98.54	95.69	95.16	95.10	99.07
Na 589.592	97.58	93.36	95.78	98.49	101.25	98.90
Ni 231.604	106.63	103.70	99.68	100.36	105.22	106.59
P 177.4 (icap 3)	99.43	97.33	97.74	98.36	100.31	101.15
Pb 220.353	106.48	104.12	98.29	102.39	100.88	103.45
Sb 206.836	108.47	101.35	96.17	97.77	103.94	103.37
Se 196.026	104.29	100.58	101.45	102.02	104.87	105.75
Si 251.611	127.37	125.89	126.37	127.44	121.71	126.07
Si 288.158 (n/a for icap 3)						
Sn 189.927	101.77	98.95	95.70	100.72	99.90	97.16
Sr 407.771	103.29	95.18	92.66	95.36	95.14	97.69
Sr 421.552	106.77	102.09	102.06	101.91	99.92	103.96
Ti 334.940	104.82	97.30	90.90	92.32	92.29	93.54
Ti 336.121	102.75	95.81	91.22	94.12	93.40	93.75
Tl 190.801	106.71	103.27	102.71	106.26	102.09	103.78
V 292.402	101.35	106.01	98.68	95.22	93.51	100.20
Zn 213.857	106.49	102.44	101.10	101.14	102.37	103.01

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/18/19	LCM 2: 19I2002
Results Data Set:	2019-12-18b	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument QC
ICV % Recovery Limit = 100% ± 5%
CCV % Recovery Limit = 100% ± 10%

	Measured Conc						Nominal
LCM1	3:57 PM	4:54 PM	5:40 PM	6:25 PM	7:10 PM	7:41 PM	Conc
Al 308.215	0.9334	0.9131	0.9322	0.8937	0.8673	0.9265	1
Al 396.153	0.9580	0.9318	0.9186	0.9138	0.9372	0.9482	1
As 189.042 (icap 3)	1.9309	1.8845	1.8686	1.8938	1.8864	1.9042	2
As 193.696	1.9291	1.8876	1.8688	1.8897	1.8715	1.8928	2
B 249.677	0.9604	0.9472	0.9445	0.9201	0.9229	0.9409	1
Ba 455.403	0.9600	0.9339	0.9246	0.9248	0.9246	0.9344	1
Be 313.042	0.9735	0.9525	0.9478	0.9339	0.9432	0.9487	1
Ca 315.887	0.9951	0.9669	0.9500	0.9491	0.9835	0.9754	1
Cd 214.440	1.0080	0.9871	0.9827	0.9677	0.9893	0.9962	1
Cd 226.502	1.0062	0.9819	0.9731	0.9707	0.9826	0.9876	1
Co 228.616	1.0121	0.9937	0.9893	0.9833	0.9768	0.9898	1
Cr 267.716	0.9863	0.9605	0.9501	0.9574	0.9680	0.9699	1
Cu 324.752	0.9582	0.9345	0.9237	0.9565	0.9164	0.9305	1
Cu 327.393	0.9659	0.9438	0.9363	0.9585	0.9195	0.9333	1
Fe 259.939	0.9794	0.9593	0.9508	0.9488	0.9445	0.9636	1
Fe 273.955	0.9927	0.9852	0.9435	0.9500	0.9461	0.9937	1
K 766.490	4.7236	4.6168	4.5934	4.6044	4.5884	4.6216	5
Li 670.784	0.9567	0.9297	0.9309	0.9316	0.9248	0.9352	1
Mg 279.077	0.9984	0.9695	0.9841	0.9283	0.8782	0.9460	1
Mg 280.271	1.0023	0.9786	0.9750	0.9657	0.9674	0.9804	1
Mn 257.610	0.9691	0.9491	0.9432	0.9369	0.9374	0.9466	1
Mo 202.031	1.0386	1.0158	1.0089	1.0129	1.0129	1.0214	1
Mo 204.597	1.0259	1.0020	0.9919	1.0004	0.9990	1.0087	1
Na 589.592	0.9684	0.9364	0.9477	0.9512	0.9444	0.9518	1
Ni 231.604	1.0484	1.0231	1.0137	1.0178	1.0212	1.0289	1
P 177.4 (icap 3)	4.8103	4.7710	4.7429	4.8392	4.8284	4.8893	5
Pb 220.353	2.0298	1.9847	1.9663	1.9831	1.9682	1.9923	2
Sb 206.836	2.0159	1.9711	1.9485	1.9944	1.9509	1.9763	2
Se 196.026	0.9508	0.9289	0.9193	0.9435	0.9226	0.9374	1
Si 251.611	4.9425	4.8905	4.8533	4.9388	4.7506	4.8454	5
Si 288.158 (n/a for icap 3)							n/a
Sn 189.927	5.2126	5.1124	5.0616	5.1067	5.0505	5.1124	5
Sr 407.771	0.9584	0.9406	0.9374	0.9222	0.9166	0.9286	1
Sr 421.552	0.9667	0.9429	0.9337	0.9491	0.9187	0.9346	1
Ti 334.940	1.0008	0.9780	0.9723	0.9799	0.9620	0.9730	1
Ti 336.121	0.9886	0.9620	0.9552	0.9659	0.9550	0.9628	1
Tl 190.801	5.0645	4.9841	4.9306	5.0281	4.9172	4.9918	5
V 292.402	0.9539	0.9317	0.9236	0.9303	0.9204	0.9305	1
Zn 213.857	1.0166	0.9940	0.9871	0.9903	0.9889	0.9992	1

mg/L

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/18/19	LCM 2: 19I2002
Results Data Set:	2019-12-18b	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument QC
ICV % Recovery Limit = 100% ± 5%
CCV % Recovery Limit = 100% ± 10%

ICV or CCV % recovery outside limit

	Percent Recovery					
LCM1	3:57 PM	4:54 PM	5:40 PM	6:25 PM	7:10 PM	7:41 PM
Al 308.215	**93.34**	91.31	93.22	**89.37**	**86.73**	92.65
Al 396.153	95.80	93.18	91.86	91.38	93.72	94.82
As 189.042 (icap 3)	96.55	94.22	93.43	94.69	94.32	95.21
As 193.696	96.45	94.38	93.44	94.49	93.57	94.64
B 249.677	96.04	94.72	94.45	92.01	92.29	94.09
Ba 455.403	96.00	93.39	92.46	92.48	92.46	93.44
Be 313.042	97.35	95.25	94.78	93.39	94.32	94.87
Ca 315.887	99.51	96.69	95.00	94.91	98.35	97.54
Cd 214.440	100.80	98.71	98.27	96.77	98.93	99.62
Cd 226.502	100.62	98.19	97.31	97.07	98.26	98.76
Co 228.616	101.21	99.37	98.93	98.33	97.68	98.98
Cr 267.716	98.63	96.05	95.01	95.74	96.80	96.99
Cu 324.752	95.82	93.45	92.37	95.65	91.64	93.05
Cu 327.393	96.59	94.38	93.63	95.85	91.95	93.33
Fe 259.939	97.94	95.93	95.08	94.88	94.45	96.36
Fe 273.955	99.27	98.52	94.35	95.00	94.61	99.37
K 766.490	**94.47**	92.34	91.87	92.09	91.77	92.43
Li 670.784	95.67	92.97	93.09	93.16	92.48	93.52
Mg 279.077	99.84	96.95	98.41	92.83	**87.82**	94.60
Mg 280.271	100.23	97.86	97.50	96.57	96.74	98.04
Mn 257.610	96.91	94.91	94.32	93.69	93.74	94.66
Mo 202.031	103.86	101.58	100.89	101.29	101.29	102.14
Mo 204.597	102.59	100.20	99.19	100.04	99.90	100.87
Na 589.592	96.84	93.64	94.77	95.12	94.44	95.18
Ni 231.604	104.84	102.31	101.37	101.78	102.12	102.89
P 177.4 (icap 3)	96.21	95.42	94.86	96.78	96.57	97.79
Pb 220.353	101.49	99.24	98.31	99.16	98.41	99.61
Sb 206.836	100.80	98.56	97.43	99.72	97.55	98.82
Se 196.026	95.08	92.89	91.93	94.35	92.26	93.74
Si 251.611	98.85	97.81	97.07	98.78	95.01	96.91
Si 288.158 (n/a for icap 3)						
Sn 189.927	104.25	102.25	101.23	102.13	101.01	102.25
Sr 407.771	95.84	94.06	93.74	92.22	91.66	92.86
Sr 421.552	96.67	94.29	93.37	94.91	91.87	93.46
Ti 334.940	100.08	97.80	97.23	97.99	96.20	97.30
Ti 336.121	98.86	96.20	95.52	96.59	95.50	96.28
Tl 190.801	101.29	99.68	98.61	100.56	98.34	99.84
V 292.402	95.39	93.17	92.36	93.03	92.04	93.05
Zn 213.857	101.66	99.40	98.71	99.03	98.89	99.92

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/18/19	LCM 2: 19I2002
Results Data Set:	2019-12-18b	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument QC

ICV or CCV % recovery outside limit

ICV % Recovery Limit = 100% ± 5%
CCV % Recovery Limit = 100% ± 10%

	Measured Conc						Nominal
LCM2	4:02 PM	5:00 PM	5:45 PM	6:30 PM	7:15 PM	7:47 PM	Conc
Ag 328.068	0.0459	0.0454	0.0457	0.0458	0.0453	0.0451	0.05
Ag 338.289	0.0451	0.0440	0.0452	0.0456	0.0441	0.0440	0.05

mg/L

	Percent Recovery					
LCM2	4:02 PM	5:00 PM	5:45 PM	6:30 PM	7:15 PM	7:47 PM
Ag 328.068	**91.73**	90.88	91.42	91.53	90.63	90.19
Ag 338.289	**90.24**	**88.10**	90.33	91.17	**88.23**	**87.97**

	Measured Conc						Nominal
HiLCM	3:59 PM	4:57 PM	5:42 PM	6:27 PM	7:13 PM	7:44 PM	Conc
Al 308.215	97.661	95.713	96.640	94.739	94.128	95.610	100
Al 396.153	97.651	96.105	97.185	95.658	95.171	96.669	100
Ca 315.887	96.575	94.088	95.285	93.005	94.259	95.704	100
Fe 259.939	94.267	92.165	93.341	91.026	90.760	92.620	100
Fe 273.955	96.472	95.273	96.944	93.151	92.589	94.619	100
K 766.490	99.035	97.846	99.442	97.933	96.267	98.082	100
Mg 279.077	58.635	57.610	59.186	56.993	55.879	57.444	60
Mg 280.271	54.961	54.102	54.800	53.485	53.357	54.209	60
Na 589.592	98.363	96.734	98.054	97.208	95.560	97.365	100

mg/L

	Percent Recovery					
HiLCM	3:59 PM	4:57 PM	5:42 PM	6:27 PM	7:13 PM	7:44 PM
Al 308.215	97.66	95.71	96.64	94.74	94.13	95.61
Al 396.153	97.65	96.10	97.19	95.66	95.17	96.67
Ca 315.887	96.58	94.09	95.29	93.01	94.26	95.70
Fe 259.939	**94.27**	92.16	93.34	91.03	90.76	92.62
Fe 273.955	96.47	95.27	96.94	93.15	92.59	94.62
K 766.490	99.04	97.85	99.44	97.93	96.27	98.08
Mg 279.077	97.72	96.02	98.64	94.99	93.13	95.74
Mg 280.271	**91.60**	90.17	91.33	**89.14**	**88.93**	90.35
Na 589.592	98.36	96.73	98.05	97.21	95.56	97.36

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	SIC Al: 19K0701	SIC Fe: 19L1809	SIC Si: 19K0703
Analysis Date:	12/18/19	SIC Ba: 19K0702	SIC Mg: 19L1811	SIC Sn: 19I2003
Results Data Set:	2019-12-18b	SIC Ca: 19L1808	SIC Mn: 19L1810	SIC Ti: 19K0704
Analysis:	ICP-AES (w) metals	SIC Cr: 19K1301	SIC Mo: 19K1303	SIC V: 19K1305
Analyst:	AW	SIC Cu: 19K1302	SIC Ni: 19K1304	

Spectral Interference Check (SIC)

Limit = ± RL

	Measured Conc							
	SIC Al Al 200	SIC Ba Ba 10	SIC Ca Ca 200	SIC Cr Cr 20	SIC Cu Cu 20	SIC Fe Fe 300	SIC Mg Mg 200	
SIC	4:08 PM	4:11 PM	4:14 PM	4:16 PM	4:19 PM	4:22 PM	4:25 PM	RL
Ag 328.068	0.0001	0.0001	-0.0009	-0.0001	0.0017	-0.0014	0.0002	0.01
Ag 338.289	-0.0007	-0.0008	0.0054	0.0035	-0.0009	-0.0004	-0.0010	0.025
Al 308.215	192.591	0.0145	0.0160	-0.0003	-0.0430	-0.0368	-0.0431	0.5
Al 396.153	193.429	0.0088	0.0045	-0.0099	0.0119	0.0076	-0.0034	0.5
As 189.042 (icap 3)	0.0004	0.0013	0.0016	0.0088	0.0028	-0.0027	0.0019	0.04
As 193.696	-0.0094	-0.0010	-0.0008	0.0054	-0.0002	-0.0164	0.0002	0.04
B 249.677	0.0060	0.0100	0.0000	0.0063	-0.0035	-0.0119	-0.0012	0.05
Ba 455.403	0.0000	9.3016	0.0008	0.0004	0.0003	0.0002	-0.0001	0.003
Be 313.042	0.0000	0.0000	-0.0001	0.0000	0.0000	0.0000	-0.0001	0.002
Ca 315.887	-0.0045	0.0014	183.837	0.0547	0.0260	0.0182	-0.0080	0.5
Cd 214.440	0.0006	0.0001	0.0000	0.0007	0.0000	0.0014	-0.0001	0.002
Cd 226.502	-0.0004	0.0000	0.0000	0.0000	0.0000	**0.0021**	0.0000	0.002
Co 228.616	-0.0002	-0.0006	0.0000	0.0000	0.0000	0.0008	-0.0001	0.006
Cr 267.716	-0.0003	-0.0001	0.0000	18.9347	0.0029	0.0042	0.0012	0.005
Cu 324.752	0.0005	-0.0002	0.0004	-0.0001	18.9937	-0.0025	0.0018	0.02
Cu 327.393	0.0003	0.0000	0.0017	-0.0003	18.9960	0.0010	0.0009	0.02
Fe 259.939	0.0030	0.0024	-0.0007	0.0017	0.0009	264.913	0.0422	0.08
Fe 273.955	0.0024	-0.0017	0.0092	0.0090	0.0118	274.436	0.0391	0.08
K 766.490	0.0262	0.0147	0.0399	0.0216	0.0168	0.0003	-0.0117	0.8
Li 670.784	-0.0006	-0.0011	0.0009	-0.0017	-0.0008	-0.0009	-0.0008	0.025
Mg 279.077	-0.0122	-0.0322	-0.0564	-0.0204	-0.0113	0.1498	198.213	0.2
Mg 280.271	0.0020	0.0002	0.0066	0.0011	0.0018	0.0009	160.586	0.2
Mn 257.610	0.0007	0.0000	0.0001	0.0000	0.0000	0.0036	0.0057	0.008
Mo 202.031	0.0003	0.0003	0.0005	0.0002	0.0000	-0.0030	0.0001	0.012
Mo 204.597	0.0009	-0.0001	0.0002	0.0002	-0.0006	0.0003	0.0002	0.012
Na 589.592	0.0225	-0.0025	0.0028	0.0021	-0.0030	0.0058	0.0054	0.4
Ni 231.604	0.0007	-0.0002	0.0001	-0.0003	-0.0002	0.0011	0.0008	0.012
P 177.4 (icap 3)	0.0008	-0.0008	0.0001	-0.0007	0.0090	0.0046	-0.0018	0.2
Pb 220.353	-0.0045	0.0000	0.0002	0.0006	0.0007	0.0018	-0.0003	0.03
Sb 206.836	0.0018	0.0006	-0.0002	0.0107	0.0021	-0.0189	-0.0010	0.02
Se 196.026	0.0001	0.0018	0.0029	0.0030	0.0004	0.0004	0.0031	0.05
Si 251.611	0.0122	0.0085	0.0036	0.0117	0.0159	-0.0352	0.0118	0.2
Si 288.158 (n/a for icap 3)								n/a
Sn 189.927	0.0005	0.0003	-0.0008	-0.0011	0.0001	0.0011	0.0003	0.02
Sr 407.771	0.0000	-0.0001	**0.0050**	0.0002	0.0000	-0.0001	0.0000	0.003
Sr 421.552	0.0000	0.0000	**0.0052**	0.0000	0.0000	0.0000	0.0000	0.003
Ti 334.940	-0.0001	-0.0001	0.0004	0.0041	0.0000	0.0000	0.0056	0.006
Ti 336.121	-0.0001	0.0000	-0.0010	-0.0024	-0.0001	0.0000	0.0058	0.006
Tl 190.801	0.0018	0.0005	0.0006	0.0052	0.0000	-0.0071	0.0001	0.06
V 292.402	0.0004	0.0002	0.0002	0.0000	-0.0007	0.0013	0.0011	0.005
Zn 213.857	0.0008	-0.0002	0.0008	0.0001	0.0032	0.0123	0.0011	0.03

mg/L **|SIC| ≥ RL**

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	SIC Al: 19K0701	SIC Fe: 19L1809	SIC Si: 19K0703
Analysis Date:	12/18/19	SIC Ba: 19K0702	SIC Mg: 19L1811	SIC Sn: 19I2003
Results Data Set:	2019-12-18b	SIC Ca: 19L1808	SIC Mn: 19L1810	SIC Ti: 19K0704
Analysis:	ICP-AES (w) metals	SIC Cr: 19K1301	SIC Mo: 19K1303	SIC V: 19K1305
Analyst:	AW	SIC Cu: 19K1302	SIC Ni: 19K1304	

Spectral Interference Check (SIC)

Limit = ± RL

	Measured Conc							
	SIC Mn	SIC Mo	SIC Ni	SIC Si	SIC Sn	SIC Ti	SIC V	
	Mn 20	Mo 20	Ni 10	Si 30	Sn 10	Ti 10	V 20	
SIC	4:28 PM	4:31 PM	4:34 PM	4:37 PM	4:40 PM	4:43 PM	4:46 PM	RL
Ag 328.068	-0.0003	0.0001	0.0000	-0.0002	-0.0003	-0.0005	0.0012	0.01
Ag 338.289	-0.0011	-0.0003	-0.0009	-0.0004	-0.0003	0.0000	-0.0007	0.025
Al 308.215	-0.0228	-0.0038	-0.0156	-0.0242	-0.0172	-0.0288	0.0001	0.5
Al 396.153	-0.0039	-0.0805	-0.0097	-0.0015	0.0134	-0.0041	-0.0074	0.5
As 189.042 (icap 3)	0.0021	0.0091	0.0004	-0.0024	-0.0005	0.0014	0.0026	0.04
As 193.696	-0.0009	0.0027	-0.0010	-0.0006	-0.0014	-0.0019	-0.0329	0.04
B 249.677	-0.0032	0.0051	-0.0003	0.0071	0.0040	0.0050	0.0007	0.05
Ba 455.403	0.0003	-0.0007	-0.0006	-0.0003	-0.0003	-0.0003	-0.0005	0.003
Be 313.042	0.0000	-0.0016	0.0000	-0.0001	-0.0001	0.0000	0.0004	0.002
Ca 315.887	0.0018	-0.0920	-0.0122	-0.0061	0.0566	0.0009	0.0166	0.5
Cd 214.440	0.0000	0.0004	0.0000	0.0000	-0.0001	-0.0001	0.0000	0.002
Cd 226.502	0.0000	-0.0016	-0.0008	-0.0001	-0.0001	0.0005	0.0002	0.002
Co 228.616	0.0000	-0.0005	0.0018	-0.0004	-0.0001	-0.0011	0.0000	0.006
Cr 267.716	0.0008	-0.0016	0.0000	0.0003	-0.0002	0.0002	-0.0009	0.005
Cu 324.752	0.0014	0.0110	0.0003	-0.0001	0.0001	-0.0010	-0.0029	0.02
Cu 327.393	0.0015	0.0006	0.0001	0.0003	-0.0001	-0.0020	-0.0003	0.02
Fe 259.939	0.0230	0.0103	0.0087	0.0116	0.0026	0.0033	0.0037	0.08
Fe 273.955	0.0201	0.0233	0.0269	0.0107	0.0051	0.0142	-0.0042	0.08
K 766.490	0.0160	0.0235	-0.0060	0.0227	-0.0076	-0.0078	0.0056	0.8
Li 670.784	-0.0011	-0.0003	-0.0005	-0.0006	-0.0005	-0.0005	-0.0008	0.025
Mg 279.077	-0.0203	-0.0423	-0.0521	0.0120	-0.0745	-0.0267	0.0112	0.2
Mg 280.271	0.0374	0.0120	0.0060	0.0067	0.0063	0.0057	0.0154	0.2
Mn 257.610	17.116	0.0027	0.0012	0.0013	0.0006	0.0006	-0.0023	0.008
Mo 202.031	-0.0001	18.8811	0.0023	0.0013	0.0014	0.0010	-0.0063	0.012
Mo 204.597	0.0001	19.0467	0.0022	0.0009	0.0012	0.0006	0.0003	0.012
Na 589.592	0.0059	0.0374	0.0018	0.0042	0.0040	-0.0025	0.0068	0.4
Ni 231.604	-0.0002	-0.0047	10.1087	0.0011	0.0008	0.0006	0.0002	0.012
P 177.4 (icap 3)	-0.0005	0.0007	0.0024	-0.0003	0.0007	-0.0007	-0.0004	0.2
Pb 220.353	0.0025	-0.0131	0.0023	0.0036	0.0009	-0.0009	-0.0015	0.03
Sb 206.836	-0.0007	0.0040	-0.0006	0.0007	0.0019	0.0018	0.0019	0.02
Se 196.026	0.0001	0.0062	-0.0003	-0.0007	0.0026	0.0016	0.0049	0.05
Si 251.611	0.0103	-0.0124	0.0141	27.481	0.0442	0.0118	0.0160	0.2
Si 288.158 (n/a for icap 3)								n/a
Sn 189.927	0.0000	-0.0001	-0.0001	-0.0002	9.6608	0.0013	0.0004	0.02
Sr 407.771	-0.0001	0.0000	0.0000	-0.0002	0.0004	0.0000	-0.0002	0.003
Sr 421.552	0.0000	0.0000	0.0000	0.0000	0.0004	0.0000	-0.0001	0.003
Ti 334.940	-0.0002	-0.0004	-0.0002	-0.0002	-0.0002	9.4128	0.0014	0.006
Ti 336.121	-0.0002	0.0017	-0.0021	-0.0001	-0.0003	9.3813	0.0012	0.006
Tl 190.801	0.0103	-0.0015	0.0008	0.0010	-0.0007	-0.0039	0.0027	0.06
V 292.402	0.0002	-0.0013	0.0000	0.0002	0.0002	0.0047	19.0316	0.005
Zn 213.857	0.0006	-0.0026	0.0055	0.0001	0.0009	-0.0042	-0.0002	0.03

mg/L **|SIC| ≥ RL**

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|BLK| < MDL
MDL ≤ |BLK| < RL
|BLK| ≥ RL
BS % rec outside limit

Digestion Blank (BLK) and Digestion Spiked Blank (BS)
BLK Limit = ± MDL % Recovery Limit = 100% ± 15%

	Measured Conc B19L022-BLK1 5:06 PM	B19L022-BS1 5:11 PM	MDL	RL	Spike Added	Percent Recovery
Ag 328.068	*0.0004*	0.0218	0.0024	0.01	0.025	87.37
Ag 338.289	*-0.0008*	0.0250	0.013	0.025	0.025	100.10
Al 308.215	*-0.0437*	0.9153	0.29	0.5	1	91.53
Al 396.153	*-0.0003*	0.9595	0.093	0.5	1	95.95
As 189.042 (icap 3)	*-0.0006*	0.1956	0.0052	0.04	0.2	97.79
As 193.696	*-0.0015*	0.1926	0.0090	0.04	0.2	96.30
B 249.677	*0.0092*	0.9490	0.013	0.05	1	94.90
Ba 455.403	*-0.0001*	0.1946	0.00087	0.003	0.2	97.31
Be 313.042	*0.0000*	0.0098	0.00061	0.002	0.01	98.33
Ca 315.887	*0.0272*	47.370	0.22	0.5	50	94.74
Cd 214.440	*0.0000*	0.0494	0.00028	0.002	0.05	98.90
Cd 226.502	*-0.0001*	0.0487	0.00052	0.002	0.05	97.30
Co 228.616	*-0.0001*	0.0961	0.00064	0.006	0.1	96.10
Cr 267.716	*-0.0001*	0.0952	0.0010	0.005	0.1	95.21
Cu 324.752	**0.0058**	0.0956	0.0035	0.02	0.1	95.61
Cu 327.393	**0.0062**	0.0968	0.0043	0.02	0.1	96.80
Fe 259.939	*0.0035*	0.9480	0.019	0.08	1	94.80
Fe 273.955	*0.0177*	0.9821	0.021	0.08	1	98.21
K 766.490	*0.0262*	23.664	0.10	0.8	25	94.66
Li 670.784	*-0.0009*	0.0973	0.0032	0.025	0.1	97.28
Mg 279.077	**-0.0860**	18.926	0.048	0.2	20	94.63
Mg 280.271	*0.0019*	18.694	0.020	0.2	20	93.47
Mn 257.610	*0.0000*	0.1925	0.0038	0.008	0.2	96.26
Mo 202.031	*0.0004*	0.1002	0.0024	0.012	0.1	100.18
Mo 204.597	*0.0002*	0.0987	0.0018	0.012	0.1	98.71
Na 589.592	*0.0226*	47.402	0.14	0.4	50	94.80
Ni 231.604	*0.0004*	0.1979	0.0038	0.012	0.2	98.94
P 177.4 (icap 3)	*0.0012*	1.0347	0.033	0.2	1	103.47
Pb 220.353	*0.0001*	0.4808	0.0047	0.03	0.5	96.16
Sb 206.836	*0.0010*	0.4886	0.0080	0.02	0.5	97.72
Se 196.026	*0.0008*	0.4879	0.018	0.05	0.5	97.59
Si 251.611	*0.0428*	9.7524	0.087	0.2	10	97.52
Si 288.158 (n/a for icap 3)		n/a	n/a	n/a		
Sn 189.927	*0.0016*	0.4921	0.0031	0.02	0.5	98.42
Sr 407.771	*-0.0001*	0.9448	0.0025	0.003	1	94.48
Sr 421.552	*0.0000*	0.9310	0.0025	0.003	1	93.10
Ti 334.940	*-0.0002*	0.0999	0.0013	0.006	0.1	99.92
Ti 336.121	*-0.0001*	0.0975	0.0014	0.006	0.1	97.47
Tl 190.801	*0.0001*	0.4700	0.014	0.06	0.5	94.01
V 292.402	*0.0002*	0.0968	0.00090	0.005	0.1	96.78
Zn 213.857	*0.0002*	0.9957	0.0068	0.03	1	99.57

mg/L, concentration in the sample

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|BLK| < MDL
MDL ≤ |BLK| < RL
|BLK| ≥ RL
BS % rec outside limit

Digestion Blank (BLK) and Digestion Spiked Blank (BS)
BLK Limit = ± MDL % Recovery Limit = 100% ± 15%

	Measured Conc B19L022-BLK2 7:21 PM	B19L022-BS2 7:27 PM	MDL	RL	Spike Added	Percent Recovery
Ag 328.068	*0.0001*	0.0216	0.0024	0.01	0.025	86.27
Ag 338.289	*-0.0009*	0.0255	0.013	0.025	0.025	101.89
Al 308.215	*-0.0465*	0.9747	0.29	0.5	1	97.47
Al 396.153	*0.0046*	0.9685	0.093	0.5	1	96.85
As 189.042 (icap 3)	*0.0008*	0.1987	0.0052	0.04	0.2	99.37
As 193.696	*-0.0018*	0.1968	0.0090	0.04	0.2	98.42
B 249.677	*0.0116*	0.9427	0.013	0.05	1	94.27
Ba 455.403	*0.0000*	0.1966	0.00087	0.003	0.2	98.30
Be 313.042	*0.0000*	0.0099	0.00061	0.002	0.01	99.41
Ca 315.887	*0.0305*	47.995	0.22	0.5	50	95.99
Cd 214.440	*0.0001*	0.0503	0.00028	0.002	0.05	100.70
Cd 226.502	*0.0000*	0.0497	0.00052	0.002	0.05	99.40
Co 228.616	*0.0001*	0.0966	0.00064	0.006	0.1	96.62
Cr 267.716	*-0.0002*	0.0978	0.0010	0.005	0.1	97.75
Cu 324.752	*-0.0008*	0.0960	0.0035	0.02	0.1	95.97
Cu 327.393	*-0.0003*	0.0965	0.0043	0.02	0.1	96.51
Fe 259.939	*0.0030*	0.9628	0.019	0.08	1	96.28
Fe 273.955	*-0.0054*	0.9468	0.021	0.08	1	94.68
K 766.490	*0.0064*	23.658	0.10	0.8	25	94.63
Li 670.784	*-0.0007*	0.0972	0.0032	0.025	0.1	97.23
Mg 279.077	**-0.0492**	18.875	0.048	0.2	20	94.38
Mg 280.271	*0.0058*	18.663	0.020	0.2	20	93.32
Mn 257.610	*0.0000*	0.1945	0.0038	0.008	0.2	97.24
Mo 202.031	*-0.0001*	0.1025	0.0024	0.012	0.1	102.50
Mo 204.597	*0.0000*	0.1006	0.0018	0.012	0.1	100.56
Na 589.592	*0.0178*	47.386	0.14	0.4	50	94.77
Ni 231.604	*0.0001*	0.2015	0.0038	0.012	0.2	100.77
P 177.4 (icap 3)	*-0.0004*	1.0702	0.033	0.2	1	107.02
Pb 220.353	*0.0015*	0.4887	0.0047	0.03	0.5	97.74
Sb 206.836	*0.0009*	0.4923	0.0080	0.02	0.5	98.46
Se 196.026	*0.0012*	0.4965	0.018	0.05	0.5	99.30
Si 251.611	*0.0433*	9.7982	0.087	0.2	10	97.98
Si 288.158 (n/a for icap 3)			n/a	n/a	n/a	
Sn 189.927	*0.0005*	0.4996	0.0031	0.02	0.5	99.93
Sr 407.771	*-0.0001*	0.9387	0.0025	0.003	1	93.87
Sr 421.552	*0.0000*	0.9336	0.0025	0.003	1	93.36
Ti 334.940	*-0.0004*	0.1007	0.0013	0.006	0.1	100.69
Ti 336.121	*-0.0002*	0.0987	0.0014	0.006	0.1	98.67
Tl 190.801	*0.0003*	0.4798	0.014	0.06	0.5	95.96
V 292.402	*0.0003*	0.0977	0.00090	0.005	0.1	97.67
Zn 213.857	*0.0003*	1.0096	0.0068	0.03	1	100.96

mg/L, concentration in the sample

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011 RL Spike: 19E1410 **RLV % rec outside limit**
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

Reporting Limit Verification (RLV)
% Recovery Limit = 100% ± 35%

	Measured Conc B19L022-MRL1 5:08 PM	MDL	RL	Spike Added	Percent Recovery
Ag 328.068	0.0093	0.0024	0.01	0.01	92.60
Ag 338.289	0.0078	0.013	0.025	0.01	77.92
Al 308.215	0.4829	0.29	0.5	0.5	96.59
Al 396.153	0.4937	0.093	0.5	0.5	98.75
As 189.042 (icap 3)	0.0386	0.0052	0.04	0.04	96.39
As 193.696	0.0372	0.0090	0.04	0.04	92.89
B 249.677	0.0568	0.013	0.05	0.05	113.55
Ba 455.403	0.0028	0.00087	0.003	0.003	92.27
Be 313.042	0.0019	0.00061	0.002	0.002	95.29
Ca 315.887	0.501	0.22	0.5	0.5	100.16
Cd 214.440	0.0019	0.00028	0.002	0.002	97.21
Cd 226.502	0.0019	0.00052	0.002	0.002	97.31
Co 228.616	0.0057	0.00064	0.006	0.006	94.96
Cr 267.716	0.0044	0.0010	0.005	0.005	88.47
Cu 324.752	0.0184	0.0035	0.02	0.02	91.90
Cu 327.393	0.0190	0.0043	0.02	0.02	94.90
Fe 259.939	0.0833	0.019	0.08	0.08	104.07
Fe 273.955	0.0954	0.021	0.08	0.08	119.30
K 766.490	0.723	0.10	0.8	0.8	90.35
Li 670.784	0.0226	0.0032	0.025	0.025	90.22
Mg 279.077	0.197	0.048	0.2	0.2	98.63
Mg 280.271	0.202	0.020	0.2	0.2	100.79
Mn 257.610	0.0081	0.0038	0.008	0.008	101.06
Mo 202.031	0.0119	0.0024	0.012	0.012	99.34
Mo 204.597	0.0119	0.0018	0.012	0.012	98.79
Na 589.592	0.386	0.14	0.4	0.4	96.46
Ni 231.604	0.0131	0.0038	0.012	0.012	109.06
P 177.4 (icap 3)	0.1934	0.033	0.2	0.2	96.71
Pb 220.353	0.0308	0.0047	0.03	0.03	102.73
Sb 206.836	0.0204	0.0080	0.02	0.02	101.86
Se 196.026	0.0514	0.018	0.05	0.05	102.89
Si 251.611	0.2755	0.087	0.2	0.2	**137.76**
Si 288.158 (n/a for icap 3)	n/a	n/a	n/a		
Sn 189.927	0.0202	0.0031	0.02	0.02	100.84
Sr 407.771	0.0030	0.0025	0.003	0.003	100.98
Sr 421.552	0.0031	0.0025	0.003	0.003	102.40
Ti 334.940	0.0057	0.0013	0.006	0.006	95.43
Ti 336.121	0.0057	0.0014	0.006	0.006	94.67
Tl 190.801	0.0622	0.014	0.06	0.06	103.69
V 292.402	0.0052	0.0009	0.005	0.005	104.81
Zn 213.857	0.0306	0.0068	0.03	0.03	101.87

mg/L, concentration in the sample

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011 RL Spike: 19E1410 **RLV % rec outside limit**
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

Reporting Limit Verification (RLV)
% Recovery Limit = 100% ± 35%

	Measured Conc B19L022-MRL2 7:24 PM	MDL	RL	Spike Added	Percent Recovery
Ag 328.068	0.0092	0.0024	0.01	0.01	92.44
Ag 338.289	0.0084	0.013	0.025	0.01	84.29
Al 308.215	0.4936	0.29	0.5	0.5	98.72
Al 396.153	0.4980	0.093	0.5	0.5	99.60
As 189.042 (icap 3)	0.0383	0.0052	0.04	0.04	95.85
As 193.696	0.0379	0.0090	0.04	0.04	94.86
B 249.677	0.0578	0.013	0.05	0.05	115.59
Ba 455.403	0.0029	0.00087	0.003	0.003	97.56
Be 313.042	0.0019	0.00061	0.002	0.002	97.28
Ca 315.887	0.514	0.22	0.5	0.5	102.82
Cd 214.440	0.0020	0.00028	0.002	0.002	99.65
Cd 226.502	0.0020	0.00052	0.002	0.002	97.68
Co 228.616	0.0060	0.00064	0.006	0.006	100.83
Cr 267.716	0.0050	0.0010	0.005	0.005	99.15
Cu 324.752	0.0186	0.0035	0.02	0.02	93.11
Cu 327.393	0.0193	0.0043	0.02	0.02	96.40
Fe 259.939	0.0797	0.019	0.08	0.08	99.60
Fe 273.955	0.0859	0.021	0.08	0.08	107.43
K 766.490	0.775	0.10	0.8	0.8	96.83
Li 670.784	0.0233	0.0032	0.025	0.025	93.30
Mg 279.077	0.192	0.048	0.2	0.2	95.93
Mg 280.271	0.207	0.020	0.2	0.2	103.36
Mn 257.610	0.0080	0.0038	0.008	0.008	100.46
Mo 202.031	0.0123	0.0024	0.012	0.012	102.69
Mo 204.597	0.0121	0.0018	0.012	0.012	101.16
Na 589.592	0.398	0.14	0.4	0.4	99.54
Ni 231.604	0.0126	0.0038	0.012	0.012	105.14
P 177.4 (icap 3)	0.2016	0.033	0.2	0.2	100.78
Pb 220.353	0.0310	0.0047	0.03	0.03	103.45
Sb 206.836	0.0206	0.0080	0.02	0.02	103.12
Se 196.026	0.0508	0.018	0.05	0.05	101.68
Si 251.611	0.2901	0.087	0.2	0.2	**145.05**
Si 288.158 (n/a for icap 3)	n/a	n/a	n/a		
Sn 189.927	0.0207	0.0031	0.02	0.02	103.60
Sr 407.771	0.0030	0.0025	0.003	0.003	100.99
Sr 421.552	0.0031	0.0025	0.003	0.003	104.69
Ti 334.940	0.0057	0.0013	0.006	0.006	94.33
Ti 336.121	0.0057	0.0014	0.006	0.006	95.83
Tl 190.801	0.0622	0.014	0.06	0.06	103.75
V 292.402	0.0050	0.0009	0.005	0.005	99.54
Zn 213.857	0.0313	0.0068	0.03	0.03	104.32

mg/L, concentration in the sample

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit
~~*spike < 0.3* sample conc*~~

Digestion Laboratory Duplicate (DUP)
|Δ| ≤ MDL when near MDL
RPD Limit ≤ 20%

	Measured Conc 1912011-01 5:14 PM	B19L022-DUP1 5:20 PM	Absolute Difference	MDL	RL	RPD		Linearity Limit
Ag 328.068	-0.0004	-0.0002	0.0002	0.0024	0.01	63.17	*	0.1
Ag 338.289	0.0055	0.0056	0.0001	0.013	0.025	0.93		0.1
Al 308.215	-0.0074	-0.0509	0.0436	0.29	0.5	149.49	*	200
Al 396.153	-0.0030	0.0066	0.0096	0.093	0.5	540.21	*	750
As 189.042 (icap 3)	0.0041	0.0029	0.0012	0.0052	0.04	33.69	*	25
As 193.696	0.0033	0.0029	0.0004	0.0090	0.04	12.88		25
B 249.677	0.0449	0.0517	0.0068	0.013	0.05	14.07		40
Ba 455.403	0.0489	0.0487	0.0002	0.00087	0.003	0.44		40
Be 313.042	-0.0001	-0.0001	0.0000	0.00061	0.002	3.57		20
Ca 315.887	101.7629	100.8505	0.9124	0.22	0.5	0.90		750
Cd 214.440	0.0001	0.0001	0.0000	0.00028	0.002	46.61	*	10
Cd 226.502	0.0000	0.0000	0.0000	0.00052	0.002	117.15	*	10
Co 228.616	0.0001	0.0002	0.0001	0.00064	0.006	77.41	*	8
Cr 267.716	-0.0001	0.0002	0.0003	0.0010	0.005	387.14	*	25
Cu 324.752	0.0010	0.0008	0.0002	0.0035	0.02	27.02	*	80
Cu 327.393	0.0012	0.0015	0.0003	0.0043	0.02	21.58	*	80
Fe 259.939	0.2912	0.2795	0.0117	0.019	0.08	4.12		500
Fe 273.955	0.3090	0.3054	0.0036	0.021	0.08	1.18		750
K 766.490	1.2965	1.2926	0.0040	0.10	0.8	0.31		750
Li 670.784	0.0029	0.0026	0.0003	0.0032	0.025	10.23		25
Mg 279.077	47.8551	47.8607	0.0057	0.048	0.2	0.01		500
Mg 280.271	45.8077	45.5248	0.2830	0.020	0.2	0.62		100
Mn 257.610	0.0767	0.0756	0.0012	0.0038	0.008	1.53		20
Mo 202.031	0.0016	0.0016	0.0000	0.0024	0.012	2.11		40
Mo 204.597	0.0011	0.0011	0.0000	0.0018	0.012	0.60		40
Na 589.592	33.2725	33.0468	0.2257	0.14	0.4	0.68		750
Ni 231.604	0.0013	0.0014	0.0001	0.0038	0.012	9.42		8
P 177.4 (icap 3)	1.8260	1.8095	0.0165	0.033	0.2	0.91		50
Pb 220.353	0.0016	0.0009	0.0007	0.0047	0.03	55.16	*	10
Sb 206.836	-0.0008	0.0003	0.0011	0.0080	0.02	445.15	*	25
Se 196.026	0.0019	0.0014	0.0005	0.018	0.05	28.43	*	25
Si 251.611	19.0739	18.8948	0.1791	0.087	0.2	0.94		50
Si 288.158 (n/a for icap 3)								
Sn 189.927	0.0006	0.0006	0.0000	0.0031	0.02	1.08		8
Sr 407.771	0.0918	0.0916	0.0003	0.0025	0.003	0.27		20
Sr 421.552	0.0919	0.0909	0.0009	0.0025	0.003	1.00		8
Ti 334.940	0.0005	0.0005	0.0000	0.0013	0.006	3.15		20
Ti 336.121	-0.0006	-0.0007	0.0001	0.0014	0.006	11.81		20
Tl 190.801	0.0004	0.0004	0.0000	0.014	0.06	4.27		25
V 292.402	0.0009	0.0009	0.0000	0.00090	0.005	4.37		75
Zn 213.857	0.0068	0.0061	0.0007	0.0068	0.03	11.06		25

An asterisk indicates |Δ| ≤ MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and duplicate

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	Spike A+B: 19E1409	*|conc| < RL*
Analysis Date:	12/18/19		RL ≤ |conc| ≤ linearity limit
Results Data Set:	2019-12-18b		conc > linearity limit
Analysis:	ICP-AES (w) metals		**RPD outside limit**
Analyst:	AW		**MS % rec outside limit**

Digestion Matrix Spike (MS)

% Recovery Limit = 100% ± 25%

	Measured Conc				Spike A+B		
	1912011-01 5:14 PM	B19L022-MS1 5:22 PM	MDL	RL	Spike Added	Percent Recovery	Linearity Limit
Ag 328.068	*-0.0004*	0.0211	0.0024	0.01	0.025	86.11	0.1
Ag 338.289	*0.0055*	0.0262	0.013	0.025	0.025	82.65	0.1
Al 308.215	*-0.0074*	0.9680	0.29	0.5	1	97.54	200
Al 396.153	*-0.0030*	0.9644	0.093	0.5	1	96.75	750
As 189.042 (icap 3)	*0.0041*	0.1959	0.0052	0.04	0.2	95.94	25
As 193.696	*0.0033*	0.1947	0.0090	0.04	0.2	95.73	25
B 249.677	*0.0449*	0.9813	0.013	0.05	1	93.64	40
Ba 455.403	0.0489	0.2406	0.00087	0.003	0.2	95.86	40
Be 313.042	*-0.0001*	0.0096	0.00061	0.002	0.01	97.27	20
Ca 315.887	101.7629	142.911	0.22	0.5	50	82.30	750
Cd 214.440	*0.0001*	0.0473	0.00028	0.002	0.05	94.34	10
Cd 226.502	*0.0000*	0.0466	0.00052	0.002	0.05	93.16	10
Co 228.616	*0.0001*	0.0919	0.00064	0.006	0.1	91.87	8
Cr 267.716	*-0.0001*	0.0941	0.0010	0.005	0.1	94.20	25
Cu 324.752	*0.0010*	0.0964	0.0035	0.02	0.1	95.40	80
Cu 327.393	*0.0012*	0.0996	0.0043	0.02	0.1	98.39	80
Fe 259.939	0.2912	1.2071	0.019	0.08	1	91.59	500
Fe 273.955	0.3090	1.2374	0.021	0.08	1	92.84	750
K 766.490	1.2965	25.446	0.10	0.8	25	96.60	750
Li 670.784	*0.0029*	0.1025	0.0032	0.025	0.1	99.58	25
Mg 279.077	47.8551	65.202	0.048	0.2	20	86.73	500
Mg 280.271	45.8077	60.420	0.020	0.2	20	**73.06**	100
Mn 257.610	0.0767	0.2596	0.0038	0.008	0.2	91.42	20
Mo 202.031	*0.0016*	0.0991	0.0024	0.012	0.1	97.57	40
Mo 204.597	*0.0011*	0.0968	0.0018	0.012	0.1	95.78	40
Na 589.592	33.2725	80.122	0.14	0.4	50	93.70	750
Ni 231.604	*0.0013*	0.1883	0.0038	0.012	0.2	93.50	8
P 177.4 (icap 3)	1.8260	2.7809	0.033	0.2	1	95.49	50
Pb 220.353	*0.0016*	0.4599	0.0047	0.03	0.5	91.64	10
Sb 206.836	*-0.0008*	0.4779	0.0080	0.02	0.5	95.75	25
Se 196.026	*0.0019*	0.4765	0.018	0.05	0.5	94.93	25
Si 251.611	19.0739	28.1576	0.087	0.2	10	90.84	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	*0.0006*	0.4643	0.0031	0.02	0.5	92.73	8
Sr 407.771	0.0918	1.0282	0.0025	0.003	1	93.64	20
Sr 421.552	0.0919	1.0142	0.0025	0.003	1	92.23	8
Ti 334.940	*0.0005*	0.0993	0.0013	0.006	0.1	98.76	20
Ti 336.121	*-0.0006*	0.0961	0.0014	0.006	0.1	96.69	20
Tl 190.801	*0.0004*	0.4404	0.014	0.06	0.5	88.00	25
V 292.402	*0.0009*	0.0956	0.00090	0.005	0.1	94.70	75
Zn 213.857	*0.0068*	0.9692	0.0068	0.03	1	96.23	25

mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and matrix spike

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit
~~*spike < 0.3* sample conc*~~

Digestion Laboratory Duplicate (DUP)
|Δ| ≤ MDL when near MDL
RPD Limit ≤ 20%

	Measured Conc 1912011-12 6:10 PM	B19L022-DUP2 6:13 PM	Absolute Difference	MDL	RL	RPD		Linearity Limit
Ag 328.068	-0.0001	-0.0004	0.0003	0.0024	0.01	145.41	*	0.1
Ag 338.289	0.0059	0.0050	0.0009	0.013	0.025	15.87		0.1
Al 308.215	-0.0151	-0.0285	0.0135	0.29	0.5	61.73	*	200
Al 396.153	-0.0050	-0.0127	0.0077	0.093	0.5	86.70	*	750
As 189.042 (icap 3)	0.0342	0.0340	0.0002	0.0052	0.04	0.51		25
As 193.696	0.0337	0.0339	0.0002	0.0090	0.04	0.68		25
B 249.677	0.0536	0.0539	0.0003	0.013	0.05	0.56		40
Ba 455.403	0.0327	0.0332	0.0005	0.00087	0.003	1.38		40
Be 313.042	-0.0001	-0.0001	0.0000	0.00061	0.002	8.47		20
Ca 315.887	89.6586	91.0494	1.3909	0.22	0.5	1.54		750
Cd 214.440	0.0001	0.0001	0.0000	0.00028	0.002	31.17	*	10
Cd 226.502	-0.0001	-0.0001	0.0000	0.00052	0.002	20.05	*	10
Co 228.616	0.0000	0.0002	0.0002	0.00064	0.006	196.41	*	8
Cr 267.716	0.0000	0.0000	0.0001	0.0010	0.005	403.24	*	25
Cu 324.752	0.0274	0.0275	0.0002	0.0035	0.02	0.55		80
Cu 327.393	0.0281	0.0280	0.0001	0.0043	0.02	0.35		80
Fe 259.939	8.0395	8.1012	0.0617	0.019	0.08	0.76		500
Fe 273.955	8.1317	8.1498	0.0181	0.021	0.08	0.22		750
K 766.490	0.6553	0.5996	0.0557	0.10	0.8	8.87		750
Li 670.784	0.0018	0.0017	0.0001	0.0032	0.025	6.47		25
Mg 279.077	43.9597	44.2578	0.2981	0.048	0.2	0.68		500
Mg 280.271	42.0321	42.2264	0.1942	0.020	0.2	0.46		100
Mn 257.610	0.0488	0.0489	0.0001	0.0038	0.008	0.12		20
Mo 202.031	0.0022	0.0022	0.0000	0.0024	0.012	0.43		40
Mo 204.597	0.0022	0.0017	0.0005	0.0018	0.012	25.22	*	40
Na 589.592	6.9727	6.9883	0.0156	0.14	0.4	0.22		750
Ni 231.604	0.0017	0.0012	0.0004	0.0038	0.012	30.37	*	8
P 177.4 (icap 3)	0.0068	0.0082	0.0014	0.033	0.2	18.09		50
Pb 220.353	0.0079	0.0066	0.0013	0.0047	0.03	17.90		10
Sb 206.836	0.0010	-0.0001	0.0011	0.0080	0.02	270.62	*	25
Se 196.026	0.0013	0.0008	0.0005	0.018	0.05	48.02	*	25
Si 251.611	23.2839	23.3720	0.0881	0.087	0.2	0.38		50
Si 288.158 (n/a for icap 3)								
Sn 189.927	0.0003	-0.0004	0.0007	0.0031	0.02	823.49	*	8
Sr 407.771	0.0889	0.0892	0.0003	0.0025	0.003	0.39		20
Sr 421.552	0.0898	0.0902	0.0005	0.0025	0.003	0.51		8
Ti 334.940	0.0006	0.0005	0.0001	0.0013	0.006	16.74		20
Ti 336.121	-0.0005	-0.0006	0.0000	0.0014	0.006	4.28		20
Tl 190.801	0.0008	0.0010	0.0002	0.014	0.06	23.45	*	25
V 292.402	0.0004	0.0004	0.0000	0.00090	0.005	6.59		75
Zn 213.857	0.0137	0.0138	0.0002	0.0068	0.03	1.16		25

An asterisk indicates |Δ| ≤ MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and duplicate

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	Spike A+B: 19E1409	*|conc| < RL*
Analysis Date:	12/18/19		RL ≤ |conc| ≤ linearity limit
Results Data Set:	2019-12-18b		conc > linearity limit
Analysis:	ICP-AES (w) metals		**RPD outside limit**
Analyst:	AW		**MS % rec outside limit**

Digestion Matrix Spike (MS)

% Recovery Limit = 100% ± 25%

	Measured Conc				Spike A+B		
	1912011-12 6:10 PM	B19L022-MS2 6:16 PM	MDL	RL	Spike Added	Percent Recovery	Linearity Limit
Ag 328.068	*-0.0001*	0.0220	0.0024	0.01	0.025	88.24	0.1
Ag 338.289	*0.0059*	0.0264	0.013	0.025	0.025	81.85	0.1
Al 308.215	*-0.0151*	0.9362	0.29	0.5	1	95.12	200
Al 396.153	*-0.0050*	0.9704	0.093	0.5	1	97.54	750
As 189.042 (icap 3)	*0.0342*	0.2288	0.0052	0.04	0.2	97.34	25
As 193.696	*0.0337*	0.2290	0.0090	0.04	0.2	97.67	25
B 249.677	0.0536	1.0135	0.013	0.05	1	95.99	40
Ba 455.403	0.0327	0.2289	0.00087	0.003	0.2	98.08	40
Be 313.042	*-0.0001*	0.0097	0.00061	0.002	0.01	98.44	20
Ca 315.887	89.6586	133.256	0.22	0.5	50	87.20	750
Cd 214.440	*0.0001*	0.0474	0.00028	0.002	0.05	94.55	10
Cd 226.502	*-0.0001*	0.0468	0.00052	0.002	0.05	93.75	10
Co 228.616	*0.0000*	0.0930	0.00064	0.006	0.1	92.98	8
Cr 267.716	*0.0000*	0.0954	0.0010	0.005	0.1	95.33	25
Cu 324.752	0.0274	0.1285	0.0035	0.02	0.1	101.07	80
Cu 327.393	0.0281	0.1286	0.0043	0.02	0.1	100.60	80
Fe 259.939	8.0395	8.8795	0.019	0.08	~~1~~	84.00	500
Fe 273.955	8.1317	8.8916	0.021	0.08	~~1~~	75.99	750
K 766.490	*0.6553*	25.020	0.10	0.8	25	97.46	750
Li 670.784	*0.0018*	0.1023	0.0032	0.025	0.1	100.50	25
Mg 279.077	43.9597	62.577	0.048	0.2	20	93.09	500
Mg 280.271	42.0321	57.962	0.020	0.2	20	79.65	100
Mn 257.610	0.0488	0.2393	0.0038	0.008	0.2	95.24	20
Mo 202.031	*0.0022*	0.1009	0.0024	0.012	0.1	98.65	40
Mo 204.597	*0.0022*	0.0997	0.0018	0.012	0.1	97.44	40
Na 589.592	6.9727	55.573	0.14	0.4	50	97.20	750
Ni 231.604	*0.0017*	0.1921	0.0038	0.012	0.2	95.20	8
P 177.4 (icap 3)	*0.0068*	1.0620	0.033	0.2	1	105.52	50
Pb 220.353	*0.0079*	0.4744	0.0047	0.03	0.5	93.29	10
Sb 206.836	*0.0010*	0.4900	0.0080	0.02	0.5	97.81	25
Se 196.026	*0.0013*	0.4843	0.018	0.05	0.5	96.61	25
Si 251.611	23.2839	33.3112	0.087	0.2	10	100.27	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	*0.0003*	0.4775	0.0031	0.02	0.5	95.45	8
Sr 407.771	0.0889	1.0311	0.0025	0.003	1	94.23	20
Sr 421.552	0.0898	1.0424	0.0025	0.003	1	95.26	8
Ti 334.940	*0.0006*	0.1020	0.0013	0.006	0.1	101.40	20
Ti 336.121	*-0.0005*	0.0991	0.0014	0.006	0.1	99.62	20
Tl 190.801	*0.0008*	0.4575	0.014	0.06	0.5	91.35	25
V 292.402	*0.0004*	0.0986	0.00090	0.005	0.1	98.19	75
Zn 213.857	*0.0137*	0.9855	0.0068	0.03	1	97.18	25

mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and matrix spike

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit
~~*spike < 0.3* sample conc*~~

Digestion Laboratory Duplicate (DUP)

|Δ| ≤ MDL when near MDL
RPD Limit ≤ 20%

Elevated IS recoveries for B19L022-DUP3 --> re-run source/dup/ms in Run 2

	Measured Conc 1912011-21 6:56 PM	B19L022-DUP3 6:58 PM	Absolute Difference	MDL	RL	RPD		Linearity Limit
Ag 328.068	-0.0003	0.0005	0.0008	0.0024	0.01	761.32	*	0.1
Ag 338.289	0.0050	-0.0007	0.0057	0.013	0.025	265.10	*	0.1
Al 308.215	0.0035	-0.0426	0.0461	0.29	0.5	236.19	*	200
Al 396.153	0.0330	-0.0179	0.0509	0.093	0.5	673.74	*	750
As 189.042 (icap 3)	0.0122	0.0014	0.0108	0.0052	0.04	**159.79**		25
As 193.696	0.0135	-0.0012	0.0147	0.0090	0.04	**239.97**		25
B 249.677	0.0562	0.0043	0.0519	0.013	0.05	**171.33**		40
Ba 455.403	0.0516	-0.0014	0.0530	0.00087	0.003	**210.99**		40
Be 313.042	-0.0001	0.0000	0.0000	0.00061	0.002	72.76	*	20
Ca 315.887	100.3474	0.0397	100.3077	0.22	0.5	**199.84**		750
Cd 214.440	0.0001	-0.0002	0.0003	0.00028	0.002	987.56	*	10
Cd 226.502	-0.0001	0.0000	0.0001	0.00052	0.002	181.25	*	10
Co 228.616	0.0003	-0.0002	0.0005	0.00064	0.006	1757.91	*	8
Cr 267.716	-0.0001	-0.0004	0.0003	0.0010	0.005	114.48	*	25
Cu 324.752	0.0019	-0.0061	0.0081	0.0035	0.02	**386.27**		80
Cu 327.393	0.0032	0.0001	0.0031	0.0043	0.02	186.87	*	80
Fe 259.939	3.2634	0.0019	3.2615	0.019	0.08	**199.77**		500
Fe 273.955	3.2705	-0.0078	3.2783	0.021	0.08	**200.95**		750
K 766.490	1.2527	0.0260	1.2267	0.10	0.8	**191.87**		750
Li 670.784	0.0021	-0.0011	0.0033	0.0032	0.025	**644.86**		25
Mg 279.077	46.1229	-0.0026	46.1254	0.048	0.2	**200.02**		500
Mg 280.271	44.4404	0.0142	44.4262	0.020	0.2	**199.87**		100
Mn 257.610	0.0886	-0.0001	0.0886	0.0038	0.008	**200.34**		20
Mo 202.031	0.0016	-0.0002	0.0017	0.0024	0.012	245.60	*	40
Mo 204.597	0.0008	-0.0001	0.0010	0.0018	0.012	283.22	*	40
Na 589.592	31.2758	-0.0038	31.2796	0.14	0.4	**200.05**		750
Ni 231.604	0.0236	0.0003	0.0233	0.0038	0.012	**194.26**		8
P 177.4 (icap 3)	0.0054	-0.0004	0.0058	0.033	0.2	235.67	*	50
Pb 220.353	0.0050	-0.0008	0.0059	0.0047	0.03	**280.46**		10
Sb 206.836	0.0009	0.0016	0.0007	0.0080	0.02	54.11	*	25
Se 196.026	0.0024	0.0027	0.0003	0.018	0.05	12.79		25
Si 251.611	19.7189	-0.0395	19.7585	0.087	0.2	**200.80**		50
Si 288.158 (n/a for icap 3)								
Sn 189.927	0.0000	0.0001	0.0002	0.0031	0.02	356.50	*	8
Sr 407.771	0.0890	-0.0001	0.0891	0.0025	0.003	**200.40**		20
Sr 421.552	0.0895	-0.0001	0.0896	0.0025	0.003	**200.45**		8
Ti 334.940	0.0004	-0.0004	0.0007	0.0013	0.006	37801.71	*	20
Ti 336.121	-0.0005	-0.0001	0.0004	0.0014	0.006	122.93	*	20
Tl 190.801	0.0013	0.0001	0.0012	0.014	0.06	165.99	*	25
V 292.402	0.0009	-0.0005	0.0014	0.00090	0.005	**615.34**		75
Zn 213.857	0.0315	-0.0008	0.0324	0.0068	0.03	**210.87**		25

An asterisk indicates |Δ| ≤ MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and duplicate

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	Spike A+B: 19E1409	*|conc| < RL*
Analysis Date:	12/18/19		RL ≤ |conc| ≤ linearity limit
Results Data Set:	2019-12-18b		conc > linearity limit
Analysis:	ICP-AES (w) metals		**RPD outside limit**
Analyst:	AW		**MS % rec outside limit**

Digestion Matrix Spike (MS)

% Recovery Limit = 100% ± 25%

	Measured Conc				Spike A+B		
	1912011-21 6:56 PM	B19L022-MS3 7:01 PM	MDL	RL	Spike Added	Percent Recovery	Linearity Limit
Ag 328.068	*-0.0003*	0.0218	0.0024	0.01	0.025	88.22	0.1
Ag 338.289	*0.0050*	0.0263	0.013	0.025	0.025	85.46	0.1
Al 308.215	*0.0035*	1.0192	0.29	0.5	1	101.57	200
Al 396.153	*0.0330*	1.0370	0.093	0.5	1	100.40	750
As 189.042 (icap 3)	*0.0122*	0.2130	0.0052	0.04	0.2	100.39	25
As 193.696	*0.0135*	0.2140	0.0090	0.04	0.2	100.23	25
B 249.677	0.0562	1.0077	0.013	0.05	1	95.15	40
Ba 455.403	0.0516	0.2529	0.00087	0.003	0.2	100.65	40
Be 313.042	*-0.0001*	0.0099	0.00061	0.002	0.01	100.04	20
Ca 315.887	100.3474	149.951	0.22	0.5	50	99.21	750
Cd 214.440	*0.0001*	0.0490	0.00028	0.002	0.05	97.70	10
Cd 226.502	*-0.0001*	0.0482	0.00052	0.002	0.05	96.64	10
Co 228.616	*0.0003*	0.0938	0.00064	0.006	0.1	93.49	8
Cr 267.716	*-0.0001*	0.0975	0.0010	0.005	0.1	97.63	25
Cu 324.752	*0.0019*	0.1016	0.0035	0.02	0.1	99.62	80
Cu 327.393	*0.0032*	0.1023	0.0043	0.02	0.1	99.11	80
Fe 259.939	3.2634	4.2734	0.019	0.08	1	101.00	500
Fe 273.955	3.2705	4.2937	0.021	0.08	1	102.32	750
K 766.490	1.2527	26.044	0.10	0.8	25	99.17	750
Li 670.784	*0.0021*	0.1057	0.0032	0.025	0.1	103.54	25
Mg 279.077	46.1229	66.591	0.048	0.2	20	102.34	500
Mg 280.271	44.4404	62.412	0.020	0.2	20	89.86	100
Mn 257.610	0.0886	0.2770	0.0038	0.008	0.2	94.20	20
Mo 202.031	*0.0016*	0.1022	0.0024	0.012	0.1	100.57	40
Mo 204.597	*0.0008*	0.1011	0.0018	0.012	0.1	100.24	40
Na 589.592	31.2758	81.073	0.14	0.4	50	99.60	750
Ni 231.604	0.0236	0.2178	0.0038	0.012	0.2	97.07	8
P 177.4 (icap 3)	*0.0054*	1.0821	0.033	0.2	1	107.68	50
Pb 220.353	*0.0050*	0.4777	0.0047	0.03	0.5	94.54	10
Sb 206.836	*0.0009*	0.4948	0.0080	0.02	0.5	98.78	25
Se 196.026	*0.0024*	0.4939	0.018	0.05	0.5	98.30	25
Si 251.611	19.7189	29.5955	0.087	0.2	10	98.77	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	*0.0000*	0.4893	0.0031	0.02	0.5	97.87	8
Sr 407.771	0.0890	1.0370	0.0025	0.003	1	94.79	20
Sr 421.552	0.0895	1.0273	0.0025	0.003	1	93.78	8
Ti 334.940	*0.0004*	0.1020	0.0013	0.006	0.1	101.67	20
Ti 336.121	*-0.0005*	0.0999	0.0014	0.006	0.1	100.39	20
Tl 190.801	*0.0013*	0.4560	0.014	0.06	0.5	90.94	25
V 292.402	*0.0009*	0.0993	0.00090	0.005	0.1	98.42	75
Zn 213.857	0.0315	1.0241	0.0068	0.03	1	99.26	25

mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and matrix spike

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	*|conc| < RL*
Analysis Date:	12/18/19	RL ≤ |conc| ≤ linearity limit
Results Data Set:	2019-12-18b	conc > linearity limit
Analysis:	ICP-AES (w) metals	**RPD outside limit**
Analyst:	AW	

Dilution Test

RPD Limit ≤ 10%, if analyte conc in the original soln is at least 50X MDL

	Measured Conc 1912011-01 5:14 PM	1912011-01 dil 5:17 PM	Absolute Difference	MDL	RL	RPD	Linearity Limit
Ag 328.068	-0.0004	-0.0004	0.0000	0.0024	0.01	3.49	0.1
Ag 338.289	0.0055	0.0165	0.0110	0.013	0.03	99.95 *	0.1
Al 308.215	-0.0074	-0.0859	0.0786	0.29	0.5	168.45 *	200
Al 396.153	-0.0030	-0.0125	0.0094	0.093	0.5	121.81 *	750
As 189.042 (icap 3)	0.0041	0.0041	0.0000	0.0052	0.04	0.18	25
As 193.696	0.0033	-0.0002	0.0035	0.0090	0.04	226.30 *	25
B 249.677	0.0449	0.0866	0.0417	0.013	0.05	63.44 *	40
Ba 455.403	0.0489	0.0492	0.0003	0.00087	0.003	0.56	40
Be 313.042	-0.0001	-0.0003	0.0002	0.00061	0.002	109.43 *	20
Ca 315.887	101.7629	103.4506	1.6877	0.22	0.5	1.64	750
Cd 214.440	0.0001	-0.0001	0.0002	0.00028	0.002	3395.32 *	10
Cd 226.502	0.0000	-0.0001	0.0002	0.00052	0.002	230.88 *	10
Co 228.616	0.0001	0.0001	0.0000	0.00064	0.006	23.93 *	8
Cr 267.716	-0.0001	-0.0023	0.0022	0.0010	0.005	187.07 *	25
Cu 324.752	0.0010	-0.0004	0.0014	0.0035	0.02	427.54 *	80
Cu 327.393	0.0012	0.0012	0.0001	0.0043	0.02	7.50	80
Fe 259.939	0.2912	0.3209	0.0297	0.019	0.08	9.71	500
Fe 273.955	0.3090	0.2996	0.0095	0.021	0.08	3.11	750
K 766.490	1.2965	1.3403	0.0438	0.10	0.8	3.32	750
Li 670.784	0.0029	-0.0005	0.0035	0.0032	0.025	285.78 *	25
Mg 279.077	47.8551	47.5963	0.2588	0.048	0.2	0.54	500
Mg 280.271	45.8077	47.2052	1.3974	0.020	0.2	3.00	100
Mn 257.610	0.0767	0.0776	0.0008	0.0038	0.008	1.07	20
Mo 202.031	0.0016	0.0011	0.0005	0.0024	0.012	34.40 *	40
Mo 204.597	0.0011	-0.0010	0.0020	0.0018	0.012	7323.33 *	40
Na 589.592	33.2725	32.3646	0.9079	0.14	0.4	2.77	750
Ni 231.604	0.0013	0.0011	0.0002	0.0038	0.012	18.77 *	8
P 177.4 (icap 3)	1.8260	1.7461	0.0799	0.033	0.200	4.47	50
Pb 220.353	0.0016	0.0024	0.0008	0.0047	0.03	39.53 *	10
Sb 206.836	-0.0008	0.0063	0.0071	0.0080	0.02	259.80 *	25
Se 196.026	0.0019	0.0002	0.0017	0.018	0.05	165.50 *	25
Si 251.611	19.0739	18.9973	0.0766	0.087	0.20	0.40	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	0.0006	0.0001	0.0006	0.0031	0.02	154.85 *	8
Sr 407.771	0.0918	0.0918	0.0000	0.0025	0.003	0.03	20
Sr 421.552	0.0919	0.0916	0.0003	0.0025	0.003	0.32	8
Ti 334.940	0.0005	0.0012	0.0006	0.0013	0.006	76.79 *	20
Ti 336.121	-0.0006	-0.0010	0.0003	0.0014	0.006	42.23 *	20
Tl 190.801	0.0004	0.0067	0.0063	0.014	0.06	176.16 *	25
V 292.402	0.0009	0.0021	0.0012	0.00090	0.005	78.73 *	75
Zn 213.857	0.0068	0.0072	0.0003	0.0068	0.03	4.53	25

An asterisk indicates analyte conc in the original soln < 50X MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above based on least diluted sample; corresponding values for dilution test sample will be 5X

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	*|conc| < RL*
Analysis Date:	12/18/19	RL ≤ |conc| ≤ linearity limit
Results Data Set:	2019-12-18b	conc > linearity limit
Analysis:	ICP-AES (w) metals	**RPD outside limit**
Analyst:	AW	

Dilution Test

RPD Limit ≤ 10%, if analyte conc in the original soln is at least 50X MDL

	Measured Conc 1912011-35 7:30 PM	1912011-35 dil 7:33 PM	Absolute Difference	MDL	RL	RPD	Linearity Limit
Ag 328.068	-0.0004	-0.0015	0.0011	0.0024	0.01	113.58 *	0.1
Ag 338.289	0.0047	0.0162	0.0115	0.013	0.03	110.58 *	0.1
Al 308.215	-0.0477	-0.0851	0.0374	0.29	0.5	56.35 *	200
Al 396.153	-0.0122	-0.0716	0.0594	0.093	0.5	141.94 *	750
As 189.042 (icap 3)	-0.0004	-0.0003	0.0001	0.0052	0.04	34.81 *	25
As 193.696	0.0017	-0.0041	0.0057	0.0090	0.04	484.40 *	25
B 249.677	0.0576	0.0718	0.0142	0.013	0.05	21.88 *	40
Ba 455.403	0.0318	0.0323	0.0005	0.00087	0.003	1.68	40
Be 313.042	-0.0001	-0.0001	0.0000	0.00061	0.002	24.31 *	20
Ca 315.887	96.1467	102.6740	6.5274	0.22	0.5	6.57	750
Cd 214.440	0.0001	0.0004	0.0003	0.00028	0.002	149.16 *	10
Cd 226.502	-0.0001	-0.0001	0.0000	0.00052	0.002	18.28 *	10
Co 228.616	-0.0001	0.0000	0.0001	0.00064	0.006	77.31 *	8
Cr 267.716	0.0003	-0.0001	0.0005	0.0010	0.005	474.04 *	25
Cu 324.752	0.1122	0.1142	0.0020	0.0035	0.02	1.79	80
Cu 327.393	0.1126	0.1160	0.0034	0.0043	0.02	2.98	80
Fe 259.939	0.0095	0.0023	0.0072	0.019	0.08	121.53 *	500
Fe 273.955	0.0020	0.0442	0.0422	0.021	0.08	182.65 *	750
K 766.490	1.0603	1.0697	0.0094	0.10	0.8	0.88	750
Li 670.784	0.0019	-0.0017	0.0035	0.0032	0.025	3833.44 *	25
Mg 279.077	45.4517	47.7248	2.2731	0.048	0.2	4.88	500
Mg 280.271	43.4155	46.9455	3.5300	0.020	0.2	7.81	100
Mn 257.610	0.0003	0.0004	0.0001	0.0038	0.008	26.09 *	20
Mo 202.031	0.0004	0.0006	0.0001	0.0024	0.012	30.73 *	40
Mo 204.597	-0.0001	0.0007	0.0008	0.0018	0.012	255.48 *	40
Na 589.592	24.3138	25.0992	0.7854	0.14	0.4	3.18	750
Ni 231.604	0.0008	0.0012	0.0003	0.0038	0.012	31.74 *	8
P 177.4 (icap 3)	0.0082	0.0037	0.0045	0.033	0.200	74.69 *	50
Pb 220.353	0.0098	0.0134	0.0036	0.0047	0.03	31.32 *	10
Sb 206.836	0.0003	0.0015	0.0012	0.0080	0.02	129.72 *	25
Se 196.026	-0.0005	0.0113	0.0118	0.018	0.05	219.12 *	25
Si 251.611	18.4564	19.3527	0.8964	0.087	0.20	4.74	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	0.0003	-0.0004	0.0006	0.0031	0.02	1212.97 *	8
Sr 407.771	0.0749	0.0767	0.0018	0.0025	0.003	2.32	20
Sr 421.552	0.0743	0.0776	0.0032	0.0025	0.003	4.25	8
Ti 334.940	0.0005	0.0010	0.0004	0.0013	0.006	58.65 *	20
Ti 336.121	-0.0005	-0.0009	0.0004	0.0014	0.006	61.03 *	20
Tl 190.801	0.0000	0.0011	0.0011	0.014	0.06	201.45 *	25
V 292.402	0.0006	0.0008	0.0003	0.00090	0.005	36.34 *	75
Zn 213.857	0.0332	0.0371	0.0038	0.0068	0.03	10.94 *	25

An asterisk indicates analyte conc in the original soln < 50X MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above based on least diluted sample; corresponding values for dilution test sample will be 5X

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	*|blank| < MDL*
Analysis Date:	12/18/19	**MDL ≤ |blank| < RL**
Results Data Set:	2019-12-18b	**|blank| ≥ RL**
Analysis:	ICP-AES (w) metals	
Analyst:	AW	

Field/Trip/Equipment Blanks

	Measured Conc			
	1912011-19 6:50 PM	1912011-20 6:53 PM	MDL	RL
Ag 328.068	-0.0001	0.0000	0.0024	0.01
Ag 338.289	-0.0001	-0.0004	0.013	0.025
Al 308.215	-0.0212	-0.0218	0.29	0.5
Al 396.153	-0.0011	0.0011	0.093	0.5
As 189.042 (icap 3)	0.0006	0.0008	0.0052	0.04
As 193.696	-0.0016	-0.0009	0.0090	0.04
B 249.677	0.0090	0.0034	0.013	0.05
Ba 455.403	-0.0003	0.0001	0.00087	0.003
Be 313.042	0.0000	0.0000	0.00061	0.002
Ca 315.887	0.0433	0.0460	0.22	0.5
Cd 214.440	0.0000	0.0000	0.00028	0.002
Cd 226.502	-0.0001	-0.0001	0.00052	0.002
Co 228.616	-0.0002	-0.0001	0.00064	0.006
Cr 267.716	-0.0002	-0.0004	0.0010	0.005
Cu 324.752	0.0028	0.0013	0.0035	0.02
Cu 327.393	0.0031	0.0021	0.0043	0.02
Fe 259.939	0.0023	0.0071	0.019	0.08
Fe 273.955	0.0006	**0.0210**	0.021	0.08
K 766.490	0.0434	0.0316	0.10	0.8
Li 670.784	-0.0011	-0.0004	0.0032	0.025
Mg 279.077	-0.0258	-0.0232	0.048	0.2
Mg 280.271	0.0062	**0.0212**	0.020	0.2
Mn 257.610	0.0003	0.0000	0.0038	0.008
Mo 202.031	-0.0003	-0.0001	0.0024	0.012
Mo 204.597	0.0000	-0.0003	0.0018	0.012
Na 589.592	0.0239	0.0184	0.14	0.4
Ni 231.604	0.0000	0.0003	0.0038	0.012
P 177.4 (icap 3)	-0.0006	-0.0003	0.033	0.2
Pb 220.353	0.0010	0.0001	0.0047	0.03
Sb 206.836	0.0006	0.0011	0.0080	0.02
Se 196.026	0.0014	0.0003	0.018	0.05
Si 251.611	0.0486	0.0072	0.087	0.2
Si 288.158 (n/a for icap 3)			n/a	n/a
Sn 189.927	0.0003	0.0001	0.0031	0.02
Sr 407.771	-0.0001	0.0000	0.0025	0.003
Sr 421.552	0.0001	0.0000	0.0025	0.003
Ti 334.940	-0.0001	-0.0003	0.0013	0.006
Ti 336.121	0.0001	-0.0001	0.0014	0.006
Tl 190.801	0.0005	0.0005	0.014	0.06
V 292.402	0.0003	0.0002	0.00090	0.005
Zn 213.857	0.0006	0.0005	0.0068	0.03

mg/L, concentration in the sample

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

MDLs and RLs given in spreadsheet are based on undiluted sample
Actual MDLs and RLs vary by sample based on individual sample dilution

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit

Summary

	Measured Conc												
	1912011-01 5:14 PM	1912011-02 5:25 PM	1912011-03 5:28 PM	1912011-04 5:31 PM	1912011-05 5:51 PM	1912011-06 5:54 PM	1912011-07 5:56 PM	1912011-08 5:59 PM	1912011-09 6:02 PM	1912011-10 6:05 PM	MDL	RL	Linearity Limit
Ag 328.068	-0.0004	-0.0001	-0.0005	-0.0003	-0.0001	-0.0004	-0.0004	-0.0003	-0.0008	-0.0001	0.0024	0.01	0.1
Ag 338.289	0.0055	0.0057	0.0067	0.0059	0.0058	0.0056	0.0057	0.0055	0.0052	0.0061	0.013	0.025	0.1
Al 308.215	-0.0074	-0.0033	-0.0359	-0.0637	0.0075	-0.0378	-0.0176	-0.0305	-0.0151	-0.0173	0.29	0.5	200
Al 396.153	-0.0030	0.0067	-0.0022	-0.0098	-0.0070	0.0021	0.0026	0.0117	-0.0099	-0.0033	0.093	0.5	750
As 189.042 (icap 3)	0.0041	0.0046	0.0061	0.0223	0.0329	0.0121	0.0113	0.0047	0.0048	0.0001	0.0052	0.04	25
As 193.696	0.0033	0.0034	0.0072	0.0207	0.0325	0.0110	0.0096	0.0033	0.0029	-0.0005	0.0090	0.04	25
B 249.677	0.0449	0.0476	0.0311	0.0753	0.0602	0.0436	0.0286	0.0411	0.0385	0.0455	0.013	0.05	40
Ba 455.403	0.0489	0.0479	0.0416	0.0396	0.0501	0.0655	0.0870	0.0550	0.0561	0.0328	0.00087	0.003	40
Be 313.042	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	0.00061	0.002	20
Ca 315.887	101.7629	100.0235	116.0001	103.5472	107.8933	100.3773	105.6088	113.3602	113.7772	96.9089	0.22	0.5	750
Cd 214.440	0.0001	0.0000	0.0001	0.0002	0.0001	0.0001	0.0001	0.0000	0.0001	0.0000	0.00028	0.002	10
Cd 226.502	0.0000	0.0000	-0.0001	-0.0001	-0.0002	-0.0001	-0.0001	0.0000	-0.0001	-0.0001	0.00052	0.002	10
Co 228.616	0.0001	0.0001	0.0011	0.0006	0.0019	0.0006	0.0005	0.0004	0.0001	-0.0001	0.00064	0.006	8
Cr 267.716	-0.0001	0.0002	0.0001	0.0004	0.0001	-0.0001	-0.0001	0.0001	0.0002	0.0002	0.0010	0.005	25
Cu 324.752	0.0010	0.0020	0.0263	0.0254	0.0272	0.0153	0.0050	0.0030	0.0027	0.0086	0.0035	0.02	80
Cu 327.393	0.0012	0.0024	0.0274	0.0254	0.0276	0.0163	0.0054	0.0033	0.0031	0.0091	0.0043	0.02	80
Fe 259.939	0.2912	0.2788	0.9859	11.8648	15.1904	2.9815	4.1113	1.6700	1.6999	0.0150	0.019	0.08	500
Fe 273.955	0.3090	0.3016	1.0094	12.1189	15.2672	3.0113	4.1395	1.6910	1.7270	0.0227	0.021	0.08	750
K 766.490	1.2965	1.3148	2.1130	1.4277	1.3641	1.5226	1.8001	2.0765	2.0513	1.1661	0.10	0.8	750
Li 670.784	0.0029	0.0028	0.0056	0.0023	0.0024	0.0032	0.0038	0.0038	0.0042	0.0025	0.0032	0.025	25
Mg 279.077	47.8551	47.5745	55.5669	44.2946	47.0704	49.1430	52.2117	53.3396	54.3662	45.8944	0.048	0.2	500
Mg 280.271	45.8077	45.1574	52.4828	42.0875	44.9687	46.5784	49.5514	50.6540	51.1594	43.6951	0.020	0.2	100
Mn 257.610	0.0767	0.0760	0.1560	0.0794	0.0472	0.3183	0.2744	0.0883	0.0935	0.0002	0.0038	0.008	20
Mo 202.031	0.0016	0.0012	0.0020	0.0024	0.0033	0.0025	0.0035	0.0015	0.0012	0.0008	0.0024	0.012	40
Mo 204.597	0.0011	0.0014	0.0015	0.0023	0.0030	0.0019	0.0031	0.0011	0.0009	0.0000	0.0018	0.012	40
Na 589.592	33.2725	32.7847	76.9042	9.0689	16.7764	44.2411	59.6311	70.6943	71.8742	27.6748	0.14	0.4	750
Ni 231.604	0.0013	0.0013	0.0036	0.0021	0.0024	0.0022	0.0031	0.0022	0.0023	0.0004	0.0038	0.012	8
P 177.4 (icap 3)	1.8260	1.8658	0.0025	0.0031	0.0048	0.0023	0.0034	0.0024	0.0003	0.0084	0.033	0.2	50
Pb 220.353	0.0016	0.0031	0.0077	0.0089	0.0062	0.0071	0.0027	0.0025	0.0022	0.0056	0.0047	0.03	10
Sb 206.836	-0.0008	-0.0002	-0.0001	-0.0005	-0.0006	-0.0007	-0.0002	0.0003	-0.0001	0.0013	0.0080	0.02	25
Se 196.026	0.0019	0.0028	0.0011	0.0016	0.0019	0.0001	-0.0015	0.0015	0.0002	0.0000	0.018	0.05	25
Si 251.611	19.0739	19.0590	17.5170	24.9239	29.4749	20.6660	20.5642	18.7353	18.9678	17.6642	0.087	0.2	50
Si 288.158 (n/a for icap 3)											n/a	n/a	n/a
Sn 189.927	0.0006	0.0007	0.0003	0.0000	0.0005	0.0002	0.0004	0.0001	0.0001	0.0002	0.0031	0.02	8
Sr 407.771	0.0918	0.0913	0.0973	0.1362	0.1439	0.0877	0.0959	0.1010	0.1022	0.0748	0.0025	0.003	20
Sr 421.552	0.0919	0.0914	0.0968	0.1372	0.1450	0.0872	0.0954	0.1004	0.1016	0.0749	0.0025	0.003	8
Ti 334.940	0.0005	0.0004	0.0004	0.0005	0.0003	0.0006	0.0005	0.0003	0.0003	0.0005	0.0013	0.006	20
Ti 336.121	-0.0006	-0.0008	-0.0010	-0.0006	-0.0007	-0.0008	-0.0010	-0.0009	-0.0009	-0.0006	0.0014	0.006	20
Tl 190.801	0.0004	-0.0004	0.0003	-0.0004	-0.0003	0.0002	0.0011	0.0005	0.0002	-0.0001	0.014	0.06	25
V 292.402	0.0009	0.0011	0.0011	0.0010	0.0011	0.0004	0.0009	0.0004	0.0006	0.0009	0.0009	0.005	75
Zn 213.857	0.0068	0.0103	0.0343	0.0321	0.0378	0.0176	0.0061	0.0049	0.0053	0.0165	0.0068	0.03	25

mg/L, concentration in the sample

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

MDLs and RLs given in spreadsheet are based on undiluted sample
Actual MDLs and RLs vary by sample based on individual sample dilution

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit

Summary

	Measured Conc												
	1912011-11 6:08 PM	1912011-12 6:10 PM	1912011-13 6:36 PM	1912011-14 6:39 PM	1912011-15 6:42 PM	1912011-16 6:44 PM	1912011-17 6:47 PM	1912011-19 6:50 PM	1912011-20 6:53 PM	1912011-21 6:56 PM	MDL	RL	Linearity Limit
Ag 328.068	-0.0004	-0.0001	-0.0004	-0.0004	-0.0006	-0.0003	-0.0002	-0.0001	0.0000	-0.0003	0.0024	0.01	0.1
Ag 338.289	0.0058	0.0059	0.0055	0.0054	0.0051	0.0058	0.0054	-0.0001	-0.0004	0.0050	0.013	0.025	0.1
Al 308.215	-0.0400	-0.0151	-0.0297	-0.0284	-0.0349	-0.0214	-0.0143	-0.0212	-0.0218	0.0035	0.29	0.5	200
Al 396.153	-0.0109	-0.0050	-0.0103	-0.0061	-0.0126	-0.0062	-0.0151	-0.0011	0.0011	0.0330	0.093	0.5	750
As 189.042 (icap 3)	0.0022	0.0342	0.0012	0.0403	0.0091	0.0312	0.0068	0.0006	0.0008	0.0122	0.0052	0.04	25
As 193.696	-0.0005	0.0337	0.0023	0.0376	0.0080	0.0286	0.0067	-0.0016	-0.0009	0.0135	0.0090	0.04	25
B 249.677	0.0433	0.0536	0.0543	0.0510	0.0526	0.0700	0.0617	0.0090	0.0034	0.0562	0.013	0.05	40
Ba 455.403	0.0356	0.0327	0.0308	0.0534	0.0399	0.0518	0.2391	-0.0003	0.0001	0.0516	0.00087	0.003	40
Be 313.042	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	-0.0001	0.0000	0.0000	-0.0001	0.00061	0.002	20
Ca 315.887	98.3138	89.6586	93.9717	105.3333	99.0260	92.6071	103.1542	0.0433	0.0460	100.3474	0.22	0.5	750
Cd 214.440	0.0000	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0000	0.0000	0.0001	0.00028	0.002	10
Cd 226.502	0.0000	-0.0001	0.0000	-0.0002	-0.0001	0.0000	0.0000	-0.0001	-0.0001	-0.0001	0.00052	0.002	10
Co 228.616	0.0004	0.0000	-0.0003	-0.0001	0.0001	-0.0001	0.0014	-0.0002	-0.0001	0.0003	0.00064	0.006	8
Cr 267.716	0.0002	0.0000	0.0002	-0.0002	0.0001	0.0006	-0.0001	-0.0002	-0.0004	-0.0001	0.0010	0.005	25
Cu 324.752	0.0049	0.0274	0.2338	0.2779	0.0444	0.0275	0.0846	0.0028	0.0013	0.0019	0.0035	0.02	80
Cu 327.393	0.0054	0.0281	0.2349	0.2778	0.0443	0.0277	0.0848	0.0031	0.0021	0.0032	0.0043	0.02	80
Fe 259.939	0.1643	8.0395	0.0085	9.0844	2.6495	3.1847	0.8303	0.0023	0.0071	3.2634	0.019	0.08	500
Fe 273.955	0.1738	8.1317	0.0172	9.0573	2.6587	3.1659	0.8304	0.0006	0.0210	3.2705	0.021	0.08	750
K 766.490	1.0626	0.6553	1.0208	0.9004	1.0028	1.0844	1.1658	0.0434	0.0316	1.2527	0.10	0.8	750
Li 670.784	0.0024	0.0018	0.0027	0.0025	0.0019	0.0021	0.0016	-0.0011	-0.0004	0.0021	0.0032	0.025	25
Mg 279.077	46.2847	43.9597	44.1343	49.3491	44.6035	43.5760	44.5068	-0.0258	-0.0232	46.1229	0.048	0.2	500
Mg 280.271	44.0553	42.0321	42.4053	47.4359	42.8769	41.9041	43.0675	0.0062	0.0212	44.4404	0.020	0.2	100
Mn 257.610	0.2835	0.0488	0.0003	0.0531	0.0716	0.0595	0.1396	0.0003	0.0000	0.0886	0.0038	0.008	20
Mo 202.031	0.0013	0.0022	0.0004	0.0017	0.0008	0.0004	0.0010	-0.0003	-0.0001	0.0016	0.0024	0.012	40
Mo 204.597	0.0011	0.0022	-0.0002	0.0009	0.0003	-0.0005	0.0008	0.0000	-0.0003	0.0008	0.0018	0.012	40
Na 589.592	24.6481	6.9727	23.7894	24.2394	22.5146	23.1089	13.6834	0.0239	0.0184	31.2758	0.14	0.4	750
Ni 231.604	0.0017	0.0017	0.0006	0.0035	0.0030	0.0013	0.0091	0.0000	0.0003	0.0236	0.0038	0.012	8
P 177.4 (icap 3)	0.0047	0.0068	0.0084	0.0113	0.0325	0.0408	0.0025	-0.0006	-0.0003	0.0054	0.033	0.2	50
Pb 220.353	0.0043	0.0079	0.0082	0.0256	0.0065	0.0078	0.0105	0.0010	0.0001	0.0050	0.0047	0.03	10
Sb 206.836	-0.0012	0.0010	-0.0012	-0.0002	0.0000	0.0013	0.0004	0.0006	0.0011	0.0009	0.0080	0.02	25
Se 196.026	0.0018	0.0013	0.0028	0.0014	-0.0012	0.0018	0.0003	0.0014	0.0003	0.0024	0.018	0.05	25
Si 251.611	19.4154	23.2839	18.2942	24.5633	18.9211	19.5294	18.7452	0.0486	0.0072	19.7189	0.087	0.2	50
Si 288.158 (n/a for icap 3)											n/a	n/a	n/a
Sn 189.927	0.0003	0.0003	0.0001	0.0004	0.0004	-0.0002	-0.0002	0.0003	0.0001	0.0000	0.0031	0.02	8
Sr 407.771	0.0836	0.0889	0.0728	0.0953	0.0813	0.0800	0.0909	-0.0001	0.0000	0.0890	0.0025	0.003	20
Sr 421.552	0.0846	0.0898	0.0730	0.0953	0.0826	0.0812	0.0928	0.0001	0.0000	0.0895	0.0025	0.003	8
Ti 334.940	0.0005	0.0006	0.0006	0.0005	0.0004	0.0005	0.0004	-0.0001	-0.0003	0.0004	0.0013	0.006	20
Ti 336.121	-0.0006	-0.0005	-0.0005	-0.0006	-0.0006	-0.0005	-0.0004	0.0001	-0.0001	-0.0005	0.0014	0.006	20
Tl 190.801	0.0012	0.0008	-0.0001	0.0003	0.0007	-0.0006	0.0009	0.0005	0.0005	0.0013	0.014	0.06	25
V 292.402	0.0008	0.0004	0.0008	0.0009	0.0006	0.0008	0.0003	0.0003	0.0002	0.0009	0.0009	0.005	75
Zn 213.857	0.0152	0.0137	0.0290	0.1211	0.0563	0.0425	0.0820	0.0006	0.0005	0.0315	0.0068	0.03	25

mg/L, concentration in the sample

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/18/19
Results Data Set: 2019-12-18b
Analysis: ICP-AES (w) metals
Analyst: AW

MDLs and RLs given in spreadsheet are based on undiluted sample
Actual MDLs and RLs vary by sample based on individual sample dilution

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit

Summary

	Measured Conc			
	1912011-35 7:30 PM	MDL	RL	Linearity Limit
Ag 328.068	*-0.0004*	0.0024	0.01	0.1
Ag 338.289	*0.0047*	0.013	0.025	0.1
Al 308.215	*-0.0477*	0.29	0.5	200
Al 396.153	*-0.0122*	0.093	0.5	750
As 189.042 (icap 3)	*-0.0004*	0.0052	0.04	25
As 193.696	*0.0017*	0.0090	0.04	25
B 249.677	0.0576	0.013	0.05	40
Ba 455.403	0.0318	0.00087	0.003	40
Be 313.042	*-0.0001*	0.00061	0.002	20
Ca 315.887	96.1467	0.22	0.5	750
Cd 214.440	*0.0001*	0.00028	0.002	10
Cd 226.502	*-0.0001*	0.00052	0.002	10
Co 228.616	*-0.0001*	0.00064	0.006	8
Cr 267.716	*0.0003*	0.0010	0.005	25
Cu 324.752	0.1122	0.0035	0.02	80
Cu 327.393	0.1126	0.0043	0.02	80
Fe 259.939	*0.0095*	0.019	0.08	500
Fe 273.955	*0.0020*	0.021	0.08	750
K 766.490	1.0603	0.10	0.8	750
Li 670.784	*0.0019*	0.0032	0.025	25
Mg 279.077	45.4517	0.048	0.2	500
Mg 280.271	43.4155	0.020	0.2	100
Mn 257.610	*0.0003*	0.0038	0.008	20
Mo 202.031	*0.0004*	0.0024	0.012	40
Mo 204.597	*-0.0001*	0.0018	0.012	40
Na 589.592	24.3138	0.14	0.4	750
Ni 231.604	*0.0008*	0.0038	0.012	8
P 177.4 (icap 3)	*0.0082*	0.033	0.2	50
Pb 220.353	*0.0098*	0.0047	0.03	10
Sb 206.836	*0.0003*	0.0080	0.02	25
Se 196.026	*-0.0005*	0.018	0.05	25
Si 251.611	18.4564	0.087	0.2	50
Si 288.158 (n/a for icap 3)		n/a	n/a	n/a
Sn 189.927	*0.0003*	0.0031	0.02	8
Sr 407.771	0.0749	0.0025	0.003	20
Sr 421.552	0.0743	0.0025	0.003	8
Ti 334.940	*0.0005*	0.0013	0.006	20
Ti 336.121	*-0.0005*	0.0014	0.006	20
Tl 190.801	*0.0000*	0.014	0.06	25
V 292.402	*0.0006*	0.0009	0.005	75
Zn 213.857	0.0332	0.0068	0.03	25

mg/L, concentration in the sample

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

REVIEWED
By Amanda Wroble at 2:38 pm, Dec 19, 2019

Sample Work Order: 1912011 Cal 1: 19I2001
Analysis Date: 12/19/19 Cal 2: 19E0902
Results Data Set: 2019-12-19 ICP FAST ISTD Y: 19D1201
Analysis: ICP-AES (w) metals
Analyst: AW

Sample List	Time	Initial Sample Volume (mL)	Sample Prep Volume (mL)	Aliquot Volume (mL)	Diluted to Volume (mL)	Y 224.306 Percent	Y 224.306 RSD	Y 360.073 Percent	Y 360.073 RSD	Y 371.030 Percent	Y 371.030 RSD
cal blank	8:10 AM					100.1	0.4	101.0	0.1	101.1	0.6
cal blank	8:13 AM					99.0	0.2	99.5	0.4	99.5	0.6
cal blank	8:16 AM					100.0	0.0	100.0	0.0	100.0	0.0
Cal 1	8:19 AM					97.2	0.1	98.9	0.4	98.8	0.6
Cal 2	8:22 AM					99.9	0.3	99.9	1.0	99.9	0.9
LCB	8:25 AM					98.6	1.1	99.7	0.3	99.8	0.1
RLC	8:27 AM					99.4	0.4	100.8	0.5	100.7	0.6
iLCM1	8:30 AM					97.4	1.0	100.3	0.4	100.1	0.3
iHiLCM	8:33 AM					90.2	0.4	97.0	0.6	97.4	0.8
iLCM2	8:36 AM					98.1	0.3	99.5	0.3	99.8	0.7
wash	8:38 AM					98.1	0.6	100.2	0.3	100.3	0.3
SIC Ba	8:41 AM					98.1	0.1	98.3	1.4	98.5	1.6
SIC Ca	8:44 AM					92.6	0.2	98.7	0.4	98.8	0.6
SIC Fe	8:47 AM					94.6	0.2	97.8	1.1	98.3	1.2
SIC Mg	8:50 AM					91.3	0.7	97.5	0.2	98.2	0.6
SIC Mn	8:53 AM					98.1	1.0	100.4	0.7	100.8	0.8
SIC Ni	8:56 AM					99.3	0.2	101.1	0.5	101.4	0.4
SIC Si	8:59 AM					99.6	0.1	101.4	0.4	101.7	0.2
LCB	9:02 AM					98.3	0.8	99.5	0.2	100.1	0.3
RLC	9:05 AM					98.2	0.8	100.7	0.3	101.3	0.3
LCM1	9:08 AM					97.1	0.2	100.9	0.5	101.3	0.4
HiLCM	9:10 AM					89.9	1.2	97.3	0.2	98.0	0.2
LCM2	9:13 AM					97.4	0.3	99.6	0.4	100.4	0.5
wash	9:16 AM					97.1	1.5	99.2	0.6	100.0	0.4
1912011-21	9:19 AM					90.8	0.3	97.0	0.1	97.6	0.2
B19L022-DUP3	9:22 AM					90.6	0.9	96.9	0.2	97.3	0.0
B19L022-MS3	9:24 AM					89.6	0.9	97.2	0.5	97.7	0.6
LCB	9:27 AM					98.5	0.1	98.8	0.7	99.6	0.6
RLC	9:30 AM					97.8	0.9	99.1	0.4	99.7	0.2
LCM1	9:33 AM					96.1	0.6	98.5	0.6	99.0	0.6
HiLCM	9:36 AM					89.2	0.3	96.8	0.5	97.1	0.9
LCM2	9:39 AM					98.8	0.6	100.2	0.4	100.8	0.5
Milli-Q	9:41 AM					98.1	0.9	101.1	0.5	101.5	0.5
Milli-Q	9:44 AM					98.9	0.5	100.2	0.6	100.8	0.4
Milli-Q	9:47 AM					99.4	0.4	101.3	0.7	102.0	1.0

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/19/19	LCM 2: 19I2002
Results Data Set:	2019-12-19	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument Blank (LCB)
Limit = ± MDL

	Measured Conc				
LCB	8:25 AM	9:02 AM	9:27 AM	MDL	RL
Ag 328.068	*0.0006*	*0.0005*	*0.0001*	0.0024	0.01
Ag 338.289	*0.0001*	*-0.0003*	*-0.0002*	0.013	0.025
Al 308.215	*0.0546*	*0.0538*	*0.0769*	0.29	0.5
Al 396.153	*0.0011*	*0.0034*	*0.0034*	0.093	0.5
As 189.042 (icap 3)	*0.0002*	*-0.0004*	*-0.0010*	0.0052	0.04
As 193.696	*0.0009*	*0.0015*	*0.0004*	0.0090	0.04
B 249.677	*0.0126*	*0.0041*	*0.0104*	0.013	0.05
Ba 455.403	*0.0002*	*0.0001*	*0.0001*	0.00087	0.003
Be 313.042	*0.0001*	*0.0000*	*0.0000*	0.00061	0.002
Ca 315.887	*-0.0013*	*0.0058*	*0.0500*	0.22	0.5
Cd 214.440	*0.0002*	*0.0000*	*0.0001*	0.00028	0.002
Cd 226.502	*0.0001*	*0.0000*	*0.0001*	0.00052	0.002
Co 228.616	*0.0002*	*0.0000*	*0.0000*	0.00064	0.006
Cr 267.716	*-0.0001*	*0.0001*	*0.0000*	0.0010	0.005
Cu 324.752	*0.0001*	*0.0006*	*0.0005*	0.0035	0.02
Cu 327.393	*0.0002*	*0.0000*	*0.0001*	0.0043	0.02
Fe 259.939	*-0.0121*	*-0.0033*	*-0.0050*	0.019	0.08
Fe 273.955	**0.0359**	**0.0493**	**0.0321**	0.021	0.08
K 766.490	*-0.0181*	*0.0059*	*0.0150*	0.10	0.8
Li 670.784	*0.0007*	*0.0002*	*0.0008*	0.0032	0.025
Mg 279.077	*-0.0275*	**-0.1023**	**0.0702**	0.048	0.2
Mg 280.271	*0.0006*	*0.0033*	**0.0217**	0.020	0.2
Mn 257.610	*0.0002*	*0.0009*	*0.0001*	0.0038	0.008
Mo 202.031	*0.0009*	*0.0002*	*0.0005*	0.0024	0.012
Mo 204.597	*0.0007*	*-0.0006*	*0.0001*	0.0018	0.012
Na 589.592	*0.0060*	*0.0016*	*0.0402*	0.14	0.4
Ni 231.604	*0.0008*	*0.0003*	*-0.0002*	0.0038	0.012
P 177.4 (icap 3)	*0.0016*	*0.0000*	*0.0010*	0.033	0.2
Pb 220.353	*0.0008*	*-0.0017*	*-0.0010*	0.0047	0.03
Sb 206.836	*0.0000*	*-0.0001*	*0.0012*	0.0080	0.02
Se 196.026	*0.0002*	*0.0006*	*0.0007*	0.018	0.05
Si 251.611	*0.0011*	*0.0053*	*0.0069*	0.087	0.2
Si 288.158 (n/a for icap 3)				n/a	n/a
Sn 189.927	*0.0001*	*0.0000*	*-0.0001*	0.0031	0.02
Sr 407.771	*-0.0001*	*-0.0002*	*0.0000*	0.0025	0.003
Sr 421.552	*0.0001*	*0.0000*	*0.0002*	0.0025	0.003
Ti 334.940	*0.0007*	*0.0000*	*-0.0001*	0.0013	0.006
Ti 336.121	*0.0010*	*0.0001*	*0.0001*	0.0014	0.006
Tl 190.801	*0.0005*	*0.0001*	*-0.0001*	0.014	0.06
V 292.402	*0.0002*	*0.0001*	*-0.0005*	0.00090	0.005
Zn 213.857	*0.0003*	*0.0000*	*0.0002*	0.0068	0.03

mg/L *|LCB| < MDL* **MDL ≤ |LCB| < RL** **|LCB| ≥ RL**

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/19/19	LCM 2: 19I2002
Results Data Set:	2019-12-19	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Reporting Limit Check (RLC)
% Recovery Limit = 100% ± 30%

RLC	Measured Conc 8:27 AM	9:05 AM	9:30 AM	Nominal Conc
Ag 328.068	0.0103	0.0102	0.0105	0.01
Ag 338.289	0.0094	0.0101	0.0097	0.01
Al 308.215	0.5676	0.5180	0.5670	0.5
Al 396.153	0.5021	0.5124	0.5313	0.5
As 189.042 (icap 3)	0.0394	0.0388	0.0388	0.04
As 193.696	0.0407	0.0407	0.0405	0.04
B 249.677	0.0541	0.0557	0.0579	0.05
Ba 455.403	0.0031	0.0033	0.0032	0.003
Be 313.042	0.0022	0.0021	0.0021	0.002
Ca 315.887	0.5107	0.4787	0.5327	0.5
Cd 214.440	0.0021	0.0022	0.0022	0.002
Cd 226.502	0.0020	0.0020	0.0021	0.002
Co 228.616	0.0065	0.0065	0.0067	0.006
Cr 267.716	0.0054	0.0053	0.0055	0.005
Cu 324.752	0.0211	0.0221	0.0216	0.02
Cu 327.393	0.0206	0.0208	0.0212	0.02
Fe 259.939	0.0763	0.0829	0.0740	0.08
Fe 273.955	0.1122	0.1199	0.1116	0.08
K 766.490	0.7370	0.7758	0.7890	0.8
Li 670.784	0.0259	0.0255	0.0266	0.025
Mg 279.077	0.1956	0.2033	0.2529	0.2
Mg 280.271	0.2087	0.2131	0.2247	0.2
Mn 257.610	0.0087	0.0087	0.0088	0.008
Mo 202.031	0.0129	0.0125	0.0129	0.012
Mo 204.597	0.0123	0.0121	0.0122	0.012
Na 589.592	0.4027	0.4013	0.4360	0.4
Ni 231.604	0.0135	0.0140	0.0137	0.012
P 177.4 (icap 3)	0.2058	0.2058	0.2100	0.2
Pb 220.353	0.0314	0.0312	0.0325	0.03
Sb 206.836	0.0200	0.0219	0.0204	0.02
Se 196.026	0.0559	0.0540	0.0561	0.05
Si 251.611	0.2623	0.2679	0.2774	0.2
Si 288.158 (n/a for icap 3)				n/a
Sn 189.927	0.0208	0.0207	0.0210	0.02
Sr 407.771	0.0031	0.0031	0.0032	0.003
Sr 421.552	0.0035	0.0034	0.0035	0.003
Ti 334.940	0.0070	0.0064	0.0064	0.006
Ti 336.121	0.0072	0.0065	0.0064	0.006
Tl 190.801	0.0646	0.0688	0.0686	0.06
V 292.402	0.0054	0.0052	0.0051	0.005
Zn 213.857	0.0327	0.0323	0.0331	0.03

mg/L

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/19/19	LCM 2: 19I2002
Results Data Set:	2019-12-19	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Reporting Limit Check (RLC)
% Recovery Limit = 100% ± 30%

RLC % recovery outside limit

Percent Recovery

RLC	8:27 AM	9:05 AM	9:30 AM
Ag 328.068	102.53	101.93	104.98
Ag 338.289	93.64	100.67	97.47
Al 308.215	113.52	103.60	113.40
Al 396.153	100.41	102.48	106.25
As 189.042 (icap 3)	98.62	97.07	97.07
As 193.696	101.70	101.87	101.17
B 249.677	108.23	111.39	115.87
Ba 455.403	102.45	108.63	106.31
Be 313.042	112.48	104.01	104.51
Ca 315.887	102.14	95.73	106.55
Cd 214.440	107.39	109.95	108.41
Cd 226.502	101.26	98.82	104.53
Co 228.616	109.15	108.74	111.31
Cr 267.716	108.92	106.43	109.43
Cu 324.752	105.29	110.58	107.85
Cu 327.393	103.04	103.87	105.78
Fe 259.939	95.43	103.65	92.49
Fe 273.955	**140.26**	**149.92**	**139.51**
K 766.490	92.13	96.98	98.62
Li 670.784	103.74	101.93	106.32
Mg 279.077	97.78	101.64	126.45
Mg 280.271	104.35	106.56	112.34
Mn 257.610	108.43	108.98	110.00
Mo 202.031	107.23	103.79	107.43
Mo 204.597	102.21	100.69	101.97
Na 589.592	100.68	100.34	109.01
Ni 231.604	112.24	116.65	114.40
P 177.4 (icap 3)	102.91	102.92	104.99
Pb 220.353	104.73	104.12	108.30
Sb 206.836	99.76	109.72	101.96
Se 196.026	111.72	108.01	112.26
Si 251.611	**131.15**	**133.93**	**138.68**
Si 288.158 (n/a for icap 3)			
Sn 189.927	103.82	103.58	105.10
Sr 407.771	102.61	103.69	107.09
Sr 421.552	115.98	113.93	116.03
Ti 334.940	117.27	107.05	106.95
Ti 336.121	120.00	107.99	106.61
Tl 190.801	107.65	114.73	114.39
V 292.402	107.25	103.88	102.30
Zn 213.857	108.87	107.64	110.49

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/19/19	LCM 2: 19I2002
Results Data Set:	2019-12-19	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument QC

ICV % Recovery Limit = 100% ± 5%
CCV % Recovery Limit = 100% ± 10%

LCM1	Measured Conc 8:30 AM	9:08 AM	9:33 AM	Nominal Conc
Al 308.215	1.0557	1.0752	1.0579	1
Al 396.153	0.9996	0.9964	1.0102	1
As 189.042 (icap 3)	1.9991	1.9790	2.0240	2
As 193.696	2.0024	1.9881	2.0243	2
B 249.677	0.9883	0.9793	1.0083	1
Ba 455.403	0.9952	0.9825	0.9912	1
Be 313.042	1.0134	1.0027	1.0256	1
Ca 315.887	1.0110	0.9813	1.0572	1
Cd 214.440	1.0384	1.0274	1.0484	1
Cd 226.502	1.0333	1.0256	1.0447	1
Co 228.616	1.0441	1.0417	1.0621	1
Cr 267.716	1.0337	1.0238	1.0555	1
Cu 324.752	1.0325	1.0301	1.0463	1
Cu 327.393	1.0302	1.0315	1.0504	1
Fe 259.939	1.0001	1.0312	1.0432	1
Fe 273.955	1.0548	1.0226	1.0430	1
K 766.490	4.8573	4.8780	4.9457	5
Li 670.784	0.9956	0.9974	1.0019	1
Mg 279.077	1.0194	0.9919	1.0396	1
Mg 280.271	1.0223	1.0182	1.0523	1
Mn 257.610	1.0156	1.0071	1.0297	1
Mo 202.031	1.0782	1.0712	1.0920	1
Mo 204.597	1.0609	1.0726	1.0929	1
Na 589.592	0.9941	1.0036	1.0371	1
Ni 231.604	1.0834	1.0910	1.1113	1
P 177.4 (icap 3)	4.9986	4.9731	5.0790	5
Pb 220.353	2.1070	2.0796	2.1319	2
Sb 206.836	2.0985	2.0803	2.1311	2
Se 196.026	0.9830	0.9799	0.9975	1
Si 251.611	5.1952	5.1879	5.3482	5
Si 288.158 (n/a for icap 3)				n/a
Sn 189.927	5.3491	5.3456	5.4106	5
Sr 407.771	0.9907	0.9870	0.9959	1
Sr 421.552	1.0321	1.0330	1.0488	1
Ti 334.940	1.0541	1.0565	1.0766	1
Ti 336.121	1.0449	1.0412	1.0628	1
Tl 190.801	5.2864	5.3703	5.4657	5
V 292.402	1.0045	0.9967	1.0175	1
Zn 213.857	1.0518	1.0430	1.0638	1

mg/L

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/19/19	LCM 2: 19I2002
Results Data Set:	2019-12-19	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument QC
ICV % Recovery Limit = 100% ± 5%
CCV % Recovery Limit = 100% ± 10%

ICV or CCV % recovery outside limit

Percent Recovery

LCM1	8:30 AM	9:08 AM	9:33 AM
Al 308.215	**105.57**	107.52	105.79
Al 396.153	99.96	99.64	101.02
As 189.042 (icap 3)	99.95	98.95	101.20
As 193.696	100.12	99.41	101.22
B 249.677	98.83	97.93	100.83
Ba 455.403	99.52	98.25	99.12
Be 313.042	101.34	100.27	102.56
Ca 315.887	101.10	98.13	105.72
Cd 214.440	103.84	102.74	104.84
Cd 226.502	103.33	102.56	104.47
Co 228.616	104.41	104.17	106.21
Cr 267.716	103.37	102.38	105.55
Cu 324.752	103.25	103.01	104.63
Cu 327.393	103.02	103.15	105.04
Fe 259.939	100.01	103.12	104.32
Fe 273.955	**105.48**	102.26	104.30
K 766.490	97.15	97.56	98.91
Li 670.784	99.56	99.74	100.19
Mg 279.077	101.94	99.19	103.96
Mg 280.271	102.23	101.82	105.23
Mn 257.610	101.56	100.71	102.97
Mo 202.031	**107.82**	107.12	109.20
Mo 204.597	**106.09**	107.26	109.29
Na 589.592	99.41	100.36	103.71
Ni 231.604	**108.34**	109.10	**111.13**
P 177.4 (icap 3)	99.97	99.46	101.58
Pb 220.353	**105.35**	103.98	106.60
Sb 206.836	104.92	104.01	106.55
Se 196.026	98.30	97.99	99.75
Si 251.611	103.90	103.76	106.96
Si 288.158 (n/a for icap 3)			
Sn 189.927	**106.98**	106.91	108.21
Sr 407.771	99.07	98.70	99.59
Sr 421.552	103.21	103.30	104.88
Ti 334.940	**105.41**	105.65	107.66
Ti 336.121	104.49	104.12	106.28
Tl 190.801	**105.73**	107.41	109.31
V 292.402	100.45	99.67	101.75
Zn 213.857	**105.18**	104.30	106.38

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	LCM 1: 19I0505
Analysis Date:	12/19/19	LCM 2: 19I2002
Results Data Set:	2019-12-19	LCM HI: 19I0502
Analysis:	ICP-AES (w) metals	RLC: 19G1610
Analyst:	AW	

Instrument QC

ICV or CCV % recovery outside limit

ICV % Recovery Limit = 100% ± 5%
CCV % Recovery Limit = 100% ± 10%

Measured Conc

LCM2	8:36 AM	9:13 AM	9:39 AM	Nominal Conc
Ag 328.068	0.0486	0.0486	0.0488	0.05
Ag 338.289	0.0482	0.0488	0.0494	0.05

mg/L

Percent Recovery

LCM2	8:36 AM	9:13 AM	9:39 AM
Ag 328.068	97.10	97.25	97.59
Ag 338.289	96.36	97.60	98.85

Measured Conc

HiLCM	8:33 AM	9:10 AM	9:36 AM	Nominal Conc
Al 308.215	101.535	101.104	101.644	100
Al 396.153	102.027	101.519	102.490	100
Ca 315.887	100.412	98.958	100.043	100
Fe 259.939	98.966	99.527	100.271	100
Fe 273.955	99.584	100.102	100.769	100
K 766.490	103.545	104.250	104.371	100
Mg 279.077	60.888	61.230	61.932	60
Mg 280.271	57.355	56.741	57.221	60
Na 589.592	103.196	103.099	103.977	100

mg/L

Percent Recovery

HiLCM	8:33 AM	9:10 AM	9:36 AM
Al 308.215	101.54	101.10	101.64
Al 396.153	102.03	101.52	102.49
Ca 315.887	100.41	98.96	100.04
Fe 259.939	98.97	99.53	100.27
Fe 273.955	99.58	100.10	100.77
K 766.490	103.54	104.25	104.37
Mg 279.077	101.48	102.05	103.22
Mg 280.271	95.59	94.57	95.37
Na 589.592	103.20	103.10	103.98

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	SIC Al: 19K0701	SIC Fe: 19L1809	SIC Si: 19K0703
Analysis Date:	12/19/19	SIC Ba: 19K0702	SIC Mg: 19L1811	SIC Sn: 19I2003
Results Data Set:	2019-12-19	SIC Ca: 19L1808	SIC Mn: 19L1810	SIC Ti: 19K0704
Analysis:	ICP-AES (w) metals	SIC Cr: 19K1301	SIC Mo: 19K1303	SIC V: 19K1305
Analyst:	AW	SIC Cu: 19K1302	SIC Ni: 19K1304	

Spectral Interference Check (SIC)

Limit = ± RL

	Measured Conc							
	SIC Al	SIC Ba	SIC Ca	SIC Cr	SIC Cu	SIC Fe	SIC Mg	
	Al 200	Ba 10	Ca 200	Cr 20	Cu 20	Fe 300	Mg 200	
SIC		8:41 AM	8:44 AM			8:47 AM	8:50 AM	RL
Ag 328.068		0.0001	-0.0002			-0.0020	0.0001	0.01
Ag 338.289		-0.0005	0.0055			0.0006	-0.0003	0.025
Al 308.215		0.0075	0.0406			0.0394	0.0388	0.5
Al 396.153		0.0025	0.0013			0.0063	0.0209	0.5
As 189.042 (icap 3)		0.0003	-0.0011			-0.0043	-0.0014	0.04
As 193.696		-0.0006	0.0016			-0.0187	-0.0001	0.04
B 249.677		0.0046	-0.0009			-0.0342	0.0054	0.05
Ba 455.403		9.7289	0.0015			0.0005	0.0002	0.003
Be 313.042		0.0000	0.0000			0.0000	0.0001	0.002
Ca 315.887		0.0081	190.403			0.0166	0.0060	0.5
Cd 214.440		-0.0001	0.0001			0.0000	-0.0001	0.002
Cd 226.502		0.0000	0.0000			0.0000	0.0001	0.002
Co 228.616		-0.0004	0.0002			0.0009	0.0002	0.006
Cr 267.716		-0.0002	0.0001			0.0037	0.0009	0.005
Cu 324.752		0.0002	0.0012			-0.0077	0.0021	0.02
Cu 327.393		0.0002	0.0026			-0.0004	0.0007	0.02
Fe 259.939		-0.0026	-0.0043			282.534	0.0377	0.08
Fe 273.955		0.0421	0.0401			284.555	0.0369	0.08
K 766.490		0.0026	-0.0151			-0.0056	-0.0143	0.8
Li 670.784		0.0029	0.0018			0.0006	0.0008	0.025
Mg 279.077		0.0032	-0.0418			0.0853	210.567	0.2
Mg 280.271		0.0010	0.0073			0.0024	168.879	0.2
Mn 257.610		0.0000	0.0001			0.0039	0.0062	0.008
Mo 202.031		0.0004	0.0006			-0.0033	0.0002	0.012
Mo 204.597		0.0007	-0.0007			0.0014	-0.0003	0.012
Na 589.592		0.0058	0.0120			0.0180	0.0123	0.4
Ni 231.604		0.0001	0.0006			0.0087	0.0013	0.012
P 177.4 (icap 3)		0.0014	0.0014			0.0072	0.0010	0.2
Pb 220.353		-0.0010	-0.0015			0.0014	0.0006	0.03
Sb 206.836		-0.0008	-0.0001			-0.0200	-0.0009	0.02
Se 196.026		0.0002	0.0005			0.0004	0.0003	0.05
Si 251.611		0.0076	0.0035			-0.0370	0.0109	0.2
Si 288.158 (n/a for icap 3)								n/a
Sn 189.927		0.0001	-0.0005			0.0011	0.0004	0.02
Sr 407.771		0.0000	**0.0053**			-0.0001	0.0000	0.003
Sr 421.552		0.0001	**0.0057**			0.0001	0.0001	0.003
Ti 334.940		0.0001	0.0008			0.0001	**0.0066**	0.006
Ti 336.121		0.0002	-0.0004			0.0003	**0.0068**	0.006
Tl 190.801		-0.0006	0.0023			-0.0343	0.0009	0.06
V 292.402		0.0000	0.0001			0.0015	0.0007	0.005
Zn 213.857		0.0000	0.0011			0.0237	0.0015	0.03

mg/L **|SIC| ≥ RL**

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	SIC Al: 19K0701	SIC Fe: 19L1809	SIC Si: 19K0703
Analysis Date:	12/19/19	SIC Ba: 19K0702	SIC Mg: 19L1811	SIC Sn: 19I2003
Results Data Set:	2019-12-19	SIC Ca: 19L1808	SIC Mn: 19L1810	SIC Ti: 19K0704
Analysis:	ICP-AES (w) metals	SIC Cr: 19K1301	SIC Mo: 19K1303	SIC V: 19K1305
Analyst:	AW	SIC Cu: 19K1302	SIC Ni: 19K1304	

Spectral Interference Check (SIC)

Limit = ± RL

	Measured Conc							
	SIC Mn	SIC Mo	SIC Ni	SIC Si	SIC Sn	SIC Ti	SIC V	
	Mn 20	Mo 20	Ni 10	Si 30	Sn 10	Ti 10	V 20	
SIC	8:53 AM		8:56 AM	8:59 AM				RL
Ag 328.068	-0.0006		0.0005	0.0001				0.01
Ag 338.289	-0.0004		0.0003	0.0002				0.025
Al 308.215	0.0267		0.0613	0.0369				0.5
Al 396.153	0.0033		0.0092	0.0079				0.5
As 189.042 (icap 3)	0.0011		-0.0006	-0.0036				0.04
As 193.696	-0.0007		-0.0008	0.0002				0.04
B 249.677	0.0002		0.0044	0.0024				0.05
Ba 455.403	0.0002		0.0002	0.0006				0.003
Be 313.042	0.0000		0.0000	0.0000				0.002
Ca 315.887	0.0020		0.0120	-0.0121				0.5
Cd 214.440	0.0000		0.0000	0.0000				0.002
Cd 226.502	-0.0001		-0.0006	0.0000				0.002
Co 228.616	0.0003		0.0021	-0.0004				0.006
Cr 267.716	-0.0003		0.0003	-0.0003				0.005
Cu 324.752	0.0001		0.0003	0.0005				0.02
Cu 327.393	0.0004		0.0002	0.0000				0.02
Fe 259.939	-0.0073		0.0152	0.0058				0.08
Fe 273.955	0.0407		0.0413	0.0414				0.08
K 766.490	0.0001		0.0102	-0.0025				0.8
Li 670.784	-0.0003		0.0007	0.0004				0.025
Mg 279.077	0.0449		-0.0190	-0.0064				0.2
Mg 280.271	0.0231		0.0170	0.0151				0.2
Mn 257.610	18.019		0.0027	0.0010				0.008
Mo 202.031	-0.0001		0.0005	0.0003				0.012
Mo 204.597	-0.0007		0.0001	-0.0015				0.012
Na 589.592	0.0111		0.0077	0.0112				0.4
Ni 231.604	-0.0025		10.7177	0.0015				0.012
P 177.4 (icap 3)	0.0016		0.0093	0.0016				0.2
Pb 220.353	0.0016		-0.0006	0.0026				0.03
Sb 206.836	-0.0013		0.0002	-0.0001				0.02
Se 196.026	0.0020		-0.0004	0.0000				0.05
Si 251.611	0.0099		0.0142	29.257				0.2
Si 288.158 (n/a for icap 3)								n/a
Sn 189.927	0.0001		0.0003	-0.0004				0.02
Sr 407.771	-0.0001		0.0000	0.0000				0.003
Sr 421.552	0.0000		0.0000	0.0000				0.003
Ti 334.940	0.0000		0.0000	0.0001				0.006
Ti 336.121	0.0002		-0.0022	0.0002				0.006
Tl 190.801	0.0306		0.0011	0.0007				0.06
V 292.402	0.0012		0.0002	0.0000				0.005
Zn 213.857	0.0008		0.0181	0.0003				0.03

mg/L **|SIC| ≥ RL**

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/19/19
Results Data Set: 2019-12-19
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit
~~*spike < 0.3* sample conc*~~

Digestion Laboratory Duplicate (DUP)
|Δ| ≤ MDL when near MDL
RPD Limit ≤ 20%

	Measured Conc 1912011-21 9:19 AM	B19L022-DUP3 9:22 AM	Absolute Difference	MDL	RL	RPD		Linearity Limit
Ag 328.068	0.0001	-0.0002	0.0003	0.0024	0.01	648.99	*	0.1
Ag 338.289	0.0065	0.0063	0.0001	0.013	0.025	1.77		0.1
Al 308.215	0.0806	0.1122	0.0317	0.29	0.5	32.85	*	200
Al 396.153	0.0557	0.0581	0.0024	0.093	0.5	4.15		750
As 189.042 (icap 3)	0.0142	0.0157	0.0014	0.0052	0.04	9.69		25
As 193.696	0.0158	0.0169	0.0010	0.0090	0.04	6.37		25
B 249.677	0.0514	0.0639	0.0124	0.013	0.05	21.57	*	40
Ba 455.403	0.0558	0.0574	0.0016	0.00087	0.003	2.80		40
Be 313.042	0.0000	0.0000	0.0000	0.00061	0.002	321.83	*	20
Ca 315.887	107.7450	108.7370	0.9920	0.22	0.5	0.92		750
Cd 214.440	0.0001	0.0001	0.0000	0.00028	0.002	26.14	*	10
Cd 226.502	-0.0001	0.0000	0.0000	0.00052	0.002	45.75	*	10
Co 228.616	0.0005	0.0005	0.0001	0.00064	0.006	17.68		8
Cr 267.716	0.0000	0.0005	0.0005	0.0010	0.005	186.01	*	25
Cu 324.752	0.0036	0.0044	0.0007	0.0035	0.02	18.50		80
Cu 327.393	0.0038	0.0034	0.0004	0.0043	0.02	12.16		80
Fe 259.939	3.6255	3.6976	0.0722	0.019	0.08	1.97		500
Fe 273.955	3.5772	3.6309	0.0538	0.021	0.08	1.49		750
K 766.490	1.3219	1.3800	0.0581	0.10	0.8	4.30		750
Li 670.784	0.0040	0.0045	0.0004	0.0032	0.025	10.06		25
Mg 279.077	51.1462	51.9413	0.7950	0.048	0.2	1.54		500
Mg 280.271	48.1316	48.8064	0.6748	0.020	0.2	1.39		100
Mn 257.610	0.0974	0.0991	0.0017	0.0038	0.008	1.71		20
Mo 202.031	0.0017	0.0020	0.0002	0.0024	0.012	11.16		40
Mo 204.597	-0.0010	0.0002	0.0013	0.0018	0.012	329.23	*	40
Na 589.592	33.8445	34.7222	0.8776	0.14	0.4	2.56		750
Ni 231.604	0.0265	0.0262	0.0004	0.0038	0.012	1.37		8
P 177.4 (icap 3)	0.0056	0.0067	0.0011	0.033	0.2	18.06		50
Pb 220.353	0.0035	0.0035	0.0000	0.0047	0.03	0.00		10
Sb 206.836	-0.0007	-0.0015	0.0008	0.0080	0.02	71.45	*	25
Se 196.026	0.0004	-0.0005	0.0010	0.018	0.05	1521.30	*	25
Si 251.611	21.8401	22.4451	0.6050	0.087	0.2	2.73		50
Si 288.158 (n/a for icap 3)								
Sn 189.927	-0.0003	-0.0003	0.0000	0.0031	0.02	8.97		8
Sr 407.771	0.0976	0.0995	0.0019	0.0025	0.003	1.96		20
Sr 421.552	0.1019	0.1038	0.0019	0.0025	0.003	1.89		8
Ti 334.940	0.0008	0.0009	0.0001	0.0013	0.006	11.80		20
Ti 336.121	-0.0002	-0.0004	0.0002	0.0014	0.006	54.43	*	20
Tl 190.801	0.0006	0.0011	0.0005	0.014	0.06	62.55	*	25
V 292.402	0.0011	0.0007	0.0004	0.00090	0.005	46.72	*	75
Zn 213.857	0.0347	0.0348	0.0001	0.0068	0.03	0.38		25

An asterisk indicates |Δ| ≤ MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and duplicate

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order:	1912011	Spike A+B: 19E1409	*|conc| < RL*
Analysis Date:	12/19/19		RL ≤ |conc| ≤ linearity limit
Results Data Set:	2019-12-19		conc > linearity limit
Analysis:	ICP-AES (w) metals		**RPD outside limit**
Analyst:	AW		**MS % rec outside limit**

Digestion Matrix Spike (MS)

% Recovery Limit = 100% ± 25%

	Measured Conc				Spike A+B		
	1912011-21 9:19 AM	B19L022-MS3 9:24 AM	MDL	RL	Spike Added	Percent Recovery	Linearity Limit
Ag 328.068	*0.0001*	0.0236	0.0024	0.01	0.025	94.09	0.1
Ag 338.289	*0.0065*	0.0286	0.013	0.025	0.025	88.56	0.1
Al 308.215	*0.0806*	1.1211	0.29	0.5	1	104.05	200
Al 396.153	*0.0557*	1.0788	0.093	0.5	1	102.31	750
As 189.042 (icap 3)	*0.0142*	0.2213	0.0052	0.04	0.2	103.52	25
As 193.696	*0.0158*	0.2269	0.0090	0.04	0.2	105.54	25
B 249.677	0.0514	1.0641	0.013	0.05	1	101.26	40
Ba 455.403	0.0558	0.2669	0.00087	0.003	0.2	105.57	40
Be 313.042	*0.0000*	0.0106	0.00061	0.002	0.01	105.88	20
Ca 315.887	107.7450	154.663	0.22	0.5	50	93.84	750
Cd 214.440	*0.0001*	0.0507	0.00028	0.002	0.05	101.08	10
Cd 226.502	*-0.0001*	0.0503	0.00052	0.002	0.05	100.64	10
Co 228.616	*0.0005*	0.0999	0.00064	0.006	0.1	99.38	8
Cr 267.716	*0.0000*	0.1040	0.0010	0.005	0.1	103.97	25
Cu 324.752	*0.0036*	0.1132	0.0035	0.02	0.1	109.54	80
Cu 327.393	*0.0038*	0.1137	0.0043	0.02	0.1	109.89	80
Fe 259.939	3.6255	4.6162	0.019	0.08	~~1~~	99.08	500
Fe 273.955	3.5772	4.4957	0.021	0.08	~~1~~	91.85	750
K 766.490	1.3219	27.672	0.10	0.8	25	105.40	750
Li 670.784	*0.0040*	0.1141	0.0032	0.025	0.1	110.02	25
Mg 279.077	51.1462	71.328	0.048	0.2	20	100.91	500
Mg 280.271	48.1316	65.307	0.020	0.2	20	85.88	100
Mn 257.610	0.0974	0.2950	0.0038	0.008	0.2	98.82	20
Mo 202.031	*0.0017*	0.1077	0.0024	0.012	0.1	105.96	40
Mo 204.597	*-0.0010*	0.1069	0.0018	0.012	0.1	107.90	40
Na 589.592	33.8445	86.322	0.14	0.4	50	104.96	750
Ni 231.604	0.0265	0.2317	0.0038	0.012	0.2	102.59	8
P 177.4 (icap 3)	*0.0056*	1.1150	0.033	0.2	1	110.95	50
Pb 220.353	*0.0035*	0.5017	0.0047	0.03	0.5	99.64	10
Sb 206.836	*-0.0007*	0.5233	0.0080	0.02	0.5	104.81	25
Se 196.026	*0.0004*	0.5192	0.018	0.05	0.5	103.77	25
Si 251.611	21.8401	32.1891	0.087	0.2	10	103.49	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	*-0.0003*	0.5113	0.0031	0.02	0.5	102.32	8
Sr 407.771	0.0976	1.1092	0.0025	0.003	1	101.16	20
Sr 421.552	0.1019	1.1389	0.0025	0.003	1	103.70	8
Ti 334.940	*0.0008*	0.1111	0.0013	0.006	0.1	110.33	20
Ti 336.121	*-0.0002*	0.1084	0.0014	0.006	0.1	108.61	20
Tl 190.801	*0.0006*	0.4979	0.014	0.06	0.5	99.46	25
V 292.402	*0.0011*	0.1059	0.00090	0.005	0.1	104.89	75
Zn 213.857	0.0347	1.0740	0.0068	0.03	1	103.93	25

mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and matrix spike

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/19/19
Results Data Set: 2019-12-19
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit
~~*spike < 0.3* sample conc*~~

Digestion Laboratory Duplicate (DUP) Comparison of Run 1 -21 with Run 2 -DUP3
|Δ| ≤ MDL when near MDL
RPD Limit ≤ 20%

	Measured Conc 1912011-21 6:56 PM	B19L022-DUP3 9:22 AM	Absolute Difference	MDL	RL	RPD		Linearity Limit
Ag 328.068	-0.0003	-0.0002	0.0001	0.0024	0.01	24.43	*	0.1
Ag 338.289	0.0050	0.0063	0.0014	0.013	0.025	24.52	*	0.1
Al 308.215	0.0035	0.1122	0.1087	0.29	0.5	187.80	*	200
Al 396.153	0.0330	0.0581	0.0251	0.093	0.5	55.03	*	750
As 189.042 (icap 3)	0.0122	0.0157	0.0035	0.0052	0.04	24.81	*	25
As 193.696	0.0135	0.0169	0.0034	0.0090	0.04	22.17	*	25
B 249.677	0.0562	0.0639	0.0076	0.013	0.05	12.70		40
Ba 455.403	0.0516	0.0574	0.0057	0.00087	0.003	10.53		40
Be 313.042	-0.0001	0.0000	0.0001	0.00061	0.002	205.87	*	20
Ca 315.887	100.3474	108.7370	8.3897	0.22	0.5	8.03		750
Cd 214.440	0.0001	0.0001	0.0000	0.00028	0.002	3.57		10
Cd 226.502	-0.0001	0.0000	0.0001	0.00052	0.002	128.19	*	10
Co 228.616	0.0003	0.0005	0.0002	0.00064	0.006	52.58	*	8
Cr 267.716	-0.0001	0.0005	0.0007	0.0010	0.005	291.69	*	25
Cu 324.752	0.0019	0.0044	0.0024	0.0035	0.02	77.30	*	80
Cu 327.393	0.0032	0.0034	0.0002	0.0043	0.02	4.92		80
Fe 259.939	3.2634	3.6976	0.4342	0.019	0.08	12.48		500
Fe 273.955	3.2705	3.6309	0.3604	0.021	0.08	10.44		750
K 766.490	1.2527	1.3800	0.1273	0.10	0.8	9.67		750
Li 670.784	0.0021	0.0045	0.0023	0.0032	0.025	70.19	*	25
Mg 279.077	46.1229	51.9413	5.8184	0.048	0.2	11.87		500
Mg 280.271	44.4404	48.8064	4.3660	0.020	0.2	9.36		100
Mn 257.610	0.0886	0.0991	0.0105	0.0038	0.008	11.18		20
Mo 202.031	0.0016	0.0020	0.0004	0.0024	0.012	20.90	*	40
Mo 204.597	0.0008	0.0002	0.0006	0.0018	0.012	106.63	*	40
Na 589.592	31.2758	34.7222	3.4463	0.14	0.4	10.44		750
Ni 231.604	0.0236	0.0262	0.0025	0.0038	0.012	10.10		8
P 177.4 (icap 3)	0.0054	0.0067	0.0013	0.033	0.2	21.57	*	50
Pb 220.353	0.0050	0.0035	0.0016	0.0047	0.03	36.59	*	10
Sb 206.836	0.0009	-0.0015	0.0024	0.0080	0.02	812.96	*	25
Se 196.026	0.0024	-0.0005	0.0030	0.018	0.05	315.84	*	25
Si 251.611	19.7189	22.4451	2.7261	0.087	0.2	12.93		50
Si 288.158 (n/a for icap 3)								
Sn 189.927	0.0000	-0.0003	0.0002	0.0031	0.02	145.24	*	8
Sr 407.771	0.0890	0.0995	0.0105	0.0025	0.003	11.11		20
Sr 421.552	0.0895	0.1038	0.0143	0.0025	0.003	14.80		8
Ti 334.940	0.0004	0.0009	0.0005	0.0013	0.006	79.14	*	20
Ti 336.121	-0.0005	-0.0004	0.0001	0.0014	0.006	22.19	*	20
Tl 190.801	0.0013	0.0011	0.0002	0.014	0.06	17.88		25
V 292.402	0.0009	0.0007	0.0003	0.00090	0.005	33.57	*	75
Zn 213.857	0.0315	0.0348	0.0033	0.0068	0.03	10.00		25

An asterisk indicates |Δ| ≤ MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and duplicate

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/19/19
Results Data Set: 2019-12-19
Analysis: ICP-AES (w) metals
Analyst: AW

Spike A+B: 19E1409

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit

Digestion Matrix Spike (MS) Comparison of Run 1 -21 with Run 2 -MS3
% Recovery Limit = 100% ± 25%

	Measured Conc 1912011-21 6:56 PM	Measured Conc B19L022-MS3 9:24 AM	MDL	RL	Spike A+B Spike Added	Percent Recovery	Linearity Limit
Ag 328.068	*-0.0003*	0.0236	0.0024	0.01	0.025	95.67	0.1
Ag 338.289	*0.0050*	0.0286	0.013	0.025	0.025	94.56	0.1
Al 308.215	*0.0035*	1.1211	0.29	0.5	1	111.75	200
Al 396.153	*0.0330*	1.0788	0.093	0.5	1	104.58	750
As 189.042 (icap 3)	*0.0122*	0.2213	0.0052	0.04	0.2	104.53	25
As 193.696	*0.0135*	0.2269	0.0090	0.04	0.2	106.71	25
B 249.677	0.0562	1.0641	0.013	0.05	1	100.78	40
Ba 455.403	0.0516	0.2669	0.00087	0.003	0.2	107.65	40
Be 313.042	*-0.0001*	0.0106	0.00061	0.002	0.01	106.56	20
Ca 315.887	100.3474	154.663	0.22	0.5	50	108.63	750
Cd 214.440	*0.0001*	0.0507	0.00028	0.002	0.05	101.13	10
Cd 226.502	*-0.0001*	0.0503	0.00052	0.002	0.05	100.83	10
Co 228.616	*0.0003*	0.0999	0.00064	0.006	0.1	99.66	8
Cr 267.716	*-0.0001*	0.1040	0.0010	0.005	0.1	104.09	25
Cu 324.752	*0.0019*	0.1132	0.0035	0.02	0.1	111.25	80
Cu 327.393	*0.0032*	0.1137	0.0043	0.02	0.1	110.50	80
Fe 259.939	3.2634	4.6162	0.019	0.08	1	**135.28**	500
Fe 273.955	3.2705	4.4957	0.021	0.08	1	122.52	750
K 766.490	1.2527	27.672	0.10	0.8	25	105.68	750
Li 670.784	*0.0021*	0.1141	0.0032	0.025	0.1	111.91	25
Mg 279.077	46.1229	71.328	0.048	0.2	20	**126.03**	500
Mg 280.271	44.4404	65.307	0.020	0.2	20	104.33	100
Mn 257.610	0.0886	0.2950	0.0038	0.008	0.2	103.23	20
Mo 202.031	*0.0016*	0.1077	0.0024	0.012	0.1	106.12	40
Mo 204.597	*0.0008*	0.1069	0.0018	0.012	0.1	106.07	40
Na 589.592	31.2758	86.322	0.14	0.4	50	110.09	750
Ni 231.604	0.0236	0.2317	0.0038	0.012	0.2	104.03	8
P 177.4 (icap 3)	*0.0054*	1.1150	0.033	0.2	1	110.97	50
Pb 220.353	*0.0050*	0.5017	0.0047	0.03	0.5	99.33	10
Sb 206.836	*0.0009*	0.5233	0.0080	0.02	0.5	104.49	25
Se 196.026	*0.0024*	0.5192	0.018	0.05	0.5	103.37	25
Si 251.611	19.7189	32.1891	0.087	0.2	10	124.70	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	*0.0000*	0.5113	0.0031	0.02	0.5	102.28	8
Sr 407.771	0.0890	1.1092	0.0025	0.003	1	102.02	20
Sr 421.552	0.0895	1.1389	0.0025	0.003	1	104.93	8
Ti 334.940	*0.0004*	0.1111	0.0013	0.006	0.1	110.72	20
Ti 336.121	*-0.0005*	0.1084	0.0014	0.006	0.1	108.87	20
Tl 190.801	*0.0013*	0.4979	0.014	0.06	0.5	99.31	25
V 292.402	*0.0009*	0.1059	0.00090	0.005	0.1	105.02	75
Zn 213.857	0.0315	1.0740	0.0068	0.03	1	104.25	25

mg/L, concentration in the sample MDLs/RLs/Lin Lims shown above assume common dilution for sample and matrix spike

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011 Spike A+B: 19E1409
Analysis Date: 12/19/19
Results Data Set: 2019-12-19
Analysis: ICP-AES (w) metals
Analyst: AW

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit
~~*spike < 0.3* sample conc*~~

Digestion Laboratory Duplicate (DUP) Comparison of Run 1 -21 with Run 2 -21
|Δ| ≤ MDL when near MDL
RPD Limit ≤ 20%

	Measured Conc 1912011-21 6:56 PM	1912011-21 9:19 AM	Absolute Difference	MDL	RL	RPD		Linearity Limit
Ag 328.068	-0.0003	0.0001	0.0004	0.0024	0.01	482.24	*	0.1
Ag 338.289	0.0050	0.0065	0.0015	0.013	0.025	26.27	*	0.1
Al 308.215	0.0035	0.0806	0.0770	0.29	0.5	183.21	*	200
Al 396.153	0.0330	0.0557	0.0227	0.093	0.5	51.17	*	750
As 189.042 (icap 3)	0.0122	0.0142	0.0020	0.0052	0.04	15.22		25
As 193.696	0.0135	0.0158	0.0023	0.0090	0.04	15.86		25
B 249.677	0.0562	0.0514	0.0048	0.013	0.05	8.93		40
Ba 455.403	0.0516	0.0558	0.0042	0.00087	0.003	7.74		40
Be 313.042	-0.0001	0.0000	0.0001	0.00061	0.002	176.68	*	20
Ca 315.887	100.3474	107.7450	7.3976	0.22	0.5	7.11		750
Cd 214.440	0.0001	0.0001	0.0000	0.00028	0.002	22.62	*	10
Cd 226.502	-0.0001	-0.0001	0.0001	0.00052	0.002	96.61	*	10
Co 228.616	0.0003	0.0005	0.0003	0.00064	0.006	68.67	*	8
Cr 267.716	-0.0001	0.0000	0.0001	0.0010	0.005	296.49	*	25
Cu 324.752	0.0019	0.0036	0.0017	0.0035	0.02	60.98	*	80
Cu 327.393	0.0032	0.0038	0.0006	0.0043	0.02	17.06		80
Fe 259.939	3.2634	3.6255	0.3620	0.019	0.08	10.51		500
Fe 273.955	3.2705	3.5772	0.3067	0.021	0.08	8.96		750
K 766.490	1.2527	1.3219	0.0692	0.10	0.8	5.37		750
Li 670.784	0.0021	0.0040	0.0019	0.0032	0.025	61.21	*	25
Mg 279.077	46.1229	51.1462	5.0234	0.048	0.2	10.33		500
Mg 280.271	44.4404	48.1316	3.6912	0.020	0.2	7.97		100
Mn 257.610	0.0886	0.0974	0.0088	0.0038	0.008	9.48		20
Mo 202.031	0.0016	0.0017	0.0002	0.0024	0.012	9.80		40
Mo 204.597	0.0008	-0.0010	0.0018	0.0018	0.012	**1818.82**		40
Na 589.592	31.2758	33.8445	2.5687	0.14	0.4	7.89		750
Ni 231.604	0.0236	0.0265	0.0029	0.0038	0.012	11.47		8
P 177.4 (icap 3)	0.0054	0.0056	0.0002	0.033	0.2	3.55		50
Pb 220.353	0.0050	0.0035	0.0016	0.0047	0.03	36.59	*	10
Sb 206.836	0.0009	-0.0007	0.0016	0.0080	0.02	1639.88	*	25
Se 196.026	0.0024	0.0004	0.0020	0.018	0.05	141.18	*	25
Si 251.611	19.7189	21.8401	2.1211	0.087	0.2	10.21		50
Si 288.158 (n/a for icap 3)								
Sn 189.927	0.0000	-0.0003	0.0002	0.0031	0.02	149.35	*	8
Sr 407.771	0.0890	0.0976	0.0085	0.0025	0.003	9.16		20
Sr 421.552	0.0895	0.1019	0.0124	0.0025	0.003	12.92		8
Ti 334.940	0.0004	0.0008	0.0004	0.0013	0.006	68.95	*	20
Ti 336.121	-0.0005	-0.0002	0.0003	0.0014	0.006	74.37	*	20
Tl 190.801	0.0013	0.0006	0.0007	0.014	0.06	78.23	*	25
V 292.402	0.0009	0.0011	0.0001	0.00090	0.005	13.69		75
Zn 213.857	0.0315	0.0347	0.0032	0.0068	0.03	9.62		25

An asterisk indicates |Δ| ≤ MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and duplicate

QC Summary
METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011 Spike A+B: 19E1409
Analysis Date: 12/19/19
Results Data Set: 2019-12-19
Analysis: ICP-AES (w) metals
Analyst: AW

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit
RPD outside limit
MS % rec outside limit
~~*spike < 0.3* sample conc*~~

Digestion Laboratory Duplicate (DUP) Comparison of Run 1 -MS3 with Run 2 -MS3
|Δ| ≤ MDL when near MDL
RPD Limit ≤ 20%

	Measured Conc B19L022-MS3 7:01 PM	B19L022-MS3 9:24 AM	Absolute Difference	MDL	RL	RPD	Linearity Limit
Ag 328.068	0.0218	0.0236	0.0019	0.0024	0.01	8.20	0.1
Ag 338.289	0.0263	0.0286	0.0023	0.013	0.025	8.28	0.1
Al 308.215	1.0192	1.1211	0.1019	0.29	0.5	9.52	200
Al 396.153	1.0370	1.0788	0.0417	0.093	0.5	3.94	750
As 189.042 (icap 3)	0.2130	0.2213	0.0083	0.0052	0.04	3.81	25
As 193.696	0.2140	0.2269	0.0129	0.0090	0.04	5.87	25
B 249.677	1.0077	1.0641	0.0564	0.013	0.05	5.44	40
Ba 455.403	0.2529	0.2669	0.0140	0.00087	0.003	5.39	40
Be 313.042	0.0099	0.0106	0.0007	0.00061	0.002	6.36	20
Ca 315.887	149.9509	154.6633	4.7124	0.22	0.5	3.09	750
Cd 214.440	0.0490	0.0507	0.0017	0.00028	0.002	3.45	10
Cd 226.502	0.0482	0.0503	0.0021	0.00052	0.002	4.26	10
Co 228.616	0.0938	0.0999	0.0062	0.00064	0.006	6.36	8
Cr 267.716	0.0975	0.1040	0.0065	0.0010	0.005	6.41	25
Cu 324.752	0.1016	0.1132	0.0116	0.0035	0.02	10.83	80
Cu 327.393	0.1023	0.1137	0.0114	0.0043	0.02	10.54	80
Fe 259.939	4.2734	4.6162	0.3428	0.019	0.08	7.71	500
Fe 273.955	4.2937	4.4957	0.2020	0.021	0.08	4.60	750
K 766.490	26.0442	27.6716	1.6275	0.10	0.8	6.06	750
Li 670.784	0.1057	0.1141	0.0084	0.0032	0.025	7.62	25
Mg 279.077	66.5909	71.3282	4.7374	0.048	0.2	6.87	500
Mg 280.271	62.4117	65.3068	2.8951	0.020	0.2	4.53	100
Mn 257.610	0.2770	0.2950	0.0181	0.0038	0.008	6.31	20
Mo 202.031	0.1022	0.1077	0.0056	0.0024	0.012	5.29	40
Mo 204.597	0.1011	0.1069	0.0058	0.0018	0.012	5.60	40
Na 589.592	81.0734	86.3221	5.2487	0.14	0.4	6.27	750
Ni 231.604	0.2178	0.2317	0.0139	0.0038	0.012	6.19	8
P 177.4 (icap 3)	1.0821	1.1150	0.0329	0.033	0.2	2.99	50
Pb 220.353	0.4777	0.5017	0.0240	0.0047	0.03	4.89	10
Sb 206.836	0.4948	0.5233	0.0285	0.0080	0.02	5.61	25
Se 196.026	0.4939	0.5192	0.0253	0.018	0.05	5.00	25
Si 251.611	29.5955	32.1891	2.5935	0.087	0.2	8.40	50
Si 288.158 (n/a for icap 3)							
Sn 189.927	0.4893	0.5113	0.0220	0.0031	0.02	4.40	8
Sr 407.771	1.0370	1.1092	0.0723	0.0025	0.003	6.73	20
Sr 421.552	1.0273	1.1389	0.1115	0.0025	0.003	10.30	8
Ti 334.940	0.1020	0.1111	0.0091	0.0013	0.006	8.49	20
Ti 336.121	0.0999	0.1084	0.0085	0.0014	0.006	8.14	20
Tl 190.801	0.4560	0.4979	0.0418	0.014	0.06	8.77	25
V 292.402	0.0993	0.1059	0.0066	0.00090	0.005	6.43	75
Zn 213.857	1.0241	1.0740	0.0499	0.0068	0.03	4.76	25

An asterisk indicates |Δ| ≤ MDL
mg/L, concentration in the sample

MDLs/RLs/Lin Lims shown above assume common dilution for sample and duplicate

QC Summary

METALS003 R8 & 003A R7 ICP-AES (w) metals
Spreadsheet Version 6 Thermo iCAP 6500 Duo

No results are taken from this spreadsheet. It is a review tool only for comparison against the reported data.

Sample Work Order: 1912011
Analysis Date: 12/19/19
Results Data Set: 2019-12-19
Analysis: ICP-AES (w) metals
Analyst: AW

MDLs and RLs given in spreadsheet are based on undiluted sample
Actual MDLs and RLs vary by sample based on individual sample dilution

|conc| < RL
RL ≤ |conc| ≤ linearity limit
conc > linearity limit

Summary

	Measured Conc 1912011-21 9:19 AM	MDL	RL	Linearity Limit
Ag 328.068	*0.0001*	0.0024	0.01	0.1
Ag 338.289	*0.0065*	0.013	0.025	0.1
Al 308.215	*0.0806*	0.29	0.5	200
Al 396.153	*0.0557*	0.093	0.5	750
As 189.042 (icap 3)	*0.0142*	0.0052	0.04	25
As 193.696	*0.0158*	0.0090	0.04	25
B 249.677	0.0514	0.013	0.05	40
Ba 455.403	0.0558	0.00087	0.003	40
Be 313.042	*0.0000*	0.00061	0.002	20
Ca 315.887	107.7450	0.22	0.5	750
Cd 214.440	*0.0001*	0.00028	0.002	10
Cd 226.502	*-0.0001*	0.00052	0.002	10
Co 228.616	*0.0005*	0.00064	0.006	8
Cr 267.716	*0.0000*	0.0010	0.005	25
Cu 324.752	*0.0036*	0.0035	0.02	80
Cu 327.393	*0.0038*	0.0043	0.02	80
Fe 259.939	3.6255	0.019	0.08	500
Fe 273.955	3.5772	0.021	0.08	750
K 766.490	1.3219	0.10	0.8	750
Li 670.784	*0.0040*	0.0032	0.025	25
Mg 279.077	51.1462	0.048	0.2	500
Mg 280.271	48.1316	0.020	0.2	100
Mn 257.610	0.0974	0.0038	0.008	20
Mo 202.031	*0.0017*	0.0024	0.012	40
Mo 204.597	*-0.0010*	0.0018	0.012	40
Na 589.592	33.8445	0.14	0.4	750
Ni 231.604	0.0265	0.0038	0.012	8
P 177.4 (icap 3)	*0.0056*	0.033	0.2	50
Pb 220.353	*0.0035*	0.0047	0.03	10
Sb 206.836	*-0.0007*	0.0080	0.02	25
Se 196.026	*0.0004*	0.018	0.05	25
Si 251.611	21.8401	0.087	0.2	50
Si 288.158 (n/a for icap 3)		n/a	n/a	n/a
Sn 189.927	*-0.0003*	0.0031	0.02	8
Sr 407.771	0.0976	0.0025	0.003	20
Sr 421.552	0.1019	0.0025	0.003	8
Ti 334.940	*0.0008*	0.0013	0.006	20
Ti 336.121	*-0.0002*	0.0014	0.006	20
Tl 190.801	*0.0006*	0.014	0.06	25
V 292.402	*0.0011*	0.0009	0.005	75
Zn 213.857	0.0347	0.0068	0.03	25

mg/L, concentration in the sample

Sample Report

12/19/2019 7:11:50 AM

REVIEWED

By Amanda Wroble at 7:27 am, Dec 19, 2019

QTEGRA

LabBook: 2019-12-18b.imexp

Index:	Label:	Rack:	Vial:	Start Time:
1	cal blank	0	1	12/18/2019 3:36:50 PM
2	cal blank	0	1	12/18/2019 3:39:44 PM
3	cal blank	0	1	12/18/2019 3:42:37 PM
4	Cal 1	0	2	12/18/2019 3:45:29 PM
5	Cal 2	0	3	12/18/2019 3:48:23 PM
6	LCB	4	17	12/18/2019 3:51:14 PM
7	RLC	4	18	12/18/2019 3:54:08 PM
8	iLCM1	4	19	12/18/2019 3:57:00 PM
9	iHiLCM	4	20	12/18/2019 3:59:31 PM
10	iLCM2	4	21	12/18/2019 4:02:25 PM
11	wash	0	1	12/18/2019 4:05:17 PM
12	SIC Al	1	1	12/18/2019 4:08:14 PM
13	SIC Ba	1	2	12/18/2019 4:11:06 PM
14	SIC Ca	1	3	12/18/2019 4:14:04 PM
15	SIC Cr	1	4	12/18/2019 4:16:55 PM
16	SIC Cu	1	5	12/18/2019 4:19:47 PM
17	SIC Fe	1	6	12/18/2019 4:22:47 PM
18	SIC Mg	1	7	12/18/2019 4:25:36 PM
19	SIC Mn	1	8	12/18/2019 4:28:35 PM
20	SIC Mo	1	9	12/18/2019 4:31:36 PM
21	SIC Ni	1	10	12/18/2019 4:34:26 PM
22	SIC Si	1	11	12/18/2019 4:37:17 PM
23	SIC Sn	1	12	12/18/2019 4:40:09 PM
24	SIC Ti	1	13	12/18/2019 4:43:00 PM
25	SIC V	1	14	12/18/2019 4:46:07 PM
26	LCB	4	17	12/18/2019 4:48:58 PM
27	RLC	4	18	12/18/2019 4:51:52 PM
28	LCM1	4	19	12/18/2019 4:54:44 PM
29	HiLCM	4	20	12/18/2019 4:57:16 PM
30	LCM2	4	21	12/18/2019 5:00:09 PM
31	wash	0	1	12/18/2019 5:03:02 PM
32	B19L022-BLK1	1	15	12/18/2019 5:05:59 PM
33	B19L022-MRL1	1	16	12/18/2019 5:08:53 PM
34	B19L022-BS1	1	17	12/18/2019 5:11:45 PM
35	1912011-01	1	18	12/18/2019 5:14:33 PM
36	1912011-01 dil	1	19	12/18/2019 5:17:20 PM
37	B19L022-DUP1	1	20	12/18/2019 5:20:11 PM
38	B19L022-MS1	1	21	12/18/2019 5:22:58 PM
39	1912011-02	2	1	12/18/2019 5:25:54 PM
40	1912011-03	2	2	12/18/2019 5:28:41 PM
41	1912011-04	2	3	12/18/2019 5:31:29 PM
42	LCB	4	17	12/18/2019 5:34:16 PM
43	RLC	4	18	12/18/2019 5:37:09 PM
44	LCM1	4	19	12/18/2019 5:40:02 PM
45	HiLCM	4	20	12/18/2019 5:42:34 PM
46	LCM2	4	21	12/18/2019 5:45:27 PM
47	wash	0	1	12/18/2019 5:48:20 PM
48	1912011-05	2	4	12/18/2019 5:51:16 PM
49	1912011-06	2	5	12/18/2019 5:54:06 PM
50	1912011-07	2	6	12/18/2019 5:56:54 PM
51	1912011-08	2	7	12/18/2019 5:59:42 PM
52	1912011-09	2	8	12/18/2019 6:02:30 PM
53	1912011-10	2	9	12/18/2019 6:05:18 PM
54	1912011-11	2	10	12/18/2019 6:08:07 PM
55	1912011-12	2	11	12/18/2019 6:10:55 PM

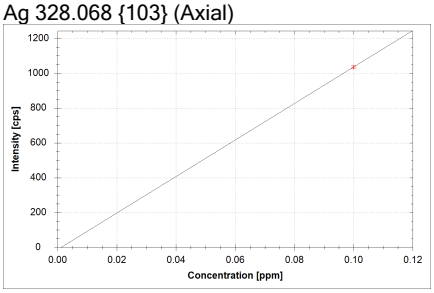
Sample Report
12/19/2019 7:11:50 AM

Index:	Label:	Rack:	Vial:	Start Time:
56	B19L022-DUP2	2	12	12/18/2019 6:13:43 PM
57	B19L022-MS2	2	13	12/18/2019 6:16:30 PM
58	LCB	4	17	12/18/2019 6:19:28 PM
59	RLC	4	18	12/18/2019 6:22:21 PM
60	LCM1	4	19	12/18/2019 6:25:13 PM
61	HiLCM	4	20	12/18/2019 6:27:45 PM
62	LCM2	4	21	12/18/2019 6:30:39 PM
63	wash	0	1	12/18/2019 6:33:32 PM
64	1912011-13	2	14	12/18/2019 6:36:29 PM
65	1912011-14	2	15	12/18/2019 6:39:19 PM
66	1912011-15	2	16	12/18/2019 6:42:04 PM
67	1912011-16	2	17	12/18/2019 6:44:51 PM
68	1912011-17	2	18	12/18/2019 6:47:39 PM
69	1912011-19	2	19	12/18/2019 6:50:25 PM
70	1912011-20	2	20	12/18/2019 6:53:17 PM
71	1912011-21	2	21	12/18/2019 6:56:11 PM
72	B19L022-DUP3	3	1	12/18/2019 6:58:59 PM
73	B19L022-MS3	3	2	12/18/2019 7:01:51 PM
74	LCB	4	17	12/18/2019 7:04:48 PM
75	RLC	4	18	12/18/2019 7:07:42 PM
76	LCM1	4	19	12/18/2019 7:10:34 PM
77	HiLCM	4	20	12/18/2019 7:13:07 PM
78	LCM2	4	21	12/18/2019 7:15:58 PM
79	wash	0	1	12/18/2019 7:18:50 PM
80	B19L022-BLK2	3	3	12/18/2019 7:21:47 PM
81	B19L022-MRL2	3	4	12/18/2019 7:24:41 PM
82	B19L022-BS2	3	5	12/18/2019 7:27:34 PM
83	1912011-35	3	6	12/18/2019 7:30:23 PM
84	1912011-35 dil	3	7	12/18/2019 7:33:11 PM
85	LCB	4	17	12/18/2019 7:36:02 PM
86	RLC	4	18	12/18/2019 7:38:56 PM
87	LCM1	4	19	12/18/2019 7:41:48 PM
88	HiLCM	4	20	12/18/2019 7:44:21 PM
89	LCM2	4	21	12/18/2019 7:47:11 PM
90	Milli-Q	4	16	12/18/2019 7:50:04 PM
91	Milli-Q	4	16	12/18/2019 7:53:00 PM
92	Milli-Q	4	16	12/18/2019 7:55:53 PM

1912011-21, B19L022-DUP3, and B19L022-MS3 reported from Run 2 due to elevated IS recoveries for B19L022-DUP3.

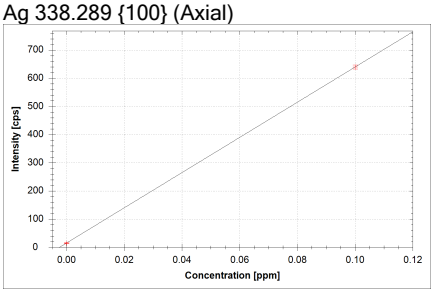
REVIEWED
By Amanda Wroble at 2:07 pm, Dec 19, 2019

Ag 328.068 {103} (Axial)



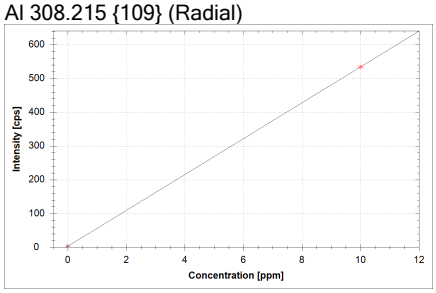
f(x) = 10483.4311*x + -12.6613
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0009 ppm

Ag 338.289 {100} (Axial)



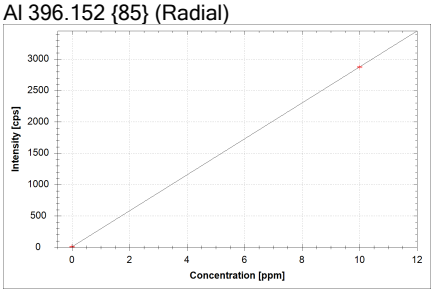
f(x) = 6244.5152*x + 15.3981
R² = 1.0000
BEC = 0.002 ppm
LoD = 0.0014 ppm

Al 308.215 {109} (Radial)



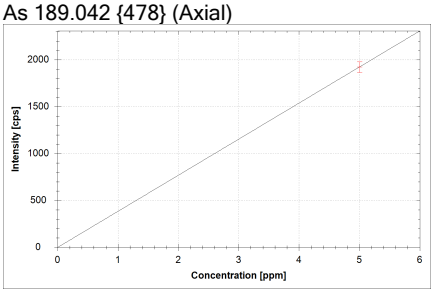
f(x) = 53.0697*x + 3.2919
R² = 1.0000
BEC = 0.062 ppm
LoD = 0.1812 ppm

Al 396.152 {85} (Radial)



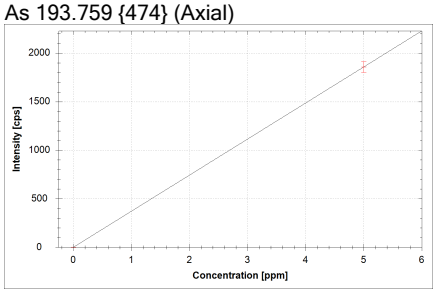
f(x) = 286.6111*x + 8.5703
R² = 1.0000
BEC = 0.030 ppm
LoD = 0.0345 ppm

As 189.042 {478} (Axial)



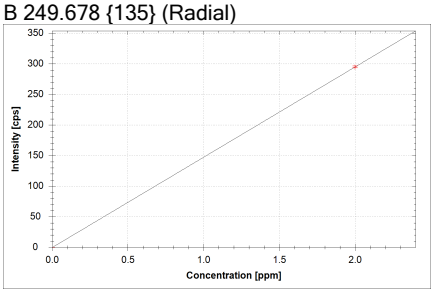
f(x) = 384.9016*x + -0.6791
R² = 1.0000
BEC = -0.002 ppm
LoD = 0.0030 ppm

As 193.759 {474} (Axial)



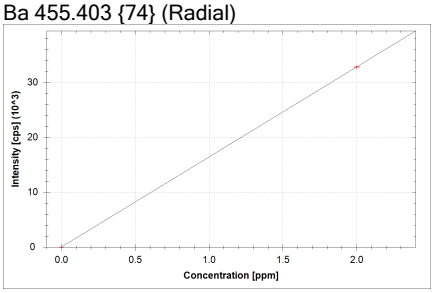
f(x) = 371.3111*x + 0.5387
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0035 ppm

B 249.678 {135} (Radial)



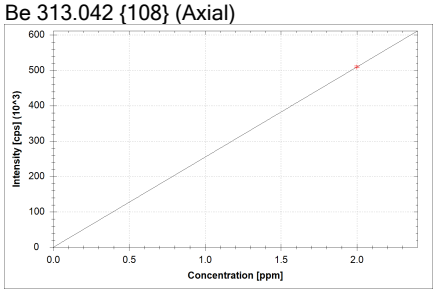
f(x) = 147.6083*x + -0.3643
R² = 1.0000
BEC = -0.002 ppm
LoD = 0.0147 ppm

Ba 455.403 {74} (Radial)



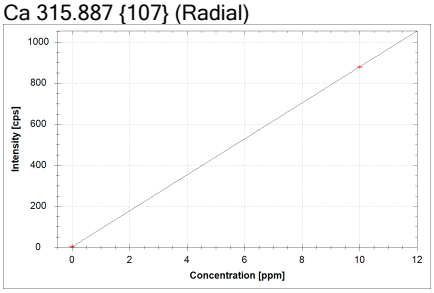
f(x) = 16399.7692*x + 52.5788
R² = 1.0000
BEC = 0.003 ppm
LoD = 0.0007 ppm

Be 313.042 {108} (Axial)



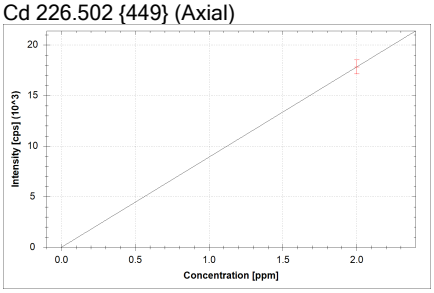
f(x) = 254824.2984*x + -32.3927
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0001 ppm

Ca 315.887 {107} (Radial)



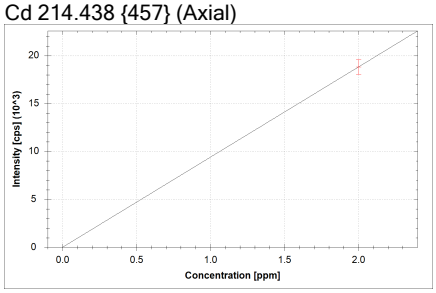
f(x) = 87.6573*x + 2.2279
R² = 1.0000
BEC = 0.025 ppm
LoD = 0.0379 ppm

Cd 226.502 {449} (Axial)



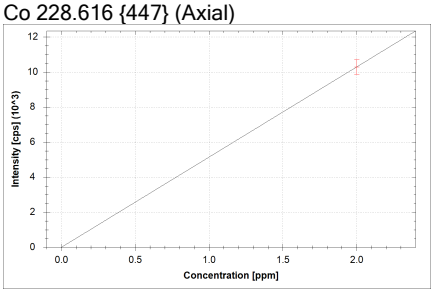
f(x) = 8912.5731*x + 0.1109
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0002 ppm

Cd 214.438 {457} (Axial)



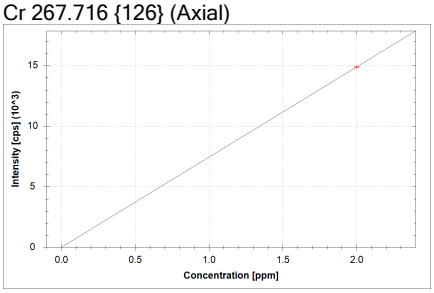
f(x) = 9407.4798*x + 3.9915
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0003 ppm

Co 228.616 {447} (Axial)



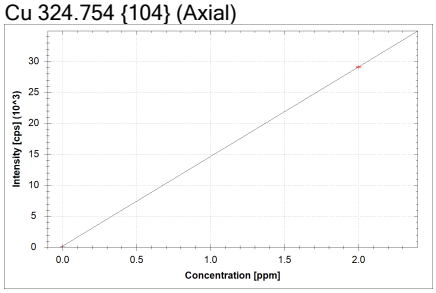
f(x) = 5144.4858*x + 1.3174
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0005 ppm

Cr 267.716 {126} (Axial)



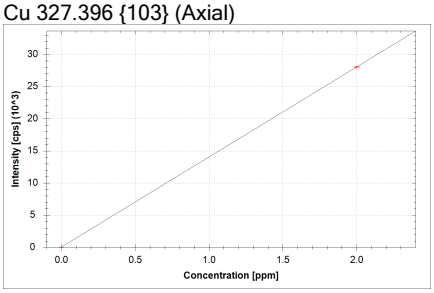
f(x) = 7446.0242*x + 2.0931
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0006 ppm

Cu 324.754 {104} (Axial)



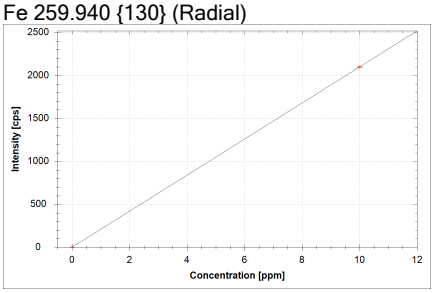
f(x) = 14461.7955*x + 188.9663
R² = 1.0000
BEC = 0.013 ppm
LoD = 0.0006 ppm

Cu 327.396 {103} (Axial)



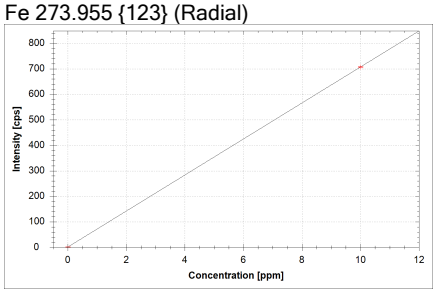
f(x) = 13998.7317*x + 47.8886
R² = 1.0000
BEC = 0.003 ppm
LoD = 0.0011 ppm

Fe 259.940 {130} (Radial)



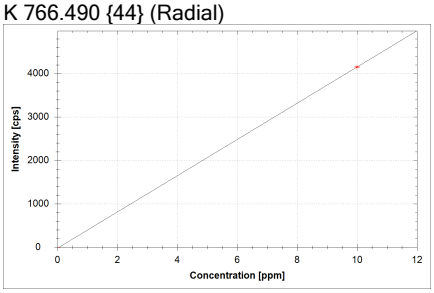
f(x) = 209.8729*x + 0.8649
R² = 1.0000
BEC = 0.004 ppm
LoD = 0.0253 ppm

Fe 273.955 {123} (Radial)



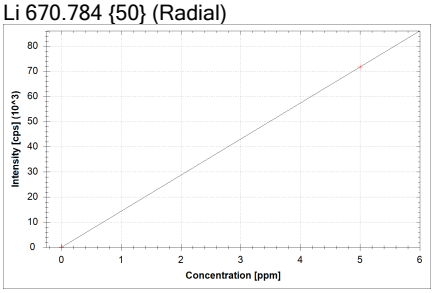
f(x) = 70.5972*x + 1.2373
R² = 1.0000
BEC = 0.018 ppm
LoD = 0.0426 ppm

K 766.490 {44} (Radial)



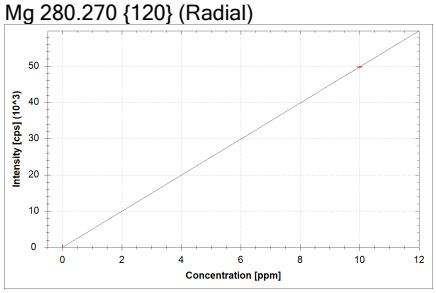
f(x) = 416.9285*x + -17.6632
R² = 1.0000
BEC = -0.042 ppm
LoD = 0.1719 ppm

Li 670.784 {50} (Radial)



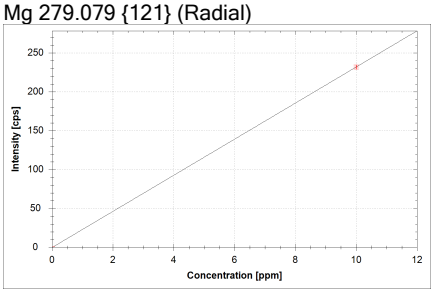
f(x) = 14343.2980*x + 22.6870
R² = 1.0000
BEC = 0.002 ppm
LoD = 0.0024 ppm

Mg 280.270 {120} (Radial)



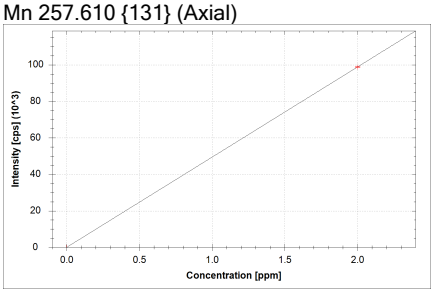
f(x) = 4973.7620*x + 11.6203
R² = 1.0000
BEC = 0.002 ppm
LoD = 0.0027 ppm

Mg 279.079 {121} (Radial)



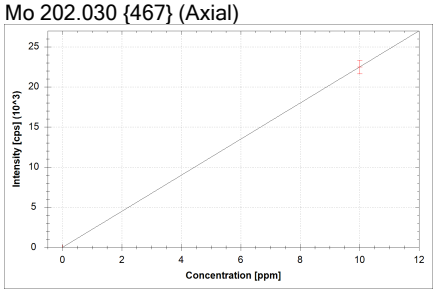
f(x) = 23.2084*x + -0.1937
R² = 1.0000
BEC = -0.008 ppm
LoD = 0.1688 ppm

Mn 257.610 {131} (Axial)



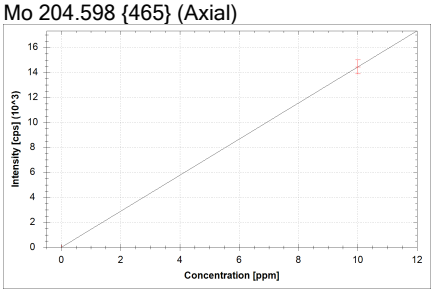
f(x) = 49415.4900*x + 9.4344
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0001 ppm

Mo 202.030 {467} (Axial)



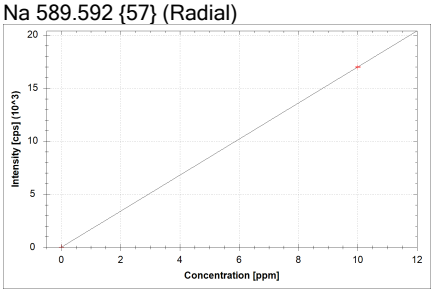
f(x) = 2247.8226*x + 1.2024
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0009 ppm

Mo 204.598 {465} (Axial)



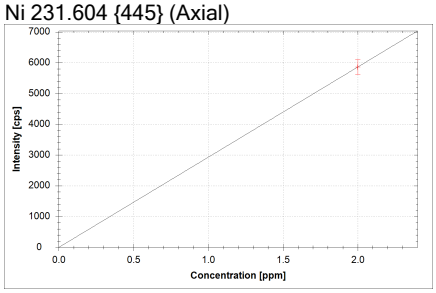
f(x) = 1443.4232*x + 0.0717
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0007 ppm

Na 589.592 {57} (Radial)



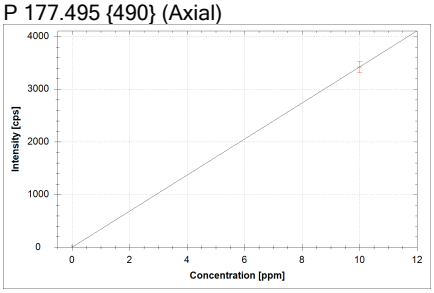
f(x) = 1698.5212*x + 10.5579
R² = 1.0000
BEC = 0.006 ppm
LoD = 0.0046 ppm

Ni 231.604 {445} (Axial)



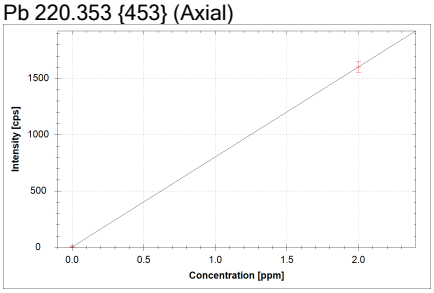
f(x) = 2932.1294*x + -2.5512
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0014 ppm

P 177.495 {490} (Axial)



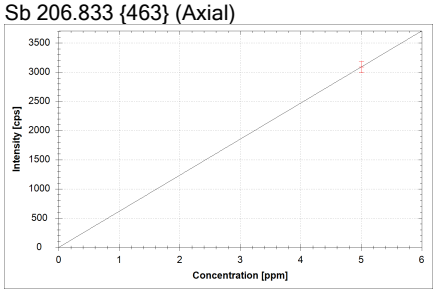
f(x) = 342.0920*x + 0.5901
R² = 1.0000
BEC = 0.002 ppm
LoD = 0.0047 ppm

Pb 220.353 {453} (Axial)



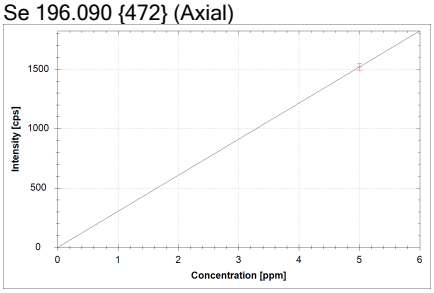
f(x) = 799.4494*x + 2.5905
R² = 1.0000
BEC = 0.003 ppm
LoD = 0.0041 ppm

Sb 206.833 {463} (Axial)



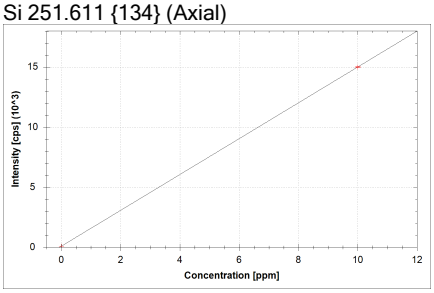
f(x) = 617.8112*x + -0.6785
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0040 ppm

Se 196.090 {472} (Axial)



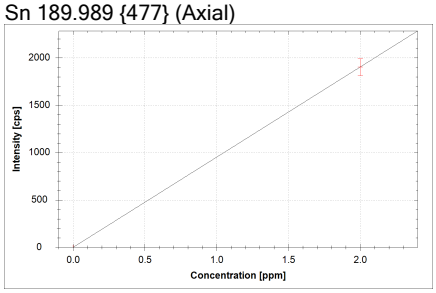
f(x) = 304.0000*x + -1.0727
R² = 1.0000
BEC = -0.004 ppm
LoD = 0.0045 ppm

Si 251.611 {134} (Axial)



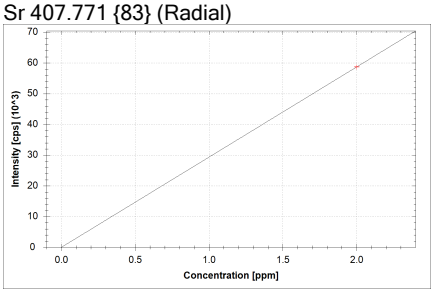
f(x) = 1491.8700*x + 98.0387
R² = 1.0000
BEC = 0.066 ppm
LoD = 0.0028 ppm

Sn 189.989 {477} (Axial)



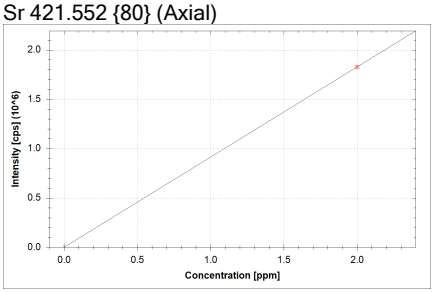
f(x) = 951.8854*x + 0.1191
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0012 ppm

Sr 407.771 {83} (Radial)



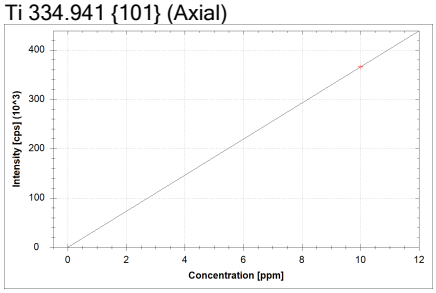
f(x) = 29343.1523*x + 3.4799
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0002 ppm

Sr 421.552 {80} (Axial)



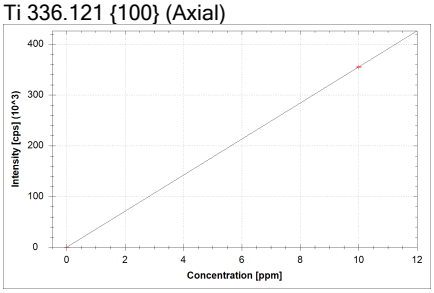
f(x) = 913759.8368*x + 96.9166
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0001 ppm

Ti 334.941 {101} (Axial)



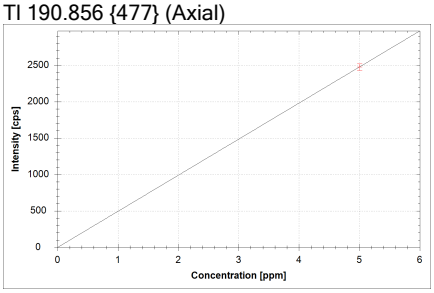
f(x) = 36542.5663*x + 21.0288
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0004 ppm

Ti 336.121 {100} (Axial)



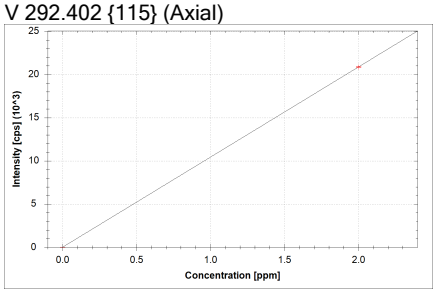
f(x) = 35503.6790*x + 180.9161
R² = 1.0000
BEC = 0.005 ppm
LoD = 0.0002 ppm

Tl 190.856 {477} (Axial)



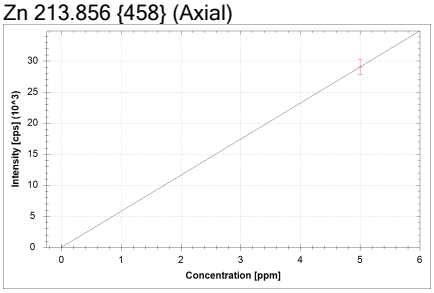
f(x) = 495.2267*x + -0.6180
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0008 ppm

V 292.402 {115} (Axial)



f(x) = 10428.6584*x + 9.6429
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0004 ppm

Zn 213.856 {458} (Axial)



f(x) = 5806.7015*x + 7.2276
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0003 ppm

Standard: Cal 1
Start Time: 12/18/2019 3:45:29 PM
Standard (Stock): Cal 1
Standard DF: 1

Category	Concentration average	Concentration RSD	Standard Concentration
Ag 328.068 {103} (Axial)	0.00000 ppm		
Ag 338.289 {100} (Axial)	0.00000 ppm		
Al 308.215 {109} (Radial)	10.00000 ppm	0.6 %	10.00000 ppm
Al 396.152 {85} (Radial)	10.00000 ppm	0.5 %	10.00000 ppm
As 189.042 {478} (Axial)	5.00000 ppm	2.9 %	5.00000 ppm
As 193.759 {474} (Axial)	5.00000 ppm	3.0 %	5.00000 ppm
B 249.678 {135} (Radial)	2.00000 ppm	0.6 %	2.00000 ppm
Ba 455.403 {74} (Radial)	2.00000 ppm	0.3 %	2.00000 ppm
Be 313.042 {108} (Axial)	2.00000 ppm	0.6 %	2.00000 ppm
Ca 315.887 {107} (Radial)	10.00000 ppm	0.4 %	10.00000 ppm
Cd 226.502 {449} (Axial)	2.00000 ppm	3.9 %	2.00000 ppm
Cd 214.438 {457} (Axial)	2.00000 ppm	4.1 %	2.00000 ppm
Co 228.616 {447} (Axial)	2.00000 ppm	4.1 %	2.00000 ppm
Cr 267.716 {126} (Axial)	2.00000 ppm	0.3 %	2.00000 ppm
Cu 324.754 {104} (Axial)	2.00000 ppm	0.2 %	2.00000 ppm
Cu 327.396 {103} (Axial)	2.00000 ppm	0.2 %	2.00000 ppm
Fe 259.940 {130} (Radial)	10.00000 ppm	0.5 %	10.00000 ppm
Fe 273.955 {123} (Radial)	10.00000 ppm	0.5 %	10.00000 ppm
K 766.490 {44} (Radial)	10.00000 ppm	0.5 %	10.00000 ppm
Li 670.784 {50} (Radial)	5.00000 ppm	0.0 %	5.00000 ppm
Mg 280.270 {120} (Radial)	10.00000 ppm	0.4 %	10.00000 ppm
Mg 279.079 {121} (Radial)	10.00000 ppm	1.1 %	10.00000 ppm
Mn 257.610 {131} (Axial)	2.00000 ppm	0.3 %	2.00000 ppm
Mo 202.030 {467} (Axial)	10.00000 ppm	3.8 %	10.00000 ppm
Mo 204.598 {465} (Axial)	10.00000 ppm	3.9 %	10.00000 ppm
Na 589.592 {57} (Radial)	10.00000 ppm	0.2 %	10.00000 ppm
Ni 231.604 {445} (Axial)	2.00000 ppm	4.1 %	2.00000 ppm
P 177.495 {490} (Axial)	10.00000 ppm	3.2 %	10.00000 ppm
Pb 220.353 {453} (Axial)	2.00000 ppm	3.0 %	2.00000 ppm
Sb 206.833 {463} (Axial)	5.00000 ppm	3.1 %	5.00000 ppm
Se 196.090 {472} (Axial)	5.00000 ppm	2.1 %	5.00000 ppm
Si 251.611 {134} (Axial)	10.00000 ppm	0.3 %	10.00000 ppm
Sn 189.989 {477} (Axial)	2.00000 ppm	4.6 %	2.00000 ppm
Sr 407.771 {83} (Radial)	2.00000 ppm	0.1 %	2.00000 ppm
Sr 421.552 {80} (Axial)	2.00000 ppm	0.6 %	2.00000 ppm
Ti 334.941 {101} (Axial)	10.00000 ppm	0.1 %	10.00000 ppm
Ti 336.121 {100} (Axial)	10.00000 ppm	0.2 %	10.00000 ppm
Tl 190.856 {477} (Axial)	5.00000 ppm	1.7 %	5.00000 ppm
V 292.402 {115} (Axial)	2.00000 ppm	0.3 %	2.00000 ppm
Zn 213.856 {458} (Axial)	5.00000 ppm	4.1 %	5.00000 ppm
Y 371.030 {91} (Radial)	99.71115 %	0.2 %	
Y 360.073 {94} (Radial)	99.79461 %	0.1 %	
Y 224.306 {450} (Axial)	96.88819 %	0.1 %	

Standard: Cal 2
Start Time: 12/18/2019 3:48:23 PM
Standard (Stock): Cal 2
Standard DF: 1

Category	Concentration average	Concentration RSD	Standard Concentration
Ag 328.068 {103} (Axial)	0.10000 ppm	0.9 %	0.10000 ppm
Ag 338.289 {100} (Axial)	0.10000 ppm	1.1 %	0.10000 ppm
Al 308.215 {109} (Radial)	0.00000 ppm		
Al 396.152 {85} (Radial)	0.00000 ppm		
As 189.042 {478} (Axial)	0.00000 ppm		
As 193.759 {474} (Axial)	0.00000 ppm		
B 249.678 {135} (Radial)	0.00000 ppm		
Ba 455.403 {74} (Radial)	0.00000 ppm		
Be 313.042 {108} (Axial)	0.00000 ppm		
Ca 315.887 {107} (Radial)	0.00000 ppm		
Cd 226.502 {449} (Axial)	0.00000 ppm		
Cd 214.438 {457} (Axial)	0.00000 ppm		
Co 228.616 {447} (Axial)	0.00000 ppm		
Cr 267.716 {126} (Axial)	0.00000 ppm		
Cu 324.754 {104} (Axial)	0.00000 ppm		
Cu 327.396 {103} (Axial)	0.00000 ppm		
Fe 259.940 {130} (Radial)	0.00000 ppm		
Fe 273.955 {123} (Radial)	0.00000 ppm		
K 766.490 {44} (Radial)	0.00000 ppm		
Li 670.784 {50} (Radial)	0.00000 ppm		
Mg 280.270 {120} (Radial)	0.00000 ppm		
Mg 279.079 {121} (Radial)	0.00000 ppm		
Mn 257.610 {131} (Axial)	0.00000 ppm		
Mo 202.030 {467} (Axial)	0.00000 ppm		
Mo 204.598 {465} (Axial)	0.00000 ppm		
Na 589.592 {57} (Radial)	0.00000 ppm		
Ni 231.604 {445} (Axial)	0.00000 ppm		
P 177.495 {490} (Axial)	0.00000 ppm		
Pb 220.353 {453} (Axial)	0.00000 ppm		
Sb 206.833 {463} (Axial)	0.00000 ppm		
Se 196.090 {472} (Axial)	0.00000 ppm		
Si 251.611 {134} (Axial)	0.00000 ppm		
Sn 189.989 {477} (Axial)	0.00000 ppm		
Sr 407.771 {83} (Radial)	0.00000 ppm		
Sr 421.552 {80} (Axial)	0.00000 ppm		
Ti 334.941 {101} (Axial)	0.00000 ppm		
Ti 336.121 {100} (Axial)	0.00000 ppm		
Tl 190.856 {477} (Axial)	0.00000 ppm		
V 292.402 {115} (Axial)	0.00000 ppm		
Zn 213.856 {458} (Axial)	0.00000 ppm		
Y 371.030 {91} (Radial)	101.86286 %	0.4 %	
Y 360.073 {94} (Radial)	101.73900 %	0.3 %	
Y 224.306 {450} (Axial)	99.72543 %	0.3 %	

cal blank

Sample type: UNKNOWN Analysis started at: 12/18/2019 3:36:50 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00025 ppm	301.5 %	-15.600 cps
Ag 338.289 {100} (Axial)	-0.00053 ppm	115.9 %	12.467 cps
Al 308.215 {109} (Radial)	**0.30589 ppm**	**199.4 %**	2.172 cps
Al 396.152 {85} (Radial)	**0.95416 ppm**	**144.2 %**	14.557 cps
As 189.042 {478} (Axial)	0.00157 ppm	82.7 %	-0.074 cps
As 193.759 {474} (Axial)	-0.00002 ppm	19,793.7 %	0.545 cps
B 249.678 {135} (Radial)	-0.00069 ppm	900.5 %	0.261 cps
Ba 455.403 {74} (Radial)	**0.07971 ppm**	**145.5 %**	80.029 cps
Be 313.042 {108} (Axial)	0.00000 ppm	11,598.2 %	-33.200 cps
Ca 315.887 {107} (Radial)	-0.33230 ppm	170.0 %	2.564 cps
Cd 226.502 {449} (Axial)	0.00002 ppm	451.4 %	0.344 cps
Cd 214.438 {457} (Axial)	0.00005 ppm	211.3 %	4.592 cps
Co 228.616 {447} (Axial)	0.00020 ppm	109.9 %	2.429 cps
Cr 267.716 {126} (Axial)	0.00003 ppm	181.9 %	2.388 cps
Cu 324.754 {104} (Axial)	-0.00010 ppm	196.7 %	191.722 cps
Cu 327.396 {103} (Axial)	-0.00011 ppm	190.7 %	47.433 cps
Fe 259.940 {130} (Radial)	**0.07916 ppm**	**168.9 %**	3.345 cps
Fe 273.955 {123} (Radial)	-0.18654 ppm	165.2 %	0.633 cps
K 766.490 {44} (Radial)	-1.03085 ppm	145.3 %	-36.228 cps
Li 670.784 {50} (Radial)	0.01998 ppm	150.5 %	22.115 cps
Mg 280.270 {120} (Radial)	0.00248 ppm	272.0 %	9.395 cps
Mg 279.079 {121} (Radial)	-0.14104 ppm	172.6 %	-0.733 cps
Mn 257.610 {131} (Axial)	0.00008 ppm	91.2 %	13.933 cps
Mo 202.030 {467} (Axial)	0.00060 ppm	144.9 %	2.618 cps
Mo 204.598 {465} (Axial)	0.00056 ppm	75.9 %	0.902 cps
Na 589.592 {57} (Radial)	-0.55039 ppm	140.4 %	-30.962 cps
Ni 231.604 {445} (Axial)	0.00010 ppm	811.3 %	-2.321 cps
P 177.495 {490} (Axial)	0.00524 ppm	133.1 %	2.442 cps
Pb 220.353 {453} (Axial)	0.00257 ppm	63.8 %	4.756 cps
Sb 206.833 {463} (Axial)	0.00163 ppm	48.6 %	0.336 cps
Se 196.090 {472} (Axial)	0.00184 ppm	132.0 %	-0.525 cps
Si 251.611 {134} (Axial)	-0.00081 ppm	345.3 %	99.039 cps
Sn 189.989 {477} (Axial)	0.00090 ppm	70.8 %	1.002 cps
Sr 407.771 {83} (Radial)	0.00278 ppm	152.9 %	-0.632 cps
Sr 421.552 {80} (Axial)	0.00000 ppm	927.6 %	103.342 cps
Ti 334.941 {101} (Axial)	-0.00003 ppm	973.4 %	20.283 cps
Ti 336.121 {100} (Axial)	0.00026 ppm	157.2 %	194.561 cps
Tl 190.856 {477} (Axial)	0.00080 ppm	45.4 %	-0.232 cps
V 292.402 {115} (Axial)	0.00039 ppm	41.3 %	14.000 cps
Zn 213.856 {458} (Axial)	0.00093 ppm	110.1 %	13.052 cps
Y 371.030 {91} (Radial)	**204.59905 %**	**139.0 %**	19,566.969 cps
Y 360.073 {94} (Radial)	**207.41169 %**	**97.3 %**	7,266.732 cps
Y 224.306 {450} (Axial)	102.27988 %	0.4 %	14,036.626 cps

cal blank

Sample type: UNKNOWN Analysis started at: 12/18/2019 3:39:44 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00023 ppm	110.6 %	-10.222 cps
Ag 338.289 {100} (Axial)	-0.00080 ppm	97.6 %	10.433 cps
Al 308.215 {109} (Radial)	-0.04814 ppm	110.6 %	0.724 cps
Al 396.152 {85} (Radial)	-0.00245 ppm	80.6 %	7.978 cps
As 189.042 {478} (Axial)	0.00077 ppm	346.4 %	-0.382 cps
As 193.759 {474} (Axial)	-0.00068 ppm	210.1 %	0.287 cps
B 249.678 {135} (Radial)	0.00038 ppm	1,723.9 %	-0.322 cps
Ba 455.403 {74} (Radial)	-0.00014 ppm	286.8 %	50.844 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	70.7 %	-37.200 cps
Ca 315.887 {107} (Radial)	0.00608 ppm	176.5 %	2.800 cps
Cd 226.502 {449} (Axial)	0.00006 ppm	65.2 %	0.614 cps
Cd 214.438 {457} (Axial)	0.00007 ppm	53.0 %	4.664 cps
Co 228.616 {447} (Axial)	-0.00005 ppm	439.1 %	1.063 cps
Cr 267.716 {126} (Axial)	0.00000 ppm	14,403.1 %	2.068 cps
Cu 324.754 {104} (Axial)	-0.00013 ppm	248.6 %	186.728 cps
Cu 327.396 {103} (Axial)	-0.00042 ppm	45.5 %	41.983 cps
Fe 259.940 {130} (Radial)	0.00092 ppm	629.6 %	1.069 cps
Fe 273.955 {123} (Radial)	-0.01275 ppm	154.2 %	0.350 cps
K 766.490 {44} (Radial)	0.01437 ppm	41.9 %	-11.828 cps
Li 670.784 {50} (Radial)	-0.00113 ppm	3.8 %	6.535 cps
Mg 280.270 {120} (Radial)	-0.00068 ppm	51.0 %	8.333 cps
Mg 279.079 {121} (Radial)	-0.02483 ppm	72.1 %	-0.783 cps
Mn 257.610 {131} (Axial)	-0.00001 ppm	214.8 %	8.733 cps
Mo 202.030 {467} (Axial)	0.00002 ppm	1,431.1 %	1.237 cps
Mo 204.598 {465} (Axial)	0.00037 ppm	33.7 %	0.601 cps
Na 589.592 {57} (Radial)	-0.00134 ppm	248.6 %	8.374 cps
Ni 231.604 {445} (Axial)	-0.00046 ppm	76.5 %	-3.881 cps
P 177.495 {490} (Axial)	-0.00144 ppm	23.9 %	0.100 cps
Pb 220.353 {453} (Axial)	0.00091 ppm	162.7 %	3.308 cps
Sb 206.833 {463} (Axial)	0.00035 ppm	392.7 %	-0.458 cps
Se 196.090 {472} (Axial)	0.00176 ppm	54.8 %	-0.538 cps
Si 251.611 {134} (Axial)	-0.00012 ppm	968.7 %	97.676 cps
Sn 189.989 {477} (Axial)	0.00037 ppm	66.6 %	0.471 cps
Sr 407.771 {83} (Radial)	-0.00001 ppm	548.9 %	3.221 cps
Sr 421.552 {80} (Axial)	-0.00004 ppm	39.9 %	59.571 cps
Ti 334.941 {101} (Axial)	-0.00013 ppm	26.0 %	16.183 cps
Ti 336.121 {100} (Axial)	-0.00016 ppm	85.5 %	174.694 cps
Tl 190.856 {477} (Axial)	0.00081 ppm	254.6 %	-0.218 cps
V 292.402 {115} (Axial)	-0.00021 ppm	106.9 %	7.383 cps
Zn 213.856 {458} (Axial)	-0.00007 ppm	28.0 %	6.903 cps
Y 371.030 {91} (Radial)	101.33618 %	1.3 %	9,691.354 cps
Y 360.073 {94} (Radial)	101.41861 %	1.5 %	3,553.232 cps
Y 224.306 {450} (Axial)	99.80260 %	0.4 %	13,696.651 cps

cal blank

Sample type: BLK Analysis started at: 12/18/2019 3:42:37 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00000 ppm	-0.2 %	-12.667 cps
Ag 338.289 {100} (Axial)	0.00000 ppm	0.2 %	15.483 cps

	Concentration average	Concentration RSD	Raw Intensity average
Al 308.215 {109} (Radial)	0.00000 ppm	1.0 %	3.283 cps
Al 396.152 {85} (Radial)	0.00000 ppm	0.4 %	8.572 cps
As 189.042 {478} (Axial)	0.00000 ppm	-0.6 %	-0.679 cps
As 193.759 {474} (Axial)	0.00000 ppm	0.8 %	0.535 cps
B 249.678 {135} (Radial)	0.00000 ppm	-2.0 %	-0.361 cps
Ba 455.403 {74} (Radial)	0.00000 ppm	0.1 %	52.572 cps
Be 313.042 {108} (Axial)	0.00000 ppm	-0.1 %	-32.350 cps
Ca 315.887 {107} (Radial)	0.00000 ppm	0.5 %	2.233 cps
Cd 226.502 {449} (Axial)	0.00000 ppm	4.6 %	0.118 cps
Cd 214.438 {457} (Axial)	0.00000 ppm	0.2 %	4.003 cps
Co 228.616 {447} (Axial)	0.00000 ppm	0.7 %	1.323 cps
Cr 267.716 {126} (Axial)	0.00000 ppm	0.8 %	2.092 cps
Cu 324.754 {104} (Axial)	0.00000 ppm	0.0 %	188.956 cps
Cu 327.396 {103} (Axial)	0.00000 ppm	0.1 %	47.883 cps
Fe 259.940 {130} (Radial)	0.00000 ppm	2.0 %	0.857 cps
Fe 273.955 {123} (Radial)	0.00000 ppm	0.8 %	1.233 cps
K 766.490 {44} (Radial)	0.00000 ppm	-1.4 %	-17.697 cps
Li 670.784 {50} (Radial)	0.00000 ppm	0.5 %	22.703 cps
Mg 280.270 {120} (Radial)	0.00000 ppm	0.4 %	11.600 cps
Mg 279.079 {121} (Radial)	0.00000 ppm	-6.7 %	-0.200 cps
Mn 257.610 {131} (Axial)	0.00000 ppm	0.2 %	9.433 cps
Mo 202.030 {467} (Axial)	0.00000 ppm	0.5 %	1.203 cps
Mo 204.598 {465} (Axial)	0.00000 ppm	4.4 %	0.075 cps
Na 589.592 {57} (Radial)	0.00000 ppm	0.2 %	10.554 cps
Ni 231.604 {445} (Axial)	0.00000 ppm	-0.5 %	-2.552 cps
P 177.495 {490} (Axial)	0.00000 ppm	0.9 %	0.595 cps
Pb 220.353 {453} (Axial)	0.00000 ppm	0.4 %	2.586 cps
Sb 206.833 {463} (Axial)	0.00000 ppm	-1.2 %	-0.677 cps
Se 196.090 {472} (Axial)	0.00000 ppm	-0.4 %	-1.074 cps
Si 251.611 {134} (Axial)	0.00000 ppm	0.0 %	98.042 cps
Sn 189.989 {477} (Axial)	0.00000 ppm	3.1 %	0.119 cps
Sr 407.771 {83} (Radial)	0.00000 ppm	0.7 %	3.479 cps
Sr 421.552 {80} (Axial)	0.00000 ppm	0.3 %	96.867 cps
Ti 334.941 {101} (Axial)	0.00000 ppm	0.2 %	21.017 cps
Ti 336.121 {100} (Axial)	0.00000 ppm	0.0 %	180.883 cps
Tl 190.856 {477} (Axial)	0.00000 ppm	-0.2 %	-0.621 cps
V 292.402 {115} (Axial)	0.00000 ppm	0.1 %	9.633 cps
Zn 213.856 {458} (Axial)	0.00000 ppm	0.1 %	7.354 cps
Y 371.030 {91} (Radial)	100.00000 %	0.0 %	9,563.568 cps
Y 360.073 {94} (Radial)	100.00000 %	0.0 %	3,503.531 cps
Y 224.306 {450} (Axial)	100.00000 %	0.0 %	13,723.741 cps

Cal 1

Sample type: STD Analysis started at: 12/18/2019 3:45:29 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00000 ppm		2,025.879 cps
Ag 338.289 {100} (Axial)	0.00000 ppm		2,723.010 cps
Al 308.215 {109} (Radial)	10.00000 ppm	0.6 %	537.215 cps
Al 396.152 {85} (Radial)	10.00000 ppm	0.5 %	2,950.694 cps
As 189.042 {478} (Axial)	5.00000 ppm	2.9 %	1,863.973 cps

	Concentration average	Concentration RSD	Raw Intensity average
As 193.759 {474} (Axial)	5.00000 ppm	3.0 %	1,798.626 cps
B 249.678 {135} (Radial)	2.00000 ppm	0.6 %	293.901 cps
Ba 455.403 {74} (Radial)	2.00000 ppm	0.3 %	32,757.318 cps
Be 313.042 {108} (Axial)	2.00000 ppm	0.6 %	493,865.618 cps
Ca 315.887 {107} (Radial)	10.00000 ppm	0.4 %	882.670 cps
Cd 226.502 {449} (Axial)	2.00000 ppm	3.9 %	17,286.766 cps
Cd 214.438 {457} (Axial)	2.00000 ppm	4.1 %	18,220.118 cps
Co 228.616 {447} (Axial)	2.00000 ppm	4.1 %	10,072.517 cps
Cr 267.716 {126} (Axial)	2.00000 ppm	0.3 %	14,431.916 cps
Cu 324.754 {104} (Axial)	2.00000 ppm	0.2 %	28,197.500 cps
Cu 327.396 {103} (Axial)	2.00000 ppm	0.2 %	27,172.634 cps
Fe 259.940 {130} (Radial)	10.00000 ppm	0.5 %	2,095.290 cps
Fe 273.955 {123} (Radial)	10.00000 ppm	0.5 %	703.410 cps
K 766.490 {44} (Radial)	10.00000 ppm	0.5 %	4,139.639 cps
Li 670.784 {50} (Radial)	5.00000 ppm	0.0 %	71,531.979 cps
Mg 280.270 {120} (Radial)	10.00000 ppm	0.4 %	49,647.129 cps
Mg 279.079 {121} (Radial)	10.00000 ppm	1.1 %	231.294 cps
Mn 257.610 {131} (Axial)	2.00000 ppm	0.3 %	95,764.516 cps
Mo 202.030 {467} (Axial)	10.00000 ppm	3.8 %	21,780.054 cps
Mo 204.598 {465} (Axial)	10.00000 ppm	3.9 %	13,985.714 cps
Na 589.592 {57} (Radial)	10.00000 ppm	0.2 %	16,946.709 cps
Ni 231.604 {445} (Axial)	2.00000 ppm	4.1 %	5,711.480 cps
P 177.495 {490} (Axial)	10.00000 ppm	3.2 %	3,316.691 cps
Pb 220.353 {453} (Axial)	2.00000 ppm	3.0 %	1,551.273 cps
Sb 206.833 {463} (Axial)	5.00000 ppm	3.1 %	3,003.195 cps
Se 196.090 {472} (Axial)	5.00000 ppm	2.1 %	1,471.691 cps
Si 251.611 {134} (Axial)	10.00000 ppm	0.3 %	14,803.800 cps
Sn 189.989 {477} (Axial)	2.00000 ppm	4.6 %	1,844.661 cps
Sr 407.771 {83} (Radial)	2.00000 ppm	0.1 %	58,520.326 cps
Sr 421.552 {80} (Axial)	2.00000 ppm	0.6 %	1,770,737.843 cps
Ti 334.941 {101} (Axial)	10.00000 ppm	0.1 %	354,072.180 cps
Ti 336.121 {100} (Axial)	10.00000 ppm	0.2 %	344,152.537 cps
Tl 190.856 {477} (Axial)	5.00000 ppm	1.7 %	2,394.293 cps
V 292.402 {115} (Axial)	2.00000 ppm	0.3 %	20,165.527 cps
Zn 213.856 {458} (Axial)	5.00000 ppm	4.1 %	28,218.031 cps
Y 371.030 {91} (Radial)	99.71115 %	0.2 %	9,535.943 cps
Y 360.073 {94} (Radial)	99.79461 %	0.1 %	3,496.335 cps
Y 224.306 {450} (Axial)	96.88819 %	0.1 %	13,296.684 cps

Cal 2

Sample type: STD Analysis started at: 12/18/2019 3:48:23 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.10000 ppm	0.9 %	1,032.822 cps
Ag 338.289 {100} (Axial)	0.10000 ppm	1.1 %	638.433 cps
Al 308.215 {109} (Radial)	0.00000 ppm		1.524 cps
Al 396.152 {85} (Radial)	0.00000 ppm		9.422 cps
As 189.042 {478} (Axial)	0.00000 ppm		-0.691 cps
As 193.759 {474} (Axial)	0.00000 ppm		0.050 cps
B 249.678 {135} (Radial)	0.00000 ppm		5.839 cps
Ba 455.403 {74} (Radial)	0.00000 ppm		56.489 cps

	Concentration average	Concentration RSD	Raw Intensity average
Be 313.042 {108} (Axial)	0.00000 ppm		34.417 cps
Ca 315.887 {107} (Radial)	0.00000 ppm		4.133 cps
Cd 226.502 {449} (Axial)	0.00000 ppm		1.394 cps
Cd 214.438 {457} (Axial)	0.00000 ppm		6.095 cps
Co 228.616 {447} (Axial)	0.00000 ppm		2.795 cps
Cr 267.716 {126} (Axial)	0.00000 ppm		4.949 cps
Cu 324.754 {104} (Axial)	0.00000 ppm		214.578 cps
Cu 327.396 {103} (Axial)	0.00000 ppm		68.100 cps
Fe 259.940 {130} (Radial)	0.00000 ppm		2.442 cps
Fe 273.955 {123} (Radial)	0.00000 ppm		1.650 cps
K 766.490 {44} (Radial)	0.00000 ppm		-17.919 cps
Li 670.784 {50} (Radial)	0.00000 ppm		29.728 cps
Mg 280.270 {120} (Radial)	0.00000 ppm		29.517 cps
Mg 279.079 {121} (Radial)	0.00000 ppm		-0.433 cps
Mn 257.610 {131} (Axial)	0.00000 ppm		32.617 cps
Mo 202.030 {467} (Axial)	0.00000 ppm		5.107 cps
Mo 204.598 {465} (Axial)	0.00000 ppm		3.054 cps
Na 589.592 {57} (Radial)	0.00000 ppm		102.503 cps
Ni 231.604 {445} (Axial)	0.00000 ppm		-2.688 cps
P 177.495 {490} (Axial)	0.00000 ppm		2.050 cps
Pb 220.353 {453} (Axial)	0.00000 ppm		2.516 cps
Sb 206.833 {463} (Axial)	0.00000 ppm		0.758 cps
Se 196.090 {472} (Axial)	0.00000 ppm		-0.210 cps
Si 251.611 {134} (Axial)	0.00000 ppm		234.490 cps
Sn 189.989 {477} (Axial)	0.00000 ppm		1.334 cps
Sr 407.771 {83} (Radial)	0.00000 ppm		10.253 cps
Sr 421.552 {80} (Axial)	0.00000 ppm		402.032 cps
Ti 334.941 {101} (Axial)	0.00000 ppm		85.767 cps
Ti 336.121 {100} (Axial)	0.00000 ppm		242.628 cps
Tl 190.856 {477} (Axial)	0.00000 ppm		0.294 cps
V 292.402 {115} (Axial)	0.00000 ppm		17.500 cps
Zn 213.856 {458} (Axial)	0.00000 ppm		21.760 cps
Y 371.030 {91} (Radial)	101.86286 %	0.4 %	9,741.724 cps
Y 360.073 {94} (Radial)	101.73900 %	0.3 %	3,564.457 cps
Y 224.306 {450} (Axial)	99.72543 %	0.3 %	13,686.059 cps

LCB

Sample type: QC Analysis started at: 12/18/2019 3:51:14 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00023 ppm	9.789 %	302.1 %	-10.233 cps
Ag 338.289 {100} (Axial)	-0.00063 ppm	-4.827 %	29.0 %	11.733 cps
Al 308.215 {109} (Radial)	-0.00760 ppm	-2.622 %	397.4 %	2.882 cps
Al 396.152 {85} (Radial)	-0.00478 ppm	-5.143 %	110.6 %	7.206 cps
As 189.042 {478} (Axial)	0.00175 ppm	33.672 %	126.5 %	-0.005 cps
As 193.759 {474} (Axial)	0.00022 ppm	2.478 %	1,132.3 %	0.620 cps
B 249.678 {135} (Radial)	0.00372 ppm	28.622 %	65.7 %	0.183 cps
Ba 455.403 {74} (Radial)	-0.00004 ppm	-4.937 %	385.4 %	51.850 cps
Be 313.042 {108} (Axial)	0.00018 ppm	29.101 %	75.0 %	12.983 cps
Ca 315.887 {107} (Radial)	0.01364 ppm	6.200 %	65.0 %	3.433 cps
Cd 226.502 {449} (Axial)	0.00022 ppm	41.740 %	117.5 %	2.066 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cd 214.438 {457} (Axial)	0.00021 ppm	74.636 %	143.0 %	5.990 cps
Co 228.616 {447} (Axial)	0.00020 ppm	31.995 %	220.6 %	2.395 cps
Cr 267.716 {126} (Axial)	0.00035 ppm	35.422 %	82.3 %	4.747 cps
Cu 324.754 {104} (Axial)	0.00029 ppm	8.366 %	57.9 %	193.900 cps
Cu 327.396 {103} (Axial)	0.00013 ppm	2.931 %	155.2 %	49.833 cps
Fe 259.940 {130} (Radial)	0.00343 ppm	18.043 %	135.5 %	1.581 cps
Fe 273.955 {123} (Radial)	-0.01016 ppm	-48.368 %	88.0 %	0.517 cps
K 766.490 {44} (Radial)	0.00290 ppm	2.897 %	712.3 %	-16.411 cps
Li 670.784 {50} (Radial)	0.00043 ppm	13.442 %	294.9 %	28.739 cps
Mg 280.270 {120} (Radial)	0.00115 ppm	5.760 %	79.5 %	17.350 cps
Mg 279.079 {121} (Radial)	0.00509 ppm	0.509 %	1,679.8 %	-0.083 cps
Mn 257.610 {131} (Axial)	0.00030 ppm	7.841 %	54.7 %	24.250 cps
Mo 202.030 {467} (Axial)	0.00141 ppm	58.949 %	56.9 %	4.399 cps
Mo 204.598 {465} (Axial)	0.00146 ppm	81.240 %	99.2 %	2.194 cps
Na 589.592 {57} (Radial)	0.00495 ppm	3.532 %	75.7 %	18.910 cps
Ni 231.604 {445} (Axial)	0.00004 ppm	0.936 %	416.4 %	-2.451 cps
P 177.495 {490} (Axial)	0.00107 ppm	3.232 %	177.8 %	0.963 cps
Pb 220.353 {453} (Axial)	0.00125 ppm	26.640 %	70.1 %	3.601 cps
Sb 206.833 {463} (Axial)	0.00119 ppm	14.890 %	111.9 %	0.061 cps
Se 196.090 {472} (Axial)	0.00342 ppm	18.997 %	33.0 %	-0.033 cps
Si 251.611 {134} (Axial)	0.00122 ppm	1.405 %	271.7 %	100.268 cps
Sn 189.989 {477} (Axial)	0.00017 ppm	5.416 %	204.1 %	0.280 cps
Sr 407.771 {83} (Radial)	0.00018 ppm	7.216 %	111.9 %	8.736 cps
Sr 421.552 {80} (Axial)	0.00019 ppm	7.452 %	71.9 %	268.167 cps
Ti 334.941 {101} (Axial)	0.00082 ppm	63.361 %	94.5 %	51.317 cps
Ti 336.121 {100} (Axial)	0.00094 ppm	67.037 %	65.9 %	214.983 cps
Tl 190.856 {477} (Axial)	0.00233 ppm	16.630 %	94.3 %	0.533 cps
V 292.402 {115} (Axial)	0.00053 ppm	59.149 %	11.2 %	15.233 cps
Zn 213.856 {458} (Axial)	0.00071 ppm	10.487 %	83.9 %	11.544 cps
Y 371.030 {91} (Radial)	99.92795 %		0.8 %	9,556.678 cps
Y 360.073 {94} (Radial)	100.12214 %		0.9 %	3,507.810 cps
Y 224.306 {450} (Axial)	100.36497 %		0.1 %	13,773.828 cps

RLC

Sample type: QC Analysis started at: 12/18/2019 3:54:08 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00939 ppm	93.869 %	2.4 %	86.689 cps
Ag 338.289 {100} (Axial)	0.00845 ppm	84.467 %	9.7 %	70.000 cps
Al 308.215 {109} (Radial)	0.50067 ppm	100.135 %	2.3 %	30.081 cps
Al 396.152 {85} (Radial)	0.49783 ppm	99.566 %	1.5 %	152.428 cps
As 189.042 {478} (Axial)	0.03990 ppm	99.757 %	6.8 %	14.840 cps
As 193.759 {474} (Axial)	0.03913 ppm	97.835 %	7.2 %	15.195 cps
B 249.678 {135} (Radial)	0.05843 ppm	116.850 %	6.1 %	8.317 cps
Ba 455.403 {74} (Radial)	0.00286 ppm	95.309 %	10.8 %	100.150 cps
Be 313.042 {108} (Axial)	0.00205 ppm	102.578 %	0.0 %	496.050 cps
Ca 315.887 {107} (Radial)	0.49698 ppm	99.397 %	5.7 %	46.133 cps
Cd 226.502 {449} (Axial)	0.00209 ppm	104.272 %	8.0 %	19.043 cps
Cd 214.438 {457} (Axial)	0.00213 ppm	106.528 %	6.6 %	24.413 cps
Co 228.616 {447} (Axial)	0.00620 ppm	103.400 %	1.8 %	33.664 cps
Cr 267.716 {126} (Axial)	0.00463 ppm	92.613 %	8.7 %	36.968 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cu 324.754 {104} (Axial)	0.01961 ppm	98.061 %	2.1 %	477.650 cps
Cu 327.396 {103} (Axial)	0.02006 ppm	100.281 %	1.1 %	332.217 cps
Fe 259.940 {130} (Radial)	0.08269 ppm	103.357 %	3.6 %	18.350 cps
Fe 273.955 {123} (Radial)	0.07111 ppm	88.888 %	41.6 %	6.300 cps
K 766.490 {44} (Radial)	0.73737 ppm	92.171 %	2.4 %	291.751 cps
Li 670.784 {50} (Radial)	0.02396 ppm	95.836 %	2.5 %	368.843 cps
Mg 280.270 {120} (Radial)	0.20543 ppm	102.715 %	0.7 %	1,040.850 cps
Mg 279.079 {121} (Radial)	0.21157 ppm	105.785 %	28.0 %	4.750 cps
Mn 257.610 {131} (Axial)	0.00839 ppm	104.825 %	0.7 %	428.433 cps
Mo 202.030 {467} (Axial)	0.01280 ppm	106.650 %	7.1 %	30.297 cps
Mo 204.598 {465} (Axial)	0.01248 ppm	104.004 %	5.6 %	18.311 cps
Na 589.592 {57} (Radial)	0.39033 ppm	97.583 %	1.0 %	678.153 cps
Ni 231.604 {445} (Axial)	0.01280 ppm	106.631 %	0.9 %	35.378 cps
P 177.495 {490} (Axial)	0.19886 ppm	99.430 %	3.1 %	69.383 cps
Pb 220.353 {453} (Axial)	0.03194 ppm	106.479 %	3.6 %	28.378 cps
Sb 206.833 {463} (Axial)	0.02169 ppm	108.470 %	6.7 %	12.892 cps
Se 196.090 {472} (Axial)	0.05215 ppm	104.294 %	2.0 %	14.939 cps
Si 251.611 {134} (Axial)	0.25473 ppm	127.366 %	0.6 %	483.588 cps
Sn 189.989 {477} (Axial)	0.02035 ppm	101.771 %	2.0 %	19.706 cps
Sr 407.771 {83} (Radial)	0.00310 ppm	103.292 %	3.1 %	95.053 cps
Sr 421.552 {80} (Axial)	0.00320 ppm	106.768 %	1.0 %	3,056.536 cps
Ti 334.941 {101} (Axial)	0.00629 ppm	104.817 %	2.1 %	253.433 cps
Ti 336.121 {100} (Axial)	0.00617 ppm	102.753 %	3.1 %	403.550 cps
Tl 190.856 {477} (Axial)	0.06403 ppm	106.711 %	0.2 %	31.415 cps
V 292.402 {115} (Axial)	0.00507 ppm	101.350 %	5.1 %	63.017 cps
Zn 213.856 {458} (Axial)	0.03195 ppm	106.486 %	3.3 %	195.580 cps
Y 371.030 {91} (Radial)	100.68416 %		0.0 %	9,628.999 cps
Y 360.073 {94} (Radial)	100.72296 %		0.1 %	3,528.860 cps
Y 224.306 {450} (Axial)	101.08610 %		0.2 %	13,872.795 cps

iLCM1

Sample type: QC Analysis started at: 12/18/2019 3:57:00 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.13404 ppm	0.000 %	0.4 %	1,408.638 cps
Ag 338.289 {100} (Axial)	0.13076 ppm	0.000 %	1.0 %	987.159 cps
Al 308.215 {109} (Radial)	**0.93344 ppm**	93.344 %	**2.5 %**	53.207 cps
Al 396.152 {85} (Radial)	0.95799 ppm	95.799 %	0.7 %	295.782 cps
As 189.042 {478} (Axial)	1.93094 ppm	96.547 %	0.8 %	750.299 cps
As 193.759 {474} (Axial)	1.92907 ppm	96.453 %	0.8 %	724.243 cps
B 249.678 {135} (Radial)	0.96045 ppm	96.045 %	1.5 %	143.161 cps
Ba 455.403 {74} (Radial)	0.96002 ppm	96.002 %	0.4 %	15,991.874 cps
Be 313.042 {108} (Axial)	0.97354 ppm	97.354 %	0.1 %	250,693.951 cps
Ca 315.887 {107} (Radial)	0.99505 ppm	99.505 %	2.2 %	91.196 cps
Cd 226.502 {449} (Axial)	1.00624 ppm	100.624 %	0.5 %	9,063.591 cps
Cd 214.438 {457} (Axial)	1.00803 ppm	100.803 %	0.5 %	9,582.142 cps
Co 228.616 {447} (Axial)	1.01212 ppm	101.212 %	0.6 %	5,272.256 cps
Cr 267.716 {126} (Axial)	0.98633 ppm	98.633 %	0.5 %	7,424.111 cps
Cu 324.754 {104} (Axial)	0.95817 ppm	95.817 %	0.2 %	14,191.611 cps
Cu 327.396 {103} (Axial)	0.96587 ppm	96.587 %	0.2 %	13,710.590 cps
Fe 259.940 {130} (Radial)	0.97944 ppm	97.944 %	0.8 %	209.036 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Fe 273.955 {123} (Radial)	0.99268 ppm	99.268 %	1.2 %	71.965 cps
K 766.490 {44} (Radial)	**4.72360 ppm**	94.472 %	**0.1 %**	1,975.883 cps
Li 670.784 {50} (Radial)	0.95673 ppm	95.673 %	0.2 %	13,915.430 cps
Mg 280.270 {120} (Radial)	1.00228 ppm	100.228 %	0.4 %	5,059.920 cps
Mg 279.079 {121} (Radial)	0.99844 ppm	99.844 %	5.7 %	23.252 cps
Mn 257.610 {131} (Axial)	0.96909 ppm	96.909 %	0.1 %	48,397.991 cps
Mo 202.030 {467} (Axial)	1.03856 ppm	103.856 %	0.5 %	2,360.100 cps
Mo 204.598 {465} (Axial)	1.02595 ppm	102.595 %	0.8 %	1,496.470 cps
Na 589.592 {57} (Radial)	0.96836 ppm	96.836 %	1.6 %	1,675.884 cps
Ni 231.604 {445} (Axial)	1.04841 ppm	104.841 %	0.7 %	3,104.715 cps
P 177.495 {490} (Axial)	4.81031 ppm	96.206 %	0.4 %	1,664.210 cps
Pb 220.353 {453} (Axial)	2.02978 ppm	101.489 %	0.5 %	1,642.400 cps
Sb 206.833 {463} (Axial)	2.01590 ppm	100.795 %	0.7 %	1,263.329 cps
Se 196.090 {472} (Axial)	0.95080 ppm	95.080 %	0.7 %	291.066 cps
Si 251.611 {134} (Axial)	4.94253 ppm	98.851 %	0.3 %	7,576.918 cps
Sn 189.989 {477} (Axial)	5.21256 ppm	104.251 %	0.8 %	5,013.714 cps
Sr 407.771 {83} (Radial)	0.95837 ppm	95.837 %	0.3 %	28,472.799 cps
Sr 421.552 {80} (Axial)	0.96667 ppm	96.667 %	0.6 %	892,625.822 cps
Ti 334.941 {101} (Axial)	1.00083 ppm	100.083 %	0.2 %	36,975.825 cps
Ti 336.121 {100} (Axial)	0.98855 ppm	98.855 %	0.1 %	35,645.582 cps
Tl 190.856 {477} (Axial)	5.06452 ppm	101.290 %	0.5 %	2,531.626 cps
V 292.402 {115} (Axial)	0.95387 ppm	95.387 %	0.3 %	10,034.534 cps
Zn 213.856 {458} (Axial)	1.01660 ppm	101.660 %	0.7 %	6,012.050 cps
Y 371.030 {91} (Radial)	101.23707 %		0.4 %	9,681.876 cps
Y 360.073 {94} (Radial)	101.26502 %		0.6 %	3,547.851 cps
Y 224.306 {450} (Axial)	101.04454 %		0.1 %	13,867.091 cps

iHiLCM

Sample type: QC Analysis started at: 12/18/2019 3:59:31 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00097 ppm	0.000 %	35.4 %	-21.578 cps
Ag 338.289 {100} (Axial)	0.00517 ppm	0.000 %	18.3 %	66.517 cps
Al 308.215 {109} (Radial)	97.66104 ppm	97.661 %	0.2 %	5,126.301 cps
Al 396.152 {85} (Radial)	97.65098 ppm	97.651 %	0.4 %	27,771.119 cps
As 189.042 {478} (Axial)	0.00054 ppm	0.000 %	710.4 %	-0.446 cps
As 193.759 {474} (Axial)	-0.00513 ppm	0.000 %	42.8 %	-7.881 cps
B 249.678 {135} (Radial)	0.00076 ppm	0.000 %	866.8 %	-3.480 cps
Ba 455.403 {74} (Radial)	0.00018 ppm	0.000 %	143.1 %	55.117 cps
Be 313.042 {108} (Axial)	0.00033 ppm	0.000 %	35.2 %	48.433 cps
Ca 315.887 {107} (Radial)	96.57535 ppm	96.575 %	0.7 %	8,369.929 cps
Cd 226.502 {449} (Axial)	-0.00099 ppm	0.000 %	94.2 %	141.794 cps
Cd 214.438 {457} (Axial)	0.00060 ppm	0.000 %	87.9 %	90.562 cps
Co 228.616 {447} (Axial)	0.00497 ppm	0.000 %	12.5 %	25.376 cps
Cr 267.716 {126} (Axial)	0.00202 ppm	0.000 %	31.1 %	6.486 cps
Cu 324.754 {104} (Axial)	0.00028 ppm	0.000 %	231.9 %	94.372 cps
Cu 327.396 {103} (Axial)	0.00141 ppm	0.000 %	53.5 %	63.850 cps
Fe 259.940 {130} (Radial)	**94.26729 ppm**	94.267 %	**0.3 %**	19,556.674 cps
Fe 273.955 {123} (Radial)	96.47205 ppm	96.472 %	0.3 %	6,733.283 cps
K 766.490 {44} (Radial)	99.03537 ppm	99.035 %	0.2 %	40,935.126 cps
Li 670.784 {50} (Radial)	0.00159 ppm	0.000 %	20.0 %	45.149 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mg 280.270 {120} (Radial)	54.96087 ppm	91.601 %	0.8 %	270,214.588 cps
Mg 279.079 {121} (Radial)	58.63467 ppm	97.724 %	0.0 %	1,343.782 cps
Mn 257.610 {131} (Axial)	0.00201 ppm	0.000 %	3.8 %	102.617 cps
Mo 202.030 {467} (Axial)	0.00038 ppm	0.000 %	180.1 %	1.949 cps
Mo 204.598 {465} (Axial)	0.00171 ppm	0.000 %	33.0 %	6.938 cps
Na 589.592 {57} (Radial)	98.36340 ppm	98.363 %	0.2 %	165,714.771 cps
Ni 231.604 {445} (Axial)	0.00421 ppm	0.000 %	5.5 %	9.258 cps
P 177.495 {490} (Axial)	0.00344 ppm	0.000 %	124.7 %	1.673 cps
Pb 220.353 {453} (Axial)	-0.00149 ppm	0.000 %	41.6 %	-6.214 cps
Sb 206.833 {463} (Axial)	-0.00323 ppm	0.000 %	104.6 %	-1.363 cps
Se 196.090 {472} (Axial)	0.00192 ppm	0.000 %	54.0 %	-2.258 cps
Si 251.611 {134} (Axial)	0.00460 ppm	0.000 %	64.6 %	99.151 cps
Sn 189.989 {477} (Axial)	0.00293 ppm	0.000 %	49.3 %	2.746 cps
Sr 407.771 {83} (Radial)	0.00119 ppm	0.000 %	8.7 %	37.974 cps
Sr 421.552 {80} (Axial)	0.00124 ppm	0.000 %	9.8 %	1,159.967 cps
Ti 334.941 {101} (Axial)	0.00120 ppm	0.000 %	13.7 %	37.350 cps
Ti 336.121 {100} (Axial)	0.00021 ppm	0.000 %	205.4 %	71.106 cps
Tl 190.856 {477} (Axial)	0.00055 ppm	0.000 %	577.9 %	-0.325 cps
V 292.402 {115} (Axial)	0.00124 ppm	0.000 %	2.8 %	21.300 cps
Zn 213.856 {458} (Axial)	0.00662 ppm	0.000 %	19.5 %	107.314 cps
Y 371.030 {91} (Radial)	99.18203 %		0.7 %	9,485.341 cps
Y 360.073 {94} (Radial)	98.84694 %		0.5 %	3,463.133 cps
Y 224.306 {450} (Axial)	94.40159 %		0.2 %	12,955.429 cps

iLCM2

Sample type: QC Analysis started at: 12/18/2019 4:02:25 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04586 ppm	91.729 %	0.8 %	481.089 cps
Ag 338.289 {100} (Axial)	0.04512 ppm	90.245 %	2.9 %	305.517 cps
Al 308.215 {109} (Radial)	0.00034 ppm	0.000 %	9,269.0 %	3.381 cps
Al 396.152 {85} (Radial)	0.03259 ppm	0.000 %	46.1 %	18.389 cps
As 189.042 {478} (Axial)	0.00113 ppm	0.000 %	111.3 %	-0.251 cps
As 193.759 {474} (Axial)	-0.00063 ppm	0.000 %	321.3 %	0.304 cps
B 249.678 {135} (Radial)	0.00216 ppm	0.000 %	376.1 %	-0.044 cps
Ba 455.403 {74} (Radial)	-0.00029 ppm	0.000 %	141.3 %	49.067 cps
Be 313.042 {108} (Axial)	0.00013 ppm	0.000 %	119.9 %	1.517 cps
Ca 315.887 {107} (Radial)	0.05774 ppm	0.000 %	50.1 %	7.450 cps
Cd 226.502 {449} (Axial)	-0.00004 ppm	0.000 %	312.3 %	-0.195 cps
Cd 214.438 {457} (Axial)	0.00013 ppm	0.000 %	81.5 %	5.390 cps
Co 228.616 {447} (Axial)	-0.00003 ppm	0.000 %	883.0 %	1.223 cps
Cr 267.716 {126} (Axial)	0.00012 ppm	0.000 %	243.0 %	3.050 cps
Cu 324.754 {104} (Axial)	0.00023 ppm	0.000 %	86.6 %	197.600 cps
Cu 327.396 {103} (Axial)	0.00033 ppm	0.000 %	147.2 %	54.000 cps
Fe 259.940 {130} (Radial)	0.03270 ppm	0.000 %	14.5 %	7.907 cps
Fe 273.955 {123} (Radial)	0.03521 ppm	0.000 %	32.6 %	3.817 cps
K 766.490 {44} (Radial)	0.06511 ppm	0.000 %	36.8 %	9.703 cps
Li 670.784 {50} (Radial)	-0.00038 ppm	0.000 %	303.4 %	17.724 cps
Mg 280.270 {120} (Radial)	0.01750 ppm	0.000 %	31.0 %	100.867 cps
Mg 279.079 {121} (Radial)	0.01476 ppm	0.000 %	94.2 %	0.150 cps
Mn 257.610 {131} (Axial)	0.00021 ppm	0.000 %	69.8 %	20.633 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mo 202.030 {467} (Axial)	0.00034 ppm	0.000 %	19.5 %	2.025 cps
Mo 204.598 {465} (Axial)	0.00008 ppm	0.000 %	357.9 %	0.196 cps
Na 589.592 {57} (Radial)	0.03420 ppm	0.000 %	21.1 %	70.457 cps
Ni 231.604 {445} (Axial)	0.00018 ppm	0.000 %	128.3 %	-2.073 cps
P 177.495 {490} (Axial)	-0.00114 ppm	0.000 %	142.7 %	0.213 cps
Pb 220.353 {453} (Axial)	0.00106 ppm	0.000 %	32.7 %	3.529 cps
Sb 206.833 {463} (Axial)	0.00182 ppm	0.000 %	36.2 %	0.459 cps
Se 196.090 {472} (Axial)	0.00055 ppm	0.000 %	219.2 %	-0.930 cps
Si 251.611 {134} (Axial)	0.02384 ppm	0.000 %	9.9 %	137.322 cps
Sn 189.989 {477} (Axial)	-0.00011 ppm	0.000 %	477.5 %	0.017 cps
Sr 407.771 {83} (Radial)	0.00011 ppm	0.000 %	116.2 %	6.937 cps
Sr 421.552 {80} (Axial)	0.00021 ppm	0.000 %	67.3 %	297.057 cps
Ti 334.941 {101} (Axial)	0.00034 ppm	0.000 %	136.4 %	34.567 cps
Ti 336.121 {100} (Axial)	0.00030 ppm	0.000 %	120.2 %	196.717 cps
Tl 190.856 {477} (Axial)	0.00069 ppm	0.000 %	141.6 %	-0.290 cps
V 292.402 {115} (Axial)	0.00010 ppm	0.000 %	343.8 %	11.033 cps
Zn 213.856 {458} (Axial)	0.00069 ppm	0.000 %	14.5 %	11.694 cps
Y 371.030 {91} (Radial)	102.69405 %		0.7 %	9,821.215 cps
Y 360.073 {94} (Radial)	102.40293 %		0.9 %	3,587.718 cps
Y 224.306 {450} (Axial)	102.76572 %		0.7 %	14,103.300 cps

wash

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:05:17 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00003 ppm	1,000.5 %	-12.678 cps
Ag 338.289 {100} (Axial)	-0.00126 ppm	33.9 %	7.800 cps
Al 308.215 {109} (Radial)	-0.01299 ppm	85.8 %	2.697 cps
Al 396.152 {85} (Radial)	-0.00366 ppm	181.9 %	7.778 cps
As 189.042 {478} (Axial)	0.00029 ppm	954.3 %	-0.584 cps
As 193.759 {474} (Axial)	-0.00175 ppm	79.4 %	-0.120 cps
B 249.678 {135} (Radial)	0.00981 ppm	27.3 %	1.122 cps
Ba 455.403 {74} (Radial)	-0.00017 ppm	52.8 %	51.533 cps
Be 313.042 {108} (Axial)	0.00003 ppm	239.3 %	-25.467 cps
Ca 315.887 {107} (Radial)	-0.00143 ppm	2,286.1 %	2.183 cps
Cd 226.502 {449} (Axial)	0.00000 ppm	465.9 %	0.172 cps
Cd 214.438 {457} (Axial)	0.00004 ppm	194.2 %	4.492 cps
Co 228.616 {447} (Axial)	-0.00016 ppm	52.7 %	0.533 cps
Cr 267.716 {126} (Axial)	0.00003 ppm	1,252.0 %	2.349 cps
Cu 324.754 {104} (Axial)	-0.00002 ppm	1,204.8 %	193.689 cps
Cu 327.396 {103} (Axial)	-0.00055 ppm	91.3 %	41.317 cps
Fe 259.940 {130} (Radial)	0.00784 ppm	88.7 %	2.606 cps
Fe 273.955 {123} (Radial)	0.00872 ppm	139.1 %	1.917 cps
K 766.490 {44} (Radial)	0.02787 ppm	43.2 %	-6.246 cps
Li 670.784 {50} (Radial)	-0.00067 ppm	10.2 %	13.529 cps
Mg 280.270 {120} (Radial)	0.00373 ppm	40.0 %	31.250 cps
Mg 279.079 {121} (Radial)	0.02927 ppm	130.4 %	0.500 cps
Mn 257.610 {131} (Axial)	0.00006 ppm	79.3 %	12.833 cps
Mo 202.030 {467} (Axial)	0.00005 ppm	194.6 %	1.344 cps
Mo 204.598 {465} (Axial)	-0.00022 ppm	93.2 %	-0.246 cps
Na 589.592 {57} (Radial)	0.00818 ppm	79.4 %	25.331 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ni 231.604 {445} (Axial)	-0.00007 ppm	653.0 %	-2.839 cps
P 177.495 {490} (Axial)	0.00150 ppm	114.8 %	1.135 cps
Pb 220.353 {453} (Axial)	0.00042 ppm	409.8 %	3.000 cps
Sb 206.833 {463} (Axial)	0.00105 ppm	134.1 %	-0.033 cps
Se 196.090 {472} (Axial)	0.00025 ppm	1,000.0 %	-1.022 cps
Si 251.611 {134} (Axial)	0.00052 ppm	697.9 %	101.433 cps
Sn 189.989 {477} (Axial)	0.00026 ppm	148.8 %	0.379 cps
Sr 407.771 {83} (Radial)	0.00005 ppm	40.5 %	4.994 cps
Sr 421.552 {80} (Axial)	0.00002 ppm	320.2 %	120.550 cps
Ti 334.941 {101} (Axial)	-0.00011 ppm	142.3 %	17.383 cps
Ti 336.121 {100} (Axial)	0.00004 ppm	496.9 %	187.278 cps
Tl 190.856 {477} (Axial)	0.00083 ppm	118.0 %	-0.215 cps
V 292.402 {115} (Axial)	0.00008 ppm	451.4 %	10.733 cps
Zn 213.856 {458} (Axial)	-0.00013 ppm	75.6 %	6.757 cps
Y 371.030 {91} (Radial)	103.42975 %	0.5 %	9,891.575 cps
Y 360.073 {94} (Radial)	103.58503 %	0.5 %	3,629.133 cps
Y 224.306 {450} (Axial)	102.66352 %	0.6 %	14,089.275 cps

SIC Al

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:08:14 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00015 ppm	298.7 %	-11.356 cps
Ag 338.289 {100} (Axial)	-0.00070 ppm	107.4 %	11.367 cps
Al 308.215 {109} (Radial)	192.59099 ppm	0.2 %	10,224.349 cps
Al 396.152 {85} (Radial)	193.42901 ppm	0.0 %	55,563.752 cps
As 189.042 {478} (Axial)	0.00043 ppm	172.1 %	-0.525 cps
As 193.759 {474} (Axial)	-0.00939 ppm	20.7 %	-16.156 cps
B 249.678 {135} (Radial)	0.00604 ppm	121.0 %	0.532 cps
Ba 455.403 {74} (Radial)	-0.00002 ppm	902.8 %	52.416 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	242.1 %	-38.700 cps
Ca 315.887 {107} (Radial)	-0.00450 ppm	291.2 %	1.829 cps
Cd 226.502 {449} (Axial)	-0.00038 ppm	8.2 %	-3.330 cps
Cd 214.438 {457} (Axial)	0.00059 ppm	16.0 %	40.255 cps
Co 228.616 {447} (Axial)	-0.00022 ppm	144.6 %	0.218 cps
Cr 267.716 {126} (Axial)	-0.00033 ppm	91.2 %	-0.353 cps
Cu 324.754 {104} (Axial)	0.00046 ppm	50.5 %	199.850 cps
Cu 327.396 {103} (Axial)	0.00033 ppm	93.2 %	53.633 cps
Fe 259.940 {130} (Radial)	0.00303 ppm	112.4 %	1.496 cps
Fe 273.955 {123} (Radial)	0.00238 ppm	1,075.8 %	1.414 cps
K 766.490 {44} (Radial)	0.02619 ppm	96.3 %	-6.801 cps
Li 670.784 {50} (Radial)	-0.00059 ppm	59.5 %	14.235 cps
Mg 280.270 {120} (Radial)	0.00204 ppm	46.0 %	21.752 cps
Mg 279.079 {121} (Radial)	-0.01224 ppm	289.5 %	-0.483 cps
Mn 257.610 {131} (Axial)	0.00065 ppm	6.8 %	42.567 cps
Mo 202.030 {467} (Axial)	0.00035 ppm	122.8 %	2.036 cps
Mo 204.598 {465} (Axial)	0.00086 ppm	85.1 %	10.404 cps
Na 589.592 {57} (Radial)	0.02253 ppm	28.7 %	48.896 cps
Ni 231.604 {445} (Axial)	0.00073 ppm	40.9 %	-0.379 cps
P 177.495 {490} (Axial)	0.00084 ppm	140.5 %	0.902 cps
Pb 220.353 {453} (Axial)	-0.00446 ppm	29.5 %	-23.447 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sb 206.833 {463} (Axial)	0.00181 ppm	46.8 %	0.448 cps
Se 196.090 {472} (Axial)	0.00009 ppm	4,087.9 %	-1.071 cps
Si 251.611 {134} (Axial)	0.01215 ppm	7.5 %	118.918 cps
Sn 189.989 {477} (Axial)	0.00046 ppm	55.0 %	0.572 cps
Sr 407.771 {83} (Radial)	0.00002 ppm	497.3 %	3.954 cps
Sr 421.552 {80} (Axial)	0.00003 ppm	182.6 %	130.607 cps
Ti 334.941 {101} (Axial)	-0.00015 ppm	122.7 %	15.950 cps
Ti 336.121 {100} (Axial)	-0.00010 ppm	115.9 %	181.400 cps
Tl 190.856 {477} (Axial)	0.00176 ppm	75.8 %	0.255 cps
V 292.402 {115} (Axial)	0.00039 ppm	56.6 %	13.967 cps
Zn 213.856 {458} (Axial)	0.00082 ppm	12.3 %	12.416 cps
Y 371.030 {91} (Radial)	100.20983 %	0.7 %	9,583.636 cps
Y 360.073 {94} (Radial)	100.00399 %	0.8 %	3,503.670 cps
Y 224.306 {450} (Axial)	102.20569 %	0.8 %	14,026.444 cps

SIC Ba

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:11:06 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00007 ppm	74.1 %	-12.333 cps
Ag 338.289 {100} (Axial)	-0.00080 ppm	41.3 %	10.783 cps
Al 308.215 {109} (Radial)	0.01454 ppm	159.4 %	4.163 cps
Al 396.152 {85} (Radial)	0.00880 ppm	81.1 %	11.394 cps
As 189.042 {478} (Axial)	0.00129 ppm	59.4 %	-0.190 cps
As 193.759 {474} (Axial)	-0.00096 ppm	209.4 %	0.187 cps
B 249.678 {135} (Radial)	0.00996 ppm	43.4 %	1.132 cps
Ba 455.403 {74} (Radial)	9.30164 ppm	0.7 %	156,722.509 cps
Be 313.042 {108} (Axial)	-0.00001 ppm	363.4 %	-36.550 cps
Ca 315.887 {107} (Radial)	0.00142 ppm	380.5 %	2.415 cps
Cd 226.502 {449} (Axial)	0.00004 ppm	232.4 %	0.468 cps
Cd 214.438 {457} (Axial)	0.00006 ppm	128.4 %	4.737 cps
Co 228.616 {447} (Axial)	-0.00056 ppm	10.7 %	-1.630 cps
Cr 267.716 {126} (Axial)	-0.00010 ppm	223.3 %	1.363 cps
Cu 324.754 {104} (Axial)	-0.00019 ppm	138.9 %	192.050 cps
Cu 327.396 {103} (Axial)	-0.00004 ppm	486.3 %	48.850 cps
Fe 259.940 {130} (Radial)	0.00241 ppm	209.8 %	1.410 cps
Fe 273.955 {123} (Radial)	-0.00168 ppm	801.2 %	1.150 cps
K 766.490 {44} (Radial)	0.01471 ppm	38.9 %	-11.839 cps
Li 670.784 {50} (Radial)	-0.00106 ppm	29.4 %	7.684 cps
Mg 280.270 {120} (Radial)	0.00024 ppm	196.9 %	13.122 cps
Mg 279.079 {121} (Radial)	-0.03217 ppm	46.8 %	-0.966 cps
Mn 257.610 {131} (Axial)	0.00003 ppm	226.4 %	11.367 cps
Mo 202.030 {467} (Axial)	0.00026 ppm	104.7 %	1.840 cps
Mo 204.598 {465} (Axial)	-0.00012 ppm	223.0 %	-0.095 cps
Na 589.592 {57} (Radial)	-0.00247 ppm	101.3 %	6.524 cps
Ni 231.604 {445} (Axial)	-0.00021 ppm	103.6 %	-3.266 cps
P 177.495 {490} (Axial)	-0.00077 ppm	157.6 %	0.341 cps
Pb 220.353 {453} (Axial)	0.00002 ppm	4,971.0 %	2.684 cps
Sb 206.833 {463} (Axial)	0.00061 ppm	261.3 %	-0.310 cps
Se 196.090 {472} (Axial)	0.00177 ppm	57.6 %	-0.551 cps
Si 251.611 {134} (Axial)	0.00850 ppm	21.4 %	114.151 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sn 189.989 {477} (Axial)	0.00034 ppm	239.3 %	0.465 cps
Sr 407.771 {83} (Radial)	-0.00006 ppm	93.5 %	1.675 cps
Sr 421.552 {80} (Axial)	0.00003 ppm	116.2 %	131.163 cps
Ti 334.941 {101} (Axial)	-0.00014 ppm	67.3 %	16.300 cps
Ti 336.121 {100} (Axial)	0.00002 ppm	936.3 %	187.167 cps
Tl 190.856 {477} (Axial)	0.00052 ppm	208.9 %	-0.376 cps
V 292.402 {115} (Axial)	0.00024 ppm	152.9 %	12.500 cps
Zn 213.856 {458} (Axial)	-0.00024 ppm	81.3 %	6.144 cps
Y 371.030 {91} (Radial)	102.70554 %	0.5 %	9,822.314 cps
Y 360.073 {94} (Radial)	102.58412 %	0.6 %	3,594.066 cps
Y 224.306 {450} (Axial)	103.11121 %	0.7 %	14,150.715 cps

SIC Ca

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:14:04 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00092 ppm	25.3 %	-21.567 cps
Ag 338.289 {100} (Axial)	0.00540 ppm	9.7 %	88.967 cps
Al 308.215 {109} (Radial)	0.01599 ppm	79.0 %	4.174 cps
Al 396.152 {85} (Radial)	0.00450 ppm	460.4 %	18.132 cps
As 189.042 {478} (Axial)	0.00163 ppm	167.2 %	-0.049 cps
As 193.759 {474} (Axial)	-0.00085 ppm	39.8 %	0.212 cps
B 249.678 {135} (Radial)	-0.00003 ppm	7,016.6 %	-0.371 cps
Ba 455.403 {74} (Radial)	0.00084 ppm	25.1 %	66.920 cps
Be 313.042 {108} (Axial)	-0.00012 ppm	10.9 %	-59.783 cps
Ca 315.887 {107} (Radial)	183.83676 ppm	0.1 %	16,245.523 cps
Cd 226.502 {449} (Axial)	0.00002 ppm	966.6 %	0.254 cps
Cd 214.438 {457} (Axial)	0.00002 ppm	267.5 %	4.064 cps
Co 228.616 {447} (Axial)	-0.00004 ppm	546.6 %	1.097 cps
Cr 267.716 {126} (Axial)	0.00003 ppm	509.8 %	2.272 cps
Cu 324.754 {104} (Axial)	0.00045 ppm	75.2 %	189.061 cps
Cu 327.396 {103} (Axial)	0.00168 ppm	18.5 %	69.133 cps
Fe 259.940 {130} (Radial)	-0.00070 ppm	788.7 %	0.724 cps
Fe 273.955 {123} (Radial)	0.00916 ppm	259.2 %	1.897 cps
K 766.490 {44} (Radial)	0.03985 ppm	39.2 %	-1.055 cps
Li 670.784 {50} (Radial)	0.00086 ppm	57.2 %	35.315 cps
Mg 280.270 {120} (Radial)	0.00662 ppm	15.2 %	44.897 cps
Mg 279.079 {121} (Radial)	-0.05636 ppm	35.9 %	-1.514 cps
Mn 257.610 {131} (Axial)	0.00014 ppm	22.0 %	15.700 cps
Mo 202.030 {467} (Axial)	0.00054 ppm	37.6 %	2.333 cps
Mo 204.598 {465} (Axial)	0.00017 ppm	110.7 %	0.309 cps
Na 589.592 {57} (Radial)	0.00278 ppm	136.0 %	15.393 cps
Ni 231.604 {445} (Axial)	0.00010 ppm	148.9 %	-2.181 cps
P 177.495 {490} (Axial)	0.00010 ppm	1,856.3 %	0.610 cps
Pb 220.353 {453} (Axial)	0.00017 ppm	891.6 %	2.632 cps
Sb 206.833 {463} (Axial)	-0.00020 ppm	331.8 %	-0.774 cps
Se 196.090 {472} (Axial)	0.00288 ppm	40.3 %	-0.190 cps
Si 251.611 {134} (Axial)	0.00362 ppm	41.1 %	100.103 cps
Sn 189.989 {477} (Axial)	-0.00079 ppm	27.4 %	-0.615 cps
Sr 407.771 {83} (Radial)	0.00501 ppm	3.8 %	151.588 cps
Sr 421.552 {80} (Axial)	0.00520 ppm	0.5 %	4,691.378 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ti 334.941 {101} (Axial)	0.00039 ppm	26.4 %	-12.167 cps
Ti 336.121 {100} (Axial)	-0.00099 ppm	19.2 %	-66.472 cps
Tl 190.856 {477} (Axial)	0.00056 ppm	62.1 %	-0.331 cps
V 292.402 {115} (Axial)	0.00021 ppm	213.8 %	11.483 cps
Zn 213.856 {458} (Axial)	0.00078 ppm	5.5 %	11.512 cps
Y 371.030 {91} (Radial)	100.76333 %	0.2 %	9,636.570 cps
Y 360.073 {94} (Radial)	100.79830 %	0.2 %	3,531.499 cps
Y 224.306 {450} (Axial)	96.76124 %	0.8 %	13,279.261 cps

SIC Cr

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:16:55 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00012 ppm	251.6 %	-14.433 cps
Ag 338.289 {100} (Axial)	0.00348 ppm	36.6 %	39.251 cps
Al 308.215 {109} (Radial)	-0.00028 ppm	12,590.7 %	3.400 cps
Al 396.152 {85} (Radial)	-0.00985 ppm	212.4 %	5.911 cps
As 189.042 {478} (Axial)	0.00879 ppm	7.3 %	2.807 cps
As 193.759 {474} (Axial)	0.00536 ppm	16.2 %	2.622 cps
B 249.678 {135} (Radial)	0.00632 ppm	87.2 %	0.583 cps
Ba 455.403 {74} (Radial)	0.00042 ppm	161.1 %	61.122 cps
Be 313.042 {108} (Axial)	-0.00001 ppm	275.3 %	-37.454 cps
Ca 315.887 {107} (Radial)	**0.05466 ppm**	**44.8 %**	7.200 cps
Cd 226.502 {449} (Axial)	-0.00001 ppm	1,228.5 %	0.019 cps
Cd 214.438 {457} (Axial)	0.00070 ppm	55.8 %	-50.797 cps
Co 228.616 {447} (Axial)	-0.00001 ppm	856.2 %	-23.709 cps
Cr 267.716 {126} (Axial)	18.93474 ppm	1.2 %	146,377.154 cps
Cu 324.754 {104} (Axial)	-0.00012 ppm	90.8 %	194.425 cps
Cu 327.396 {103} (Axial)	-0.00026 ppm	74.7 %	46.014 cps
Fe 259.940 {130} (Radial)	0.00174 ppm	416.5 %	1.263 cps
Fe 273.955 {123} (Radial)	0.00896 ppm	117.0 %	1.917 cps
K 766.490 {44} (Radial)	0.02160 ppm	35.4 %	-8.893 cps
Li 670.784 {50} (Radial)	-0.00166 ppm	47.5 %	-1.122 cps
Mg 280.270 {120} (Radial)	0.00109 ppm	139.3 %	17.483 cps
Mg 279.079 {121} (Radial)	-0.02036 ppm	336.7 %	-0.683 cps
Mn 257.610 {131} (Axial)	0.00001 ppm	197.8 %	10.214 cps
Mo 202.030 {467} (Axial)	0.00019 ppm	69.8 %	1.686 cps
Mo 204.598 {465} (Axial)	0.00017 ppm	167.5 %	0.340 cps
Na 589.592 {57} (Radial)	0.00215 ppm	202.9 %	14.586 cps
Ni 231.604 {445} (Axial)	-0.00034 ppm	57.4 %	-3.663 cps
P 177.495 {490} (Axial)	-0.00069 ppm	138.8 %	0.371 cps
Pb 220.353 {453} (Axial)	0.00057 ppm	240.4 %	3.153 cps
Sb 206.833 {463} (Axial)	0.01074 ppm	91.2 %	115.536 cps
Se 196.090 {472} (Axial)	0.00303 ppm	42.4 %	-0.159 cps
Si 251.611 {134} (Axial)	0.01169 ppm	20.9 %	119.897 cps
Sn 189.989 {477} (Axial)	-0.00109 ppm	45.7 %	-0.956 cps
Sr 407.771 {83} (Radial)	0.00016 ppm	55.3 %	8.364 cps
Sr 421.552 {80} (Axial)	-0.00002 ppm	62.3 %	79.351 cps
Ti 334.941 {101} (Axial)	0.00410 ppm	2.7 %	177.228 cps
Ti 336.121 {100} (Axial)	-0.00235 ppm	4.1 %	101.081 cps
Tl 190.856 {477} (Axial)	0.00517 ppm	20.0 %	2.145 cps

	Concentration average	Concentration RSD	Raw Intensity average
V 292.402 {115} (Axial)	0.00000 ppm	72,673.1 %	-423.274 cps
Zn 213.856 {458} (Axial)	0.00012 ppm	60.8 %	8.363 cps
Y 371.030 {91} (Radial)	102.67739 %	0.2 %	9,819.622 cps
Y 360.073 {94} (Radial)	102.54164 %	0.1 %	3,592.578 cps
Y 224.306 {450} (Axial)	103.82536 %	0.6 %	14,248.723 cps

SIC Cu

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:19:47 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00166 ppm	6.0 %	4.897 cps
Ag 338.289 {100} (Axial)	-0.00086 ppm	144.8 %	10.344 cps
Al 308.215 {109} (Radial)	-0.04302 ppm	94.0 %	1.035 cps
Al 396.152 {85} (Radial)	0.01186 ppm	82.1 %	12.344 cps
As 189.042 {478} (Axial)	0.00278 ppm	31.4 %	0.400 cps
As 193.759 {474} (Axial)	-0.00024 ppm	644.4 %	0.458 cps
B 249.678 {135} (Radial)	-0.00351 ppm	363.1 %	-0.911 cps
Ba 455.403 {74} (Radial)	0.00026 ppm	176.8 %	58.606 cps
Be 313.042 {108} (Axial)	-0.00004 ppm	81.7 %	-42.212 cps
Ca 315.887 {107} (Radial)	0.02598 ppm	126.2 %	4.633 cps
Cd 226.502 {449} (Axial)	-0.00005 ppm	73.0 %	-0.309 cps
Cd 214.438 {457} (Axial)	0.00005 ppm	182.3 %	4.515 cps
Co 228.616 {447} (Axial)	0.00001 ppm	3,177.8 %	1.404 cps
Cr 267.716 {126} (Axial)	0.00286 ppm	79.8 %	23.985 cps
Cu 324.754 {104} (Axial)	18.99367 ppm	1.1 %	280,994.675 cps
Cu 327.396 {103} (Axial)	18.99596 ppm	0.7 %	271,894.762 cps
Fe 259.940 {130} (Radial)	0.00086 ppm	131.6 %	1.075 cps
Fe 273.955 {123} (Radial)	0.01182 ppm	213.4 %	2.133 cps
K 766.490 {44} (Radial)	0.01679 ppm	84.9 %	-11.015 cps
Li 670.784 {50} (Radial)	-0.00079 ppm	91.7 %	11.765 cps
Mg 280.270 {120} (Radial)	0.00178 ppm	122.1 %	21.067 cps
Mg 279.079 {121} (Radial)	-0.01129 ppm	508.1 %	-0.467 cps
Mn 257.610 {131} (Axial)	0.00003 ppm	296.5 %	11.327 cps
Mo 202.030 {467} (Axial)	-0.00003 ppm	324.4 %	1.172 cps
Mo 204.598 {465} (Axial)	-0.00062 ppm	12.1 %	-0.835 cps
Na 589.592 {57} (Radial)	-0.00300 ppm	77.9 %	5.618 cps
Ni 231.604 {445} (Axial)	-0.00017 ppm	228.6 %	-3.111 cps
P 177.495 {490} (Axial)	0.00901 ppm	11.7 %	10.717 cps
Pb 220.353 {453} (Axial)	0.00070 ppm	111.7 %	7.208 cps
Sb 206.833 {463} (Axial)	0.00208 ppm	50.7 %	0.640 cps
Se 196.090 {472} (Axial)	0.00042 ppm	273.8 %	-0.969 cps
Si 251.611 {134} (Axial)	0.01595 ppm	9.0 %	124.527 cps
Sn 189.989 {477} (Axial)	0.00009 ppm	615.6 %	0.205 cps
Sr 407.771 {83} (Radial)	-0.00001 ppm	485.8 %	3.269 cps
Sr 421.552 {80} (Axial)	0.00001 ppm	292.1 %	108.802 cps
Ti 334.941 {101} (Axial)	0.00002 ppm	1,268.7 %	22.170 cps
Ti 336.121 {100} (Axial)	-0.00005 ppm	175.2 %	182.996 cps
Tl 190.856 {477} (Axial)	0.00004 ppm	545.6 %	-0.612 cps
V 292.402 {115} (Axial)	-0.00068 ppm	32.7 %	2.566 cps
Zn 213.856 {458} (Axial)	0.00320 ppm	71.4 %	243.647 cps
Y 371.030 {91} (Radial)	103.12388 %	0.5 %	9,862.322 cps

	Concentration average	Concentration RSD	Raw Intensity average
Y 360.073 {94} (Radial)	102.90659 %	0.3 %	3,605.364 cps
Y 224.306 {450} (Axial)	102.23146 %	0.6 %	14,029.981 cps

SIC Fe

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:22:47 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00140 ppm	47.8 %	-27.444 cps
Ag 338.289 {100} (Axial)	-0.00042 ppm	172.7 %	12.917 cps
Al 308.215 {109} (Radial)	-0.03676 ppm	83.5 %	1.346 cps
Al 396.152 {85} (Radial)	0.00760 ppm	66.8 %	10.826 cps
As 189.042 {478} (Axial)	-0.00269 ppm	68.1 %	-1.719 cps
As 193.759 {474} (Axial)	-0.01636 ppm	18.5 %	-5.557 cps
B 249.678 {135} (Radial)	-0.01186 ppm	48.0 %	-11.370 cps
Ba 455.403 {74} (Radial)	0.00023 ppm	237.9 %	56.917 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	62.7 %	-37.717 cps
Ca 315.887 {107} (Radial)	0.01820 ppm	123.3 %	3.846 cps
Cd 226.502 {449} (Axial)	0.00212 ppm	53.1 %	448.204 cps
Cd 214.438 {457} (Axial)	0.00141 ppm	40.9 %	206.639 cps
Co 228.616 {447} (Axial)	0.00076 ppm	30.1 %	5.251 cps
Cr 267.716 {126} (Axial)	0.00420 ppm	21.4 %	5.360 cps
Cu 324.754 {104} (Axial)	-0.00255 ppm	62.4 %	-101.794 cps
Cu 327.396 {103} (Axial)	0.00099 ppm	159.8 %	61.917 cps
Fe 259.940 {130} (Radial)	264.91278 ppm	0.1 %	55,956.345 cps
Fe 273.955 {123} (Radial)	274.43584 ppm	0.3 %	19,500.204 cps
K 766.490 {44} (Radial)	0.00034 ppm	7,243.8 %	-17.686 cps
Li 670.784 {50} (Radial)	-0.00087 ppm	77.0 %	10.264 cps
Mg 280.270 {120} (Radial)	0.00089 ppm	195.9 %	16.167 cps
Mg 279.079 {121} (Radial)	0.14980 ppm	17.2 %	-0.033 cps
Mn 257.610 {131} (Axial)	0.00358 ppm	2.6 %	186.833 cps
Mo 202.030 {467} (Axial)	-0.00299 ppm	11.8 %	-5.528 cps
Mo 204.598 {465} (Axial)	0.00026 ppm	181.3 %	0.455 cps
Na 589.592 {57} (Radial)	0.00581 ppm	52.4 %	20.599 cps
Ni 231.604 {445} (Axial)	0.00111 ppm	46.3 %	0.714 cps
P 177.495 {490} (Axial)	0.00458 ppm	31.5 %	2.162 cps
Pb 220.353 {453} (Axial)	0.00184 ppm	28.1 %	14.849 cps
Sb 206.833 {463} (Axial)	-0.01889 ppm	4.6 %	-9.039 cps
Se 196.090 {472} (Axial)	0.00043 ppm	366.2 %	-6.109 cps
Si 251.611 {134} (Axial)	-0.03515 ppm	2.9 %	45.738 cps
Sn 189.989 {477} (Axial)	0.00106 ppm	63.6 %	1.134 cps
Sr 407.771 {83} (Radial)	-0.00012 ppm	85.4 %	0.058 cps
Sr 421.552 {80} (Axial)	0.00001 ppm	320.8 %	103.417 cps
Ti 334.941 {101} (Axial)	-0.00003 ppm	199.3 %	19.883 cps
Ti 336.121 {100} (Axial)	0.00002 ppm	1,182.2 %	181.978 cps
Tl 190.856 {477} (Axial)	-0.00706 ppm	10.7 %	-4.129 cps
V 292.402 {115} (Axial)	0.00127 ppm	7.0 %	22.950 cps
Zn 213.856 {458} (Axial)	0.01227 ppm	11.4 %	261.957 cps
Y 371.030 {91} (Radial)	100.91056 %	0.2 %	9,650.650 cps
Y 360.073 {94} (Radial)	100.64292 %	0.1 %	3,526.055 cps
Y 224.306 {450} (Axial)	100.28654 %	0.5 %	13,763.065 cps

SIC Mg

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:25:36 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00015 ppm	151.2 %	-10.833 cps
Ag 338.289 {100} (Axial)	-0.00096 ppm	86.2 %	10.083 cps
Al 308.215 {109} (Radial)	-0.04310 ppm	44.7 %	1.018 cps
Al 396.152 {85} (Radial)	-0.00342 ppm	287.7 %	7.733 cps
As 189.042 {478} (Axial)	0.00188 ppm	56.4 %	0.046 cps
As 193.759 {474} (Axial)	0.00018 ppm	401.9 %	0.591 cps
B 249.678 {135} (Radial)	-0.00115 ppm	719.6 %	-0.544 cps
Ba 455.403 {74} (Radial)	-0.00006 ppm	95.6 %	52.522 cps
Be 313.042 {108} (Axial)	-0.00006 ppm	18.5 %	-46.417 cps
Ca 315.887 {107} (Radial)	-0.00797 ppm	356.6 %	1.550 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	595.5 %	-0.085 cps
Cd 214.438 {457} (Axial)	-0.00007 ppm	72.0 %	3.269 cps
Co 228.616 {447} (Axial)	-0.00015 ppm	103.3 %	0.607 cps
Cr 267.716 {126} (Axial)	0.00122 ppm	52.5 %	10.947 cps
Cu 324.754 {104} (Axial)	0.00178 ppm	31.6 %	210.556 cps
Cu 327.396 {103} (Axial)	0.00092 ppm	70.6 %	59.567 cps
Fe 259.940 {130} (Radial)	0.04216 ppm	10.0 %	9.847 cps
Fe 273.955 {123} (Radial)	0.03908 ppm	54.6 %	4.050 cps
K 766.490 {44} (Radial)	-0.01166 ppm	189.4 %	-22.929 cps
Li 670.784 {50} (Radial)	-0.00077 ppm	137.9 %	11.793 cps
Mg 280.270 {120} (Radial)	160.58589 ppm	0.7 %	809,711.411 cps
Mg 279.079 {121} (Radial)	198.21348 ppm	0.4 %	4,663.300 cps
Mn 257.610 {131} (Axial)	0.00569 ppm	0.4 %	285.033 cps
Mo 202.030 {467} (Axial)	0.00009 ppm	221.2 %	1.370 cps
Mo 204.598 {465} (Axial)	0.00021 ppm	240.7 %	0.363 cps
Na 589.592 {57} (Radial)	0.00541 ppm	82.3 %	20.096 cps
Ni 231.604 {445} (Axial)	0.00084 ppm	35.9 %	-0.077 cps
P 177.495 {490} (Axial)	-0.00178 ppm	46.7 %	-0.013 cps
Pb 220.353 {453} (Axial)	-0.00027 ppm	238.5 %	2.331 cps
Sb 206.833 {463} (Axial)	-0.00103 ppm	26.4 %	-1.284 cps
Se 196.090 {472} (Axial)	0.00310 ppm	7.4 %	-0.177 cps
Si 251.611 {134} (Axial)	0.01184 ppm	28.8 %	113.486 cps
Sn 189.989 {477} (Axial)	0.00027 ppm	17.2 %	0.370 cps
Sr 407.771 {83} (Radial)	0.00003 ppm	304.1 %	4.381 cps
Sr 421.552 {80} (Axial)	-0.00002 ppm	67.3 %	75.322 cps
Ti 334.941 {101} (Axial)	0.00558 ppm	1.8 %	220.617 cps
Ti 336.121 {100} (Axial)	0.00582 ppm	2.7 %	380.200 cps
Tl 190.856 {477} (Axial)	0.00012 ppm	295.0 %	-0.556 cps
V 292.402 {115} (Axial)	0.00114 ppm	64.8 %	21.100 cps
Zn 213.856 {458} (Axial)	0.00114 ppm	7.6 %	13.768 cps
Y 371.030 {91} (Radial)	101.80625 %	0.0 %	9,736.310 cps
Y 360.073 {94} (Radial)	101.37572 %	0.1 %	3,551.729 cps
Y 224.306 {450} (Axial)	98.09002 %	0.4 %	13,461.620 cps

SIC Mn

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:28:35 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00031 ppm	29.3 %	10.889 cps
Ag 338.289 {100} (Axial)	-0.00111 ppm	57.6 %	8.883 cps
Al 308.215 {109} (Radial)	-0.02275 ppm	223.6 %	2.142 cps
Al 396.152 {85} (Radial)	-0.00390 ppm	369.3 %	7.678 cps
As 189.042 {478} (Axial)	0.00208 ppm	127.4 %	0.128 cps
As 193.759 {474} (Axial)	-0.00091 ppm	75.3 %	0.207 cps
B 249.678 {135} (Radial)	-0.00318 ppm	52.9 %	-0.856 cps
Ba 455.403 {74} (Radial)	0.00028 ppm	134.2 %	58.789 cps
Be 313.042 {108} (Axial)	-0.00004 ppm	27.1 %	-44.833 cps
Ca 315.887 {107} (Radial)	0.00183 ppm	555.3 %	2.450 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	193.1 %	-0.163 cps
Cd 214.438 {457} (Axial)	-0.00002 ppm	302.9 %	3.921 cps
Co 228.616 {447} (Axial)	0.00001 ppm	884.8 %	1.445 cps
Cr 267.716 {126} (Axial)	0.00076 ppm	57.5 %	28.899 cps
Cu 324.754 {104} (Axial)	0.00138 ppm	62.9 %	217.272 cps
Cu 327.396 {103} (Axial)	0.00149 ppm	50.9 %	71.567 cps
Fe 259.940 {130} (Radial)	0.02296 ppm	100.1 %	5.824 cps
Fe 273.955 {123} (Radial)	0.02006 ppm	234.9 %	2.717 cps
K 766.490 {44} (Radial)	0.01599 ppm	174.9 %	-11.325 cps
Li 670.784 {50} (Radial)	-0.00107 ppm	37.0 %	7.524 cps
Mg 280.270 {120} (Radial)	0.03740 ppm	60.2 %	202.600 cps
Mg 279.079 {121} (Radial)	-0.02029 ppm	202.1 %	-0.683 cps
Mn 257.610 {131} (Axial)	17.11633 ppm	0.3 %	879,320.653 cps
Mo 202.030 {467} (Axial)	-0.00013 ppm	101.9 %	0.947 cps
Mo 204.598 {465} (Axial)	0.00010 ppm	405.8 %	0.230 cps
Na 589.592 {57} (Radial)	0.00587 ppm	76.2 %	21.143 cps
Ni 231.604 {445} (Axial)	-0.00015 ppm	338.4 %	-3.123 cps
P 177.495 {490} (Axial)	-0.00052 ppm	164.7 %	0.433 cps
Pb 220.353 {453} (Axial)	0.00247 ppm	55.9 %	4.748 cps
Sb 206.833 {463} (Axial)	-0.00071 ppm	111.9 %	-1.138 cps
Se 196.090 {472} (Axial)	0.00008 ppm	1,713.5 %	0.853 cps
Si 251.611 {134} (Axial)	0.01027 ppm	18.3 %	117.856 cps
Sn 189.989 {477} (Axial)	0.00000 ppm	5,219.3 %	0.127 cps
Sr 407.771 {83} (Radial)	-0.00006 ppm	104.9 %	1.706 cps
Sr 421.552 {80} (Axial)	-0.00003 ppm	6.5 %	68.865 cps
Ti 334.941 {101} (Axial)	-0.00023 ppm	37.9 %	13.217 cps
Ti 336.121 {100} (Axial)	-0.00015 ppm	30.9 %	182.344 cps
Tl 190.856 {477} (Axial)	0.01028 ppm	9.3 %	4.677 cps
V 292.402 {115} (Axial)	0.00016 ppm	207.8 %	-74.000 cps
Zn 213.856 {458} (Axial)	0.00058 ppm	17.4 %	11.167 cps
Y 371.030 {91} (Radial)	102.90829 %	0.2 %	9,841.704 cps
Y 360.073 {94} (Radial)	102.59096 %	0.3 %	3,594.306 cps
Y 224.306 {450} (Axial)	103.96117 %	0.4 %	14,267.361 cps

SIC Mo

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:31:36 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00013 ppm	277.4 %	-11.778 cps
Ag 338.289 {100} (Axial)	-0.00030 ppm	208.9 %	14.183 cps
Al 308.215 {109} (Radial)	-0.00377 ppm	812.6 %	15.908 cps
Al 396.152 {85} (Radial)	-0.08047 ppm	37.0 %	155.528 cps
As 189.042 {478} (Axial)	0.00912 ppm	9.5 %	2.954 cps
As 193.759 {474} (Axial)	0.00269 ppm	50.2 %	1.581 cps
B 249.678 {135} (Radial)	0.00508 ppm	118.4 %	0.394 cps
Ba 455.403 {74} (Radial)	-0.00066 ppm	32.7 %	43.100 cps
Be 313.042 {108} (Axial)	-0.00165 ppm	1.0 %	-471.583 cps
Ca 315.887 {107} (Radial)	-0.09205 ppm	23.1 %	5.533 cps
Cd 226.502 {449} (Axial)	-0.00159 ppm	3.9 %	-14.676 cps
Cd 214.438 {457} (Axial)	0.00036 ppm	21.0 %	-24.915 cps
Co 228.616 {447} (Axial)	-0.00048 ppm	11.5 %	-1.207 cps
Cr 267.716 {126} (Axial)	-0.00159 ppm	48.1 %	-10.175 cps
Cu 324.754 {104} (Axial)	0.01097 ppm	9.3 %	362.439 cps
Cu 327.396 {103} (Axial)	0.00057 ppm	211.7 %	58.150 cps
Fe 259.940 {130} (Radial)	0.01030 ppm	74.3 %	3.110 cps
Fe 273.955 {123} (Radial)	0.02331 ppm	154.5 %	-1.850 cps
K 766.490 {44} (Radial)	0.02353 ppm	94.3 %	-8.061 cps
Li 670.784 {50} (Radial)	-0.00033 ppm	175.7 %	18.635 cps
Mg 280.270 {120} (Radial)	0.01202 ppm	69.7 %	73.450 cps
Mg 279.079 {121} (Radial)	-0.04229 ppm	165.8 %	-1.217 cps
Mn 257.610 {131} (Axial)	0.00272 ppm	82.2 %	149.717 cps
Mo 202.030 {467} (Axial)	18.88107 ppm	2.4 %	44,257.809 cps
Mo 204.598 {465} (Axial)	19.04666 ppm	2.4 %	28,668.353 cps
Na 589.592 {57} (Radial)	0.03742 ppm	9.1 %	76.499 cps
Ni 231.604 {445} (Axial)	-0.00474 ppm	0.6 %	60.139 cps
P 177.495 {490} (Axial)	0.00070 ppm	205.2 %	0.884 cps
Pb 220.353 {453} (Axial)	-0.01308 ppm	2.3 %	-8.235 cps
Sb 206.833 {463} (Axial)	0.00399 ppm	16.4 %	1.855 cps
Se 196.090 {472} (Axial)	0.00618 ppm	18.1 %	0.840 cps
Si 251.611 {134} (Axial)	-0.01245 ppm	79.4 %	604.231 cps
Sn 189.989 {477} (Axial)	-0.00006 ppm	863.9 %	0.063 cps
Sr 407.771 {83} (Radial)	-0.00002 ppm	700.9 %	2.876 cps
Sr 421.552 {80} (Axial)	-0.00001 ppm	138.2 %	88.269 cps
Ti 334.941 {101} (Axial)	-0.00036 ppm	29.1 %	8.233 cps
Ti 336.121 {100} (Axial)	0.00173 ppm	7.7 %	252.733 cps
Tl 190.856 {477} (Axial)	-0.00153 ppm	112.1 %	-1.432 cps
V 292.402 {115} (Axial)	-0.00134 ppm	7.0 %	-4.550 cps
Zn 213.856 {458} (Axial)	-0.00263 ppm	3.6 %	-7.556 cps
Y 371.030 {91} (Radial)	103.19998 %	0.8 %	9,869.600 cps
Y 360.073 {94} (Radial)	102.76590 %	0.9 %	3,600.435 cps
Y 224.306 {450} (Axial)	104.26952 %	0.5 %	14,309.679 cps

SIC Ni

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:34:26 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00001 ppm	4,338.4 %	-13.167 cps
Ag 338.289 {100} (Axial)	-0.00095 ppm	99.1 %	9.983 cps
Al 308.215 {109} (Radial)	-0.01559 ppm	71.9 %	2.544 cps

	Concentration average	Concentration RSD	Raw Intensity average
Al 396.152 {85} (Radial)	-0.00967 ppm	97.3 %	6.028 cps
As 189.042 {478} (Axial)	0.00043 ppm	200.3 %	-0.535 cps
As 193.759 {474} (Axial)	-0.00097 ppm	226.6 %	0.185 cps
B 249.678 {135} (Radial)	-0.00027 ppm	2,170.5 %	-0.417 cps
Ba 455.403 {74} (Radial)	-0.00056 ppm	29.3 %	44.900 cps
Be 313.042 {108} (Axial)	-0.00004 ppm	35.9 %	-45.317 cps
Ca 315.887 {107} (Radial)	-0.01216 ppm	217.2 %	1.200 cps
Cd 226.502 {449} (Axial)	-0.00084 ppm	9.3 %	-7.696 cps
Cd 214.438 {457} (Axial)	-0.00005 ppm	237.7 %	3.726 cps
Co 228.616 {447} (Axial)	0.00185 ppm	10.5 %	11.338 cps
Cr 267.716 {126} (Axial)	-0.00005 ppm	554.6 %	1.806 cps
Cu 324.754 {104} (Axial)	0.00027 ppm	32.7 %	201.756 cps
Cu 327.396 {103} (Axial)	0.00013 ppm	359.9 %	52.017 cps
Fe 259.940 {130} (Radial)	0.00869 ppm	71.5 %	2.771 cps
Fe 273.955 {123} (Radial)	0.02688 ppm	59.6 %	3.233 cps
K 766.490 {44} (Radial)	-0.00602 ppm	489.6 %	-20.878 cps
Li 670.784 {50} (Radial)	-0.00052 ppm	93.6 %	15.708 cps
Mg 280.270 {120} (Radial)	0.00599 ppm	80.2 %	42.667 cps
Mg 279.079 {121} (Radial)	-0.05212 ppm	116.3 %	-1.450 cps
Mn 257.610 {131} (Axial)	0.00117 ppm	53.7 %	70.367 cps
Mo 202.030 {467} (Axial)	0.00234 ppm	33.5 %	6.770 cps
Mo 204.598 {465} (Axial)	0.00225 ppm	58.3 %	3.474 cps
Na 589.592 {57} (Radial)	0.00184 ppm	433.0 %	14.160 cps
Ni 231.604 {445} (Axial)	10.10874 ppm	2.5 %	31,014.334 cps
P 177.495 {490} (Axial)	0.00241 ppm	36.3 %	6.534 cps
Pb 220.353 {453} (Axial)	0.00226 ppm	33.0 %	4.602 cps
Sb 206.833 {463} (Axial)	-0.00061 ppm	142.0 %	-1.099 cps
Se 196.090 {472} (Axial)	-0.00030 ppm	634.2 %	-1.220 cps
Si 251.611 {134} (Axial)	0.01410 ppm	9.2 %	124.674 cps
Sn 189.989 {477} (Axial)	-0.00008 ppm	1,063.6 %	0.048 cps
Sr 407.771 {83} (Radial)	-0.00002 ppm	513.1 %	2.989 cps
Sr 421.552 {80} (Axial)	-0.00002 ppm	81.6 %	87.069 cps
Ti 334.941 {101} (Axial)	-0.00017 ppm	44.4 %	15.617 cps
Ti 336.121 {100} (Axial)	-0.00211 ppm	4.1 %	110.750 cps
Tl 190.856 {477} (Axial)	0.00078 ppm	60.6 %	-0.242 cps
V 292.402 {115} (Axial)	0.00000 ppm	4,260.8 %	10.067 cps
Zn 213.856 {458} (Axial)	0.00547 ppm	1.7 %	323.896 cps
Y 371.030 {91} (Radial)	103.49923 %	0.1 %	9,898.219 cps
Y 360.073 {94} (Radial)	103.16851 %	0.3 %	3,614.540 cps
Y 224.306 {450} (Axial)	104.64627 %	0.1 %	14,361.383 cps

SIC Si

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:37:17 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00017 ppm	152.7 %	-15.184 cps
Ag 338.289 {100} (Axial)	-0.00043 ppm	119.4 %	13.414 cps
Al 308.215 {109} (Radial)	-0.02416 ppm	87.3 %	2.072 cps
Al 396.152 {85} (Radial)	-0.00145 ppm	220.8 %	8.456 cps
As 189.042 {478} (Axial)	-0.00236 ppm	79.5 %	-1.668 cps
As 193.759 {474} (Axial)	-0.00065 ppm	212.6 %	0.314 cps

	Concentration average	Concentration RSD	Raw Intensity average
B 249.678 {135} (Radial)	0.00705 ppm	53.5 %	0.700 cps
Ba 455.403 {74} (Radial)	-0.00034 ppm	51.4 %	48.622 cps
Be 313.042 {108} (Axial)	-0.00007 ppm	13.7 %	-52.036 cps
Ca 315.887 {107} (Radial)	-0.00607 ppm	65.7 %	1.750 cps
Cd 226.502 {449} (Axial)	-0.00010 ppm	41.0 %	-0.837 cps
Cd 214.438 {457} (Axial)	0.00001 ppm	1,003.9 %	4.334 cps
Co 228.616 {447} (Axial)	-0.00042 ppm	61.9 %	-0.861 cps
Cr 267.716 {126} (Axial)	0.00033 ppm	140.6 %	4.807 cps
Cu 324.754 {104} (Axial)	-0.00008 ppm	948.9 %	197.790 cps
Cu 327.396 {103} (Axial)	0.00034 ppm	148.3 %	55.447 cps
Fe 259.940 {130} (Radial)	0.01162 ppm	53.0 %	3.414 cps
Fe 273.955 {123} (Radial)	0.01069 ppm	213.3 %	2.050 cps
K 766.490 {44} (Radial)	0.02272 ppm	133.9 %	-8.465 cps
Li 670.784 {50} (Radial)	-0.00059 ppm	159.7 %	14.665 cps
Mg 280.270 {120} (Radial)	0.00666 ppm	58.8 %	46.183 cps
Mg 279.079 {121} (Radial)	0.01198 ppm	408.4 %	0.083 cps
Mn 257.610 {131} (Axial)	0.00128 ppm	70.7 %	76.681 cps
Mo 202.030 {467} (Axial)	0.00129 ppm	46.1 %	4.314 cps
Mo 204.598 {465} (Axial)	0.00092 ppm	61.4 %	1.472 cps
Na 589.592 {57} (Radial)	0.00419 ppm	202.3 %	18.303 cps
Ni 231.604 {445} (Axial)	0.00107 ppm	36.4 %	0.628 cps
P 177.495 {490} (Axial)	-0.00031 ppm	137.2 %	0.513 cps
Pb 220.353 {453} (Axial)	0.00364 ppm	20.8 %	5.791 cps
Sb 206.833 {463} (Axial)	0.00069 ppm	206.8 %	-0.259 cps
Se 196.090 {472} (Axial)	-0.00070 ppm	281.7 %	-1.353 cps
Si 251.611 {134} (Axial)	27.48056 ppm	0.6 %	43,272.042 cps
Sn 189.989 {477} (Axial)	-0.00017 ppm	326.9 %	-0.045 cps
Sr 407.771 {83} (Radial)	-0.00016 ppm	12.6 %	-1.340 cps
Sr 421.552 {80} (Axial)	-0.00002 ppm	31.8 %	84.895 cps
Ti 334.941 {101} (Axial)	-0.00022 ppm	54.2 %	13.615 cps
Ti 336.121 {100} (Axial)	-0.00015 ppm	136.0 %	184.858 cps
Tl 190.856 {477} (Axial)	0.00099 ppm	90.2 %	-0.136 cps
V 292.402 {115} (Axial)	0.00022 ppm	120.9 %	12.585 cps
Zn 213.856 {458} (Axial)	0.00011 ppm	47.2 %	8.480 cps
Y 371.030 {91} (Radial)	103.47084 %	0.3 %	9,895.504 cps
Y 360.073 {94} (Radial)	103.21160 %	0.7 %	3,616.050 cps
Y 224.306 {450} (Axial)	105.29954 %	0.7 %	14,451.036 cps

SIC Sn

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:40:09 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00034 ppm	68.7 %	-16.800 cps
Ag 338.289 {100} (Axial)	-0.00029 ppm	282.2 %	14.117 cps
Al 308.215 {109} (Radial)	-0.01721 ppm	93.5 %	2.431 cps
Al 396.152 {85} (Radial)	0.01336 ppm	56.2 %	12.722 cps
As 189.042 {478} (Axial)	-0.00052 ppm	116.0 %	-0.909 cps
As 193.759 {474} (Axial)	-0.00140 ppm	44.2 %	0.016 cps
B 249.678 {135} (Radial)	0.00402 ppm	188.3 %	0.233 cps
Ba 455.403 {74} (Radial)	-0.00027 ppm	75.5 %	49.278 cps
Be 313.042 {108} (Axial)	-0.00006 ppm	27.7 %	-49.283 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ca 315.887 {107} (Radial)	0.05663 ppm	52.3 %	7.350 cps
Cd 226.502 {449} (Axial)	-0.00007 ppm	91.1 %	-0.496 cps
Cd 214.438 {457} (Axial)	-0.00005 ppm	258.0 %	3.631 cps
Co 228.616 {447} (Axial)	-0.00010 ppm	247.4 %	0.856 cps
Cr 267.716 {126} (Axial)	-0.00023 ppm	298.2 %	0.349 cps
Cu 324.754 {104} (Axial)	0.00006 ppm	1,161.5 %	196.539 cps
Cu 327.396 {103} (Axial)	-0.00010 ppm	84.6 %	48.167 cps
Fe 259.940 {130} (Radial)	0.00263 ppm	68.8 %	1.447 cps
Fe 273.955 {123} (Radial)	0.00512 ppm	101.8 %	1.633 cps
K 766.490 {44} (Radial)	-0.00765 ppm	238.1 %	-21.378 cps
Li 670.784 {50} (Radial)	-0.00052 ppm	47.2 %	15.656 cps
Mg 280.270 {120} (Radial)	0.00631 ppm	35.0 %	43.933 cps
Mg 279.079 {121} (Radial)	-0.07454 ppm	84.4 %	-1.967 cps
Mn 257.610 {131} (Axial)	0.00062 ppm	89.5 %	41.683 cps
Mo 202.030 {467} (Axial)	0.00136 ppm	76.9 %	4.407 cps
Mo 204.598 {465} (Axial)	0.00117 ppm	61.7 %	1.823 cps
Na 589.592 {57} (Radial)	0.00397 ppm	52.4 %	17.717 cps
Ni 231.604 {445} (Axial)	0.00078 ppm	62.4 %	-0.266 cps
P 177.495 {490} (Axial)	0.00070 ppm	57.7 %	0.863 cps
Pb 220.353 {453} (Axial)	0.00094 ppm	106.2 %	3.461 cps
Sb 206.833 {463} (Axial)	0.00188 ppm	77.6 %	0.505 cps
Se 196.090 {472} (Axial)	0.00262 ppm	82.6 %	-0.289 cps
Si 251.611 {134} (Axial)	0.04424 ppm	1.6 %	169.972 cps
Sn 189.989 {477} (Axial)	9.66077 ppm	3.1 %	9,527.518 cps
Sr 407.771 {83} (Radial)	0.00039 ppm	16.7 %	15.326 cps
Sr 421.552 {80} (Axial)	0.00041 ppm	2.3 %	483.867 cps
Ti 334.941 {101} (Axial)	-0.00020 ppm	16.7 %	14.083 cps
Ti 336.121 {100} (Axial)	-0.00027 ppm	32.2 %	177.361 cps
Tl 190.856 {477} (Axial)	-0.00072 ppm	101.6 %	-1.010 cps
V 292.402 {115} (Axial)	0.00023 ppm	37.6 %	12.417 cps
Zn 213.856 {458} (Axial)	0.00091 ppm	4.9 %	13.113 cps
Y 371.030 {91} (Radial)	102.45930 %	0.3 %	9,798.765 cps
Y 360.073 {94} (Radial)	102.18878 %	0.1 %	3,580.215 cps
Y 224.306 {450} (Axial)	103.59180 %	0.6 %	14,216.671 cps

SIC Ti

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:43:00 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00051 ppm	115.8 %	-18.644 cps
Ag 338.289 {100} (Axial)	0.00001 ppm	7,958.5 %	1,429.233 cps
Al 308.215 {109} (Radial)	-0.02876 ppm	45.8 %	1.806 cps
Al 396.152 {85} (Radial)	-0.00409 ppm	36.1 %	7.617 cps
As 189.042 {478} (Axial)	0.00141 ppm	44.0 %	-0.143 cps
As 193.759 {474} (Axial)	-0.00188 ppm	20.1 %	-0.170 cps
B 249.678 {135} (Radial)	0.00504 ppm	109.5 %	0.389 cps
Ba 455.403 {74} (Radial)	-0.00031 ppm	34.5 %	48.844 cps
Be 313.042 {108} (Axial)	-0.00005 ppm	39.0 %	-45.600 cps
Ca 315.887 {107} (Radial)	0.00092 ppm	1,844.2 %	2.367 cps
Cd 226.502 {449} (Axial)	0.00046 ppm	5.8 %	4.389 cps
Cd 214.438 {457} (Axial)	-0.00005 ppm	202.4 %	3.629 cps

	Concentration average	Concentration RSD	Raw Intensity average
Co 228.616 {447} (Axial)	-0.00112 ppm	146.1 %	101.188 cps
Cr 267.716 {126} (Axial)	0.00017 ppm	70.6 %	3.465 cps
Cu 324.754 {104} (Axial)	-0.00099 ppm	43.0 %	181.383 cps
Cu 327.396 {103} (Axial)	-0.00198 ppm	15.5 %	20.883 cps
Fe 259.940 {130} (Radial)	0.00327 ppm	167.7 %	1.590 cps
Fe 273.955 {123} (Radial)	0.01423 ppm	124.1 %	2.300 cps
K 766.490 {44} (Radial)	-0.00783 ppm	549.9 %	-21.540 cps
Li 670.784 {50} (Radial)	-0.00051 ppm	54.4 %	15.725 cps
Mg 280.270 {120} (Radial)	0.00568 ppm	82.6 %	40.883 cps
Mg 279.079 {121} (Radial)	-0.02670 ppm	73.0 %	-0.833 cps
Mn 257.610 {131} (Axial)	0.00057 ppm	125.9 %	38.800 cps
Mo 202.030 {467} (Axial)	0.00103 ppm	52.1 %	3.655 cps
Mo 204.598 {465} (Axial)	0.00057 ppm	130.2 %	0.930 cps
Na 589.592 {57} (Radial)	-0.00254 ppm	164.3 %	6.415 cps
Ni 231.604 {445} (Axial)	0.00062 ppm	45.9 %	-0.820 cps
P 177.495 {490} (Axial)	-0.00071 ppm	145.7 %	0.366 cps
Pb 220.353 {453} (Axial)	-0.00089 ppm	62.7 %	1.953 cps
Sb 206.833 {463} (Axial)	0.00181 ppm	35.7 %	0.461 cps
Se 196.090 {472} (Axial)	0.00156 ppm	76.8 %	-0.623 cps
Si 251.611 {134} (Axial)	0.01180 ppm	23.4 %	120.106 cps
Sn 189.989 {477} (Axial)	0.00132 ppm	76.7 %	1.433 cps
Sr 407.771 {83} (Radial)	-0.00003 ppm	261.3 %	2.535 cps
Sr 421.552 {80} (Axial)	-0.00001 ppm	20.3 %	93.006 cps
Ti 334.941 {101} (Axial)	9.41280 ppm	0.6 %	357,217.991 cps
Ti 336.121 {100} (Axial)	9.38128 ppm	0.4 %	346,068.335 cps
Tl 190.856 {477} (Axial)	-0.00395 ppm	11.9 %	-2.669 cps
V 292.402 {115} (Axial)	0.00465 ppm	13.8 %	60.350 cps
Zn 213.856 {458} (Axial)	-0.00416 ppm	7.1 %	-17.429 cps
Y 371.030 {91} (Radial)	102.75613 %	0.3 %	9,827.153 cps
Y 360.073 {94} (Radial)	102.49653 %	0.3 %	3,590.997 cps
Y 224.306 {450} (Axial)	103.84732 %	0.4 %	14,251.737 cps

SIC V

Sample type: UNKNOWN Analysis started at: 12/18/2019 4:46:07 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00117 ppm	30.0 %	-0.443 cps
Ag 338.289 {100} (Axial)	-0.00071 ppm	173.1 %	11.647 cps
Al 308.215 {109} (Radial)	0.00007 ppm	36,563.2 %	-16.383 cps
Al 396.152 {85} (Radial)	-0.00739 ppm	76.2 %	6.600 cps
As 189.042 {478} (Axial)	0.00260 ppm	70.1 %	0.333 cps
As 193.759 {474} (Axial)	-0.03286 ppm	4.5 %	-12.065 cps
B 249.678 {135} (Radial)	0.00073 ppm	1,014.1 %	-0.267 cps
Ba 455.403 {74} (Radial)	-0.00049 ppm	45.4 %	45.956 cps
Be 313.042 {108} (Axial)	0.00044 ppm	10.0 %	1,161.234 cps
Ca 315.887 {107} (Radial)	0.01656 ppm	49.2 %	3.783 cps
Cd 226.502 {449} (Axial)	0.00021 ppm	38.2 %	2.065 cps
Cd 214.438 {457} (Axial)	0.00000 ppm	5,909.1 %	4.123 cps
Co 228.616 {447} (Axial)	0.00004 ppm	411.4 %	1.611 cps
Cr 267.716 {126} (Axial)	-0.00091 ppm	23.5 %	-4.816 cps
Cu 324.754 {104} (Axial)	-0.00292 ppm	6.0 %	152.036 cps

	Concentration average	Concentration RSD	Raw Intensity average
Cu 327.396 {103} (Axial)	-0.00028 ppm	97.8 %	45.621 cps
Fe 259.940 {130} (Radial)	0.00374 ppm	215.8 %	1.690 cps
Fe 273.955 {123} (Radial)	-0.00421 ppm	460.6 %	0.967 cps
K 766.490 {44} (Radial)	0.00562 ppm	379.2 %	-15.819 cps
Li 670.784 {50} (Radial)	-0.00083 ppm	94.3 %	11.235 cps
Mg 280.270 {120} (Radial)	0.01542 ppm	5.0 %	90.817 cps
Mg 279.079 {121} (Radial)	0.01120 ppm	179.1 %	0.067 cps
Mn 257.610 {131} (Axial)	-0.00230 ppm	25.1 %	-108.017 cps
Mo 202.030 {467} (Axial)	-0.00630 ppm	7.2 %	-13.421 cps
Mo 204.598 {465} (Axial)	0.00035 ppm	220.1 %	0.583 cps
Na 589.592 {57} (Radial)	0.00675 ppm	60.8 %	22.696 cps
Ni 231.604 {445} (Axial)	0.00022 ppm	73.5 %	-1.963 cps
P 177.495 {490} (Axial)	-0.00036 ppm	201.1 %	0.487 cps
Pb 220.353 {453} (Axial)	-0.00148 ppm	88.8 %	1.494 cps
Sb 206.833 {463} (Axial)	0.00188 ppm	21.2 %	0.497 cps
Se 196.090 {472} (Axial)	0.00494 ppm	21.7 %	0.443 cps
Si 251.611 {134} (Axial)	0.01598 ppm	0.8 %	126.320 cps
Sn 189.989 {477} (Axial)	0.00036 ppm	76.6 %	0.478 cps
Sr 407.771 {83} (Radial)	-0.00023 ppm	46.9 %	-3.318 cps
Sr 421.552 {80} (Axial)	-0.00005 ppm	24.7 %	51.817 cps
Ti 334.941 {101} (Axial)	0.00139 ppm	85.8 %	74.303 cps
Ti 336.121 {100} (Axial)	0.00117 ppm	116.5 %	230.330 cps
Tl 190.856 {477} (Axial)	0.00266 ppm	176.8 %	-64.199 cps
V 292.402 {115} (Axial)	19.03155 ppm	0.5 %	205,688.749 cps
Zn 213.856 {458} (Axial)	-0.00022 ppm	14.1 %	6.300 cps
Y 371.030 {91} (Radial)	103.12434 %	0.6 %	9,862.367 cps
Y 360.073 {94} (Radial)	102.85355 %	0.6 %	3,603.506 cps
Y 224.306 {450} (Axial)	103.63135 %	0.3 %	14,222.098 cps

LCB

Sample type: QC Analysis started at: 12/18/2019 4:48:58 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00041 ppm	17.172 %	41.0 %	-8.644 cps
Ag 338.289 {100} (Axial)	-0.00061 ppm	-4.675 %	112.8 %	12.183 cps
Al 308.215 {109} (Radial)	-0.06102 ppm	-21.043 %	37.2 %	0.061 cps
Al 396.152 {85} (Radial)	-0.01091 ppm	-11.729 %	43.3 %	5.628 cps
As 189.042 {478} (Axial)	0.00050 ppm	9.664 %	225.7 %	-0.502 cps
As 193.759 {474} (Axial)	-0.00143 ppm	-15.930 %	91.6 %	0.006 cps
B 249.678 {135} (Radial)	0.00128 ppm	9.841 %	673.4 %	-0.172 cps
Ba 455.403 {74} (Radial)	-0.00014 ppm	-15.581 %	137.4 %	52.022 cps
Be 313.042 {108} (Axial)	-0.00006 ppm	-9.679 %	38.3 %	-49.017 cps
Ca 315.887 {107} (Radial)	0.00590 ppm	2.680 %	98.4 %	2.833 cps
Cd 226.502 {449} (Axial)	-0.00009 ppm	-17.896 %	124.0 %	-0.730 cps
Cd 214.438 {457} (Axial)	-0.00001 ppm	-3.779 %	246.6 %	4.040 cps
Co 228.616 {447} (Axial)	-0.00004 ppm	-7.012 %	184.2 %	1.138 cps
Cr 267.716 {126} (Axial)	0.00005 ppm	4.625 %	523.7 %	2.529 cps
Cu 324.754 {104} (Axial)	-0.00020 ppm	-5.677 %	209.7 %	192.961 cps
Cu 327.396 {103} (Axial)	0.00005 ppm	1.197 %	306.5 %	50.417 cps
Fe 259.940 {130} (Radial)	0.00333 ppm	17.539 %	54.0 %	1.610 cps
Fe 273.955 {123} (Radial)	0.01490 ppm	70.975 %	263.0 %	2.367 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
K 766.490 {44} (Radial)	-0.00976 ppm	-9.761 %	308.9 %	-22.492 cps
Li 670.784 {50} (Radial)	-0.00106 ppm	-33.010 %	74.9 %	7.835 cps
Mg 280.270 {120} (Radial)	0.00214 ppm	10.682 %	94.3 %	23.000 cps
Mg 279.079 {121} (Radial)	-0.06398 ppm	-6.398 %	26.8 %	-1.733 cps
Mn 257.610 {131} (Axial)	0.00026 ppm	6.814 %	83.8 %	23.083 cps
Mo 202.030 {467} (Axial)	0.00028 ppm	11.660 %	218.9 %	1.902 cps
Mo 204.598 {465} (Axial)	-0.00002 ppm	-1.249 %	2,824.1 %	0.043 cps
Na 589.592 {57} (Radial)	-0.00601 ppm	-4.293 %	27.1 %	0.362 cps
Ni 231.604 {445} (Axial)	0.00015 ppm	3.851 %	387.4 %	-2.203 cps
P 177.495 {490} (Axial)	-0.00090 ppm	-2.733 %	168.8 %	0.295 cps
Pb 220.353 {453} (Axial)	0.00004 ppm	0.916 %	2,005.7 %	2.724 cps
Sb 206.833 {463} (Axial)	0.00108 ppm	13.487 %	116.9 %	-0.010 cps
Se 196.090 {472} (Axial)	-0.00019 ppm	-1.055 %	363.2 %	-1.174 cps
Si 251.611 {134} (Axial)	0.00053 ppm	0.609 %	559.2 %	102.488 cps
Sn 189.989 {477} (Axial)	0.00061 ppm	19.593 %	119.4 %	0.724 cps
Sr 407.771 {83} (Radial)	-0.00009 ppm	-3.467 %	74.6 %	0.958 cps
Sr 421.552 {80} (Axial)	-0.00005 ppm	-2.092 %	1.0 %	50.961 cps
Ti 334.941 {101} (Axial)	0.00031 ppm	23.691 %	131.0 %	33.500 cps
Ti 336.121 {100} (Axial)	0.00054 ppm	38.328 %	93.6 %	207.400 cps
Tl 190.856 {477} (Axial)	-0.00107 ppm	-7.660 %	7.4 %	-1.202 cps
V 292.402 {115} (Axial)	**0.00199 ppm**	220.734 %	**71.3 %**	31.517 cps
Zn 213.856 {458} (Axial)	-0.00018 ppm	-2.607 %	52.6 %	6.561 cps
Y 371.030 {91} (Radial)	103.33926 %		0.9 %	9,882.921 cps
Y 360.073 {94} (Radial)	103.08685 %		1.1 %	3,611.679 cps
Y 224.306 {450} (Axial)	103.71239 %		0.5 %	14,233.220 cps

RLC

Sample type: QC Analysis started at: 12/18/2019 4:51:52 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00953 ppm	95.349 %	4.0 %	90.733 cps
Ag 338.289 {100} (Axial)	0.00906 ppm	90.563 %	3.8 %	75.833 cps
Al 308.215 {109} (Radial)	0.47586 ppm	95.173 %	5.1 %	29.692 cps
Al 396.152 {85} (Radial)	0.47705 ppm	95.409 %	2.9 %	151.606 cps
As 189.042 {478} (Axial)	0.03884 ppm	97.093 %	4.3 %	14.826 cps
As 193.759 {474} (Axial)	0.03717 ppm	92.924 %	5.3 %	14.860 cps
B 249.678 {135} (Radial)	0.05348 ppm	106.964 %	12.3 %	7.833 cps
Ba 455.403 {74} (Radial)	0.00248 ppm	82.615 %	10.6 %	97.161 cps
Be 313.042 {108} (Axial)	0.00190 ppm	95.098 %	0.9 %	470.300 cps
Ca 315.887 {107} (Radial)	0.47050 ppm	94.100 %	4.1 %	45.217 cps
Cd 226.502 {449} (Axial)	0.00184 ppm	92.041 %	1.6 %	17.311 cps
Cd 214.438 {457} (Axial)	0.00209 ppm	104.483 %	1.8 %	24.691 cps
Co 228.616 {447} (Axial)	0.00588 ppm	97.968 %	7.8 %	32.860 cps
Cr 267.716 {126} (Axial)	0.00485 ppm	96.912 %	9.2 %	39.661 cps
Cu 324.754 {104} (Axial)	0.01889 ppm	94.471 %	1.8 %	480.172 cps
Cu 327.396 {103} (Axial)	0.01899 ppm	94.961 %	2.0 %	326.000 cps
Fe 259.940 {130} (Radial)	0.08366 ppm	104.578 %	1.7 %	19.161 cps
Fe 273.955 {123} (Radial)	0.06793 ppm	84.912 %	15.7 %	6.267 cps
K 766.490 {44} (Radial)	0.71307 ppm	89.134 %	4.2 %	291.431 cps
Li 670.784 {50} (Radial)	0.02246 ppm	89.834 %	2.8 %	359.451 cps
Mg 280.270 {120} (Radial)	0.19775 ppm	98.875 %	1.0 %	1,034.983 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mg 279.079 {121} (Radial)	0.17997 ppm	89.987 %	33.3 %	4.150 cps
Mn 257.610 {131} (Axial)	0.00815 ppm	101.933 %	1.2 %	428.500 cps
Mo 202.030 {467} (Axial)	0.01242 ppm	103.495 %	2.9 %	30.258 cps
Mo 204.598 {465} (Axial)	0.01183 ppm	98.545 %	3.8 %	17.838 cps
Na 589.592 {57} (Radial)	0.37345 ppm	93.364 %	0.8 %	672.213 cps
Ni 231.604 {445} (Axial)	0.01244 ppm	103.705 %	3.1 %	35.297 cps
P 177.495 {490} (Axial)	0.19467 ppm	97.334 %	1.9 %	69.831 cps
Pb 220.353 {453} (Axial)	0.03124 ppm	104.117 %	4.2 %	28.585 cps
Sb 206.833 {463} (Axial)	0.02027 ppm	101.351 %	6.8 %	12.336 cps
Se 196.090 {472} (Axial)	0.05029 ppm	100.583 %	7.6 %	14.774 cps
Si 251.611 {134} (Axial)	0.25179 ppm	125.893 %	0.8 %	492.494 cps
Sn 189.989 {477} (Axial)	0.01979 ppm	98.953 %	7.6 %	19.701 cps
Sr 407.771 {83} (Radial)	0.00286 ppm	95.180 %	2.6 %	90.972 cps
Sr 421.552 {80} (Axial)	0.00306 ppm	102.092 %	0.7 %	3,008.622 cps
Ti 334.941 {101} (Axial)	0.00584 ppm	97.298 %	4.2 %	243.383 cps
Ti 336.121 {100} (Axial)	0.00575 ppm	95.807 %	5.6 %	399.467 cps
Tl 190.856 {477} (Axial)	0.06196 ppm	103.267 %	3.0 %	31.230 cps
V 292.402 {115} (Axial)	0.00530 ppm	106.009 %	9.1 %	67.300 cps
Zn 213.856 {458} (Axial)	0.03073 ppm	102.437 %	2.6 %	193.690 cps
Y 371.030 {91} (Radial)	104.23559 %		0.6 %	9,968.642 cps
Y 360.073 {94} (Radial)	104.00061 %		0.9 %	3,643.693 cps
Y 224.306 {450} (Axial)	103.90739 %		0.5 %	14,259.981 cps

LCM1

Sample type: QC Analysis started at: 12/18/2019 4:54:44 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.13036 ppm	0.000 %	0.6 %	1,404.252 cps
Ag 338.289 {100} (Axial)	0.12878 ppm	0.000 %	1.3 %	995.818 cps
Al 308.215 {109} (Radial)	0.91305 ppm	91.305 %	2.8 %	53.408 cps
Al 396.152 {85} (Radial)	0.93176 ppm	93.176 %	0.2 %	296.544 cps
As 189.042 {478} (Axial)	1.88448 ppm	94.224 %	0.7 %	750.753 cps
As 193.759 {474} (Axial)	1.88760 ppm	94.380 %	0.3 %	726.612 cps
B 249.678 {135} (Radial)	0.94719 ppm	94.719 %	0.3 %	144.669 cps
Ba 455.403 {74} (Radial)	0.93392 ppm	93.392 %	0.3 %	16,024.626 cps
Be 313.042 {108} (Axial)	0.95248 ppm	95.248 %	0.2 %	251,470.944 cps
Ca 315.887 {107} (Radial)	0.96693 ppm	96.693 %	3.7 %	90.874 cps
Cd 226.502 {449} (Axial)	0.98193 ppm	98.193 %	0.4 %	9,068.334 cps
Cd 214.438 {457} (Axial)	0.98712 ppm	98.712 %	0.5 %	9,620.824 cps
Co 228.616 {447} (Axial)	0.99374 ppm	99.374 %	0.5 %	5,307.450 cps
Cr 267.716 {126} (Axial)	0.96052 ppm	96.052 %	0.4 %	7,412.707 cps
Cu 324.754 {104} (Axial)	0.93451 ppm	93.451 %	0.5 %	14,195.963 cps
Cu 327.396 {103} (Axial)	0.94382 ppm	94.382 %	0.4 %	13,737.631 cps
Fe 259.940 {130} (Radial)	0.95927 ppm	95.927 %	0.7 %	209.814 cps
Fe 273.955 {123} (Radial)	0.98521 ppm	98.521 %	5.4 %	73.196 cps
K 766.490 {44} (Radial)	4.61678 ppm	92.336 %	0.3 %	1,988.614 cps
Li 670.784 {50} (Radial)	0.92970 ppm	92.970 %	0.1 %	13,927.694 cps
Mg 280.270 {120} (Radial)	0.97858 ppm	97.858 %	0.2 %	5,062.736 cps
Mg 279.079 {121} (Radial)	0.96948 ppm	96.948 %	0.9 %	23.134 cps
Mn 257.610 {131} (Axial)	0.94909 ppm	94.909 %	0.1 %	48,597.953 cps
Mo 202.030 {467} (Axial)	1.01584 ppm	101.584 %	0.3 %	2,366.883 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mo 204.598 {465} (Axial)	1.00197 ppm	100.197 %	0.5 %	1,498.470 cps
Na 589.592 {57} (Radial)	0.93639 ppm	93.639 %	0.5 %	1,669.351 cps
Ni 231.604 {445} (Axial)	1.02311 ppm	102.311 %	0.5 %	3,106.370 cps
P 177.495 {490} (Axial)	4.77101 ppm	95.420 %	0.5 %	1,692.359 cps
Pb 220.353 {453} (Axial)	1.98470 ppm	99.235 %	0.5 %	1,646.610 cps
Sb 206.833 {463} (Axial)	1.97114 ppm	98.557 %	0.5 %	1,266.489 cps
Se 196.090 {472} (Axial)	0.92889 ppm	92.889 %	0.3 %	291.524 cps
Si 251.611 {134} (Axial)	4.89051 ppm	97.810 %	0.5 %	7,687.453 cps
Sn 189.989 {477} (Axial)	5.11244 ppm	102.249 %	0.8 %	5,041.825 cps
Sr 407.771 {83} (Radial)	0.94059 ppm	94.059 %	0.1 %	28,781.092 cps
Sr 421.552 {80} (Axial)	0.94291 ppm	94.291 %	0.3 %	892,709.008 cps
Ti 334.941 {101} (Axial)	0.97798 ppm	97.798 %	0.2 %	37,045.824 cps
Ti 336.121 {100} (Axial)	0.96195 ppm	96.195 %	0.2 %	35,568.636 cps
Tl 190.856 {477} (Axial)	4.98415 ppm	99.683 %	0.6 %	2,554.490 cps
V 292.402 {115} (Axial)	0.93165 ppm	93.165 %	0.2 %	10,048.961 cps
Zn 213.856 {458} (Axial)	0.99402 ppm	99.402 %	0.6 %	6,027.285 cps
Y 371.030 {91} (Radial)	104.26744 %		0.6 %	9,971.688 cps
Y 360.073 {94} (Radial)	103.76883 %		0.6 %	3,635.573 cps
Y 224.306 {450} (Axial)	103.60011 %		0.2 %	14,217.811 cps

HiLCM

Sample type: QC Analysis started at: 12/18/2019 4:57:16 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00112 ppm	0.000 %	22.6 %	-23.500 cps
Ag 338.289 {100} (Axial)	0.00500 ppm	0.000 %	18.7 %	66.217 cps
Al 308.215 {109} (Radial)	95.71259 ppm	95.713 %	0.1 %	5,121.757 cps
Al 396.152 {85} (Radial)	96.10465 ppm	96.105 %	0.1 %	27,887.892 cps
As 189.042 {478} (Axial)	0.00039 ppm	0.000 %	329.3 %	-0.507 cps
As 193.759 {474} (Axial)	-0.00632 ppm	0.000 %	29.3 %	-8.323 cps
B 249.678 {135} (Radial)	0.00421 ppm	0.000 %	58.3 %	-2.960 cps
Ba 455.403 {74} (Radial)	0.00020 ppm	0.000 %	168.3 %	56.592 cps
Be 313.042 {108} (Axial)	0.00024 ppm	0.000 %	42.1 %	27.183 cps
Ca 315.887 {107} (Radial)	94.08759 ppm	94.088 %	0.4 %	8,313.030 cps
Cd 226.502 {449} (Axial)	-0.00079 ppm	0.000 %	107.3 %	142.848 cps
Cd 214.438 {457} (Axial)	0.00027 ppm	0.000 %	118.5 %	87.492 cps
Co 228.616 {447} (Axial)	0.00431 ppm	0.000 %	2.0 %	22.596 cps
Cr 267.716 {126} (Axial)	0.00213 ppm	0.000 %	10.1 %	7.506 cps
Cu 324.754 {104} (Axial)	0.00018 ppm	0.000 %	79.4 %	95.833 cps
Cu 327.396 {103} (Axial)	0.00114 ppm	0.000 %	34.0 %	61.383 cps
Fe 259.940 {130} (Radial)	92.16493 ppm	92.165 %	0.2 %	19,492.282 cps
Fe 273.955 {123} (Radial)	95.27343 ppm	95.273 %	0.4 %	6,778.948 cps
K 766.490 {44} (Radial)	97.84612 ppm	97.846 %	0.2 %	41,266.158 cps
Li 670.784 {50} (Radial)	0.00082 ppm	0.000 %	153.9 %	34.810 cps
Mg 280.270 {120} (Radial)	54.10244 ppm	90.171 %	0.4 %	271,168.677 cps
Mg 279.079 {121} (Radial)	57.60975 ppm	96.016 %	0.1 %	1,345.948 cps
Mn 257.610 {131} (Axial)	0.00212 ppm	0.000 %	11.5 %	110.017 cps
Mo 202.030 {467} (Axial)	-0.00031 ppm	0.000 %	134.2 %	0.480 cps
Mo 204.598 {465} (Axial)	0.00118 ppm	0.000 %	75.9 %	6.246 cps
Na 589.592 {57} (Radial)	96.73389 ppm	96.734 %	0.3 %	166,285.193 cps
Ni 231.604 {445} (Axial)	0.00426 ppm	0.000 %	4.6 %	9.579 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
P 177.495 {490} (Axial)	0.00199 ppm	0.000 %	112.5 %	1.224 cps
Pb 220.353 {453} (Axial)	-0.00012 ppm	0.000 %	1,690.9 %	-5.103 cps
Sb 206.833 {463} (Axial)	-0.00403 ppm	0.000 %	42.4 %	-1.883 cps
Se 196.090 {472} (Axial)	0.00127 ppm	0.000 %	233.6 %	-2.469 cps
Si 251.611 {134} (Axial)	0.00397 ppm	0.000 %	48.1 %	100.136 cps
Sn 189.989 {477} (Axial)	0.00243 ppm	0.000 %	24.5 %	2.338 cps
Sr 407.771 {83} (Radial)	0.00108 ppm	0.000 %	7.1 %	35.575 cps
Sr 421.552 {80} (Axial)	0.00115 ppm	0.000 %	7.8 %	1,101.049 cps
Ti 334.941 {101} (Axial)	0.00120 ppm	0.000 %	41.9 %	38.867 cps
Ti 336.121 {100} (Axial)	-0.00012 ppm	0.000 %	489.2 %	63.700 cps
Tl 190.856 {477} (Axial)	-0.00025 ppm	0.000 %	512.1 %	-0.719 cps
V 292.402 {115} (Axial)	0.00278 ppm	0.000 %	31.1 %	37.100 cps
Zn 213.856 {458} (Axial)	0.00614 ppm	0.000 %	13.1 %	105.258 cps
Y 371.030 {91} (Radial)	101.19964 %		0.5 %	9,678.296 cps
Y 360.073 {94} (Radial)	100.76810 %		0.4 %	3,530.441 cps
Y 224.306 {450} (Axial)	96.21038 %		0.3 %	13,203.663 cps

LCM2

Sample type: QC Analysis started at: 12/18/2019 5:00:09 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04544 ppm	90.879 %	0.6 %	482.500 cps
Ag 338.289 {100} (Axial)	**0.04405 ppm**	88.099 %	**1.0 %**	302.317 cps
Al 308.215 {109} (Radial)	-0.00737 ppm	0.000 %	151.0 %	3.032 cps
Al 396.152 {85} (Radial)	0.00103 ppm	0.000 %	494.7 %	9.311 cps
As 189.042 {478} (Axial)	0.00105 ppm	0.000 %	123.2 %	-0.284 cps
As 193.759 {474} (Axial)	-0.00170 ppm	0.000 %	74.7 %	-0.100 cps
B 249.678 {135} (Radial)	0.01018 ppm	0.000 %	32.5 %	1.189 cps
Ba 455.403 {74} (Radial)	-0.00025 ppm	0.000 %	125.5 %	50.928 cps
Be 313.042 {108} (Axial)	-0.00005 ppm	0.000 %	47.0 %	-47.767 cps
Ca 315.887 {107} (Radial)	0.01517 ppm	0.000 %	152.4 %	3.717 cps
Cd 226.502 {449} (Axial)	-0.00007 ppm	0.000 %	224.3 %	-0.476 cps
Cd 214.438 {457} (Axial)	0.00007 ppm	0.000 %	36.2 %	4.902 cps
Co 228.616 {447} (Axial)	-0.00010 ppm	0.000 %	133.9 %	0.815 cps
Cr 267.716 {126} (Axial)	0.00003 ppm	0.000 %	21.0 %	2.426 cps
Cu 324.754 {104} (Axial)	0.00024 ppm	0.000 %	50.3 %	200.256 cps
Cu 327.396 {103} (Axial)	-0.00001 ppm	0.000 %	2,851.2 %	49.617 cps
Fe 259.940 {130} (Radial)	0.01703 ppm	0.000 %	17.0 %	4.646 cps
Fe 273.955 {123} (Radial)	0.00296 ppm	0.000 %	1,185.5 %	1.517 cps
K 766.490 {44} (Radial)	0.03070 ppm	0.000 %	93.9 %	-5.074 cps
Li 670.784 {50} (Radial)	-0.00096 ppm	0.000 %	42.9 %	9.354 cps
Mg 280.270 {120} (Radial)	0.00744 ppm	0.000 %	35.7 %	50.917 cps
Mg 279.079 {121} (Radial)	-0.04598 ppm	0.000 %	77.0 %	-1.317 cps
Mn 257.610 {131} (Axial)	0.00016 ppm	0.000 %	127.2 %	18.267 cps
Mo 202.030 {467} (Axial)	0.00009 ppm	0.000 %	294.6 %	1.472 cps
Mo 204.598 {465} (Axial)	-0.00012 ppm	0.000 %	568.3 %	-0.099 cps
Na 589.592 {57} (Radial)	0.01754 ppm	0.000 %	10.3 %	42.337 cps
Ni 231.604 {445} (Axial)	0.00016 ppm	0.000 %	41.7 %	-2.172 cps
P 177.495 {490} (Axial)	-0.00113 ppm	0.000 %	141.3 %	0.215 cps
Pb 220.353 {453} (Axial)	0.00058 ppm	0.000 %	197.5 %	3.172 cps
Sb 206.833 {463} (Axial)	0.00220 ppm	0.000 %	73.4 %	0.713 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Se 196.090 {472} (Axial)	0.00156 ppm	0.000 %	101.8 %	-0.623 cps
Si 251.611 {134} (Axial)	0.03877 ppm	0.000 %	21.9 %	162.183 cps
Sn 189.989 {477} (Axial)	0.00015 ppm	0.000 %	336.4 %	0.275 cps
Sr 407.771 {83} (Radial)	-0.00008 ppm	0.000 %	63.5 %	1.294 cps
Sr 421.552 {80} (Axial)	0.00003 ppm	0.000 %	39.0 %	128.332 cps
Ti 334.941 {101} (Axial)	-0.00015 ppm	0.000 %	26.2 %	16.000 cps
Ti 336.121 {100} (Axial)	-0.00005 ppm	0.000 %	254.8 %	186.511 cps
Tl 190.856 {477} (Axial)	0.00103 ppm	0.000 %	96.1 %	-0.114 cps
V 292.402 {115} (Axial)	0.00014 ppm	0.000 %	422.8 %	11.500 cps
Zn 213.856 {458} (Axial)	0.00052 ppm	0.000 %	21.0 %	10.805 cps
Y 371.030 {91} (Radial)	104.94186 %		0.5 %	10,036.186 cps
Y 360.073 {94} (Radial)	104.59112 %		0.6 %	3,664.382 cps
Y 224.306 {450} (Axial)	104.05536 %		0.3 %	14,280.288 cps

wash

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:03:02 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00006 ppm	556.8 %	-13.844 cps
Ag 338.289 {100} (Axial)	-0.00082 ppm	111.5 %	10.750 cps
Al 308.215 {109} (Radial)	-0.02819 ppm	121.5 %	1.843 cps
Al 396.152 {85} (Radial)	-0.00107 ppm	429.9 %	8.528 cps
As 189.042 {478} (Axial)	-0.00090 ppm	249.4 %	-1.073 cps
As 193.759 {474} (Axial)	-0.00102 ppm	196.5 %	0.164 cps
B 249.678 {135} (Radial)	0.00057 ppm	477.5 %	-0.289 cps
Ba 455.403 {74} (Radial)	-0.00051 ppm	8.2 %	45.622 cps
Be 313.042 {108} (Axial)	-0.00004 ppm	8.1 %	-45.167 cps
Ca 315.887 {107} (Radial)	0.01431 ppm	90.7 %	3.583 cps
Cd 226.502 {449} (Axial)	-0.00002 ppm	976.9 %	-0.012 cps
Cd 214.438 {457} (Axial)	-0.00001 ppm	858.8 %	4.059 cps
Co 228.616 {447} (Axial)	-0.00001 ppm	1,373.1 %	1.304 cps
Cr 267.716 {126} (Axial)	-0.00032 ppm	100.6 %	-0.336 cps
Cu 324.754 {104} (Axial)	-0.00046 ppm	18.5 %	190.272 cps
Cu 327.396 {103} (Axial)	-0.00035 ppm	37.0 %	44.933 cps
Fe 259.940 {130} (Radial)	0.01304 ppm	68.0 %	3.708 cps
Fe 273.955 {123} (Radial)	0.02213 ppm	144.1 %	2.883 cps
K 766.490 {44} (Radial)	0.02039 ppm	61.9 %	-9.457 cps
Li 670.784 {50} (Radial)	-0.00138 ppm	14.2 %	3.017 cps
Mg 280.270 {120} (Radial)	0.00609 ppm	107.1 %	43.150 cps
Mg 279.079 {121} (Radial)	-0.00998 ppm	962.6 %	-0.433 cps
Mn 257.610 {131} (Axial)	0.00000 ppm	2,330.4 %	9.800 cps
Mo 202.030 {467} (Axial)	0.00002 ppm	359.5 %	1.309 cps
Mo 204.598 {465} (Axial)	-0.00008 ppm	535.8 %	-0.049 cps
Na 589.592 {57} (Radial)	0.01013 ppm	124.0 %	28.660 cps
Ni 231.604 {445} (Axial)	0.00016 ppm	248.0 %	-2.164 cps
P 177.495 {490} (Axial)	0.00089 ppm	108.9 %	0.937 cps
Pb 220.353 {453} (Axial)	0.00060 ppm	164.0 %	3.204 cps
Sb 206.833 {463} (Axial)	0.00147 ppm	15.6 %	0.241 cps
Se 196.090 {472} (Axial)	0.00298 ppm	73.7 %	-0.174 cps
Si 251.611 {134} (Axial)	0.00217 ppm	84.5 %	105.739 cps
Sn 189.989 {477} (Axial)	0.00044 ppm	125.8 %	0.566 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sr 407.771 {83} (Radial)	0.00000 ppm	1,600.6 %	3.676 cps
Sr 421.552 {80} (Axial)	-0.00004 ppm	38.3 %	62.828 cps
Ti 334.941 {101} (Axial)	-0.00033 ppm	30.9 %	9.200 cps
Ti 336.121 {100} (Axial)	-0.00017 ppm	85.2 %	182.694 cps
Tl 190.856 {477} (Axial)	-0.00052 ppm	139.8 %	-0.920 cps
V 292.402 {115} (Axial)	0.00039 ppm	44.4 %	14.317 cps
Zn 213.856 {458} (Axial)	-0.00010 ppm	55.5 %	7.062 cps
Y 371.030 {91} (Radial)	103.08345 %	0.4 %	9,858.456 cps
Y 360.073 {94} (Radial)	102.83008 %	0.3 %	3,602.683 cps
Y 224.306 {450} (Axial)	104.40746 %	0.2 %	14,328.609 cps

B19L022-BLK1

Sample type: QC Analysis started at: 12/18/2019 5:05:59 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00041 ppm	16.885 %	57.8 %	-8.822 cps
Ag 338.289 {100} (Axial)	-0.00084 ppm	-6.481 %	121.3 %	10.683 cps
Al 308.215 {109} (Radial)	-0.04372 ppm	-15.076 %	85.0 %	0.996 cps
Al 396.152 {85} (Radial)	-0.00032 ppm	-0.343 %	3,842.8 %	8.733 cps
As 189.042 {478} (Axial)	-0.00057 ppm	-10.939 %	319.5 %	-0.940 cps
As 193.759 {474} (Axial)	-0.00150 ppm	-16.684 %	109.8 %	-0.020 cps
B 249.678 {135} (Radial)	0.00917 ppm	70.510 %	49.8 %	1.017 cps
Ba 455.403 {74} (Radial)	-0.00011 ppm	-12.791 %	106.2 %	52.217 cps
Be 313.042 {108} (Axial)	-0.00004 ppm	-6.422 %	27.9 %	-44.350 cps
Ca 315.887 {107} (Radial)	0.02717 ppm	12.350 %	42.5 %	4.733 cps
Cd 226.502 {449} (Axial)	-0.00005 ppm	-10.417 %	83.4 %	-0.377 cps
Cd 214.438 {457} (Axial)	0.00004 ppm	14.613 %	53.7 %	4.594 cps
Co 228.616 {447} (Axial)	-0.00005 ppm	-8.022 %	454.6 %	1.107 cps
Cr 267.716 {126} (Axial)	-0.00011 ppm	-10.876 %	175.4 %	1.343 cps
Cu 324.754 {104} (Axial)	**0.00582 ppm**	166.357 %	**3.7 %**	286.272 cps
Cu 327.396 {103} (Axial)	**0.00622 ppm**	144.551 %	**4.2 %**	141.383 cps
Fe 259.940 {130} (Radial)	0.00353 ppm	18.574 %	100.3 %	1.644 cps
Fe 273.955 {123} (Radial)	0.01766 ppm	84.093 %	101.9 %	2.550 cps
K 766.490 {44} (Radial)	0.02622 ppm	26.225 %	133.9 %	-6.993 cps
Li 670.784 {50} (Radial)	-0.00094 ppm	-29.406 %	30.8 %	9.440 cps
Mg 280.270 {120} (Radial)	0.00193 ppm	9.655 %	49.6 %	21.800 cps
Mg 279.079 {121} (Radial)	-0.08596 ppm	-8.596 %	37.3 %	-2.250 cps
Mn 257.610 {131} (Axial)	0.00005 ppm	1.265 %	156.2 %	12.383 cps
Mo 202.030 {467} (Axial)	0.00040 ppm	16.662 %	62.6 %	2.203 cps
Mo 204.598 {465} (Axial)	0.00016 ppm	8.637 %	281.2 %	0.310 cps
Na 589.592 {57} (Radial)	0.02261 ppm	16.150 %	38.7 %	50.439 cps
Ni 231.604 {445} (Axial)	0.00037 ppm	9.663 %	73.4 %	-1.545 cps
P 177.495 {490} (Axial)	0.00119 ppm	3.594 %	40.2 %	1.050 cps
Pb 220.353 {453} (Axial)	0.00008 ppm	1.717 %	1,225.6 %	2.785 cps
Sb 206.833 {463} (Axial)	0.00105 ppm	13.117 %	45.1 %	-0.031 cps
Se 196.090 {472} (Axial)	0.00084 ppm	4.648 %	226.9 %	-0.858 cps
Si 251.611 {134} (Axial)	0.04280 ppm	49.192 %	2.0 %	169.681 cps
Sn 189.989 {477} (Axial)	0.00161 ppm	51.982 %	18.2 %	1.733 cps
Sr 407.771 {83} (Radial)	-0.00006 ppm	-2.348 %	93.7 %	1.815 cps
Sr 421.552 {80} (Axial)	0.00002 ppm	0.859 %	84.5 %	122.168 cps
Ti 334.941 {101} (Axial)	-0.00022 ppm	-16.833 %	37.3 %	13.650 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ti 336.121 {100} (Axial)	-0.00012 ppm	-8.357 %	43.7 %	185.206 cps
Tl 190.856 {477} (Axial)	0.00010 ppm	0.741 %	982.6 %	-0.596 cps
V 292.402 {115} (Axial)	0.00017 ppm	18.431 %	71.0 %	11.917 cps
Zn 213.856 {458} (Axial)	0.00020 ppm	2.953 %	52.2 %	9.011 cps
Y 371.030 {91} (Radial)	102.89827 %		0.7 %	9,840.746 cps
Y 360.073 {94} (Radial)	102.63163 %		0.7 %	3,595.731 cps
Y 224.306 {450} (Axial)	104.80990 %		0.3 %	14,383.838 cps

B19L022-MRL1

Sample type: QC Analysis started at: 12/18/2019 5:08:53 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00926 ppm	92.601 %	2.5 %	88.244 cps
Ag 338.289 {100} (Axial)	0.00779 ppm	77.918 %	6.0 %	68.017 cps
Al 308.215 {109} (Radial)	0.48294 ppm	96.587 %	1.7 %	29.696 cps
Al 396.152 {85} (Radial)	0.49374 ppm	98.748 %	1.6 %	154.778 cps
As 189.042 {478} (Axial)	0.03856 ppm	96.391 %	4.3 %	14.800 cps
As 193.759 {474} (Axial)	0.03715 ppm	92.885 %	1.8 %	14.944 cps
B 249.678 {135} (Radial)	0.05678 ppm	113.551 %	4.3 %	8.228 cps
Ba 455.403 {74} (Radial)	0.00277 ppm	92.265 %	10.0 %	100.939 cps
Be 313.042 {108} (Axial)	0.00191 ppm	95.290 %	1.5 %	474.067 cps
Ca 315.887 {107} (Radial)	0.50082 ppm	100.163 %	1.6 %	47.367 cps
Cd 226.502 {449} (Axial)	0.00195 ppm	97.311 %	4.1 %	18.390 cps
Cd 214.438 {457} (Axial)	0.00194 ppm	97.212 %	5.3 %	23.403 cps
Co 228.616 {447} (Axial)	0.00570 ppm	94.957 %	5.1 %	32.077 cps
Cr 267.716 {126} (Axial)	0.00442 ppm	88.473 %	5.2 %	36.610 cps
Cu 324.754 {104} (Axial)	0.01838 ppm	91.900 %	1.0 %	475.206 cps
Cu 327.396 {103} (Axial)	0.01898 ppm	94.900 %	1.9 %	327.750 cps
Fe 259.940 {130} (Radial)	0.08326 ppm	104.070 %	3.0 %	18.829 cps
Fe 273.955 {123} (Radial)	0.09544 ppm	119.295 %	9.7 %	8.183 cps
K 766.490 {44} (Radial)	0.72279 ppm	90.349 %	3.2 %	292.310 cps
Li 670.784 {50} (Radial)	0.02255 ppm	90.215 %	3.5 %	356.696 cps
Mg 280.270 {120} (Radial)	0.20158 ppm	100.788 %	0.6 %	1,041.267 cps
Mg 279.079 {121} (Radial)	0.19726 ppm	98.629 %	26.9 %	4.500 cps
Mn 257.610 {131} (Axial)	0.00808 ppm	101.057 %	1.3 %	427.400 cps
Mo 202.030 {467} (Axial)	0.01192 ppm	99.337 %	1.9 %	29.262 cps
Mo 204.598 {465} (Axial)	0.01186 ppm	98.794 %	5.9 %	17.986 cps
Na 589.592 {57} (Radial)	0.38585 ppm	96.464 %	2.4 %	686.263 cps
Ni 231.604 {445} (Axial)	0.01309 ppm	109.059 %	3.1 %	37.472 cps
P 177.495 {490} (Axial)	0.19342 ppm	96.709 %	1.4 %	69.790 cps
Pb 220.353 {453} (Axial)	0.03082 ppm	102.728 %	4.4 %	28.403 cps
Sb 206.833 {463} (Axial)	0.02037 ppm	101.856 %	5.6 %	12.474 cps
Se 196.090 {472} (Axial)	0.05144 ppm	102.889 %	3.2 %	15.223 cps
Si 251.611 {134} (Axial)	**0.27552 ppm**	137.761 %	**1.0 %**	532.396 cps
Sn 189.989 {477} (Axial)	0.02017 ppm	100.844 %	3.2 %	20.191 cps
Sr 407.771 {83} (Radial)	0.00303 ppm	100.981 %	2.2 %	95.178 cps
Sr 421.552 {80} (Axial)	0.00307 ppm	102.402 %	0.4 %	3,035.183 cps
Ti 334.941 {101} (Axial)	0.00573 ppm	95.425 %	0.8 %	240.517 cps
Ti 336.121 {100} (Axial)	0.00568 ppm	94.666 %	1.9 %	399.244 cps
Tl 190.856 {477} (Axial)	0.06222 ppm	103.693 %	0.9 %	31.542 cps
V 292.402 {115} (Axial)	0.00524 ppm	104.810 %	2.6 %	67.050 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Zn 213.856 {458} (Axial)	0.03056 ppm	101.875 %	2.9 %	193.810 cps
Y 371.030 {91} (Radial)	103.04303 %		0.5 %	9,854.590 cps
Y 360.073 {94} (Radial)	102.66505 %		0.7 %	3,596.901 cps
Y 224.306 {450} (Axial)	104.51673 %		0.2 %	14,343.605 cps

B19L022-BS1

Sample type: QC Analysis started at: 12/18/2019 5:11:45 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.02184 ppm	87.371 %	1.6 %	215.032 cps
Ag 338.289 {100} (Axial)	0.02502 ppm	100.096 %	1.7 %	195.562 cps
Al 308.215 {109} (Radial)	0.91529 ppm	91.529 %	3.5 %	52.683 cps
Al 396.152 {85} (Radial)	0.95949 ppm	95.949 %	0.5 %	292.286 cps
As 189.042 {478} (Axial)	0.19558 ppm	97.789 %	1.0 %	74.052 cps
As 193.759 {474} (Axial)	0.19261 ppm	96.304 %	0.4 %	71.460 cps
B 249.678 {135} (Radial)	0.94898 ppm	94.898 %	0.7 %	141.990 cps
Ba 455.403 {74} (Radial)	0.19462 ppm	97.309 %	0.1 %	3,309.785 cps
Be 313.042 {108} (Axial)	0.00983 ppm	98.328 %	0.6 %	2,460.390 cps
Ca 315.887 {107} (Radial)	47.37020 ppm	94.740 %	0.5 %	4,223.326 cps
Cd 226.502 {449} (Axial)	0.04865 ppm	97.301 %	1.7 %	432.086 cps
Cd 214.438 {457} (Axial)	0.04945 ppm	98.898 %	1.8 %	466.125 cps
Co 228.616 {447} (Axial)	0.09610 ppm	96.103 %	2.0 %	493.036 cps
Cr 267.716 {126} (Axial)	0.09521 ppm	95.207 %	0.5 %	705.914 cps
Cu 324.754 {104} (Axial)	0.09561 ppm	95.607 %	0.1 %	1,559.148 cps
Cu 327.396 {103} (Axial)	0.09680 ppm	96.797 %	0.5 %	1,392.637 cps
Fe 259.940 {130} (Radial)	0.94799 ppm	94.799 %	0.2 %	203.131 cps
Fe 273.955 {123} (Radial)	0.98207 ppm	98.207 %	0.7 %	71.717 cps
K 766.490 {44} (Radial)	23.66416 ppm	94.657 %	0.4 %	10,047.472 cps
Li 670.784 {50} (Radial)	0.09728 ppm	97.277 %	0.4 %	1,446.614 cps
Mg 280.270 {120} (Radial)	18.69369 ppm	93.468 %	0.5 %	94,527.362 cps
Mg 279.079 {121} (Radial)	18.92631 ppm	94.632 %	1.4 %	446.290 cps
Mn 257.610 {131} (Axial)	0.19252 ppm	96.262 %	0.2 %	9,453.206 cps
Mo 202.030 {467} (Axial)	0.10018 ppm	100.177 %	1.6 %	224.722 cps
Mo 204.598 {465} (Axial)	0.09871 ppm	98.710 %	1.8 %	141.553 cps
Na 589.592 {57} (Radial)	47.40231 ppm	94.805 %	0.2 %	82,150.581 cps
Ni 231.604 {445} (Axial)	0.19789 ppm	98.945 %	1.7 %	573.557 cps
P 177.495 {490} (Axial)	1.03468 ppm	103.468 %	1.5 %	352.078 cps
Pb 220.353 {453} (Axial)	0.48080 ppm	96.159 %	2.1 %	384.071 cps
Sb 206.833 {463} (Axial)	0.48861 ppm	97.722 %	2.1 %	299.520 cps
Se 196.090 {472} (Axial)	0.48795 ppm	97.590 %	0.9 %	146.180 cps
Si 251.611 {134} (Axial)	9.75244 ppm	97.524 %	0.2 %	14,542.529 cps
Sn 189.989 {477} (Axial)	0.49208 ppm	98.415 %	2.4 %	465.083 cps
Sr 407.771 {83} (Radial)	0.94477 ppm	94.477 %	0.1 %	28,285.886 cps
Sr 421.552 {80} (Axial)	0.93098 ppm	93.098 %	0.2 %	844,549.198 cps
Ti 334.941 {101} (Axial)	0.09992 ppm	99.917 %	0.5 %	3,633.324 cps
Ti 336.121 {100} (Axial)	0.09747 ppm	97.468 %	0.3 %	3,560.757 cps
Tl 190.856 {477} (Axial)	0.47003 ppm	94.006 %	2.8 %	230.239 cps
V 292.402 {115} (Axial)	0.09678 ppm	96.780 %	1.1 %	1,008.438 cps
Zn 213.856 {458} (Axial)	0.99568 ppm	99.568 %	1.9 %	5,753.487 cps
Y 371.030 {91} (Radial)	102.01948 %		0.5 %	9,756.702 cps
Y 360.073 {94} (Radial)	101.65669 %		0.9 %	3,561.573 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Y 224.306 {450} (Axial)	99.26645 %		0.0 %	13,623.070 cps

1912011-01

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:14:33 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00043 ppm	23.5 %	-16.585 cps
Ag 338.289 {100} (Axial)	0.00552 ppm	0.5 %	71.526 cps
Al 308.215 {109} (Radial)	-0.00736 ppm	309.6 %	2.915 cps
Al 396.152 {85} (Radial)	-0.00303 ppm	432.4 %	12.329 cps
As 189.042 {478} (Axial)	0.00406 ppm	24.7 %	0.858 cps
As 193.759 {474} (Axial)	0.00328 ppm	33.8 %	1.708 cps
B 249.678 {135} (Radial)	0.04491 ppm	25.6 %	6.293 cps
Ba 455.403 {74} (Radial)	0.04891 ppm	0.3 %	863.049 cps
Be 313.042 {108} (Axial)	-0.00009 ppm	42.5 %	-54.551 cps
Ca 315.887 {107} (Radial)	101.76293 ppm	0.8 %	8,979.581 cps
Cd 226.502 {449} (Axial)	0.00001 ppm	555.1 %	0.679 cps
Cd 214.438 {457} (Axial)	0.00012 ppm	19.1 %	5.243 cps
Co 228.616 {447} (Axial)	0.00007 ppm	602.1 %	1.642 cps
Cr 267.716 {126} (Axial)	-0.00008 ppm	407.7 %	1.538 cps
Cu 324.754 {104} (Axial)	0.00103 ppm	9.1 %	198.097 cps
Cu 327.396 {103} (Axial)	0.00124 ppm	21.9 %	63.529 cps
Fe 259.940 {130} (Radial)	0.29122 ppm	1.5 %	62.385 cps
Fe 273.955 {123} (Radial)	0.30901 ppm	7.7 %	23.206 cps
K 766.490 {44} (Radial)	1.29654 ppm	1.8 %	528.059 cps
Li 670.784 {50} (Radial)	0.00294 ppm	22.0 %	65.450 cps
Mg 280.270 {120} (Radial)	45.80772 ppm	0.5 %	229,307.890 cps
Mg 279.079 {121} (Radial)	47.85505 ppm	0.4 %	1,117.558 cps
Mn 257.610 {131} (Axial)	0.07674 ppm	0.3 %	3,699.942 cps
Mo 202.030 {467} (Axial)	0.00155 ppm	15.2 %	4.571 cps
Mo 204.598 {465} (Axial)	0.00105 ppm	49.3 %	1.550 cps
Na 589.592 {57} (Radial)	33.27255 ppm	0.1 %	57,080.274 cps
Ni 231.604 {445} (Axial)	0.00132 ppm	34.2 %	1.281 cps
P 177.495 {490} (Axial)	1.82596 ppm	2.2 %	608.545 cps
Pb 220.353 {453} (Axial)	0.00164 ppm	102.0 %	3.807 cps
Sb 206.833 {463} (Axial)	-0.00082 ppm	158.8 %	-1.147 cps
Se 196.090 {472} (Axial)	0.00190 ppm	127.3 %	-0.492 cps
Si 251.611 {134} (Axial)	19.07391 ppm	0.3 %	27,791.149 cps
Sn 189.989 {477} (Axial)	0.00064 ppm	113.5 %	0.704 cps
Sr 407.771 {83} (Radial)	0.09184 ppm	0.4 %	2,724.829 cps
Sr 421.552 {80} (Axial)	0.09186 ppm	0.2 %	81,793.301 cps
Ti 334.941 {101} (Axial)	0.00052 ppm	39.8 %	13.283 cps
Ti 336.121 {100} (Axial)	-0.00063 ppm	5.6 %	39.530 cps
Tl 190.856 {477} (Axial)	0.00043 ppm	183.8 %	-0.401 cps
V 292.402 {115} (Axial)	0.00092 ppm	49.7 %	18.391 cps
Zn 213.856 {458} (Axial)	0.00685 ppm	2.8 %	46.093 cps
Y 371.030 {91} (Radial)	100.98267 %	0.4 %	9,657.547 cps
Y 360.073 {94} (Radial)	100.64224 %	0.5 %	3,526.032 cps
Y 224.306 {450} (Axial)	97.32888 %	0.1 %	13,357.163 cps

1912011-01 dil

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:17:20 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00009 ppm	669.2 %	-13.888 cps
Ag 338.289 {100} (Axial)	0.00331 ppm	21.5 %	41.754 cps
Al 308.215 {109} (Radial)	-0.01719 ppm	81.6 %	2.425 cps
Al 396.152 {85} (Radial)	-0.00250 ppm	629.1 %	8.973 cps
As 189.042 {478} (Axial)	0.00081 ppm	243.0 %	-0.377 cps
As 193.759 {474} (Axial)	-0.00004 ppm	3,173.6 %	0.532 cps
B 249.678 {135} (Radial)	0.01733 ppm	35.1 %	2.234 cps
Ba 455.403 {74} (Radial)	0.00984 ppm	2.8 %	218.767 cps
Be 313.042 {108} (Axial)	-0.00006 ppm	56.5 %	-49.696 cps
Ca 315.887 {107} (Radial)	20.69012 ppm	0.4 %	1,850.746 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	442.5 %	-0.047 cps
Cd 214.438 {457} (Axial)	-0.00002 ppm	206.2 %	3.929 cps
Co 228.616 {447} (Axial)	0.00001 ppm	689.4 %	1.417 cps
Cr 267.716 {126} (Axial)	-0.00046 ppm	57.6 %	-1.332 cps
Cu 324.754 {104} (Axial)	-0.00007 ppm	104.6 %	192.290 cps
Cu 327.396 {103} (Axial)	0.00023 ppm	268.4 %	52.363 cps
Fe 259.940 {130} (Radial)	0.06419 ppm	9.4 %	14.612 cps
Fe 273.955 {123} (Radial)	**0.05991 ppm**	**30.0 %**	5.571 cps
K 766.490 {44} (Radial)	**0.26806 ppm**	**12.7 %**	96.277 cps
Li 670.784 {50} (Radial)	-0.00010 ppm	1,032.8 %	21.708 cps
Mg 280.270 {120} (Radial)	9.44103 ppm	0.1 %	47,870.901 cps
Mg 279.079 {121} (Radial)	9.51926 ppm	1.1 %	224.973 cps
Mn 257.610 {131} (Axial)	0.01551 ppm	0.7 %	794.489 cps
Mo 202.030 {467} (Axial)	0.00022 ppm	126.7 %	1.737 cps
Mo 204.598 {465} (Axial)	-0.00020 ppm	230.8 %	-0.220 cps
Na 589.592 {57} (Radial)	6.47292 ppm	0.4 %	11,255.613 cps
Ni 231.604 {445} (Axial)	0.00022 ppm	266.7 %	-1.955 cps
P 177.495 {490} (Axial)	0.34921 ppm	3.0 %	122.929 cps
Pb 220.353 {453} (Axial)	0.00049 ppm	317.5 %	3.057 cps
Sb 206.833 {463} (Axial)	0.00126 ppm	36.7 %	0.102 cps
Se 196.090 {472} (Axial)	0.00004 ppm	2,789.1 %	-1.089 cps
Si 251.611 {134} (Axial)	3.79946 ppm	0.8 %	5,903.519 cps
Sn 189.989 {477} (Axial)	0.00002 ppm	993.0 %	0.138 cps
Sr 407.771 {83} (Radial)	0.01836 ppm	0.7 %	554.611 cps
Sr 421.552 {80} (Axial)	0.01831 ppm	0.2 %	17,232.653 cps
Ti 334.941 {101} (Axial)	0.00023 ppm	63.4 %	24.946 cps
Ti 336.121 {100} (Axial)	-0.00019 ppm	75.5 %	154.537 cps
Tl 190.856 {477} (Axial)	0.00135 ppm	50.8 %	0.046 cps
V 292.402 {115} (Axial)	0.00042 ppm	86.8 %	14.331 cps
Zn 213.856 {458} (Axial)	0.00143 ppm	1.9 %	16.096 cps
Y 371.030 {91} (Radial)	102.27855 %	0.3 %	9,781.478 cps
Y 360.073 {94} (Radial)	101.92017 %	0.2 %	3,570.804 cps
Y 224.306 {450} (Axial)	102.38193 %	0.6 %	14,050.630 cps

B19L022-DUP1

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:20:11 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00022 ppm	187.4 %	-14.556 cps
Ag 338.289 {100} (Axial)	0.00557 ppm	12.9 %	71.929 cps
Al 308.215 {109} (Radial)	-0.05093 ppm	47.5 %	0.591 cps
Al 396.152 {85} (Radial)	0.00660 ppm	126.3 %	15.103 cps
As 189.042 {478} (Axial)	0.00289 ppm	50.3 %	0.423 cps
As 193.759 {474} (Axial)	0.00289 ppm	60.8 %	1.574 cps
B 249.678 {135} (Radial)	0.05171 ppm	4.8 %	7.320 cps
Ba 455.403 {74} (Radial)	0.04869 ppm	0.6 %	861.435 cps
Be 313.042 {108} (Axial)	-0.00010 ppm	15.3 %	-55.658 cps
Ca 315.887 {107} (Radial)	100.85054 ppm	0.4 %	8,918.335 cps
Cd 226.502 {449} (Axial)	0.00004 ppm	355.9 %	0.926 cps
Cd 214.438 {457} (Axial)	0.00008 ppm	124.6 %	4.819 cps
Co 228.616 {447} (Axial)	0.00016 ppm	201.5 %	2.103 cps
Cr 267.716 {126} (Axial)	0.00024 ppm	227.0 %	3.845 cps
Cu 324.754 {104} (Axial)	0.00078 ppm	40.7 %	195.600 cps
Cu 327.396 {103} (Axial)	0.00154 ppm	12.7 %	67.953 cps
Fe 259.940 {130} (Radial)	0.27948 ppm	1.1 %	60.031 cps
Fe 273.955 {123} (Radial)	0.30538 ppm	3.1 %	22.993 cps
K 766.490 {44} (Radial)	1.29257 ppm	0.5 %	527.525 cps
Li 670.784 {50} (Radial)	0.00265 ppm	5.8 %	61.418 cps
Mg 280.270 {120} (Radial)	45.52476 ppm	0.2 %	228,383.845 cps
Mg 279.079 {121} (Radial)	47.86072 ppm	0.6 %	1,120.123 cps
Mn 257.610 {131} (Axial)	0.07557 ppm	0.2 %	3,661.530 cps
Mo 202.030 {467} (Axial)	0.00159 ppm	24.7 %	4.666 cps
Mo 204.598 {465} (Axial)	0.00106 ppm	56.3 %	1.565 cps
Na 589.592 {57} (Radial)	33.04682 ppm	0.3 %	56,817.834 cps
Ni 231.604 {445} (Axial)	0.00145 ppm	38.8 %	1.660 cps
P 177.495 {490} (Axial)	1.80948 ppm	2.1 %	605.992 cps
Pb 220.353 {453} (Axial)	0.00093 ppm	25.9 %	3.276 cps
Sb 206.833 {463} (Axial)	0.00031 ppm	95.2 %	-0.469 cps
Se 196.090 {472} (Axial)	0.00143 ppm	141.4 %	-0.635 cps
Si 251.611 {134} (Axial)	18.89484 ppm	0.3 %	27,665.087 cps
Sn 189.989 {477} (Axial)	0.00063 ppm	41.2 %	0.701 cps
Sr 407.771 {83} (Radial)	0.09159 ppm	0.5 %	2,723.365 cps
Sr 421.552 {80} (Axial)	0.09095 ppm	0.2 %	81,370.883 cps
Ti 334.941 {101} (Axial)	0.00053 ppm	23.6 %	14.237 cps
Ti 336.121 {100} (Axial)	-0.00071 ppm	29.4 %	38.294 cps
Tl 190.856 {477} (Axial)	0.00041 ppm	281.1 %	-0.411 cps
V 292.402 {115} (Axial)	0.00088 ppm	68.0 %	18.080 cps
Zn 213.856 {458} (Axial)	0.00613 ppm	2.2 %	42.233 cps
Y 371.030 {91} (Radial)	101.20618 %	0.5 %	9,678.922 cps
Y 360.073 {94} (Radial)	100.85858 %	0.4 %	3,533.611 cps
Y 224.306 {450} (Axial)	97.80240 %	0.1 %	13,422.148 cps

B19L022-MS1

Sample type: QC Analysis started at: 12/18/2019 5:22:58 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.02110 ppm	86.107 %	1.7 %	199.475 cps
Ag 338.289 {100} (Axial)	0.02618 ppm	82.652 %	1.7 %	216.503 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Al 308.215 {109} (Radial)	0.96802 ppm	97.538 %	3.7 %	54.709 cps
Al 396.152 {85} (Radial)	0.96442 ppm	96.745 %	0.8 %	293.555 cps
As 189.042 {478} (Axial)	0.19593 ppm	95.935 %	2.4 %	71.355 cps
As 193.759 {474} (Axial)	0.19474 ppm	95.725 %	2.6 %	69.484 cps
B 249.678 {135} (Radial)	0.98133 ppm	93.642 %	1.6 %	144.656 cps
Ba 455.403 {74} (Radial)	0.24063 ppm	95.863 %	0.2 %	4,018.830 cps
Be 313.042 {108} (Axial)	0.00963 ppm	97.272 %	0.1 %	2,318.128 cps
Ca 315.887 {107} (Radial)	142.91062 ppm	82.295 %	0.4 %	12,547.874 cps
Cd 226.502 {449} (Axial)	0.04659 ppm	93.157 %	3.4 %	398.524 cps
Cd 214.438 {457} (Axial)	0.04729 ppm	94.338 %	3.5 %	429.209 cps
Co 228.616 {447} (Axial)	0.09195 ppm	91.874 %	3.4 %	453.798 cps
Cr 267.716 {126} (Axial)	0.09413 ppm	94.201 %	0.6 %	671.341 cps
Cu 324.754 {104} (Axial)	0.09643 ppm	95.405 %	0.7 %	1,510.847 cps
Cu 327.396 {103} (Axial)	0.09963 ppm	98.389 %	0.6 %	1,377.409 cps
Fe 259.940 {130} (Radial)	1.20713 ppm	91.590 %	0.8 %	254.584 cps
Fe 273.955 {123} (Radial)	1.23738 ppm	92.837 %	1.6 %	88.697 cps
K 766.490 {44} (Radial)	25.44576 ppm	96.597 %	0.2 %	10,644.148 cps
Li 670.784 {50} (Radial)	0.10252 ppm	99.582 %	1.0 %	1,500.584 cps
Mg 280.270 {120} (Radial)	60.42009 ppm	73.062 %	0.9 %	300,967.000 cps
Mg 279.079 {121} (Radial)	65.20156 ppm	86.733 %	0.5 %	1,515.244 cps
Mn 257.610 {131} (Axial)	0.25959 ppm	91.425 %	1.0 %	12,256.885 cps
Mo 202.030 {467} (Axial)	0.09912 ppm	97.568 %	3.3 %	213.888 cps
Mo 204.598 {465} (Axial)	0.09683 ppm	95.779 %	2.9 %	133.567 cps
Na 589.592 {57} (Radial)	80.12211 ppm	93.699 %	0.1 %	136,777.602 cps
Ni 231.604 {445} (Axial)	0.18831 ppm	93.498 %	3.7 %	524.882 cps
P 177.495 {490} (Axial)	2.78088 ppm	95.492 %	3.9 %	909.009 cps
Pb 220.353 {453} (Axial)	0.45986 ppm	91.644 %	2.6 %	353.446 cps
Sb 206.833 {463} (Axial)	0.47794 ppm	95.751 %	2.6 %	281.798 cps
Se 196.090 {472} (Axial)	0.47653 ppm	94.926 %	1.6 %	137.281 cps
Si 251.611 {134} (Axial)	28.15763 ppm	90.837 %	0.3 %	40,204.940 cps
Sn 189.989 {477} (Axial)	0.46429 ppm	92.731 %	6.0 %	422.092 cps
Sr 407.771 {83} (Radial)	1.02820 ppm	93.636 %	0.1 %	30,324.469 cps
Sr 421.552 {80} (Axial)	1.01419 ppm	92.233 %	0.5 %	884,930.495 cps
Ti 334.941 {101} (Axial)	0.09927 ppm	98.759 %	0.5 %	3,448.182 cps
Ti 336.121 {100} (Axial)	0.09605 ppm	96.685 %	0.1 %	3,268.591 cps
Tl 190.856 {477} (Axial)	0.44043 ppm	88.000 %	1.5 %	207.460 cps
V 292.402 {115} (Axial)	0.09563 ppm	94.705 %	0.7 %	958.230 cps
Zn 213.856 {458} (Axial)	0.96915 ppm	96.231 %	3.7 %	5,386.938 cps
Y 371.030 {91} (Radial)	100.49855 %		0.5 %	9,611.247 cps
Y 360.073 {94} (Radial)	100.14824 %		0.5 %	3,508.724 cps
Y 224.306 {450} (Axial)	95.48045 %		0.2 %	13,103.490 cps

1912011-02

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:25:54 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00008 ppm	517.3 %	-13.042 cps
Ag 338.289 {100} (Axial)	0.00573 ppm	14.2 %	72.754 cps
Al 308.215 {109} (Radial)	-0.00330 ppm	412.2 %	3.152 cps
Al 396.152 {85} (Radial)	0.00673 ppm	91.6 %	15.205 cps
As 189.042 {478} (Axial)	0.00457 ppm	6.2 %	1.056 cps

	Concentration average	Concentration RSD	Raw Intensity average
As 193.759 {474} (Axial)	0.00342 ppm	80.3 %	1.763 cps
B 249.678 {135} (Radial)	0.04762 ppm	10.0 %	6.729 cps
Ba 455.403 {74} (Radial)	0.04785 ppm	0.3 %	854.924 cps
Be 313.042 {108} (Axial)	-0.00013 ppm	11.0 %	-64.605 cps
Ca 315.887 {107} (Radial)	100.02346 ppm	0.7 %	8,866.489 cps
Cd 226.502 {449} (Axial)	0.00004 ppm	312.8 %	0.919 cps
Cd 214.438 {457} (Axial)	0.00003 ppm	307.1 %	4.343 cps
Co 228.616 {447} (Axial)	0.00008 ppm	163.7 %	1.671 cps
Cr 267.716 {126} (Axial)	0.00025 ppm	72.6 %	3.913 cps
Cu 324.754 {104} (Axial)	0.00196 ppm	10.8 %	212.239 cps
Cu 327.396 {103} (Axial)	0.00240 ppm	22.4 %	79.654 cps
Fe 259.940 {130} (Radial)	0.27885 ppm	1.5 %	60.039 cps
Fe 273.955 {123} (Radial)	0.30163 ppm	5.4 %	22.784 cps
K 766.490 {44} (Radial)	1.31475 ppm	1.5 %	541.591 cps
Li 670.784 {50} (Radial)	0.00285 ppm	18.2 %	64.870 cps
Mg 280.270 {120} (Radial)	45.15736 ppm	0.3 %	227,087.388 cps
Mg 279.079 {121} (Radial)	47.57455 ppm	0.2 %	1,116.099 cps
Mn 257.610 {131} (Axial)	0.07599 ppm	0.2 %	3,680.500 cps
Mo 202.030 {467} (Axial)	0.00118 ppm	15.5 %	3.761 cps
Mo 204.598 {465} (Axial)	0.00135 ppm	36.6 %	1.984 cps
Na 589.592 {57} (Radial)	32.78469 ppm	0.2 %	56,863.587 cps
Ni 231.604 {445} (Axial)	0.00134 ppm	32.5 %	1.362 cps
P 177.495 {490} (Axial)	1.86579 ppm	1.7 %	624.658 cps
Pb 220.353 {453} (Axial)	0.00306 ppm	59.4 %	4.934 cps
Sb 206.833 {463} (Axial)	-0.00025 ppm	440.6 %	-0.804 cps
Se 196.090 {472} (Axial)	0.00278 ppm	8.4 %	-0.233 cps
Si 251.611 {134} (Axial)	19.05896 ppm	0.1 %	27,896.220 cps
Sn 189.989 {477} (Axial)	0.00066 ppm	88.7 %	0.734 cps
Sr 407.771 {83} (Radial)	0.09130 ppm	0.4 %	2,738.845 cps
Sr 421.552 {80} (Axial)	0.09141 ppm	0.2 %	81,762.239 cps
Ti 334.941 {101} (Axial)	0.00042 ppm	17.3 %	10.209 cps
Ti 336.121 {100} (Axial)	-0.00081 ppm	14.7 %	35.575 cps
Tl 190.856 {477} (Axial)	-0.00039 ppm	197.4 %	-0.798 cps
V 292.402 {115} (Axial)	0.00105 ppm	38.7 %	19.770 cps
Zn 213.856 {458} (Axial)	0.01033 ppm	1.4 %	66.113 cps
Y 371.030 {91} (Radial)	102.09691 %	0.6 %	9,764.108 cps
Y 360.073 {94} (Radial)	101.10208 %	0.5 %	3,542.142 cps
Y 224.306 {450} (Axial)	97.77320 %	0.3 %	13,418.141 cps

1912011-03

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:28:41 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00047 ppm	86.4 %	-16.665 cps
Ag 338.289 {100} (Axial)	0.00671 ppm	11.5 %	81.142 cps
Al 308.215 {109} (Radial)	-0.03595 ppm	67.0 %	1.379 cps
Al 396.152 {85} (Radial)	-0.00218 ppm	770.3 %	13.138 cps
As 189.042 {478} (Axial)	0.00610 ppm	9.7 %	1.606 cps
As 193.759 {474} (Axial)	0.00721 ppm	9.1 %	3.097 cps
B 249.678 {135} (Radial)	0.03107 ppm	2.5 %	4.173 cps
Ba 455.403 {74} (Radial)	0.04164 ppm	0.5 %	740.847 cps

	Concentration average	Concentration RSD	Raw Intensity average
Be 313.042 {108} (Axial)	-0.00014 ppm	10.2 %	-64.419 cps
Ca 315.887 {107} (Radial)	116.00009 ppm	0.2 %	10,136.847 cps
Cd 226.502 {449} (Axial)	-0.00006 ppm	220.1 %	1.150 cps
Cd 214.438 {457} (Axial)	0.00007 ppm	93.6 %	5.156 cps
Co 228.616 {447} (Axial)	0.00105 ppm	11.1 %	6.479 cps
Cr 267.716 {126} (Axial)	0.00013 ppm	206.6 %	2.996 cps
Cu 324.754 {104} (Axial)	0.02627 ppm	0.6 %	547.111 cps
Cu 327.396 {103} (Axial)	0.02740 ppm	0.2 %	415.746 cps
Fe 259.940 {130} (Radial)	0.98591 ppm	0.9 %	207.091 cps
Fe 273.955 {123} (Radial)	1.00936 ppm	4.5 %	72.254 cps
K 766.490 {44} (Radial)	2.11296 ppm	1.6 %	869.549 cps
Li 670.784 {50} (Radial)	0.00564 ppm	14.5 %	104.320 cps
Mg 280.270 {120} (Radial)	52.48276 ppm	0.1 %	260,185.345 cps
Mg 279.079 {121} (Radial)	55.56685 ppm	0.2 %	1,285.148 cps
Mn 257.610 {131} (Axial)	0.15605 ppm	0.1 %	7,438.590 cps
Mo 202.030 {467} (Axial)	0.00201 ppm	13.3 %	5.517 cps
Mo 204.598 {465} (Axial)	0.00149 ppm	15.1 %	2.150 cps
Na 589.592 {57} (Radial)	76.90419 ppm	0.1 %	131,580.213 cps
Ni 231.604 {445} (Axial)	0.00363 ppm	2.8 %	7.791 cps
P 177.495 {490} (Axial)	0.00254 ppm	35.2 %	1.419 cps
Pb 220.353 {453} (Axial)	0.00767 ppm	16.2 %	8.451 cps
Sb 206.833 {463} (Axial)	-0.00010 ppm	1,581.7 %	-0.699 cps
Se 196.090 {472} (Axial)	0.00112 ppm	266.0 %	-0.720 cps
Si 251.611 {134} (Axial)	17.51703 ppm	0.1 %	25,273.427 cps
Sn 189.989 {477} (Axial)	0.00031 ppm	280.3 %	0.402 cps
Sr 407.771 {83} (Radial)	0.09733 ppm	0.3 %	2,880.093 cps
Sr 421.552 {80} (Axial)	0.09676 ppm	0.2 %	85,281.631 cps
Ti 334.941 {101} (Axial)	0.00039 ppm	29.7 %	5.276 cps
Ti 336.121 {100} (Axial)	-0.00098 ppm	22.9 %	11.287 cps
Tl 190.856 {477} (Axial)	0.00032 ppm	37.2 %	-0.447 cps
V 292.402 {115} (Axial)	0.00109 ppm	53.9 %	19.538 cps
Zn 213.856 {458} (Axial)	0.03433 ppm	1.6 %	200.179 cps
Y 371.030 {91} (Radial)	100.72419 %	0.2 %	9,632.826 cps
Y 360.073 {94} (Radial)	99.66948 %	0.2 %	3,491.951 cps
Y 224.306 {450} (Axial)	96.34876 %	0.1 %	13,222.654 cps

1912011-04

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:31:29 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00028 ppm	122.1 %	-15.242 cps
Ag 338.289 {100} (Axial)	0.00591 ppm	13.3 %	74.968 cps
Al 308.215 {109} (Radial)	-0.06366 ppm	19.4 %	-0.091 cps
Al 396.152 {85} (Radial)	-0.00981 ppm	90.3 %	10.580 cps
As 189.042 {478} (Axial)	0.02232 ppm	7.7 %	7.771 cps
As 193.759 {474} (Axial)	0.02073 ppm	7.9 %	8.092 cps
B 249.678 {135} (Radial)	0.07526 ppm	3.0 %	10.490 cps
Ba 455.403 {74} (Radial)	0.03958 ppm	1.0 %	718.855 cps
Be 313.042 {108} (Axial)	-0.00011 ppm	13.5 %	-59.515 cps
Ca 315.887 {107} (Radial)	103.54715 ppm	0.3 %	9,215.238 cps
Cd 226.502 {449} (Axial)	-0.00010 ppm	162.6 %	18.599 cps

	Concentration average	Concentration RSD	Raw Intensity average
Cd 214.438 {457} (Axial)	0.00017 ppm	133.2 %	14.029 cps
Co 228.616 {447} (Axial)	0.00062 ppm	35.0 %	4.426 cps
Cr 267.716 {126} (Axial)	0.00044 ppm	29.8 %	4.121 cps
Cu 324.754 {104} (Axial)	0.02535 ppm	0.8 %	534.437 cps
Cu 327.396 {103} (Axial)	0.02539 ppm	0.9 %	396.174 cps
Fe 259.940 {130} (Radial)	11.86482 ppm	0.2 %	2,528.447 cps
Fe 273.955 {123} (Radial)	12.11893 ppm	0.6 %	869.655 cps
K 766.490 {44} (Radial)	1.42768 ppm	0.9 %	591.756 cps
Li 670.784 {50} (Radial)	0.00229 ppm	35.0 %	56.835 cps
Mg 280.270 {120} (Radial)	42.08748 ppm	0.4 %	212,486.946 cps
Mg 279.079 {121} (Radial)	44.29458 ppm	0.3 %	1,043.115 cps
Mn 257.610 {131} (Axial)	0.07939 ppm	0.2 %	3,863.270 cps
Mo 202.030 {467} (Axial)	0.00241 ppm	5.7 %	6.512 cps
Mo 204.598 {465} (Axial)	0.00228 ppm	12.5 %	3.306 cps
Na 589.592 {57} (Radial)	9.06888 ppm	0.1 %	15,791.902 cps
Ni 231.604 {445} (Axial)	0.00205 ppm	21.9 %	3.412 cps
P 177.495 {490} (Axial)	0.00309 ppm	32.0 %	1.631 cps
Pb 220.353 {453} (Axial)	0.00895 ppm	10.7 %	10.060 cps
Sb 206.833 {463} (Axial)	-0.00048 ppm	261.3 %	-0.804 cps
Se 196.090 {472} (Axial)	0.00156 ppm	65.3 %	-0.820 cps
Si 251.611 {134} (Axial)	24.92395 ppm	0.3 %	36,622.913 cps
Sn 189.989 {477} (Axial)	0.00000 ppm	102,281.5 %	0.117 cps
Sr 407.771 {83} (Radial)	0.13624 ppm	0.4 %	4,099.178 cps
Sr 421.552 {80} (Axial)	0.13716 ppm	0.3 %	123,211.176 cps
Ti 334.941 {101} (Axial)	0.00052 ppm	25.0 %	13.055 cps
Ti 336.121 {100} (Axial)	-0.00062 ppm	4.3 %	38.311 cps
Tl 190.856 {477} (Axial)	-0.00036 ppm	131.2 %	-0.788 cps
V 292.402 {115} (Axial)	0.00099 ppm	18.5 %	19.184 cps
Zn 213.856 {458} (Axial)	0.03207 ppm	2.2 %	198.772 cps
Y 371.030 {91} (Radial)	102.45011 %	0.7 %	9,797.886 cps
Y 360.073 {94} (Radial)	101.50360 %	0.9 %	3,556.209 cps
Y 224.306 {450} (Axial)	98.23411 %	0.2 %	13,481.394 cps

LCB

Sample type: QC Analysis started at: 12/18/2019 5:34:16 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00015 ppm	6.369 %	132.8 %	-11.622 cps
Ag 338.289 {100} (Axial)	-0.00029 ppm	-2.194 %	137.3 %	14.367 cps
Al 308.215 {109} (Radial)	-0.05621 ppm	-19.384 %	5.9 %	0.315 cps
Al 396.152 {85} (Radial)	0.00120 ppm	1.290 %	1,814.7 %	9.172 cps
As 189.042 {478} (Axial)	0.00044 ppm	8.477 %	183.6 %	-0.536 cps
As 193.759 {474} (Axial)	-0.00117 ppm	-12.946 %	86.5 %	0.111 cps
B 249.678 {135} (Radial)	-0.00185 ppm	-14.255 %	428.1 %	-0.650 cps
Ba 455.403 {74} (Radial)	-0.00027 ppm	-31.609 %	70.6 %	49.600 cps
Be 313.042 {108} (Axial)	-0.00008 ppm	-12.867 %	26.3 %	-55.033 cps
Ca 315.887 {107} (Radial)	0.02062 ppm	9.372 %	74.3 %	4.133 cps
Cd 226.502 {449} (Axial)	-0.00007 ppm	-12.782 %	188.8 %	-0.496 cps
Cd 214.438 {457} (Axial)	0.00000 ppm	-0.663 %	3,911.1 %	4.183 cps
Co 228.616 {447} (Axial)	-0.00008 ppm	-11.842 %	243.0 %	0.979 cps
Cr 267.716 {126} (Axial)	-0.00021 ppm	-20.803 %	173.2 %	0.572 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cu 324.754 {104} (Axial)	-0.00052 ppm	-14.856 %	9.5 %	190.739 cps
Cu 327.396 {103} (Axial)	-0.00019 ppm	-4.387 %	69.5 %	47.567 cps
Fe 259.940 {130} (Radial)	0.00159 ppm	8.351 %	284.4 %	1.231 cps
Fe 273.955 {123} (Radial)	-0.01631 ppm	-77.648 %	112.9 %	0.083 cps
K 766.490 {44} (Radial)	-0.00218 ppm	-2.179 %	1,875.2 %	-19.087 cps
Li 670.784 {50} (Radial)	-0.00151 ppm	-47.155 %	23.9 %	1.085 cps
Mg 280.270 {120} (Radial)	0.00919 ppm	45.943 %	88.8 %	58.667 cps
Mg 279.079 {121} (Radial)	0.01968 ppm	1.968 %	322.9 %	0.267 cps
Mn 257.610 {131} (Axial)	0.00004 ppm	0.962 %	288.8 %	11.817 cps
Mo 202.030 {467} (Axial)	-0.00007 ppm	-2.830 %	212.8 %	1.104 cps
Mo 204.598 {465} (Axial)	-0.00032 ppm	-17.735 %	65.7 %	-0.409 cps
Na 589.592 {57} (Radial)	0.01548 ppm	11.059 %	43.6 %	38.007 cps
Ni 231.604 {445} (Axial)	0.00011 ppm	2.993 %	161.4 %	-2.333 cps
P 177.495 {490} (Axial)	0.00029 ppm	0.890 %	219.7 %	0.731 cps
Pb 220.353 {453} (Axial)	0.00015 ppm	3.102 %	488.0 %	2.848 cps
Sb 206.833 {463} (Axial)	0.00142 ppm	17.769 %	66.1 %	0.210 cps
Se 196.090 {472} (Axial)	0.00046 ppm	2.575 %	380.6 %	-0.979 cps
Si 251.611 {134} (Axial)	0.00745 ppm	8.561 %	96.9 %	114.736 cps
Sn 189.989 {477} (Axial)	-0.00018 ppm	-5.960 %	316.0 %	-0.059 cps
Sr 407.771 {83} (Radial)	0.00001 ppm	0.390 %	553.7 %	3.878 cps
Sr 421.552 {80} (Axial)	0.00005 ppm	1.867 %	210.6 %	146.740 cps
Ti 334.941 {101} (Axial)	-0.00028 ppm	-21.476 %	27.8 %	11.367 cps
Ti 336.121 {100} (Axial)	-0.00031 ppm	-22.467 %	44.7 %	178.394 cps
Tl 190.856 {477} (Axial)	0.00016 ppm	1.117 %	687.0 %	-0.570 cps
V 292.402 {115} (Axial)	-0.00007 ppm	-7.825 %	562.9 %	9.367 cps
Zn 213.856 {458} (Axial)	0.00002 ppm	0.327 %	570.8 %	7.863 cps
Y 371.030 {91} (Radial)	103.15875 %		0.7 %	9,865.657 cps
Y 360.073 {94} (Radial)	102.54870 %		0.7 %	3,592.825 cps
Y 224.306 {450} (Axial)	105.12167 %		0.2 %	14,426.626 cps

RLC

Sample type: QC Analysis started at: 12/18/2019 5:37:09 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00943 ppm	94.323 %	3.0 %	90.456 cps
Ag 338.289 {100} (Axial)	0.00841 ppm	84.149 %	5.3 %	72.317 cps
Al 308.215 {109} (Radial)	0.45620 ppm	91.241 %	5.3 %	28.119 cps
Al 396.152 {85} (Radial)	0.47582 ppm	95.164 %	0.7 %	149.550 cps
As 189.042 {478} (Axial)	0.03839 ppm	95.985 %	1.2 %	14.790 cps
As 193.759 {474} (Axial)	0.03598 ppm	89.961 %	1.4 %	14.545 cps
B 249.678 {135} (Radial)	0.04736 ppm	94.717 %	8.0 %	6.772 cps
Ba 455.403 {74} (Radial)	0.00235 ppm	78.477 %	24.2 %	93.989 cps
Be 313.042 {108} (Axial)	0.00188 ppm	93.876 %	1.0 %	468.233 cps
Ca 315.887 {107} (Radial)	0.50810 ppm	101.619 %	6.0 %	47.833 cps
Cd 226.502 {449} (Axial)	0.00185 ppm	92.348 %	0.3 %	17.528 cps
Cd 214.438 {457} (Axial)	0.00198 ppm	98.888 %	4.1 %	23.817 cps
Co 228.616 {447} (Axial)	0.00580 ppm	96.638 %	3.6 %	32.736 cps
Cr 267.716 {126} (Axial)	0.00414 ppm	82.827 %	3.6 %	34.543 cps
Cu 324.754 {104} (Axial)	0.01839 ppm	91.966 %	2.0 %	477.156 cps
Cu 327.396 {103} (Axial)	0.01869 ppm	93.454 %	1.9 %	324.700 cps
Fe 259.940 {130} (Radial)	0.08341 ppm	104.268 %	8.5 %	18.789 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Fe 273.955 {123} (Radial)	0.08869 ppm	110.858 %	32.0 %	7.667 cps
K 766.490 {44} (Radial)	0.71472 ppm	89.340 %	0.8 %	288.978 cps
Li 670.784 {50} (Radial)	0.02274 ppm	90.946 %	4.6 %	359.561 cps
Mg 280.270 {120} (Radial)	0.20542 ppm	102.712 %	3.7 %	1,056.617 cps
Mg 279.079 {121} (Radial)	0.16296 ppm	81.481 %	9.6 %	3.667 cps
Mn 257.610 {131} (Axial)	0.00798 ppm	99.723 %	0.4 %	423.450 cps
Mo 202.030 {467} (Axial)	0.01184 ppm	98.641 %	0.4 %	29.173 cps
Mo 204.598 {465} (Axial)	0.01148 ppm	95.685 %	2.8 %	17.487 cps
Na 589.592 {57} (Radial)	0.38310 ppm	95.776 %	3.6 %	681.578 cps
Ni 231.604 {445} (Axial)	0.01196 ppm	99.677 %	1.4 %	34.145 cps
P 177.495 {490} (Axial)	0.19549 ppm	97.744 %	1.4 %	70.790 cps
Pb 220.353 {453} (Axial)	0.02949 ppm	98.287 %	2.4 %	27.394 cps
Sb 206.833 {463} (Axial)	0.01923 ppm	96.172 %	5.5 %	11.782 cps
Se 196.090 {472} (Axial)	0.05072 ppm	101.447 %	3.5 %	15.048 cps
Si 251.611 {134} (Axial)	0.25273 ppm	126.367 %	1.0 %	498.694 cps
Sn 189.989 {477} (Axial)	0.01914 ppm	95.700 %	4.4 %	19.237 cps
Sr 407.771 {83} (Radial)	0.00278 ppm	92.659 %	1.1 %	87.674 cps
Sr 421.552 {80} (Axial)	0.00306 ppm	102.065 %	0.9 %	3,036.728 cps
Ti 334.941 {101} (Axial)	0.00545 ppm	90.902 %	1.1 %	231.000 cps
Ti 336.121 {100} (Axial)	0.00547 ppm	91.217 %	2.8 %	393.006 cps
Tl 190.856 {477} (Axial)	0.06163 ppm	102.709 %	0.6 %	31.353 cps
V 292.402 {115} (Axial)	0.00493 ppm	98.679 %	2.1 %	63.950 cps
Zn 213.856 {458} (Axial)	0.03033 ppm	101.104 %	2.7 %	193.085 cps
Y 371.030 {91} (Radial)	103.08440 %		0.5 %	9,858.547 cps
Y 360.073 {94} (Radial)	102.25055 %		0.5 %	3,582.379 cps
Y 224.306 {450} (Axial)	104.90151 %		0.3 %	14,396.412 cps

LCM1

Sample type: QC Analysis started at: 12/18/2019 5:40:02 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.12937 ppm	0.000 %	0.3 %	1,402.234 cps
Ag 338.289 {100} (Axial)	0.12784 ppm	0.000 %	0.7 %	995.141 cps
Al 308.215 {109} (Radial)	0.93216 ppm	93.216 %	2.2 %	53.921 cps
Al 396.152 {85} (Radial)	0.91862 ppm	91.862 %	0.7 %	289.902 cps
As 189.042 {478} (Axial)	1.86863 ppm	93.431 %	0.6 %	749.097 cps
As 193.759 {474} (Axial)	1.86881 ppm	93.440 %	0.5 %	723.890 cps
B 249.678 {135} (Radial)	0.94450 ppm	94.450 %	1.9 %	142.821 cps
Ba 455.403 {74} (Radial)	0.92460 ppm	92.460 %	0.4 %	15,713.338 cps
Be 313.042 {108} (Axial)	0.94776 ppm	94.776 %	0.4 %	251,793.131 cps
Ca 315.887 {107} (Radial)	0.94997 ppm	94.997 %	3.0 %	88.447 cps
Cd 226.502 {449} (Axial)	0.97315 ppm	97.315 %	0.5 %	9,043.555 cps
Cd 214.438 {457} (Axial)	0.98272 ppm	98.272 %	0.4 %	9,638.016 cps
Co 228.616 {447} (Axial)	0.98931 ppm	98.931 %	0.6 %	5,316.893 cps
Cr 267.716 {126} (Axial)	0.95007 ppm	95.007 %	0.1 %	7,378.110 cps
Cu 324.754 {104} (Axial)	0.92375 ppm	92.375 %	0.3 %	14,122.776 cps
Cu 327.396 {103} (Axial)	0.93626 ppm	93.626 %	0.3 %	13,713.226 cps
Fe 259.940 {130} (Radial)	0.95083 ppm	95.083 %	0.7 %	205.895 cps
Fe 273.955 {123} (Radial)	0.94351 ppm	94.351 %	2.7 %	69.451 cps
K 766.490 {44} (Radial)	4.59342 ppm	91.868 %	1.2 %	1,959.531 cps
Li 670.784 {50} (Radial)	0.93088 ppm	93.088 %	0.6 %	13,811.848 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mg 280.270 {120} (Radial)	0.97497 ppm	97.497 %	0.2 %	4,993.655 cps
Mg 279.079 {121} (Radial)	0.98410 ppm	98.410 %	7.0 %	23.251 cps
Mn 257.610 {131} (Axial)	0.94318 ppm	94.318 %	0.2 %	48,597.843 cps
Mo 202.030 {467} (Axial)	1.00895 ppm	100.895 %	0.2 %	2,365.556 cps
Mo 204.598 {465} (Axial)	0.99191 ppm	99.191 %	0.4 %	1,492.709 cps
Na 589.592 {57} (Radial)	0.94767 ppm	94.767 %	0.3 %	1,673.154 cps
Ni 231.604 {445} (Axial)	1.01368 ppm	101.368 %	0.5 %	3,096.990 cps
P 177.495 {490} (Axial)	4.74289 ppm	94.858 %	0.4 %	1,692.924 cps
Pb 220.353 {453} (Axial)	1.96626 ppm	98.313 %	0.5 %	1,641.546 cps
Sb 206.833 {463} (Axial)	1.94851 ppm	97.425 %	0.7 %	1,259.788 cps
Se 196.090 {472} (Axial)	0.91934 ppm	91.934 %	0.8 %	290.327 cps
Si 251.611 {134} (Axial)	4.85328 ppm	97.066 %	0.5 %	7,677.436 cps
Sn 189.989 {477} (Axial)	5.06162 ppm	101.232 %	1.5 %	5,023.018 cps
Sr 407.771 {83} (Radial)	0.93739 ppm	93.739 %	0.3 %	28,408.976 cps
Sr 421.552 {80} (Axial)	0.93372 ppm	93.372 %	0.6 %	889,543.090 cps
Ti 334.941 {101} (Axial)	0.97230 ppm	97.230 %	0.3 %	37,061.568 cps
Ti 336.121 {100} (Axial)	0.95520 ppm	95.520 %	0.2 %	35,541.339 cps
Tl 190.856 {477} (Axial)	4.93062 ppm	98.612 %	0.6 %	2,542.885 cps
V 292.402 {115} (Axial)	0.92364 ppm	92.364 %	0.4 %	10,025.110 cps
Zn 213.856 {458} (Axial)	0.98708 ppm	98.708 %	0.5 %	6,022.618 cps
Y 371.030 {91} (Radial)	103.26910 %		0.3 %	9,876.211 cps
Y 360.073 {94} (Radial)	102.73175 %		0.4 %	3,599.238 cps
Y 224.306 {450} (Axial)	104.24917 %		0.2 %	14,306.886 cps

HiLCM

Sample type: QC Analysis started at: 12/18/2019 5:42:34 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00097 ppm	0.000 %	3.0 %	-21.711 cps
Ag 338.289 {100} (Axial)	0.00553 ppm	0.000 %	13.5 %	68.800 cps
Al 308.215 {109} (Radial)	96.64036 ppm	96.640 %	0.2 %	5,074.944 cps
Al 396.152 {85} (Radial)	97.18514 ppm	97.185 %	0.2 %	27,758.705 cps
As 189.042 {478} (Axial)	-0.00095 ppm	0.000 %	87.8 %	-0.997 cps
As 193.759 {474} (Axial)	-0.00960 ppm	0.000 %	19.3 %	-9.410 cps
B 249.678 {135} (Radial)	0.00317 ppm	0.000 %	183.0 %	-3.097 cps
Ba 455.403 {74} (Radial)	0.00034 ppm	0.000 %	30.9 %	57.897 cps
Be 313.042 {108} (Axial)	0.00027 ppm	0.000 %	64.8 %	34.000 cps
Ca 315.887 {107} (Radial)	95.28507 ppm	95.285 %	0.3 %	8,261.778 cps
Cd 226.502 {449} (Axial)	-0.00066 ppm	0.000 %	152.1 %	143.135 cps
Cd 214.438 {457} (Axial)	0.00051 ppm	0.000 %	70.1 %	89.105 cps
Co 228.616 {447} (Axial)	0.00440 ppm	0.000 %	3.9 %	22.855 cps
Cr 267.716 {126} (Axial)	0.00202 ppm	0.000 %	16.2 %	6.539 cps
Cu 324.754 {104} (Axial)	0.00002 ppm	0.000 %	1,649.0 %	92.106 cps
Cu 327.396 {103} (Axial)	0.00121 ppm	0.000 %	27.5 %	61.783 cps
Fe 259.940 {130} (Radial)	93.34118 ppm	93.341 %	0.1 %	19,373.001 cps
Fe 273.955 {123} (Radial)	96.94399 ppm	96.944 %	0.4 %	6,769.167 cps
K 766.490 {44} (Radial)	99.44241 ppm	99.442 %	0.5 %	41,281.172 cps
Li 670.784 {50} (Radial)	0.00143 ppm	0.000 %	76.5 %	43.013 cps
Mg 280.270 {120} (Radial)	54.79959 ppm	91.333 %	0.7 %	269,537.882 cps
Mg 279.079 {121} (Radial)	59.18561 ppm	98.643 %	0.2 %	1,357.000 cps
Mn 257.610 {131} (Axial)	0.00206 ppm	0.000 %	10.0 %	106.183 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mo 202.030 {467} (Axial)	-0.00006 ppm	0.000 %	909.9 %	1.022 cps
Mo 204.598 {465} (Axial)	0.00083 ppm	0.000 %	44.8 %	5.707 cps
Na 589.592 {57} (Radial)	98.05447 ppm	98.054 %	0.3 %	165,909.602 cps
Ni 231.604 {445} (Axial)	0.00367 ppm	0.000 %	7.4 %	7.829 cps
P 177.495 {490} (Axial)	0.00103 ppm	0.000 %	127.8 %	0.902 cps
Pb 220.353 {453} (Axial)	-0.00303 ppm	0.000 %	50.2 %	-7.239 cps
Sb 206.833 {463} (Axial)	-0.00509 ppm	0.000 %	60.2 %	-2.475 cps
Se 196.090 {472} (Axial)	0.00173 ppm	0.000 %	105.3 %	-2.329 cps
Si 251.611 {134} (Axial)	0.01045 ppm	0.000 %	95.1 %	108.429 cps
Sn 189.989 {477} (Axial)	0.00222 ppm	0.000 %	19.5 %	2.131 cps
Sr 407.771 {83} (Radial)	0.00120 ppm	0.000 %	8.7 %	38.554 cps
Sr 421.552 {80} (Axial)	0.00127 ppm	0.000 %	22.6 %	1,195.725 cps
Ti 334.941 {101} (Axial)	0.00094 ppm	0.000 %	8.0 %	29.367 cps
Ti 336.121 {100} (Axial)	-0.00053 ppm	0.000 %	28.1 %	49.072 cps
Tl 190.856 {477} (Axial)	0.00040 ppm	0.000 %	309.2 %	-0.402 cps
V 292.402 {115} (Axial)	0.00150 ppm	0.000 %	5.2 %	24.033 cps
Zn 213.856 {458} (Axial)	0.00612 ppm	0.000 %	10.9 %	104.385 cps
Y 371.030 {91} (Radial)	99.61163 %		0.6 %	9,526.426 cps
Y 360.073 {94} (Radial)	98.88912 %		0.5 %	3,464.610 cps
Y 224.306 {450} (Axial)	95.33008 %		0.2 %	13,082.853 cps

LCM2

Sample type: QC Analysis started at: 12/18/2019 5:45:27 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04571 ppm	91.421 %	0.7 %	483.611 cps
Ag 338.289 {100} (Axial)	0.04517 ppm	90.333 %	0.9 %	308.400 cps
Al 308.215 {109} (Radial)	-0.01944 ppm	0.000 %	265.8 %	2.275 cps
Al 396.152 {85} (Radial)	0.00287 ppm	0.000 %	401.5 %	9.544 cps
As 189.042 {478} (Axial)	0.00027 ppm	0.000 %	105.1 %	-0.594 cps
As 193.759 {474} (Axial)	0.00058 ppm	0.000 %	288.0 %	0.779 cps
B 249.678 {135} (Radial)	0.00565 ppm	0.000 %	82.1 %	0.472 cps
Ba 455.403 {74} (Radial)	-0.00019 ppm	0.000 %	167.3 %	50.172 cps
Be 313.042 {108} (Axial)	-0.00001 ppm	0.000 %	89.1 %	-36.750 cps
Ca 315.887 {107} (Radial)	0.03762 ppm	0.000 %	48.9 %	5.583 cps
Cd 226.502 {449} (Axial)	-0.00005 ppm	0.000 %	159.4 %	-0.292 cps
Cd 214.438 {457} (Axial)	-0.00004 ppm	0.000 %	219.6 %	3.782 cps
Co 228.616 {447} (Axial)	-0.00014 ppm	0.000 %	97.2 %	0.643 cps
Cr 267.716 {126} (Axial)	0.00021 ppm	0.000 %	52.1 %	3.811 cps
Cu 324.754 {104} (Axial)	0.00016 ppm	0.000 %	108.5 %	198.322 cps
Cu 327.396 {103} (Axial)	0.00005 ppm	0.000 %	804.0 %	50.333 cps
Fe 259.940 {130} (Radial)	0.01379 ppm	0.000 %	47.0 %	3.797 cps
Fe 273.955 {123} (Radial)	0.00963 ppm	0.000 %	205.1 %	1.933 cps
K 766.490 {44} (Radial)	0.04889 ppm	0.000 %	21.5 %	2.765 cps
Li 670.784 {50} (Radial)	-0.00076 ppm	0.000 %	149.3 %	11.861 cps
Mg 280.270 {120} (Radial)	0.00986 ppm	0.000 %	46.9 %	61.283 cps
Mg 279.079 {121} (Radial)	-0.01571 ppm	0.000 %	265.0 %	-0.567 cps
Mn 257.610 {131} (Axial)	0.00009 ppm	0.000 %	105.1 %	14.550 cps
Mo 202.030 {467} (Axial)	-0.00003 ppm	0.000 %	1,298.4 %	1.184 cps
Mo 204.598 {465} (Axial)	0.00002 ppm	0.000 %	3,228.3 %	0.106 cps
Na 589.592 {57} (Radial)	0.03373 ppm	0.000 %	14.0 %	68.839 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ni 231.604 {445} (Axial)	0.00000 ppm	0.000 %	15,015.7 %	-2.632 cps
P 177.495 {490} (Axial)	0.00013 ppm	0.000 %	1,007.2 %	0.661 cps
Pb 220.353 {453} (Axial)	0.00015 ppm	0.000 %	587.3 %	2.811 cps
Sb 206.833 {463} (Axial)	0.00199 ppm	0.000 %	27.8 %	0.574 cps
Se 196.090 {472} (Axial)	0.00082 ppm	0.000 %	144.0 %	-0.853 cps
Si 251.611 {134} (Axial)	0.03775 ppm	0.000 %	21.4 %	159.999 cps
Sn 189.989 {477} (Axial)	0.00041 ppm	0.000 %	73.2 %	0.528 cps
Sr 407.771 {83} (Radial)	0.00002 ppm	0.000 %	720.5 %	4.024 cps
Sr 421.552 {80} (Axial)	0.00010 ppm	0.000 %	14.1 %	198.615 cps
Ti 334.941 {101} (Axial)	-0.00015 ppm	0.000 %	77.7 %	16.050 cps
Ti 336.121 {100} (Axial)	-0.00017 ppm	0.000 %	50.5 %	181.267 cps
Tl 190.856 {477} (Axial)	0.00058 ppm	0.000 %	82.2 %	-0.345 cps
V 292.402 {115} (Axial)	0.00029 ppm	0.000 %	74.9 %	13.083 cps
Zn 213.856 {458} (Axial)	0.00051 ppm	0.000 %	13.6 %	10.684 cps
Y 371.030 {91} (Radial)	101.45207 %		0.6 %	9,702.438 cps
Y 360.073 {94} (Radial)	101.00244 %		0.5 %	3,538.651 cps
Y 224.306 {450} (Axial)	103.65764 %		0.2 %	14,225.706 cps

wash

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:48:20 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00002 ppm	1,000.6 %	-13.067 cps
Ag 338.289 {100} (Axial)	-0.00075 ppm	45.6 %	11.233 cps
Al 308.215 {109} (Radial)	-0.04850 ppm	14.1 %	0.731 cps
Al 396.152 {85} (Radial)	-0.00253 ppm	350.0 %	8.033 cps
As 189.042 {478} (Axial)	0.00036 ppm	280.0 %	-0.566 cps
As 193.759 {474} (Axial)	-0.00010 ppm	1,471.2 %	0.525 cps
B 249.678 {135} (Radial)	0.00541 ppm	82.8 %	0.444 cps
Ba 455.403 {74} (Radial)	-0.00035 ppm	70.6 %	47.917 cps
Be 313.042 {108} (Axial)	-0.00003 ppm	62.4 %	-43.100 cps
Ca 315.887 {107} (Radial)	0.00517 ppm	325.7 %	2.733 cps
Cd 226.502 {449} (Axial)	0.00003 ppm	291.0 %	0.381 cps
Cd 214.438 {457} (Axial)	-0.00001 ppm	729.2 %	4.074 cps
Co 228.616 {447} (Axial)	-0.00015 ppm	81.3 %	0.592 cps
Cr 267.716 {126} (Axial)	-0.00010 ppm	175.0 %	1.418 cps
Cu 324.754 {104} (Axial)	-0.00020 ppm	89.8 %	194.472 cps
Cu 327.396 {103} (Axial)	-0.00026 ppm	110.1 %	46.250 cps
Fe 259.940 {130} (Radial)	0.00457 ppm	148.9 %	1.860 cps
Fe 273.955 {123} (Radial)	0.00658 ppm	65.3 %	1.733 cps
K 766.490 {44} (Radial)	0.01952 ppm	28.7 %	-9.743 cps
Li 670.784 {50} (Radial)	-0.00071 ppm	212.6 %	12.754 cps
Mg 280.270 {120} (Radial)	0.00655 ppm	147.5 %	45.033 cps
Mg 279.079 {121} (Radial)	-0.02159 ppm	448.1 %	-0.700 cps
Mn 257.610 {131} (Axial)	-0.00003 ppm	80.5 %	8.433 cps
Mo 202.030 {467} (Axial)	0.00000 ppm	33,979.4 %	1.257 cps
Mo 204.598 {465} (Axial)	-0.00034 ppm	44.9 %	-0.443 cps
Na 589.592 {57} (Radial)	0.01703 ppm	73.1 %	40.387 cps
Ni 231.604 {445} (Axial)	-0.00005 ppm	486.1 %	-2.831 cps
P 177.495 {490} (Axial)	0.00080 ppm	51.3 %	0.907 cps
Pb 220.353 {453} (Axial)	0.00073 ppm	175.2 %	3.320 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sb 206.833 {463} (Axial)	0.00102 ppm	20.0 %	-0.051 cps
Se 196.090 {472} (Axial)	0.00225 ppm	17.6 %	-0.407 cps
Si 251.611 {134} (Axial)	0.00283 ppm	44.8 %	106.854 cps
Sn 189.989 {477} (Axial)	0.00020 ppm	420.6 %	0.322 cps
Sr 407.771 {83} (Radial)	-0.00001 ppm	2,430.9 %	3.369 cps
Sr 421.552 {80} (Axial)	-0.00001 ppm	260.0 %	88.490 cps
Ti 334.941 {101} (Axial)	-0.00031 ppm	31.6 %	10.133 cps
Ti 336.121 {100} (Axial)	-0.00023 ppm	10.0 %	180.517 cps
Tl 190.856 {477} (Axial)	-0.00025 ppm	222.0 %	-0.778 cps
V 292.402 {115} (Axial)	0.00040 ppm	80.0 %	14.467 cps
Zn 213.856 {458} (Axial)	-0.00007 ppm	44.0 %	7.239 cps
Y 371.030 {91} (Radial)	102.26460 %	0.7 %	9,780.144 cps
Y 360.073 {94} (Radial)	101.87731 %	0.5 %	3,569.303 cps
Y 224.306 {450} (Axial)	104.49980 %	0.2 %	14,341.282 cps

1912011-05

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:51:16 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00009 ppm	705.3 %	-13.282 cps
Ag 338.289 {100} (Axial)	0.00582 ppm	12.2 %	74.759 cps
Al 308.215 {109} (Radial)	0.00749 ppm	118.5 %	3.682 cps
Al 396.152 {85} (Radial)	-0.00698 ppm	118.1 %	11.381 cps
As 189.042 {478} (Axial)	0.03295 ppm	3.3 %	11.751 cps
As 193.759 {474} (Axial)	0.03254 ppm	0.7 %	12.354 cps
B 249.678 {135} (Radial)	0.06017 ppm	8.1 %	7.975 cps
Ba 455.403 {74} (Radial)	0.05006 ppm	0.9 %	876.416 cps
Be 313.042 {108} (Axial)	-0.00011 ppm	5.7 %	-59.928 cps
Ca 315.887 {107} (Radial)	107.89327 ppm	0.4 %	9,438.528 cps
Cd 226.502 {449} (Axial)	-0.00018 ppm	132.4 %	22.903 cps
Cd 214.438 {457} (Axial)	0.00015 ppm	35.6 %	16.041 cps
Co 228.616 {447} (Axial)	0.00191 ppm	7.2 %	10.934 cps
Cr 267.716 {126} (Axial)	0.00005 ppm	782.8 %	0.919 cps
Cu 324.754 {104} (Axial)	0.02716 ppm	1.9 %	555.515 cps
Cu 327.396 {103} (Axial)	0.02759 ppm	1.8 %	425.055 cps
Fe 259.940 {130} (Radial)	15.19042 ppm	0.4 %	3,181.789 cps
Fe 273.955 {123} (Radial)	15.26716 ppm	0.4 %	1,076.635 cps
K 766.490 {44} (Radial)	1.36409 ppm	0.4 %	552.859 cps
Li 670.784 {50} (Radial)	0.00236 ppm	20.7 %	56.769 cps
Mg 280.270 {120} (Radial)	44.96870 ppm	0.2 %	223,171.902 cps
Mg 279.079 {121} (Radial)	47.07041 ppm	0.5 %	1,089.605 cps
Mn 257.610 {131} (Axial)	0.04719 ppm	0.4 %	2,292.664 cps
Mo 202.030 {467} (Axial)	0.00331 ppm	16.1 %	8.452 cps
Mo 204.598 {465} (Axial)	0.00295 ppm	3.9 %	4.245 cps
Na 589.592 {57} (Radial)	16.77643 ppm	0.2 %	28,598.797 cps
Ni 231.604 {445} (Axial)	0.00240 ppm	8.8 %	4.406 cps
P 177.495 {490} (Axial)	0.00477 ppm	69.7 %	2.188 cps
Pb 220.353 {453} (Axial)	0.00624 ppm	13.2 %	8.016 cps
Sb 206.833 {463} (Axial)	-0.00059 ppm	184.0 %	-0.835 cps
Se 196.090 {472} (Axial)	0.00186 ppm	112.4 %	-0.789 cps
Si 251.611 {134} (Axial)	29.47490 ppm	0.1 %	43,150.691 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sn 189.989 {477} (Axial)	0.00054 ppm	49.2 %	0.616 cps
Sr 407.771 {83} (Radial)	0.14386 ppm	0.2 %	4,238.566 cps
Sr 421.552 {80} (Axial)	0.14502 ppm	0.2 %	129,841.534 cps
Ti 334.941 {101} (Axial)	0.00026 ppm	68.2 %	3.012 cps
Ti 336.121 {100} (Axial)	-0.00070 ppm	7.2 %	32.245 cps
Tl 190.856 {477} (Axial)	-0.00034 ppm	148.3 %	-0.772 cps
V 292.402 {115} (Axial)	0.00111 ppm	20.2 %	20.519 cps
Zn 213.856 {458} (Axial)	0.03783 ppm	1.9 %	233.049 cps
Y 371.030 {91} (Radial)	100.32681 %	0.4 %	9,594.823 cps
Y 360.073 {94} (Radial)	99.77554 %	0.4 %	3,495.666 cps
Y 224.306 {450} (Axial)	97.91217 %	0.1 %	13,437.213 cps

1912011-06

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:54:06 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00041 ppm	67.4 %	-16.180 cps
Ag 338.289 {100} (Axial)	0.00562 ppm	16.7 %	72.215 cps
Al 308.215 {109} (Radial)	-0.03785 ppm	78.7 %	1.302 cps
Al 396.152 {85} (Radial)	0.00214 ppm	372.2 %	13.849 cps
As 189.042 {478} (Axial)	0.01213 ppm	14.0 %	3.906 cps
As 193.759 {474} (Axial)	0.01100 ppm	2.6 %	4.525 cps
B 249.678 {135} (Radial)	0.04361 ppm	19.2 %	6.037 cps
Ba 455.403 {74} (Radial)	0.06555 ppm	0.1 %	1,146.168 cps
Be 313.042 {108} (Axial)	-0.00009 ppm	9.3 %	-54.383 cps
Ca 315.887 {107} (Radial)	100.37728 ppm	0.4 %	8,894.929 cps
Cd 226.502 {449} (Axial)	-0.00012 ppm	85.8 %	3.881 cps
Cd 214.438 {457} (Axial)	0.00010 ppm	57.4 %	6.965 cps
Co 228.616 {447} (Axial)	0.00059 ppm	31.8 %	4.242 cps
Cr 267.716 {126} (Axial)	-0.00010 ppm	268.9 %	1.367 cps
Cu 324.754 {104} (Axial)	0.01526 ppm	0.9 %	398.355 cps
Cu 327.396 {103} (Axial)	0.01629 ppm	3.9 %	270.205 cps
Fe 259.940 {130} (Radial)	2.98152 ppm	0.5 %	633.298 cps
Fe 273.955 {123} (Radial)	3.01129 ppm	1.3 %	216.101 cps
K 766.490 {44} (Radial)	1.52256 ppm	2.2 %	627.338 cps
Li 670.784 {50} (Radial)	0.00320 ppm	22.0 %	69.726 cps
Mg 280.270 {120} (Radial)	46.57839 ppm	0.3 %	234,153.896 cps
Mg 279.079 {121} (Radial)	49.14298 ppm	0.8 %	1,152.481 cps
Mn 257.610 {131} (Axial)	0.31826 ppm	0.1 %	15,410.320 cps
Mo 202.030 {467} (Axial)	0.00246 ppm	5.2 %	6.596 cps
Mo 204.598 {465} (Axial)	0.00185 ppm	27.8 %	2.688 cps
Na 589.592 {57} (Radial)	44.24107 ppm	0.3 %	76,393.729 cps
Ni 231.604 {445} (Axial)	0.00222 ppm	5.1 %	3.886 cps
P 177.495 {490} (Axial)	0.00234 ppm	51.7 %	1.371 cps
Pb 220.353 {453} (Axial)	0.00712 ppm	25.3 %	8.236 cps
Sb 206.833 {463} (Axial)	-0.00067 ppm	161.3 %	-1.030 cps
Se 196.090 {472} (Axial)	0.00006 ppm	4,501.5 %	-1.066 cps
Si 251.611 {134} (Axial)	20.66601 ppm	0.1 %	30,287.857 cps
Sn 189.989 {477} (Axial)	0.00020 ppm	148.0 %	0.304 cps
Sr 407.771 {83} (Radial)	0.08774 ppm	0.5 %	2,620.634 cps
Sr 421.552 {80} (Axial)	0.08723 ppm	0.3 %	78,153.440 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ti 334.941 {101} (Axial)	0.00059 ppm	16.7 %	16.450 cps
Ti 336.121 {100} (Axial)	-0.00082 ppm	11.2 %	35.202 cps
Tl 190.856 {477} (Axial)	0.00021 ppm	632.3 %	-0.507 cps
V 292.402 {115} (Axial)	0.00035 ppm	66.8 %	11.560 cps
Zn 213.856 {458} (Axial)	0.01757 ppm	1.3 %	109.419 cps
Y 371.030 {91} (Radial)	101.64924 %	0.5 %	9,721.295 cps
Y 360.073 {94} (Radial)	101.06786 %	0.4 %	3,540.943 cps
Y 224.306 {450} (Axial)	97.92674 %	0.1 %	13,439.212 cps

1912011-07

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:56:54 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00038 ppm	132.7 %	-15.827 cps
Ag 338.289 {100} (Axial)	0.00574 ppm	15.5 %	73.813 cps
Al 308.215 {109} (Radial)	-0.01764 ppm	241.2 %	2.368 cps
Al 396.152 {85} (Radial)	0.00256 ppm	196.6 %	14.130 cps
As 189.042 {478} (Axial)	0.01126 ppm	29.8 %	3.562 cps
As 193.759 {474} (Axial)	0.00958 ppm	15.1 %	3.991 cps
B 249.678 {135} (Radial)	0.02861 ppm	42.0 %	3.740 cps
Ba 455.403 {74} (Radial)	0.08697 ppm	0.4 %	1,493.889 cps
Be 313.042 {108} (Axial)	-0.00010 ppm	20.6 %	-57.059 cps
Ca 315.887 {107} (Radial)	105.60877 ppm	0.3 %	9,315.404 cps
Cd 226.502 {449} (Axial)	-0.00009 ppm	105.1 %	6.018 cps
Cd 214.438 {457} (Axial)	0.00009 ppm	234.4 %	7.664 cps
Co 228.616 {447} (Axial)	0.00051 ppm	39.0 %	3.826 cps
Cr 267.716 {126} (Axial)	-0.00009 ppm	212.1 %	1.293 cps
Cu 324.754 {104} (Axial)	0.00499 ppm	6.5 %	250.758 cps
Cu 327.396 {103} (Axial)	0.00538 ppm	2.3 %	120.162 cps
Fe 259.940 {130} (Radial)	4.11126 ppm	0.4 %	868.911 cps
Fe 273.955 {123} (Radial)	4.13954 ppm	0.6 %	295.248 cps
K 766.490 {44} (Radial)	1.80009 ppm	0.6 %	740.279 cps
Li 670.784 {50} (Radial)	0.00382 ppm	10.6 %	78.248 cps
Mg 280.270 {120} (Radial)	49.55138 ppm	0.3 %	247,953.706 cps
Mg 279.079 {121} (Radial)	52.21170 ppm	0.7 %	1,218.834 cps
Mn 257.610 {131} (Axial)	0.27443 ppm	0.5 %	13,233.193 cps
Mo 202.030 {467} (Axial)	0.00355 ppm	1.5 %	8.947 cps
Mo 204.598 {465} (Axial)	0.00312 ppm	8.6 %	4.464 cps
Na 589.592 {57} (Radial)	59.63106 ppm	0.0 %	102,322.457 cps
Ni 231.604 {445} (Axial)	0.00311 ppm	10.5 %	6.409 cps
P 177.495 {490} (Axial)	0.00339 ppm	37.4 %	1.714 cps
Pb 220.353 {453} (Axial)	0.00274 ppm	59.3 %	4.823 cps
Sb 206.833 {463} (Axial)	-0.00019 ppm	536.1 %	-0.723 cps
Se 196.090 {472} (Axial)	-0.00146 ppm	65.6 %	-1.540 cps
Si 251.611 {134} (Axial)	20.56416 ppm	0.4 %	30,012.409 cps
Sn 189.989 {477} (Axial)	0.00036 ppm	50.0 %	0.454 cps
Sr 407.771 {83} (Radial)	0.09587 ppm	0.1 %	2,845.130 cps
Sr 421.552 {80} (Axial)	0.09540 ppm	0.4 %	85,097.659 cps
Ti 334.941 {101} (Axial)	0.00052 ppm	8.4 %	12.677 cps
Ti 336.121 {100} (Axial)	-0.00095 ppm	1.1 %	24.588 cps
Tl 190.856 {477} (Axial)	0.00106 ppm	70.4 %	-0.096 cps

	Concentration average	Concentration RSD	Raw Intensity average
V 292.402 {115} (Axial)	0.00095 ppm	34.5 %	17.758 cps
Zn 213.856 {458} (Axial)	0.00606 ppm	4.5 %	44.441 cps
Y 371.030 {91} (Radial)	101.01420 %	0.3 %	9,660.562 cps
Y 360.073 {94} (Radial)	100.60318 %	0.4 %	3,524.663 cps
Y 224.306 {450} (Axial)	97.51611 %	0.4 %	13,382.858 cps

1912011-08

Sample type: UNKNOWN Analysis started at: 12/18/2019 5:59:42 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00031 ppm	116.4 %	-15.298 cps
Ag 338.289 {100} (Axial)	0.00546 ppm	8.8 %	73.472 cps
Al 308.215 {109} (Radial)	-0.03046 ppm	132.4 %	1.679 cps
Al 396.152 {85} (Radial)	0.01168 ppm	62.2 %	17.022 cps
As 189.042 {478} (Axial)	0.00470 ppm	25.8 %	1.097 cps
As 193.759 {474} (Axial)	0.00329 ppm	24.1 %	1.706 cps
B 249.678 {135} (Radial)	0.04112 ppm	7.7 %	5.657 cps
Ba 455.403 {74} (Radial)	0.05499 ppm	0.1 %	960.256 cps
Be 313.042 {108} (Axial)	-0.00011 ppm	6.5 %	-58.079 cps
Ca 315.887 {107} (Radial)	113.36023 ppm	0.4 %	9,957.291 cps
Cd 226.502 {449} (Axial)	-0.00005 ppm	230.3 %	2.417 cps
Cd 214.438 {457} (Axial)	-0.00003 ppm	182.0 %	4.833 cps
Co 228.616 {447} (Axial)	0.00041 ppm	53.3 %	3.301 cps
Cr 267.716 {126} (Axial)	0.00005 ppm	531.9 %	2.320 cps
Cu 324.754 {104} (Axial)	0.00295 ppm	7.0 %	223.127 cps
Cu 327.396 {103} (Axial)	0.00330 ppm	5.8 %	91.295 cps
Fe 259.940 {130} (Radial)	1.67004 ppm	0.6 %	352.009 cps
Fe 273.955 {123} (Radial)	1.69105 ppm	1.0 %	120.841 cps
K 766.490 {44} (Radial)	2.07653 ppm	1.1 %	853.281 cps
Li 670.784 {50} (Radial)	0.00379 ppm	25.6 %	77.455 cps
Mg 280.270 {120} (Radial)	50.65405 ppm	0.4 %	252,414.180 cps
Mg 279.079 {121} (Radial)	53.33959 ppm	0.7 %	1,239.971 cps
Mn 257.610 {131} (Axial)	0.08829 ppm	0.4 %	4,241.610 cps
Mo 202.030 {467} (Axial)	0.00153 ppm	18.7 %	4.508 cps
Mo 204.598 {465} (Axial)	0.00112 ppm	55.7 %	1.635 cps
Na 589.592 {57} (Radial)	70.69430 ppm	0.3 %	120,824.164 cps
Ni 231.604 {445} (Axial)	0.00224 ppm	19.2 %	3.906 cps
P 177.495 {490} (Axial)	0.00239 ppm	40.8 %	1.371 cps
Pb 220.353 {453} (Axial)	0.00246 ppm	4.0 %	4.490 cps
Sb 206.833 {463} (Axial)	0.00026 ppm	650.7 %	-0.479 cps
Se 196.090 {472} (Axial)	0.00149 ppm	108.9 %	-0.636 cps
Si 251.611 {134} (Axial)	18.73526 ppm	0.3 %	27,209.727 cps
Sn 189.989 {477} (Axial)	0.00014 ppm	579.1 %	0.249 cps
Sr 407.771 {83} (Radial)	0.10104 ppm	0.2 %	2,986.679 cps
Sr 421.552 {80} (Axial)	0.10038 ppm	0.4 %	89,075.066 cps
Ti 334.941 {101} (Axial)	0.00031 ppm	19.1 %	2.927 cps
Ti 336.121 {100} (Axial)	-0.00087 ppm	19.1 %	18.459 cps
Tl 190.856 {477} (Axial)	0.00049 ppm	323.2 %	-0.369 cps
V 292.402 {115} (Axial)	0.00043 ppm	109.2 %	13.326 cps
Zn 213.856 {458} (Axial)	0.00487 ppm	1.6 %	35.811 cps
Y 371.030 {91} (Radial)	100.61407 %	0.5 %	9,622.295 cps

	Concentration average	Concentration RSD	Raw Intensity average
Y 360.073 {94} (Radial)	100.18402 %	0.4 %	3,509.978 cps
Y 224.306 {450} (Axial)	97.00937 %	0.4 %	13,313.315 cps

1912011-09

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:02:30 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00082 ppm	72.0 %	-20.468 cps
Ag 338.289 {100} (Axial)	0.00524 ppm	13.5 %	72.419 cps
Al 308.215 {109} (Radial)	-0.01507 ppm	246.3 %	2.519 cps
Al 396.152 {85} (Radial)	-0.00988 ppm	215.3 %	10.952 cps
As 189.042 {478} (Axial)	0.00479 ppm	26.6 %	1.127 cps
As 193.759 {474} (Axial)	0.00286 ppm	11.6 %	1.548 cps
B 249.678 {135} (Radial)	0.03853 ppm	27.7 %	5.324 cps
Ba 455.403 {74} (Radial)	0.05614 ppm	0.4 %	991.900 cps
Be 313.042 {108} (Axial)	-0.00011 ppm	4.5 %	-59.293 cps
Ca 315.887 {107} (Radial)	113.77718 ppm	0.0 %	10,086.964 cps
Cd 226.502 {449} (Axial)	-0.00011 ppm	66.1 %	1.891 cps
Cd 214.438 {457} (Axial)	0.00012 ppm	59.0 %	6.164 cps
Co 228.616 {447} (Axial)	0.00014 ppm	28.8 %	1.998 cps
Cr 267.716 {126} (Axial)	0.00023 ppm	140.0 %	3.619 cps
Cu 324.754 {104} (Axial)	0.00270 ppm	2.2 %	219.241 cps
Cu 327.396 {103} (Axial)	0.00306 ppm	6.3 %	87.834 cps
Fe 259.940 {130} (Radial)	1.69985 ppm	1.0 %	361.611 cps
Fe 273.955 {123} (Radial)	1.72704 ppm	1.8 %	124.534 cps
K 766.490 {44} (Radial)	2.05128 ppm	1.7 %	853.580 cps
Li 670.784 {50} (Radial)	0.00418 ppm	4.0 %	84.233 cps
Mg 280.270 {120} (Radial)	51.15942 ppm	0.1 %	257,306.558 cps
Mg 279.079 {121} (Radial)	54.36624 ppm	0.4 %	1,275.623 cps
Mn 257.610 {131} (Axial)	0.09348 ppm	0.2 %	4,484.436 cps
Mo 202.030 {467} (Axial)	0.00125 ppm	23.9 %	3.882 cps
Mo 204.598 {465} (Axial)	0.00093 ppm	12.5 %	1.377 cps
Na 589.592 {57} (Radial)	71.87424 ppm	0.3 %	124,426.591 cps
Ni 231.604 {445} (Axial)	0.00235 ppm	18.8 %	4.199 cps
P 177.495 {490} (Axial)	0.00025 ppm	255.6 %	0.661 cps
Pb 220.353 {453} (Axial)	0.00217 ppm	24.3 %	4.255 cps
Sb 206.833 {463} (Axial)	-0.00015 ppm	675.8 %	-0.722 cps
Se 196.090 {472} (Axial)	0.00018 ppm	33.7 %	-1.022 cps
Si 251.611 {134} (Axial)	18.96778 ppm	0.4 %	27,510.629 cps
Sn 189.989 {477} (Axial)	0.00005 ppm	232.7 %	0.162 cps
Sr 407.771 {83} (Radial)	0.10218 ppm	0.5 %	3,059.272 cps
Sr 421.552 {80} (Axial)	0.10165 ppm	0.4 %	90,078.695 cps
Ti 334.941 {101} (Axial)	0.00032 ppm	34.8 %	3.180 cps
Ti 336.121 {100} (Axial)	-0.00094 ppm	9.0 %	14.018 cps
Tl 190.856 {477} (Axial)	0.00017 ppm	410.3 %	-0.520 cps
V 292.402 {115} (Axial)	0.00063 ppm	65.9 %	15.226 cps
Zn 213.856 {458} (Axial)	0.00529 ppm	2.0 %	38.133 cps
Y 371.030 {91} (Radial)	101.91390 %	0.3 %	9,746.606 cps
Y 360.073 {94} (Radial)	101.11602 %	0.1 %	3,542.631 cps
Y 224.306 {450} (Axial)	96.88405 %	0.2 %	13,296.117 cps

1912011-10

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:05:18 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00008 ppm	348.3 %	-13.380 cps
Ag 338.289 {100} (Axial)	0.00611 ppm	2.5 %	74.936 cps
Al 308.215 {109} (Radial)	-0.01728 ppm	144.8 %	2.405 cps
Al 396.152 {85} (Radial)	-0.00326 ppm	586.9 %	12.139 cps
As 189.042 {478} (Axial)	0.00009 ppm	1,082.6 %	-0.638 cps
As 193.759 {474} (Axial)	-0.00052 ppm	291.9 %	0.337 cps
B 249.678 {135} (Radial)	0.04552 ppm	7.5 %	6.434 cps
Ba 455.403 {74} (Radial)	0.03278 ppm	1.8 %	601.692 cps
Be 313.042 {108} (Axial)	-0.00008 ppm	6.4 %	-53.005 cps
Ca 315.887 {107} (Radial)	96.90891 ppm	0.4 %	8,604.307 cps
Cd 226.502 {449} (Axial)	-0.00012 ppm	55.1 %	-0.930 cps
Cd 214.438 {457} (Axial)	0.00005 ppm	258.3 %	4.418 cps
Co 228.616 {447} (Axial)	-0.00011 ppm	304.7 %	0.759 cps
Cr 267.716 {126} (Axial)	0.00021 ppm	136.7 %	3.581 cps
Cu 324.754 {104} (Axial)	0.00864 ppm	3.1 %	309.960 cps
Cu 327.396 {103} (Axial)	0.00911 ppm	4.5 %	173.281 cps
Fe 259.940 {130} (Radial)	0.01500 ppm	8.2 %	4.064 cps
Fe 273.955 {123} (Radial)	0.02274 ppm	57.0 %	2.879 cps
K 766.490 {44} (Radial)	1.16612 ppm	1.5 %	477.624 cps
Li 670.784 {50} (Radial)	0.00248 ppm	16.3 %	59.335 cps
Mg 280.270 {120} (Radial)	43.69514 ppm	0.1 %	220,086.823 cps
Mg 279.079 {121} (Radial)	45.89443 ppm	0.3 %	1,078.396 cps
Mn 257.610 {131} (Axial)	0.00021 ppm	56.8 %	19.689 cps
Mo 202.030 {467} (Axial)	0.00076 ppm	23.0 %	2.871 cps
Mo 204.598 {465} (Axial)	-0.00004 ppm	877.0 %	0.011 cps
Na 589.592 {57} (Radial)	27.67483 ppm	0.3 %	47,930.102 cps
Ni 231.604 {445} (Axial)	0.00037 ppm	137.5 %	-1.455 cps
P 177.495 {490} (Axial)	0.00843 ppm	5.3 %	3.439 cps
Pb 220.353 {453} (Axial)	0.00564 ppm	24.3 %	7.016 cps
Sb 206.833 {463} (Axial)	0.00130 ppm	158.5 %	0.128 cps
Se 196.090 {472} (Axial)	0.00004 ppm	1,341.8 %	-1.058 cps
Si 251.611 {134} (Axial)	17.66420 ppm	0.1 %	26,124.147 cps
Sn 189.989 {477} (Axial)	0.00022 ppm	225.1 %	0.327 cps
Sr 407.771 {83} (Radial)	0.07479 ppm	0.4 %	2,240.686 cps
Sr 421.552 {80} (Axial)	0.07486 ppm	0.1 %	67,658.670 cps
Ti 334.941 {101} (Axial)	0.00048 ppm	28.7 %	13.587 cps
Ti 336.121 {100} (Axial)	-0.00062 ppm	25.7 %	46.990 cps
Tl 190.856 {477} (Axial)	-0.00015 ppm	632.5 %	-0.689 cps
V 292.402 {115} (Axial)	0.00094 ppm	4.8 %	19.154 cps
Zn 213.856 {458} (Axial)	0.01653 ppm	1.3 %	102.205 cps
Y 371.030 {91} (Radial)	101.94343 %	0.6 %	9,749.429 cps
Y 360.073 {94} (Radial)	101.26338 %	0.2 %	3,547.793 cps
Y 224.306 {450} (Axial)	98.76528 %	0.1 %	13,554.292 cps

1912011-11

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:08:07 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00039 ppm	59.9 %	-16.047 cps
Ag 338.289 {100} (Axial)	0.00580 ppm	13.3 %	73.410 cps
Al 308.215 {109} (Radial)	-0.04000 ppm	58.3 %	1.197 cps
Al 396.152 {85} (Radial)	-0.01088 ppm	138.9 %	10.045 cps
As 189.042 {478} (Axial)	0.00218 ppm	56.1 %	0.156 cps
As 193.759 {474} (Axial)	-0.00049 ppm	389.6 %	0.349 cps
B 249.678 {135} (Radial)	0.04333 ppm	11.9 %	6.168 cps
Ba 455.403 {74} (Radial)	0.03564 ppm	1.1 %	655.144 cps
Be 313.042 {108} (Axial)	-0.00012 ppm	20.6 %	-62.249 cps
Ca 315.887 {107} (Radial)	98.31377 ppm	0.4 %	8,817.639 cps
Cd 226.502 {449} (Axial)	-0.00001 ppm	978.5 %	0.274 cps
Cd 214.438 {457} (Axial)	-0.00002 ppm	913.5 %	3.862 cps
Co 228.616 {447} (Axial)	0.00041 ppm	55.7 %	3.365 cps
Cr 267.716 {126} (Axial)	0.00021 ppm	88.0 %	3.878 cps
Cu 324.754 {104} (Axial)	0.00494 ppm	5.1 %	256.165 cps
Cu 327.396 {103} (Axial)	0.00542 ppm	5.4 %	121.753 cps
Fe 259.940 {130} (Radial)	0.16426 ppm	3.5 %	36.148 cps
Fe 273.955 {123} (Radial)	0.17381 ppm	10.0 %	13.812 cps
K 766.490 {44} (Radial)	1.06255 ppm	2.3 %	437.340 cps
Li 670.784 {50} (Radial)	0.00244 ppm	6.2 %	59.373 cps
Mg 280.270 {120} (Radial)	44.05534 ppm	0.4 %	224,152.837 cps
Mg 279.079 {121} (Radial)	46.28472 ppm	0.1 %	1,098.627 cps
Mn 257.610 {131} (Axial)	0.28350 ppm	0.2 %	13,797.848 cps
Mo 202.030 {467} (Axial)	0.00130 ppm	18.7 %	4.051 cps
Mo 204.598 {465} (Axial)	0.00113 ppm	31.0 %	1.672 cps
Na 589.592 {57} (Radial)	24.64809 ppm	0.2 %	43,060.399 cps
Ni 231.604 {445} (Axial)	0.00175 ppm	16.3 %	2.540 cps
P 177.495 {490} (Axial)	0.00469 ppm	20.4 %	2.165 cps
Pb 220.353 {453} (Axial)	0.00429 ppm	13.9 %	5.937 cps
Sb 206.833 {463} (Axial)	-0.00120 ppm	51.4 %	-1.392 cps
Se 196.090 {472} (Axial)	0.00178 ppm	64.4 %	-0.507 cps
Si 251.611 {134} (Axial)	19.41540 ppm	0.3 %	28,605.100 cps
Sn 189.989 {477} (Axial)	0.00033 ppm	168.0 %	0.430 cps
Sr 407.771 {83} (Radial)	0.08359 ppm	0.1 %	2,525.608 cps
Sr 421.552 {80} (Axial)	0.08456 ppm	0.1 %	76,146.788 cps
Ti 334.941 {101} (Axial)	0.00050 ppm	18.2 %	13.625 cps
Ti 336.121 {100} (Axial)	-0.00061 ppm	1.5 %	44.121 cps
Tl 190.856 {477} (Axial)	0.00119 ppm	116.9 %	-0.032 cps
V 292.402 {115} (Axial)	0.00079 ppm	67.4 %	16.208 cps
Zn 213.856 {458} (Axial)	0.01518 ppm	1.8 %	94.215 cps
Y 371.030 {91} (Radial)	102.82858 %	0.7 %	9,834.081 cps
Y 360.073 {94} (Radial)	102.29287 %	0.8 %	3,583.862 cps
Y 224.306 {450} (Axial)	98.42371 %	0.2 %	13,507.415 cps

1912011-12

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:10:55 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00006 ppm	681.9 %	-13.129 cps
Ag 338.289 {100} (Axial)	0.00591 ppm	9.4 %	72.667 cps
Al 308.215 {109} (Radial)	-0.01508 ppm	310.4 %	2.551 cps
Al 396.152 {85} (Radial)	-0.00503 ppm	288.7 %	11.395 cps
As 189.042 {478} (Axial)	0.03415 ppm	3.6 %	12.410 cps
As 193.759 {474} (Axial)	0.03366 ppm	3.6 %	12.976 cps
B 249.678 {135} (Radial)	0.05356 ppm	9.9 %	7.414 cps
Ba 455.403 {74} (Radial)	0.03270 ppm	0.7 %	604.120 cps
Be 313.042 {108} (Axial)	-0.00011 ppm	16.1 %	-60.836 cps
Ca 315.887 {107} (Radial)	89.65856 ppm	0.8 %	8,026.799 cps
Cd 226.502 {449} (Axial)	-0.00008 ppm	149.8 %	12.659 cps
Cd 214.438 {457} (Axial)	0.00010 ppm	121.8 %	10.747 cps
Co 228.616 {447} (Axial)	0.00000 ppm	13,723.9 %	1.327 cps
Cr 267.716 {126} (Axial)	0.00005 ppm	203.1 %	1.631 cps
Cu 324.754 {104} (Axial)	0.02740 ppm	1.0 %	574.874 cps
Cu 327.396 {103} (Axial)	0.02805 ppm	1.8 %	438.645 cps
Fe 259.940 {130} (Radial)	8.03950 ppm	0.8 %	1,723.651 cps
Fe 273.955 {123} (Radial)	8.13165 ppm	0.4 %	587.421 cps
K 766.490 {44} (Radial)	0.65528 ppm	3.0 %	262.147 cps
Li 670.784 {50} (Radial)	0.00185 ppm	61.3 %	50.408 cps
Mg 280.270 {120} (Radial)	42.03212 ppm	0.5 %	213,467.869 cps
Mg 279.079 {121} (Radial)	43.95967 ppm	0.3 %	1,041.407 cps
Mn 257.610 {131} (Axial)	0.04882 ppm	0.3 %	2,411.131 cps
Mo 202.030 {467} (Axial)	0.00221 ppm	9.7 %	6.147 cps
Mo 204.598 {465} (Axial)	0.00225 ppm	21.4 %	3.304 cps
Na 589.592 {57} (Radial)	6.97271 ppm	0.3 %	12,159.658 cps
Ni 231.604 {445} (Axial)	0.00170 ppm	15.5 %	2.421 cps
P 177.495 {490} (Axial)	0.00680 ppm	18.4 %	2.919 cps
Pb 220.353 {453} (Axial)	0.00790 ppm	21.8 %	9.197 cps
Sb 206.833 {463} (Axial)	0.00095 ppm	67.7 %	0.013 cps
Se 196.090 {472} (Axial)	0.00126 ppm	231.5 %	-0.848 cps
Si 251.611 {134} (Axial)	23.28393 ppm	0.0 %	34,679.346 cps
Sn 189.989 {477} (Axial)	0.00026 ppm	329.1 %	0.370 cps
Sr 407.771 {83} (Radial)	0.08886 ppm	0.2 %	2,678.250 cps
Sr 421.552 {80} (Axial)	0.08977 ppm	0.3 %	81,763.244 cps
Ti 334.941 {101} (Axial)	0.00060 ppm	18.4 %	20.070 cps
Ti 336.121 {100} (Axial)	-0.00054 ppm	19.7 %	58.444 cps
Tl 190.856 {477} (Axial)	0.00081 ppm	46.2 %	-0.221 cps
V 292.402 {115} (Axial)	0.00042 ppm	35.9 %	13.693 cps
Zn 213.856 {458} (Axial)	0.01368 ppm	3.6 %	92.405 cps
Y 371.030 {91} (Radial)	102.58002 %	0.5 %	9,810.310 cps
Y 360.073 {94} (Radial)	102.10550 %	0.5 %	3,577.297 cps
Y 224.306 {450} (Axial)	99.55403 %	0.1 %	13,662.538 cps

B19L022-DUP2

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:13:43 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00036 ppm	97.6 %	-16.272 cps
Ag 338.289 {100} (Axial)	0.00504 ppm	12.3 %	67.413 cps
Al 308.215 {109} (Radial)	-0.02855 ppm	34.2 %	1.815 cps

	Concentration average	Concentration RSD	Raw Intensity average
Al 396.152 {85} (Radial)	-0.01272 ppm	67.6 %	9.181 cps
As 189.042 {478} (Axial)	0.03398 ppm	9.0 %	12.308 cps
As 193.759 {474} (Axial)	0.03389 ppm	5.3 %	13.024 cps
B 249.678 {135} (Radial)	**0.05386 ppm**	**18.2 %**	7.452 cps
Ba 455.403 {74} (Radial)	0.03316 ppm	0.7 %	611.616 cps
Be 313.042 {108} (Axial)	-0.00010 ppm	12.8 %	-58.329 cps
Ca 315.887 {107} (Radial)	91.04945 ppm	0.2 %	8,145.758 cps
Cd 226.502 {449} (Axial)	-0.00006 ppm	71.7 %	12.875 cps
Cd 214.438 {457} (Axial)	0.00007 ppm	92.5 %	10.520 cps
Co 228.616 {447} (Axial)	0.00023 ppm	21.5 %	2.478 cps
Cr 267.716 {126} (Axial)	-0.00002 ppm	2,010.7 %	1.170 cps
Cu 324.754 {104} (Axial)	0.02755 ppm	2.0 %	575.244 cps
Cu 327.396 {103} (Axial)	0.02796 ppm	1.6 %	435.947 cps
Fe 259.940 {130} (Radial)	8.10117 ppm	0.4 %	1,735.694 cps
Fe 273.955 {123} (Radial)	8.14979 ppm	0.3 %	588.326 cps
K 766.490 {44} (Radial)	0.59962 ppm	5.0 %	238.251 cps
Li 670.784 {50} (Radial)	0.00173 ppm	19.7 %	48.720 cps
Mg 280.270 {120} (Radial)	42.22636 ppm	0.6 %	214,302.768 cps
Mg 279.079 {121} (Radial)	44.25778 ppm	0.2 %	1,047.758 cps
Mn 257.610 {131} (Axial)	0.04888 ppm	0.4 %	2,406.723 cps
Mo 202.030 {467} (Axial)	0.00220 ppm	17.1 %	6.108 cps
Mo 204.598 {465} (Axial)	0.00174 ppm	18.5 %	2.572 cps
Na 589.592 {57} (Radial)	6.98829 ppm	0.6 %	12,184.028 cps
Ni 231.604 {445} (Axial)	0.00125 ppm	59.3 %	1.113 cps
P 177.495 {490} (Axial)	0.00816 ppm	13.4 %	3.370 cps
Pb 220.353 {453} (Axial)	0.00661 ppm	8.3 %	8.141 cps
Sb 206.833 {463} (Axial)	-0.00014 ppm	531.3 %	-0.658 cps
Se 196.090 {472} (Axial)	0.00077 ppm	253.3 %	-0.994 cps
Si 251.611 {134} (Axial)	23.37202 ppm	0.3 %	34,704.696 cps
Sn 189.989 {477} (Axial)	-0.00043 ppm	209.5 %	-0.291 cps
Sr 407.771 {83} (Radial)	0.08921 ppm	0.3 %	2,688.082 cps
Sr 421.552 {80} (Axial)	0.09023 ppm	0.4 %	81,930.774 cps
Ti 334.941 {101} (Axial)	0.00051 ppm	21.4 %	16.214 cps
Ti 336.121 {100} (Axial)	-0.00057 ppm	30.7 %	55.590 cps
Tl 190.856 {477} (Axial)	0.00102 ppm	179.9 %	-0.115 cps
V 292.402 {115} (Axial)	0.00039 ppm	121.7 %	13.368 cps
Zn 213.856 {458} (Axial)	0.01384 ppm	2.3 %	93.097 cps
Y 371.030 {91} (Radial)	102.55795 %	0.4 %	9,808.199 cps
Y 360.073 {94} (Radial)	102.03476 %	0.7 %	3,574.819 cps
Y 224.306 {450} (Axial)	99.25301 %	0.3 %	13,621.226 cps

B19L022-MS2

Sample type: QC Analysis started at: 12/18/2019 6:16:30 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.02200 ppm	88.245 %	1.7 %	210.525 cps
Ag 338.289 {100} (Axial)	0.02638 ppm	81.851 %	4.4 %	218.355 cps
Al 308.215 {109} (Radial)	0.93615 ppm	95.123 %	3.4 %	54.255 cps
Al 396.152 {85} (Radial)	0.97039 ppm	97.541 %	1.1 %	302.560 cps
As 189.042 {478} (Axial)	0.22883 ppm	97.339 %	3.3 %	84.255 cps
As 193.759 {474} (Axial)	0.22900 ppm	97.669 %	2.7 %	82.421 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
B 249.678 {135} (Radial)	1.01350 ppm	95.994 %	0.1 %	152.625 cps
Ba 455.403 {74} (Radial)	0.22887 ppm	98.083 %	0.3 %	3,925.262 cps
Be 313.042 {108} (Axial)	0.00973 ppm	98.443 %	0.5 %	2,364.476 cps
Ca 315.887 {107} (Radial)	133.25640 ppm	87.196 %	0.1 %	11,973.097 cps
Cd 226.502 {449} (Axial)	0.04680 ppm	93.752 %	3.7 %	416.867 cps
Cd 214.438 {457} (Axial)	0.04737 ppm	94.548 %	4.0 %	439.672 cps
Co 228.616 {447} (Axial)	0.09298 ppm	92.982 %	4.0 %	463.363 cps
Cr 267.716 {126} (Axial)	0.09537 ppm	95.326 %	0.7 %	685.935 cps
Cu 324.754 {104} (Axial)	0.12847 ppm	101.072 %	0.4 %	1,964.704 cps
Cu 327.396 {103} (Axial)	0.12865 ppm	100.595 %	0.6 %	1,782.225 cps
Fe 259.940 {130} (Radial)	8.87947 ppm	83.997 %	0.5 %	1,910.685 cps
Fe 273.955 {123} (Radial)	8.89160 ppm	75.995 %	1.0 %	644.539 cps
K 766.490 {44} (Radial)	25.01999 ppm	97.459 %	0.6 %	10,740.253 cps
Li 670.784 {50} (Radial)	0.10235 ppm	100.503 %	0.5 %	1,537.410 cps
Mg 280.270 {120} (Radial)	57.96244 ppm	79.652 %	0.3 %	295,456.667 cps
Mg 279.079 {121} (Radial)	62.57749 ppm	93.089 %	0.4 %	1,488.050 cps
Mn 257.610 {131} (Axial)	0.23929 ppm	95.236 %	0.3 %	11,408.019 cps
Mo 202.030 {467} (Axial)	0.10086 ppm	98.646 %	3.9 %	219.716 cps
Mo 204.598 {465} (Axial)	0.09969 ppm	97.441 %	3.2 %	138.835 cps
Na 589.592 {57} (Radial)	55.57283 ppm	97.200 %	0.3 %	97,360.535 cps
Ni 231.604 {445} (Axial)	0.19210 ppm	95.199 %	3.5 %	540.645 cps
P 177.495 {490} (Axial)	1.06198 ppm	105.517 %	2.9 %	350.931 cps
Pb 220.353 {453} (Axial)	0.47438 ppm	93.295 %	3.0 %	368.364 cps
Sb 206.833 {463} (Axial)	0.48998 ppm	97.806 %	3.2 %	291.796 cps
Se 196.090 {472} (Axial)	0.48431 ppm	96.609 %	1.2 %	140.733 cps
Si 251.611 {134} (Axial)	33.31117 ppm	100.272 %	0.3 %	48,003.265 cps
Sn 189.989 {477} (Axial)	0.47753 ppm	95.453 %	4.6 %	438.330 cps
Sr 407.771 {83} (Radial)	1.03115 ppm	94.229 %	0.2 %	31,208.973 cps
Sr 421.552 {80} (Axial)	1.04238 ppm	95.260 %	0.6 %	918,268.542 cps
Ti 334.941 {101} (Axial)	0.10201 ppm	101.403 %	0.2 %	3,579.579 cps
Ti 336.121 {100} (Axial)	0.09907 ppm	99.615 %	0.5 %	3,412.296 cps
Tl 190.856 {477} (Axial)	0.45754 ppm	91.346 %	1.5 %	217.619 cps
V 292.402 {115} (Axial)	0.09861 ppm	98.190 %	0.9 %	997.455 cps
Zn 213.856 {458} (Axial)	0.98547 ppm	97.178 %	3.9 %	5,536.188 cps
Y 371.030 {91} (Radial)	103.13364 %		0.1 %	9,863.256 cps
Y 360.073 {94} (Radial)	102.48138 %		0.1 %	3,590.467 cps
Y 224.306 {450} (Axial)	96.39922 %		0.3 %	13,229.579 cps

LCB

Sample type: QC Analysis started at: 12/18/2019 6:19:28 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00051 ppm	21.109 %	23.0 %	-7.733 cps
Ag 338.289 {100} (Axial)	-0.00129 ppm	-9.909 %	34.3 %	7.800 cps
Al 308.215 {109} (Radial)	-0.04028 ppm	-13.891 %	51.2 %	1.208 cps
Al 396.152 {85} (Radial)	-0.00571 ppm	-6.138 %	79.7 %	7.300 cps
As 189.042 {478} (Axial)	0.00052 ppm	10.027 %	484.7 %	-0.505 cps
As 193.759 {474} (Axial)	-0.00150 ppm	-16.657 %	65.8 %	-0.020 cps
B 249.678 {135} (Radial)	0.00829 ppm	63.803 %	52.7 %	0.900 cps
Ba 455.403 {74} (Radial)	-0.00081 ppm	-93.123 %	24.6 %	41.328 cps
Be 313.042 {108} (Axial)	-0.00008 ppm	-12.596 %	30.8 %	-54.633 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ca 315.887 {107} (Radial)	0.01704 ppm	7.745 %	47.8 %	3.900 cps
Cd 226.502 {449} (Axial)	-0.00005 ppm	-10.467 %	36.9 %	-0.386 cps
Cd 214.438 {457} (Axial)	-0.00004 ppm	-13.675 %	224.0 %	3.829 cps
Co 228.616 {447} (Axial)	-0.00016 ppm	-25.503 %	129.7 %	0.505 cps
Cr 267.716 {126} (Axial)	-0.00033 ppm	-33.105 %	59.2 %	-0.397 cps
Cu 324.754 {104} (Axial)	0.00012 ppm	3.410 %	212.7 %	200.650 cps
Cu 327.396 {103} (Axial)	-0.00024 ppm	-5.677 %	106.7 %	46.800 cps
Fe 259.940 {130} (Radial)	0.00036 ppm	1.875 %	434.3 %	0.985 cps
Fe 273.955 {123} (Radial)	**0.02370 ppm**	112.861 %	**72.1 %**	3.050 cps
K 766.490 {44} (Radial)	0.02457 ppm	24.572 %	105.8 %	-7.787 cps
Li 670.784 {50} (Radial)	-0.00103 ppm	-32.225 %	64.7 %	8.297 cps
Mg 280.270 {120} (Radial)	0.00537 ppm	26.830 %	6.0 %	40.133 cps
Mg 279.079 {121} (Radial)	0.05436 ppm	5.436 %	75.4 %	1.117 cps
Mn 257.610 {131} (Axial)	-0.00002 ppm	-0.454 %	157.2 %	9.033 cps
Mo 202.030 {467} (Axial)	-0.00004 ppm	-1.627 %	166.7 %	1.173 cps
Mo 204.598 {465} (Axial)	-0.00027 ppm	-15.062 %	65.6 %	-0.335 cps
Na 589.592 {57} (Radial)	0.01649 ppm	11.781 %	6.2 %	40.575 cps
Ni 231.604 {445} (Axial)	-0.00002 ppm	-0.472 %	2,058.3 %	-2.743 cps
P 177.495 {490} (Axial)	-0.00243 ppm	-7.378 %	31.0 %	-0.251 cps
Pb 220.353 {453} (Axial)	-0.00011 ppm	-2.436 %	436.0 %	2.632 cps
Sb 206.833 {463} (Axial)	0.00065 ppm	8.110 %	113.2 %	-0.292 cps
Se 196.090 {472} (Axial)	0.00121 ppm	6.712 %	65.2 %	-0.743 cps
Si 251.611 {134} (Axial)	0.00408 ppm	4.689 %	37.2 %	109.572 cps
Sn 189.989 {477} (Axial)	0.00046 ppm	14.864 %	78.2 %	0.587 cps
Sr 407.771 {83} (Radial)	-0.00008 ppm	-3.252 %	35.7 %	1.151 cps
Sr 421.552 {80} (Axial)	0.00000 ppm	-0.016 %	2,378.5 %	101.600 cps
Ti 334.941 {101} (Axial)	-0.00026 ppm	-19.616 %	28.3 %	12.317 cps
Ti 336.121 {100} (Axial)	-0.00016 ppm	-11.687 %	22.0 %	184.233 cps
Tl 190.856 {477} (Axial)	-0.00073 ppm	-5.218 %	38.6 %	-1.035 cps
V 292.402 {115} (Axial)	0.00019 ppm	21.296 %	324.5 %	12.250 cps
Zn 213.856 {458} (Axial)	-0.00015 ppm	-2.217 %	51.3 %	6.819 cps
Y 371.030 {91} (Radial)	105.19175 %		0.2 %	10,060.085 cps
Y 360.073 {94} (Radial)	104.75857 %		0.3 %	3,670.249 cps
Y 224.306 {450} (Axial)	105.23980 %		0.2 %	14,442.837 cps

RLC

Sample type: QC Analysis started at: 12/18/2019 6:22:21 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00912 ppm	91.185 %	2.6 %	87.111 cps
Ag 338.289 {100} (Axial)	0.00847 ppm	84.658 %	10.4 %	72.733 cps
Al 308.215 {109} (Radial)	0.47360 ppm	94.719 %	5.9 %	29.968 cps
Al 396.152 {85} (Radial)	0.47060 ppm	94.121 %	2.0 %	152.172 cps
As 189.042 {478} (Axial)	0.03745 ppm	93.625 %	1.6 %	14.426 cps
As 193.759 {474} (Axial)	0.03696 ppm	92.393 %	3.0 %	14.939 cps
B 249.678 {135} (Radial)	0.05127 ppm	102.547 %	7.5 %	7.589 cps
Ba 455.403 {74} (Radial)	0.00240 ppm	79.844 %	21.4 %	97.378 cps
Be 313.042 {108} (Axial)	0.00185 ppm	92.654 %	2.0 %	462.250 cps
Ca 315.887 {107} (Radial)	0.47247 ppm	94.495 %	5.2 %	46.017 cps
Cd 226.502 {449} (Axial)	0.00184 ppm	91.937 %	5.0 %	17.463 cps
Cd 214.438 {457} (Axial)	0.00193 ppm	96.477 %	4.7 %	23.369 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Co 228.616 {447} (Axial)	0.00592 ppm	98.747 %	4.7 %	33.460 cps
Cr 267.716 {126} (Axial)	0.00484 ppm	96.800 %	1.9 %	40.051 cps
Cu 324.754 {104} (Axial)	0.01974 ppm	98.721 %	1.8 %	498.283 cps
Cu 327.396 {103} (Axial)	0.01932 ppm	96.583 %	4.0 %	334.283 cps
Fe 259.940 {130} (Radial)	0.07544 ppm	94.306 %	4.4 %	17.600 cps
Fe 273.955 {123} (Radial)	0.05154 ppm	64.430 %	54.1 %	5.133 cps
K 766.490 {44} (Radial)	0.74089 ppm	92.611 %	2.8 %	308.629 cps
Li 670.784 {50} (Radial)	0.02298 ppm	91.909 %	0.6 %	373.324 cps
Mg 280.270 {120} (Radial)	0.19534 ppm	97.669 %	0.2 %	1,036.333 cps
Mg 279.079 {121} (Radial)	0.18126 ppm	90.629 %	34.5 %	4.233 cps
Mn 257.610 {131} (Axial)	0.00794 ppm	99.195 %	1.1 %	421.767 cps
Mo 202.030 {467} (Axial)	0.01179 ppm	98.236 %	1.7 %	29.093 cps
Mo 204.598 {465} (Axial)	0.01142 ppm	95.161 %	5.8 %	17.415 cps
Na 589.592 {57} (Radial)	0.39395 ppm	98.487 %	1.3 %	720.322 cps
Ni 231.604 {445} (Axial)	0.01204 ppm	100.363 %	2.8 %	34.437 cps
P 177.495 {490} (Axial)	0.19671 ppm	98.356 %	0.8 %	71.315 cps
Pb 220.353 {453} (Axial)	0.03072 ppm	102.391 %	8.8 %	28.459 cps
Sb 206.833 {463} (Axial)	0.01955 ppm	97.767 %	5.3 %	12.005 cps
Se 196.090 {472} (Axial)	0.05101 ppm	102.022 %	6.4 %	15.161 cps
Si 251.611 {134} (Axial)	0.25489 ppm	127.444 %	0.7 %	502.656 cps
Sn 189.989 {477} (Axial)	0.02014 ppm	100.723 %	5.7 %	20.266 cps
Sr 407.771 {83} (Radial)	0.00286 ppm	95.355 %	4.6 %	92.643 cps
Sr 421.552 {80} (Axial)	0.00306 ppm	101.908 %	0.7 %	3,035.783 cps
Ti 334.941 {101} (Axial)	0.00554 ppm	92.316 %	2.1 %	234.533 cps
Ti 336.121 {100} (Axial)	0.00565 ppm	94.123 %	1.8 %	400.000 cps
Tl 190.856 {477} (Axial)	0.06376 ppm	106.263 %	3.2 %	32.502 cps
V 292.402 {115} (Axial)	0.00476 ppm	95.216 %	6.9 %	62.117 cps
Zn 213.856 {458} (Axial)	0.03034 ppm	101.143 %	2.6 %	193.402 cps
Y 371.030 {91} (Radial)	105.98092 %		0.4 %	10,135.557 cps
Y 360.073 {94} (Radial)	105.40641 %		0.4 %	3,692.946 cps
Y 224.306 {450} (Axial)	105.02694 %		0.2 %	14,413.625 cps

LCM1

Sample type: QC Analysis started at: 12/18/2019 6:25:13 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.13164 ppm	0.000 %	0.2 %	1,428.442 cps
Ag 338.289 {100} (Axial)	0.12964 ppm	0.000 %	0.9 %	1,009.025 cps
Al 308.215 {109} (Radial)	0.89372 ppm	89.372 %	4.1 %	53.398 cps
Al 396.152 {85} (Radial)	0.91381 ppm	91.381 %	1.0 %	296.348 cps
As 189.042 {478} (Axial)	1.89378 ppm	94.689 %	0.6 %	759.950 cps
As 193.759 {474} (Axial)	1.88974 ppm	94.487 %	0.5 %	732.733 cps
B 249.678 {135} (Radial)	0.92015 ppm	92.015 %	1.8 %	143.317 cps
Ba 455.403 {74} (Radial)	0.92484 ppm	92.484 %	0.3 %	16,157.167 cps
Be 313.042 {108} (Axial)	0.93390 ppm	93.390 %	0.1 %	248,360.719 cps
Ca 315.887 {107} (Radial)	0.94912 ppm	94.912 %	0.9 %	91.028 cps
Cd 226.502 {449} (Axial)	0.97070 ppm	97.070 %	0.5 %	9,029.942 cps
Cd 214.438 {457} (Axial)	0.96766 ppm	96.766 %	0.5 %	9,499.866 cps
Co 228.616 {447} (Axial)	0.98326 ppm	98.326 %	0.7 %	5,289.817 cps
Cr 267.716 {126} (Axial)	0.95737 ppm	95.737 %	0.2 %	7,442.176 cps
Cu 324.754 {104} (Axial)	0.95651 ppm	95.651 %	0.4 %	14,631.300 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cu 327.396 {103} (Axial)	0.95852 ppm	95.852 %	0.3 %	14,052.282 cps
Fe 259.940 {130} (Radial)	0.94877 ppm	94.877 %	1.8 %	211.654 cps
Fe 273.955 {123} (Radial)	0.95004 ppm	95.004 %	0.4 %	72.040 cps
K 766.490 {44} (Radial)	4.60438 ppm	92.088 %	1.5 %	2,019.222 cps
Li 670.784 {50} (Radial)	0.93164 ppm	93.164 %	0.5 %	14,209.804 cps
Mg 280.270 {120} (Radial)	0.96567 ppm	96.567 %	0.1 %	5,095.524 cps
Mg 279.079 {121} (Radial)	0.92827 ppm	92.827 %	1.9 %	22.582 cps
Mn 257.610 {131} (Axial)	0.93690 ppm	93.690 %	0.1 %	48,322.830 cps
Mo 202.030 {467} (Axial)	1.01290 ppm	101.290 %	0.6 %	2,377.225 cps
Mo 204.598 {465} (Axial)	1.00035 ppm	100.035 %	0.5 %	1,506.938 cps
Na 589.592 {57} (Radial)	0.95118 ppm	95.118 %	0.6 %	1,726.351 cps
Ni 231.604 {445} (Axial)	1.01783 ppm	101.783 %	0.7 %	3,112.849 cps
P 177.495 {490} (Axial)	4.83915 ppm	96.783 %	0.6 %	1,729.013 cps
Pb 220.353 {453} (Axial)	1.98312 ppm	99.156 %	0.8 %	1,657.285 cps
Sb 206.833 {463} (Axial)	1.99435 ppm	99.718 %	0.9 %	1,290.659 cps
Se 196.090 {472} (Axial)	0.94352 ppm	94.352 %	0.8 %	298.289 cps
Si 251.611 {134} (Axial)	4.93879 ppm	98.776 %	0.2 %	7,818.552 cps
Sn 189.989 {477} (Axial)	5.10673 ppm	102.135 %	0.8 %	5,072.848 cps
Sr 407.771 {83} (Radial)	0.92220 ppm	92.220 %	0.2 %	28,730.454 cps
Sr 421.552 {80} (Axial)	0.94906 ppm	94.906 %	0.5 %	905,064.981 cps
Ti 334.941 {101} (Axial)	0.97993 ppm	97.993 %	0.5 %	37,389.927 cps
Ti 336.121 {100} (Axial)	0.96585 ppm	96.585 %	0.3 %	35,971.911 cps
Tl 190.856 {477} (Axial)	5.02813 ppm	100.563 %	0.7 %	2,595.807 cps
V 292.402 {115} (Axial)	0.93031 ppm	93.031 %	0.4 %	10,107.645 cps
Zn 213.856 {458} (Axial)	0.99027 ppm	99.027 %	0.7 %	6,048.553 cps
Y 371.030 {91} (Radial)	106.15851 %		0.7 %	10,152.542 cps
Y 360.073 {94} (Radial)	105.83375 %		0.5 %	3,707.918 cps
Y 224.306 {450} (Axial)	104.35422 %		0.2 %	14,321.302 cps

HiLCM

Sample type: QC Analysis started at: 12/18/2019 6:27:45 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00080 ppm	0.000 %	20.7 %	-20.267 cps
Ag 338.289 {100} (Axial)	0.00453 ppm	0.000 %	6.8 %	63.583 cps
Al 308.215 {109} (Radial)	94.73875 ppm	94.739 %	0.2 %	5,161.580 cps
Al 396.152 {85} (Radial)	95.65837 ppm	95.658 %	0.1 %	28,131.117 cps
As 189.042 {478} (Axial)	0.00027 ppm	0.000 %	237.4 %	-0.556 cps
As 193.759 {474} (Axial)	-0.00719 ppm	0.000 %	18.6 %	-8.691 cps
B 249.678 {135} (Radial)	0.00624 ppm	0.000 %	131.6 %	-2.665 cps
Ba 455.403 {74} (Radial)	-0.00004 ppm	0.000 %	963.3 %	53.201 cps
Be 313.042 {108} (Axial)	0.00016 ppm	0.000 %	16.7 %	8.800 cps
Ca 315.887 {107} (Radial)	93.00530 ppm	93.005 %	0.3 %	8,366.402 cps
Cd 226.502 {449} (Axial)	-0.00073 ppm	0.000 %	80.0 %	144.180 cps
Cd 214.438 {457} (Axial)	0.00028 ppm	0.000 %	149.9 %	88.072 cps
Co 228.616 {447} (Axial)	0.00430 ppm	0.000 %	1.3 %	22.588 cps
Cr 267.716 {126} (Axial)	0.00189 ppm	0.000 %	8.8 %	5.856 cps
Cu 324.754 {104} (Axial)	0.00049 ppm	0.000 %	37.2 %	100.933 cps
Cu 327.396 {103} (Axial)	0.00107 ppm	0.000 %	17.0 %	60.583 cps
Fe 259.940 {130} (Radial)	91.02583 ppm	91.026 %	0.2 %	19,600.410 cps
Fe 273.955 {123} (Radial)	93.15092 ppm	93.151 %	0.5 %	6,748.075 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
K 766.490 {44} (Radial)	97.93297 ppm	97.933 %	0.2 %	41,857.598 cps
Li 670.784 {50} (Radial)	0.00104 ppm	0.000 %	21.6 %	38.534 cps
Mg 280.270 {120} (Radial)	**53.48528 ppm**	89.142 %	**0.4 %**	272,937.778 cps
Mg 279.079 {121} (Radial)	56.99307 ppm	94.988 %	0.7 %	1,355.678 cps
Mn 257.610 {131} (Axial)	0.00183 ppm	0.000 %	2.7 %	96.067 cps
Mo 202.030 {467} (Axial)	-0.00062 ppm	0.000 %	9.7 %	-0.184 cps
Mo 204.598 {465} (Axial)	0.00075 ppm	0.000 %	64.6 %	5.688 cps
Na 589.592 {57} (Radial)	97.20771 ppm	97.208 %	0.1 %	169,344.349 cps
Ni 231.604 {445} (Axial)	0.00352 ppm	0.000 %	4.9 %	7.493 cps
P 177.495 {490} (Axial)	0.00200 ppm	0.000 %	51.7 %	1.232 cps
Pb 220.353 {453} (Axial)	-0.00139 ppm	0.000 %	66.2 %	-6.176 cps
Sb 206.833 {463} (Axial)	-0.00430 ppm	0.000 %	7.5 %	-2.055 cps
Se 196.090 {472} (Axial)	0.00261 ppm	0.000 %	31.3 %	-2.070 cps
Si 251.611 {134} (Axial)	0.00347 ppm	0.000 %	23.6 %	99.599 cps
Sn 189.989 {477} (Axial)	0.00183 ppm	0.000 %	17.3 %	1.791 cps
Sr 407.771 {83} (Radial)	0.00111 ppm	0.000 %	4.5 %	37.051 cps
Sr 421.552 {80} (Axial)	0.00109 ppm	0.000 %	1.2 %	1,056.942 cps
Ti 334.941 {101} (Axial)	0.00069 ppm	0.000 %	29.9 %	20.917 cps
Ti 336.121 {100} (Axial)	-0.00024 ppm	0.000 %	21.4 %	59.244 cps
Tl 190.856 {477} (Axial)	-0.00159 ppm	0.000 %	21.2 %	-1.359 cps
V 292.402 {115} (Axial)	0.00190 ppm	0.000 %	8.3 %	28.367 cps
Zn 213.856 {458} (Axial)	0.00611 ppm	0.000 %	12.6 %	105.517 cps
Y 371.030 {91} (Radial)	102.55830 %		0.3 %	9,808.233 cps
Y 360.073 {94} (Radial)	102.59475 %		0.1 %	3,594.438 cps
Y 224.306 {450} (Axial)	96.40053 %		0.2 %	13,229.759 cps

LCM2

Sample type: QC Analysis started at: 12/18/2019 6:30:39 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04577 ppm	91.532 %	1.5 %	491.178 cps
Ag 338.289 {100} (Axial)	0.04558 ppm	91.166 %	1.5 %	315.550 cps
Al 308.215 {109} (Radial)	-0.00078 ppm	0.000 %	5,104.6 %	3.419 cps
Al 396.152 {85} (Radial)	0.00273 ppm	0.000 %	361.3 %	9.833 cps
As 189.042 {478} (Axial)	-0.00027 ppm	0.000 %	722.0 %	-0.822 cps
As 193.759 {474} (Axial)	-0.00099 ppm	0.000 %	130.3 %	0.175 cps
B 249.678 {135} (Radial)	0.00780 ppm	0.000 %	62.7 %	0.828 cps
Ba 455.403 {74} (Radial)	-0.00038 ppm	0.000 %	37.2 %	48.689 cps
Be 313.042 {108} (Axial)	-0.00005 ppm	0.000 %	36.5 %	-46.917 cps
Ca 315.887 {107} (Radial)	0.01857 ppm	0.000 %	33.9 %	4.050 cps
Cd 226.502 {449} (Axial)	-0.00006 ppm	0.000 %	192.6 %	-0.377 cps
Cd 214.438 {457} (Axial)	0.00000 ppm	0.000 %	4,521.7 %	4.211 cps
Co 228.616 {447} (Axial)	-0.00012 ppm	0.000 %	75.5 %	0.761 cps
Cr 267.716 {126} (Axial)	0.00005 ppm	0.000 %	262.2 %	2.571 cps
Cu 324.754 {104} (Axial)	0.00018 ppm	0.000 %	121.1 %	201.433 cps
Cu 327.396 {103} (Axial)	-0.00014 ppm	0.000 %	395.1 %	48.233 cps
Fe 259.940 {130} (Radial)	0.01526 ppm	0.000 %	16.7 %	4.271 cps
Fe 273.955 {123} (Radial)	-0.00183 ppm	0.000 %	856.6 %	1.167 cps
K 766.490 {44} (Radial)	0.06242 ppm	0.000 %	34.8 %	8.768 cps
Li 670.784 {50} (Radial)	-0.00092 ppm	0.000 %	34.7 %	10.022 cps
Mg 280.270 {120} (Radial)	0.00497 ppm	0.000 %	8.2 %	38.183 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mg 279.079 {121} (Radial)	-0.02533 ppm	0.000 %	236.6 %	-0.817 cps
Mn 257.610 {131} (Axial)	0.00005 ppm	0.000 %	64.9 %	12.283 cps
Mo 202.030 {467} (Axial)	-0.00004 ppm	0.000 %	433.6 %	1.181 cps
Mo 204.598 {465} (Axial)	-0.00054 ppm	0.000 %	52.0 %	-0.736 cps
Na 589.592 {57} (Radial)	0.02950 ppm	0.000 %	20.6 %	63.733 cps
Ni 231.604 {445} (Axial)	0.00003 ppm	0.000 %	455.6 %	-2.596 cps
P 177.495 {490} (Axial)	-0.00098 ppm	0.000 %	345.1 %	0.271 cps
Pb 220.353 {453} (Axial)	0.00029 ppm	0.000 %	652.7 %	2.962 cps
Sb 206.833 {463} (Axial)	0.00089 ppm	0.000 %	154.3 %	-0.131 cps
Se 196.090 {472} (Axial)	0.00112 ppm	0.000 %	147.7 %	-0.771 cps
Si 251.611 {134} (Axial)	0.04219 ppm	0.000 %	20.7 %	169.246 cps
Sn 189.989 {477} (Axial)	-0.00006 ppm	0.000 %	889.9 %	0.061 cps
Sr 407.771 {83} (Radial)	-0.00004 ppm	0.000 %	214.0 %	2.479 cps
Sr 421.552 {80} (Axial)	0.00002 ppm	0.000 %	25.5 %	124.786 cps
Ti 334.941 {101} (Axial)	-0.00025 ppm	0.000 %	22.5 %	12.500 cps
Ti 336.121 {100} (Axial)	-0.00018 ppm	0.000 %	76.1 %	183.511 cps
Tl 190.856 {477} (Axial)	-0.00038 ppm	0.000 %	31.5 %	-0.850 cps
V 292.402 {115} (Axial)	-0.00009 ppm	0.000 %	211.2 %	9.150 cps
Zn 213.856 {458} (Axial)	0.00048 ppm	0.000 %	13.0 %	10.678 cps
Y 371.030 {91} (Radial)	105.03148 %		0.4 %	10,044.757 cps
Y 360.073 {94} (Radial)	105.04118 %		0.5 %	3,680.150 cps
Y 224.306 {450} (Axial)	105.15156 %		0.3 %	14,430.727 cps

wash

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:33:32 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00010 ppm	524.3 %	-14.511 cps
Ag 338.289 {100} (Axial)	-0.00074 ppm	102.6 %	11.400 cps
Al 308.215 {109} (Radial)	-0.01127 ppm	111.7 %	2.779 cps
Al 396.152 {85} (Radial)	-0.01494 ppm	26.2 %	4.428 cps
As 189.042 {478} (Axial)	-0.00013 ppm	1,043.6 %	-0.771 cps
As 193.759 {474} (Axial)	-0.00106 ppm	121.3 %	0.152 cps
B 249.678 {135} (Radial)	0.00452 ppm	56.0 %	0.311 cps
Ba 455.403 {74} (Radial)	-0.00026 ppm	67.7 %	49.833 cps
Be 313.042 {108} (Axial)	-0.00003 ppm	25.6 %	-42.000 cps
Ca 315.887 {107} (Radial)	-0.00564 ppm	311.6 %	1.783 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	226.6 %	-0.171 cps
Cd 214.438 {457} (Axial)	-0.00002 ppm	308.8 %	3.985 cps
Co 228.616 {447} (Axial)	-0.00015 ppm	111.2 %	0.602 cps
Cr 267.716 {126} (Axial)	-0.00006 ppm	808.3 %	1.765 cps
Cu 324.754 {104} (Axial)	-0.00019 ppm	142.8 %	196.639 cps
Cu 327.396 {103} (Axial)	-0.00019 ppm	221.5 %	47.717 cps
Fe 259.940 {130} (Radial)	-0.00168 ppm	97.8 %	0.529 cps
Fe 273.955 {123} (Radial)	0.01629 ppm	100.7 %	2.467 cps
K 766.490 {44} (Radial)	0.04410 ppm	24.6 %	0.753 cps
Li 670.784 {50} (Radial)	-0.00131 ppm	5.3 %	4.062 cps
Mg 280.270 {120} (Radial)	0.00025 ppm	95.0 %	13.300 cps
Mg 279.079 {121} (Radial)	-0.06329 ppm	29.7 %	-1.717 cps
Mn 257.610 {131} (Axial)	-0.00002 ppm	98.7 %	8.900 cps
Mo 202.030 {467} (Axial)	0.00001 ppm	4,253.1 %	1.283 cps

	Concentration average	Concentration RSD	Raw Intensity average
Mo 204.598 {465} (Axial)	-0.00027 ppm	172.7 %	-0.330 cps
Na 589.592 {57} (Radial)	0.00798 ppm	33.6 %	24.883 cps
Ni 231.604 {445} (Axial)	-0.00003 ppm	736.2 %	-2.784 cps
P 177.495 {490} (Axial)	0.00013 ppm	1,465.0 %	0.676 cps
Pb 220.353 {453} (Axial)	0.00058 ppm	209.2 %	3.222 cps
Sb 206.833 {463} (Axial)	0.00159 ppm	25.6 %	0.320 cps
Se 196.090 {472} (Axial)	0.00083 ppm	104.1 %	-0.868 cps
Si 251.611 {134} (Axial)	-0.00012 ppm	1,578.8 %	103.325 cps
Sn 189.989 {477} (Axial)	0.00013 ppm	132.7 %	0.255 cps
Sr 407.771 {83} (Radial)	-0.00008 ppm	37.3 %	1.046 cps
Sr 421.552 {80} (Axial)	-0.00004 ppm	12.4 %	64.551 cps
Ti 334.941 {101} (Axial)	-0.00029 ppm	9.5 %	11.000 cps
Ti 336.121 {100} (Axial)	-0.00029 ppm	35.0 %	180.233 cps
Tl 190.856 {477} (Axial)	-0.00002 ppm	7,599.0 %	-0.665 cps
V 292.402 {115} (Axial)	0.00005 ppm	897.2 %	10.683 cps
Zn 213.856 {458} (Axial)	-0.00013 ppm	83.8 %	6.980 cps
Y 371.030 {91} (Radial)	103.16167 %	0.4 %	9,865.936 cps
Y 360.073 {94} (Radial)	103.24114 %	0.6 %	3,617.085 cps
Y 224.306 {450} (Axial)	105.59931 %	0.2 %	14,492.176 cps

1912011-13

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:36:29 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00036 ppm	112.9 %	-16.263 cps
Ag 338.289 {100} (Axial)	0.00549 ppm	14.7 %	70.520 cps
Al 308.215 {109} (Radial)	-0.02974 ppm	131.5 %	1.749 cps
Al 396.152 {85} (Radial)	-0.01033 ppm	72.2 %	9.886 cps
As 189.042 {478} (Axial)	0.00117 ppm	113.3 %	-0.226 cps
As 193.759 {474} (Axial)	0.00229 ppm	80.3 %	1.369 cps
B 249.678 {135} (Radial)	0.05435 ppm	6.4 %	7.775 cps
Ba 455.403 {74} (Radial)	0.03084 ppm	2.2 %	564.558 cps
Be 313.042 {108} (Axial)	-0.00008 ppm	7.2 %	-51.090 cps
Ca 315.887 {107} (Radial)	93.97168 ppm	1.1 %	8,366.520 cps
Cd 226.502 {449} (Axial)	0.00004 ppm	211.4 %	0.507 cps
Cd 214.438 {457} (Axial)	0.00010 ppm	114.3 %	4.865 cps
Co 228.616 {447} (Axial)	-0.00026 ppm	50.0 %	-0.021 cps
Cr 267.716 {126} (Axial)	0.00021 ppm	194.6 %	3.626 cps
Cu 324.754 {104} (Axial)	0.23378 ppm	0.6 %	3,527.165 cps
Cu 327.396 {103} (Axial)	0.23494 ppm	0.7 %	3,296.914 cps
Fe 259.940 {130} (Radial)	0.00847 ppm	61.1 %	2.676 cps
Fe 273.955 {123} (Radial)	0.01718 ppm	69.2 %	2.492 cps
K 766.490 {44} (Radial)	1.02083 ppm	0.7 %	412.542 cps
Li 670.784 {50} (Radial)	0.00268 ppm	8.8 %	61.779 cps
Mg 280.270 {120} (Radial)	42.40527 ppm	0.4 %	214,179.731 cps
Mg 279.079 {121} (Radial)	44.13427 ppm	0.8 %	1,039.885 cps
Mn 257.610 {131} (Axial)	0.00029 ppm	8.9 %	23.617 cps
Mo 202.030 {467} (Axial)	0.00039 ppm	17.6 %	2.059 cps
Mo 204.598 {465} (Axial)	-0.00020 ppm	28.0 %	-0.212 cps
Na 589.592 {57} (Radial)	23.78943 ppm	0.2 %	40,871.294 cps
Ni 231.604 {445} (Axial)	0.00065 ppm	46.7 %	-0.643 cps

	Concentration average	Concentration RSD	Raw Intensity average
P 177.495 {490} (Axial)	0.00845 ppm	9.0 %	3.526 cps
Pb 220.353 {453} (Axial)	0.00822 ppm	10.8 %	9.102 cps
Sb 206.833 {463} (Axial)	-0.00115 ppm	97.2 %	-1.371 cps
Se 196.090 {472} (Axial)	0.00275 ppm	79.9 %	-0.244 cps
Si 251.611 {134} (Axial)	18.29418 ppm	0.5 %	27,063.684 cps
Sn 189.989 {477} (Axial)	0.00013 ppm	257.9 %	0.240 cps
Sr 407.771 {83} (Radial)	0.07282 ppm	0.1 %	2,164.173 cps
Sr 421.552 {80} (Axial)	0.07300 ppm	0.2 %	66,008.282 cps
Ti 334.941 {101} (Axial)	0.00058 ppm	16.0 %	17.823 cps
Ti 336.121 {100} (Axial)	-0.00046 ppm	35.0 %	55.959 cps
Tl 190.856 {477} (Axial)	-0.00009 ppm	731.9 %	-0.658 cps
V 292.402 {115} (Axial)	0.00076 ppm	53.6 %	17.326 cps
Zn 213.856 {458} (Axial)	0.02901 ppm	1.6 %	176.300 cps
Y 371.030 {91} (Radial)	101.12261 %	0.7 %	9,670.929 cps
Y 360.073 {94} (Radial)	101.54509 %	0.9 %	3,557.663 cps
Y 224.306 {450} (Axial)	98.80687 %	0.2 %	13,559.999 cps

1912011-14

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:39:19 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00041 ppm	15.2 %	-16.633 cps
Ag 338.289 {100} (Axial)	0.00538 ppm	11.3 %	71.906 cps
Al 308.215 {109} (Radial)	-0.02836 ppm	114.8 %	1.792 cps
Al 396.152 {85} (Radial)	-0.00613 ppm	157.0 %	11.531 cps
As 189.042 {478} (Axial)	0.04032 ppm	6.4 %	14.583 cps
As 193.759 {474} (Axial)	0.03756 ppm	5.2 %	14.229 cps
B 249.678 {135} (Radial)	0.05104 ppm	6.1 %	6.895 cps
Ba 455.403 {74} (Radial)	0.05335 ppm	0.8 %	929.286 cps
Be 313.042 {108} (Axial)	-0.00011 ppm	8.2 %	-58.706 cps
Ca 315.887 {107} (Radial)	105.33328 ppm	0.4 %	9,291.013 cps
Cd 226.502 {449} (Axial)	-0.00024 ppm	49.2 %	12.716 cps
Cd 214.438 {457} (Axial)	0.00008 ppm	105.3 %	11.142 cps
Co 228.616 {447} (Axial)	-0.00014 ppm	234.1 %	0.596 cps
Cr 267.716 {126} (Axial)	-0.00016 ppm	270.6 %	0.022 cps
Cu 324.754 {104} (Axial)	0.27787 ppm	0.3 %	4,125.534 cps
Cu 327.396 {103} (Axial)	0.27775 ppm	0.3 %	3,867.250 cps
Fe 259.940 {130} (Radial)	9.08444 ppm	0.2 %	1,918.949 cps
Fe 273.955 {123} (Radial)	9.05726 ppm	0.7 %	644.503 cps
K 766.490 {44} (Radial)	0.90044 ppm	0.8 %	358.429 cps
Li 670.784 {50} (Radial)	0.00249 ppm	12.6 %	58.528 cps
Mg 280.270 {120} (Radial)	47.43594 ppm	0.2 %	237,367.917 cps
Mg 279.079 {121} (Radial)	49.34906 ppm	0.7 %	1,151.909 cps
Mn 257.610 {131} (Axial)	0.05305 ppm	0.2 %	2,585.030 cps
Mo 202.030 {467} (Axial)	0.00173 ppm	24.1 %	4.997 cps
Mo 204.598 {465} (Axial)	0.00088 ppm	9.1 %	1.315 cps
Na 589.592 {57} (Radial)	24.23936 ppm	0.3 %	41,258.897 cps
Ni 231.604 {445} (Axial)	0.00350 ppm	16.0 %	7.565 cps
P 177.495 {490} (Axial)	0.01134 ppm	8.3 %	4.496 cps
Pb 220.353 {453} (Axial)	0.02563 ppm	5.2 %	23.091 cps
Sb 206.833 {463} (Axial)	-0.00023 ppm	306.7 %	-0.696 cps

	Concentration average	Concentration RSD	Raw Intensity average
Se 196.090 {472} (Axial)	0.00139 ppm	268.1 %	-0.817 cps
Si 251.611 {134} (Axial)	24.56334 ppm	0.1 %	36,100.673 cps
Sn 189.989 {477} (Axial)	0.00041 ppm	213.6 %	0.503 cps
Sr 407.771 {83} (Radial)	0.09532 ppm	0.2 %	2,805.582 cps
Sr 421.552 {80} (Axial)	0.09534 ppm	0.2 %	85,688.785 cps
Ti 334.941 {101} (Axial)	0.00049 ppm	54.1 %	11.896 cps
Ti 336.121 {100} (Axial)	-0.00061 ppm	35.4 %	37.927 cps
Tl 190.856 {477} (Axial)	0.00031 ppm	480.3 %	-0.460 cps
V 292.402 {115} (Axial)	0.00087 ppm	68.4 %	18.155 cps
Zn 213.856 {458} (Axial)	0.12114 ppm	1.3 %	707.755 cps
Y 371.030 {91} (Radial)	100.18701 %	0.4 %	9,581.453 cps
Y 360.073 {94} (Radial)	100.60245 %	0.4 %	3,524.638 cps
Y 224.306 {450} (Axial)	98.25084 %	0.2 %	13,483.691 cps

1912011-15

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:42:04 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00060 ppm	60.3 %	-18.575 cps
Ag 338.289 {100} (Axial)	0.00507 ppm	12.2 %	68.778 cps
Al 308.215 {109} (Radial)	-0.03488 ppm	43.2 %	1.454 cps
Al 396.152 {85} (Radial)	-0.01258 ppm	124.8 %	9.427 cps
As 189.042 {478} (Axial)	0.00906 ppm	3.5 %	2.762 cps
As 193.759 {474} (Axial)	0.00798 ppm	13.6 %	3.443 cps
B 249.678 {135} (Radial)	**0.05260 ppm**	**19.8 %**	7.391 cps
Ba 455.403 {74} (Radial)	0.03992 ppm	0.5 %	712.910 cps
Be 313.042 {108} (Axial)	-0.00008 ppm	9.0 %	-52.200 cps
Ca 315.887 {107} (Radial)	99.02597 ppm	0.5 %	8,773.992 cps
Cd 226.502 {449} (Axial)	-0.00013 ppm	131.8 %	3.266 cps
Cd 214.438 {457} (Axial)	0.00007 ppm	51.6 %	6.524 cps
Co 228.616 {447} (Axial)	0.00012 ppm	82.2 %	1.893 cps
Cr 267.716 {126} (Axial)	0.00013 ppm	62.4 %	2.822 cps
Cu 324.754 {104} (Axial)	0.04442 ppm	0.7 %	815.511 cps
Cu 327.396 {103} (Axial)	0.04433 ppm	0.9 %	657.685 cps
Fe 259.940 {130} (Radial)	2.64951 ppm	0.6 %	562.789 cps
Fe 273.955 {123} (Radial)	2.65866 ppm	0.1 %	190.923 cps
K 766.490 {44} (Radial)	1.00284 ppm	0.9 %	403.693 cps
Li 670.784 {50} (Radial)	0.00185 ppm	40.9 %	49.625 cps
Mg 280.270 {120} (Radial)	42.87691 ppm	0.2 %	215,518.573 cps
Mg 279.079 {121} (Radial)	44.60349 ppm	0.5 %	1,045.854 cps
Mn 257.610 {131} (Axial)	0.07158 ppm	0.5 %	3,489.828 cps
Mo 202.030 {467} (Axial)	0.00085 ppm	45.9 %	3.059 cps
Mo 204.598 {465} (Axial)	0.00029 ppm	170.8 %	0.490 cps
Na 589.592 {57} (Radial)	22.51456 ppm	0.2 %	38,560.095 cps
Ni 231.604 {445} (Axial)	0.00298 ppm	19.3 %	6.079 cps
P 177.495 {490} (Axial)	0.03249 ppm	13.5 %	11.536 cps
Pb 220.353 {453} (Axial)	0.00648 ppm	3.6 %	7.760 cps
Sb 206.833 {463} (Axial)	0.00001 ppm	6,338.2 %	-0.628 cps
Se 196.090 {472} (Axial)	-0.00123 ppm	83.5 %	-1.478 cps
Si 251.611 {134} (Axial)	18.92106 ppm	0.2 %	27,870.967 cps
Sn 189.989 {477} (Axial)	0.00035 ppm	45.8 %	0.446 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sr 407.771 {83} (Radial)	0.08133 ppm	0.1 %	2,409.250 cps
Sr 421.552 {80} (Axial)	0.08258 ppm	0.1 %	74,341.193 cps
Ti 334.941 {101} (Axial)	0.00038 ppm	19.9 %	9.354 cps
Ti 336.121 {100} (Axial)	-0.00056 ppm	39.8 %	46.433 cps
Tl 190.856 {477} (Axial)	0.00068 ppm	83.5 %	-0.281 cps
V 292.402 {115} (Axial)	0.00056 ppm	120.9 %	14.896 cps
Zn 213.856 {458} (Axial)	0.05629 ppm	1.5 %	331.250 cps
Y 371.030 {91} (Radial)	100.80580 %	0.6 %	9,640.632 cps
Y 360.073 {94} (Radial)	101.05447 %	0.6 %	3,540.474 cps
Y 224.306 {450} (Axial)	98.39433 %	0.2 %	13,503.382 cps

1912011-16

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:44:51 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00034 ppm	93.5 %	-15.918 cps
Ag 338.289 {100} (Axial)	0.00579 ppm	9.4 %	72.057 cps
Al 308.215 {109} (Radial)	-0.02140 ppm	165.9 %	2.211 cps
Al 396.152 {85} (Radial)	-0.00624 ppm	262.4 %	11.076 cps
As 189.042 {478} (Axial)	0.03116 ppm	9.8 %	11.144 cps
As 193.759 {474} (Axial)	0.02858 ppm	0.5 %	10.981 cps
B 249.678 {135} (Radial)	0.06998 ppm	4.6 %	10.080 cps
Ba 455.403 {74} (Radial)	0.05180 ppm	0.1 %	915.350 cps
Be 313.042 {108} (Axial)	-0.00007 ppm	10.4 %	-50.039 cps
Ca 315.887 {107} (Radial)	92.60712 ppm	1.3 %	8,304.471 cps
Cd 226.502 {449} (Axial)	-0.00001 ppm	978.9 %	5.255 cps
Cd 214.438 {457} (Axial)	0.00016 ppm	63.2 %	7.728 cps
Co 228.616 {447} (Axial)	-0.00005 ppm	797.2 %	1.051 cps
Cr 267.716 {126} (Axial)	0.00064 ppm	45.7 %	6.465 cps
Cu 324.754 {104} (Axial)	0.02754 ppm	0.9 %	575.460 cps
Cu 327.396 {103} (Axial)	0.02770 ppm	1.4 %	429.190 cps
Fe 259.940 {130} (Radial)	3.18472 ppm	0.1 %	684.490 cps
Fe 273.955 {123} (Radial)	3.16587 ppm	0.3 %	229.859 cps
K 766.490 {44} (Radial)	1.08444 ppm	1.9 %	440.918 cps
Li 670.784 {50} (Radial)	0.00215 ppm	12.7 %	54.257 cps
Mg 280.270 {120} (Radial)	41.90411 ppm	0.5 %	213,175.778 cps
Mg 279.079 {121} (Radial)	43.57602 ppm	0.7 %	1,034.097 cps
Mn 257.610 {131} (Axial)	0.05952 ppm	0.5 %	2,906.730 cps
Mo 202.030 {467} (Axial)	0.00040 ppm	66.7 %	2.081 cps
Mo 204.598 {465} (Axial)	-0.00047 ppm	75.7 %	-0.589 cps
Na 589.592 {57} (Radial)	23.10886 ppm	0.3 %	39,841.738 cps
Ni 231.604 {445} (Axial)	0.00126 ppm	10.9 %	1.122 cps
P 177.495 {490} (Axial)	0.04075 ppm	3.7 %	14.329 cps
Pb 220.353 {453} (Axial)	0.00778 ppm	6.6 %	8.805 cps
Sb 206.833 {463} (Axial)	0.00133 ppm	40.3 %	0.187 cps
Se 196.090 {472} (Axial)	0.00183 ppm	110.8 %	-0.574 cps
Si 251.611 {134} (Axial)	19.52944 ppm	0.4 %	28,796.815 cps
Sn 189.989 {477} (Axial)	-0.00020 ppm	231.0 %	-0.074 cps
Sr 407.771 {83} (Radial)	0.08002 ppm	0.3 %	2,386.330 cps
Sr 421.552 {80} (Axial)	0.08120 ppm	0.5 %	73,184.457 cps
Ti 334.941 {101} (Axial)	0.00046 ppm	18.9 %	13.828 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ti 336.121 {100} (Axial)	-0.00050 ppm	38.0 %	54.755 cps
Tl 190.856 {477} (Axial)	-0.00056 ppm	57.7 %	-0.886 cps
V 292.402 {115} (Axial)	0.00076 ppm	17.1 %	17.041 cps
Zn 213.856 {458} (Axial)	0.04252 ppm	2.2 %	253.044 cps
Y 371.030 {91} (Radial)	101.47913 %	0.5 %	9,705.025 cps
Y 360.073 {94} (Radial)	102.27738 %	0.6 %	3,583.319 cps
Y 224.306 {450} (Axial)	98.50725 %	0.3 %	13,518.879 cps

1912011-17

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:47:39 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00018 ppm	42.8 %	-14.081 cps
Ag 338.289 {100} (Axial)	0.00537 ppm	2.2 %	71.586 cps
Al 308.215 {109} (Radial)	-0.01429 ppm	108.5 %	2.583 cps
Al 396.152 {85} (Radial)	-0.01509 ppm	60.1 %	8.953 cps
As 189.042 {478} (Axial)	0.00681 ppm	35.8 %	1.906 cps
As 193.759 {474} (Axial)	0.00671 ppm	7.8 %	2.968 cps
B 249.678 {135} (Radial)	0.06174 ppm	3.7 %	8.900 cps
Ba 455.403 {74} (Radial)	0.23909 ppm	0.6 %	4,024.114 cps
Be 313.042 {108} (Axial)	-0.00006 ppm	28.6 %	-46.091 cps
Ca 315.887 {107} (Radial)	103.15418 ppm	0.7 %	9,230.766 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	174.0 %	1.229 cps
Cd 214.438 {457} (Axial)	0.00008 ppm	117.3 %	5.267 cps
Co 228.616 {447} (Axial)	0.00144 ppm	5.2 %	8.581 cps
Cr 267.716 {126} (Axial)	-0.00010 ppm	763.6 %	1.430 cps
Cu 324.754 {104} (Axial)	0.08463 ppm	0.2 %	1,385.074 cps
Cu 327.396 {103} (Axial)	0.08482 ppm	0.6 %	1,211.598 cps
Fe 259.940 {130} (Radial)	0.83030 ppm	0.5 %	178.737 cps
Fe 273.955 {123} (Radial)	0.83040 ppm	2.3 %	61.099 cps
K 766.490 {44} (Radial)	1.16578 ppm	0.9 %	474.344 cps
Li 670.784 {50} (Radial)	0.00164 ppm	66.4 %	46.726 cps
Mg 280.270 {120} (Radial)	43.06752 ppm	0.2 %	218,635.954 cps
Mg 279.079 {121} (Radial)	44.50678 ppm	0.4 %	1,054.036 cps
Mn 257.610 {131} (Axial)	0.13959 ppm	0.1 %	6,775.292 cps
Mo 202.030 {467} (Axial)	0.00099 ppm	16.4 %	3.366 cps
Mo 204.598 {465} (Axial)	0.00077 ppm	41.0 %	1.157 cps
Na 589.592 {57} (Radial)	13.68339 ppm	0.1 %	23,547.460 cps
Ni 231.604 {445} (Axial)	0.00910 ppm	1.9 %	23.670 cps
P 177.495 {490} (Axial)	0.00245 ppm	66.4 %	1.440 cps
Pb 220.353 {453} (Axial)	0.01048 ppm	11.3 %	10.807 cps
Sb 206.833 {463} (Axial)	0.00044 ppm	399.7 %	-0.389 cps
Se 196.090 {472} (Axial)	0.00035 ppm	96.7 %	-0.961 cps
Si 251.611 {134} (Axial)	18.74521 ppm	0.2 %	27,527.230 cps
Sn 189.989 {477} (Axial)	-0.00019 ppm	305.8 %	-0.059 cps
Sr 407.771 {83} (Radial)	0.09093 ppm	0.4 %	2,705.671 cps
Sr 421.552 {80} (Axial)	0.09281 ppm	0.1 %	83,277.384 cps
Ti 334.941 {101} (Axial)	0.00038 ppm	10.0 %	8.042 cps
Ti 336.121 {100} (Axial)	-0.00044 ppm	41.6 %	44.342 cps
Tl 190.856 {477} (Axial)	0.00091 ppm	65.6 %	-0.168 cps
V 292.402 {115} (Axial)	0.00027 ppm	201.7 %	11.569 cps

	Concentration average	Concentration RSD	Raw Intensity average
Zn 213.856 {458} (Axial)	0.08203 ppm	1.4 %	476.189 cps
Y 371.030 {91} (Radial)	101.26991 %	0.6 %	9,685.017 cps
Y 360.073 {94} (Radial)	102.06263 %	0.6 %	3,575.795 cps
Y 224.306 {450} (Axial)	98.08930 %	0.1 %	13,461.521 cps

1912011-19

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:50:25 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00012 ppm	638.1 %	-14.667 cps
Ag 338.289 {100} (Axial)	-0.00007 ppm	414.4 %	15.867 cps
Al 308.215 {109} (Radial)	-0.02123 ppm	108.2 %	2.272 cps
Al 396.152 {85} (Radial)	-0.00108 ppm	854.4 %	8.617 cps
As 189.042 {478} (Axial)	0.00056 ppm	79.7 %	-0.489 cps
As 193.759 {474} (Axial)	-0.00157 ppm	63.0 %	-0.052 cps
B 249.678 {135} (Radial)	0.00902 ppm	49.8 %	1.011 cps
Ba 455.403 {74} (Radial)	-0.00029 ppm	131.0 %	49.806 cps
Be 313.042 {108} (Axial)	0.00001 ppm	898.9 %	-31.850 cps
Ca 315.887 {107} (Radial)	0.04326 ppm	43.4 %	6.300 cps
Cd 226.502 {449} (Axial)	-0.00010 ppm	101.1 %	-0.794 cps
Cd 214.438 {457} (Axial)	0.00003 ppm	452.7 %	4.517 cps
Co 228.616 {447} (Axial)	-0.00024 ppm	139.9 %	0.111 cps
Cr 267.716 {126} (Axial)	-0.00020 ppm	51.7 %	0.629 cps
Cu 324.754 {104} (Axial)	0.00280 ppm	4.8 %	241.672 cps
Cu 327.396 {103} (Axial)	0.00309 ppm	14.1 %	96.083 cps
Fe 259.940 {130} (Radial)	0.00232 ppm	78.1 %	1.414 cps
Fe 273.955 {123} (Radial)	0.00058 ppm	3,332.2 %	1.333 cps
K 766.490 {44} (Radial)	0.04342 ppm	38.8 %	0.443 cps
Li 670.784 {50} (Radial)	-0.00106 ppm	21.1 %	7.776 cps
Mg 280.270 {120} (Radial)	0.00623 ppm	14.6 %	44.600 cps
Mg 279.079 {121} (Radial)	-0.02581 ppm	98.7 %	-0.833 cps
Mn 257.610 {131} (Axial)	0.00026 ppm	80.3 %	23.550 cps
Mo 202.030 {467} (Axial)	-0.00033 ppm	89.4 %	0.477 cps
Mo 204.598 {465} (Axial)	0.00005 ppm	633.0 %	0.149 cps
Na 589.592 {57} (Radial)	0.02389 ppm	13.3 %	53.246 cps
Ni 231.604 {445} (Axial)	0.00004 ppm	347.0 %	-2.564 cps
P 177.495 {490} (Axial)	-0.00061 ppm	591.7 %	0.405 cps
Pb 220.353 {453} (Axial)	0.00098 ppm	120.4 %	3.553 cps
Sb 206.833 {463} (Axial)	0.00056 ppm	163.5 %	-0.351 cps
Se 196.090 {472} (Axial)	0.00139 ppm	181.6 %	-0.686 cps
Si 251.611 {134} (Axial)	0.04859 ppm	40.9 %	179.606 cps
Sn 189.989 {477} (Axial)	0.00031 ppm	150.6 %	0.439 cps
Sr 407.771 {83} (Radial)	-0.00011 ppm	125.6 %	0.146 cps
Sr 421.552 {80} (Axial)	0.00014 ppm	164.1 %	232.190 cps
Ti 334.941 {101} (Axial)	-0.00008 ppm	171.0 %	19.217 cps
Ti 336.121 {100} (Axial)	0.00011 ppm	144.7 %	194.456 cps
Tl 190.856 {477} (Axial)	0.00048 ppm	187.6 %	-0.402 cps
V 292.402 {115} (Axial)	0.00030 ppm	168.3 %	13.467 cps
Zn 213.856 {458} (Axial)	0.00060 ppm	31.3 %	11.476 cps
Y 371.030 {91} (Radial)	104.13868 %	0.6 %	9,959.374 cps
Y 360.073 {94} (Radial)	104.77185 %	0.7 %	3,670.714 cps

	Concentration average	Concentration RSD	Raw Intensity average
Y 224.306 {450} (Axial)	105.35380 %	0.3 %	14,458.483 cps

1912011-20

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:53:17 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00001 ppm	7,425.2 %	-13.467 cps
Ag 338.289 {100} (Axial)	-0.00043 ppm	168.7 %	13.500 cps
Al 308.215 {109} (Radial)	-0.02180 ppm	196.8 %	2.183 cps
Al 396.152 {85} (Radial)	0.00111 ppm	466.9 %	9.033 cps
As 189.042 {478} (Axial)	0.00076 ppm	232.7 %	-0.407 cps
As 193.759 {474} (Axial)	-0.00086 ppm	87.3 %	0.228 cps
B 249.678 {135} (Radial)	0.00343 ppm	156.9 %	0.144 cps
Ba 455.403 {74} (Radial)	0.00013 ppm	105.7 %	55.500 cps
Be 313.042 {108} (Axial)	-0.00003 ppm	36.3 %	-42.667 cps
Ca 315.887 {107} (Radial)	0.04596 ppm	52.5 %	6.400 cps
Cd 226.502 {449} (Axial)	-0.00006 ppm	40.1 %	-0.410 cps
Cd 214.438 {457} (Axial)	0.00001 ppm	744.9 %	4.319 cps
Co 228.616 {447} (Axial)	-0.00008 ppm	193.9 %	0.943 cps
Cr 267.716 {126} (Axial)	-0.00036 ppm	78.3 %	-0.643 cps
Cu 324.754 {104} (Axial)	0.00131 ppm	19.8 %	219.561 cps
Cu 327.396 {103} (Axial)	0.00207 ppm	22.3 %	81.250 cps
Fe 259.940 {130} (Radial)	0.00715 ppm	35.0 %	2.419 cps
Fe 273.955 {123} (Radial)	0.02102 ppm	28.2 %	2.783 cps
K 766.490 {44} (Radial)	0.03159 ppm	94.4 %	-4.526 cps
Li 670.784 {50} (Radial)	-0.00042 ppm	78.0 %	16.971 cps
Mg 280.270 {120} (Radial)	0.02121 ppm	45.5 %	119.833 cps
Mg 279.079 {121} (Radial)	-0.02325 ppm	122.7 %	-0.750 cps
Mn 257.610 {131} (Axial)	0.00005 ppm	205.2 %	12.400 cps
Mo 202.030 {467} (Axial)	-0.00008 ppm	152.3 %	1.088 cps
Mo 204.598 {465} (Axial)	-0.00028 ppm	81.9 %	-0.347 cps
Na 589.592 {57} (Radial)	0.01837 ppm	33.8 %	42.450 cps
Ni 231.604 {445} (Axial)	0.00025 ppm	108.8 %	-1.917 cps
P 177.495 {490} (Axial)	-0.00033 ppm	156.9 %	0.510 cps
Pb 220.353 {453} (Axial)	0.00009 ppm	1,351.8 %	2.813 cps
Sb 206.833 {463} (Axial)	0.00110 ppm	68.0 %	0.003 cps
Se 196.090 {472} (Axial)	0.00028 ppm	84.2 %	-1.043 cps
Si 251.611 {134} (Axial)	0.00720 ppm	20.1 %	114.926 cps
Sn 189.989 {477} (Axial)	0.00009 ppm	279.1 %	0.214 cps
Sr 407.771 {83} (Radial)	0.00005 ppm	102.3 %	4.954 cps
Sr 421.552 {80} (Axial)	-0.00002 ppm	111.8 %	86.242 cps
Ti 334.941 {101} (Axial)	-0.00028 ppm	16.4 %	11.433 cps
Ti 336.121 {100} (Axial)	-0.00010 ppm	108.4 %	187.294 cps
Tl 190.856 {477} (Axial)	0.00047 ppm	287.8 %	-0.408 cps
V 292.402 {115} (Axial)	0.00016 ppm	166.6 %	12.000 cps
Zn 213.856 {458} (Axial)	0.00050 ppm	15.7 %	10.876 cps
Y 371.030 {91} (Radial)	101.57965 %	0.4 %	9,714.639 cps
Y 360.073 {94} (Radial)	102.27996 %	0.1 %	3,583.410 cps
Y 224.306 {450} (Axial)	105.65277 %	0.2 %	14,499.513 cps

Sample Report
12/19/2019 7:11:50 AM

REVIEWED
By Amanda Wroble at 2:04 pm, Dec 19, 2019

QTEGRA

1912011-21

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:56:11 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00028 ppm	241.2 %	-15.220 cps
Ag 338.289 {100} (Axial)	0.00496 ppm	13.5 %	68.657 cps
Al 308.215 {109} (Radial)	0.00353 ppm	1,160.5 %	3.550 cps
Al 396.152 {85} (Radial)	0.03301 ppm	7.6 %	22.813 cps
As 189.042 {478} (Axial)	0.01220 ppm	8.5 %	3.959 cps
As 193.759 {474} (Axial)	0.01350 ppm	16.3 %	5.467 cps
B 249.678 {135} (Radial)	**0.05625 ppm**	**12.9 %**	7.982 cps
Ba 455.403 {74} (Radial)	0.05162 ppm	0.7 %	910.996 cps
Be 313.042 {108} (Axial)	-0.00007 ppm	27.2 %	-49.940 cps
Ca 315.887 {107} (Radial)	100.34736 ppm	0.4 %	8,977.579 cps
Cd 226.502 {449} (Axial)	-0.00015 ppm	86.2 %	4.170 cps
Cd 214.438 {457} (Axial)	0.00011 ppm	49.2 %	7.310 cps
Co 228.616 {447} (Axial)	0.00027 ppm	51.9 %	2.655 cps
Cr 267.716 {126} (Axial)	-0.00010 ppm	219.6 %	1.070 cps
Cu 324.754 {104} (Axial)	0.00194 ppm	12.2 %	210.795 cps
Cu 327.396 {103} (Axial)	0.00324 ppm	9.9 %	91.838 cps
Fe 259.940 {130} (Radial)	3.26343 ppm	0.2 %	699.743 cps
Fe 273.955 {123} (Radial)	3.27053 ppm	1.2 %	236.850 cps
K 766.490 {44} (Radial)	1.25270 ppm	1.6 %	511.288 cps
Li 670.784 {50} (Radial)	0.00214 ppm	12.2 %	54.111 cps
Mg 280.270 {120} (Radial)	44.44041 ppm	0.3 %	225,549.477 cps
Mg 279.079 {121} (Radial)	46.12285 ppm	0.5 %	1,092.011 cps
Mn 257.610 {131} (Axial)	0.08856 ppm	0.5 %	4,321.951 cps
Mo 202.030 {467} (Axial)	0.00159 ppm	16.6 %	4.695 cps
Mo 204.598 {465} (Axial)	0.00082 ppm	49.1 %	1.237 cps
Na 589.592 {57} (Radial)	31.27583 ppm	0.3 %	53,837.147 cps
Ni 231.604 {445} (Axial)	0.02365 ppm	2.3 %	65.818 cps
P 177.495 {490} (Axial)	0.00537 ppm	22.2 %	2.409 cps
Pb 220.353 {453} (Axial)	0.00504 ppm	10.9 %	6.650 cps
Sb 206.833 {463} (Axial)	0.00091 ppm	120.6 %	-0.074 cps
Se 196.090 {472} (Axial)	0.00242 ppm	97.8 %	-0.397 cps
Si 251.611 {134} (Axial)	19.71895 ppm	0.3 %	29,085.885 cps
Sn 189.989 {477} (Axial)	-0.00004 ppm	1,152.8 %	0.079 cps
Sr 407.771 {83} (Radial)	0.08905 ppm	0.4 %	2,651.163 cps
Sr 421.552 {80} (Axial)	0.08952 ppm	0.2 %	80,699.547 cps
Ti 334.941 {101} (Axial)	0.00037 ppm	14.8 %	8.526 cps
Ti 336.121 {100} (Axial)	-0.00047 ppm	24.1 %	47.309 cps
Tl 190.856 {477} (Axial)	0.00133 ppm	93.5 %	0.034 cps
V 292.402 {115} (Axial)	0.00092 ppm	24.6 %	18.517 cps
Zn 213.856 {458} (Axial)	0.03152 ppm	2.2 %	190.551 cps
Y 371.030 {91} (Radial)	101.32558 %	0.5 %	9,690.341 cps
Y 360.073 {94} (Radial)	102.03722 %	0.3 %	3,574.905 cps
Y 224.306 {450} (Axial)	98.54239 %	0.1 %	13,523.702 cps

Due to elevated IS recoveries for B19L022-DUP3, the source sample 1912011-21, B19L022-DUP3, and B19L022-MS3 were reanalyzed and reported from Run 2.

REVIEWED
By Amanda Wroble at 2:06 pm, Dec 19, 2019

B19L022-DUP3

Sample type: UNKNOWN Analysis started at: 12/18/2019 6:58:59 PM

Standard DF: 1

REVIEWED
By Amanda Wroble at 2:04 pm, Dec 19, 2019

QTEGRA

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00048 ppm	13.7 %	-23.678 cps
Ag 338.289 {100} (Axial)	-0.00069 ppm	44.9 %	34.217 cps
Al 308.215 {109} (Radial)	-0.04255 ppm	11.2 %	2.606 cps
Al 396.152 {85} (Radial)	-0.01790 ppm	11.0 %	8.540 cps
As 189.042 {478} (Axial)	0.00136 ppm	11.3 %	-0.477 cps
As 193.759 {474} (Axial)	-0.00123 ppm	0.6 %	0.254 cps
B 249.678 {135} (Radial)	0.00434 ppm	126.6 %	0.670 cps
Ba 455.403 {74} (Radial)	-0.00138 ppm	5.8 %	73.936 cps
Be 313.042 {108} (Axial)	-0.00003 ppm	50.5 %	-126.300 cps
Ca 315.887 {107} (Radial)	0.03966 ppm	28.4 %	14.480 cps
Cd 226.502 {449} (Axial)	-0.00001 ppm	470.5 %	0.184 cps
Cd 214.438 {457} (Axial)	-0.00016 ppm	17.4 %	7.612 cps
Co 228.616 {447} (Axial)	-0.00021 ppm	48.7 %	0.733 cps
Cr 267.716 {126} (Axial)	-0.00038 ppm	26.3 %	-2.254 cps
Cu 324.754 {104} (Axial)	-0.00611 ppm	5.9 %	310.456 cps
Cu 327.396 {103} (Axial)	0.00011 ppm	248.5 %	152.650 cps
Fe 259.940 {130} (Radial)	0.00192 ppm	26.0 %	3.202 cps
Fe 273.955 {123} (Radial)	-0.00777 ppm	80.0 %	1.730 cps
K 766.490 {44} (Radial)	0.02599 ppm	10.6 %	-16.825 cps
Li 670.784 {50} (Radial)	-0.00113 ppm	17.8 %	15.970 cps
Mg 280.270 {120} (Radial)	0.01421 ppm	42.6 %	209.594 cps
Mg 279.079 {121} (Radial)	-0.00259 ppm	1,953.7 %	-0.645 cps
Mn 257.610 {131} (Axial)	-0.00007 ppm	26.7 %	17.733 cps
Mo 202.030 {467} (Axial)	-0.00016 ppm	68.7 %	2.572 cps
Mo 204.598 {465} (Axial)	-0.00014 ppm	29.6 %	-0.407 cps
Na 589.592 {57} (Radial)	-0.00380 ppm	78.8 %	10.308 cps
Ni 231.604 {445} (Axial)	0.00034 ppm	14.5 %	-4.756 cps
P 177.495 {490} (Axial)	-0.00044 ppm	47.2 %	1.361 cps
Pb 220.353 {453} (Axial)	-0.00084 ppm	30.0 %	5.922 cps
Sb 206.833 {463} (Axial)	0.00158 ppm	37.3 %	0.943 cps
Se 196.090 {472} (Axial)	0.00275 ppm	13.9 %	-0.741 cps
Si 251.611 {134} (Axial)	-0.03950 ppm	4.9 %	120.625 cps
Sn 189.989 {477} (Axial)	0.00015 ppm	28.0 %	0.795 cps
Sr 407.771 {83} (Radial)	-0.00009 ppm	35.2 %	2.056 cps
Sr 421.552 {80} (Axial)	-0.00010 ppm	5.0 %	17.190 cps
Ti 334.941 {101} (Axial)	-0.00037 ppm	20.0 %	23.550 cps
Ti 336.121 {100} (Axial)	-0.00011 ppm	335.5 %	546.044 cps
Tl 190.856 {477} (Axial)	0.00012 ppm	136.4 %	-1.728 cps
V 292.402 {115} (Axial)	-0.00047 ppm	22.6 %	14.717 cps
Zn 213.856 {458} (Axial)	-0.00083 ppm	6.3 %	7.552 cps
Y 371.030 {91} (Radial)	**246.93651 %**	**2.7 %**	23,615.941 cps
Y 360.073 {94} (Radial)	**253.04828 %**	**2.7 %**	8,865.624 cps
Y 224.306 {450} (Axial)	**308.87598 %**	**3.2 %**	42,389.338 cps

B19L022-MS3

Sample type: QC Analysis started at: 12/18/2019 7:01:51 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.02178 ppm	88.223 %	1.8 %	207.124 cps
Ag 338.289 {100} (Axial)	0.02633 ppm	85.461 %	2.4 %	219.855 cps

Sample Report

12/19/2019 7:11:50 AM

REVIEWED
By Amanda Wroble at 2:03 pm, Dec 19, 2019

QTEGRA

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Al 308.215 {109} (Radial)	1.01919 ppm	101.566 %	3.9 %	57.101 cps
Al 396.152 {85} (Radial)	1.03704 ppm	100.404 %	1.2 %	310.172 cps
As 189.042 {478} (Axial)	0.21297 ppm	100.386 %	2.2 %	77.936 cps
As 193.759 {474} (Axial)	0.21397 ppm	100.233 %	2.6 %	76.610 cps
B 249.678 {135} (Radial)	1.00770 ppm	95.145 %	0.4 %	147.586 cps
Ba 455.403 {74} (Radial)	0.25292 ppm	100.651 %	0.5 %	4,158.260 cps
Be 313.042 {108} (Axial)	0.00993 ppm	100.037 %	0.2 %	2,400.301 cps
Ca 315.887 {107} (Radial)	149.95092 ppm	99.207 %	0.4 %	13,089.049 cps
Cd 226.502 {449} (Axial)	0.04817 ppm	96.638 %	3.0 %	418.552 cps
Cd 214.438 {457} (Axial)	0.04896 ppm	97.695 %	2.7 %	448.093 cps
Co 228.616 {447} (Axial)	0.09376 ppm	93.493 %	3.4 %	464.631 cps
Cr 267.716 {126} (Axial)	0.09753 ppm	97.629 %	0.4 %	698.026 cps
Cu 324.754 {104} (Axial)	0.10156 ppm	99.622 %	0.5 %	1,585.243 cps
Cu 327.396 {103} (Axial)	0.10235 ppm	99.111 %	0.4 %	1,419.382 cps
Fe 259.940 {130} (Radial)	4.27342 ppm	100.999 %	0.3 %	893.816 cps
Fe 273.955 {123} (Radial)	4.29373 ppm	102.320 %	0.5 %	303.018 cps
K 766.490 {44} (Radial)	26.04417 ppm	99.166 %	0.1 %	10,732.362 cps
Li 670.784 {50} (Radial)	0.10569 ppm	103.545 %	0.6 %	1,523.189 cps
Mg 280.270 {120} (Radial)	62.41174 ppm	89.857 %	0.4 %	309,074.111 cps
Mg 279.079 {121} (Radial)	66.59086 ppm	102.340 %	0.4 %	1,538.462 cps
Mn 257.610 {131} (Axial)	0.27696 ppm	94.198 %	0.4 %	13,128.974 cps
Mo 202.030 {467} (Axial)	0.10216 ppm	100.570 %	3.5 %	221.299 cps
Mo 204.598 {465} (Axial)	0.10106 ppm	100.240 %	2.3 %	139.963 cps
Na 589.592 {57} (Radial)	81.07344 ppm	99.595 %	0.2 %	136,335.723 cps
Ni 231.604 {445} (Axial)	0.21779 ppm	97.070 %	3.2 %	609.894 cps
P 177.495 {490} (Axial)	1.08214 ppm	107.676 %	2.4 %	355.601 cps
Pb 220.353 {453} (Axial)	0.47774 ppm	94.540 %	2.4 %	368.699 cps
Sb 206.833 {463} (Axial)	0.49481 ppm	98.781 %	2.6 %	292.997 cps
Se 196.090 {472} (Axial)	0.49392 ppm	98.301 %	1.3 %	142.849 cps
Si 251.611 {134} (Axial)	29.59554 ppm	98.766 %	0.2 %	42,422.811 cps
Sn 189.989 {477} (Axial)	0.48933 ppm	97.874 %	3.6 %	446.672 cps
Sr 407.771 {83} (Radial)	1.03698 ppm	94.793 %	0.3 %	30,126.728 cps
Sr 421.552 {80} (Axial)	1.02733 ppm	93.782 %	0.2 %	899,998.734 cps
Ti 334.941 {101} (Axial)	0.10204 ppm	101.667 %	0.3 %	3,557.395 cps
Ti 336.121 {100} (Axial)	0.09992 ppm	100.385 %	0.5 %	3,407.031 cps
Tl 190.856 {477} (Axial)	0.45603 ppm	90.940 %	1.2 %	215.693 cps
V 292.402 {115} (Axial)	0.09934 ppm	98.420 %	0.2 %	999.016 cps
Zn 213.856 {458} (Axial)	1.02414 ppm	99.261 %	3.2 %	5,717.949 cps
Y 371.030 {91} (Radial)	98.99912 %		0.6 %	9,467.848 cps
Y 360.073 {94} (Radial)	99.56407 %		0.7 %	3,488.258 cps
Y 224.306 {450} (Axial)	95.86380 %		0.4 %	13,156.100 cps

LCB

Sample type: QC Analysis started at: 12/18/2019 7:04:48 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00029 ppm	-11.894 %	58.5 %	-16.411 cps
Ag 338.289 {100} (Axial)	-0.00022 ppm	-1.727 %	298.4 %	14.717 cps
Al 308.215 {109} (Radial)	-0.00749 ppm	-2.583 %	504.9 %	2.936 cps
Al 396.152 {85} (Radial)	-0.00732 ppm	-7.875 %	147.9 %	6.550 cps
As 189.042 {478} (Axial)	0.00050 ppm	9.640 %	176.2 %	-0.510 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
As 193.759 {474} (Axial)	-0.00168 ppm	-18.678 %	119.9 %	-0.093 cps
B 249.678 {135} (Radial)	0.00831 ppm	63.908 %	103.6 %	0.872 cps
Ba 455.403 {74} (Radial)	-0.00013 ppm	-15.410 %	317.1 %	50.911 cps
Be 313.042 {108} (Axial)	0.00000 ppm	-0.697 %	490.2 %	-35.033 cps
Ca 315.887 {107} (Radial)	0.04956 ppm	22.527 %	53.6 %	6.683 cps
Cd 226.502 {449} (Axial)	-0.00011 ppm	-20.277 %	70.4 %	-0.855 cps
Cd 214.438 {457} (Axial)	-0.00001 ppm	-3.852 %	627.0 %	4.092 cps
Co 228.616 {447} (Axial)	-0.00003 ppm	-4.542 %	709.8 %	1.227 cps
Cr 267.716 {126} (Axial)	-0.00017 ppm	-17.286 %	164.8 %	0.843 cps
Cu 324.754 {104} (Axial)	-0.00042 ppm	-11.965 %	58.0 %	191.700 cps
Cu 327.396 {103} (Axial)	-0.00015 ppm	-3.436 %	87.7 %	48.033 cps
Fe 259.940 {130} (Radial)	0.00522 ppm	27.472 %	23.1 %	1.992 cps
Fe 273.955 {123} (Radial)	0.01757 ppm	83.685 %	52.1 %	2.517 cps
K 766.490 {44} (Radial)	0.01967 ppm	19.668 %	45.5 %	-9.553 cps
Li 670.784 {50} (Radial)	-0.00056 ppm	-17.363 %	133.4 %	14.889 cps
Mg 280.270 {120} (Radial)	0.01785 ppm	89.274 %	94.7 %	102.233 cps
Mg 279.079 {121} (Radial)	-0.00435 ppm	-0.435 %	1,951.6 %	-0.300 cps
Mn 257.610 {131} (Axial)	0.00003 ppm	0.896 %	165.1 %	11.650 cps
Mo 202.030 {467} (Axial)	0.00003 ppm	1.336 %	567.2 %	1.337 cps
Mo 204.598 {465} (Axial)	0.00014 ppm	7.872 %	258.9 %	0.292 cps
Na 589.592 {57} (Radial)	0.03104 ppm	22.171 %	58.1 %	63.961 cps
Ni 231.604 {445} (Axial)	0.00017 ppm	4.374 %	211.4 %	-2.162 cps
P 177.495 {490} (Axial)	-0.00057 ppm	-1.727 %	420.9 %	0.417 cps
Pb 220.353 {453} (Axial)	-0.00077 ppm	-16.412 %	133.8 %	2.067 cps
Sb 206.833 {463} (Axial)	0.00108 ppm	13.454 %	70.5 %	-0.013 cps
Se 196.090 {472} (Axial)	0.00070 ppm	3.915 %	466.9 %	-0.902 cps
Si 251.611 {134} (Axial)	0.00389 ppm	4.467 %	33.8 %	108.849 cps
Sn 189.989 {477} (Axial)	0.00035 ppm	11.417 %	119.2 %	0.478 cps
Sr 407.771 {83} (Radial)	0.00007 ppm	2.836 %	300.8 %	5.619 cps
Sr 421.552 {80} (Axial)	0.00002 ppm	0.754 %	115.7 %	119.638 cps
Ti 334.941 {101} (Axial)	-0.00036 ppm	-27.934 %	15.1 %	8.117 cps
Ti 336.121 {100} (Axial)	-0.00013 ppm	-9.631 %	105.3 %	184.533 cps
Tl 190.856 {477} (Axial)	0.00027 ppm	1.922 %	58.4 %	-0.512 cps
V 292.402 {115} (Axial)	0.00020 ppm	22.280 %	186.0 %	12.300 cps
Zn 213.856 {458} (Axial)	0.00000 ppm	-0.066 %	3,137.6 %	7.684 cps
Y 371.030 {91} (Radial)	101.03425 %		0.4 %	9,662.479 cps
Y 360.073 {94} (Radial)	101.59652 %		0.4 %	3,559.465 cps
Y 224.306 {450} (Axial)	104.82350 %		0.2 %	14,385.706 cps

RLC

Sample type: QC Analysis started at: 12/18/2019 7:07:42 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00978 ppm	97.755 %	5.0 %	94.667 cps
Ag 338.289 {100} (Axial)	0.00926 ppm	92.573 %	5.5 %	78.200 cps
Al 308.215 {109} (Radial)	0.43503 ppm	87.005 %	2.4 %	27.149 cps
Al 396.152 {85} (Radial)	0.47836 ppm	95.673 %	0.8 %	148.928 cps
As 189.042 {478} (Axial)	0.03848 ppm	96.188 %	6.8 %	14.891 cps
As 193.759 {474} (Axial)	0.03753 ppm	93.817 %	5.9 %	15.217 cps
B 249.678 {135} (Radial)	0.04829 ppm	96.582 %	6.2 %	6.956 cps
Ba 455.403 {74} (Radial)	0.00256 ppm	85.329 %	12.6 %	96.572 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Be 313.042 {108} (Axial)	0.00190 ppm	95.249 %	0.4 %	477.733 cps
Ca 315.887 {107} (Radial)	0.51177 ppm	102.354 %	2.9 %	48.467 cps
Cd 226.502 {449} (Axial)	0.00196 ppm	97.779 %	3.8 %	18.618 cps
Cd 214.438 {457} (Axial)	0.00201 ppm	100.639 %	3.4 %	24.263 cps
Co 228.616 {447} (Axial)	0.00584 ppm	97.382 %	2.3 %	33.127 cps
Cr 267.716 {126} (Axial)	0.00469 ppm	93.782 %	5.1 %	39.000 cps
Cu 324.754 {104} (Axial)	0.01820 ppm	90.977 %	1.7 %	476.328 cps
Cu 327.396 {103} (Axial)	0.01847 ppm	92.354 %	3.0 %	322.933 cps
Fe 259.940 {130} (Radial)	0.07675 ppm	95.932 %	6.4 %	17.467 cps
Fe 273.955 {123} (Radial)	0.07969 ppm	99.616 %	48.2 %	7.050 cps
K 766.490 {44} (Radial)	0.74336 ppm	92.920 %	1.0 %	298.519 cps
Li 670.784 {50} (Radial)	0.02333 ppm	93.315 %	1.6 %	364.950 cps
Mg 280.270 {120} (Radial)	0.20148 ppm	100.740 %	1.6 %	1,043.100 cps
Mg 279.079 {121} (Radial)	0.18451 ppm	92.256 %	35.6 %	4.200 cps
Mn 257.610 {131} (Axial)	0.00790 ppm	98.804 %	1.1 %	421.550 cps
Mo 202.030 {467} (Axial)	0.01179 ppm	98.273 %	2.5 %	29.201 cps
Mo 204.598 {465} (Axial)	0.01141 ppm	95.102 %	4.1 %	17.458 cps
Na 589.592 {57} (Radial)	0.40500 ppm	101.250 %	2.0 %	713.351 cps
Ni 231.604 {445} (Axial)	0.01263 ppm	105.224 %	2.9 %	36.356 cps
P 177.495 {490} (Axial)	0.20062 ppm	100.312 %	1.9 %	72.964 cps
Pb 220.353 {453} (Axial)	0.03026 ppm	100.876 %	2.0 %	28.176 cps
Sb 206.833 {463} (Axial)	0.02079 ppm	103.943 %	1.2 %	12.850 cps
Se 196.090 {472} (Axial)	0.05244 ppm	104.870 %	7.7 %	15.667 cps
Si 251.611 {134} (Axial)	0.24341 ppm	121.706 %	0.4 %	486.301 cps
Sn 189.989 {477} (Axial)	0.01998 ppm	99.901 %	3.5 %	20.168 cps
Sr 407.771 {83} (Radial)	0.00285 ppm	95.142 %	4.0 %	89.093 cps
Sr 421.552 {80} (Axial)	0.00300 ppm	99.918 %	0.9 %	2,988.472 cps
Ti 334.941 {101} (Axial)	0.00554 ppm	92.294 %	0.6 %	235.267 cps
Ti 336.121 {100} (Axial)	0.00560 ppm	93.401 %	3.4 %	399.689 cps
Tl 190.856 {477} (Axial)	0.06125 ppm	102.085 %	1.1 %	31.301 cps
V 292.402 {115} (Axial)	0.00468 ppm	93.506 %	4.4 %	61.383 cps
Zn 213.856 {458} (Axial)	0.03071 ppm	102.368 %	2.6 %	196.294 cps
Y 371.030 {91} (Radial)	102.13919 %		0.6 %	9,768.151 cps
Y 360.073 {94} (Radial)	102.90148 %		0.6 %	3,605.185 cps
Y 224.306 {450} (Axial)	105.37875 %		0.1 %	14,461.906 cps

LCM1

Sample type: QC Analysis started at: 12/18/2019 7:10:34 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.12806 ppm	0.000 %	0.4 %	1,398.549 cps
Ag 338.289 {100} (Axial)	0.12588 ppm	0.000 %	1.2 %	988.375 cps
Al 308.215 {109} (Radial)	**0.86726 ppm**	86.726 %	**2.3 %**	51.036 cps
Al 396.152 {85} (Radial)	0.93721 ppm	93.721 %	0.7 %	295.192 cps
As 189.042 {478} (Axial)	1.88643 ppm	94.322 %	0.4 %	762.054 cps
As 193.759 {474} (Axial)	1.87147 ppm	93.574 %	0.3 %	730.499 cps
B 249.678 {135} (Radial)	0.92291 ppm	92.291 %	0.9 %	141.323 cps
Ba 455.403 {74} (Radial)	0.92464 ppm	92.464 %	0.5 %	15,695.833 cps
Be 313.042 {108} (Axial)	0.94316 ppm	94.316 %	0.5 %	252,495.342 cps
Ca 315.887 {107} (Radial)	0.98346 ppm	98.346 %	1.9 %	92.634 cps
Cd 226.502 {449} (Axial)	0.98257 ppm	98.257 %	0.3 %	9,201.305 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cd 214.438 {457} (Axial)	0.98934 ppm	98.934 %	0.5 %	9,777.472 cps
Co 228.616 {447} (Axial)	0.97678 ppm	97.678 %	0.4 %	5,289.899 cps
Cr 267.716 {126} (Axial)	0.96801 ppm	96.801 %	0.6 %	7,575.007 cps
Cu 324.754 {104} (Axial)	0.91639 ppm	91.639 %	0.4 %	14,119.546 cps
Cu 327.396 {103} (Axial)	0.91954 ppm	91.954 %	0.2 %	13,572.757 cps
Fe 259.940 {130} (Radial)	0.94446 ppm	94.446 %	1.3 %	207.132 cps
Fe 273.955 {123} (Radial)	0.94609 ppm	94.609 %	5.4 %	70.521 cps
K 766.490 {44} (Radial)	4.58840 ppm	91.768 %	0.1 %	1,955.118 cps
Li 670.784 {50} (Radial)	0.92478 ppm	92.478 %	0.7 %	13,705.665 cps
Mg 280.270 {120} (Radial)	0.96744 ppm	96.744 %	0.4 %	5,018.594 cps
Mg 279.079 {121} (Radial)	**0.87816 ppm**	87.816 %	**6.5 %**	20.996 cps
Mn 257.610 {131} (Axial)	0.93739 ppm	93.739 %	0.5 %	48,670.750 cps
Mo 202.030 {467} (Axial)	1.01290 ppm	101.290 %	0.3 %	2,393.084 cps
Mo 204.598 {465} (Axial)	0.99902 ppm	99.902 %	0.4 %	1,514.966 cps
Na 589.592 {57} (Radial)	0.94439 ppm	94.439 %	0.2 %	1,665.524 cps
Ni 231.604 {445} (Axial)	1.02116 ppm	102.116 %	0.3 %	3,143.913 cps
P 177.495 {490} (Axial)	4.82843 ppm	96.569 %	0.5 %	1,736.690 cps
Pb 220.353 {453} (Axial)	1.96823 ppm	98.412 %	0.4 %	1,655.837 cps
Sb 206.833 {463} (Axial)	1.95092 ppm	97.546 %	0.4 %	1,271.142 cps
Se 196.090 {472} (Axial)	0.92258 ppm	92.258 %	0.3 %	293.591 cps
Si 251.611 {134} (Axial)	4.75063 ppm	95.013 %	0.4 %	7,575.772 cps
Sn 189.989 {477} (Axial)	5.05051 ppm	101.010 %	0.2 %	5,050.430 cps
Sr 407.771 {83} (Radial)	0.91660 ppm	91.660 %	0.4 %	27,747.129 cps
Sr 421.552 {80} (Axial)	0.91874 ppm	91.874 %	0.1 %	882,013.307 cps
Ti 334.941 {101} (Axial)	0.96195 ppm	96.195 %	0.5 %	36,949.113 cps
Ti 336.121 {100} (Axial)	0.95502 ppm	95.502 %	0.4 %	35,807.822 cps
Tl 190.856 {477} (Axial)	4.91716 ppm	98.343 %	0.2 %	2,555.417 cps
V 292.402 {115} (Axial)	0.92037 ppm	92.037 %	0.6 %	10,065.826 cps
Zn 213.856 {458} (Axial)	0.98886 ppm	98.886 %	0.4 %	6,079.976 cps
Y 371.030 {91} (Radial)	103.15253 %		0.6 %	9,865.063 cps
Y 360.073 {94} (Radial)	104.04586 %		0.5 %	3,645.278 cps
Y 224.306 {450} (Axial)	105.05074 %		0.3 %	14,416.892 cps

HiLCM

Sample type: QC Analysis started at: 12/18/2019 7:13:07 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00081 ppm	0.000 %	50.8 %	-20.744 cps
Ag 338.289 {100} (Axial)	0.00476 ppm	0.000 %	16.5 %	65.617 cps
Al 308.215 {109} (Radial)	94.12812 ppm	94.128 %	0.4 %	5,054.903 cps
Al 396.152 {85} (Radial)	95.17141 ppm	95.171 %	0.0 %	27,396.230 cps
As 189.042 {478} (Axial)	0.00076 ppm	0.000 %	93.7 %	-0.379 cps
As 193.759 {474} (Axial)	-0.00728 ppm	0.000 %	41.4 %	-8.618 cps
B 249.678 {135} (Radial)	0.00099 ppm	0.000 %	1,417.0 %	-3.401 cps
Ba 455.403 {74} (Radial)	0.00016 ppm	0.000 %	168.8 %	55.456 cps
Be 313.042 {108} (Axial)	0.00022 ppm	0.000 %	7.7 %	23.617 cps
Ca 315.887 {107} (Radial)	94.25889 ppm	94.259 %	1.0 %	8,357.493 cps
Cd 226.502 {449} (Axial)	-0.00105 ppm	0.000 %	53.2 %	138.671 cps
Cd 214.438 {457} (Axial)	0.00031 ppm	0.000 %	114.5 %	86.972 cps
Co 228.616 {447} (Axial)	0.00439 ppm	0.000 %	3.6 %	23.379 cps
Cr 267.716 {126} (Axial)	0.00200 ppm	0.000 %	11.8 %	7.112 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cu 324.754 {104} (Axial)	-0.00046 ppm	0.000 %	27.8 %	92.067 cps
Cu 327.396 {103} (Axial)	0.00081 ppm	0.000 %	61.2 %	57.883 cps
Fe 259.940 {130} (Radial)	90.75974 ppm	90.760 %	0.2 %	19,263.423 cps
Fe 273.955 {123} (Radial)	92.58868 ppm	92.589 %	0.5 %	6,611.264 cps
K 766.490 {44} (Radial)	96.26713 ppm	96.267 %	0.3 %	40,275.136 cps
Li 670.784 {50} (Radial)	0.00122 ppm	0.000 %	18.8 %	40.344 cps
Mg 280.270 {120} (Radial)	**53.35725 ppm**	88.929 %	**0.4 %**	268,384.561 cps
Mg 279.079 {121} (Radial)	55.87940 ppm	93.132 %	0.3 %	1,310.141 cps
Mn 257.610 {131} (Axial)	0.00187 ppm	0.000 %	4.5 %	99.617 cps
Mo 202.030 {467} (Axial)	-0.00026 ppm	0.000 %	49.9 %	0.601 cps
Mo 204.598 {465} (Axial)	0.00099 ppm	0.000 %	78.0 %	5.938 cps
Na 589.592 {57} (Radial)	95.56047 ppm	95.560 %	0.1 %	162,954.168 cps
Ni 231.604 {445} (Axial)	0.00373 ppm	0.000 %	9.8 %	8.201 cps
P 177.495 {490} (Axial)	0.00408 ppm	0.000 %	49.4 %	1.949 cps
Pb 220.353 {453} (Axial)	-0.00238 ppm	0.000 %	112.1 %	-6.779 cps
Sb 206.833 {463} (Axial)	-0.00436 ppm	0.000 %	51.8 %	-2.162 cps
Se 196.090 {472} (Axial)	0.00044 ppm	0.000 %	645.4 %	-2.682 cps
Si 251.611 {134} (Axial)	0.00315 ppm	0.000 %	71.4 %	100.613 cps
Sn 189.989 {477} (Axial)	0.00263 ppm	0.000 %	5.8 %	2.564 cps
Sr 407.771 {83} (Radial)	0.00125 ppm	0.000 %	10.0 %	40.270 cps
Sr 421.552 {80} (Axial)	0.00112 ppm	0.000 %	3.9 %	1,093.972 cps
Ti 334.941 {101} (Axial)	0.00080 ppm	0.000 %	12.9 %	25.450 cps
Ti 336.121 {100} (Axial)	-0.00043 ppm	0.000 %	14.0 %	55.517 cps
Tl 190.856 {477} (Axial)	-0.00062 ppm	0.000 %	182.5 %	-0.905 cps
V 292.402 {115} (Axial)	0.00157 ppm	0.000 %	3.5 %	25.450 cps
Zn 213.856 {458} (Axial)	0.00623 ppm	0.000 %	8.3 %	105.700 cps
Y 371.030 {91} (Radial)	100.38946 %		0.2 %	9,600.814 cps
Y 360.073 {94} (Radial)	101.12651 %		0.6 %	3,542.998 cps
Y 224.306 {450} (Axial)	97.83364 %		0.4 %	13,426.436 cps

LCM2

Sample type: QC Analysis started at: 12/18/2019 7:15:58 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04531 ppm	90.627 %	0.9 %	476.344 cps
Ag 338.289 {100} (Axial)	**0.04412 ppm**	88.235 %	**2.0 %**	299.750 cps
Al 308.215 {109} (Radial)	-0.04315 ppm	0.000 %	11.7 %	1.039 cps
Al 396.152 {85} (Radial)	0.00082 ppm	0.000 %	340.8 %	9.072 cps
As 189.042 {478} (Axial)	0.00131 ppm	0.000 %	66.5 %	-0.179 cps
As 193.759 {474} (Axial)	-0.00107 ppm	0.000 %	96.6 %	0.142 cps
B 249.678 {135} (Radial)	0.00632 ppm	0.000 %	29.1 %	0.589 cps
Ba 455.403 {74} (Radial)	-0.00017 ppm	0.000 %	126.7 %	51.256 cps
Be 313.042 {108} (Axial)	0.00000 ppm	0.000 %	694.2 %	-32.917 cps
Ca 315.887 {107} (Radial)	0.05685 ppm	0.000 %	48.1 %	7.483 cps
Cd 226.502 {449} (Axial)	-0.00002 ppm	0.000 %	270.4 %	-0.043 cps
Cd 214.438 {457} (Axial)	0.00006 ppm	0.000 %	207.0 %	4.676 cps
Co 228.616 {447} (Axial)	-0.00004 ppm	0.000 %	559.5 %	1.145 cps
Cr 267.716 {126} (Axial)	-0.00023 ppm	0.000 %	110.3 %	0.367 cps
Cu 324.754 {104} (Axial)	-0.00017 ppm	0.000 %	94.8 %	192.056 cps
Cu 327.396 {103} (Axial)	0.00036 ppm	0.000 %	85.7 %	54.583 cps
Fe 259.940 {130} (Radial)	0.01970 ppm	0.000 %	62.4 %	5.190 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Fe 273.955 {123} (Radial)	0.01866 ppm	0.000 %	36.1 %	2.650 cps
K 766.490 {44} (Radial)	0.07027 ppm	0.000 %	27.4 %	11.960 cps
Li 670.784 {50} (Radial)	-0.00086 ppm	0.000 %	73.5 %	10.657 cps
Mg 280.270 {120} (Radial)	0.01809 ppm	0.000 %	64.6 %	105.467 cps
Mg 279.079 {121} (Radial)	0.02278 ppm	0.000 %	296.6 %	0.350 cps
Mn 257.610 {131} (Axial)	0.00002 ppm	0.000 %	286.3 %	10.917 cps
Mo 202.030 {467} (Axial)	0.00012 ppm	0.000 %	119.4 %	1.507 cps
Mo 204.598 {465} (Axial)	0.00021 ppm	0.000 %	159.7 %	0.388 cps
Na 589.592 {57} (Radial)	0.05354 ppm	0.000 %	18.4 %	104.451 cps
Ni 231.604 {445} (Axial)	0.00001 ppm	0.000 %	6,071.4 %	-2.604 cps
P 177.495 {490} (Axial)	-0.00013 ppm	0.000 %	982.1 %	0.566 cps
Pb 220.353 {453} (Axial)	-0.00045 ppm	0.000 %	161.8 %	2.304 cps
Sb 206.833 {463} (Axial)	0.00173 ppm	0.000 %	36.1 %	0.400 cps
Se 196.090 {472} (Axial)	0.00078 ppm	0.000 %	368.5 %	-0.863 cps
Si 251.611 {134} (Axial)	0.06323 ppm	0.000 %	64.4 %	198.350 cps
Sn 189.989 {477} (Axial)	0.00029 ppm	0.000 %	146.7 %	0.408 cps
Sr 407.771 {83} (Radial)	0.00007 ppm	0.000 %	99.1 %	5.608 cps
Sr 421.552 {80} (Axial)	0.00005 ppm	0.000 %	36.3 %	148.035 cps
Ti 334.941 {101} (Axial)	-0.00015 ppm	0.000 %	29.7 %	16.083 cps
Ti 336.121 {100} (Axial)	-0.00006 ppm	0.000 %	135.1 %	184.261 cps
Tl 190.856 {477} (Axial)	0.00049 ppm	0.000 %	94.1 %	-0.387 cps
V 292.402 {115} (Axial)	-0.00014 ppm	0.000 %	91.8 %	8.450 cps
Zn 213.856 {458} (Axial)	0.00061 ppm	0.000 %	10.6 %	11.222 cps
Y 371.030 {91} (Radial)	102.89512 %		0.5 %	9,840.444 cps
Y 360.073 {94} (Radial)	103.69334 %		0.3 %	3,632.928 cps
Y 224.306 {450} (Axial)	103.02305 %		0.4 %	14,138.617 cps

wash

Sample type: UNKNOWN Analysis started at: 12/18/2019 7:18:50 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00001 ppm	1,331.7 %	-13.144 cps
Ag 338.289 {100} (Axial)	0.00007 ppm	885.7 %	16.367 cps
Al 308.215 {109} (Radial)	-0.02161 ppm	158.5 %	2.164 cps
Al 396.152 {85} (Radial)	0.01227 ppm	81.1 %	12.139 cps
As 189.042 {478} (Axial)	0.00058 ppm	325.2 %	-0.471 cps
As 193.759 {474} (Axial)	-0.00095 ppm	166.4 %	0.187 cps
B 249.678 {135} (Radial)	0.01452 ppm	19.6 %	1.794 cps
Ba 455.403 {74} (Radial)	0.00005 ppm	673.2 %	53.656 cps
Be 313.042 {108} (Axial)	0.00002 ppm	180.1 %	-28.750 cps
Ca 315.887 {107} (Radial)	0.03376 ppm	52.6 %	5.233 cps
Cd 226.502 {449} (Axial)	0.00003 ppm	442.7 %	0.373 cps
Cd 214.438 {457} (Axial)	0.00007 ppm	230.0 %	4.848 cps
Co 228.616 {447} (Axial)	-0.00013 ppm	148.0 %	0.689 cps
Cr 267.716 {126} (Axial)	-0.00002 ppm	959.3 %	2.028 cps
Cu 324.754 {104} (Axial)	-0.00042 ppm	44.7 %	188.272 cps
Cu 327.396 {103} (Axial)	-0.00028 ppm	70.8 %	45.283 cps
Fe 259.940 {130} (Radial)	0.01466 ppm	22.7 %	3.976 cps
Fe 273.955 {123} (Radial)	0.00837 ppm	363.8 %	1.850 cps
K 766.490 {44} (Radial)	0.04229 ppm	33.3 %	-0.017 cps
Li 670.784 {50} (Radial)	-0.00063 ppm	27.5 %	13.760 cps

	Concentration average	Concentration RSD	Raw Intensity average
Mg 280.270 {120} (Radial)	0.01184 ppm	35.9 %	71.150 cps
Mg 279.079 {121} (Radial)	-0.05859 ppm	65.4 %	-1.567 cps
Mn 257.610 {131} (Axial)	0.00002 ppm	175.1 %	10.867 cps
Mo 202.030 {467} (Axial)	0.00003 ppm	946.9 %	1.311 cps
Mo 204.598 {465} (Axial)	-0.00018 ppm	53.2 %	-0.194 cps
Na 589.592 {57} (Radial)	0.03397 ppm	19.0 %	68.488 cps
Ni 231.604 {445} (Axial)	0.00003 ppm	1,227.3 %	-2.531 cps
P 177.495 {490} (Axial)	0.00113 ppm	188.2 %	1.009 cps
Pb 220.353 {453} (Axial)	0.00001 ppm	11,986.8 %	2.672 cps
Sb 206.833 {463} (Axial)	0.00043 ppm	451.6 %	-0.423 cps
Se 196.090 {472} (Axial)	0.00128 ppm	139.1 %	-0.704 cps
Si 251.611 {134} (Axial)	0.00152 ppm	201.3 %	103.274 cps
Sn 189.989 {477} (Axial)	0.00017 ppm	306.1 %	0.286 cps
Sr 407.771 {83} (Radial)	0.00004 ppm	120.6 %	4.750 cps
Sr 421.552 {80} (Axial)	0.00001 ppm	380.5 %	113.814 cps
Ti 334.941 {101} (Axial)	-0.00019 ppm	21.1 %	14.383 cps
Ti 336.121 {100} (Axial)	-0.00013 ppm	71.7 %	181.428 cps
Tl 190.856 {477} (Axial)	0.00034 ppm	250.0 %	-0.465 cps
V 292.402 {115} (Axial)	-0.00001 ppm	1,736.5 %	9.833 cps
Zn 213.856 {458} (Axial)	-0.00007 ppm	170.3 %	7.159 cps
Y 371.030 {91} (Radial)	100.30335 %	0.4 %	9,592.579 cps
Y 360.073 {94} (Radial)	100.83804 %	0.5 %	3,532.892 cps
Y 224.306 {450} (Axial)	102.96126 %	0.4 %	14,130.137 cps

B19L022-BLK2

Sample type: QC Analysis started at: 12/18/2019 7:21:47 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00006 ppm	2.675 %	641.1 %	-12.489 cps
Ag 338.289 {100} (Axial)	-0.00088 ppm	-6.785 %	47.3 %	10.350 cps
Al 308.215 {109} (Radial)	-0.04651 ppm	-16.037 %	90.3 %	0.822 cps
Al 396.152 {85} (Radial)	0.00464 ppm	4.989 %	263.1 %	9.928 cps
As 189.042 {478} (Axial)	0.00083 ppm	16.006 %	164.7 %	-0.374 cps
As 193.759 {474} (Axial)	-0.00183 ppm	-20.350 %	39.8 %	-0.148 cps
B 249.678 {135} (Radial)	0.01161 ppm	89.276 %	62.4 %	1.356 cps
Ba 455.403 {74} (Radial)	-0.00004 ppm	-5.139 %	325.0 %	52.044 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	-3.015 %	56.7 %	-38.567 cps
Ca 315.887 {107} (Radial)	0.03049 ppm	13.857 %	97.1 %	4.933 cps
Cd 226.502 {449} (Axial)	-0.00002 ppm	-4.041 %	272.5 %	-0.068 cps
Cd 214.438 {457} (Axial)	0.00011 ppm	40.865 %	137.4 %	5.288 cps
Co 228.616 {447} (Axial)	0.00010 ppm	15.771 %	117.6 %	1.916 cps
Cr 267.716 {126} (Axial)	-0.00020 ppm	-20.262 %	95.0 %	0.608 cps
Cu 324.754 {104} (Axial)	-0.00081 ppm	-23.147 %	19.3 %	184.672 cps
Cu 327.396 {103} (Axial)	-0.00025 ppm	-5.896 %	102.5 %	46.200 cps
Fe 259.940 {130} (Radial)	0.00302 ppm	15.906 %	260.8 %	1.517 cps
Fe 273.955 {123} (Radial)	-0.00536 ppm	-25.525 %	84.0 %	0.867 cps
K 766.490 {44} (Radial)	0.00640 ppm	6.399 %	292.5 %	-15.012 cps
Li 670.784 {50} (Radial)	-0.00066 ppm	-20.606 %	79.2 %	13.256 cps
Mg 280.270 {120} (Radial)	0.00576 ppm	28.802 %	64.5 %	40.583 cps
Mg 279.079 {121} (Radial)	-0.04920 ppm	-4.920 %	155.5 %	-1.350 cps
Mn 257.610 {131} (Axial)	0.00001 ppm	0.164 %	622.7 %	10.150 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mo 202.030 {467} (Axial)	-0.00007 ppm	-2.710 %	128.9 %	1.100 cps
Mo 204.598 {465} (Axial)	-0.00002 ppm	-1.207 %	1,691.4 %	0.043 cps
Na 589.592 {57} (Radial)	0.01779 ppm	12.707 %	64.3 %	40.871 cps
Ni 231.604 {445} (Axial)	0.00007 ppm	1.748 %	336.0 %	-2.456 cps
P 177.495 {490} (Axial)	-0.00041 ppm	-1.256 %	174.3 %	0.471 cps
Pb 220.353 {453} (Axial)	0.00149 ppm	31.703 %	51.8 %	3.942 cps
Sb 206.833 {463} (Axial)	0.00085 ppm	10.676 %	165.8 %	-0.156 cps
Se 196.090 {472} (Axial)	0.00123 ppm	6.851 %	114.2 %	-0.727 cps
Si 251.611 {134} (Axial)	0.04327 ppm	49.739 %	0.9 %	169.415 cps
Sn 189.989 {477} (Axial)	0.00053 ppm	17.137 %	86.6 %	0.651 cps
Sr 407.771 {83} (Radial)	-0.00007 ppm	-2.974 %	72.7 %	1.311 cps
Sr 421.552 {80} (Axial)	0.00004 ppm	1.407 %	13.4 %	134.472 cps
Ti 334.941 {101} (Axial)	-0.00036 ppm	-28.005 %	31.4 %	8.033 cps
Ti 336.121 {100} (Axial)	-0.00019 ppm	-13.659 %	45.5 %	181.367 cps
Tl 190.856 {477} (Axial)	0.00026 ppm	1.889 %	131.0 %	-0.511 cps
V 292.402 {115} (Axial)	0.00027 ppm	29.716 %	151.7 %	12.950 cps
Zn 213.856 {458} (Axial)	0.00028 ppm	4.137 %	9.4 %	9.358 cps
Y 371.030 {91} (Radial)	100.40690 %		0.8 %	9,602.482 cps
Y 360.073 {94} (Radial)	100.90714 %		0.9 %	3,535.313 cps
Y 224.306 {450} (Axial)	104.19367 %		0.1 %	14,299.269 cps

B19L022-MRL2

Sample type: QC Analysis started at: 12/18/2019 7:24:41 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00924 ppm	92.442 %	6.1 %	88.267 cps
Ag 338.289 {100} (Axial)	0.00843 ppm	84.294 %	5.3 %	72.350 cps
Al 308.215 {109} (Radial)	0.49362 ppm	98.724 %	5.2 %	30.143 cps
Al 396.152 {85} (Radial)	0.49801 ppm	99.601 %	2.0 %	154.422 cps
As 189.042 {478} (Axial)	0.03834 ppm	95.853 %	3.1 %	14.750 cps
As 193.759 {474} (Axial)	0.03795 ppm	94.864 %	1.0 %	15.287 cps
B 249.678 {135} (Radial)	0.05779 ppm	115.588 %	4.0 %	8.344 cps
Ba 455.403 {74} (Radial)	0.00293 ppm	97.556 %	6.1 %	102.572 cps
Be 313.042 {108} (Axial)	0.00195 ppm	97.280 %	1.7 %	485.800 cps
Ca 315.887 {107} (Radial)	0.51412 ppm	102.824 %	3.8 %	48.350 cps
Cd 226.502 {449} (Axial)	0.00195 ppm	97.679 %	3.8 %	18.496 cps
Cd 214.438 {457} (Axial)	0.00199 ppm	99.654 %	0.7 %	23.937 cps
Co 228.616 {447} (Axial)	0.00605 ppm	100.826 %	1.1 %	34.048 cps
Cr 267.716 {126} (Axial)	0.00496 ppm	99.150 %	6.4 %	40.860 cps
Cu 324.754 {104} (Axial)	0.01862 ppm	93.108 %	1.7 %	480.006 cps
Cu 327.396 {103} (Axial)	0.01928 ppm	96.397 %	1.9 %	332.933 cps
Fe 259.940 {130} (Radial)	0.07968 ppm	99.597 %	4.7 %	17.975 cps
Fe 273.955 {123} (Radial)	0.08595 ppm	107.434 %	37.8 %	7.467 cps
K 766.490 {44} (Radial)	0.77467 ppm	96.834 %	0.5 %	311.356 cps
Li 670.784 {50} (Radial)	0.02333 ppm	93.303 %	1.5 %	364.321 cps
Mg 280.270 {120} (Radial)	0.20673 ppm	103.364 %	2.6 %	1,062.917 cps
Mg 279.079 {121} (Radial)	0.19187 ppm	95.934 %	14.9 %	4.350 cps
Mn 257.610 {131} (Axial)	0.00804 ppm	100.456 %	0.7 %	425.933 cps
Mo 202.030 {467} (Axial)	0.01232 ppm	102.694 %	4.5 %	30.279 cps
Mo 204.598 {465} (Axial)	0.01214 ppm	101.161 %	3.6 %	18.459 cps
Na 589.592 {57} (Radial)	0.39816 ppm	99.541 %	0.9 %	700.404 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ni 231.604 {445} (Axial)	0.01262 ppm	105.142 %	3.0 %	36.116 cps
P 177.495 {490} (Axial)	0.20156 ppm	100.779 %	2.9 %	72.873 cps
Pb 220.353 {453} (Axial)	0.03103 ppm	103.448 %	2.5 %	28.652 cps
Sb 206.833 {463} (Axial)	0.02062 ppm	103.118 %	4.3 %	12.669 cps
Se 196.090 {472} (Axial)	0.05084 ppm	101.678 %	4.0 %	15.068 cps
Si 251.611 {134} (Axial)	**0.29009 ppm**	145.047 %	**1.0 %**	556.454 cps
Sn 189.989 {477} (Axial)	0.02072 ppm	103.599 %	2.5 %	20.787 cps
Sr 407.771 {83} (Radial)	0.00303 ppm	100.988 %	5.2 %	94.210 cps
Sr 421.552 {80} (Axial)	0.00314 ppm	104.694 %	0.6 %	3,108.247 cps
Ti 334.941 {101} (Axial)	0.00566 ppm	94.329 %	1.6 %	238.567 cps
Ti 336.121 {100} (Axial)	0.00575 ppm	95.833 %	2.6 %	402.800 cps
Tl 190.856 {477} (Axial)	0.06225 ppm	103.746 %	3.6 %	31.635 cps
V 292.402 {115} (Axial)	0.00498 ppm	99.543 %	2.1 %	64.317 cps
Zn 213.856 {458} (Axial)	0.03130 ppm	104.325 %	2.5 %	198.725 cps
Y 371.030 {91} (Radial)	101.97458 %		0.6 %	9,752.408 cps
Y 360.073 {94} (Radial)	102.22367 %		0.6 %	3,581.438 cps
Y 224.306 {450} (Axial)	104.76648 %		0.3 %	14,377.880 cps

B19L022-BS2

Sample type: QC Analysis started at: 12/18/2019 7:27:34 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.02157 ppm	86.271 %	1.2 %	212.013 cps
Ag 338.289 {100} (Axial)	0.02547 ppm	101.891 %	1.4 %	198.402 cps
Al 308.215 {109} (Radial)	0.97469 ppm	97.469 %	4.3 %	55.640 cps
Al 396.152 {85} (Radial)	0.96852 ppm	96.852 %	1.2 %	291.851 cps
As 189.042 {478} (Axial)	0.19875 ppm	99.373 %	0.9 %	75.206 cps
As 193.759 {474} (Axial)	0.19685 ppm	98.423 %	0.8 %	72.964 cps
B 249.678 {135} (Radial)	0.94270 ppm	94.270 %	0.9 %	140.374 cps
Ba 455.403 {74} (Radial)	0.19660 ppm	98.298 %	0.5 %	3,307.253 cps
Be 313.042 {108} (Axial)	0.00994 ppm	99.411 %	0.1 %	2,485.974 cps
Ca 315.887 {107} (Radial)	47.99476 ppm	95.990 %	0.2 %	4,258.702 cps
Cd 226.502 {449} (Axial)	0.04970 ppm	99.400 %	1.8 %	441.064 cps
Cd 214.438 {457} (Axial)	0.05035 ppm	100.698 %	1.4 %	474.185 cps
Co 228.616 {447} (Axial)	0.09662 ppm	96.620 %	1.5 %	495.314 cps
Cr 267.716 {126} (Axial)	0.09775 ppm	97.752 %	0.9 %	724.178 cps
Cu 324.754 {104} (Axial)	0.09597 ppm	95.972 %	0.7 %	1,563.253 cps
Cu 327.396 {103} (Axial)	0.09651 ppm	96.510 %	0.7 %	1,387.603 cps
Fe 259.940 {130} (Radial)	0.96276 ppm	96.276 %	1.4 %	205.310 cps
Fe 273.955 {123} (Radial)	0.94678 ppm	94.678 %	1.2 %	68.849 cps
K 766.490 {44} (Radial)	23.65782 ppm	94.631 %	0.4 %	9,937.576 cps
Li 670.784 {50} (Radial)	0.09723 ppm	97.229 %	1.0 %	1,430.438 cps
Mg 280.270 {120} (Radial)	18.66334 ppm	93.317 %	0.6 %	93,924.674 cps
Mg 279.079 {121} (Radial)	18.87524 ppm	94.376 %	0.3 %	442.991 cps
Mn 257.610 {131} (Axial)	0.19449 ppm	97.245 %	0.0 %	9,542.517 cps
Mo 202.030 {467} (Axial)	0.10250 ppm	102.500 %	1.9 %	229.736 cps
Mo 204.598 {465} (Axial)	0.10056 ppm	100.559 %	1.8 %	144.098 cps
Na 589.592 {57} (Radial)	47.38592 ppm	94.772 %	0.3 %	81,245.913 cps
Ni 231.604 {445} (Axial)	0.20155 ppm	100.775 %	1.7 %	583.784 cps
P 177.495 {490} (Axial)	1.07021 ppm	107.021 %	1.3 %	363.871 cps
Pb 220.353 {453} (Axial)	0.48871 ppm	97.741 %	1.3 %	390.048 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Sb 206.833 {463} (Axial)	0.49229 ppm	98.458 %	1.2 %	301.568 cps
Se 196.090 {472} (Axial)	0.49649 ppm	99.299 %	0.6 %	148.650 cps
Si 251.611 {134} (Axial)	9.79823 ppm	97.982 %	0.4 %	14,599.493 cps
Sn 189.989 {477} (Axial)	0.49963 ppm	99.927 %	1.9 %	471.873 cps
Sr 407.771 {83} (Radial)	0.93867 ppm	93.867 %	0.2 %	27,803.676 cps
Sr 421.552 {80} (Axial)	0.93365 ppm	93.365 %	0.6 %	846,335.343 cps
Ti 334.941 {101} (Axial)	0.10069 ppm	100.690 %	0.6 %	3,658.481 cps
Ti 336.121 {100} (Axial)	0.09867 ppm	98.673 %	0.1 %	3,600.028 cps
Tl 190.856 {477} (Axial)	0.47981 ppm	95.963 %	1.2 %	234.872 cps
V 292.402 {115} (Axial)	0.09767 ppm	97.671 %	0.5 %	1,016.838 cps
Zn 213.856 {458} (Axial)	1.00956 ppm	100.956 %	2.0 %	5,829.269 cps
Y 371.030 {91} (Radial)	100.93180 %		0.4 %	9,652.682 cps
Y 360.073 {94} (Radial)	101.17221 %		0.6 %	3,544.599 cps
Y 224.306 {450} (Axial)	99.19238 %		0.2 %	13,612.905 cps

1912011-35

Sample type: UNKNOWN Analysis started at: 12/18/2019 7:30:23 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00042 ppm	69.1 %	-16.819 cps
Ag 338.289 {100} (Axial)	0.00466 ppm	16.5 %	65.547 cps
Al 308.215 {109} (Radial)	-0.04767 ppm	43.3 %	0.765 cps
Al 396.152 {85} (Radial)	-0.01216 ppm	116.8 %	9.405 cps
As 189.042 {478} (Axial)	-0.00041 ppm	36.4 %	-0.823 cps
As 193.759 {474} (Axial)	0.00169 ppm	63.9 %	1.145 cps
B 249.678 {135} (Radial)	0.05761 ppm	8.0 %	8.210 cps
Ba 455.403 {74} (Radial)	0.03178 ppm	1.4 %	577.108 cps
Be 313.042 {108} (Axial)	-0.00006 ppm	17.6 %	-47.202 cps
Ca 315.887 {107} (Radial)	96.14666 ppm	0.6 %	8,505.409 cps
Cd 226.502 {449} (Axial)	-0.00009 ppm	166.9 %	-0.644 cps
Cd 214.438 {457} (Axial)	0.00006 ppm	202.9 %	4.458 cps
Co 228.616 {447} (Axial)	-0.00009 ppm	239.1 %	0.828 cps
Cr 267.716 {126} (Axial)	0.00034 ppm	58.0 %	4.540 cps
Cu 324.754 {104} (Axial)	0.11219 ppm	0.3 %	1,780.574 cps
Cu 327.396 {103} (Axial)	0.11260 ppm	0.8 %	1,596.487 cps
Fe 259.940 {130} (Radial)	0.00950 ppm	49.9 %	2.882 cps
Fe 273.955 {123} (Radial)	0.00200 ppm	1,127.5 %	1.396 cps
K 766.490 {44} (Radial)	1.06032 ppm	2.3 %	426.909 cps
Li 670.784 {50} (Radial)	0.00185 ppm	21.6 %	49.576 cps
Mg 280.270 {120} (Radial)	43.41548 ppm	0.4 %	217,878.159 cps
Mg 279.079 {121} (Radial)	45.45169 ppm	1.2 %	1,064.065 cps
Mn 257.610 {131} (Axial)	0.00031 ppm	9.3 %	24.415 cps
Mo 202.030 {467} (Axial)	0.00041 ppm	7.1 %	2.077 cps
Mo 204.598 {465} (Axial)	-0.00008 ppm	223.2 %	-0.046 cps
Na 589.592 {57} (Radial)	24.31383 ppm	0.1 %	41,549.561 cps
Ni 231.604 {445} (Axial)	0.00084 ppm	20.9 %	-0.082 cps
P 177.495 {490} (Axial)	0.00818 ppm	15.6 %	3.376 cps
Pb 220.353 {453} (Axial)	0.00976 ppm	10.4 %	10.240 cps
Sb 206.833 {463} (Axial)	0.00032 ppm	286.5 %	-0.469 cps
Se 196.090 {472} (Axial)	-0.00052 ppm	265.3 %	-1.220 cps
Si 251.611 {134} (Axial)	18.45635 ppm	0.7 %	27,162.174 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sn 189.989 {477} (Axial)	0.00026 ppm	180.6 %	0.356 cps
Sr 407.771 {83} (Radial)	0.07494 ppm	0.1 %	2,215.232 cps
Sr 421.552 {80} (Axial)	0.07432 ppm	0.4 %	66,853.088 cps
Ti 334.941 {101} (Axial)	0.00053 ppm	2.8 %	15.633 cps
Ti 336.121 {100} (Axial)	-0.00046 ppm	34.4 %	53.315 cps
Tl 190.856 {477} (Axial)	0.00000 ppm	15,486.2 %	-0.615 cps
V 292.402 {115} (Axial)	0.00056 ppm	75.2 %	15.249 cps
Zn 213.856 {458} (Axial)	0.03322 ppm	2.5 %	198.133 cps
Y 371.030 {91} (Radial)	100.58471 %	0.4 %	9,619.488 cps
Y 360.073 {94} (Radial)	100.89419 %	0.6 %	3,534.859 cps
Y 224.306 {450} (Axial)	98.29912 %	0.3 %	13,490.317 cps

1912011-35 dil

Sample type: UNKNOWN Analysis started at: 12/18/2019 7:33:11 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00031 ppm	141.2 %	-16.333 cps
Ag 338.289 {100} (Axial)	0.00324 ppm	1.7 %	41.351 cps
Al 308.215 {109} (Radial)	-0.01701 ppm	95.6 %	2.415 cps
Al 396.152 {85} (Radial)	-0.01432 ppm	77.2 %	5.427 cps
As 189.042 {478} (Axial)	-0.00006 ppm	2,948.0 %	-0.720 cps
As 193.759 {474} (Axial)	-0.00081 ppm	319.2 %	0.240 cps
B 249.678 {135} (Radial)	0.01435 ppm	40.2 %	1.773 cps
Ba 455.403 {74} (Radial)	0.00646 ppm	2.8 %	159.702 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	23.7 %	-37.346 cps
Ca 315.887 {107} (Radial)	20.53481 ppm	0.3 %	1,821.567 cps
Cd 226.502 {449} (Axial)	-0.00002 ppm	214.0 %	-0.073 cps
Cd 214.438 {457} (Axial)	0.00008 ppm	63.2 %	4.867 cps
Co 228.616 {447} (Axial)	-0.00001 ppm	677.5 %	1.317 cps
Cr 267.716 {126} (Axial)	-0.00003 ppm	1,382.8 %	1.935 cps
Cu 324.754 {104} (Axial)	0.02284 ppm	1.2 %	533.611 cps
Cu 327.396 {103} (Axial)	0.02320 ppm	1.8 %	382.944 cps
Fe 259.940 {130} (Radial)	0.00046 ppm	482.8 %	0.974 cps
Fe 273.955 {123} (Radial)	0.00883 ppm	98.3 %	1.879 cps
K 766.490 {44} (Radial)	0.21395 ppm	2.4 %	72.043 cps
Li 670.784 {50} (Radial)	-0.00033 ppm	198.1 %	18.009 cps
Mg 280.270 {120} (Radial)	9.38909 ppm	0.2 %	47,211.497 cps
Mg 279.079 {121} (Radial)	9.54496 ppm	0.6 %	223.699 cps
Mn 257.610 {131} (Axial)	0.00008 ppm	48.1 %	13.811 cps
Mo 202.030 {467} (Axial)	0.00011 ppm	225.1 %	1.490 cps
Mo 204.598 {465} (Axial)	0.00014 ppm	337.8 %	0.277 cps
Na 589.592 {57} (Radial)	5.01985 ppm	0.8 %	8,597.025 cps
Ni 231.604 {445} (Axial)	0.00023 ppm	127.7 %	-1.922 cps
P 177.495 {490} (Axial)	0.00075 ppm	109.1 %	0.881 cps
Pb 220.353 {453} (Axial)	0.00268 ppm	27.6 %	4.864 cps
Sb 206.833 {463} (Axial)	0.00030 ppm	389.8 %	-0.505 cps
Se 196.090 {472} (Axial)	0.00226 ppm	103.4 %	-0.397 cps
Si 251.611 {134} (Axial)	3.87055 ppm	0.2 %	6,034.388 cps
Sn 189.989 {477} (Axial)	-0.00007 ppm	282.6 %	0.053 cps
Sr 407.771 {83} (Radial)	0.01534 ppm	0.9 %	456.794 cps
Sr 421.552 {80} (Axial)	0.01551 ppm	0.4 %	14,663.029 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ti 334.941 {101} (Axial)	0.00019 ppm	108.0 %	23.749 cps
Ti 336.121 {100} (Axial)	-0.00017 ppm	15.6 %	156.390 cps
Tl 190.856 {477} (Axial)	0.00023 ppm	409.2 %	-0.522 cps
V 292.402 {115} (Axial)	0.00016 ppm	219.9 %	11.650 cps
Zn 213.856 {458} (Axial)	0.00741 ppm	2.3 %	52.064 cps
Y 371.030 {91} (Radial)	100.70604 %	0.3 %	9,631.091 cps
Y 360.073 {94} (Radial)	101.07191 %	0.3 %	3,541.085 cps
Y 224.306 {450} (Axial)	102.75867 %	0.2 %	14,102.334 cps

LCB

Sample type: QC Analysis started at: 12/18/2019 7:36:02 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00000 ppm	-0.115 %	12,337.8 %	-13.356 cps
Ag 338.289 {100} (Axial)	-0.00031 ppm	-2.392 %	119.2 %	14.217 cps
Al 308.215 {109} (Radial)	-0.01707 ppm	-5.885 %	177.4 %	2.414 cps
Al 396.152 {85} (Radial)	-0.00460 ppm	-4.944 %	149.2 %	7.317 cps
As 189.042 {478} (Axial)	-0.00090 ppm	-17.292 %	164.0 %	-1.078 cps
As 193.759 {474} (Axial)	-0.00066 ppm	-7.360 %	34.8 %	0.305 cps
B 249.678 {135} (Radial)	0.00590 ppm	45.395 %	144.3 %	0.511 cps
Ba 455.403 {74} (Radial)	-0.00028 ppm	-32.181 %	124.5 %	48.350 cps
Be 313.042 {108} (Axial)	-0.00004 ppm	-6.014 %	17.0 %	-43.867 cps
Ca 315.887 {107} (Radial)	0.00558 ppm	2.537 %	315.5 %	2.750 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	-5.693 %	416.6 %	-0.152 cps
Cd 214.438 {457} (Axial)	-0.00002 ppm	-7.945 %	385.5 %	3.992 cps
Co 228.616 {447} (Axial)	0.00011 ppm	16.606 %	189.2 %	1.967 cps
Cr 267.716 {126} (Axial)	-0.00030 ppm	-29.973 %	136.3 %	-0.151 cps
Cu 324.754 {104} (Axial)	-0.00059 ppm	-16.843 %	71.9 %	189.828 cps
Cu 327.396 {103} (Axial)	-0.00017 ppm	-3.917 %	263.7 %	47.917 cps
Fe 259.940 {130} (Radial)	0.00201 ppm	10.561 %	335.8 %	1.300 cps
Fe 273.955 {123} (Radial)	0.00863 ppm	41.111 %	161.6 %	1.867 cps
K 766.490 {44} (Radial)	0.02975 ppm	29.748 %	82.9 %	-5.293 cps
Li 670.784 {50} (Radial)	-0.00031 ppm	-9.807 %	54.0 %	18.321 cps
Mg 280.270 {120} (Radial)	0.00257 ppm	12.865 %	58.5 %	24.683 cps
Mg 279.079 {121} (Radial)	-0.09314 ppm	-9.314 %	89.8 %	-2.383 cps
Mn 257.610 {131} (Axial)	-0.00001 ppm	-0.284 %	171.7 %	9.367 cps
Mo 202.030 {467} (Axial)	-0.00001 ppm	-0.469 %	1,852.5 %	1.238 cps
Mo 204.598 {465} (Axial)	0.00020 ppm	11.267 %	12.1 %	0.386 cps
Na 589.592 {57} (Radial)	0.01391 ppm	9.933 %	59.3 %	34.425 cps
Ni 231.604 {445} (Axial)	0.00005 ppm	1.313 %	133.4 %	-2.530 cps
P 177.495 {490} (Axial)	-0.00048 ppm	-1.447 %	185.7 %	0.453 cps
Pb 220.353 {453} (Axial)	0.00016 ppm	3.382 %	1,168.3 %	2.858 cps
Sb 206.833 {463} (Axial)	-0.00015 ppm	-1.841 %	660.5 %	-0.809 cps
Se 196.090 {472} (Axial)	0.00198 ppm	10.981 %	27.0 %	-0.497 cps
Si 251.611 {134} (Axial)	0.00140 ppm	1.605 %	199.7 %	105.353 cps
Sn 189.989 {477} (Axial)	-0.00036 ppm	-11.695 %	86.9 %	-0.237 cps
Sr 407.771 {83} (Radial)	-0.00006 ppm	-2.414 %	349.1 %	1.711 cps
Sr 421.552 {80} (Axial)	-0.00001 ppm	-0.347 %	367.0 %	93.629 cps
Ti 334.941 {101} (Axial)	-0.00024 ppm	-18.191 %	60.9 %	13.033 cps
Ti 336.121 {100} (Axial)	-0.00030 ppm	-21.514 %	47.3 %	179.067 cps
Tl 190.856 {477} (Axial)	-0.00063 ppm	-4.503 %	303.1 %	-0.981 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
V 292.402 {115} (Axial)	0.00002 ppm	2.290 %	1,577.9 %	10.367 cps
Zn 213.856 {458} (Axial)	-0.00013 ppm	-1.936 %	28.9 %	6.928 cps
Y 371.030 {91} (Radial)	100.76737 %		0.3 %	9,636.956 cps
Y 360.073 {94} (Radial)	101.14067 %		0.3 %	3,543.494 cps
Y 224.306 {450} (Axial)	105.22087 %		0.2 %	14,440.239 cps

RLC

Sample type: QC Analysis started at: 12/18/2019 7:38:56 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00970 ppm	96.987 %	1.7 %	93.433 cps
Ag 338.289 {100} (Axial)	0.00912 ppm	91.194 %	2.2 %	76.983 cps
Al 308.215 {109} (Radial)	0.48332 ppm	96.663 %	12.1 %	29.764 cps
Al 396.152 {85} (Radial)	0.47965 ppm	95.930 %	1.2 %	149.400 cps
As 189.042 {478} (Axial)	0.03962 ppm	99.039 %	2.9 %	15.291 cps
As 193.759 {474} (Axial)	0.03590 ppm	89.740 %	2.2 %	14.515 cps
B 249.678 {135} (Radial)	0.04872 ppm	97.438 %	11.8 %	7.017 cps
Ba 455.403 {74} (Radial)	0.00264 ppm	88.058 %	8.7 %	98.017 cps
Be 313.042 {108} (Axial)	0.00193 ppm	96.390 %	0.8 %	481.900 cps
Ca 315.887 {107} (Radial)	0.49569 ppm	99.137 %	2.3 %	46.967 cps
Cd 226.502 {449} (Axial)	0.00194 ppm	96.797 %	3.6 %	18.355 cps
Cd 214.438 {457} (Axial)	0.00195 ppm	97.509 %	2.8 %	23.553 cps
Co 228.616 {447} (Axial)	0.00608 ppm	101.269 %	5.8 %	34.253 cps
Cr 267.716 {126} (Axial)	0.00483 ppm	96.694 %	6.7 %	39.975 cps
Cu 324.754 {104} (Axial)	0.01858 ppm	92.913 %	1.5 %	480.267 cps
Cu 327.396 {103} (Axial)	0.01917 ppm	95.865 %	0.8 %	331.933 cps
Fe 259.940 {130} (Radial)	0.07568 ppm	94.595 %	6.1 %	17.219 cps
Fe 273.955 {123} (Radial)	0.06308 ppm	78.846 %	27.7 %	5.850 cps
K 766.490 {44} (Radial)	0.76002 ppm	95.003 %	5.6 %	305.850 cps
Li 670.784 {50} (Radial)	0.02225 ppm	88.985 %	2.8 %	349.329 cps
Mg 280.270 {120} (Radial)	0.19834 ppm	99.169 %	0.3 %	1,026.067 cps
Mg 279.079 {121} (Radial)	**0.11250 ppm**	56.252 %	**14.0 %**	2.483 cps
Mn 257.610 {131} (Axial)	0.00817 ppm	102.140 %	0.7 %	433.667 cps
Mo 202.030 {467} (Axial)	0.01210 ppm	100.846 %	1.2 %	29.810 cps
Mo 204.598 {465} (Axial)	0.01189 ppm	99.068 %	4.4 %	18.109 cps
Na 589.592 {57} (Radial)	0.39560 ppm	98.900 %	0.2 %	697.554 cps
Ni 231.604 {445} (Axial)	0.01279 ppm	106.592 %	3.3 %	36.714 cps
P 177.495 {490} (Axial)	0.20230 ppm	101.150 %	1.2 %	73.265 cps
Pb 220.353 {453} (Axial)	0.03103 ppm	103.450 %	4.0 %	28.701 cps
Sb 206.833 {463} (Axial)	0.02067 ppm	103.372 %	3.1 %	12.723 cps
Se 196.090 {472} (Axial)	0.05288 ppm	105.754 %	2.4 %	15.744 cps
Si 251.611 {134} (Axial)	0.25214 ppm	126.072 %	0.6 %	497.997 cps
Sn 189.989 {477} (Axial)	0.01943 ppm	97.163 %	3.2 %	19.537 cps
Sr 407.771 {83} (Radial)	0.00293 ppm	97.687 %	2.2 %	91.446 cps
Sr 421.552 {80} (Axial)	0.00312 ppm	103.958 %	2.0 %	3,092.558 cps
Ti 334.941 {101} (Axial)	0.00561 ppm	93.539 %	2.2 %	237.167 cps
Ti 336.121 {100} (Axial)	0.00562 ppm	93.748 %	1.4 %	398.850 cps
Tl 190.856 {477} (Axial)	0.06227 ppm	103.782 %	1.6 %	31.701 cps
V 292.402 {115} (Axial)	0.00501 ppm	100.204 %	6.8 %	64.800 cps
Zn 213.856 {458} (Axial)	0.03090 ppm	103.012 %	2.7 %	196.673 cps
Y 371.030 {91} (Radial)	102.20620 %		0.4 %	9,774.560 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Y 360.073 {94} (Radial)	102.80182 %		0.5 %	3,601.693 cps
Y 224.306 {450} (Axial)	104.94773 %		0.2 %	14,402.754 cps

LCM1

Sample type: QC Analysis started at: 12/18/2019 7:41:48 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.12957 ppm	0.000 %	0.6 %	1,404.150 cps
Ag 338.289 {100} (Axial)	0.12718 ppm	0.000 %	0.3 %	990.757 cps
Al 308.215 {109} (Radial)	0.92649 ppm	92.649 %	2.9 %	53.417 cps
Al 396.152 {85} (Radial)	0.94820 ppm	94.820 %	0.9 %	296.100 cps
As 189.042 {478} (Axial)	1.90423 ppm	95.211 %	1.0 %	763.246 cps
As 193.759 {474} (Axial)	1.89281 ppm	94.641 %	0.5 %	733.058 cps
B 249.678 {135} (Radial)	0.94086 ppm	94.086 %	1.8 %	141.750 cps
Ba 455.403 {74} (Radial)	0.93440 ppm	93.440 %	0.2 %	15,732.569 cps
Be 313.042 {108} (Axial)	0.94868 ppm	94.868 %	0.1 %	251,995.371 cps
Ca 315.887 {107} (Radial)	0.97538 ppm	97.538 %	2.1 %	90.417 cps
Cd 226.502 {449} (Axial)	0.98762 ppm	98.762 %	0.6 %	9,176.419 cps
Cd 214.438 {457} (Axial)	0.99623 ppm	99.623 %	0.3 %	9,768.738 cps
Co 228.616 {447} (Axial)	0.98979 ppm	98.979 %	0.6 %	5,318.510 cps
Cr 267.716 {126} (Axial)	0.96989 ppm	96.989 %	0.1 %	7,530.671 cps
Cu 324.754 {104} (Axial)	0.93055 ppm	93.055 %	0.2 %	14,222.787 cps
Cu 327.396 {103} (Axial)	0.93329 ppm	93.329 %	0.5 %	13,667.449 cps
Fe 259.940 {130} (Radial)	0.96363 ppm	96.363 %	0.7 %	207.894 cps
Fe 273.955 {123} (Radial)	0.99373 ppm	99.373 %	2.4 %	72.822 cps
K 766.490 {44} (Radial)	4.62165 ppm	92.433 %	0.6 %	1,953.476 cps
Li 670.784 {50} (Radial)	0.93518 ppm	93.518 %	0.1 %	13,747.469 cps
Mg 280.270 {120} (Radial)	0.98038 ppm	98.038 %	0.3 %	5,003.122 cps
Mg 279.079 {121} (Radial)	0.94602 ppm	94.602 %	5.9 %	22.264 cps
Mn 257.610 {131} (Axial)	0.94656 ppm	94.656 %	0.2 %	48,763.744 cps
Mo 202.030 {467} (Axial)	1.02145 ppm	102.145 %	0.7 %	2,394.445 cps
Mo 204.598 {465} (Axial)	1.00866 ppm	100.866 %	0.7 %	1,517.653 cps
Na 589.592 {57} (Radial)	0.95183 ppm	95.183 %	1.2 %	1,664.973 cps
Ni 231.604 {445} (Axial)	1.02889 ppm	102.889 %	0.8 %	3,142.998 cps
P 177.495 {490} (Axial)	4.88934 ppm	97.787 %	0.4 %	1,744.861 cps
Pb 220.353 {453} (Axial)	1.99229 ppm	99.615 %	0.7 %	1,662.971 cps
Sb 206.833 {463} (Axial)	1.97635 ppm	98.817 %	0.9 %	1,277.614 cps
Se 196.090 {472} (Axial)	0.93736 ppm	93.736 %	0.5 %	295.986 cps
Si 251.611 {134} (Axial)	4.84543 ppm	96.909 %	0.2 %	7,664.411 cps
Sn 189.989 {477} (Axial)	5.11245 ppm	102.249 %	0.3 %	5,072.535 cps
Sr 407.771 {83} (Radial)	0.92863 ppm	92.863 %	0.1 %	27,883.652 cps
Sr 421.552 {80} (Axial)	0.93457 ppm	93.457 %	0.5 %	890,208.278 cps
Ti 334.941 {101} (Axial)	0.97296 ppm	97.296 %	0.2 %	37,080.512 cps
Ti 336.121 {100} (Axial)	0.96278 ppm	96.278 %	0.2 %	35,815.776 cps
Tl 190.856 {477} (Axial)	4.99184 ppm	99.837 %	0.8 %	2,574.021 cps
V 292.402 {115} (Axial)	0.93046 ppm	93.046 %	0.2 %	10,097.095 cps
Zn 213.856 {458} (Axial)	0.99923 ppm	99.923 %	0.6 %	6,095.634 cps
Y 371.030 {91} (Radial)	102.31606 %		0.4 %	9,785.066 cps
Y 360.073 {94} (Radial)	102.35913 %		0.3 %	3,586.183 cps
Y 224.306 {450} (Axial)	104.23153 %		0.2 %	14,304.465 cps

HiLCM

Sample type: QC Analysis started at: 12/18/2019 7:44:21 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00089 ppm	0.000 %	20.7 %	-21.233 cps
Ag 338.289 {100} (Axial)	0.00483 ppm	0.000 %	19.6 %	65.417 cps
Al 308.215 {109} (Radial)	95.60998 ppm	95.610 %	0.2 %	5,060.806 cps
Al 396.152 {85} (Radial)	96.66949 ppm	96.669 %	0.4 %	27,604.214 cps
As 189.042 {478} (Axial)	-0.00107 ppm	0.000 %	316.1 %	-1.053 cps
As 193.759 {474} (Axial)	-0.00761 ppm	0.000 %	52.5 %	-8.718 cps
B 249.678 {135} (Radial)	0.00032 ppm	0.000 %	768.1 %	-3.518 cps
Ba 455.403 {74} (Radial)	0.00016 ppm	0.000 %	226.5 %	55.011 cps
Be 313.042 {108} (Axial)	0.00019 ppm	0.000 %	9.6 %	15.833 cps
Ca 315.887 {107} (Radial)	95.70441 ppm	95.704 %	1.1 %	8,363.787 cps
Cd 226.502 {449} (Axial)	-0.00074 ppm	0.000 %	48.1 %	142.357 cps
Cd 214.438 {457} (Axial)	0.00047 ppm	0.000 %	65.3 %	88.731 cps
Co 228.616 {447} (Axial)	0.00441 ppm	0.000 %	3.1 %	23.188 cps
Cr 267.716 {126} (Axial)	0.00148 ppm	0.000 %	23.9 %	3.025 cps
Cu 324.754 {104} (Axial)	0.00008 ppm	0.000 %	294.2 %	96.700 cps
Cu 327.396 {103} (Axial)	0.00085 ppm	0.000 %	20.1 %	57.783 cps
Fe 259.940 {130} (Radial)	92.61991 ppm	92.620 %	0.6 %	19,375.832 cps
Fe 273.955 {123} (Radial)	94.61859 ppm	94.619 %	0.1 %	6,659.431 cps
K 766.490 {44} (Radial)	98.08183 ppm	98.082 %	0.2 %	40,705.894 cps
Li 670.784 {50} (Radial)	0.00072 ppm	0.000 %	138.7 %	32.844 cps
Mg 280.270 {120} (Radial)	54.20894 ppm	90.348 %	1.0 %	268,748.282 cps
Mg 279.079 {121} (Radial)	57.44378 ppm	95.740 %	0.3 %	1,327.543 cps
Mn 257.610 {131} (Axial)	0.00183 ppm	0.000 %	4.1 %	96.267 cps
Mo 202.030 {467} (Axial)	-0.00015 ppm	0.000 %	159.8 %	0.835 cps
Mo 204.598 {465} (Axial)	0.00105 ppm	0.000 %	100.6 %	6.008 cps
Na 589.592 {57} (Radial)	97.36457 ppm	97.365 %	0.3 %	164,699.723 cps
Ni 231.604 {445} (Axial)	0.00373 ppm	0.000 %	18.5 %	8.092 cps
P 177.495 {490} (Axial)	0.00480 ppm	0.000 %	12.7 %	2.160 cps
Pb 220.353 {453} (Axial)	-0.00106 ppm	0.000 %	202.3 %	-5.751 cps
Sb 206.833 {463} (Axial)	-0.00529 ppm	0.000 %	31.7 %	-2.667 cps
Se 196.090 {472} (Axial)	0.00571 ppm	0.000 %	4.3 %	-1.138 cps
Si 251.611 {134} (Axial)	0.00424 ppm	0.000 %	28.5 %	100.894 cps
Sn 189.989 {477} (Axial)	0.00204 ppm	0.000 %	14.9 %	1.991 cps
Sr 407.771 {83} (Radial)	0.00115 ppm	0.000 %	11.4 %	37.008 cps
Sr 421.552 {80} (Axial)	0.00108 ppm	0.000 %	1.9 %	1,050.736 cps
Ti 334.941 {101} (Axial)	0.00061 ppm	0.000 %	3.9 %	18.233 cps
Ti 336.121 {100} (Axial)	-0.00043 ppm	0.000 %	31.3 %	53.217 cps
Tl 190.856 {477} (Axial)	-0.00040 ppm	0.000 %	546.1 %	-0.792 cps
V 292.402 {115} (Axial)	0.00143 ppm	0.000 %	24.3 %	23.683 cps
Zn 213.856 {458} (Axial)	0.00634 ppm	0.000 %	8.2 %	106.170 cps
Y 371.030 {91} (Radial)	99.58611 %		0.7 %	9,523.985 cps
Y 360.073 {94} (Radial)	99.67679 %		0.9 %	3,492.207 cps
Y 224.306 {450} (Axial)	96.57251 %		0.2 %	13,253.360 cps

LCM2

Sample type: QC Analysis started at: 12/18/2019 7:47:11 PM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04509 ppm	90.186 %	0.8 %	484.311 cps
Ag 338.289 {100} (Axial)	**0.04399 ppm**	87.974 %	**0.5 %**	305.450 cps
Al 308.215 {109} (Radial)	0.02063 ppm	0.000 %	118.4 %	4.463 cps
Al 396.152 {85} (Radial)	0.01929 ppm	0.000 %	129.0 %	14.311 cps
As 189.042 {478} (Axial)	0.00072 ppm	0.000 %	167.7 %	-0.426 cps
As 193.759 {474} (Axial)	-0.00037 ppm	0.000 %	472.1 %	0.415 cps
B 249.678 {135} (Radial)	0.00570 ppm	0.000 %	47.8 %	0.483 cps
Ba 455.403 {74} (Radial)	0.00021 ppm	0.000 %	93.9 %	56.783 cps
Be 313.042 {108} (Axial)	0.00002 ppm	0.000 %	241.6 %	-28.300 cps
Ca 315.887 {107} (Radial)	0.04689 ppm	0.000 %	145.7 %	6.450 cps
Cd 226.502 {449} (Axial)	-0.00011 ppm	0.000 %	63.1 %	-0.904 cps
Cd 214.438 {457} (Axial)	0.00001 ppm	0.000 %	424.6 %	4.378 cps
Co 228.616 {447} (Axial)	-0.00003 ppm	0.000 %	682.4 %	1.237 cps
Cr 267.716 {126} (Axial)	-0.00004 ppm	0.000 %	1,873.0 %	1.906 cps
Cu 324.754 {104} (Axial)	-0.00029 ppm	0.000 %	93.1 %	194.394 cps
Cu 327.396 {103} (Axial)	0.00063 ppm	0.000 %	42.4 %	59.700 cps
Fe 259.940 {130} (Radial)	0.02692 ppm	0.000 %	41.4 %	6.626 cps
Fe 273.955 {123} (Radial)	0.03189 ppm	0.000 %	54.8 %	3.550 cps
K 766.490 {44} (Radial)	0.06750 ppm	0.000 %	33.7 %	10.629 cps
Li 670.784 {50} (Radial)	-0.00062 ppm	0.000 %	104.8 %	14.025 cps
Mg 280.270 {120} (Radial)	0.01850 ppm	0.000 %	61.5 %	105.467 cps
Mg 279.079 {121} (Radial)	-0.03960 ppm	0.000 %	91.8 %	-1.133 cps
Mn 257.610 {131} (Axial)	0.00007 ppm	0.000 %	140.4 %	13.533 cps
Mo 202.030 {467} (Axial)	-0.00008 ppm	0.000 %	63.8 %	1.081 cps
Mo 204.598 {465} (Axial)	-0.00037 ppm	0.000 %	39.9 %	-0.478 cps
Na 589.592 {57} (Radial)	0.05303 ppm	0.000 %	38.7 %	102.107 cps
Ni 231.604 {445} (Axial)	-0.00012 ppm	0.000 %	257.3 %	-3.059 cps
P 177.495 {490} (Axial)	-0.00185 ppm	0.000 %	68.3 %	-0.041 cps
Pb 220.353 {453} (Axial)	0.00150 ppm	0.000 %	34.1 %	3.987 cps
Sb 206.833 {463} (Axial)	0.00061 ppm	0.000 %	259.3 %	-0.315 cps
Se 196.090 {472} (Axial)	0.00125 ppm	0.000 %	201.2 %	-0.731 cps
Si 251.611 {134} (Axial)	0.03015 ppm	0.000 %	8.0 %	150.540 cps
Sn 189.989 {477} (Axial)	-0.00037 ppm	0.000 %	137.2 %	-0.243 cps
Sr 407.771 {83} (Radial)	0.00015 ppm	0.000 %	147.2 %	8.031 cps
Sr 421.552 {80} (Axial)	0.00008 ppm	0.000 %	97.5 %	175.239 cps
Ti 334.941 {101} (Axial)	-0.00011 ppm	0.000 %	67.1 %	17.750 cps
Ti 336.121 {100} (Axial)	-0.00013 ppm	0.000 %	45.6 %	185.589 cps
Tl 190.856 {477} (Axial)	-0.00005 ppm	0.000 %	894.7 %	-0.682 cps
V 292.402 {115} (Axial)	0.00008 ppm	0.000 %	234.3 %	10.983 cps
Zn 213.856 {458} (Axial)	0.00052 ppm	0.000 %	4.3 %	10.922 cps
Y 371.030 {91} (Radial)	101.48679 %		0.1 %	9,705.758 cps
Y 360.073 {94} (Radial)	101.70641 %		0.3 %	3,563.315 cps
Y 224.306 {450} (Axial)	105.27045 %		0.5 %	14,447.044 cps

Milli-Q

Sample type: UNKNOWN Analysis started at: 12/18/2019 7:50:04 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00021 ppm	97.5 %	-15.767 cps
Ag 338.289 {100} (Axial)	0.00005 ppm	1,367.3 %	16.683 cps
Al 308.215 {109} (Radial)	-0.01228 ppm	208.0 %	2.707 cps
Al 396.152 {85} (Radial)	-0.00359 ppm	133.8 %	7.711 cps
As 189.042 {478} (Axial)	0.00205 ppm	49.2 %	0.115 cps
As 193.759 {474} (Axial)	-0.00204 ppm	74.2 %	-0.235 cps
B 249.678 {135} (Radial)	0.00507 ppm	89.6 %	0.394 cps
Ba 455.403 {74} (Radial)	0.00008 ppm	16.9 %	54.994 cps
Be 313.042 {108} (Axial)	0.00001 ppm	511.0 %	-31.983 cps
Ca 315.887 {107} (Radial)	-0.00319 ppm	102.1 %	2.000 cps
Cd 226.502 {449} (Axial)	-0.00009 ppm	50.0 %	-0.671 cps
Cd 214.438 {457} (Axial)	-0.00009 ppm	9.7 %	3.333 cps
Co 228.616 {447} (Axial)	0.00012 ppm	41.0 %	2.055 cps
Cr 267.716 {126} (Axial)	-0.00038 ppm	50.8 %	-0.760 cps
Cu 324.754 {104} (Axial)	-0.00037 ppm	45.3 %	194.567 cps
Cu 327.396 {103} (Axial)	0.00009 ppm	287.9 %	52.167 cps
Fe 259.940 {130} (Radial)	0.00823 ppm	203.1 %	2.663 cps
Fe 273.955 {123} (Radial)	0.00112 ppm	231.9 %	1.350 cps
K 766.490 {44} (Radial)	0.02586 ppm	149.7 %	-7.040 cps
Li 670.784 {50} (Radial)	-0.00100 ppm	177.3 %	8.462 cps
Mg 280.270 {120} (Radial)	0.00348 ppm	195.1 %	29.717 cps
Mg 279.079 {121} (Radial)	-0.03950 ppm	357.0 %	-1.150 cps
Mn 257.610 {131} (Axial)	0.00004 ppm	132.1 %	12.100 cps
Mo 202.030 {467} (Axial)	-0.00011 ppm	333.3 %	1.023 cps
Mo 204.598 {465} (Axial)	0.00014 ppm	151.6 %	0.292 cps
Na 589.592 {57} (Radial)	-0.00400 ppm	147.7 %	3.839 cps
Ni 231.604 {445} (Axial)	0.00043 ppm	58.0 %	-1.363 cps
P 177.495 {490} (Axial)	0.00168 ppm	188.7 %	1.241 cps
Pb 220.353 {453} (Axial)	-0.00016 ppm	466.2 %	2.611 cps
Sb 206.833 {463} (Axial)	0.00098 ppm	74.2 %	-0.077 cps
Se 196.090 {472} (Axial)	0.00028 ppm	213.9 %	-1.048 cps
Si 251.611 {134} (Axial)	-0.03092 ppm	4.6 %	55.039 cps
Sn 189.989 {477} (Axial)	0.00018 ppm	254.2 %	0.308 cps
Sr 407.771 {83} (Radial)	-0.00004 ppm	339.7 %	2.269 cps
Sr 421.552 {80} (Axial)	-0.00006 ppm	84.8 %	43.863 cps
Ti 334.941 {101} (Axial)	-0.00031 ppm	45.0 %	10.250 cps
Ti 336.121 {100} (Axial)	-0.00030 ppm	30.9 %	180.656 cps
Tl 190.856 {477} (Axial)	0.00177 ppm	54.8 %	0.272 cps
V 292.402 {115} (Axial)	0.00037 ppm	69.5 %	14.300 cps
Zn 213.856 {458} (Axial)	-0.00064 ppm	4.5 %	3.890 cps
Y 371.030 {91} (Radial)	102.12768 %	0.5 %	9,767.050 cps
Y 360.073 {94} (Radial)	102.60777 %	0.7 %	3,594.894 cps
Y 224.306 {450} (Axial)	106.01453 %	0.1 %	14,549.160 cps

Milli-Q

Sample type: UNKNOWN Analysis started at: 12/18/2019 7:53:00 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00008 ppm	630.4 %	-12.533 cps
Ag 338.289 {100} (Axial)	-0.00036 ppm	175.8 %	13.967 cps
Al 308.215 {109} (Radial)	-0.03962 ppm	23.3 %	1.211 cps

	Concentration average	Concentration RSD	Raw Intensity average
Al 396.152 {85} (Radial)	-0.00685 ppm	52.1 %	6.711 cps
As 189.042 {478} (Axial)	0.00079 ppm	150.3 %	-0.400 cps
As 193.759 {474} (Axial)	-0.00165 ppm	47.7 %	-0.080 cps
B 249.678 {135} (Radial)	0.00439 ppm	164.1 %	0.289 cps
Ba 455.403 {74} (Radial)	-0.00002 ppm	2,019.3 %	53.106 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	193.6 %	-38.667 cps
Ca 315.887 {107} (Radial)	-0.01386 ppm	118.0 %	1.033 cps
Cd 226.502 {449} (Axial)	-0.00006 ppm	209.4 %	-0.424 cps
Cd 214.438 {457} (Axial)	-0.00017 ppm	20.2 %	2.590 cps
Co 228.616 {447} (Axial)	0.00017 ppm	22.0 %	2.352 cps
Cr 267.716 {126} (Axial)	-0.00027 ppm	50.8 %	0.074 cps
Cu 324.754 {104} (Axial)	-0.00028 ppm	127.3 %	196.106 cps
Cu 327.396 {103} (Axial)	-0.00038 ppm	30.0 %	45.217 cps
Fe 259.940 {130} (Radial)	0.00265 ppm	51.7 %	1.447 cps
Fe 273.955 {123} (Radial)	0.01495 ppm	93.4 %	2.333 cps
K 766.490 {44} (Radial)	0.00454 ppm	851.9 %	-16.060 cps
Li 670.784 {50} (Radial)	-0.00112 ppm	38.5 %	6.739 cps
Mg 280.270 {120} (Radial)	-0.00132 ppm	15.1 %	5.150 cps
Mg 279.079 {121} (Radial)	-0.00800 ppm	648.2 %	-0.383 cps
Mn 257.610 {131} (Axial)	-0.00001 ppm	735.6 %	9.600 cps
Mo 202.030 {467} (Axial)	0.00003 ppm	1,092.0 %	1.337 cps
Mo 204.598 {465} (Axial)	-0.00016 ppm	205.5 %	-0.160 cps
Na 589.592 {57} (Radial)	-0.00775 ppm	24.7 %	-2.640 cps
Ni 231.604 {445} (Axial)	-0.00010 ppm	283.2 %	-3.011 cps
P 177.495 {490} (Axial)	-0.00090 ppm	64.1 %	0.305 cps
Pb 220.353 {453} (Axial)	0.00057 ppm	18.5 %	3.231 cps
Sb 206.833 {463} (Axial)	0.00211 ppm	12.6 %	0.666 cps
Se 196.090 {472} (Axial)	0.00260 ppm	77.5 %	-0.300 cps
Si 251.611 {134} (Axial)	-0.02907 ppm	6.8 %	57.975 cps
Sn 189.989 {477} (Axial)	0.00014 ppm	133.7 %	0.265 cps
Sr 407.771 {83} (Radial)	-0.00013 ppm	25.7 %	-0.468 cps
Sr 421.552 {80} (Axial)	-0.00009 ppm	16.6 %	15.775 cps
Ti 334.941 {101} (Axial)	-0.00035 ppm	7.9 %	8.650 cps
Ti 336.121 {100} (Axial)	-0.00036 ppm	11.3 %	178.422 cps
Tl 190.856 {477} (Axial)	0.00108 ppm	40.9 %	-0.091 cps
V 292.402 {115} (Axial)	0.00015 ppm	207.1 %	11.900 cps
Zn 213.856 {458} (Axial)	-0.00059 ppm	20.9 %	4.148 cps
Y 371.030 {91} (Radial)	101.55779 %	0.6 %	9,712.549 cps
Y 360.073 {94} (Radial)	101.77714 %	0.4 %	3,565.793 cps
Y 224.306 {450} (Axial)	106.05988 %	0.3 %	14,555.383 cps

Milli-Q

Sample type: UNKNOWN Analysis started at: 12/18/2019 7:55:53 PM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00015 ppm	200.8 %	-15.056 cps
Ag 338.289 {100} (Axial)	-0.00026 ppm	179.4 %	14.583 cps
Al 308.215 {109} (Radial)	-0.04218 ppm	56.3 %	1.099 cps
Al 396.152 {85} (Radial)	0.00030 ppm	5,368.1 %	8.939 cps
As 189.042 {478} (Axial)	0.00140 ppm	147.9 %	-0.149 cps
As 193.759 {474} (Axial)	0.00008 ppm	1,168.1 %	0.599 cps

	Concentration average	Concentration RSD	Raw Intensity average
B 249.678 {135} (Radial)	0.00004 ppm	14,151.2 %	-0.367 cps
Ba 455.403 {74} (Radial)	-0.00009 ppm	560.3 %	52.872 cps
Be 313.042 {108} (Axial)	-0.00001 ppm	219.8 %	-37.950 cps
Ca 315.887 {107} (Radial)	-0.02115 ppm	83.7 %	0.383 cps
Cd 226.502 {449} (Axial)	-0.00007 ppm	80.2 %	-0.524 cps
Cd 214.438 {457} (Axial)	-0.00009 ppm	162.7 %	3.326 cps
Co 228.616 {447} (Axial)	0.00007 ppm	104.2 %	1.799 cps
Cr 267.716 {126} (Axial)	-0.00006 ppm	498.2 %	1.758 cps
Cu 324.754 {104} (Axial)	-0.00047 ppm	49.6 %	192.567 cps
Cu 327.396 {103} (Axial)	0.00011 ppm	281.2 %	52.183 cps
Fe 259.940 {130} (Radial)	0.00236 ppm	129.4 %	1.410 cps
Fe 273.955 {123} (Radial)	0.00830 ppm	267.9 %	1.900 cps
K 766.490 {44} (Radial)	0.01786 ppm	72.6 %	-10.581 cps
Li 670.784 {50} (Radial)	-0.00084 ppm	29.6 %	10.979 cps
Mg 280.270 {120} (Radial)	-0.00130 ppm	36.5 %	5.350 cps
Mg 279.079 {121} (Radial)	-0.02249 ppm	255.7 %	-0.750 cps
Mn 257.610 {131} (Axial)	-0.00001 ppm	620.5 %	9.233 cps
Mo 202.030 {467} (Axial)	-0.00019 ppm	43.1 %	0.824 cps
Mo 204.598 {465} (Axial)	-0.00047 ppm	56.5 %	-0.641 cps
Na 589.592 {57} (Radial)	-0.00300 ppm	147.8 %	5.675 cps
Ni 231.604 {445} (Axial)	0.00000 ppm	1,450.6 %	-2.714 cps
P 177.495 {490} (Axial)	0.00012 ppm	710.8 %	0.671 cps
Pb 220.353 {453} (Axial)	0.00032 ppm	312.9 %	3.014 cps
Sb 206.833 {463} (Axial)	0.00012 ppm	621.0 %	-0.636 cps
Se 196.090 {472} (Axial)	0.00352 ppm	5.0 %	-0.003 cps
Si 251.611 {134} (Axial)	-0.02982 ppm	2.6 %	56.597 cps
Sn 189.989 {477} (Axial)	0.00017 ppm	190.0 %	0.293 cps
Sr 407.771 {83} (Radial)	-0.00019 ppm	48.5 %	-2.147 cps
Sr 421.552 {80} (Axial)	-0.00009 ppm	18.8 %	16.369 cps
Ti 334.941 {101} (Axial)	-0.00032 ppm	12.0 %	10.050 cps
Ti 336.121 {100} (Axial)	-0.00042 ppm	26.1 %	175.322 cps
Tl 190.856 {477} (Axial)	0.00069 ppm	122.6 %	-0.294 cps
V 292.402 {115} (Axial)	-0.00006 ppm	398.9 %	9.567 cps
Zn 213.856 {458} (Axial)	-0.00063 ppm	15.7 %	3.899 cps
Y 371.030 {91} (Radial)	103.28289 %	0.8 %	9,877.529 cps
Y 360.073 {94} (Radial)	103.78535 %	0.8 %	3,636.151 cps
Y 224.306 {450} (Axial)	105.71114 %	0.4 %	14,507.522 cps

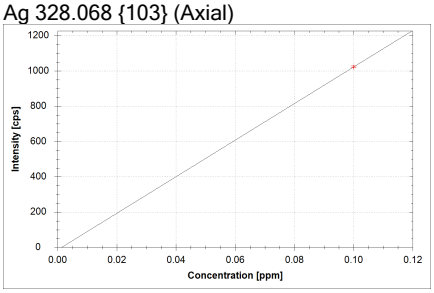
Sample Report
12/19/2019 10:08:14 AM

LabBook: 2019-12-19.imexp

REVIEWED
By Amanda Wroble at 1:25 pm, Dec 19, 2019

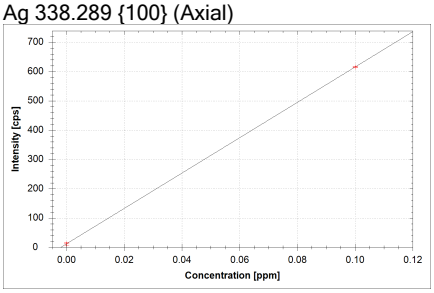
Index:	Label:	Rack:	Vial:	Start Time:
1	cal blank	0	1	12/19/2019 8:10:33 AM
2	cal blank	0	1	12/19/2019 8:13:28 AM
3	cal blank	0	1	12/19/2019 8:16:21 AM
4	Cal 1	0	2	12/19/2019 8:19:14 AM
5	Cal 2	0	3	12/19/2019 8:22:08 AM
6	LCB	4	17	12/19/2019 8:25:00 AM
7	RLC	4	18	12/19/2019 8:27:55 AM
8	iLCM1	4	19	12/19/2019 8:30:46 AM
9	iHiLCM	4	20	12/19/2019 8:33:18 AM
10	iLCM2	4	21	12/19/2019 8:36:05 AM
11	wash	0	1	12/19/2019 8:38:58 AM
12	SIC Ba	1	2	12/19/2019 8:41:55 AM
13	SIC Ca	1	3	12/19/2019 8:44:53 AM
14	SIC Fe	1	6	12/19/2019 8:47:44 AM
15	SIC Mg	1	7	12/19/2019 8:50:34 AM
16	SIC Mn	1	8	12/19/2019 8:53:33 AM
17	SIC Ni	1	10	12/19/2019 8:56:34 AM
18	SIC Si	1	11	12/19/2019 8:59:26 AM
19	LCB	4	17	12/19/2019 9:02:18 AM
20	RLC	4	18	12/19/2019 9:05:12 AM
21	LCM1	4	19	12/19/2019 9:08:04 AM
22	HiLCM	4	20	12/19/2019 9:10:36 AM
23	LCM2	4	21	12/19/2019 9:13:29 AM
24	wash	0	1	12/19/2019 9:16:21 AM
25	1912011-21	2	21	12/19/2019 9:19:18 AM
26	B19L022-DUP3	3	1	12/19/2019 9:22:08 AM
27	B19L022-MS3	3	2	12/19/2019 9:24:56 AM
28	LCB	4	17	12/19/2019 9:27:53 AM
29	RLC	4	18	12/19/2019 9:30:47 AM
30	LCM1	4	19	12/19/2019 9:33:39 AM
31	HiLCM	4	20	12/19/2019 9:36:12 AM
32	LCM2	4	21	12/19/2019 9:39:05 AM
33	Milli-Q	4	16	12/19/2019 9:41:57 AM
34	Milli-Q	4	16	12/19/2019 9:44:53 AM
35	Milli-Q	4	16	12/19/2019 9:47:46 AM

Ag 328.068 {103} (Axial)



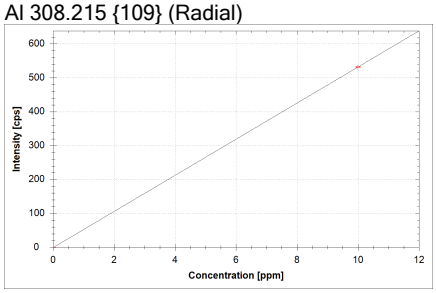
f(x) = 10369.3324*x + -14.2317
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0004 ppm

Ag 338.289 {100} (Axial)



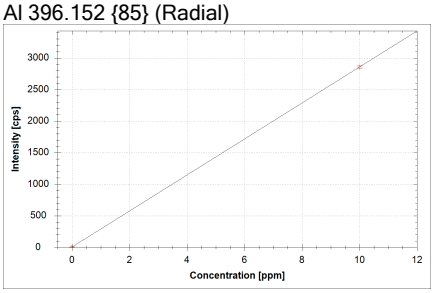
f(x) = 6032.4589*x + 12.1370
R² = 1.0000
BEC = 0.002 ppm
LoD = 0.0023 ppm

Al 308.215 {109} (Radial)



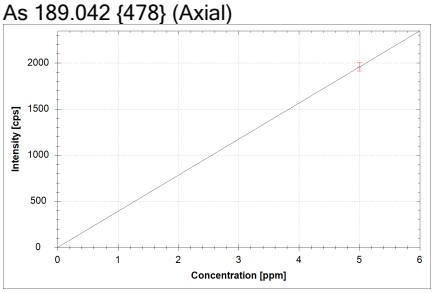
f(x) = 53.2409*x + -0.5709
R² = 1.0000
BEC = -0.011 ppm
LoD = 0.0743 ppm

Al 396.152 {85} (Radial)



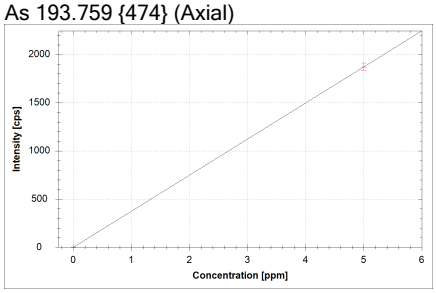
f(x) = 285.1892*x + 5.1181
R² = 1.0000
BEC = 0.018 ppm
LoD = 0.0199 ppm

As 189.042 {478} (Axial)



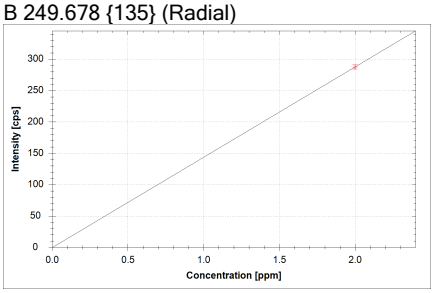
f(x) = 391.4386*x + -0.4003
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0028 ppm

As 193.759 {474} (Axial)



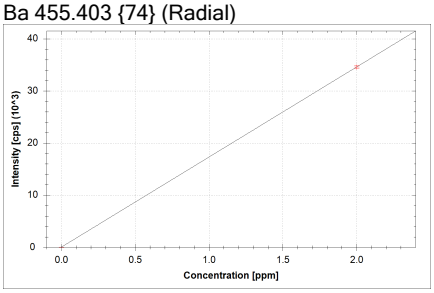
f(x) = 373.9904*x + 0.0365
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0082 ppm

B 249.678 {135} (Radial)



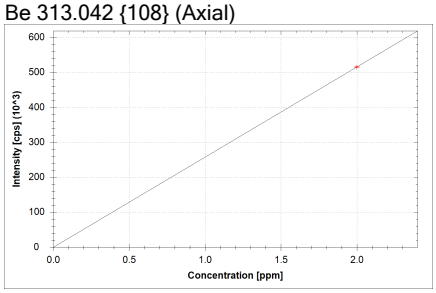
f(x) = 144.0391*x + -0.5263
R² = 1.0000
BEC = -0.004 ppm
LoD = 0.0124 ppm

Ba 455.403 {74} (Radial)



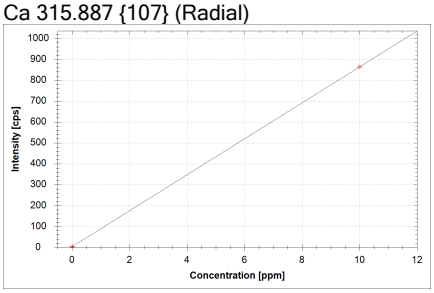
f(x) = 17279.3145*x + 38.6444
R² = 1.0000
BEC = 0.002 ppm
LoD = 0.0001 ppm

Be 313.042 {108} (Axial)



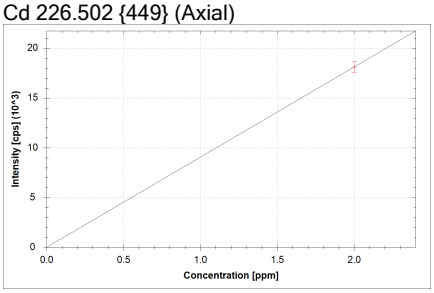
f(x) = 258073.3159*x + -35.2529
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0001 ppm

Ca 315.887 {107} (Radial)



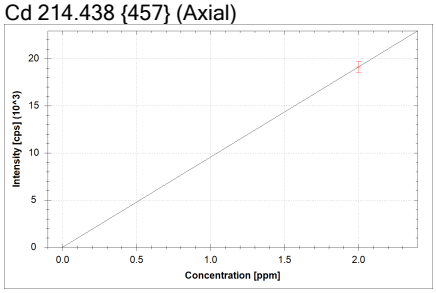
f(x) = 86.0602*x + 2.8692
R² = 1.0000
BEC = 0.033 ppm
LoD = 0.0508 ppm

Cd 226.502 {449} (Axial)



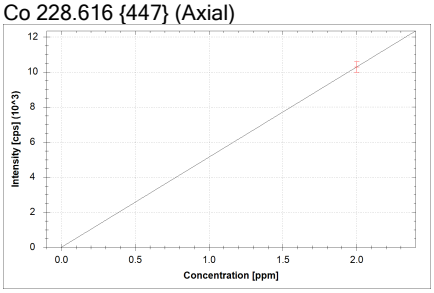
f(x) = 9060.5418*x + -0.6938
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0005 ppm

Cd 214.438 {457} (Axial)



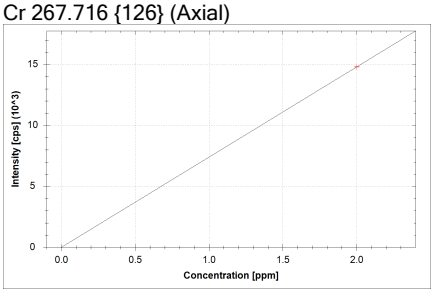
f(x) = 9556.7826*x + 4.4351
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0004 ppm

Co 228.616 {447} (Axial)



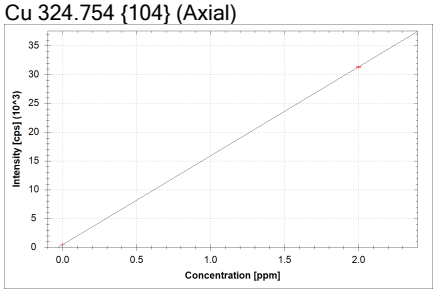
f(x) = 5142.3105*x + 0.7554
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0003 ppm

Cr 267.716 {126} (Axial)



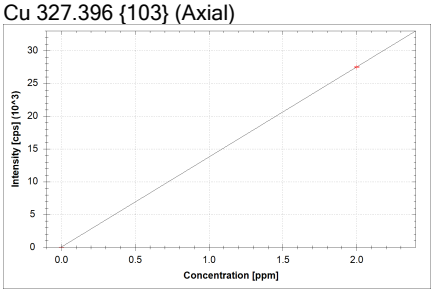
f(x) = 7394.4429*x + 0.5839
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0002 ppm

Cu 324.754 {104} (Axial)



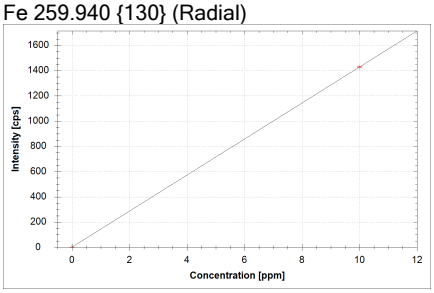
f(x) = 15444.5668*x + 443.3022
R² = 1.0000
BEC = 0.029 ppm
LoD = 0.0004 ppm

Cu 327.396 {103} (Axial)



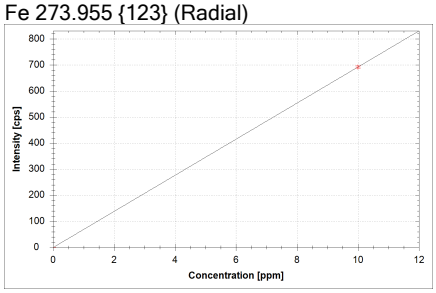
f(x) = 13732.7819*x + 45.1731
R² = 1.0000
BEC = 0.003 ppm
LoD = 0.0012 ppm

Fe 259.940 {130} (Radial)



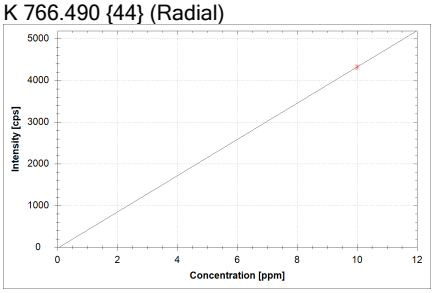
f(x) = 142.7041*x + 1.7286
R² = 1.0000
BEC = 0.012 ppm
LoD = 0.0077 ppm

Fe 273.955 {123} (Radial)



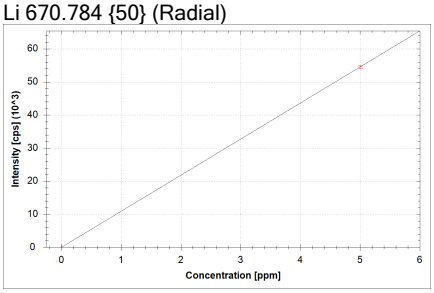
f(x) = 69.2912*x + -0.4350
R² = 1.0000
BEC = -0.006 ppm
LoD = 0.0467 ppm

K 766.490 {44} (Radial)



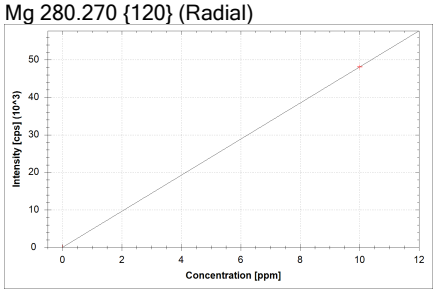
f(x) = 434.1987*x + -20.0065
R² = 1.0000
BEC = -0.046 ppm
LoD = 0.0590 ppm

Li 670.784 {50} (Radial)



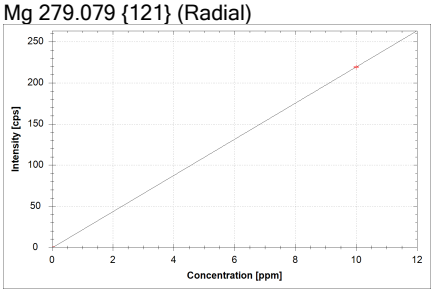
f(x) = 10903.8657*x + 10.3974
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0010 ppm

Mg 280.270 {120} (Radial)



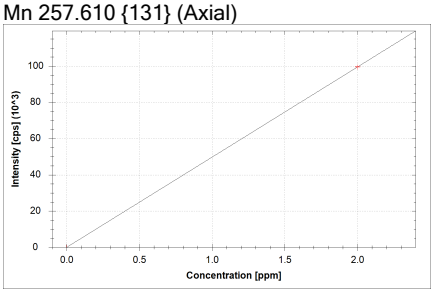
f(x) = 4809.2947*x + 7.3517
R² = 1.0000
BEC = 0.002 ppm
LoD = 0.0005 ppm

Mg 279.079 {121} (Radial)



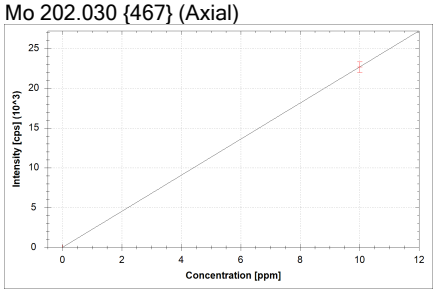
f(x) = 21.9908*x + -0.6321
R² = 1.0000
BEC = -0.029 ppm
LoD = 0.2021 ppm

Mn 257.610 {131} (Axial)



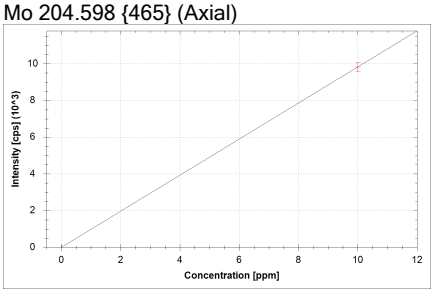
f(x) = 49737.4516*x + 8.7822
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0001 ppm

Mo 202.030 {467} (Axial)



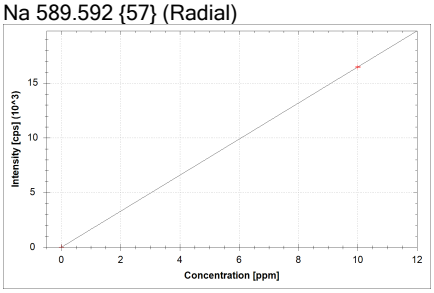
f(x) = 2267.0900*x + 0.7193
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0002 ppm

Mo 204.598 {465} (Axial)



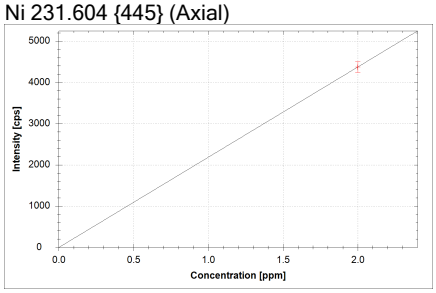
f(x) = 982.4602*x + 0.7040
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0008 ppm

Na 589.592 {57} (Radial)



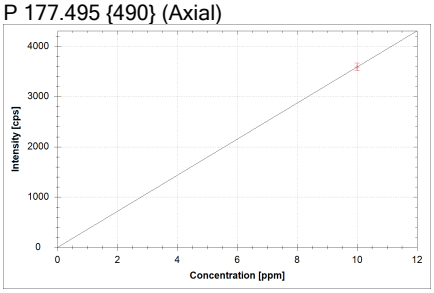
f(x) = 1646.9232*x + 6.8312
R² = 1.0000
BEC = 0.004 ppm
LoD = 0.0317 ppm

Ni 231.604 {445} (Axial)



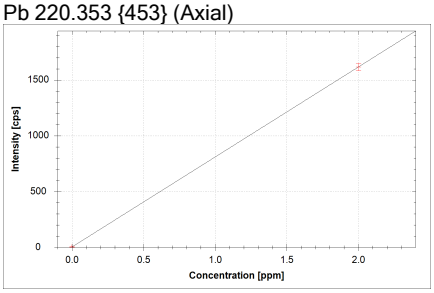
f(x) = 2188.2685*x + -3.9399
R² = 1.0000
BEC = -0.002 ppm
LoD = 0.0007 ppm

P 177.495 {490} (Axial)



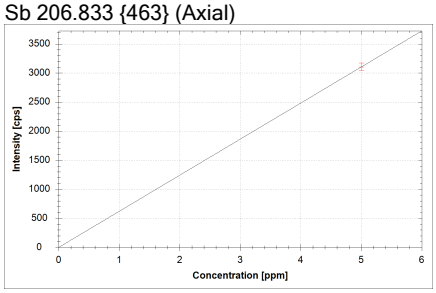
f(x) = 358.9434*x + -0.1050
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0045 ppm

Pb 220.353 {453} (Axial)



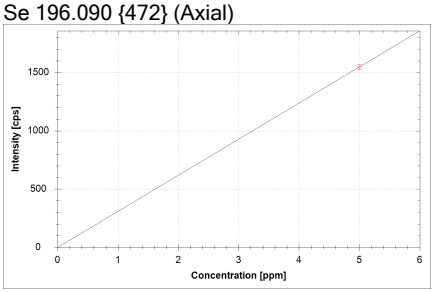
f(x) = 806.7624*x + 3.1734
R² = 1.0000
BEC = 0.004 ppm
LoD = 0.0014 ppm

Sb 206.833 {463} (Axial)



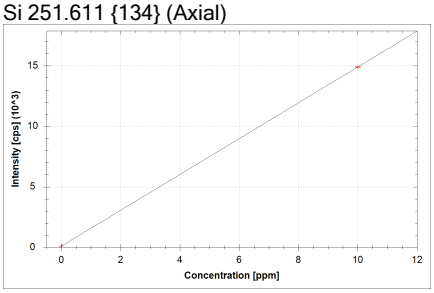
f(x) = 620.7620*x + -0.4178
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0012 ppm

Se 196.090 {472} (Axial)



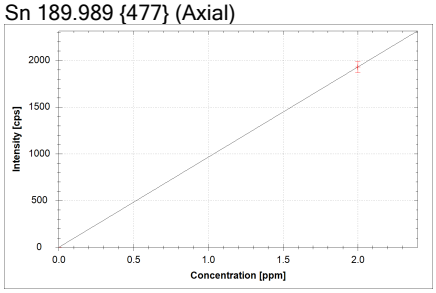
f(x) = 309.7629*x + -1.1144
R² = 1.0000
BEC = -0.004 ppm
LoD = 0.0065 ppm

Si 251.611 {134} (Axial)



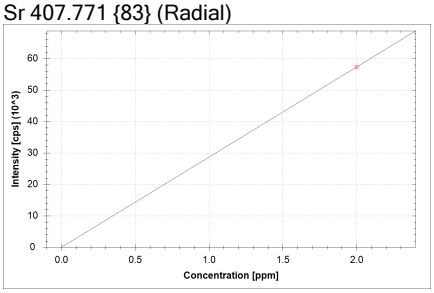
f(x) = 1479.8491*x + 103.0342
R² = 1.0000
BEC = 0.070 ppm
LoD = 0.0034 ppm

Sn 189.989 {477} (Axial)



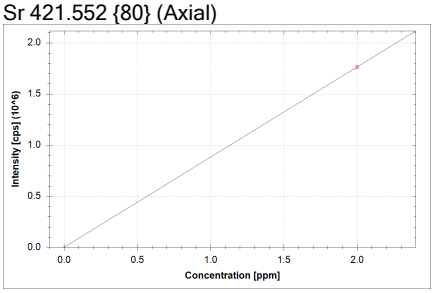
f(x) = 964.5695*x + -0.0128
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0026 ppm

Sr 407.771 {83} (Radial)



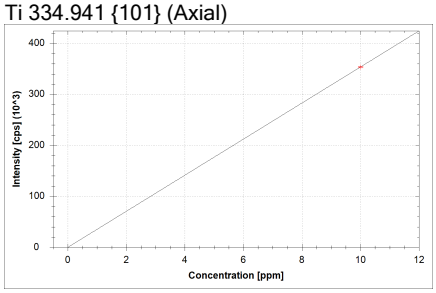
f(x) = 28685.8578*x + 3.2363
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0002 ppm

Sr 421.552 {80} (Axial)



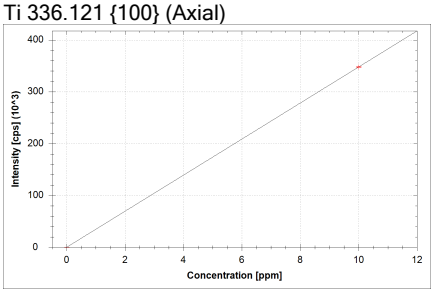
f(x) = 882121.5296*x + 48.8884
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0000 ppm

Ti 334.941 {101} (Axial)



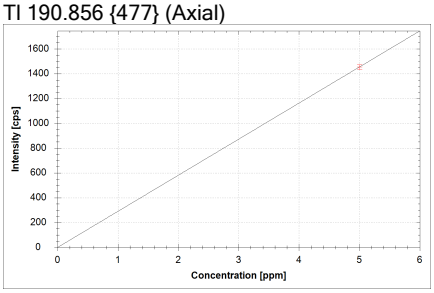
f(x) = 35364.2263*x + 10.7948
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0002 ppm

Ti 336.121 {100} (Axial)



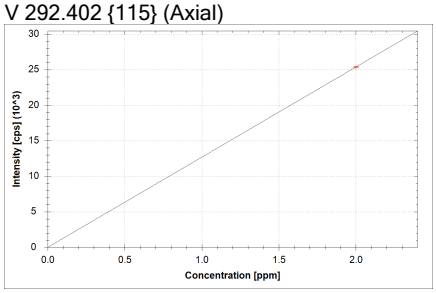
f(x) = 34763.4084*x + 165.2922
R² = 1.0000
BEC = 0.005 ppm
LoD = 0.0003 ppm

Tl 190.856 {477} (Axial)



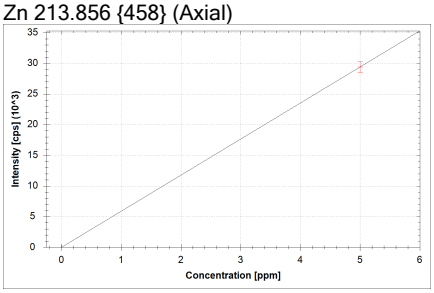
f(x) = 290.9463*x + -0.3338
R² = 1.0000
BEC = -0.001 ppm
LoD = 0.0023 ppm

V 292.402 {115} (Axial)



f(x) = 12695.0646*x + -1.3793
R² = 1.0000
BEC = 0.000 ppm
LoD = 0.0010 ppm

Zn 213.856 {458} (Axial)



f(x) = 5878.6744*x + 6.4868
R² = 1.0000
BEC = 0.001 ppm
LoD = 0.0004 ppm

Standard: Cal 1
Start Time: 12/19/2019 8:19:14 AM
Standard (Stock): Cal 1
Standard DF: 1

Category	Concentration average	Concentration RSD	Standard Concentration
Ag 328.068 {103} (Axial)	0.00000 ppm		
Ag 338.289 {100} (Axial)	0.00000 ppm		
Al 308.215 {109} (Radial)	10.00000 ppm	0.2 %	10.00000 ppm
Al 396.152 {85} (Radial)	10.00000 ppm	0.7 %	10.00000 ppm
As 189.042 {478} (Axial)	5.00000 ppm	2.3 %	5.00000 ppm
As 193.759 {474} (Axial)	5.00000 ppm	2.1 %	5.00000 ppm
B 249.678 {135} (Radial)	2.00000 ppm	1.2 %	2.00000 ppm
Ba 455.403 {74} (Radial)	2.00000 ppm	0.8 %	2.00000 ppm
Be 313.042 {108} (Axial)	2.00000 ppm	0.5 %	2.00000 ppm
Ca 315.887 {107} (Radial)	10.00000 ppm	0.6 %	10.00000 ppm
Cd 226.502 {449} (Axial)	2.00000 ppm	2.9 %	2.00000 ppm
Cd 214.438 {457} (Axial)	2.00000 ppm	3.1 %	2.00000 ppm
Co 228.616 {447} (Axial)	2.00000 ppm	3.0 %	2.00000 ppm
Cr 267.716 {126} (Axial)	2.00000 ppm	0.1 %	2.00000 ppm
Cu 324.754 {104} (Axial)	2.00000 ppm	0.1 %	2.00000 ppm
Cu 327.396 {103} (Axial)	2.00000 ppm	0.2 %	2.00000 ppm
Fe 259.940 {130} (Radial)	10.00000 ppm	0.4 %	10.00000 ppm
Fe 273.955 {123} (Radial)	10.00000 ppm	0.7 %	10.00000 ppm
K 766.490 {44} (Radial)	10.00000 ppm	1.1 %	10.00000 ppm
Li 670.784 {50} (Radial)	5.00000 ppm	0.6 %	5.00000 ppm
Mg 280.270 {120} (Radial)	10.00000 ppm	0.1 %	10.00000 ppm
Mg 279.079 {121} (Radial)	10.00000 ppm	0.2 %	10.00000 ppm
Mn 257.610 {131} (Axial)	2.00000 ppm	0.1 %	2.00000 ppm
Mo 202.030 {467} (Axial)	10.00000 ppm	2.8 %	10.00000 ppm
Mo 204.598 {465} (Axial)	10.00000 ppm	2.7 %	10.00000 ppm
Na 589.592 {57} (Radial)	10.00000 ppm	0.3 %	10.00000 ppm
Ni 231.604 {445} (Axial)	2.00000 ppm	3.0 %	2.00000 ppm
P 177.495 {490} (Axial)	10.00000 ppm	2.2 %	10.00000 ppm
Pb 220.353 {453} (Axial)	2.00000 ppm	2.1 %	2.00000 ppm
Sb 206.833 {463} (Axial)	5.00000 ppm	2.1 %	5.00000 ppm
Se 196.090 {472} (Axial)	5.00000 ppm	1.4 %	5.00000 ppm
Si 251.611 {134} (Axial)	10.00000 ppm	0.1 %	10.00000 ppm
Sn 189.989 {477} (Axial)	2.00000 ppm	3.1 %	2.00000 ppm
Sr 407.771 {83} (Radial)	2.00000 ppm	0.6 %	2.00000 ppm
Sr 421.552 {80} (Axial)	2.00000 ppm	0.6 %	2.00000 ppm
Ti 334.941 {101} (Axial)	10.00000 ppm	0.4 %	10.00000 ppm
Ti 336.121 {100} (Axial)	10.00000 ppm	0.2 %	10.00000 ppm
Tl 190.856 {477} (Axial)	5.00000 ppm	1.2 %	5.00000 ppm
V 292.402 {115} (Axial)	2.00000 ppm	0.1 %	2.00000 ppm
Zn 213.856 {458} (Axial)	5.00000 ppm	3.0 %	5.00000 ppm
Y 371.030 {91} (Radial)	98.83316 %	0.6 %	
Y 360.073 {94} (Radial)	98.88128 %	0.4 %	
Y 224.306 {450} (Axial)	97.15953 %	0.1 %	

Standard: Cal 2
Start Time: 12/19/2019 8:22:08 AM
Standard (Stock): Cal 2
Standard DF: 1

Category	Concentration average	Concentration RSD	Standard Concentration
Ag 328.068 {103} (Axial)	0.10000 ppm	0.5 %	0.10000 ppm
Ag 338.289 {100} (Axial)	0.10000 ppm	0.3 %	0.10000 ppm
Al 308.215 {109} (Radial)	0.00000 ppm		
Al 396.152 {85} (Radial)	0.00000 ppm		
As 189.042 {478} (Axial)	0.00000 ppm		
As 193.759 {474} (Axial)	0.00000 ppm		
B 249.678 {135} (Radial)	0.00000 ppm		
Ba 455.403 {74} (Radial)	0.00000 ppm		
Be 313.042 {108} (Axial)	0.00000 ppm		
Ca 315.887 {107} (Radial)	0.00000 ppm		
Cd 226.502 {449} (Axial)	0.00000 ppm		
Cd 214.438 {457} (Axial)	0.00000 ppm		
Co 228.616 {447} (Axial)	0.00000 ppm		
Cr 267.716 {126} (Axial)	0.00000 ppm		
Cu 324.754 {104} (Axial)	0.00000 ppm		
Cu 327.396 {103} (Axial)	0.00000 ppm		
Fe 259.940 {130} (Radial)	0.00000 ppm		
Fe 273.955 {123} (Radial)	0.00000 ppm		
K 766.490 {44} (Radial)	0.00000 ppm		
Li 670.784 {50} (Radial)	0.00000 ppm		
Mg 280.270 {120} (Radial)	0.00000 ppm		
Mg 279.079 {121} (Radial)	0.00000 ppm		
Mn 257.610 {131} (Axial)	0.00000 ppm		
Mo 202.030 {467} (Axial)	0.00000 ppm		
Mo 204.598 {465} (Axial)	0.00000 ppm		
Na 589.592 {57} (Radial)	0.00000 ppm		
Ni 231.604 {445} (Axial)	0.00000 ppm		
P 177.495 {490} (Axial)	0.00000 ppm		
Pb 220.353 {453} (Axial)	0.00000 ppm		
Sb 206.833 {463} (Axial)	0.00000 ppm		
Se 196.090 {472} (Axial)	0.00000 ppm		
Si 251.611 {134} (Axial)	0.00000 ppm		
Sn 189.989 {477} (Axial)	0.00000 ppm		
Sr 407.771 {83} (Radial)	0.00000 ppm		
Sr 421.552 {80} (Axial)	0.00000 ppm		
Ti 334.941 {101} (Axial)	0.00000 ppm		
Ti 336.121 {100} (Axial)	0.00000 ppm		
Tl 190.856 {477} (Axial)	0.00000 ppm		
V 292.402 {115} (Axial)	0.00000 ppm		
Zn 213.856 {458} (Axial)	0.00000 ppm		
Y 371.030 {91} (Radial)	99.88166 %	0.9 %	
Y 360.073 {94} (Radial)	99.90336 %	1.0 %	
Y 224.306 {450} (Axial)	99.93167 %	0.3 %	

cal blank

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:10:33 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00040 ppm	131.2 %	-10.089 cps
Ag 338.289 {100} (Axial)	0.00012 ppm	439.4 %	12.883 cps
Al 308.215 {109} (Radial)	**0.05500 ppm**	**19.5 %**	2.382 cps
Al 396.152 {85} (Radial)	0.00072 ppm	1,634.8 %	5.394 cps
As 189.042 {478} (Axial)	-0.00041 ppm	133.3 %	-0.561 cps
As 193.759 {474} (Axial)	-0.00034 ppm	854.9 %	-0.092 cps
B 249.678 {135} (Radial)	0.01282 ppm	40.3 %	1.333 cps
Ba 455.403 {74} (Radial)	-0.00004 ppm	450.5 %	38.339 cps
Be 313.042 {108} (Axial)	0.00001 ppm	88.2 %	-33.233 cps
Ca 315.887 {107} (Radial)	0.00213 ppm	1,103.2 %	3.083 cps
Cd 226.502 {449} (Axial)	0.00001 ppm	1,880.9 %	-0.618 cps
Cd 214.438 {457} (Axial)	-0.00009 ppm	123.2 %	3.570 cps
Co 228.616 {447} (Axial)	0.00002 ppm	285.5 %	0.876 cps
Cr 267.716 {126} (Axial)	0.00014 ppm	109.4 %	1.633 cps
Cu 324.754 {104} (Axial)	-0.00070 ppm	75.1 %	432.683 cps
Cu 327.396 {103} (Axial)	-0.00009 ppm	482.3 %	44.000 cps
Fe 259.940 {130} (Radial)	-0.00264 ppm	345.5 %	1.367 cps
Fe 273.955 {123} (Radial)	0.00819 ppm	285.2 %	0.133 cps
K 766.490 {44} (Radial)	-0.01326 ppm	57.1 %	-26.062 cps
Li 670.784 {50} (Radial)	0.00093 ppm	54.8 %	20.768 cps
Mg 280.270 {120} (Radial)	0.00046 ppm	62.3 %	9.650 cps
Mg 279.079 {121} (Radial)	0.01447 ppm	478.0 %	-0.317 cps
Mn 257.610 {131} (Axial)	0.00004 ppm	136.9 %	10.783 cps
Mo 202.030 {467} (Axial)	0.00017 ppm	154.9 %	1.097 cps
Mo 204.598 {465} (Axial)	-0.00011 ppm	311.0 %	0.597 cps
Na 589.592 {57} (Radial)	0.00593 ppm	117.4 %	16.751 cps
Ni 231.604 {445} (Axial)	-0.00006 ppm	36.2 %	-4.073 cps
P 177.495 {490} (Axial)	0.00054 ppm	37.2 %	0.097 cps
Pb 220.353 {453} (Axial)	-0.00054 ppm	88.1 %	2.739 cps
Sb 206.833 {463} (Axial)	0.00137 ppm	88.1 %	0.435 cps
Se 196.090 {472} (Axial)	-0.00027 ppm	543.5 %	-1.199 cps
Si 251.611 {134} (Axial)	-0.00126 ppm	144.0 %	101.236 cps
Sn 189.989 {477} (Axial)	0.00004 ppm	1,605.1 %	0.026 cps
Sr 407.771 {83} (Radial)	-0.00003 ppm	217.8 %	2.333 cps
Sr 421.552 {80} (Axial)	0.00000 ppm	631.8 %	48.339 cps
Ti 334.941 {101} (Axial)	-0.00005 ppm	41.3 %	8.983 cps
Ti 336.121 {100} (Axial)	0.00000 ppm	8,034.6 %	165.428 cps
Tl 190.856 {477} (Axial)	-0.00117 ppm	124.5 %	-0.672 cps
V 292.402 {115} (Axial)	-0.00004 ppm	589.9 %	-1.933 cps
Zn 213.856 {458} (Axial)	0.00009 ppm	48.6 %	7.294 cps
Y 371.030 {91} (Radial)	101.13968 %	0.6 %	9,503.247 cps
Y 360.073 {94} (Radial)	101.03430 %	0.1 %	3,525.704 cps
Y 224.306 {450} (Axial)	100.06394 %	0.4 %	13,994.412 cps

cal blank

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:13:28 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00023 ppm	324.2 %	-11.711 cps
Ag 338.289 {100} (Axial)	0.00014 ppm	67.9 %	12.917 cps
Al 308.215 {109} (Radial)	**0.05480 ppm**	**33.1 %**	2.335 cps
Al 396.152 {85} (Radial)	0.00759 ppm	74.3 %	7.250 cps
As 189.042 {478} (Axial)	-0.00152 ppm	168.1 %	-0.984 cps
As 193.759 {474} (Axial)	0.00157 ppm	107.1 %	0.615 cps
B 249.678 {135} (Radial)	0.00103 ppm	356.4 %	-0.378 cps
Ba 455.403 {74} (Radial)	0.00005 ppm	586.2 %	39.300 cps
Be 313.042 {108} (Axial)	-0.00001 ppm	75.3 %	-38.517 cps
Ca 315.887 {107} (Radial)	-0.00883 ppm	29.5 %	2.100 cps
Cd 226.502 {449} (Axial)	0.00004 ppm	165.7 %	-0.362 cps
Cd 214.438 {457} (Axial)	-0.00001 ppm	1,445.0 %	4.330 cps
Co 228.616 {447} (Axial)	-0.00003 ppm	365.4 %	0.574 cps
Cr 267.716 {126} (Axial)	0.00009 ppm	246.6 %	1.247 cps
Cu 324.754 {104} (Axial)	-0.00039 ppm	73.6 %	432.939 cps
Cu 327.396 {103} (Axial)	-0.00007 ppm	326.0 %	43.833 cps
Fe 259.940 {130} (Radial)	-0.01011 ppm	113.6 %	0.283 cps
Fe 273.955 {123} (Radial)	0.00752 ppm	190.6 %	0.083 cps
K 766.490 {44} (Radial)	-0.01094 ppm	92.4 %	-24.653 cps
Li 670.784 {50} (Radial)	0.00078 ppm	107.2 %	18.781 cps
Mg 280.270 {120} (Radial)	0.00017 ppm	135.3 %	8.150 cps
Mg 279.079 {121} (Radial)	-0.02388 ppm	154.6 %	-1.150 cps
Mn 257.610 {131} (Axial)	0.00001 ppm	863.7 %	9.117 cps
Mo 202.030 {467} (Axial)	0.00009 ppm	100.9 %	0.909 cps
Mo 204.598 {465} (Axial)	-0.00082 ppm	57.2 %	-0.098 cps
Na 589.592 {57} (Radial)	-0.00146 ppm	507.2 %	4.397 cps
Ni 231.604 {445} (Axial)	0.00008 ppm	342.6 %	-3.730 cps
P 177.495 {490} (Axial)	0.00001 ppm	11,386.5 %	-0.090 cps
Pb 220.353 {453} (Axial)	-0.00023 ppm	892.3 %	2.964 cps
Sb 206.833 {463} (Axial)	0.00128 ppm	126.8 %	0.376 cps
Se 196.090 {472} (Axial)	0.00211 ppm	119.8 %	-0.456 cps
Si 251.611 {134} (Axial)	-0.00073 ppm	314.2 %	100.935 cps
Sn 189.989 {477} (Axial)	-0.00003 ppm	1,554.9 %	-0.040 cps
Sr 407.771 {83} (Radial)	-0.00018 ppm	72.9 %	-1.914 cps
Sr 421.552 {80} (Axial)	0.00000 ppm	370.6 %	50.586 cps
Ti 334.941 {101} (Axial)	0.00002 ppm	582.3 %	11.233 cps
Ti 336.121 {100} (Axial)	0.00011 ppm	161.0 %	167.389 cps
Tl 190.856 {477} (Axial)	0.00067 ppm	225.8 %	-0.138 cps
V 292.402 {115} (Axial)	0.00009 ppm	132.6 %	-0.267 cps
Zn 213.856 {458} (Axial)	0.00006 ppm	181.2 %	7.051 cps
Y 371.030 {91} (Radial)	99.51938 %	0.6 %	9,351.001 cps
Y 360.073 {94} (Radial)	99.51037 %	0.4 %	3,472.525 cps
Y 224.306 {450} (Axial)	98.99306 %	0.2 %	13,844.644 cps

cal blank

Sample type: BLK Analysis started at: 12/19/2019 8:16:21 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00000 ppm	-0.1 %	-14.233 cps
Ag 338.289 {100} (Axial)	0.00000 ppm	0.4 %	12.183 cps

	Concentration average	Concentration RSD	Raw Intensity average
Al 308.215 {109} (Radial)	0.00000 ppm	-2.3 %	-0.574 cps
Al 396.152 {85} (Radial)	0.00000 ppm	0.4 %	5.122 cps
As 189.042 {478} (Axial)	0.00000 ppm	-0.9 %	-0.400 cps
As 193.759 {474} (Axial)	0.00000 ppm	28.1 %	0.036 cps
B 249.678 {135} (Radial)	0.00000 ppm	-1.1 %	-0.528 cps
Ba 455.403 {74} (Radial)	0.00000 ppm	0.0 %	38.644 cps
Be 313.042 {108} (Axial)	0.00000 ppm	-0.2 %	-35.250 cps
Ca 315.887 {107} (Radial)	0.00000 ppm	0.5 %	2.867 cps
Cd 226.502 {449} (Axial)	0.00000 ppm	-2.2 %	-0.672 cps
Cd 214.438 {457} (Axial)	0.00000 ppm	0.3 %	4.443 cps
Co 228.616 {447} (Axial)	0.00000 ppm	0.7 %	0.758 cps
Cr 267.716 {126} (Axial)	0.00000 ppm	0.8 %	0.585 cps
Cu 324.754 {104} (Axial)	0.00000 ppm	0.0 %	443.306 cps
Cu 327.396 {103} (Axial)	0.00000 ppm	0.1 %	45.167 cps
Fe 259.940 {130} (Radial)	0.00000 ppm	0.2 %	1.729 cps
Fe 273.955 {123} (Radial)	0.00000 ppm	-2.5 %	-0.433 cps
K 766.490 {44} (Radial)	0.00000 ppm	-0.4 %	-20.007 cps
Li 670.784 {50} (Radial)	0.00000 ppm	0.3 %	10.397 cps
Mg 280.270 {120} (Radial)	0.00000 ppm	0.1 %	7.350 cps
Mg 279.079 {121} (Radial)	0.00000 ppm	-2.3 %	-0.633 cps
Mn 257.610 {131} (Axial)	0.00000 ppm	0.1 %	8.783 cps
Mo 202.030 {467} (Axial)	0.00000 ppm	0.2 %	0.719 cps
Mo 204.598 {465} (Axial)	0.00000 ppm	0.4 %	0.704 cps
Na 589.592 {57} (Radial)	0.00000 ppm	2.5 %	6.829 cps
Ni 231.604 {445} (Axial)	0.00000 ppm	-0.1 %	-3.938 cps
P 177.495 {490} (Axial)	0.00000 ppm	-5.1 %	-0.095 cps
Pb 220.353 {453} (Axial)	0.00000 ppm	0.1 %	3.180 cps
Sb 206.833 {463} (Axial)	0.00000 ppm	-0.6 %	-0.418 cps
Se 196.090 {472} (Axial)	0.00000 ppm	-0.6 %	-1.114 cps
Si 251.611 {134} (Axial)	0.00000 ppm	0.0 %	103.044 cps
Sn 189.989 {477} (Axial)	0.00000 ppm	-65.6 %	-0.013 cps
Sr 407.771 {83} (Radial)	0.00000 ppm	0.7 %	3.236 cps
Sr 421.552 {80} (Axial)	0.00000 ppm	0.1 %	48.896 cps
Ti 334.941 {101} (Axial)	0.00000 ppm	0.2 %	10.783 cps
Ti 336.121 {100} (Axial)	0.00000 ppm	0.0 %	165.261 cps
Tl 190.856 {477} (Axial)	0.00000 ppm	-0.7 %	-0.333 cps
V 292.402 {115} (Axial)	0.00000 ppm	-3.2 %	-1.383 cps
Zn 213.856 {458} (Axial)	0.00000 ppm	0.1 %	6.799 cps
Y 371.030 {91} (Radial)	100.00000 %	0.0 %	9,396.161 cps
Y 360.073 {94} (Radial)	100.00000 %	0.0 %	3,489.611 cps
Y 224.306 {450} (Axial)	100.00000 %	0.0 %	13,985.470 cps

Cal 1

Sample type: STD Analysis started at: 12/19/2019 8:19:14 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00000 ppm		1,993.156 cps
Ag 338.289 {100} (Axial)	0.00000 ppm		2,528.458 cps
Al 308.215 {109} (Radial)	10.00000 ppm	0.2 %	529.856 cps
Al 396.152 {85} (Radial)	10.00000 ppm	0.7 %	2,908.902 cps
As 189.042 {478} (Axial)	5.00000 ppm	2.3 %	1,901.233 cps

	Concentration average	Concentration RSD	Raw Intensity average
As 193.759 {474} (Axial)	5.00000 ppm	2.1 %	1,816.210 cps
B 249.678 {135} (Radial)	2.00000 ppm	1.2 %	284.103 cps
Ba 455.403 {74} (Radial)	2.00000 ppm	0.8 %	34,192.604 cps
Be 313.042 {108} (Axial)	2.00000 ppm	0.5 %	501,578.918 cps
Ca 315.887 {107} (Radial)	10.00000 ppm	0.6 %	859.541 cps
Cd 226.502 {449} (Axial)	2.00000 ppm	2.9 %	17,621.796 cps
Cd 214.438 {457} (Axial)	2.00000 ppm	3.1 %	18,567.044 cps
Co 228.616 {447} (Axial)	2.00000 ppm	3.0 %	10,092.659 cps
Cr 267.716 {126} (Axial)	2.00000 ppm	0.1 %	14,370.675 cps
Cu 324.754 {104} (Axial)	2.00000 ppm	0.1 %	30,433.551 cps
Cu 327.396 {103} (Axial)	2.00000 ppm	0.2 %	26,729.330 cps
Fe 259.940 {130} (Radial)	10.00000 ppm	0.4 %	1,412.801 cps
Fe 273.955 {123} (Radial)	10.00000 ppm	0.7 %	683.127 cps
K 766.490 {44} (Radial)	10.00000 ppm	1.1 %	4,271.390 cps
Li 670.784 {50} (Radial)	5.00000 ppm	0.6 %	53,892.328 cps
Mg 280.270 {120} (Radial)	10.00000 ppm	0.1 %	47,562.177 cps
Mg 279.079 {121} (Radial)	10.00000 ppm	0.2 %	216.705 cps
Mn 257.610 {131} (Axial)	2.00000 ppm	0.1 %	96,657.906 cps
Mo 202.030 {467} (Axial)	10.00000 ppm	2.8 %	22,027.952 cps
Mo 204.598 {465} (Axial)	10.00000 ppm	2.7 %	9,546.822 cps
Na 589.592 {57} (Radial)	10.00000 ppm	0.3 %	16,283.646 cps
Ni 231.604 {445} (Axial)	2.00000 ppm	3.0 %	4,268.618 cps
P 177.495 {490} (Axial)	10.00000 ppm	2.2 %	3,488.862 cps
Pb 220.353 {453} (Axial)	2.00000 ppm	2.1 %	1,570.438 cps
Sb 206.833 {463} (Axial)	5.00000 ppm	2.1 %	3,026.122 cps
Se 196.090 {472} (Axial)	5.00000 ppm	1.4 %	1,503.779 cps
Si 251.611 {134} (Axial)	10.00000 ppm	0.1 %	14,651.894 cps
Sn 189.989 {477} (Axial)	2.00000 ppm	3.1 %	1,874.360 cps
Sr 407.771 {83} (Radial)	2.00000 ppm	0.6 %	56,704.226 cps
Sr 421.552 {80} (Axial)	2.00000 ppm	0.6 %	1,714,183.023 cps
Ti 334.941 {101} (Axial)	10.00000 ppm	0.4 %	343,605.408 cps
Ti 336.121 {100} (Axial)	10.00000 ppm	0.2 %	337,908.825 cps
Tl 190.856 {477} (Axial)	5.00000 ppm	1.2 %	1,407.490 cps
V 292.402 {115} (Axial)	2.00000 ppm	0.1 %	24,615.635 cps
Zn 213.856 {458} (Axial)	5.00000 ppm	3.0 %	28,632.296 cps
Y 371.030 {91} (Radial)	98.83316 %	0.6 %	9,286.523 cps
Y 360.073 {94} (Radial)	98.88128 %	0.4 %	3,450.572 cps
Y 224.306 {450} (Axial)	97.15953 %	0.1 %	13,588.216 cps

Cal 2

Sample type: STD Analysis started at: 12/19/2019 8:22:08 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.10000 ppm	0.5 %	1,022.011 cps
Ag 338.289 {100} (Axial)	0.10000 ppm	0.3 %	615.250 cps
Al 308.215 {109} (Radial)	0.00000 ppm		1.778 cps
Al 396.152 {85} (Radial)	0.00000 ppm		5.683 cps
As 189.042 {478} (Axial)	0.00000 ppm		-0.392 cps
As 193.759 {474} (Axial)	0.00000 ppm		0.194 cps
B 249.678 {135} (Radial)	0.00000 ppm		5.972 cps
Ba 455.403 {74} (Radial)	0.00000 ppm		50.189 cps

	Concentration average	Concentration RSD	Raw Intensity average
Be 313.042 {108} (Axial)	0.00000 ppm		31.250 cps
Ca 315.887 {107} (Radial)	0.00000 ppm		5.533 cps
Cd 226.502 {449} (Axial)	0.00000 ppm		2.258 cps
Cd 214.438 {457} (Axial)	0.00000 ppm		6.547 cps
Co 228.616 {447} (Axial)	0.00000 ppm		2.550 cps
Cr 267.716 {126} (Axial)	0.00000 ppm		3.879 cps
Cu 324.754 {104} (Axial)	0.00000 ppm		467.789 cps
Cu 327.396 {103} (Axial)	0.00000 ppm		72.933 cps
Fe 259.940 {130} (Radial)	0.00000 ppm		1.407 cps
Fe 273.955 {123} (Radial)	0.00000 ppm		0.100 cps
K 766.490 {44} (Radial)	0.00000 ppm		-28.676 cps
Li 670.784 {50} (Radial)	0.00000 ppm		29.514 cps
Mg 280.270 {120} (Radial)	0.00000 ppm		27.333 cps
Mg 279.079 {121} (Radial)	0.00000 ppm		0.450 cps
Mn 257.610 {131} (Axial)	0.00000 ppm		26.750 cps
Mo 202.030 {467} (Axial)	0.00000 ppm		5.521 cps
Mo 204.598 {465} (Axial)	0.00000 ppm		2.338 cps
Na 589.592 {57} (Radial)	0.00000 ppm		85.782 cps
Ni 231.604 {445} (Axial)	0.00000 ppm		-2.419 cps
P 177.495 {490} (Axial)	0.00000 ppm		2.596 cps
Pb 220.353 {453} (Axial)	0.00000 ppm		3.052 cps
Sb 206.833 {463} (Axial)	0.00000 ppm		0.492 cps
Se 196.090 {472} (Axial)	0.00000 ppm		-0.876 cps
Si 251.611 {134} (Axial)	0.00000 ppm		241.022 cps
Sn 189.989 {477} (Axial)	0.00000 ppm		1.268 cps
Sr 407.771 {83} (Radial)	0.00000 ppm		9.256 cps
Sr 421.552 {80} (Axial)	0.00000 ppm		326.183 cps
Ti 334.941 {101} (Axial)	0.00000 ppm		70.117 cps
Ti 336.121 {100} (Axial)	0.00000 ppm		220.556 cps
Tl 190.856 {477} (Axial)	0.00000 ppm		-0.113 cps
V 292.402 {115} (Axial)	0.00000 ppm		1.250 cps
Zn 213.856 {458} (Axial)	0.00000 ppm		21.019 cps
Y 371.030 {91} (Radial)	99.88166 %	0.9 %	9,385.042 cps
Y 360.073 {94} (Radial)	99.90336 %	1.0 %	3,486.239 cps
Y 224.306 {450} (Axial)	99.93167 %	0.3 %	13,975.914 cps

LCB

Sample type: QC Analysis started at: 12/19/2019 8:25:00 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00062 ppm	25.791 %	57.7 %	-7.700 cps
Ag 338.289 {100} (Axial)	0.00013 ppm	1.003 %	229.0 %	12.867 cps
Al 308.215 {109} (Radial)	0.05456 ppm	18.813 %	13.5 %	2.328 cps
Al 396.152 {85} (Radial)	0.00106 ppm	1.139 %	573.2 %	5.422 cps
As 189.042 {478} (Axial)	0.00016 ppm	3.059 %	1,184.0 %	-0.338 cps
As 193.759 {474} (Axial)	0.00091 ppm	10.137 %	124.1 %	0.367 cps
B 249.678 {135} (Radial)	0.01258 ppm	96.797 %	89.7 %	1.283 cps
Ba 455.403 {74} (Radial)	0.00017 ppm	19.814 %	182.4 %	41.539 cps
Be 313.042 {108} (Axial)	0.00014 ppm	22.766 %	75.1 %	0.467 cps
Ca 315.887 {107} (Radial)	-0.00127 ppm	-0.579 %	1,861.1 %	2.750 cps
Cd 226.502 {449} (Axial)	0.00020 ppm	38.140 %	6.1 %	1.087 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cd 214.438 {457} (Axial)	0.00012 ppm	42.621 %	31.3 %	5.501 cps
Co 228.616 {447} (Axial)	0.00018 ppm	28.295 %	122.6 %	1.678 cps
Cr 267.716 {126} (Axial)	-0.00006 ppm	-5.768 %	827.6 %	0.128 cps
Cu 324.754 {104} (Axial)	0.00012 ppm	3.366 %	73.1 %	438.767 cps
Cu 327.396 {103} (Axial)	0.00025 ppm	5.793 %	141.4 %	47.917 cps
Fe 259.940 {130} (Radial)	-0.01213 ppm	-63.832 %	47.3 %	-0.003 cps
Fe 273.955 {123} (Radial)	**0.03592 ppm**	171.044 %	**67.8 %**	2.050 cps
K 766.490 {44} (Radial)	-0.01806 ppm	-18.062 %	44.3 %	-27.786 cps
Li 670.784 {50} (Radial)	0.00071 ppm	22.282 %	139.8 %	18.135 cps
Mg 280.270 {120} (Radial)	0.00062 ppm	3.096 %	60.0 %	10.300 cps
Mg 279.079 {121} (Radial)	-0.02748 ppm	-2.748 %	62.5 %	-1.233 cps
Mn 257.610 {131} (Axial)	0.00020 ppm	5.262 %	47.9 %	18.467 cps
Mo 202.030 {467} (Axial)	0.00092 ppm	38.520 %	28.6 %	2.776 cps
Mo 204.598 {465} (Axial)	0.00069 ppm	38.286 %	78.5 %	1.364 cps
Na 589.592 {57} (Radial)	0.00600 ppm	4.286 %	138.3 %	16.667 cps
Ni 231.604 {445} (Axial)	0.00079 ppm	20.793 %	29.0 %	-2.180 cps
P 177.495 {490} (Axial)	0.00161 ppm	4.884 %	51.4 %	0.479 cps
Pb 220.353 {453} (Axial)	0.00078 ppm	16.569 %	30.3 %	3.750 cps
Sb 206.833 {463} (Axial)	-0.00003 ppm	-0.338 %	1,314.7 %	-0.428 cps
Se 196.090 {472} (Axial)	0.00025 ppm	1.377 %	255.8 %	-1.022 cps
Si 251.611 {134} (Axial)	0.00109 ppm	1.252 %	159.9 %	103.194 cps
Sn 189.989 {477} (Axial)	0.00012 ppm	3.978 %	650.0 %	0.103 cps
Sr 407.771 {83} (Radial)	-0.00006 ppm	-2.355 %	37.3 %	1.544 cps
Sr 421.552 {80} (Axial)	0.00014 ppm	5.787 %	62.9 %	173.675 cps
Ti 334.941 {101} (Axial)	0.00065 ppm	50.072 %	67.0 %	33.250 cps
Ti 336.121 {100} (Axial)	0.00101 ppm	72.028 %	47.4 %	197.389 cps
Tl 190.856 {477} (Axial)	0.00052 ppm	3.710 %	314.5 %	-0.180 cps
V 292.402 {115} (Axial)	0.00017 ppm	19.435 %	115.3 %	0.817 cps
Zn 213.856 {458} (Axial)	0.00034 ppm	4.971 %	29.4 %	8.677 cps
Y 371.030 {91} (Radial)	99.78568 %		0.1 %	9,376.024 cps
Y 360.073 {94} (Radial)	99.67992 %		0.3 %	3,478.442 cps
Y 224.306 {450} (Axial)	98.57817 %		1.1 %	13,786.620 cps

RLC

Sample type: QC Analysis started at: 12/19/2019 8:27:55 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.01025 ppm	102.533 %	4.9 %	91.589 cps
Ag 338.289 {100} (Axial)	0.00936 ppm	93.639 %	8.1 %	69.367 cps
Al 308.215 {109} (Radial)	0.56759 ppm	113.517 %	2.1 %	29.896 cps
Al 396.152 {85} (Radial)	0.50205 ppm	100.411 %	1.5 %	149.444 cps
As 189.042 {478} (Axial)	0.03945 ppm	98.623 %	6.2 %	14.958 cps
As 193.759 {474} (Axial)	0.04068 ppm	101.698 %	3.4 %	15.126 cps
B 249.678 {135} (Radial)	0.05411 ppm	108.226 %	3.9 %	7.328 cps
Ba 455.403 {74} (Radial)	0.00307 ppm	102.446 %	5.3 %	92.372 cps
Be 313.042 {108} (Axial)	0.00225 ppm	112.476 %	5.1 %	542.617 cps
Ca 315.887 {107} (Radial)	0.51071 ppm	102.142 %	4.3 %	47.217 cps
Cd 226.502 {449} (Axial)	0.00215 ppm	107.388 %	5.0 %	18.805 cps
Cd 214.438 {457} (Axial)	0.00203 ppm	101.256 %	5.5 %	23.779 cps
Co 228.616 {447} (Axial)	0.00655 ppm	109.152 %	3.1 %	34.306 cps
Cr 267.716 {126} (Axial)	0.00545 ppm	108.917 %	2.3 %	40.619 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Cu 324.754 {104} (Axial)	0.02106 ppm	105.285 %	2.6 %	764.089 cps
Cu 327.396 {103} (Axial)	0.02061 ppm	103.041 %	2.2 %	326.317 cps
Fe 259.940 {130} (Radial)	0.07634 ppm	95.425 %	7.7 %	12.731 cps
Fe 273.955 {123} (Radial)	**0.11221 ppm**	140.257 %	**4.2 %**	7.400 cps
K 766.490 {44} (Radial)	0.73704 ppm	92.131 %	1.4 %	302.054 cps
Li 670.784 {50} (Radial)	0.02593 ppm	103.740 %	1.8 %	295.210 cps
Mg 280.270 {120} (Radial)	0.20869 ppm	104.347 %	0.9 %	1,019.450 cps
Mg 279.079 {121} (Radial)	0.19556 ppm	97.779 %	18.2 %	3.700 cps
Mn 257.610 {131} (Axial)	0.00867 ppm	108.429 %	1.0 %	437.733 cps
Mo 202.030 {467} (Axial)	0.01287 ppm	107.225 %	2.0 %	29.720 cps
Mo 204.598 {465} (Axial)	0.01227 ppm	102.214 %	6.6 %	12.707 cps
Na 589.592 {57} (Radial)	0.40273 ppm	100.681 %	1.9 %	674.706 cps
Ni 231.604 {445} (Axial)	0.01347 ppm	112.245 %	0.5 %	25.406 cps
P 177.495 {490} (Axial)	0.20582 ppm	102.912 %	1.3 %	73.382 cps
Pb 220.353 {453} (Axial)	0.03142 ppm	104.733 %	2.5 %	28.311 cps
Sb 206.833 {463} (Axial)	0.01995 ppm	99.760 %	12.2 %	11.933 cps
Se 196.090 {472} (Axial)	0.05586 ppm	111.721 %	2.2 %	16.096 cps
Si 251.611 {134} (Axial)	**0.26229 ppm**	131.147 %	**1.3 %**	488.638 cps
Sn 189.989 {477} (Axial)	0.02076 ppm	103.823 %	0.7 %	19.903 cps
Sr 407.771 {83} (Radial)	0.00308 ppm	102.606 %	3.2 %	92.154 cps
Sr 421.552 {80} (Axial)	0.00348 ppm	115.984 %	3.6 %	3,100.844 cps
Ti 334.941 {101} (Axial)	0.00704 ppm	117.272 %	8.8 %	258.067 cps
Ti 336.121 {100} (Axial)	0.00720 ppm	120.004 %	10.2 %	412.694 cps
Tl 190.856 {477} (Axial)	0.06459 ppm	107.651 %	3.3 %	18.341 cps
V 292.402 {115} (Axial)	0.00536 ppm	107.251 %	5.0 %	66.167 cps
Zn 213.856 {458} (Axial)	0.03266 ppm	108.868 %	2.2 %	198.235 cps
Y 371.030 {91} (Radial)	100.68465 %		0.6 %	9,460.492 cps
Y 360.073 {94} (Radial)	100.83593 %		0.5 %	3,518.782 cps
Y 224.306 {450} (Axial)	99.43467 %		0.4 %	13,906.405 cps

iLCM1

Sample type: QC Analysis started at: 12/19/2019 8:30:46 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.13795 ppm	0.000 %	0.5 %	1,380.785 cps
Ag 338.289 {100} (Axial)	0.13549 ppm	0.000 %	0.5 %	951.691 cps
Al 308.215 {109} (Radial)	**1.05574 ppm**	105.574 %	**1.7 %**	55.272 cps
Al 396.152 {85} (Radial)	0.99961 ppm	99.961 %	0.7 %	299.585 cps
As 189.042 {478} (Axial)	1.99908 ppm	99.954 %	0.5 %	761.692 cps
As 193.759 {474} (Axial)	2.00241 ppm	100.120 %	0.3 %	729.288 cps
B 249.678 {135} (Radial)	0.98826 ppm	98.826 %	0.4 %	142.155 cps
Ba 455.403 {74} (Radial)	0.99517 ppm	99.517 %	0.3 %	17,244.467 cps
Be 313.042 {108} (Axial)	1.01343 ppm	101.343 %	0.3 %	254,735.203 cps
Ca 315.887 {107} (Radial)	1.01100 ppm	101.100 %	2.2 %	90.719 cps
Cd 226.502 {449} (Axial)	1.03836 ppm	103.836 %	0.5 %	9,163.485 cps
Cd 214.438 {457} (Axial)	1.03333 ppm	103.333 %	0.7 %	9,618.631 cps
Co 228.616 {447} (Axial)	1.04408 ppm	104.408 %	0.5 %	5,239.030 cps
Cr 267.716 {126} (Axial)	1.03371 ppm	103.371 %	0.4 %	7,445.684 cps
Cu 324.754 {104} (Axial)	1.03253 ppm	103.253 %	0.7 %	15,960.415 cps
Cu 327.396 {103} (Axial)	1.03021 ppm	103.021 %	0.6 %	13,821.476 cps
Fe 259.940 {130} (Radial)	1.00012 ppm	100.012 %	0.5 %	144.817 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Fe 273.955 {123} (Radial)	**1.05484 ppm**	105.484 %	**2.9 %**	72.670 cps
K 766.490 {44} (Radial)	4.85726 ppm	97.145 %	0.8 %	2,090.197 cps
Li 670.784 {50} (Radial)	0.99560 ppm	99.560 %	0.2 %	10,872.476 cps
Mg 280.270 {120} (Radial)	1.02226 ppm	102.226 %	0.4 %	4,936.102 cps
Mg 279.079 {121} (Radial)	1.01944 ppm	101.944 %	5.1 %	21.827 cps
Mn 257.610 {131} (Axial)	1.01557 ppm	101.557 %	0.3 %	49,200.030 cps
Mo 202.030 {467} (Axial)	**1.07822 ppm**	107.822 %	**0.4 %**	2,381.308 cps
Mo 204.598 {465} (Axial)	**1.06087 ppm**	106.087 %	**0.4 %**	1,015.767 cps
Na 589.592 {57} (Radial)	0.99409 ppm	99.409 %	0.5 %	1,644.993 cps
Ni 231.604 {445} (Axial)	**1.08340 ppm**	108.340 %	**0.4 %**	2,304.846 cps
P 177.495 {490} (Axial)	4.99862 ppm	99.972 %	0.3 %	1,748.034 cps
Pb 220.353 {453} (Axial)	**2.10701 ppm**	105.350 %	**0.4 %**	1,658.699 cps
Sb 206.833 {463} (Axial)	2.09848 ppm	104.924 %	0.4 %	1,273.793 cps
Se 196.090 {472} (Axial)	0.98298 ppm	98.298 %	0.2 %	295.539 cps
Si 251.611 {134} (Axial)	5.19516 ppm	103.903 %	0.3 %	7,605.854 cps
Sn 189.989 {477} (Axial)	**5.34908 ppm**	106.982 %	**0.4 %**	5,024.869 cps
Sr 407.771 {83} (Radial)	0.99071 ppm	99.071 %	0.1 %	28,439.194 cps
Sr 421.552 {80} (Axial)	1.03206 ppm	103.206 %	0.6 %	886,634.232 cps
Ti 334.941 {101} (Axial)	**1.05410 ppm**	105.410 %	**0.7 %**	36,312.658 cps
Ti 336.121 {100} (Axial)	1.04485 ppm	104.485 %	0.7 %	35,532.455 cps
Tl 190.856 {477} (Axial)	**5.28642 ppm**	105.728 %	**0.6 %**	1,494.782 cps
V 292.402 {115} (Axial)	1.00450 ppm	100.450 %	0.3 %	12,390.660 cps
Zn 213.856 {458} (Axial)	**1.05176 ppm**	105.176 %	**0.5 %**	6,061.726 cps
Y 371.030 {91} (Radial)	100.05778 %		0.3 %	9,401.591 cps
Y 360.073 {94} (Radial)	100.25254 %		0.4 %	3,498.424 cps
Y 224.306 {450} (Axial)	97.38736 %		1.0 %	13,620.079 cps

iHiLCM

Sample type: QC Analysis started at: 12/19/2019 8:33:18 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00091 ppm	0.000 %	53.3 %	-21.356 cps
Ag 338.289 {100} (Axial)	0.00529 ppm	0.000 %	4.5 %	61.267 cps
Al 308.215 {109} (Radial)	101.53527 ppm	101.535 %	0.6 %	5,244.782 cps
Al 396.152 {85} (Radial)	102.02721 ppm	102.027 %	0.3 %	28,339.688 cps
As 189.042 {478} (Axial)	0.00249 ppm	0.000 %	76.5 %	0.520 cps
As 193.759 {474} (Axial)	-0.00362 ppm	0.000 %	104.9 %	-7.934 cps
B 249.678 {135} (Radial)	-0.00223 ppm	0.000 %	146.7 %	-3.085 cps
Ba 455.403 {74} (Radial)	0.00063 ppm	0.000 %	38.3 %	48.147 cps
Be 313.042 {108} (Axial)	0.00034 ppm	0.000 %	11.0 %	47.100 cps
Ca 315.887 {107} (Radial)	100.41190 ppm	100.412 %	0.6 %	8,387.667 cps
Cd 226.502 {449} (Axial)	-0.00170 ppm	0.000 %	30.5 %	139.250 cps
Cd 214.438 {457} (Axial)	-0.00013 ppm	0.000 %	241.7 %	88.073 cps
Co 228.616 {447} (Axial)	0.00518 ppm	0.000 %	3.6 %	24.722 cps
Cr 267.716 {126} (Axial)	0.00238 ppm	0.000 %	5.3 %	6.776 cps
Cu 324.754 {104} (Axial)	-0.00024 ppm	0.000 %	110.4 %	309.389 cps
Cu 327.396 {103} (Axial)	0.00137 ppm	0.000 %	7.8 %	57.717 cps
Fe 259.940 {130} (Radial)	98.96628 ppm	98.966 %	0.9 %	13,705.332 cps
Fe 273.955 {123} (Radial)	99.58444 ppm	99.584 %	0.6 %	6,695.106 cps
K 766.490 {44} (Radial)	103.54475 ppm	103.545 %	0.4 %	43,755.116 cps
Li 670.784 {50} (Radial)	0.00159 ppm	0.000 %	39.4 %	27.052 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mg 280.270 {120} (Radial)	57.35482 ppm	95.591 %	0.9 %	267,653.843 cps
Mg 279.079 {121} (Radial)	60.88782 ppm	101.480 %	1.0 %	1,297.455 cps
Mn 257.610 {131} (Axial)	0.00204 ppm	0.000 %	1.6 %	99.600 cps
Mo 202.030 {467} (Axial)	0.00056 ppm	0.000 %	126.6 %	1.798 cps
Mo 204.598 {465} (Axial)	0.00014 ppm	0.000 %	661.1 %	5.402 cps
Na 589.592 {57} (Radial)	103.19576 ppm	103.196 %	0.2 %	165,484.352 cps
Ni 231.604 {445} (Axial)	0.00705 ppm	0.000 %	8.5 %	10.366 cps
P 177.495 {490} (Axial)	0.00503 ppm	0.000 %	36.9 %	1.543 cps
Pb 220.353 {453} (Axial)	-0.00162 ppm	0.000 %	29.6 %	-6.126 cps
Sb 206.833 {463} (Axial)	-0.00385 ppm	0.000 %	52.6 %	-1.382 cps
Se 196.090 {472} (Axial)	0.00171 ppm	0.000 %	410.4 %	-2.320 cps
Si 251.611 {134} (Axial)	0.00449 ppm	0.000 %	68.2 %	99.075 cps
Sn 189.989 {477} (Axial)	0.00265 ppm	0.000 %	42.4 %	2.289 cps
Sr 407.771 {83} (Radial)	0.00132 ppm	0.000 %	7.0 %	39.982 cps
Sr 421.552 {80} (Axial)	0.00132 ppm	0.000 %	2.0 %	1,091.510 cps
Ti 334.941 {101} (Axial)	0.00134 ppm	0.000 %	12.3 %	28.767 cps
Ti 336.121 {100} (Axial)	0.00010 ppm	0.000 %	220.8 %	45.256 cps
Tl 190.856 {477} (Axial)	-0.00746 ppm	0.000 %	32.3 %	-2.261 cps
V 292.402 {115} (Axial)	0.00190 ppm	0.000 %	4.8 %	20.467 cps
Zn 213.856 {458} (Axial)	0.01055 ppm	0.000 %	4.9 %	107.040 cps
Y 371.030 {91} (Radial)	97.36652 %		0.8 %	9,148.715 cps
Y 360.073 {94} (Radial)	97.03215 %		0.6 %	3,386.045 cps
Y 224.306 {450} (Axial)	90.24822 %		0.4 %	12,621.637 cps

iLCM2

Sample type: QC Analysis started at: 12/19/2019 8:36:05 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04855 ppm	97.105 %	1.1 %	479.933 cps
Ag 338.289 {100} (Axial)	0.04818 ppm	96.362 %	0.1 %	297.117 cps
Al 308.215 {109} (Radial)	0.04822 ppm	0.000 %	52.8 %	1.985 cps
Al 396.152 {85} (Radial)	0.01189 ppm	0.000 %	57.7 %	8.494 cps
As 189.042 {478} (Axial)	-0.00127 ppm	0.000 %	99.3 %	-0.881 cps
As 193.759 {474} (Axial)	-0.00042 ppm	0.000 %	108.8 %	-0.122 cps
B 249.678 {135} (Radial)	0.00588 ppm	0.000 %	202.2 %	0.317 cps
Ba 455.403 {74} (Radial)	0.00042 ppm	0.000 %	69.5 %	45.817 cps
Be 313.042 {108} (Axial)	0.00005 ppm	0.000 %	124.8 %	-22.200 cps
Ca 315.887 {107} (Radial)	0.01183 ppm	0.000 %	156.0 %	3.867 cps
Cd 226.502 {449} (Axial)	0.00015 ppm	0.000 %	71.4 %	0.708 cps
Cd 214.438 {457} (Axial)	0.00011 ppm	0.000 %	27.7 %	5.418 cps
Co 228.616 {447} (Axial)	0.00015 ppm	0.000 %	109.8 %	1.483 cps
Cr 267.716 {126} (Axial)	0.00021 ppm	0.000 %	181.2 %	2.068 cps
Cu 324.754 {104} (Axial)	0.00045 ppm	0.000 %	43.7 %	441.689 cps
Cu 327.396 {103} (Axial)	0.00013 ppm	0.000 %	205.2 %	46.067 cps
Fe 259.940 {130} (Radial)	0.00881 ppm	0.000 %	72.2 %	2.971 cps
Fe 273.955 {123} (Radial)	0.01137 ppm	0.000 %	98.1 %	0.350 cps
K 766.490 {44} (Radial)	0.03178 ppm	0.000 %	63.9 %	-6.158 cps
Li 670.784 {50} (Radial)	0.00045 ppm	0.000 %	49.9 %	15.303 cps
Mg 280.270 {120} (Radial)	0.00862 ppm	0.000 %	12.6 %	48.550 cps
Mg 279.079 {121} (Radial)	0.02118 ppm	0.000 %	140.6 %	-0.167 cps
Mn 257.610 {131} (Axial)	0.00013 ppm	0.000 %	51.5 %	15.167 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mo 202.030 {467} (Axial)	0.00061 ppm	0.000 %	38.3 %	2.063 cps
Mo 204.598 {465} (Axial)	0.00044 ppm	0.000 %	77.3 %	1.117 cps
Na 589.592 {57} (Radial)	0.03684 ppm	0.000 %	22.0 %	67.361 cps
Ni 231.604 {445} (Axial)	-0.00002 ppm	0.000 %	2,716.3 %	-3.903 cps
P 177.495 {490} (Axial)	0.00227 ppm	0.000 %	58.2 %	0.707 cps
Pb 220.353 {453} (Axial)	-0.00036 ppm	0.000 %	31.1 %	2.828 cps
Sb 206.833 {463} (Axial)	0.00162 ppm	0.000 %	19.7 %	0.576 cps
Se 196.090 {472} (Axial)	0.00166 ppm	0.000 %	42.9 %	-0.589 cps
Si 251.611 {134} (Axial)	0.02756 ppm	0.000 %	5.6 %	141.104 cps
Sn 189.989 {477} (Axial)	0.00057 ppm	0.000 %	151.6 %	0.528 cps
Sr 407.771 {83} (Radial)	-0.00002 ppm	0.000 %	156.8 %	2.629 cps
Sr 421.552 {80} (Axial)	0.00013 ppm	0.000 %	46.1 %	156.678 cps
Ti 334.941 {101} (Axial)	0.00023 ppm	0.000 %	103.7 %	18.433 cps
Ti 336.121 {100} (Axial)	0.00036 ppm	0.000 %	41.9 %	174.294 cps
Tl 190.856 {477} (Axial)	0.00102 ppm	0.000 %	69.6 %	-0.035 cps
V 292.402 {115} (Axial)	0.00016 ppm	0.000 %	156.8 %	0.633 cps
Zn 213.856 {458} (Axial)	0.00099 ppm	0.000 %	8.5 %	12.366 cps
Y 371.030 {91} (Radial)	99.76557 %		0.7 %	9,374.133 cps
Y 360.073 {94} (Radial)	99.47674 %		0.3 %	3,471.351 cps
Y 224.306 {450} (Axial)	98.10028 %		0.3 %	13,719.785 cps

wash

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:38:58 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00036 ppm	161.3 %	-10.322 cps
Ag 338.289 {100} (Axial)	0.00031 ppm	204.2 %	13.967 cps
Al 308.215 {109} (Radial)	0.03487 ppm	90.8 %	1.290 cps
Al 396.152 {85} (Radial)	0.02421 ppm	7.6 %	12.078 cps
As 189.042 {478} (Axial)	-0.00126 ppm	58.1 %	-0.876 cps
As 193.759 {474} (Axial)	0.00094 ppm	67.5 %	0.378 cps
B 249.678 {135} (Radial)	0.00931 ppm	8.9 %	0.817 cps
Ba 455.403 {74} (Radial)	0.00047 ppm	78.1 %	46.939 cps
Be 313.042 {108} (Axial)	0.00022 ppm	8.3 %	19.933 cps
Ca 315.887 {107} (Radial)	0.00489 ppm	281.4 %	3.300 cps
Cd 226.502 {449} (Axial)	0.00036 ppm	47.3 %	2.539 cps
Cd 214.438 {457} (Axial)	0.00016 ppm	50.8 %	5.844 cps
Co 228.616 {447} (Axial)	0.00042 ppm	30.3 %	2.895 cps
Cr 267.716 {126} (Axial)	0.00054 ppm	33.5 %	4.497 cps
Cu 324.754 {104} (Axial)	0.00052 ppm	38.1 %	442.867 cps
Cu 327.396 {103} (Axial)	0.00002 ppm	1,423.6 %	44.583 cps
Fe 259.940 {130} (Radial)	-0.00654 ppm	137.4 %	0.794 cps
Fe 273.955 {123} (Radial)	0.00841 ppm	235.9 %	0.150 cps
K 766.490 {44} (Radial)	0.01444 ppm	107.6 %	-13.794 cps
Li 670.784 {50} (Radial)	0.00195 ppm	32.6 %	31.749 cps
Mg 280.270 {120} (Radial)	0.00278 ppm	57.1 %	20.783 cps
Mg 279.079 {121} (Radial)	0.06728 ppm	54.1 %	0.850 cps
Mn 257.610 {131} (Axial)	0.00021 ppm	9.7 %	18.733 cps
Mo 202.030 {467} (Axial)	0.00159 ppm	6.3 %	4.252 cps
Mo 204.598 {465} (Axial)	0.00122 ppm	39.1 %	1.867 cps
Na 589.592 {57} (Radial)	0.00865 ppm	114.8 %	21.117 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ni 231.604 {445} (Axial)	0.00023 ppm	80.8 %	-3.364 cps
P 177.495 {490} (Axial)	0.00311 ppm	31.0 %	1.002 cps
Pb 220.353 {453} (Axial)	-0.00027 ppm	215.1 %	2.903 cps
Sb 206.833 {463} (Axial)	0.00156 ppm	34.5 %	0.541 cps
Se 196.090 {472} (Axial)	0.00246 ppm	28.7 %	-0.346 cps
Si 251.611 {134} (Axial)	0.00205 ppm	56.6 %	104.115 cps
Sn 189.989 {477} (Axial)	0.00074 ppm	24.8 %	0.685 cps
Sr 407.771 {83} (Radial)	0.00006 ppm	206.2 %	5.025 cps
Sr 421.552 {80} (Axial)	0.00023 ppm	5.0 %	248.686 cps
Ti 334.941 {101} (Axial)	0.00100 ppm	14.5 %	45.233 cps
Ti 336.121 {100} (Axial)	0.00128 ppm	7.4 %	205.739 cps
Tl 190.856 {477} (Axial)	0.00055 ppm	328.3 %	-0.168 cps
V 292.402 {115} (Axial)	0.00025 ppm	117.7 %	1.767 cps
Zn 213.856 {458} (Axial)	0.00076 ppm	19.8 %	11.068 cps
Y 371.030 {91} (Radial)	100.30266 %	0.3 %	9,424.600 cps
Y 360.073 {94} (Radial)	100.22559 %	0.3 %	3,497.483 cps
Y 224.306 {450} (Axial)	98.12343 %	0.6 %	13,723.023 cps

SIC Ba

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:41:55 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00006 ppm	619.1 %	-13.378 cps
Ag 338.289 {100} (Axial)	-0.00055 ppm	86.4 %	8.733 cps
Al 308.215 {109} (Radial)	0.00750 ppm	208.3 %	-0.168 cps
Al 396.152 {85} (Radial)	0.00251 ppm	459.8 %	5.725 cps
As 189.042 {478} (Axial)	0.00029 ppm	312.5 %	-0.279 cps
As 193.759 {474} (Axial)	-0.00063 ppm	119.9 %	-0.195 cps
B 249.678 {135} (Radial)	0.00464 ppm	92.0 %	0.145 cps
Ba 455.403 {74} (Radial)	9.72895 ppm	0.9 %	165,631.037 cps
Be 313.042 {108} (Axial)	0.00002 ppm	35.9 %	-29.067 cps
Ca 315.887 {107} (Radial)	0.00813 ppm	240.2 %	3.495 cps
Cd 226.502 {449} (Axial)	0.00000 ppm	8,871.6 %	-0.655 cps
Cd 214.438 {457} (Axial)	-0.00013 ppm	42.9 %	3.129 cps
Co 228.616 {447} (Axial)	-0.00036 ppm	52.3 %	-1.089 cps
Cr 267.716 {126} (Axial)	-0.00015 ppm	219.4 %	-0.537 cps
Cu 324.754 {104} (Axial)	0.00023 ppm	72.4 %	438.478 cps
Cu 327.396 {103} (Axial)	0.00016 ppm	53.5 %	46.467 cps
Fe 259.940 {130} (Radial)	-0.00262 ppm	226.7 %	1.327 cps
Fe 273.955 {123} (Radial)	0.04213 ppm	51.6 %	2.430 cps
K 766.490 {44} (Radial)	0.00258 ppm	1,128.2 %	-18.484 cps
Li 670.784 {50} (Radial)	0.00286 ppm	16.2 %	40.913 cps
Mg 280.270 {120} (Radial)	0.00096 ppm	35.5 %	11.738 cps
Mg 279.079 {121} (Radial)	0.00317 ppm	1,703.5 %	-0.549 cps
Mn 257.610 {131} (Axial)	0.00003 ppm	134.0 %	9.983 cps
Mo 202.030 {467} (Axial)	0.00045 ppm	96.1 %	1.699 cps
Mo 204.598 {465} (Axial)	0.00065 ppm	65.1 %	1.320 cps
Na 589.592 {57} (Radial)	0.00581 ppm	94.7 %	16.207 cps
Ni 231.604 {445} (Axial)	0.00006 ppm	860.6 %	-3.722 cps
P 177.495 {490} (Axial)	0.00141 ppm	195.1 %	0.405 cps
Pb 220.353 {453} (Axial)	-0.00105 ppm	111.4 %	2.293 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sb 206.833 {463} (Axial)	-0.00082 ppm	131.3 %	-0.907 cps
Se 196.090 {472} (Axial)	0.00019 ppm	901.5 %	-1.035 cps
Si 251.611 {134} (Axial)	0.00758 ppm	22.4 %	112.142 cps
Sn 189.989 {477} (Axial)	0.00012 ppm	130.5 %	0.099 cps
Sr 407.771 {83} (Radial)	0.00003 ppm	443.3 %	4.007 cps
Sr 421.552 {80} (Axial)	0.00007 ppm	13.0 %	111.793 cps
Ti 334.941 {101} (Axial)	0.00006 ppm	108.7 %	12.633 cps
Ti 336.121 {100} (Axial)	0.00015 ppm	56.2 %	167.333 cps
Tl 190.856 {477} (Axial)	-0.00056 ppm	43.0 %	-0.488 cps
V 292.402 {115} (Axial)	-0.00002 ppm	526.1 %	-1.650 cps
Zn 213.856 {458} (Axial)	-0.00003 ppm	215.7 %	6.504 cps
Y 371.030 {91} (Radial)	98.50865 %	1.6 %	9,256.031 cps
Y 360.073 {94} (Radial)	98.33758 %	1.4 %	3,431.599 cps
Y 224.306 {450} (Axial)	98.13487 %	0.1 %	13,724.623 cps

SIC Ca

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:44:53 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00020 ppm	320.1 %	-15.056 cps
Ag 338.289 {100} (Axial)	0.00550 ppm	23.9 %	83.250 cps
Al 308.215 {109} (Radial)	0.04062 ppm	99.6 %	1.567 cps
Al 396.152 {85} (Radial)	0.00132 ppm	1,004.1 %	13.582 cps
As 189.042 {478} (Axial)	-0.00112 ppm	228.9 %	-0.779 cps
As 193.759 {474} (Axial)	0.00164 ppm	62.2 %	0.602 cps
B 249.678 {135} (Radial)	-0.00086 ppm	792.4 %	-0.643 cps
Ba 455.403 {74} (Radial)	0.00155 ppm	17.1 %	64.625 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	280.1 %	-37.083 cps
Ca 315.887 {107} (Radial)	190.40253 ppm	0.2 %	16,175.881 cps
Cd 226.502 {449} (Axial)	0.00002 ppm	265.5 %	-0.442 cps
Cd 214.438 {457} (Axial)	0.00008 ppm	202.5 %	4.796 cps
Co 228.616 {447} (Axial)	0.00019 ppm	63.1 %	1.581 cps
Cr 267.716 {126} (Axial)	0.00011 ppm	169.9 %	1.289 cps
Cu 324.754 {104} (Axial)	0.00119 ppm	9.9 %	427.711 cps
Cu 327.396 {103} (Axial)	0.00262 ppm	5.0 %	75.150 cps
Fe 259.940 {130} (Radial)	-0.00434 ppm	175.2 %	1.092 cps
Fe 273.955 {123} (Radial)	0.04006 ppm	19.9 %	2.311 cps
K 766.490 {44} (Radial)	-0.01514 ppm	196.3 %	-26.214 cps
Li 670.784 {50} (Radial)	0.00176 ppm	29.6 %	29.246 cps
Mg 280.270 {120} (Radial)	0.00731 ppm	7.7 %	41.944 cps
Mg 279.079 {121} (Radial)	-0.04177 ppm	82.7 %	-1.529 cps
Mn 257.610 {131} (Axial)	0.00012 ppm	47.8 %	13.567 cps
Mo 202.030 {467} (Axial)	0.00056 ppm	51.4 %	1.847 cps
Mo 204.598 {465} (Axial)	-0.00068 ppm	107.4 %	0.031 cps
Na 589.592 {57} (Radial)	0.01201 ppm	61.7 %	26.339 cps
Ni 231.604 {445} (Axial)	0.00056 ppm	12.4 %	-2.511 cps
P 177.495 {490} (Axial)	0.00140 ppm	85.9 %	0.379 cps
Pb 220.353 {453} (Axial)	-0.00150 ppm	74.0 %	1.824 cps
Sb 206.833 {463} (Axial)	-0.00008 ppm	1,460.4 %	-0.435 cps
Se 196.090 {472} (Axial)	0.00052 ppm	236.2 %	-0.884 cps
Si 251.611 {134} (Axial)	0.00351 ppm	13.2 %	100.263 cps

	Concentration average	Concentration RSD	Raw Intensity average
Sn 189.989 {477} (Axial)	-0.00050 ppm	177.7 %	-0.458 cps
Sr 407.771 {83} (Radial)	0.00525 ppm	2.0 %	151.982 cps
Sr 421.552 {80} (Axial)	0.00566 ppm	1.0 %	4,671.664 cps
Ti 334.941 {101} (Axial)	0.00075 ppm	10.4 %	-11.367 cps
Ti 336.121 {100} (Axial)	-0.00043 ppm	18.4 %	-67.133 cps
Tl 190.856 {477} (Axial)	0.00235 ppm	92.4 %	0.324 cps
V 292.402 {115} (Axial)	0.00011 ppm	59.0 %	0.017 cps
Zn 213.856 {458} (Axial)	0.00109 ppm	15.2 %	12.269 cps
Y 371.030 {91} (Radial)	98.79455 %	0.6 %	9,282.895 cps
Y 360.073 {94} (Radial)	98.69999 %	0.4 %	3,444.246 cps
Y 224.306 {450} (Axial)	92.63845 %	0.2 %	12,955.923 cps

SIC Fe

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:47:44 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00202 ppm	3.7 %	-33.244 cps
Ag 338.289 {100} (Axial)	0.00056 ppm	44.5 %	14.767 cps
Al 308.215 {109} (Radial)	0.03940 ppm	80.0 %	1.479 cps
Al 396.152 {85} (Radial)	0.00625 ppm	73.7 %	6.772 cps
As 189.042 {478} (Axial)	-0.00430 ppm	44.8 %	-1.969 cps
As 193.759 {474} (Axial)	-0.01872 ppm	7.9 %	-6.594 cps
B 249.678 {135} (Radial)	-0.03425 ppm	17.3 %	-11.850 cps
Ba 455.403 {74} (Radial)	0.00052 ppm	51.8 %	46.879 cps
Be 313.042 {108} (Axial)	0.00002 ppm	135.3 %	-28.800 cps
Ca 315.887 {107} (Radial)	0.01655 ppm	143.0 %	4.187 cps
Cd 226.502 {449} (Axial)	0.00000 ppm	109,975.8 %	442.046 cps
Cd 214.438 {457} (Axial)	0.00000 ppm	50,256.7 %	204.379 cps
Co 228.616 {447} (Axial)	0.00095 ppm	25.1 %	5.331 cps
Cr 267.716 {126} (Axial)	0.00373 ppm	12.8 %	-1.185 cps
Cu 324.754 {104} (Axial)	-0.00770 ppm	3.2 %	55.328 cps
Cu 327.396 {103} (Axial)	-0.00035 ppm	142.5 %	38.150 cps
Fe 259.940 {130} (Radial)	282.53419 ppm	0.4 %	39,442.789 cps
Fe 273.955 {123} (Radial)	284.55497 ppm	0.6 %	19,286.960 cps
K 766.490 {44} (Radial)	-0.00561 ppm	145.0 %	-22.065 cps
Li 670.784 {50} (Radial)	0.00059 ppm	85.5 %	16.552 cps
Mg 280.270 {120} (Radial)	0.00243 ppm	26.0 %	18.638 cps
Mg 279.079 {121} (Radial)	0.08533 ppm	71.6 %	-2.093 cps
Mn 257.610 {131} (Axial)	0.00393 ppm	1.8 %	193.233 cps
Mo 202.030 {467} (Axial)	-0.00333 ppm	8.4 %	-6.463 cps
Mo 204.598 {465} (Axial)	0.00140 ppm	24.3 %	1.973 cps
Na 589.592 {57} (Radial)	0.01799 ppm	28.7 %	35.900 cps
Ni 231.604 {445} (Axial)	0.00866 ppm	6.8 %	14.212 cps
P 177.495 {490} (Axial)	0.00720 ppm	8.9 %	2.351 cps
Pb 220.353 {453} (Axial)	0.00144 ppm	77.2 %	14.763 cps
Sb 206.833 {463} (Axial)	-0.01999 ppm	10.9 %	-8.832 cps
Se 196.090 {472} (Axial)	0.00045 ppm	397.4 %	-6.030 cps
Si 251.611 {134} (Axial)	-0.03704 ppm	1.8 %	45.679 cps
Sn 189.989 {477} (Axial)	0.00107 ppm	32.7 %	0.966 cps
Sr 407.771 {83} (Radial)	-0.00007 ppm	158.4 %	1.113 cps
Sr 421.552 {80} (Axial)	0.00010 ppm	13.5 %	129.965 cps

	Concentration average	Concentration RSD	Raw Intensity average
Ti 334.941 {101} (Axial)	0.00007 ppm	41.5 %	12.600 cps
Ti 336.121 {100} (Axial)	0.00030 ppm	61.2 %	166.322 cps
Tl 190.856 {477} (Axial)	-0.03428 ppm	4.7 %	-9.759 cps
V 292.402 {115} (Axial)	0.00148 ppm	14.2 %	16.450 cps
Zn 213.856 {458} (Axial)	0.02371 ppm	5.9 %	267.416 cps
Y 371.030 {91} (Radial)	98.32533 %	1.2 %	9,238.806 cps
Y 360.073 {94} (Radial)	97.82450 %	1.1 %	3,413.694 cps
Y 224.306 {450} (Axial)	94.64200 %	0.2 %	13,236.129 cps

SIC Mg

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:50:34 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00006 ppm	345.9 %	-12.411 cps
Ag 338.289 {100} (Axial)	-0.00028 ppm	212.8 %	10.450 cps
Al 308.215 {109} (Radial)	0.03881 ppm	18.9 %	1.458 cps
Al 396.152 {85} (Radial)	0.02092 ppm	47.6 %	10.889 cps
As 189.042 {478} (Axial)	-0.00141 ppm	87.5 %	-0.871 cps
As 193.759 {474} (Axial)	-0.00008 ppm	1,160.4 %	0.002 cps
B 249.678 {135} (Radial)	0.00541 ppm	148.8 %	0.244 cps
Ba 455.403 {74} (Radial)	0.00022 ppm	149.3 %	41.672 cps
Be 313.042 {108} (Axial)	0.00005 ppm	105.2 %	-20.133 cps
Ca 315.887 {107} (Radial)	0.00601 ppm	248.9 %	3.300 cps
Cd 226.502 {449} (Axial)	0.00012 ppm	81.2 %	0.439 cps
Cd 214.438 {457} (Axial)	-0.00010 ppm	21.2 %	3.224 cps
Co 228.616 {447} (Axial)	0.00016 ppm	43.2 %	1.494 cps
Cr 267.716 {126} (Axial)	0.00090 ppm	42.3 %	6.576 cps
Cu 324.754 {104} (Axial)	0.00212 ppm	15.6 %	434.450 cps
Cu 327.396 {103} (Axial)	0.00066 ppm	49.0 %	49.500 cps
Fe 259.940 {130} (Radial)	0.03770 ppm	31.6 %	6.929 cps
Fe 273.955 {123} (Radial)	0.03689 ppm	39.0 %	2.067 cps
K 766.490 {44} (Radial)	-0.01429 ppm	25.1 %	-25.738 cps
Li 670.784 {50} (Radial)	0.00083 ppm	99.6 %	19.101 cps
Mg 280.270 {120} (Radial)	168.87907 ppm	1.1 %	791,891.019 cps
Mg 279.079 {121} (Radial)	210.56665 ppm	0.5 %	4,514.117 cps
Mn 257.610 {131} (Axial)	0.00618 ppm	0.4 %	288.550 cps
Mo 202.030 {467} (Axial)	0.00024 ppm	111.0 %	1.152 cps
Mo 204.598 {465} (Axial)	-0.00035 ppm	189.1 %	0.331 cps
Na 589.592 {57} (Radial)	0.01235 ppm	33.7 %	26.649 cps
Ni 231.604 {445} (Axial)	0.00130 ppm	42.5 %	-0.987 cps
P 177.495 {490} (Axial)	0.00098 ppm	261.8 %	0.238 cps
Pb 220.353 {453} (Axial)	0.00056 ppm	271.9 %	3.316 cps
Sb 206.833 {463} (Axial)	-0.00090 ppm	56.3 %	-0.887 cps
Se 196.090 {472} (Axial)	0.00029 ppm	511.7 %	-0.981 cps
Si 251.611 {134} (Axial)	0.01089 ppm	16.5 %	108.729 cps
Sn 189.989 {477} (Axial)	0.00044 ppm	59.1 %	0.374 cps
Sr 407.771 {83} (Radial)	-0.00003 ppm	129.2 %	2.240 cps
Sr 421.552 {80} (Axial)	0.00009 ppm	66.5 %	114.178 cps
Ti 334.941 {101} (Axial)	0.00657 ppm	4.0 %	221.933 cps
Ti 336.121 {100} (Axial)	0.00677 ppm	2.1 %	365.600 cps
Tl 190.856 {477} (Axial)	0.00088 ppm	177.9 %	-0.074 cps

	Concentration average	Concentration RSD	Raw Intensity average
V 292.402 {115} (Axial)	0.00072 ppm	29.0 %	7.083 cps
Zn 213.856 {458} (Axial)	0.00153 ppm	9.4 %	14.490 cps
Y 371.030 {91} (Radial)	98.16290 %	0.6 %	9,223.544 cps
Y 360.073 {94} (Radial)	97.49877 %	0.2 %	3,402.328 cps
Y 224.306 {450} (Axial)	91.25514 %	0.7 %	12,762.460 cps

SIC Mn

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:53:33 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00060 ppm	81.6 %	7.389 cps
Ag 338.289 {100} (Axial)	-0.00044 ppm	104.3 %	9.350 cps
Al 308.215 {109} (Radial)	0.02668 ppm	116.7 %	0.856 cps
Al 396.152 {85} (Radial)	0.00329 ppm	43.8 %	6.106 cps
As 189.042 {478} (Axial)	0.00110 ppm	154.9 %	0.034 cps
As 193.759 {474} (Axial)	-0.00070 ppm	136.9 %	-0.222 cps
B 249.678 {135} (Radial)	0.00019 ppm	2,847.2 %	-0.500 cps
Ba 455.403 {74} (Radial)	0.00016 ppm	37.1 %	41.739 cps
Be 313.042 {108} (Axial)	-0.00001 ppm	146.9 %	-38.133 cps
Ca 315.887 {107} (Radial)	0.00202 ppm	697.6 %	3.050 cps
Cd 226.502 {449} (Axial)	-0.00006 ppm	144.5 %	-1.188 cps
Cd 214.438 {457} (Axial)	-0.00002 ppm	74.1 %	4.198 cps
Co 228.616 {447} (Axial)	0.00033 ppm	70.4 %	2.403 cps
Cr 267.716 {126} (Axial)	-0.00031 ppm	39.1 %	19.160 cps
Cu 324.754 {104} (Axial)	0.00010 ppm	383.1 %	436.339 cps
Cu 327.396 {103} (Axial)	0.00036 ppm	118.9 %	49.150 cps
Fe 259.940 {130} (Radial)	-0.00733 ppm	120.5 %	0.692 cps
Fe 273.955 {123} (Radial)	0.04065 ppm	73.0 %	2.400 cps
K 766.490 {44} (Radial)	0.00011 ppm	9,110.2 %	-20.117 cps
Li 670.784 {50} (Radial)	-0.00026 ppm	504.1 %	7.739 cps
Mg 280.270 {120} (Radial)	0.02306 ppm	20.7 %	118.817 cps
Mg 279.079 {121} (Radial)	0.04486 ppm	121.9 %	0.350 cps
Mn 257.610 {131} (Axial)	18.01921 ppm	1.6 %	879,004.529 cps
Mo 202.030 {467} (Axial)	-0.00006 ppm	220.4 %	0.560 cps
Mo 204.598 {465} (Axial)	-0.00066 ppm	82.4 %	0.054 cps
Na 589.592 {57} (Radial)	0.01111 ppm	30.9 %	25.328 cps
Ni 231.604 {445} (Axial)	-0.00247 ppm	11.4 %	-9.169 cps
P 177.495 {490} (Axial)	0.00165 ppm	171.0 %	0.484 cps
Pb 220.353 {453} (Axial)	0.00157 ppm	44.2 %	4.363 cps
Sb 206.833 {463} (Axial)	-0.00126 ppm	129.9 %	-1.168 cps
Se 196.090 {472} (Axial)	0.00203 ppm	121.9 %	1.460 cps
Si 251.611 {134} (Axial)	0.00989 ppm	17.4 %	115.406 cps
Sn 189.989 {477} (Axial)	0.00010 ppm	598.9 %	0.087 cps
Sr 407.771 {83} (Radial)	-0.00006 ppm	176.0 %	1.576 cps
Sr 421.552 {80} (Axial)	0.00001 ppm	157.6 %	58.667 cps
Ti 334.941 {101} (Axial)	0.00004 ppm	280.5 %	11.900 cps
Ti 336.121 {100} (Axial)	0.00021 ppm	102.5 %	169.139 cps
Tl 190.856 {477} (Axial)	0.03059 ppm	1.9 %	8.426 cps
V 292.402 {115} (Axial)	0.00117 ppm	18.3 %	-72.567 cps
Zn 213.856 {458} (Axial)	0.00084 ppm	16.0 %	11.483 cps
Y 371.030 {91} (Radial)	100.75779 %	0.8 %	9,467.364 cps

	Concentration average	Concentration RSD	Raw Intensity average
Y 360.073 {94} (Radial)	100.41301 %	0.7 %	3,504.024 cps
Y 224.306 {450} (Axial)	98.08712 %	1.0 %	13,717.945 cps

SIC Ni

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:56:34 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00045 ppm	112.6 %	-9.478 cps
Ag 338.289 {100} (Axial)	0.00029 ppm	146.8 %	13.833 cps
Al 308.215 {109} (Radial)	**0.06128 ppm**	**27.7 %**	2.721 cps
Al 396.152 {85} (Radial)	0.00916 ppm	121.7 %	7.856 cps
As 189.042 {478} (Axial)	-0.00063 ppm	76.5 %	-0.643 cps
As 193.759 {474} (Axial)	-0.00082 ppm	39.8 %	-0.273 cps
B 249.678 {135} (Radial)	0.00443 ppm	157.8 %	0.111 cps
Ba 455.403 {74} (Radial)	0.00025 ppm	218.3 %	43.517 cps
Be 313.042 {108} (Axial)	0.00002 ppm	53.6 %	-30.767 cps
Ca 315.887 {107} (Radial)	0.01204 ppm	80.9 %	3.950 cps
Cd 226.502 {449} (Axial)	-0.00063 ppm	12.6 %	-6.343 cps
Cd 214.438 {457} (Axial)	-0.00004 ppm	130.1 %	4.048 cps
Co 228.616 {447} (Axial)	0.00210 ppm	1.6 %	11.451 cps
Cr 267.716 {126} (Axial)	0.00028 ppm	150.9 %	2.668 cps
Cu 324.754 {104} (Axial)	0.00027 ppm	179.2 %	444.189 cps
Cu 327.396 {103} (Axial)	0.00021 ppm	111.1 %	47.683 cps
Fe 259.940 {130} (Radial)	0.01517 ppm	167.9 %	3.926 cps
Fe 273.955 {123} (Radial)	0.04130 ppm	52.9 %	2.450 cps
K 766.490 {44} (Radial)	0.01019 ppm	339.9 %	-15.836 cps
Li 670.784 {50} (Radial)	0.00070 ppm	141.0 %	18.307 cps
Mg 280.270 {120} (Radial)	0.01696 ppm	125.6 %	89.667 cps
Mg 279.079 {121} (Radial)	-0.01903 ppm	418.9 %	-1.067 cps
Mn 257.610 {131} (Axial)	0.00272 ppm	48.7 %	143.067 cps
Mo 202.030 {467} (Axial)	0.00052 ppm	11.7 %	1.888 cps
Mo 204.598 {465} (Axial)	0.00007 ppm	699.5 %	0.765 cps
Na 589.592 {57} (Radial)	0.00774 ppm	82.9 %	19.826 cps
Ni 231.604 {445} (Axial)	10.71771 ppm	2.0 %	23,276.760 cps
P 177.495 {490} (Axial)	0.00932 ppm	3.7 %	7.016 cps
Pb 220.353 {453} (Axial)	-0.00058 ppm	311.9 %	2.691 cps
Sb 206.833 {463} (Axial)	0.00020 ppm	569.6 %	-0.289 cps
Se 196.090 {472} (Axial)	-0.00043 ppm	211.3 %	-1.238 cps
Si 251.611 {134} (Axial)	0.01416 ppm	12.7 %	123.099 cps
Sn 189.989 {477} (Axial)	0.00030 ppm	119.1 %	0.274 cps
Sr 407.771 {83} (Radial)	-0.00005 ppm	127.4 %	1.882 cps
Sr 421.552 {80} (Axial)	0.00005 ppm	30.8 %	89.365 cps
Ti 334.941 {101} (Axial)	-0.00001 ppm	1,000.9 %	10.267 cps
Ti 336.121 {100} (Axial)	-0.00220 ppm	3.9 %	88.067 cps
Tl 190.856 {477} (Axial)	0.00105 ppm	67.3 %	-0.025 cps
V 292.402 {115} (Axial)	0.00019 ppm	168.6 %	0.950 cps
Zn 213.856 {458} (Axial)	0.01814 ppm	1.8 %	325.023 cps
Y 371.030 {91} (Radial)	101.39027 %	0.4 %	9,526.793 cps
Y 360.073 {94} (Radial)	101.07076 %	0.5 %	3,526.976 cps
Y 224.306 {450} (Axial)	99.26621 %	0.2 %	13,882.846 cps

SIC Si

Sample type: UNKNOWN Analysis started at: 12/19/2019 8:59:26 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00006 ppm	538.8 %	-13.570 cps
Ag 338.289 {100} (Axial)	0.00016 ppm	599.2 %	13.075 cps
Al 308.215 {109} (Radial)	0.03690 ppm	47.8 %	1.414 cps
Al 396.152 {85} (Radial)	0.00793 ppm	73.7 %	7.511 cps
As 189.042 {478} (Axial)	-0.00361 ppm	6.4 %	-1.807 cps
As 193.759 {474} (Axial)	0.00016 ppm	220.7 %	0.093 cps
B 249.678 {135} (Radial)	0.00239 ppm	153.1 %	-0.183 cps
Ba 455.403 {74} (Radial)	0.00056 ppm	74.8 %	49.161 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	136.5 %	-39.289 cps
Ca 315.887 {107} (Radial)	-0.01215 ppm	98.0 %	1.850 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	638.2 %	-0.908 cps
Cd 214.438 {457} (Axial)	-0.00001 ppm	625.4 %	4.333 cps
Co 228.616 {447} (Axial)	-0.00036 ppm	28.1 %	-1.110 cps
Cr 267.716 {126} (Axial)	-0.00035 ppm	133.1 %	-1.995 cps
Cu 324.754 {104} (Axial)	0.00050 ppm	28.5 %	449.144 cps
Cu 327.396 {103} (Axial)	-0.00004 ppm	1,208.0 %	44.436 cps
Fe 259.940 {130} (Radial)	0.00578 ppm	372.8 %	2.585 cps
Fe 273.955 {123} (Radial)	0.04141 ppm	42.8 %	2.467 cps
K 766.490 {44} (Radial)	-0.00247 ppm	488.1 %	-21.438 cps
Li 670.784 {50} (Radial)	0.00040 ppm	169.5 %	14.965 cps
Mg 280.270 {120} (Radial)	0.01505 ppm	138.9 %	80.750 cps
Mg 279.079 {121} (Radial)	-0.00644 ppm	1,519.2 %	-0.783 cps
Mn 257.610 {131} (Axial)	0.00100 ppm	48.1 %	58.512 cps
Mo 202.030 {467} (Axial)	0.00030 ppm	51.4 %	1.403 cps
Mo 204.598 {465} (Axial)	-0.00150 ppm	11.0 %	-0.770 cps
Na 589.592 {57} (Radial)	0.01118 ppm	5.5 %	25.671 cps
Ni 231.604 {445} (Axial)	0.00151 ppm	90.2 %	-0.630 cps
P 177.495 {490} (Axial)	0.00155 ppm	25.1 %	0.461 cps
Pb 220.353 {453} (Axial)	0.00258 ppm	26.0 %	5.242 cps
Sb 206.833 {463} (Axial)	-0.00012 ppm	983.0 %	-0.490 cps
Se 196.090 {472} (Axial)	0.00004 ppm	3,748.1 %	-1.097 cps
Si 251.611 {134} (Axial)	29.25735 ppm	0.4 %	43,223.399 cps
Sn 189.989 {477} (Axial)	-0.00039 ppm	36.7 %	-0.388 cps
Sr 407.771 {83} (Radial)	0.00002 ppm	127.4 %	3.876 cps
Sr 421.552 {80} (Axial)	0.00004 ppm	28.3 %	82.472 cps
Ti 334.941 {101} (Axial)	0.00005 ppm	183.5 %	12.530 cps
Ti 336.121 {100} (Axial)	0.00025 ppm	86.3 %	173.117 cps
Tl 190.856 {477} (Axial)	0.00065 ppm	45.4 %	-0.144 cps
V 292.402 {115} (Axial)	-0.00004 ppm	562.5 %	-1.862 cps
Zn 213.856 {458} (Axial)	0.00025 ppm	15.6 %	8.302 cps
Y 371.030 {91} (Radial)	101.68603 %	0.2 %	9,554.583 cps
Y 360.073 {94} (Radial)	101.36301 %	0.4 %	3,537.175 cps
Y 224.306 {450} (Axial)	99.59450 %	0.1 %	13,928.759 cps

LCB

Sample type: QC Analysis started at: 12/19/2019 9:02:18 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00047 ppm	19.754 %	77.1 %	-9.178 cps
Ag 338.289 {100} (Axial)	-0.00030 ppm	-2.326 %	162.1 %	10.200 cps
Al 308.215 {109} (Radial)	0.05376 ppm	18.537 %	28.5 %	2.279 cps
Al 396.152 {85} (Radial)	0.00336 ppm	3.618 %	249.7 %	6.094 cps
As 189.042 {478} (Axial)	-0.00040 ppm	-7.669 %	201.1 %	-0.548 cps
As 193.759 {474} (Axial)	0.00153 ppm	16.959 %	2.7 %	0.594 cps
B 249.678 {135} (Radial)	0.00408 ppm	31.355 %	123.7 %	0.061 cps
Ba 455.403 {74} (Radial)	0.00013 ppm	15.416 %	176.5 %	41.006 cps
Be 313.042 {108} (Axial)	-0.00002 ppm	-3.132 %	105.3 %	-39.533 cps
Ca 315.887 {107} (Radial)	0.00578 ppm	2.627 %	111.4 %	3.350 cps
Cd 226.502 {449} (Axial)	-0.00002 ppm	-4.387 %	350.1 %	-0.870 cps
Cd 214.438 {457} (Axial)	-0.00003 ppm	-9.333 %	426.7 %	4.123 cps
Co 228.616 {447} (Axial)	0.00001 ppm	1.859 %	546.0 %	0.804 cps
Cr 267.716 {126} (Axial)	0.00010 ppm	9.694 %	48.3 %	1.275 cps
Cu 324.754 {104} (Axial)	0.00056 ppm	16.132 %	38.6 %	444.467 cps
Cu 327.396 {103} (Axial)	-0.00003 ppm	-0.770 %	338.1 %	43.983 cps
Fe 259.940 {130} (Radial)	-0.00334 ppm	-17.592 %	215.8 %	1.244 cps
Fe 273.955 {123} (Radial)	**0.04933 ppm**	234.888 %	**33.6 %**	2.967 cps
K 766.490 {44} (Radial)	0.00588 ppm	5.883 %	510.4 %	-17.485 cps
Li 670.784 {50} (Radial)	0.00018 ppm	5.775 %	678.1 %	12.432 cps
Mg 280.270 {120} (Radial)	0.00329 ppm	16.449 %	97.5 %	23.050 cps
Mg 279.079 {121} (Radial)	-0.10226 ppm	-10.226 %	7.3 %	-2.867 cps
Mn 257.610 {131} (Axial)	0.00088 ppm	23.224 %	106.6 %	51.667 cps
Mo 202.030 {467} (Axial)	0.00025 ppm	10.299 %	89.3 %	1.260 cps
Mo 204.598 {465} (Axial)	-0.00057 ppm	-31.422 %	106.8 %	0.145 cps
Na 589.592 {57} (Radial)	0.00164 ppm	1.168 %	412.2 %	9.526 cps
Ni 231.604 {445} (Axial)	0.00035 ppm	9.146 %	252.2 %	-3.133 cps
P 177.495 {490} (Axial)	-0.00003 ppm	-0.079 %	1,268.1 %	-0.102 cps
Pb 220.353 {453} (Axial)	-0.00168 ppm	-35.702 %	103.6 %	1.786 cps
Sb 206.833 {463} (Axial)	-0.00009 ppm	-1.150 %	822.9 %	-0.466 cps
Se 196.090 {472} (Axial)	0.00063 ppm	3.496 %	330.1 %	-0.902 cps
Si 251.611 {134} (Axial)	0.00533 ppm	6.125 %	72.9 %	109.053 cps
Sn 189.989 {477} (Axial)	-0.00002 ppm	-0.608 %	3,449.3 %	-0.027 cps
Sr 407.771 {83} (Radial)	-0.00017 ppm	-6.878 %	25.8 %	-1.700 cps
Sr 421.552 {80} (Axial)	0.00002 ppm	0.687 %	18.9 %	62.992 cps
Ti 334.941 {101} (Axial)	-0.00001 ppm	-0.988 %	1,202.1 %	10.133 cps
Ti 336.121 {100} (Axial)	0.00014 ppm	10.320 %	101.1 %	167.444 cps
Tl 190.856 {477} (Axial)	0.00011 ppm	0.790 %	946.3 %	-0.298 cps
V 292.402 {115} (Axial)	0.00011 ppm	12.492 %	202.2 %	0.050 cps
Zn 213.856 {458} (Axial)	-0.00001 ppm	-0.075 %	1,894.1 %	6.668 cps
Y 371.030 {91} (Radial)	100.10492 %		0.3 %	9,406.019 cps
Y 360.073 {94} (Radial)	99.49827 %		0.2 %	3,472.103 cps
Y 224.306 {450} (Axial)	98.33990 %		0.8 %	13,753.297 cps

RLC

Sample type: QC Analysis started at: 12/19/2019 9:05:12 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.01019 ppm	101.934 %	3.1 %	89.800 cps
Ag 338.289 {100} (Axial)	0.01007 ppm	100.668 %	6.0 %	72.583 cps
Al 308.215 {109} (Radial)	0.51802 ppm	103.605 %	4.3 %	27.214 cps
Al 396.152 {85} (Radial)	0.51240 ppm	102.479 %	3.0 %	153.378 cps
As 189.042 {478} (Axial)	0.03883 ppm	97.067 %	3.5 %	14.528 cps
As 193.759 {474} (Axial)	0.04075 ppm	101.865 %	3.9 %	14.962 cps
B 249.678 {135} (Radial)	0.05569 ppm	111.387 %	8.1 %	7.550 cps
Ba 455.403 {74} (Radial)	0.00326 ppm	108.632 %	3.5 %	96.211 cps
Be 313.042 {108} (Axial)	0.00208 ppm	104.014 %	0.8 %	492.733 cps
Ca 315.887 {107} (Radial)	0.47867 ppm	95.734 %	2.0 %	44.400 cps
Cd 226.502 {449} (Axial)	0.00220 ppm	109.949 %	4.1 %	19.026 cps
Cd 214.438 {457} (Axial)	0.00198 ppm	98.817 %	2.0 %	23.014 cps
Co 228.616 {447} (Axial)	0.00652 ppm	108.743 %	1.3 %	33.739 cps
Cr 267.716 {126} (Axial)	0.00532 ppm	106.428 %	6.0 %	39.196 cps
Cu 324.754 {104} (Axial)	0.02212 ppm	110.580 %	2.2 %	770.328 cps
Cu 327.396 {103} (Axial)	0.02077 ppm	103.870 %	1.1 %	324.383 cps
Fe 259.940 {130} (Radial)	0.08292 ppm	103.649 %	16.5 %	13.663 cps
Fe 273.955 {123} (Radial)	**0.11994 ppm**	149.922 %	**11.2 %**	7.933 cps
K 766.490 {44} (Radial)	0.77582 ppm	96.978 %	0.3 %	321.028 cps
Li 670.784 {50} (Radial)	0.02548 ppm	101.926 %	3.0 %	292.047 cps
Mg 280.270 {120} (Radial)	0.21311 ppm	106.556 %	3.2 %	1,039.950 cps
Mg 279.079 {121} (Radial)	0.20328 ppm	101.638 %	14.8 %	3.867 cps
Mn 257.610 {131} (Axial)	0.00872 ppm	108.976 %	0.3 %	434.283 cps
Mo 202.030 {467} (Axial)	0.01245 ppm	103.785 %	0.8 %	28.422 cps
Mo 204.598 {465} (Axial)	0.01208 ppm	100.694 %	7.0 %	12.367 cps
Na 589.592 {57} (Radial)	0.40135 ppm	100.337 %	0.7 %	676.622 cps
Ni 231.604 {445} (Axial)	0.01400 ppm	116.654 %	7.5 %	26.216 cps
P 177.495 {490} (Axial)	0.20583 ppm	102.916 %	1.7 %	72.443 cps
Pb 220.353 {453} (Axial)	0.03124 ppm	104.122 %	1.5 %	27.811 cps
Sb 206.833 {463} (Axial)	0.02194 ppm	109.722 %	5.7 %	12.993 cps
Se 196.090 {472} (Axial)	0.05401 ppm	108.010 %	5.8 %	15.323 cps
Si 251.611 {134} (Axial)	**0.26785 ppm**	133.926 %	**1.8 %**	490.433 cps
Sn 189.989 {477} (Axial)	0.02072 ppm	103.576 %	2.6 %	19.600 cps
Sr 407.771 {83} (Radial)	0.00311 ppm	103.692 %	3.3 %	93.692 cps
Sr 421.552 {80} (Axial)	0.00342 ppm	113.927 %	0.9 %	3,007.450 cps
Ti 334.941 {101} (Axial)	0.00642 ppm	107.054 %	2.0 %	233.433 cps
Ti 336.121 {100} (Axial)	0.00648 ppm	107.989 %	2.4 %	382.783 cps
Tl 190.856 {477} (Axial)	0.06884 ppm	114.733 %	1.4 %	19.321 cps
V 292.402 {115} (Axial)	0.00519 ppm	103.882 %	1.9 %	63.217 cps
Zn 213.856 {458} (Axial)	0.03229 ppm	107.641 %	2.4 %	193.586 cps
Y 371.030 {91} (Radial)	101.31700 %		0.3 %	9,519.908 cps
Y 360.073 {94} (Radial)	100.74905 %		0.3 %	3,515.750 cps
Y 224.306 {450} (Axial)	98.16423 %		0.8 %	13,728.728 cps

LCM1

Sample type: QC Analysis started at: 12/19/2019 9:08:04 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.13775 ppm	0.000 %	1.2 %	1,375.316 cps
Ag 338.289 {100} (Axial)	0.13712 ppm	0.000 %	1.1 %	959.197 cps
Al 308.215 {109} (Radial)	1.07520 ppm	107.520 %	2.7 %	56.690 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Al 396.152 {85} (Radial)	0.99641 ppm	99.641 %	1.5 %	302.220 cps
As 189.042 {478} (Axial)	1.97899 ppm	98.950 %	0.5 %	752.163 cps
As 193.759 {474} (Axial)	1.98814 ppm	99.407 %	0.8 %	722.293 cps
B 249.678 {135} (Radial)	0.97932 ppm	97.932 %	0.7 %	141.788 cps
Ba 455.403 {74} (Radial)	0.98246 ppm	98.246 %	0.4 %	17,238.645 cps
Be 313.042 {108} (Axial)	1.00269 ppm	100.269 %	0.8 %	251,415.438 cps
Ca 315.887 {107} (Radial)	0.98131 ppm	98.131 %	1.1 %	88.731 cps
Cd 226.502 {449} (Axial)	1.02741 ppm	102.741 %	0.6 %	9,044.321 cps
Cd 214.438 {457} (Axial)	1.02556 ppm	102.556 %	0.6 %	9,522.347 cps
Co 228.616 {447} (Axial)	1.04174 ppm	104.174 %	0.8 %	5,214.344 cps
Cr 267.716 {126} (Axial)	1.02375 ppm	102.375 %	0.9 %	7,355.732 cps
Cu 324.754 {104} (Axial)	1.03013 ppm	103.013 %	0.4 %	15,885.689 cps
Cu 327.396 {103} (Axial)	1.03147 ppm	103.147 %	0.6 %	13,804.637 cps
Fe 259.940 {130} (Radial)	1.03125 ppm	103.125 %	0.8 %	150.250 cps
Fe 273.955 {123} (Radial)	1.02257 ppm	102.257 %	1.0 %	70.889 cps
K 766.490 {44} (Radial)	4.87800 ppm	97.560 %	0.5 %	2,125.600 cps
Li 670.784 {50} (Radial)	0.99741 ppm	99.741 %	0.7 %	11,029.065 cps
Mg 280.270 {120} (Radial)	1.01818 ppm	101.818 %	0.9 %	4,948.753 cps
Mg 279.079 {121} (Radial)	0.99189 ppm	99.189 %	5.1 %	21.358 cps
Mn 257.610 {131} (Axial)	1.00707 ppm	100.707 %	0.9 %	48,668.527 cps
Mo 202.030 {467} (Axial)	1.07123 ppm	107.123 %	0.7 %	2,359.974 cps
Mo 204.598 {465} (Axial)	1.07265 ppm	107.265 %	0.8 %	1,024.497 cps
Na 589.592 {57} (Radial)	1.00356 ppm	100.356 %	0.6 %	1,681.448 cps
Ni 231.604 {445} (Axial)	1.09102 ppm	109.102 %	0.6 %	2,315.374 cps
P 177.495 {490} (Axial)	4.97311 ppm	99.462 %	0.7 %	1,734.801 cps
Pb 220.353 {453} (Axial)	2.07965 ppm	103.982 %	0.8 %	1,633.130 cps
Sb 206.833 {463} (Axial)	2.08025 ppm	104.013 %	0.6 %	1,259.596 cps
Se 196.090 {472} (Axial)	0.97989 ppm	97.989 %	0.5 %	293.881 cps
Si 251.611 {134} (Axial)	5.18790 ppm	103.758 %	0.7 %	7,577.002 cps
Sn 189.989 {477} (Axial)	5.34564 ppm	106.913 %	0.7 %	5,009.106 cps
Sr 407.771 {83} (Radial)	0.98700 ppm	98.700 %	0.2 %	28,688.408 cps
Sr 421.552 {80} (Axial)	1.03299 ppm	103.299 %	0.6 %	885,267.257 cps
Ti 334.941 {101} (Axial)	1.05646 ppm	105.646 %	0.6 %	36,305.450 cps
Ti 336.121 {100} (Axial)	1.04118 ppm	104.118 %	0.5 %	35,321.974 cps
Tl 190.856 {477} (Axial)	5.37027 ppm	107.405 %	0.7 %	1,514.804 cps
V 292.402 {115} (Axial)	0.99667 ppm	99.667 %	0.5 %	12,263.966 cps
Zn 213.856 {458} (Axial)	1.04301 ppm	104.301 %	0.7 %	5,996.753 cps
Y 371.030 {91} (Radial)	101.31554 %		0.4 %	9,519.772 cps
Y 360.073 {94} (Radial)	100.90938 %		0.5 %	3,521.345 cps
Y 224.306 {450} (Axial)	97.14716 %		0.2 %	13,586.487 cps

HiLCM

Sample type: QC Analysis started at: 12/19/2019 9:10:36 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00018 ppm	0.000 %	96.0 %	-14.422 cps
Ag 338.289 {100} (Axial)	0.00618 ppm	0.000 %	4.8 %	65.733 cps
Al 308.215 {109} (Radial)	101.10425 ppm	101.104 %	0.4 %	5,239.393 cps
Al 396.152 {85} (Radial)	101.51884 ppm	101.519 %	0.1 %	28,368.404 cps
As 189.042 {478} (Axial)	0.00080 ppm	0.000 %	354.8 %	-0.077 cps
As 193.759 {474} (Axial)	-0.00499 ppm	0.000 %	91.6 %	-8.395 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
B 249.678 {135} (Radial)	-0.00617 ppm	0.000 %	107.8 %	-3.659 cps
Ba 455.403 {74} (Radial)	0.00036 ppm	0.000 %	26.3 %	43.881 cps
Be 313.042 {108} (Axial)	0.00024 ppm	0.000 %	18.2 %	23.300 cps
Ca 315.887 {107} (Radial)	98.95802 ppm	98.958 %	0.5 %	8,292.911 cps
Cd 226.502 {449} (Axial)	-0.00188 ppm	0.000 %	36.4 %	139.289 cps
Cd 214.438 {457} (Axial)	-0.00033 ppm	0.000 %	126.1 %	86.931 cps
Co 228.616 {447} (Axial)	0.00512 ppm	0.000 %	5.5 %	24.370 cps
Cr 267.716 {126} (Axial)	0.00259 ppm	0.000 %	10.3 %	8.025 cps
Cu 324.754 {104} (Axial)	-0.00053 ppm	0.000 %	165.9 %	303.072 cps
Cu 327.396 {103} (Axial)	0.00140 ppm	0.000 %	56.1 %	57.917 cps
Fe 259.940 {130} (Radial)	99.52670 ppm	99.527 %	0.7 %	13,827.331 cps
Fe 273.955 {123} (Radial)	100.10158 ppm	100.102 %	1.0 %	6,751.535 cps
K 766.490 {44} (Radial)	104.24975 ppm	104.250 %	0.2 %	44,318.586 cps
Li 670.784 {50} (Radial)	0.00222 ppm	0.000 %	43.5 %	33.903 cps
Mg 280.270 {120} (Radial)	56.74053 ppm	94.568 %	0.5 %	265,640.190 cps
Mg 279.079 {121} (Radial)	61.22990 ppm	102.050 %	1.2 %	1,308.963 cps
Mn 257.610 {131} (Axial)	0.00211 ppm	0.000 %	12.9 %	102.167 cps
Mo 202.030 {467} (Axial)	0.00000 ppm	0.000 %	143,913.2 %	0.644 cps
Mo 204.598 {465} (Axial)	0.00187 ppm	0.000 %	37.2 %	6.920 cps
Na 589.592 {57} (Radial)	103.09881 ppm	103.099 %	0.2 %	166,324.868 cps
Ni 231.604 {445} (Axial)	0.00702 ppm	0.000 %	6.3 %	10.276 cps
P 177.495 {490} (Axial)	0.00505 ppm	0.000 %	20.9 %	1.542 cps
Pb 220.353 {453} (Axial)	0.00009 ppm	0.000 %	1,530.5 %	-4.848 cps
Sb 206.833 {463} (Axial)	-0.00452 ppm	0.000 %	34.0 %	-1.739 cps
Se 196.090 {472} (Axial)	-0.00093 ppm	0.000 %	569.4 %	-3.050 cps
Si 251.611 {134} (Axial)	0.00192 ppm	0.000 %	162.1 %	95.349 cps
Sn 189.989 {477} (Axial)	0.00198 ppm	0.000 %	21.2 %	1.706 cps
Sr 407.771 {83} (Radial)	0.00116 ppm	0.000 %	19.5 %	35.893 cps
Sr 421.552 {80} (Axial)	0.00128 ppm	0.000 %	4.0 %	1,061.024 cps
Ti 334.941 {101} (Axial)	0.00115 ppm	0.000 %	27.5 %	22.600 cps
Ti 336.121 {100} (Axial)	0.00000 ppm	0.000 %	9,870.7 %	42.694 cps
Tl 190.856 {477} (Axial)	-0.00948 ppm	0.000 %	29.7 %	-2.787 cps
V 292.402 {115} (Axial)	0.00142 ppm	0.000 %	34.6 %	14.917 cps
Zn 213.856 {458} (Axial)	0.01016 ppm	0.000 %	3.3 %	105.183 cps
Y 371.030 {91} (Radial)	97.95211 %		0.2 %	9,203.738 cps
Y 360.073 {94} (Radial)	97.34428 %		0.2 %	3,396.937 cps
Y 224.306 {450} (Axial)	89.93485 %		1.2 %	12,577.812 cps

LCM2

Sample type: QC Analysis started at: 12/19/2019 9:13:29 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04863 ppm	97.251 %	0.8 %	477.289 cps
Ag 338.289 {100} (Axial)	0.04880 ppm	97.600 %	2.5 %	298.633 cps
Al 308.215 {109} (Radial)	0.05352 ppm	0.000 %	28.0 %	2.269 cps
Al 396.152 {85} (Radial)	0.01454 ppm	0.000 %	74.8 %	9.306 cps
As 189.042 {478} (Axial)	-0.00034 ppm	0.000 %	642.3 %	-0.522 cps
As 193.759 {474} (Axial)	0.00030 ppm	0.000 %	241.7 %	0.140 cps
B 249.678 {135} (Radial)	0.00527 ppm	0.000 %	214.6 %	0.228 cps
Ba 455.403 {74} (Radial)	0.00013 ppm	0.000 %	56.9 %	40.989 cps
Be 313.042 {108} (Axial)	0.00003 ppm	0.000 %	224.1 %	-27.583 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ca 315.887 {107} (Radial)	0.00637 ppm	0.000 %	332.6 %	3.400 cps
Cd 226.502 {449} (Axial)	0.00001 ppm	0.000 %	484.2 %	-0.521 cps
Cd 214.438 {457} (Axial)	-0.00001 ppm	0.000 %	351.6 %	4.249 cps
Co 228.616 {447} (Axial)	0.00022 ppm	0.000 %	21.8 %	1.842 cps
Cr 267.716 {126} (Axial)	0.00000 ppm	0.000 %	128,814.9 %	0.561 cps
Cu 324.754 {104} (Axial)	0.00080 ppm	0.000 %	51.4 %	443.744 cps
Cu 327.396 {103} (Axial)	-0.00002 ppm	0.000 %	982.4 %	43.783 cps
Fe 259.940 {130} (Radial)	0.00875 ppm	0.000 %	19.2 %	2.965 cps
Fe 273.955 {123} (Radial)	0.05097 ppm	0.000 %	40.5 %	3.083 cps
K 766.490 {44} (Radial)	0.03757 ppm	0.000 %	25.8 %	-3.715 cps
Li 670.784 {50} (Radial)	0.00000 ppm	0.000 %	12,522.1 %	10.400 cps
Mg 280.270 {120} (Radial)	0.00859 ppm	0.000 %	15.8 %	48.450 cps
Mg 279.079 {121} (Radial)	-0.03901 ppm	0.000 %	75.5 %	-1.483 cps
Mn 257.610 {131} (Axial)	0.00029 ppm	0.000 %	142.8 %	22.617 cps
Mo 202.030 {467} (Axial)	0.00057 ppm	0.000 %	17.2 %	1.958 cps
Mo 204.598 {465} (Axial)	-0.00067 ppm	0.000 %	105.8 %	0.045 cps
Na 589.592 {57} (Radial)	0.02884 ppm	0.000 %	30.4 %	54.556 cps
Ni 231.604 {445} (Axial)	0.00051 ppm	0.000 %	50.3 %	-2.754 cps
P 177.495 {490} (Axial)	0.00226 ppm	0.000 %	68.6 %	0.699 cps
Pb 220.353 {453} (Axial)	0.00013 ppm	0.000 %	943.7 %	3.200 cps
Sb 206.833 {463} (Axial)	0.00048 ppm	0.000 %	179.5 %	-0.115 cps
Se 196.090 {472} (Axial)	0.00097 ppm	0.000 %	200.9 %	-0.794 cps
Si 251.611 {134} (Axial)	0.02530 ppm	0.000 %	2.6 %	136.833 cps
Sn 189.989 {477} (Axial)	-0.00021 ppm	0.000 %	139.7 %	-0.206 cps
Sr 407.771 {83} (Radial)	-0.00006 ppm	0.000 %	33.0 %	1.442 cps
Sr 421.552 {80} (Axial)	0.00013 ppm	0.000 %	42.8 %	163.274 cps
Ti 334.941 {101} (Axial)	0.00002 ppm	0.000 %	803.3 %	11.050 cps
Ti 336.121 {100} (Axial)	0.00018 ppm	0.000 %	51.5 %	166.978 cps
Tl 190.856 {477} (Axial)	0.00070 ppm	0.000 %	17.1 %	-0.127 cps
V 292.402 {115} (Axial)	0.00001 ppm	0.000 %	3,122.4 %	-1.217 cps
Zn 213.856 {458} (Axial)	0.00066 ppm	0.000 %	5.9 %	10.400 cps
Y 371.030 {91} (Radial)	100.42117 %		0.5 %	9,435.735 cps
Y 360.073 {94} (Radial)	99.59344 %		0.4 %	3,475.424 cps
Y 224.306 {450} (Axial)	97.41117 %		0.3 %	13,623.410 cps

wash

Sample type: UNKNOWN Analysis started at: 12/19/2019 9:16:21 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00028 ppm	188.8 %	-11.078 cps
Ag 338.289 {100} (Axial)	0.00013 ppm	823.2 %	12.717 cps
Al 308.215 {109} (Radial)	0.04520 ppm	70.1 %	1.822 cps
Al 396.152 {85} (Radial)	0.01183 ppm	139.5 %	8.517 cps
As 189.042 {478} (Axial)	0.00148 ppm	141.9 %	0.169 cps
As 193.759 {474} (Axial)	0.00050 ppm	24.5 %	0.215 cps
B 249.678 {135} (Radial)	0.00091 ppm	558.9 %	-0.394 cps
Ba 455.403 {74} (Radial)	0.00054 ppm	50.3 %	48.039 cps
Be 313.042 {108} (Axial)	0.00023 ppm	14.3 %	23.333 cps
Ca 315.887 {107} (Radial)	-0.00554 ppm	526.2 %	2.383 cps
Cd 226.502 {449} (Axial)	0.00040 ppm	18.8 %	2.834 cps
Cd 214.438 {457} (Axial)	0.00022 ppm	66.7 %	6.315 cps

	Concentration average	Concentration RSD	Raw Intensity average
Co 228.616 {447} (Axial)	0.00042 ppm	24.5 %	2.852 cps
Cr 267.716 {126} (Axial)	0.00029 ppm	79.3 %	2.642 cps
Cu 324.754 {104} (Axial)	0.00077 ppm	44.9 %	442.161 cps
Cu 327.396 {103} (Axial)	0.00011 ppm	260.7 %	45.350 cps
Fe 259.940 {130} (Radial)	-0.00892 ppm	62.3 %	0.453 cps
Fe 273.955 {123} (Radial)	0.00899 ppm	201.3 %	0.183 cps
K 766.490 {44} (Radial)	0.00787 ppm	274.1 %	-16.585 cps
Li 670.784 {50} (Radial)	0.00168 ppm	22.7 %	28.682 cps
Mg 280.270 {120} (Radial)	0.00458 ppm	40.3 %	29.167 cps
Mg 279.079 {121} (Radial)	0.00816 ppm	201.7 %	-0.450 cps
Mn 257.610 {131} (Axial)	0.00035 ppm	27.6 %	25.517 cps
Mo 202.030 {467} (Axial)	0.00152 ppm	22.2 %	4.037 cps
Mo 204.598 {465} (Axial)	0.00124 ppm	60.1 %	1.876 cps
Na 589.592 {57} (Radial)	0.01028 ppm	60.1 %	23.728 cps
Ni 231.604 {445} (Axial)	0.00086 ppm	46.0 %	-2.011 cps
P 177.495 {490} (Axial)	0.00396 ppm	29.0 %	1.292 cps
Pb 220.353 {453} (Axial)	0.00083 ppm	40.2 %	3.741 cps
Sb 206.833 {463} (Axial)	0.00139 ppm	26.3 %	0.436 cps
Se 196.090 {472} (Axial)	-0.00009 ppm	3,159.4 %	-1.115 cps
Si 251.611 {134} (Axial)	0.00046 ppm	741.4 %	100.722 cps
Sn 189.989 {477} (Axial)	0.00052 ppm	74.1 %	0.477 cps
Sr 407.771 {83} (Radial)	0.00006 ppm	167.9 %	5.093 cps
Sr 421.552 {80} (Axial)	0.00025 ppm	7.9 %	259.357 cps
Ti 334.941 {101} (Axial)	0.00102 ppm	17.1 %	45.450 cps
Ti 336.121 {100} (Axial)	0.00115 ppm	8.2 %	199.172 cps
Tl 190.856 {477} (Axial)	0.00157 ppm	54.2 %	0.123 cps
V 292.402 {115} (Axial)	-0.00022 ppm	193.4 %	-4.017 cps
Zn 213.856 {458} (Axial)	0.00067 ppm	11.5 %	10.450 cps
Y 371.030 {91} (Radial)	99.95843 %	0.4 %	9,392.256 cps
Y 360.073 {94} (Radial)	99.16251 %	0.6 %	3,460.386 cps
Y 224.306 {450} (Axial)	97.13460 %	1.5 %	13,584.730 cps

1912011-21

Sample type: UNKNOWN Analysis started at: 12/19/2019 9:19:18 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00012 ppm	153.7 %	-11.692 cps
Ag 338.289 {100} (Axial)	0.00646 ppm	1.6 %	69.394 cps
Al 308.215 {109} (Radial)	**0.08057 ppm**	**49.1 %**	3.609 cps
Al 396.152 {85} (Radial)	**0.05570 ppm**	**17.2 %**	25.059 cps
As 189.042 {478} (Axial)	0.01421 ppm	4.4 %	4.686 cps
As 193.759 {474} (Axial)	0.01583 ppm	3.3 %	5.401 cps
B 249.678 {135} (Radial)	**0.05144 ppm**	**21.3 %**	6.592 cps
Ba 455.403 {74} (Radial)	0.05577 ppm	1.0 %	978.622 cps
Be 313.042 {108} (Axial)	0.00000 ppm	562.5 %	-32.978 cps
Ca 315.887 {107} (Radial)	107.74500 ppm	0.1 %	8,997.264 cps
Cd 226.502 {449} (Axial)	-0.00005 ppm	143.6 %	4.594 cps
Cd 214.438 {457} (Axial)	0.00014 ppm	41.5 %	7.766 cps
Co 228.616 {447} (Axial)	0.00055 ppm	38.5 %	3.238 cps
Cr 267.716 {126} (Axial)	0.00002 ppm	1,305.7 %	0.422 cps
Cu 324.754 {104} (Axial)	0.00365 ppm	7.7 %	450.296 cps

	Concentration average	Concentration RSD	Raw Intensity average
Cu 327.396 {103} (Axial)	0.00384 ppm	19.2 %	88.854 cps
Fe 259.940 {130} (Radial)	3.62546 ppm	0.3 %	503.529 cps
Fe 273.955 {123} (Radial)	3.57718 ppm	0.4 %	240.012 cps
K 766.490 {44} (Radial)	1.32187 ppm	2.0 %	540.814 cps
Li 670.784 {50} (Radial)	0.00403 ppm	14.3 %	53.044 cps
Mg 280.270 {120} (Radial)	48.13165 ppm	0.1 %	224,544.101 cps
Mg 279.079 {121} (Radial)	51.14622 ppm	0.6 %	1,090.362 cps
Mn 257.610 {131} (Axial)	0.09737 ppm	0.4 %	4,403.465 cps
Mo 202.030 {467} (Axial)	0.00175 ppm	15.2 %	4.251 cps
Mo 204.598 {465} (Axial)	-0.00102 ppm	62.6 %	-0.266 cps
Na 589.592 {57} (Radial)	33.84454 ppm	0.2 %	54,425.813 cps
Ni 231.604 {445} (Axial)	0.02653 ppm	4.4 %	49.101 cps
P 177.495 {490} (Axial)	0.00557 ppm	26.7 %	1.737 cps
Pb 220.353 {453} (Axial)	0.00348 ppm	20.7 %	5.559 cps
Sb 206.833 {463} (Axial)	-0.00071 ppm	144.7 %	-0.738 cps
Se 196.090 {472} (Axial)	0.00042 ppm	757.7 %	-0.961 cps
Si 251.611 {134} (Axial)	21.84010 ppm	0.5 %	29,426.211 cps
Sn 189.989 {477} (Axial)	-0.00028 ppm	171.1 %	-0.259 cps
Sr 407.771 {83} (Radial)	0.09759 ppm	0.7 %	2,736.427 cps
Sr 421.552 {80} (Axial)	0.10188 ppm	0.3 %	81,608.383 cps
Ti 334.941 {101} (Axial)	0.00076 ppm	19.2 %	8.583 cps
Ti 336.121 {100} (Axial)	-0.00021 ppm	10.2 %	28.395 cps
Tl 190.856 {477} (Axial)	0.00058 ppm	182.9 %	-0.152 cps
V 292.402 {115} (Axial)	0.00105 ppm	48.8 %	10.467 cps
Zn 213.856 {458} (Axial)	0.03471 ppm	1.7 %	193.512 cps
Y 371.030 {91} (Radial)	97.63158 %	0.2 %	9,173.621 cps
Y 360.073 {94} (Radial)	97.00100 %	0.1 %	3,384.958 cps
Y 224.306 {450} (Axial)	90.75774 %	0.3 %	12,692.896 cps

B19L022-DUP3

Sample type: UNKNOWN Analysis started at: 12/19/2019 9:22:08 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00022 ppm	241.6 %	-14.840 cps
Ag 338.289 {100} (Axial)	0.00635 ppm	8.7 %	68.895 cps
Al 308.215 {109} (Radial)	**0.11224 ppm**	**24.8 %**	5.238 cps
Al 396.152 {85} (Radial)	**0.05807 ppm**	**19.7 %**	25.679 cps
As 189.042 {478} (Axial)	0.01566 ppm	11.2 %	5.193 cps
As 193.759 {474} (Axial)	0.01687 ppm	9.7 %	5.747 cps
B 249.678 {135} (Radial)	**0.06388 ppm**	**14.9 %**	8.318 cps
Ba 455.403 {74} (Radial)	0.05736 ppm	0.2 %	1,001.809 cps
Be 313.042 {108} (Axial)	0.00000 ppm	3,067.1 %	-31.671 cps
Ca 315.887 {107} (Radial)	108.73703 ppm	0.5 %	9,067.793 cps
Cd 226.502 {449} (Axial)	-0.00003 ppm	309.2 %	4.858 cps
Cd 214.438 {457} (Axial)	0.00010 ppm	196.4 %	7.527 cps
Co 228.616 {447} (Axial)	0.00046 ppm	45.9 %	2.815 cps
Cr 267.716 {126} (Axial)	0.00055 ppm	62.9 %	3.981 cps
Cu 324.754 {104} (Axial)	0.00439 ppm	4.3 %	460.106 cps
Cu 327.396 {103} (Axial)	0.00340 ppm	8.3 %	83.256 cps
Fe 259.940 {130} (Radial)	3.69762 ppm	0.7 %	512.822 cps
Fe 273.955 {123} (Radial)	3.63093 ppm	2.0 %	243.290 cps

	Concentration average	Concentration RSD	Raw Intensity average
K 766.490 {44} (Radial)	1.37995 ppm	2.7 %	563.482 cps
Li 670.784 {50} (Radial)	0.00446 ppm	29.1 %	57.385 cps
Mg 280.270 {120} (Radial)	48.80641 ppm	0.5 %	227,384.160 cps
Mg 279.079 {121} (Radial)	51.94127 ppm	0.5 %	1,105.823 cps
Mn 257.610 {131} (Axial)	0.09905 ppm	0.6 %	4,473.406 cps
Mo 202.030 {467} (Axial)	0.00195 ppm	6.6 %	4.670 cps
Mo 204.598 {465} (Axial)	0.00025 ppm	316.9 %	0.863 cps
Na 589.592 {57} (Radial)	34.72217 ppm	0.4 %	55,642.184 cps
Ni 231.604 {445} (Axial)	0.02617 ppm	1.5 %	48.325 cps
P 177.495 {490} (Axial)	0.00667 ppm	5.7 %	2.096 cps
Pb 220.353 {453} (Axial)	0.00348 ppm	15.9 %	5.554 cps
Sb 206.833 {463} (Axial)	-0.00150 ppm	121.1 %	-1.184 cps
Se 196.090 {472} (Axial)	-0.00054 ppm	230.0 %	-1.227 cps
Si 251.611 {134} (Axial)	22.44508 ppm	0.2 %	30,200.508 cps
Sn 189.989 {477} (Axial)	-0.00026 ppm	180.6 %	-0.236 cps
Sr 407.771 {83} (Radial)	0.09952 ppm	0.6 %	2,780.690 cps
Sr 421.552 {80} (Axial)	0.10382 ppm	0.9 %	83,054.532 cps
Ti 334.941 {101} (Axial)	0.00085 ppm	24.9 %	11.427 cps
Ti 336.121 {100} (Axial)	-0.00037 ppm	54.1 %	22.259 cps
Tl 190.856 {477} (Axial)	0.00111 ppm	65.3 %	-0.010 cps
V 292.402 {115} (Axial)	0.00065 ppm	87.8 %	5.824 cps
Zn 213.856 {458} (Axial)	0.03484 ppm	2.4 %	193.987 cps
Y 371.030 {91} (Radial)	97.29095 %	0.0 %	9,141.615 cps
Y 360.073 {94} (Radial)	96.87041 %	0.2 %	3,380.401 cps
Y 224.306 {450} (Axial)	90.64336 %	0.9 %	12,676.900 cps

B19L022-MS3

Sample type: QC Analysis started at: 12/19/2019 9:24:56 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.02364 ppm	94.095 %	5.1 %	207.296 cps
Ag 338.289 {100} (Axial)	0.02860 ppm	88.564 %	2.1 %	212.361 cps
Al 308.215 {109} (Radial)	1.12107 ppm	104.049 %	3.5 %	57.409 cps
Al 396.152 {85} (Radial)	1.07877 ppm	102.307 %	0.7 %	312.805 cps
As 189.042 {478} (Axial)	0.22126 ppm	103.522 %	3.2 %	77.255 cps
As 193.759 {474} (Axial)	0.22692 ppm	105.545 %	2.6 %	76.009 cps
B 249.678 {135} (Radial)	1.06407 ppm	101.263 %	0.9 %	148.353 cps
Ba 455.403 {74} (Radial)	0.26692 ppm	105.572 %	0.2 %	4,541.578 cps
Be 313.042 {108} (Axial)	0.01058 ppm	105.880 %	1.8 %	2,422.377 cps
Ca 315.887 {107} (Radial)	154.66332 ppm	93.837 %	0.4 %	12,939.906 cps
Cd 226.502 {449} (Axial)	0.05027 ppm	100.637 %	3.2 %	414.716 cps
Cd 214.438 {457} (Axial)	0.05067 ppm	101.078 %	3.7 %	440.974 cps
Co 228.616 {447} (Axial)	0.09992 ppm	99.377 %	3.9 %	462.033 cps
Cr 267.716 {126} (Axial)	0.10399 ppm	103.970 %	2.2 %	689.499 cps
Cu 324.754 {104} (Axial)	0.11319 ppm	109.544 %	0.9 %	1,960.080 cps
Cu 327.396 {103} (Axial)	0.11373 ppm	109.892 %	0.9 %	1,440.209 cps
Fe 259.940 {130} (Radial)	4.61624 ppm	99.078 %	0.8 %	641.967 cps
Fe 273.955 {123} (Radial)	4.49570 ppm	91.852 %	0.5 %	302.335 cps
K 766.490 {44} (Radial)	27.67163 ppm	105.399 %	0.4 %	11,713.232 cps
Li 670.784 {50} (Radial)	0.11405 ppm	110.023 %	0.4 %	1,224.546 cps
Mg 280.270 {120} (Radial)	65.30682 ppm	85.876 %	0.4 %	305,277.611 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mg 279.079 {121} (Radial)	71.32823 ppm	100.910 %	0.7 %	1,523.924 cps
Mn 257.610 {131} (Axial)	0.29502 ppm	98.823 %	1.8 %	13,157.684 cps
Mo 202.030 {467} (Axial)	0.10771 ppm	105.961 %	3.1 %	219.468 cps
Mo 204.598 {465} (Axial)	0.10688 ppm	107.903 %	3.1 %	94.784 cps
Na 589.592 {57} (Radial)	86.32209 ppm	104.955 %	0.4 %	138,833.216 cps
Ni 231.604 {445} (Axial)	0.23171 ppm	102.590 %	4.2 %	450.816 cps
P 177.495 {490} (Axial)	1.11503 ppm	110.946 %	3.2 %	358.681 cps
Pb 220.353 {453} (Axial)	0.50169 ppm	99.642 %	2.3 %	365.623 cps
Sb 206.833 {463} (Axial)	0.52335 ppm	104.811 %	3.1 %	291.320 cps
Se 196.090 {472} (Axial)	0.51925 ppm	103.767 %	1.8 %	143.076 cps
Si 251.611 {134} (Axial)	32.18908 ppm	103.490 %	1.3 %	42,783.392 cps
Sn 189.989 {477} (Axial)	0.51134 ppm	102.325 %	4.0 %	441.966 cps
Sr 407.771 {83} (Radial)	1.10924 ppm	101.165 %	0.2 %	31,075.507 cps
Sr 421.552 {80} (Axial)	1.13885 ppm	103.697 %	1.0 %	900,359.970 cps
Ti 334.941 {101} (Axial)	0.11109 ppm	110.329 %	1.2 %	3,493.591 cps
Ti 336.121 {100} (Axial)	0.10840 ppm	108.613 %	1.4 %	3,359.990 cps
Tl 190.856 {477} (Axial)	0.49787 ppm	99.459 %	1.5 %	129.235 cps
V 292.402 {115} (Axial)	0.10594 ppm	104.887 %	2.1 %	1,200.672 cps
Zn 213.856 {458} (Axial)	1.07403 ppm	103.932 %	3.7 %	5,671.381 cps
Y 371.030 {91} (Radial)	97.65270 %		0.6 %	9,175.605 cps
Y 360.073 {94} (Radial)	97.19408 %		0.5 %	3,391.696 cps
Y 224.306 {450} (Axial)	89.62418 %		0.9 %	12,534.363 cps

LCB

Sample type: QC Analysis started at: 12/19/2019 9:27:53 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00013 ppm	5.288 %	433.1 %	-12.722 cps
Ag 338.289 {100} (Axial)	-0.00017 ppm	-1.276 %	374.4 %	11.017 cps
Al 308.215 {109} (Radial)	0.07688 ppm	26.510 %	5.9 %	3.483 cps
Al 396.152 {85} (Radial)	0.00341 ppm	3.671 %	353.2 %	6.067 cps
As 189.042 {478} (Axial)	-0.00098 ppm	-18.902 %	44.0 %	-0.773 cps
As 193.759 {474} (Axial)	0.00040 ppm	4.482 %	161.4 %	0.180 cps
B 249.678 {135} (Radial)	0.01039 ppm	79.948 %	91.0 %	0.956 cps
Ba 455.403 {74} (Radial)	0.00014 ppm	15.684 %	106.7 %	40.822 cps
Be 313.042 {108} (Axial)	0.00000 ppm	0.132 %	4,130.4 %	-34.567 cps
Ca 315.887 {107} (Radial)	0.04997 ppm	22.713 %	35.9 %	7.083 cps
Cd 226.502 {449} (Axial)	0.00008 ppm	15.895 %	93.3 %	0.065 cps
Cd 214.438 {457} (Axial)	0.00010 ppm	35.403 %	58.9 %	5.317 cps
Co 228.616 {447} (Axial)	0.00005 ppm	7.485 %	467.5 %	0.989 cps
Cr 267.716 {126} (Axial)	-0.00003 ppm	-3.370 %	259.4 %	0.328 cps
Cu 324.754 {104} (Axial)	0.00050 ppm	14.220 %	35.3 %	444.289 cps
Cu 327.396 {103} (Axial)	0.00006 ppm	1.312 %	765.5 %	45.267 cps
Fe 259.940 {130} (Radial)	-0.00498 ppm	-26.184 %	159.5 %	1.003 cps
Fe 273.955 {123} (Radial)	**0.03213 ppm**	152.994 %	**39.3 %**	1.767 cps
K 766.490 {44} (Radial)	0.01503 ppm	15.033 %	139.6 %	-13.408 cps
Li 670.784 {50} (Radial)	0.00082 ppm	25.578 %	21.4 %	19.244 cps
Mg 280.270 {120} (Radial)	**0.02171 ppm**	108.553 %	**83.6 %**	110.083 cps
Mg 279.079 {121} (Radial)	0.07024 ppm	7.024 %	54.2 %	0.900 cps
Mn 257.610 {131} (Axial)	0.00015 ppm	3.857 %	84.7 %	15.833 cps
Mo 202.030 {467} (Axial)	0.00049 ppm	20.241 %	42.2 %	1.794 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Mo 204.598 {465} (Axial)	0.00009 ppm	4.785 %	363.0 %	0.780 cps
Na 589.592 {57} (Radial)	0.04023 ppm	28.733 %	33.2 %	72.686 cps
Ni 231.604 {445} (Axial)	-0.00017 ppm	-4.350 %	119.7 %	-4.236 cps
P 177.495 {490} (Axial)	0.00099 ppm	3.014 %	78.8 %	0.259 cps
Pb 220.353 {453} (Axial)	-0.00096 ppm	-20.330 %	66.0 %	2.367 cps
Sb 206.833 {463} (Axial)	0.00124 ppm	15.528 %	125.0 %	0.348 cps
Se 196.090 {472} (Axial)	0.00068 ppm	3.769 %	12.9 %	-0.891 cps
Si 251.611 {134} (Axial)	0.00694 ppm	7.973 %	37.1 %	111.636 cps
Sn 189.989 {477} (Axial)	-0.00010 ppm	-3.122 %	718.5 %	-0.104 cps
Sr 407.771 {83} (Radial)	0.00005 ppm	1.935 %	437.2 %	4.590 cps
Sr 421.552 {80} (Axial)	0.00016 ppm	6.262 %	47.5 %	184.210 cps
Ti 334.941 {101} (Axial)	-0.00011 ppm	-8.679 %	41.4 %	6.683 cps
Ti 336.121 {100} (Axial)	0.00006 ppm	4.302 %	134.0 %	164.817 cps
Tl 190.856 {477} (Axial)	-0.00012 ppm	-0.828 %	1,049.8 %	-0.359 cps
V 292.402 {115} (Axial)	-0.00048 ppm	-53.649 %	23.9 %	-7.400 cps
Zn 213.856 {458} (Axial)	0.00021 ppm	3.103 %	50.3 %	7.921 cps
Y 371.030 {91} (Radial)	99.58704 %		0.6 %	9,357.358 cps
Y 360.073 {94} (Radial)	98.83237 %		0.7 %	3,448.865 cps
Y 224.306 {450} (Axial)	98.51945 %		0.1 %	13,778.409 cps

RLC

Sample type: QC Analysis started at: 12/19/2019 9:30:47 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.01050 ppm	104.977 %	2.6 %	92.544 cps
Ag 338.289 {100} (Axial)	0.00975 ppm	97.466 %	14.0 %	70.367 cps
Al 308.215 {109} (Radial)	0.56701 ppm	113.402 %	5.6 %	29.347 cps
Al 396.152 {85} (Radial)	0.53127 ppm	106.253 %	0.2 %	156.333 cps
As 189.042 {478} (Axial)	0.03883 ppm	97.074 %	4.0 %	14.473 cps
As 193.759 {474} (Axial)	0.04047 ppm	101.168 %	4.5 %	14.800 cps
B 249.678 {135} (Radial)	0.05793 ppm	115.869 %	7.6 %	7.744 cps
Ba 455.403 {74} (Radial)	0.00319 ppm	106.309 %	11.9 %	93.500 cps
Be 313.042 {108} (Axial)	0.00209 ppm	104.507 %	1.1 %	493.300 cps
Ca 315.887 {107} (Radial)	0.53273 ppm	106.546 %	7.0 %	48.267 cps
Cd 226.502 {449} (Axial)	0.00217 ppm	108.414 %	5.6 %	18.676 cps
Cd 214.438 {457} (Axial)	0.00209 ppm	104.527 %	6.5 %	23.993 cps
Co 228.616 {447} (Axial)	0.00668 ppm	111.311 %	5.2 %	34.394 cps
Cr 267.716 {126} (Axial)	0.00547 ppm	109.428 %	2.8 %	40.128 cps
Cu 324.754 {104} (Axial)	0.02157 ppm	107.846 %	2.6 %	759.117 cps
Cu 327.396 {103} (Axial)	0.02116 ppm	105.778 %	1.5 %	328.300 cps
Fe 259.940 {130} (Radial)	0.07400 ppm	92.494 %	10.0 %	12.172 cps
Fe 273.955 {123} (Radial)	**0.11161 ppm**	139.508 %	**23.4 %**	7.233 cps
K 766.490 {44} (Radial)	0.78899 ppm	98.624 %	0.5 %	321.678 cps
Li 670.784 {50} (Radial)	0.02658 ppm	106.322 %	5.6 %	299.414 cps
Mg 280.270 {120} (Radial)	0.22469 ppm	112.344 %	6.3 %	1,077.750 cps
Mg 279.079 {121} (Radial)	0.25290 ppm	126.452 %	11.1 %	4.883 cps
Mn 257.610 {131} (Axial)	0.00880 ppm	109.998 %	2.2 %	436.533 cps
Mo 202.030 {467} (Axial)	0.01289 ppm	107.433 %	2.1 %	29.288 cps
Mo 204.598 {465} (Axial)	0.01224 ppm	101.969 %	6.3 %	12.473 cps
Na 589.592 {57} (Radial)	0.43602 ppm	109.006 %	2.8 %	722.900 cps
Ni 231.604 {445} (Axial)	0.01373 ppm	114.404 %	6.8 %	25.551 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
P 177.495 {490} (Axial)	0.20998 ppm	104.989 %	0.7 %	73.624 cps
Pb 220.353 {453} (Axial)	0.03249 ppm	108.304 %	3.2 %	28.690 cps
Sb 206.833 {463} (Axial)	0.02039 ppm	101.956 %	10.3 %	11.996 cps
Se 196.090 {472} (Axial)	0.05613 ppm	112.255 %	0.3 %	15.911 cps
Si 251.611 {134} (Axial)	**0.27737 ppm**	138.683 %	**1.3 %**	502.335 cps
Sn 189.989 {477} (Axial)	0.02102 ppm	105.102 %	3.5 %	19.819 cps
Sr 407.771 {83} (Radial)	0.00321 ppm	107.090 %	3.6 %	95.128 cps
Sr 421.552 {80} (Axial)	0.00348 ppm	116.033 %	3.5 %	3,049.907 cps
Ti 334.941 {101} (Axial)	0.00642 ppm	106.950 %	3.6 %	232.283 cps
Ti 336.121 {100} (Axial)	0.00640 ppm	106.605 %	2.2 %	378.433 cps
Tl 190.856 {477} (Axial)	0.06864 ppm	114.394 %	1.8 %	19.189 cps
V 292.402 {115} (Axial)	0.00511 ppm	102.299 %	10.9 %	61.967 cps
Zn 213.856 {458} (Axial)	0.03315 ppm	110.488 %	2.7 %	197.781 cps
Y 371.030 {91} (Radial)	99.72320 %		0.2 %	9,370.153 cps
Y 360.073 {94} (Radial)	99.07726 %		0.4 %	3,457.411 cps
Y 224.306 {450} (Axial)	97.78843 %		0.9 %	13,676.171 cps

LCM1

Sample type: QC Analysis started at: 12/19/2019 9:33:39 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.14118 ppm	0.000 %	0.9 %	1,394.458 cps
Ag 338.289 {100} (Axial)	0.14032 ppm	0.000 %	2.0 %	969.931 cps
Al 308.215 {109} (Radial)	1.05790 ppm	105.790 %	3.8 %	54.422 cps
Al 396.152 {85} (Radial)	1.01017 ppm	101.017 %	1.5 %	299.611 cps
As 189.042 {478} (Axial)	2.02401 ppm	101.200 %	0.8 %	760.839 cps
As 193.759 {474} (Axial)	2.02434 ppm	101.217 %	0.6 %	727.374 cps
B 249.678 {135} (Radial)	1.00831 ppm	100.831 %	0.4 %	142.551 cps
Ba 455.403 {74} (Radial)	0.99116 ppm	99.116 %	0.2 %	17,000.176 cps
Be 313.042 {108} (Axial)	1.02565 ppm	102.565 %	1.4 %	254,342.652 cps
Ca 315.887 {107} (Radial)	1.05722 ppm	105.722 %	3.7 %	93.091 cps
Cd 226.502 {449} (Axial)	1.04845 ppm	104.845 %	0.6 %	9,128.139 cps
Cd 214.438 {457} (Axial)	1.04466 ppm	104.466 %	0.5 %	9,593.168 cps
Co 228.616 {447} (Axial)	1.06206 ppm	106.206 %	0.8 %	5,257.635 cps
Cr 267.716 {126} (Axial)	1.05551 ppm	105.551 %	1.2 %	7,500.448 cps
Cu 324.754 {104} (Axial)	1.04630 ppm	104.630 %	0.8 %	15,951.128 cps
Cu 327.396 {103} (Axial)	1.05038 ppm	105.038 %	0.8 %	13,902.489 cps
Fe 259.940 {130} (Radial)	1.04315 ppm	104.315 %	1.9 %	148.365 cps
Fe 273.955 {123} (Radial)	1.04296 ppm	104.296 %	0.4 %	70.602 cps
K 766.490 {44} (Radial)	4.94571 ppm	98.914 %	0.7 %	2,106.979 cps
Li 670.784 {50} (Radial)	1.00190 ppm	100.190 %	0.3 %	10,829.921 cps
Mg 280.270 {120} (Radial)	1.05227 ppm	105.227 %	1.6 %	4,993.164 cps
Mg 279.079 {121} (Radial)	1.03960 ppm	103.960 %	5.7 %	21.889 cps
Mn 257.610 {131} (Axial)	1.02972 ppm	102.972 %	1.3 %	49,215.588 cps
Mo 202.030 {467} (Axial)	1.09200 ppm	109.200 %	0.8 %	2,379.297 cps
Mo 204.598 {465} (Axial)	1.09288 ppm	109.288 %	0.6 %	1,032.354 cps
Na 589.592 {57} (Radial)	1.03707 ppm	103.707 %	1.7 %	1,698.309 cps
Ni 231.604 {445} (Axial)	**1.11127 ppm**	111.127 %	**0.8 %**	2,332.528 cps
P 177.495 {490} (Axial)	5.07904 ppm	101.581 %	0.6 %	1,752.301 cps
Pb 220.353 {453} (Axial)	2.13194 ppm	106.597 %	0.7 %	1,655.755 cps
Sb 206.833 {463} (Axial)	2.13106 ppm	106.553 %	0.9 %	1,276.232 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Se 196.090 {472} (Axial)	0.99747 ppm	99.747 %	0.8 %	295.885 cps
Si 251.611 {134} (Axial)	5.34816 ppm	106.963 %	1.0 %	7,721.889 cps
Sn 189.989 {477} (Axial)	5.41065 ppm	108.213 %	1.2 %	5,014.396 cps
Sr 407.771 {83} (Radial)	0.99586 ppm	99.586 %	0.3 %	28,296.112 cps
Sr 421.552 {80} (Axial)	1.04881 ppm	104.881 %	0.3 %	888,967.070 cps
Ti 334.941 {101} (Axial)	1.07661 ppm	107.661 %	1.0 %	36,590.705 cps
Ti 336.121 {100} (Axial)	1.06275 ppm	106.275 %	0.9 %	35,654.081 cps
Tl 190.856 {477} (Axial)	5.46573 ppm	109.315 %	0.8 %	1,524.806 cps
V 292.402 {115} (Axial)	1.01753 ppm	101.753 %	1.2 %	12,382.721 cps
Zn 213.856 {458} (Axial)	1.06376 ppm	106.376 %	0.9 %	6,048.659 cps
Y 371.030 {91} (Radial)	99.03931 %		0.6 %	9,305.894 cps
Y 360.073 {94} (Radial)	98.52670 %		0.6 %	3,438.199 cps
Y 224.306 {450} (Axial)	96.08213 %		0.6 %	13,437.538 cps

HiLCM

Sample type: QC Analysis started at: 12/19/2019 9:36:12 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	-0.00055 ppm	0.000 %	95.5 %	-17.744 cps
Ag 338.289 {100} (Axial)	0.00692 ppm	0.000 %	9.6 %	69.467 cps
Al 308.215 {109} (Radial)	101.64410 ppm	101.644 %	0.2 %	5,238.864 cps
Al 396.152 {85} (Radial)	102.48992 ppm	102.490 %	0.5 %	28,391.468 cps
As 189.042 {478} (Axial)	0.00139 ppm	0.000 %	109.0 %	0.128 cps
As 193.759 {474} (Axial)	-0.00524 ppm	0.000 %	121.6 %	-8.451 cps
B 249.678 {135} (Radial)	-0.01105 ppm	0.000 %	13.5 %	-4.339 cps
Ba 455.403 {74} (Radial)	0.00062 ppm	0.000 %	82.2 %	47.875 cps
Be 313.042 {108} (Axial)	0.00027 ppm	0.000 %	15.1 %	30.317 cps
Ca 315.887 {107} (Radial)	100.04309 ppm	100.043 %	0.1 %	8,338.516 cps
Cd 226.502 {449} (Axial)	-0.00182 ppm	0.000 %	41.1 %	140.214 cps
Cd 214.438 {457} (Axial)	-0.00037 ppm	0.000 %	92.1 %	86.725 cps
Co 228.616 {447} (Axial)	0.00538 ppm	0.000 %	1.9 %	25.347 cps
Cr 267.716 {126} (Axial)	0.00226 ppm	0.000 %	24.1 %	5.703 cps
Cu 324.754 {104} (Axial)	-0.00004 ppm	0.000 %	645.6 %	306.567 cps
Cu 327.396 {103} (Axial)	0.00133 ppm	0.000 %	1.2 %	56.533 cps
Fe 259.940 {130} (Radial)	100.27116 ppm	100.271 %	0.3 %	13,855.511 cps
Fe 273.955 {123} (Radial)	100.76876 ppm	100.769 %	0.5 %	6,759.856 cps
K 766.490 {44} (Radial)	104.37125 ppm	104.371 %	0.4 %	43,985.967 cps
Li 670.784 {50} (Radial)	0.00263 ppm	0.000 %	35.4 %	37.850 cps
Mg 280.270 {120} (Radial)	57.22124 ppm	95.369 %	0.7 %	266,439.368 cps
Mg 279.079 {121} (Radial)	61.93234 ppm	103.221 %	0.5 %	1,316.856 cps
Mn 257.610 {131} (Axial)	0.00211 ppm	0.000 %	4.6 %	101.500 cps
Mo 202.030 {467} (Axial)	0.00006 ppm	0.000 %	307.6 %	0.754 cps
Mo 204.598 {465} (Axial)	0.00025 ppm	0.000 %	251.0 %	5.487 cps
Na 589.592 {57} (Radial)	103.97688 ppm	103.977 %	0.4 %	166,288.416 cps
Ni 231.604 {445} (Axial)	0.00699 ppm	0.000 %	7.9 %	10.130 cps
P 177.495 {490} (Axial)	0.00412 ppm	0.000 %	40.7 %	1.235 cps
Pb 220.353 {453} (Axial)	-0.00294 ppm	0.000 %	86.7 %	-7.052 cps
Sb 206.833 {463} (Axial)	-0.00436 ppm	0.000 %	37.7 %	-1.627 cps
Se 196.090 {472} (Axial)	-0.00097 ppm	0.000 %	183.9 %	-3.064 cps
Si 251.611 {134} (Axial)	0.00601 ppm	0.000 %	30.0 %	99.919 cps
Sn 189.989 {477} (Axial)	0.00218 ppm	0.000 %	43.9 %	1.861 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Sr 407.771 {83} (Radial)	0.00120 ppm	0.000 %	7.2 %	36.570 cps
Sr 421.552 {80} (Axial)	0.00135 ppm	0.000 %	4.4 %	1,102.608 cps
Ti 334.941 {101} (Axial)	0.00122 ppm	0.000 %	2.7 %	24.433 cps
Ti 336.121 {100} (Axial)	0.00011 ppm	0.000 %	20.1 %	44.233 cps
Tl 190.856 {477} (Axial)	-0.01236 ppm	0.000 %	14.0 %	-3.504 cps
V 292.402 {115} (Axial)	0.00123 ppm	0.000 %	40.3 %	12.700 cps
Zn 213.856 {458} (Axial)	0.01036 ppm	0.000 %	7.2 %	105.846 cps
Y 371.030 {91} (Radial)	97.10598 %		0.9 %	9,124.234 cps
Y 360.073 {94} (Radial)	96.81792 %		0.5 %	3,378.569 cps
Y 224.306 {450} (Axial)	89.18857 %		0.3 %	12,473.441 cps

LCM2

Sample type: QC Analysis started at: 12/19/2019 9:39:05 AM

Standard DF: 1

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.04879 ppm	97.586 %	0.2 %	485.733 cps
Ag 338.289 {100} (Axial)	0.04942 ppm	98.847 %	1.5 %	306.567 cps
Al 308.215 {109} (Radial)	0.04471 ppm	0.000 %	62.9 %	1.815 cps
Al 396.152 {85} (Radial)	0.01523 ppm	0.000 %	54.5 %	9.544 cps
As 189.042 {478} (Axial)	-0.00149 ppm	0.000 %	48.7 %	-0.973 cps
As 193.759 {474} (Axial)	0.00165 ppm	0.000 %	9.0 %	0.644 cps
B 249.678 {135} (Radial)	0.00705 ppm	0.000 %	28.1 %	0.489 cps
Ba 455.403 {74} (Radial)	0.00009 ppm	0.000 %	305.9 %	40.594 cps
Be 313.042 {108} (Axial)	0.00004 ppm	0.000 %	222.0 %	-25.150 cps
Ca 315.887 {107} (Radial)	0.03160 ppm	0.000 %	27.5 %	5.600 cps
Cd 226.502 {449} (Axial)	0.00004 ppm	0.000 %	53.8 %	-0.242 cps
Cd 214.438 {457} (Axial)	0.00003 ppm	0.000 %	531.3 %	4.649 cps
Co 228.616 {447} (Axial)	0.00023 ppm	0.000 %	53.0 %	1.901 cps
Cr 267.716 {126} (Axial)	0.00001 ppm	0.000 %	5,301.8 %	0.653 cps
Cu 324.754 {104} (Axial)	0.00092 ppm	0.000 %	44.8 %	451.856 cps
Cu 327.396 {103} (Axial)	0.00026 ppm	0.000 %	75.6 %	48.150 cps
Fe 259.940 {130} (Radial)	0.01623 ppm	0.000 %	54.6 %	4.051 cps
Fe 273.955 {123} (Radial)	0.03315 ppm	0.000 %	80.8 %	1.867 cps
K 766.490 {44} (Radial)	0.07219 ppm	0.000 %	59.0 %	11.378 cps
Li 670.784 {50} (Radial)	0.00018 ppm	0.000 %	236.1 %	12.446 cps
Mg 280.270 {120} (Radial)	0.01562 ppm	0.000 %	32.3 %	82.650 cps
Mg 279.079 {121} (Radial)	0.08011 ppm	0.000 %	35.1 %	1.133 cps
Mn 257.610 {131} (Axial)	0.00013 ppm	0.000 %	79.0 %	14.967 cps
Mo 202.030 {467} (Axial)	0.00008 ppm	0.000 %	273.1 %	0.898 cps
Mo 204.598 {465} (Axial)	0.00030 ppm	0.000 %	151.1 %	0.983 cps
Na 589.592 {57} (Radial)	0.05047 ppm	0.000 %	17.8 %	90.631 cps
Ni 231.604 {445} (Axial)	0.00021 ppm	0.000 %	107.1 %	-3.430 cps
P 177.495 {490} (Axial)	0.00176 ppm	0.000 %	78.0 %	0.530 cps
Pb 220.353 {453} (Axial)	-0.00041 ppm	0.000 %	167.1 %	2.813 cps
Sb 206.833 {463} (Axial)	0.00027 ppm	0.000 %	141.6 %	-0.243 cps
Se 196.090 {472} (Axial)	0.00242 ppm	0.000 %	37.0 %	-0.359 cps
Si 251.611 {134} (Axial)	0.03221 ppm	0.000 %	22.4 %	148.860 cps
Sn 189.989 {477} (Axial)	0.00069 ppm	0.000 %	66.8 %	0.642 cps
Sr 407.771 {83} (Radial)	0.00013 ppm	0.000 %	12.6 %	7.044 cps
Sr 421.552 {80} (Axial)	0.00019 ppm	0.000 %	58.2 %	214.121 cps
Ti 334.941 {101} (Axial)	0.00013 ppm	0.000 %	71.7 %	15.017 cps

	Concentration average	Recovery Percentage 1	Concentration RSD	Raw Intensity average
Ti 336.121 {100} (Axial)	0.00029 ppm	0.000 %	51.6 %	173.111 cps
Tl 190.856 {477} (Axial)	0.00037 ppm	0.000 %	340.4 %	-0.223 cps
V 292.402 {115} (Axial)	0.00010 ppm	0.000 %	222.7 %	-0.083 cps
Zn 213.856 {458} (Axial)	0.00072 ppm	0.000 %	22.1 %	10.915 cps
Y 371.030 {91} (Radial)	100.78516 %		0.5 %	9,469.936 cps
Y 360.073 {94} (Radial)	100.20410 %		0.4 %	3,496.733 cps
Y 224.306 {450} (Axial)	98.78279 %		0.6 %	13,815.238 cps

Milli-Q

Sample type: UNKNOWN Analysis started at: 12/19/2019 9:41:57 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00001 ppm	6,069.1 %	-13.822 cps
Ag 338.289 {100} (Axial)	0.00019 ppm	424.8 %	13.083 cps
Al 308.215 {109} (Radial)	0.03770 ppm	69.3 %	1.457 cps
Al 396.152 {85} (Radial)	0.00354 ppm	282.9 %	6.217 cps
As 189.042 {478} (Axial)	0.00142 ppm	170.5 %	0.151 cps
As 193.759 {474} (Axial)	-0.00016 ppm	1,302.2 %	-0.030 cps
B 249.678 {135} (Radial)	0.00605 ppm	94.2 %	0.350 cps
Ba 455.403 {74} (Radial)	0.00028 ppm	114.9 %	44.050 cps
Be 313.042 {108} (Axial)	-0.00001 ppm	168.0 %	-37.450 cps
Ca 315.887 {107} (Radial)	-0.00211 ppm	422.2 %	2.717 cps
Cd 226.502 {449} (Axial)	-0.00006 ppm	271.9 %	-1.170 cps
Cd 214.438 {457} (Axial)	-0.00010 ppm	35.0 %	3.406 cps
Co 228.616 {447} (Axial)	0.00021 ppm	59.1 %	1.780 cps
Cr 267.716 {126} (Axial)	0.00012 ppm	259.8 %	1.454 cps
Cu 324.754 {104} (Axial)	0.00044 ppm	38.8 %	441.594 cps
Cu 327.396 {103} (Axial)	0.00029 ppm	73.9 %	48.300 cps
Fe 259.940 {130} (Radial)	-0.01164 ppm	168.6 %	0.076 cps
Fe 273.955 {123} (Radial)	0.02385 ppm	53.4 %	1.233 cps
K 766.490 {44} (Radial)	0.00047 ppm	4,372.1 %	-20.078 cps
Li 670.784 {50} (Radial)	0.00073 ppm	62.6 %	18.660 cps
Mg 280.270 {120} (Radial)	0.00338 ppm	130.1 %	23.883 cps
Mg 279.079 {121} (Radial)	-0.00572 ppm	332.6 %	-0.767 cps
Mn 257.610 {131} (Axial)	0.00003 ppm	261.3 %	10.000 cps
Mo 202.030 {467} (Axial)	0.00006 ppm	217.8 %	0.851 cps
Mo 204.598 {465} (Axial)	-0.00053 ppm	48.8 %	0.187 cps
Na 589.592 {57} (Radial)	0.00676 ppm	157.2 %	18.282 cps
Ni 231.604 {445} (Axial)	0.00062 ppm	33.5 %	-2.528 cps
P 177.495 {490} (Axial)	0.00253 ppm	50.3 %	0.797 cps
Pb 220.353 {453} (Axial)	0.00028 ppm	157.1 %	3.335 cps
Sb 206.833 {463} (Axial)	0.00037 ppm	363.6 %	-0.179 cps
Se 196.090 {472} (Axial)	0.00103 ppm	112.0 %	-0.781 cps
Si 251.611 {134} (Axial)	-0.03293 ppm	3.9 %	53.278 cps
Sn 189.989 {477} (Axial)	-0.00031 ppm	184.3 %	-0.306 cps
Sr 407.771 {83} (Radial)	-0.00017 ppm	22.6 %	-1.538 cps
Sr 421.552 {80} (Axial)	-0.00002 ppm	155.8 %	30.989 cps
Ti 334.941 {101} (Axial)	-0.00004 ppm	232.2 %	9.183 cps
Ti 336.121 {100} (Axial)	0.00003 ppm	174.6 %	163.211 cps
Tl 190.856 {477} (Axial)	0.00019 ppm	992.1 %	-0.272 cps
V 292.402 {115} (Axial)	0.00013 ppm	186.1 %	0.300 cps

	Concentration average	Concentration RSD	Raw Intensity average
Zn 213.856 {458} (Axial)	-0.00049 ppm	20.3 %	3.848 cps
Y 371.030 {91} (Radial)	101.47684 %	0.5 %	9,534.928 cps
Y 360.073 {94} (Radial)	101.07028 %	0.5 %	3,526.960 cps
Y 224.306 {450} (Axial)	98.11644 %	0.9 %	13,722.045 cps

Milli-Q

Sample type: UNKNOWN Analysis started at: 12/19/2019 9:44:53 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00033 ppm	72.4 %	-10.678 cps
Ag 338.289 {100} (Axial)	0.00005 ppm	3,013.4 %	12.317 cps
Al 308.215 {109} (Radial)	**0.05662 ppm**	**38.3 %**	2.454 cps
Al 396.152 {85} (Radial)	0.00183 ppm	324.9 %	5.689 cps
As 189.042 {478} (Axial)	0.00057 ppm	170.1 %	-0.174 cps
As 193.759 {474} (Axial)	-0.00188 ppm	55.2 %	-0.666 cps
B 249.678 {135} (Radial)	0.00154 ppm	97.3 %	-0.306 cps
Ba 455.403 {74} (Radial)	-0.00001 ppm	2,222.6 %	38.817 cps
Be 313.042 {108} (Axial)	0.00001 ppm	82.1 %	-31.733 cps
Ca 315.887 {107} (Radial)	-0.00669 ppm	461.4 %	2.300 cps
Cd 226.502 {449} (Axial)	-0.00004 ppm	451.3 %	-0.998 cps
Cd 214.438 {457} (Axial)	-0.00009 ppm	77.6 %	3.586 cps
Co 228.616 {447} (Axial)	0.00025 ppm	107.5 %	2.041 cps
Cr 267.716 {126} (Axial)	-0.00006 ppm	543.2 %	0.119 cps
Cu 324.754 {104} (Axial)	0.00064 ppm	57.9 %	448.422 cps
Cu 327.396 {103} (Axial)	-0.00020 ppm	133.3 %	41.983 cps
Fe 259.940 {130} (Radial)	-0.01264 ppm	65.9 %	-0.072 cps
Fe 273.955 {123} (Radial)	0.02779 ppm	84.3 %	1.500 cps
K 766.490 {44} (Radial)	0.00914 ppm	76.8 %	-16.179 cps
Li 670.784 {50} (Radial)	0.00152 ppm	53.5 %	27.196 cps
Mg 280.270 {120} (Radial)	0.00096 ppm	191.1 %	12.000 cps
Mg 279.079 {121} (Radial)	0.01380 ppm	345.8 %	-0.333 cps
Mn 257.610 {131} (Axial)	0.00004 ppm	106.4 %	10.717 cps
Mo 202.030 {467} (Axial)	-0.00004 ppm	786.8 %	0.613 cps
Mo 204.598 {465} (Axial)	-0.00022 ppm	131.7 %	0.481 cps
Na 589.592 {57} (Radial)	-0.00883 ppm	115.5 %	-7.768 cps
Ni 231.604 {445} (Axial)	0.00065 ppm	38.6 %	-2.490 cps
P 177.495 {490} (Axial)	0.00125 ppm	18.0 %	0.351 cps
Pb 220.353 {453} (Axial)	-0.00013 ppm	273.4 %	3.033 cps
Sb 206.833 {463} (Axial)	0.00163 ppm	43.4 %	0.589 cps
Se 196.090 {472} (Axial)	0.00161 ppm	95.1 %	-0.612 cps
Si 251.611 {134} (Axial)	-0.03285 ppm	4.3 %	53.865 cps
Sn 189.989 {477} (Axial)	0.00024 ppm	68.1 %	0.214 cps
Sr 407.771 {83} (Radial)	-0.00021 ppm	55.4 %	-2.708 cps
Sr 421.552 {80} (Axial)	-0.00003 ppm	51.6 %	19.113 cps
Ti 334.941 {101} (Axial)	-0.00006 ppm	76.3 %	8.717 cps
Ti 336.121 {100} (Axial)	0.00008 ppm	125.2 %	166.089 cps
Tl 190.856 {477} (Axial)	0.00109 ppm	218.0 %	-0.018 cps
V 292.402 {115} (Axial)	-0.00010 ppm	94.7 %	-2.617 cps
Zn 213.856 {458} (Axial)	-0.00042 ppm	12.9 %	4.298 cps
Y 371.030 {91} (Radial)	100.83953 %	0.4 %	9,475.044 cps
Y 360.073 {94} (Radial)	100.23307 %	0.6 %	3,497.744 cps

	Concentration average	Concentration RSD	Raw Intensity average
Y 224.306 {450} (Axial)	98.94117 %	0.5 %	13,837.388 cps

Milli-Q

Sample type: UNKNOWN Analysis started at: 12/19/2019 9:47:46 AM

Standard DF: 1

	Concentration average	Concentration RSD	Raw Intensity average
Ag 328.068 {103} (Axial)	0.00018 ppm	136.1 %	-12.311 cps
Ag 338.289 {100} (Axial)	0.00016 ppm	107.6 %	13.100 cps
Al 308.215 {109} (Radial)	0.04100 ppm	43.8 %	1.638 cps
Al 396.152 {85} (Radial)	0.01582 ppm	89.9 %	9.850 cps
As 189.042 {478} (Axial)	0.00003 ppm	6,042.7 %	-0.387 cps
As 193.759 {474} (Axial)	0.00135 ppm	75.2 %	0.539 cps
B 249.678 {135} (Radial)	0.00284 ppm	144.9 %	-0.122 cps
Ba 455.403 {74} (Radial)	0.00021 ppm	53.9 %	43.100 cps
Be 313.042 {108} (Axial)	0.00004 ppm	213.9 %	-23.717 cps
Ca 315.887 {107} (Radial)	0.01231 ppm	203.1 %	3.983 cps
Cd 226.502 {449} (Axial)	0.00003 ppm	164.0 %	-0.385 cps
Cd 214.438 {457} (Axial)	-0.00010 ppm	57.1 %	3.424 cps
Co 228.616 {447} (Axial)	0.00025 ppm	74.5 %	2.024 cps
Cr 267.716 {126} (Axial)	0.00019 ppm	20.4 %	1.956 cps
Cu 324.754 {104} (Axial)	0.00085 ppm	28.7 %	453.822 cps
Cu 327.396 {103} (Axial)	0.00011 ppm	334.0 %	46.433 cps
Fe 259.940 {130} (Radial)	-0.00743 ppm	119.1 %	0.682 cps
Fe 273.955 {123} (Radial)	0.01122 ppm	94.1 %	0.350 cps
K 766.490 {44} (Radial)	-0.00088 ppm	1,842.9 %	-20.806 cps
Li 670.784 {50} (Radial)	0.00034 ppm	174.6 %	14.422 cps
Mg 280.270 {120} (Radial)	0.00425 ppm	142.2 %	28.217 cps
Mg 279.079 {121} (Radial)	-0.01319 ppm	408.2 %	-0.933 cps
Mn 257.610 {131} (Axial)	0.00014 ppm	93.4 %	15.683 cps
Mo 202.030 {467} (Axial)	0.00008 ppm	85.6 %	0.886 cps
Mo 204.598 {465} (Axial)	-0.00042 ppm	127.6 %	0.287 cps
Na 589.592 {57} (Radial)	0.00080 ppm	623.9 %	8.357 cps
Ni 231.604 {445} (Axial)	0.00021 ppm	45.0 %	-3.464 cps
P 177.495 {490} (Axial)	0.00283 ppm	33.6 %	0.915 cps
Pb 220.353 {453} (Axial)	-0.00027 ppm	130.8 %	2.939 cps
Sb 206.833 {463} (Axial)	0.00032 ppm	140.9 %	-0.218 cps
Se 196.090 {472} (Axial)	-0.00002 ppm	15,184.5 %	-1.117 cps
Si 251.611 {134} (Axial)	-0.03033 ppm	8.3 %	57.806 cps
Sn 189.989 {477} (Axial)	0.00037 ppm	130.3 %	0.341 cps
Sr 407.771 {83} (Radial)	-0.00015 ppm	39.3 %	-1.075 cps
Sr 421.552 {80} (Axial)	0.00004 ppm	236.5 %	82.307 cps
Ti 334.941 {101} (Axial)	0.00010 ppm	190.2 %	14.167 cps
Ti 336.121 {100} (Axial)	0.00017 ppm	114.9 %	169.978 cps
Tl 190.856 {477} (Axial)	0.00194 ppm	58.3 %	0.231 cps
V 292.402 {115} (Axial)	-0.00009 ppm	484.6 %	-2.517 cps
Zn 213.856 {458} (Axial)	-0.00052 ppm	2.0 %	3.741 cps
Y 371.030 {91} (Radial)	101.99088 %	1.0 %	9,583.228 cps
Y 360.073 {94} (Radial)	101.27032 %	0.7 %	3,533.940 cps
Y 224.306 {450} (Axial)	99.42174 %	0.4 %	13,904.597 cps