

DATA PACKAGE METALS

PROJECT NAME : NWIRP BETHPAGE 112G08005-WE13

TETRA TECH NUS, INC.

661 Andersen Drive

Suite 200

Pittsburgh, PA - 15220-2745

Phone No: 412-921-7090

ORDER ID : Q2316

ATTENTION : Ernie Wu



Laboratory Certification ID # 20012



1) METALS DATA	2
2) Signature Page	4
3) Case Narrative	5
4) Qualifier Page	6
5) Conformance/Non Conformance	7
6) QA Checklist	8
7) Chronicle	9
8) Hit Summary	10
9) Sample Data	11
9.1) RW8-SP100-20250612	12
9.2) RW8-SP303-20250612	13
10) METALS CALIBRATION DATA	14
10.1) Initial and Continuing Calibration Verification	15
10.2) CRDL Standard For AA & ICP	18
10.3) Initial and Continuing Calibration Blank Summary	19
10.4) Preparation Blank Summary	21
10.5) Interference Check Sample	22
11) METALS QC DATA	23
11.1) Matrix Spike Summary	24
11.2) Post Digest Spike Summary	26
11.3) Duplicate Sample Summary	27
11.4) Laboratory Control Sample Summary	29
11.5) ICP Serial Dilutions	30
12) METALS PREPARATION & INSTRUMENT DATA	31
12.1) ICP Interelement Correction Factors	32
13) PREPARATION & ANALYTICAL SUMMARY	37
13.1) Sample Preparation Summary	38
13.2) Analysis Run Log	39
14) METALS RAW DATA	40
14.1) METALS RAW DATA - ANALYTICAL	41
14.2) LB136187	41
14.3) METALS RAW DATA - PREP	273
14.3.1) PB168475	273
15) Analytical Runlogs	276
16) Standard Prep Logs	282

Table Of Contents for Q2316

17) Shipping Document	412
17.1) Chain Of Custody	413
17.2) Lab Certificate	414

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Cover Page

Order ID : Q2316

Project ID : NWIRP Bethpage 112G08005-WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number

Q2316-01
Q2316-02

Client Sample Number

RW8-SP100-20250612
RW8-SP303-20250612

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature :

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 12:33 pm, Jun 24, 2025

Date: 6/23/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

CASE NARRATIVE

Tetra Tech NUS, Inc.

Project Name: NWIRP Bethpage 112G08005-WE13

Project Manager : Ernie Wu

Order ID # Q2316

Test Name: Metals Group4

A. Number of Samples and Date of Receipt:

2 Water samples were received on 06/12/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Metals Group4, SVOC-SIMGroup1, TDS and TSS. This data package contains results for Metals Group4.

C. Analytical Techniques:

The analysis of Metals Group4 was based on method 6010D and digestion based on method 3010 (waters).

D. QA/ QC Samples:

The Holding Times were met for all analysis.

The Blank Spike met requirements for all samples.

The Duplicate analysis met criteria for all samples.

The Matrix Spike analysis met criteria for all samples.

The Matrix Spike Duplicate analysis met criteria for all samples.

The Blank analysis did not indicate the presence of lab contamination.

The Calibration met the requirements.

The Serial Dilution met the acceptable requirements.

E. Additional Comments:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is).

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 12:34 pm, Jun 24, 2025

Signature_____

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following “ Results Qualifiers” are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers “P” for ICP instrument “PM” for ICP when Microwave Digestion is used “CV” for Manual Cold Vapor AA “AV” for automated Cold Vapor AA “CA” for MIDI-Distillation Spectrophotometric “AS” for Semi -Automated Spectrophotometric “C” for Manual Spectrophotometric “T” for Titrimetric “NR” for analyte not required to be analyzed
OR	Indicates the analyte’s concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q2316

MATRIX: Water

METHOD: 6010D

	NA	NO	YES
1. Calibration Summary met criteria.			✓
2. ICP Interference Check Sample Results Summary Submitted.			✓
3. Serial Dilution Summary (if applicable) Submitted.			✓
4. Laboratory Control Sample Summary (if applicable) Submitted.			✓
5. Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
6. Matrix Spike/Matrix Spike Duplicate Recoveries Met Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range.			✓
7. Sample Duplicate Analysis Met QC Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range.			✓
8. Digestion Holding Time Met If not met, list number of days exceeded for each sample:			✓
9. Analysis Holding Time Met If not met, list those compounds and their recoveries which fall outside the acceptable range.			✓

ADDITIONAL COMMENTS:

The laboratory certifies that the all-electronic diskette deliverable exactly match the data summary forms (i.e. Form Is).

QA REVIEW

REVIEWED

By Sohil Jodhani, QA/QC Director at 10:08 am, Jun 24, 2025

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q2316

Completed

For thorough review, the report must have the following:

GENERAL:

Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)

✓

Check chain-of-custody for proper relinquish/return of samples

✓

Is the chain of custody signed and complete

✓

Check internal chain-of-custody for proper relinquish/return of samples /sample extracts

✓

Collect information for each project id from server. Were all requirements followed

✓

COVER PAGE:

Do numbers of samples correspond to the number of samples in the Chain of Custody on login page

✓

Do lab numbers and client Ids on cover page agree with the Chain of Custody

✓

CHAIN OF CUSTODY:

Do requested analyses on Chain of Custody agree with form I results

✓

Do requested analyses on Chain of Custody agree with the log-in page

✓

Were the correct method log-in for analysis according to the Analytical Request and Chain of Custody

✓

Were the samples received within hold time

✓

Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle

✓

ANALYTICAL:

Was method requirement followed?

✓

Was client requirement followed?

✓

Does the case narrative summarize all QC failure?

✓

All runlogs and manual integration are reviewed for requirements

✓

All manual calculations and /or hand notations verified

✓

QA Review Signature: SOHIL JODHANI

Date: 06/23/2025

LAB CHRONICLE

OrderID:	Q2316	OrderDate:	6/12/2025 3:59:00 PM
Client:	Tetra Tech NUS, Inc.	Project:	NWIRP Bethpage 112G08005-WE13
Contact:	Ernie Wu	Location:	D41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2316-01	RW8-SP100-2025061 2	Water			06/12/25			06/12/25
			Metals Group4	6010D		06/13/25	06/17/25	
Q2316-02	RW8-SP303-2025061 2	Water			06/12/25			06/12/25
			Metals Group4	6010D		06/13/25	06/17/25	

Hit Summary Sheet
SW-846

SDG No.:	Q2316	Order ID:	Q2316
Client:	Tetra Tech NUS, Inc.	Project ID:	NWIRP Bethpage 112G08005-WE13

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : RW8-SP100-20250612									
Q2316-01	RW8-SP100-20250612	Water	Iron	953		11.7	40.0	50.0	ug/L
Client ID : RW8-SP303-20250612									
Q2316-02	RW8-SP303-20250612	Water	Iron	43.3	J	11.7	40.0	50.0	ug/L



SAMPLE DATA

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	06/12/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	06/12/25
Client Sample ID:	RW8-SP100-20250612	SDG No.:	Q2316
Lab Sample ID:	Q2316-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7439-89-6	Iron	953		1	11.7	40.0	50.0	ug/L	06/13/25 11:35	06/17/25 19:47	6010D	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group4			

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 N =Spiked sample recovery not within control limits

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	06/12/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	06/12/25
Client Sample ID:	RW8-SP303-20250612	SDG No.:	Q2316
Lab Sample ID:	Q2316-02	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7439-89-6	Iron	43.3	J	1	11.7	40.0	50.0	ug/L	06/13/25 11:35	06/17/25 19:51	6010D	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:
Color After:	Colorless	Clarity After:	Clear	Artifacts:
Comments:	Metals Group4			

U = Not Detected
 LOQ = Limit of Quantitation
 MDL = Method Detection Limit
 LOD = Limit of Detection
 D = Dilution
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
 B = Analyte Found in Associated Method Blank
 * = indicates the duplicate analysis is not within control limits.
 E = Indicates the reported value is estimated because of the presence of interference.
 OR = Over Range
 N =Spiked sample recovery not within control limits



METAL CALIBRATION DATA

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Iron	3960	4000	99	90 - 110	P	06/17/2025	12:25	LB136187

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Iron	110	100	110	80 - 120	P	06/17/2025	12:41	LB136187

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316

Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Iron	4850	5000	97	90 - 110	P	06/17/2025	13:40	LB136187
CCV02	Iron	4990	5000	100	90 - 110	P	06/17/2025	14:43	LB136187
CCV03	Iron	4870	5000	97	90 - 110	P	06/17/2025	15:38	LB136187
CCV04	Iron	4980	5000	100	90 - 110	P	06/17/2025	16:30	LB136187
CCV05	Iron	4900	5000	98	90 - 110	P	06/17/2025	17:37	LB136187
CCV06	Iron	4900	5000	98	90 - 110	P	06/17/2025	18:38	LB136187
CCV07	Iron	4900	5000	98	90 - 110	P	06/17/2025	19:25	LB136187
CCV08	Iron	4770	5000	95	90 - 110	P	06/17/2025	20:17	LB136187



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Initial Calibration Source: _____
Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Iron	103	100	103	65 - 135	P	06/17/2025	12:50	LB136187



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:	Tetra Tech NUS, Inc.				SDG No.:	Q2316				
Contract:	TETR06	Lab Code:	CHEM	Case No.:	Q2316	SAS No.:	Q2316			
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Iron	38.5	+/-50	J	80.0	100	P	06/17/2025	12:46	LB136187

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Iron	23.4	+/-50	U	80.0	100	P	06/17/2025	13:48	LB136187
CCB02	Iron	23.4	+/-50	U	80.0	100	P	06/17/2025	14:50	LB136187
CCB03	Iron	27.5	+/-50	J	80.0	100	P	06/17/2025	15:42	LB136187
CCB04	Iron	23.4	+/-50	U	80.0	100	P	06/17/2025	16:34	LB136187
CCB05	Iron	23.4	+/-50	U	80.0	100	P	06/17/2025	17:41	LB136187
CCB06	Iron	23.4	+/-50	U	80.0	100	P	06/17/2025	18:42	LB136187
CCB07	Iron	27.8	+/-50	J	80.0	100	P	06/17/2025	19:30	LB136187
CCB08	Iron	41.7	+/-50	J	80.0	100	P	06/17/2025	20:22	LB136187

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.

SDG No.: Q2316

Instrument: P5

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168475BL		WATER		Batch Number:		PB168475		Prep Date:	06/13/2025	
	Iron	11.7	<25	U	40.0	50.0	P	06/17/2025	17:10	LB136187

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: <u>Tetra Tech NUS, Inc.</u>	SDG No.: <u>Q2316</u>
Contract: <u>TETR06</u>	Lab Code: <u>CHEM</u>
ICS Source: <u>EPA</u>	Case No.: <u>Q2316</u>
	SAS No.: <u>Q2316</u>
	Instrument ID: <u>P5</u>

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Iron	103000	100000	103	85600	116500	06/17/2025	13:11	LB136187
ICSAB01	Iron	104000	99000	105	84400	114500	06/17/2025	13:22	LB136187



METAL QC DATA

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

metals
- 5a -
MATRIX SPIKE SUMMARY

client: <u>Tetra Tech NUS, Inc.</u>	level: <u>low</u>	sdg no.: <u>Q2316</u>
contract: <u>TETR06</u>	lab code: <u>CHEM</u>	case no.: <u>Q2316</u> sas no.: <u>Q2316</u>
matrix: <u>Water</u>	sample id: <u>Q2316-02</u>	client id: <u>RW8-SP303-20250612MS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q2316-02MS</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	ug/L	87 - 115	1620		43.3	J	1500	105		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>Tetra Tech NUS, Inc.</u>	level: <u>low</u>	sdg no.: <u>Q2316</u>
contract: <u>TETR06</u>	lab code: <u>CHEM</u>	case no.: <u>Q2316</u> sas no.: <u>Q2316</u>
matrix: <u>Water</u>	sample id: <u>Q2316-02</u>	client id: <u>RW8-SP303-20250612MSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q2316-02MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	ug/L	87 - 115	1570		43.3	J	1500	102		P

Metals
- 5b -

Client: Tetra Tech NUS, Inc.

SDG No.: Q2316

Contract: TETR06

Lab Code: CHEM

Case No.: Q2316

SAS No.: Q2316

Matrix:

Level: LOW

Client ID:

Sample ID:

Spiked ID:

Analyte	Units	Acceptance Limit %R	C	Sample Result	C	Spike Added	% Recovery	Qual	M
.....									

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Matrix: Water **Sample ID:** Q2316-02 **Client ID:** RW8-SP303-20250612DUP
Percent Solids for Sample: NA **Duplicate ID** Q2316-02DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	43.3	J	47.9	J	10		P

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Matrix: Water **Sample ID:** Q2316-02MS **Client ID:** RW8-SP303-20250612MSD
Percent Solids for Sample: NA **Duplicate ID** Q2316-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	1620		1570		3		P

“A control limit of $\pm 20\%$ RPD for each matrix applies for sample values greater than 10 times Detection Limit”



- 7 -

Client:	<u>Tetra Tech NUS, Inc.</u>	SDG No.:	<u>Q2316</u>				
Contract:	TETR06	Lab Code:	CHEM	Case No.:	Q2316	SAS No.:	Q2316

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168475BS							
Iron	ug/L	1500	1580		105	87 - 115	P

Metals
-9 -
ICP SERIAL DILUTIONS

SAMPLE NO.

RW8-SP303-20250612L

Lab Name: Chemtech Consulting Group **Contract:** TETR06
Lab Code: CHEM **Lb No.:** lb136187 **Lab Sample ID :** Q2316-02L **SDG No.:** Q2316
Matrix (soil/water): Water **Level (low/med):** LOW
Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Differ- ence	Q	M
Iron	43.3	J	59.0	J	36		P



METAL PREPARATION & INSTRUMENT DATA

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Instrument ID: _____ **Date:** _____
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Al	Ca	Fe	Mg	Ag
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: Q2316

Contract: TETR06

Lab Code: CHEM

Case No.: Q2316

SAS No.: Q2316

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		As	Ba	Be	Cd	Co
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Instrument ID: _____ **Date:** _____
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Cr	Cu	K	Mn	Mo
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: Q2316

Contract: TETR06

Lab Code: CHEM

Case No.: Q2316

SAS No.: Q2316

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interement Correction Factors For:				
		Na	Ni	Pb	Sb	Se
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2316
Contract: TETR06 **Lab Code:** CHEM **Case No.:** Q2316 **SAS No.:** Q2316
Instrument ID: _____ **Date:** _____
Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Sn	Ti	Tl	V	Zn
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Metals
- 13 -

SAMPLE PREPARATION SUMMARY

Client:	<u>Tetra Tech NUS, Inc.</u>	SDG No.:	<u>Q2316</u>
Contract:	<u>TETR06</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q2316</u>
		SAS No.:	<u>Q2316</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB168475							
PB168475BL	PB168475BL	MB	WATER	06/13/2025	50.0	25.0	
PB168475BS	PB168475BS	LCS	WATER	06/13/2025	50.0	25.0	
Q2316-01	RW8-SP100-20250612	SAM	WATER	06/13/2025	50.0	25.0	
Q2316-02	RW8-SP303-20250612	SAM	WATER	06/13/2025	50.0	25.0	
Q2316-02DUP	RW8-SP303-20250612DUP	DUP	WATER	06/13/2025	50.0	25.0	
Q2316-02MS	RW8-SP303-20250612MS	MS	WATER	06/13/2025	50.0	25.0	
Q2316-02MSD	RW8-SP303-20250612MSD	MSD	WATER	06/13/2025	50.0	25.0	

metals
- 14 -
ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc. **Contract:** TETR06

Lab code: CHEM **Case no.:** Q2316 **Sas no.:** Q2316 **Sdg no.:** Q2316

Instrument id number: **Method:** **Run number:** LB136187

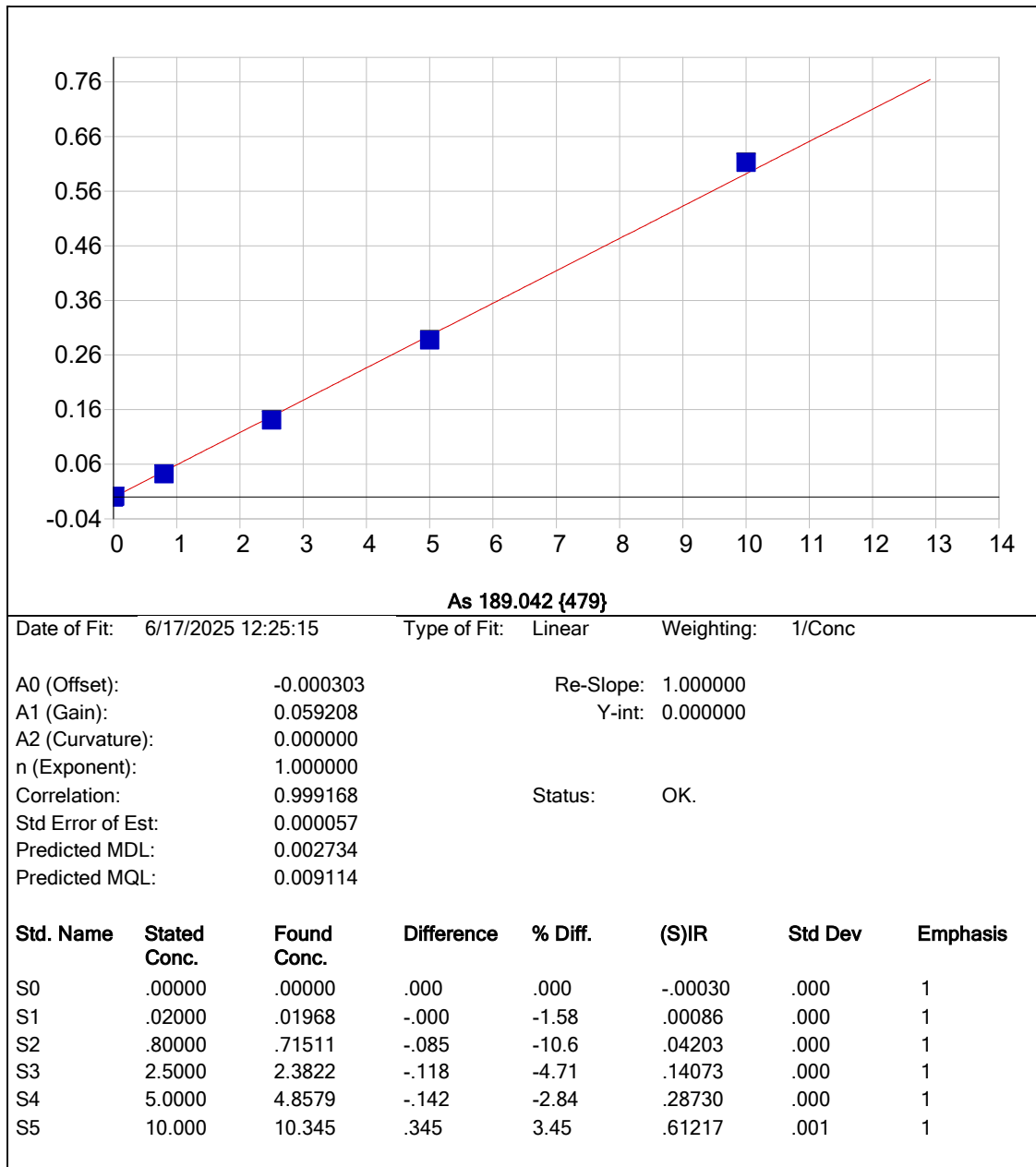
Start date: 06/17/2025 **End date:** 06/17/2025

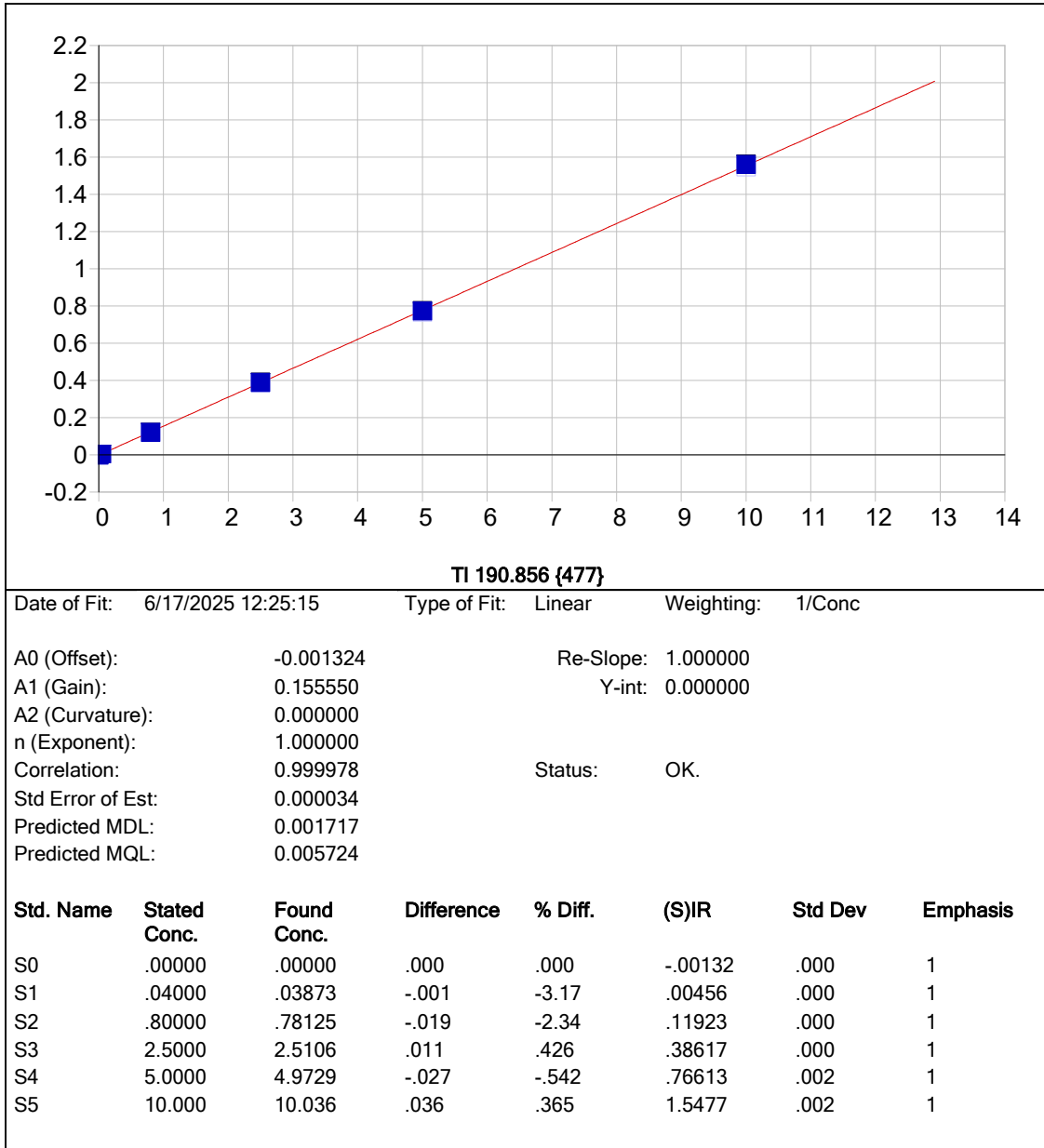
Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1158	Fe
S1	S1	1	1203	Fe
S2	S2	1	1207	Fe
S3	S3	1	1211	Fe
S4	S4	1	1216	Fe
S5	S5	1	1220	Fe
ICV01	ICV01	1	1225	Fe
LLICV01	LLICV01	1	1241	Fe
ICB01	ICB01	1	1246	Fe
CRI01	CRI01	1	1250	Fe
ICSA01	ICSA01	1	1311	Fe
ICSAB01	ICSAB01	1	1322	Fe
CCV01	CCV01	1	1340	Fe
CCB01	CCB01	1	1348	Fe
CCV02	CCV02	1	1443	Fe
CCB02	CCB02	1	1450	Fe
CCV03	CCV03	1	1538	Fe
CCB03	CCB03	1	1542	Fe
CCV04	CCV04	1	1630	Fe
CCB04	CCB04	1	1634	Fe
PB168475BL	PB168475BL	1	1710	Fe
PB168475BS	PB168475BS	1	1714	Fe
CCV05	CCV05	1	1737	Fe
CCB05	CCB05	1	1741	Fe
CCV06	CCV06	1	1838	Fe
CCB06	CCB06	1	1842	Fe
CCV07	CCV07	1	1925	Fe
CCB07	CCB07	1	1930	Fe
Q2316-01	RW8-SP100-20250612	1	1947	Fe
Q2316-02	RW8-SP303-20250612	1	1951	Fe
Q2316-02DUP	RW8-SP303-20250612DUP	1	1956	Fe
Q2316-02L	RW8-SP303-20250612L	5	2000	Fe
Q2316-02MS	RW8-SP303-20250612MS	1	2004	Fe
Q2316-02MSD	RW8-SP303-20250612MSD	1	2009	Fe
CCV08	CCV08	1	2017	Fe
CCB08	CCB08	1	2022	Fe

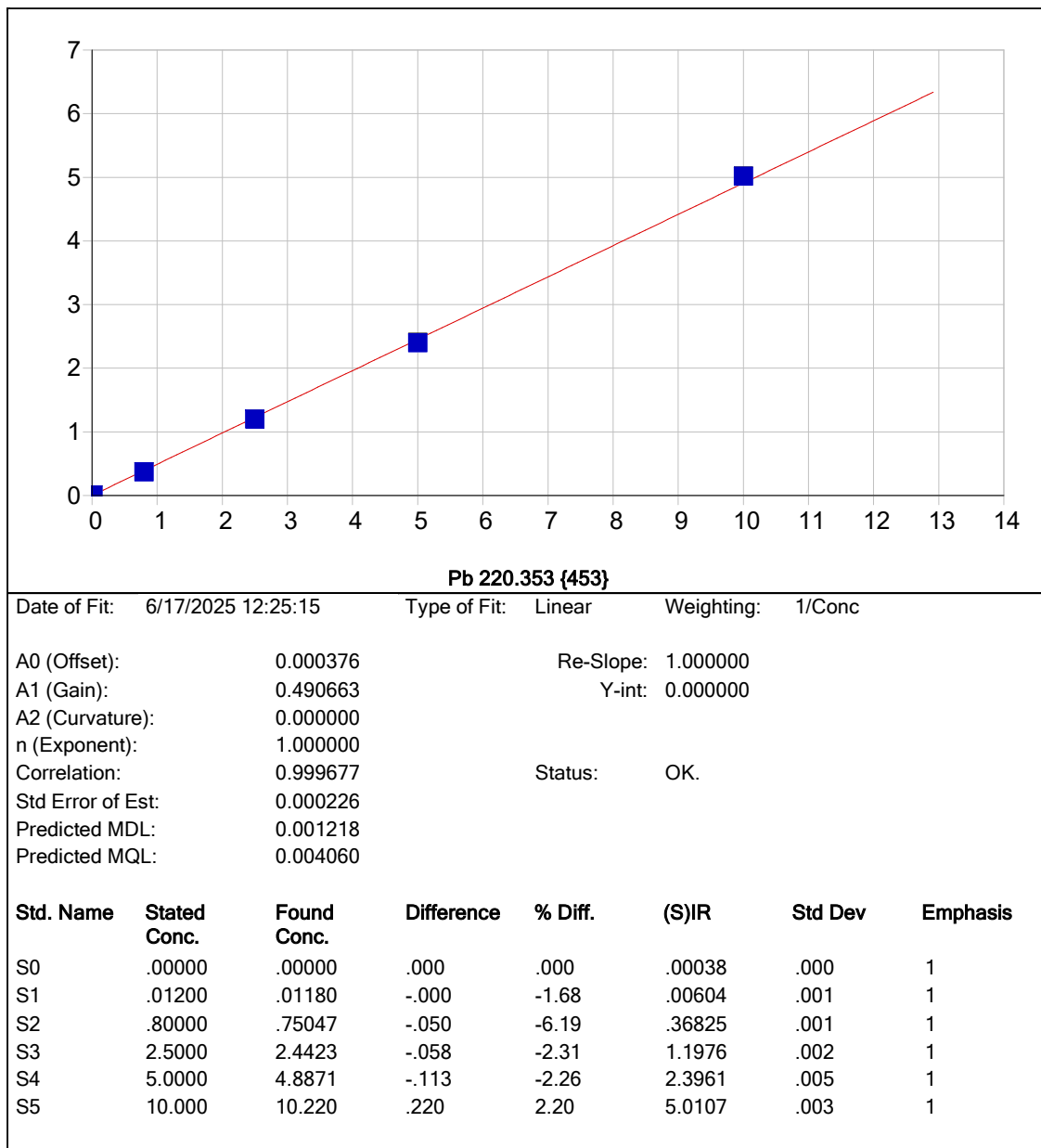


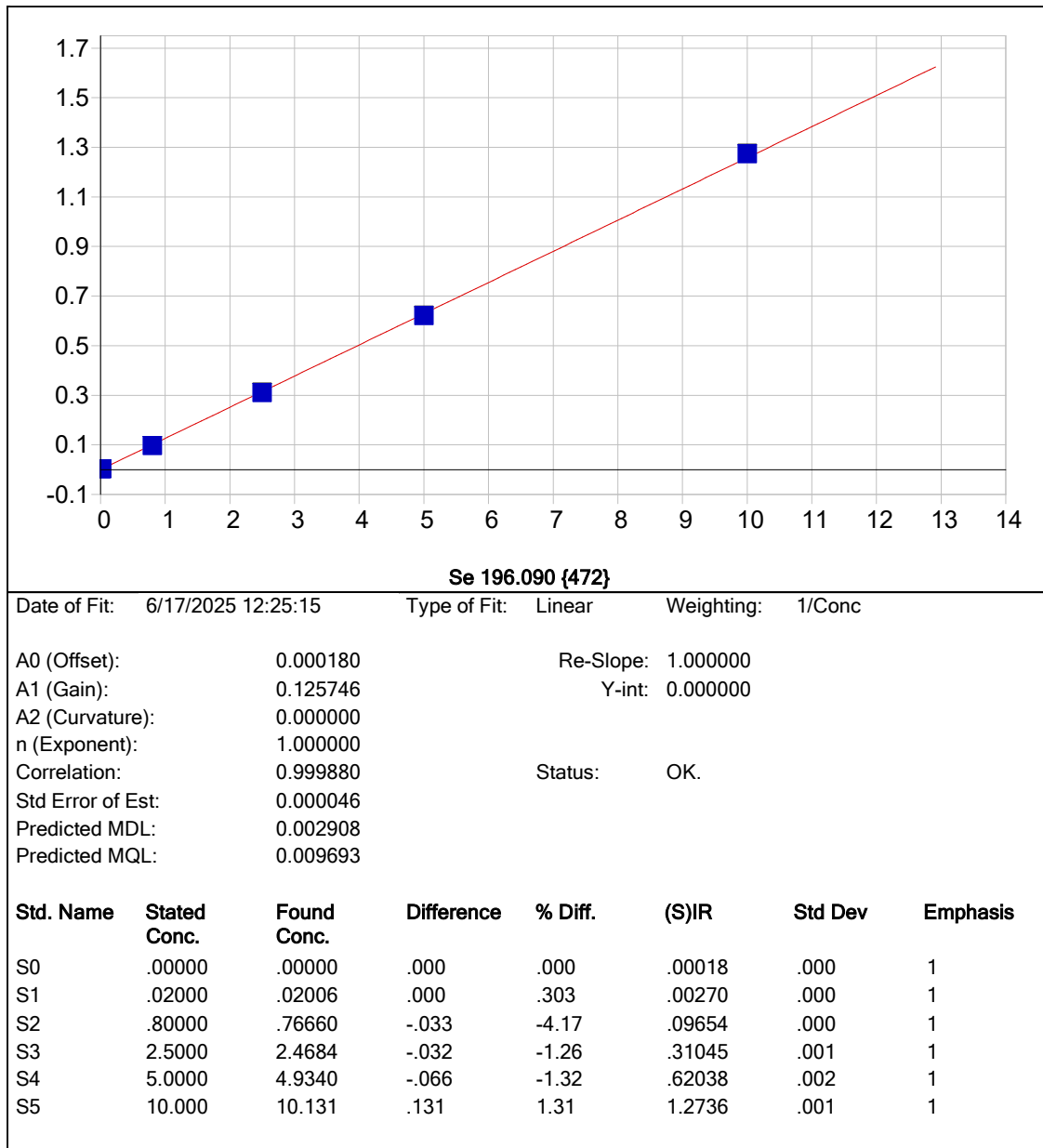
METAL RAW DATA

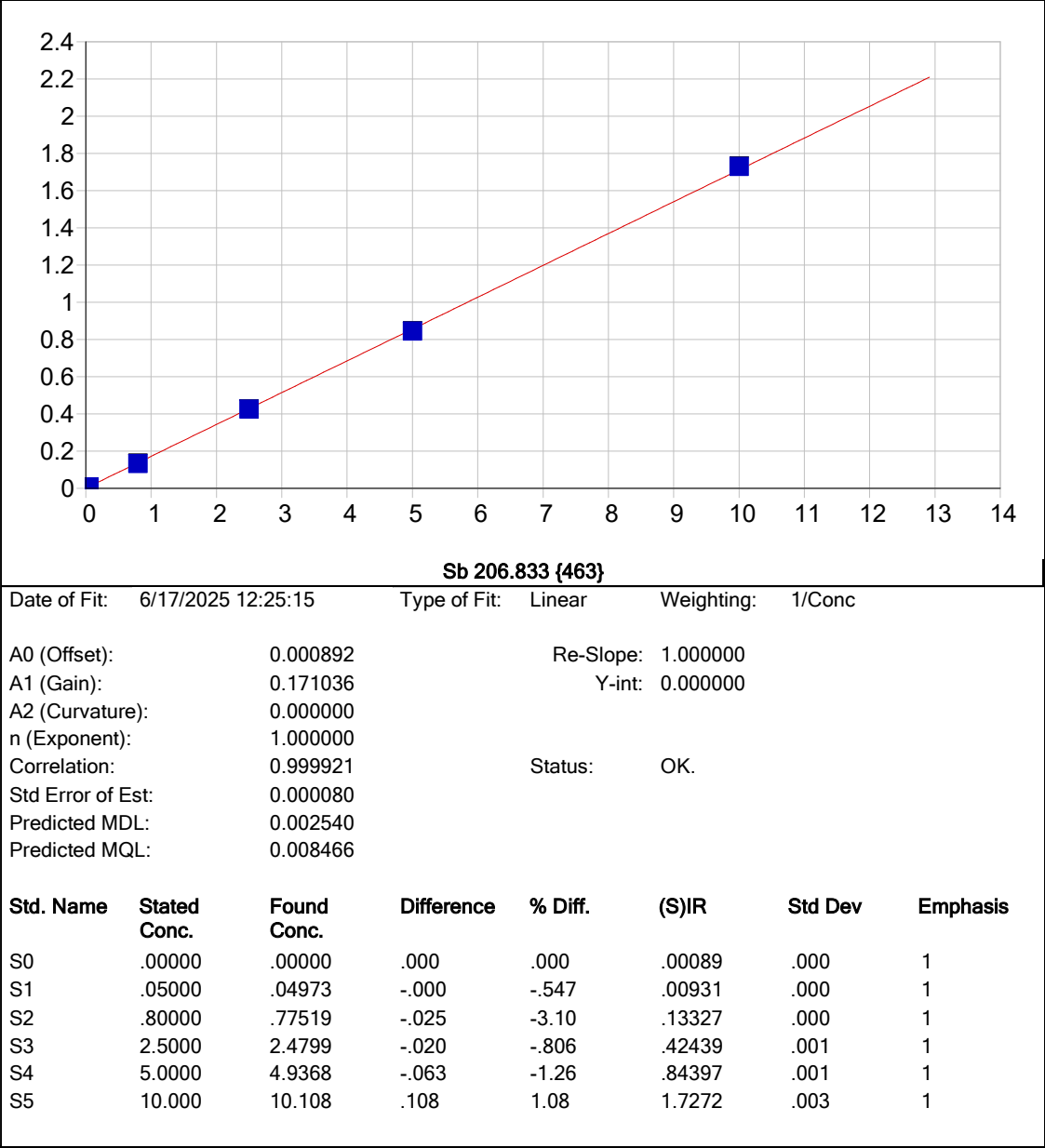
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

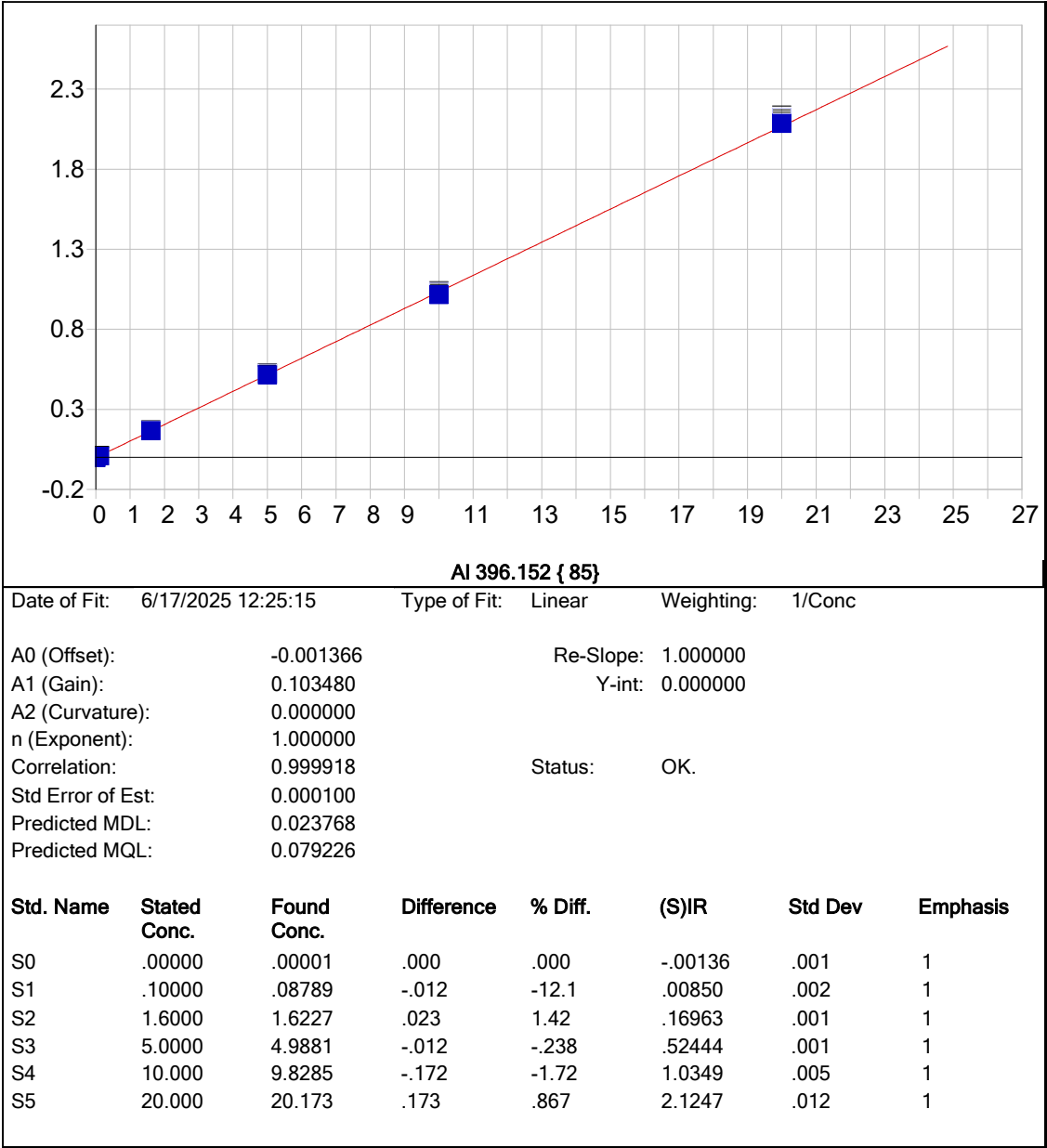


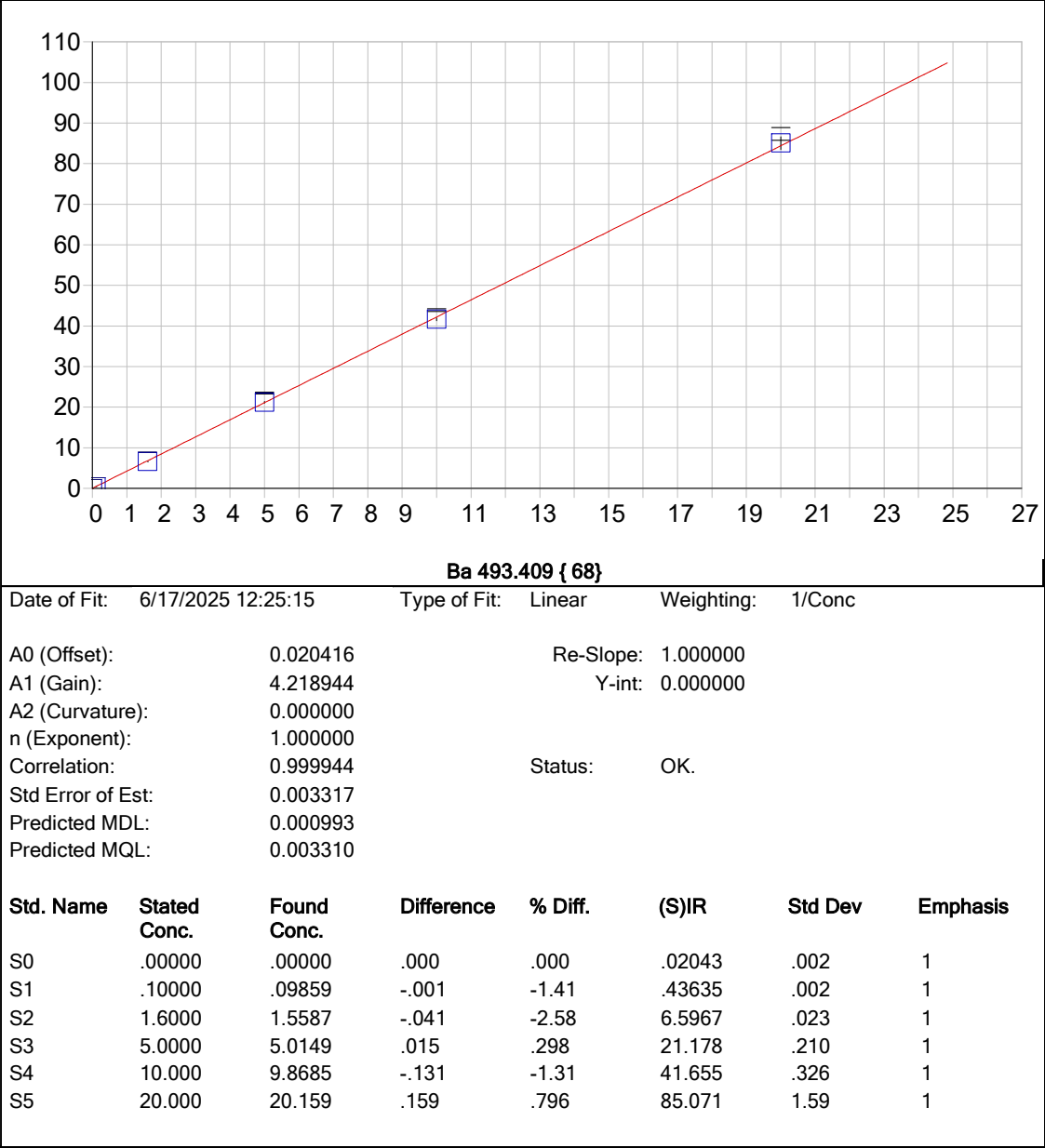


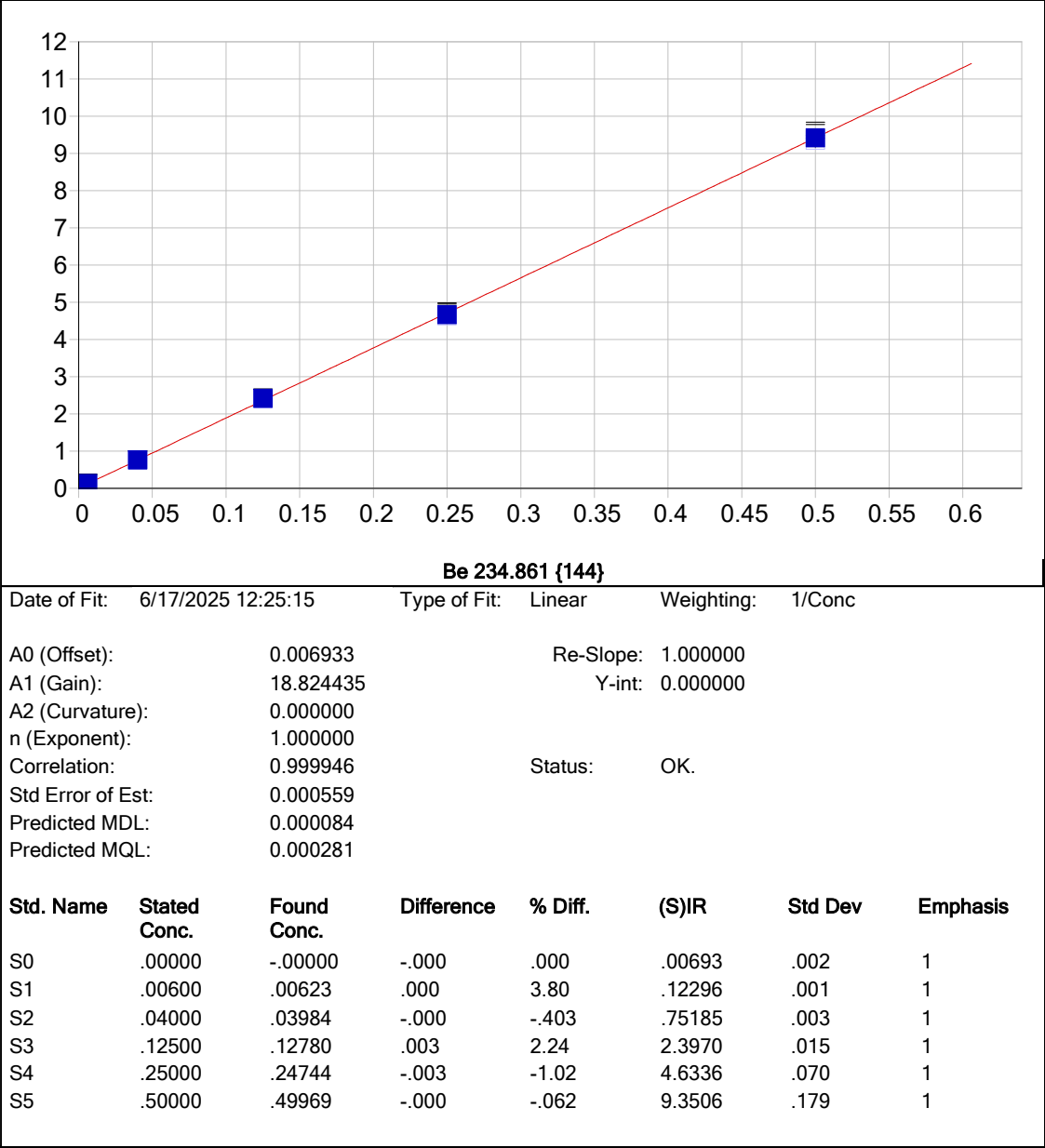


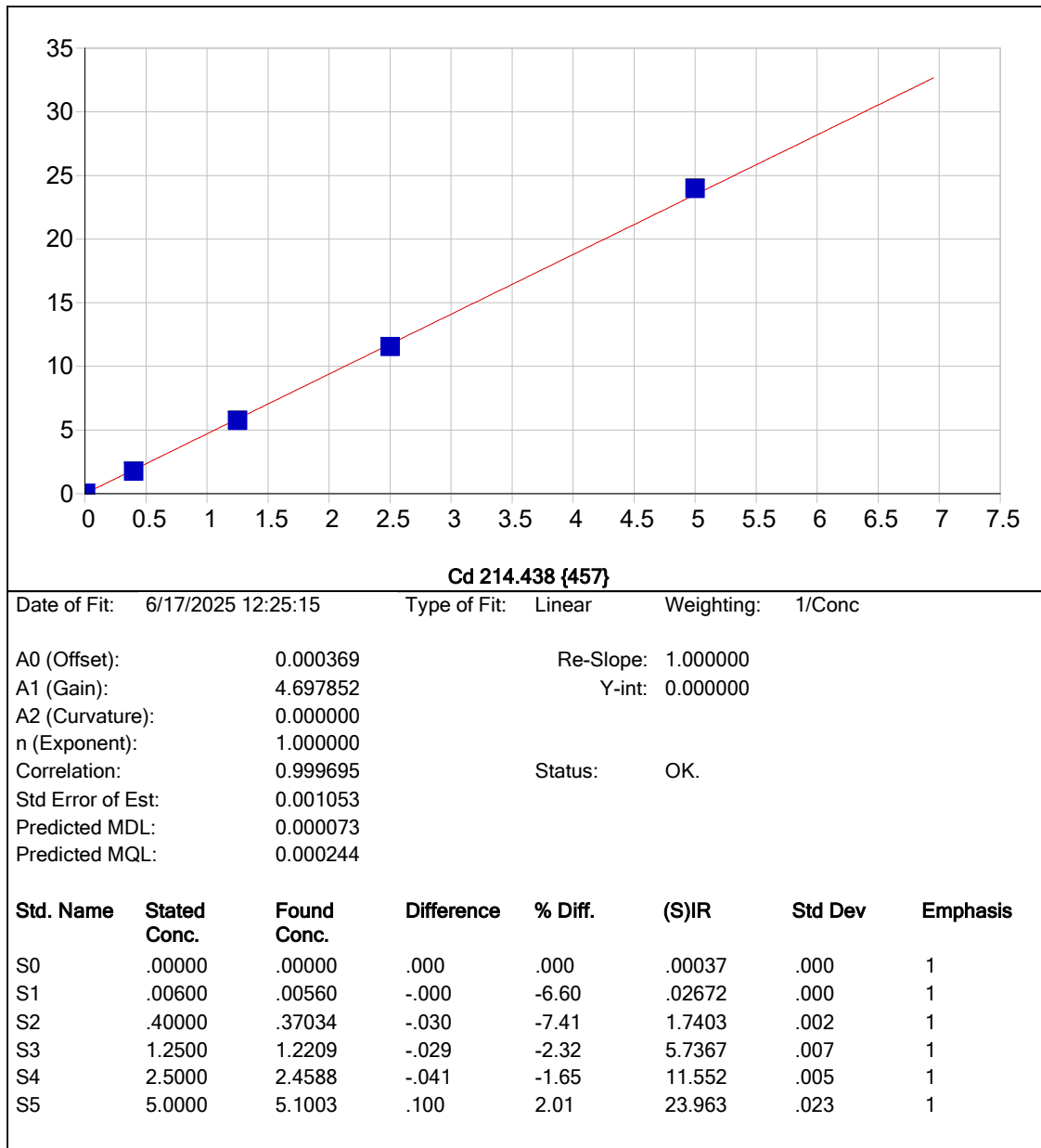


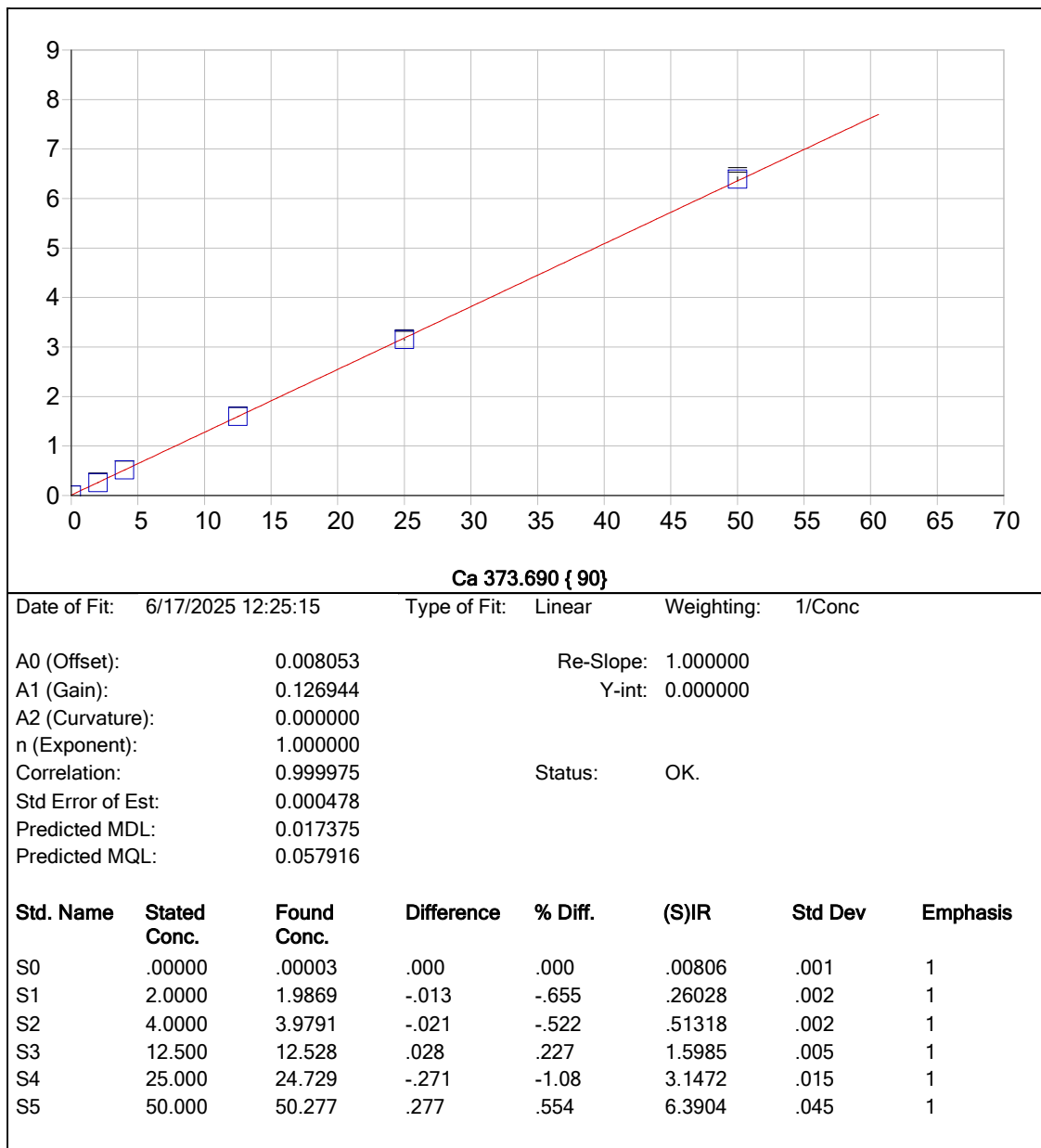


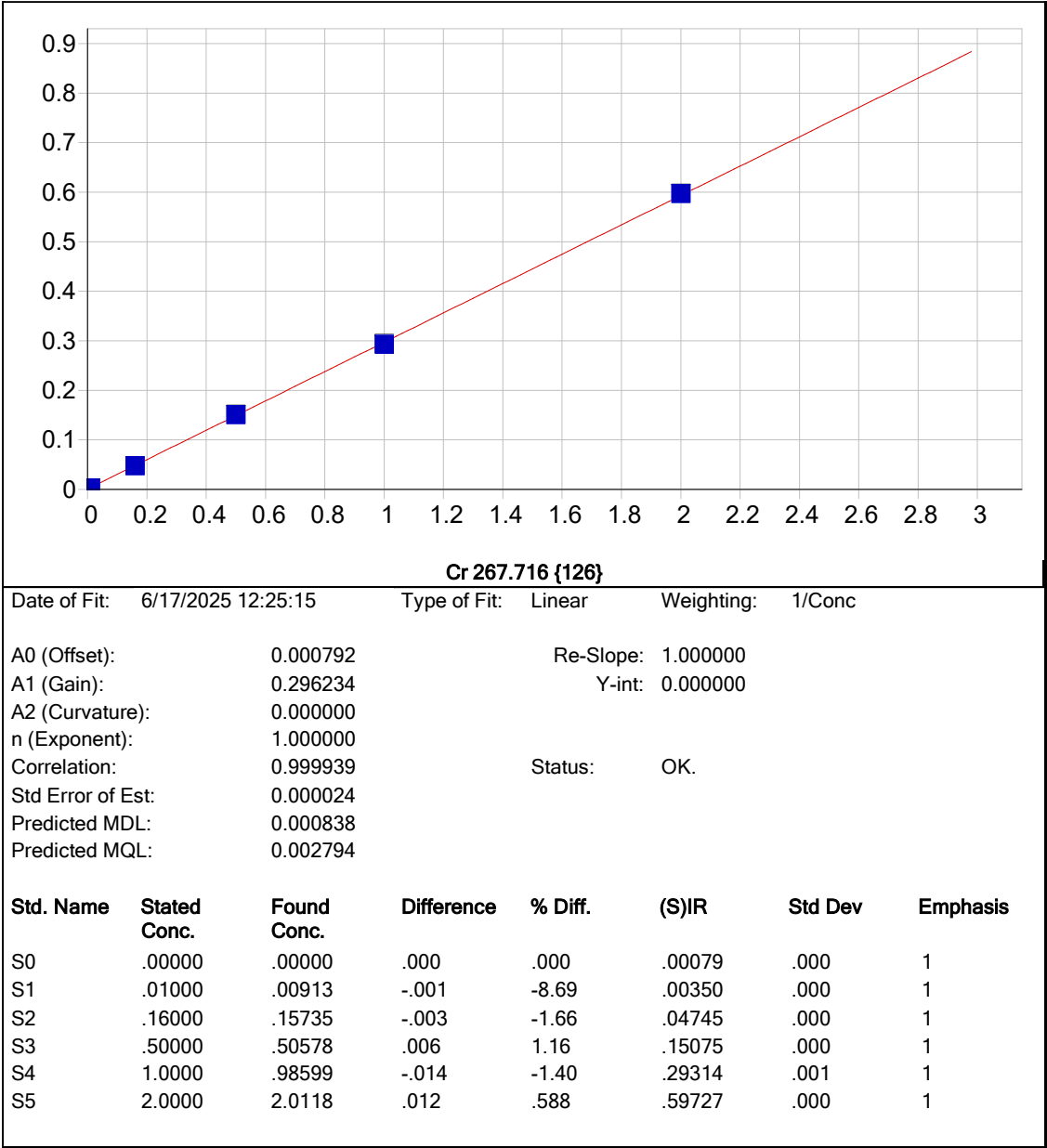


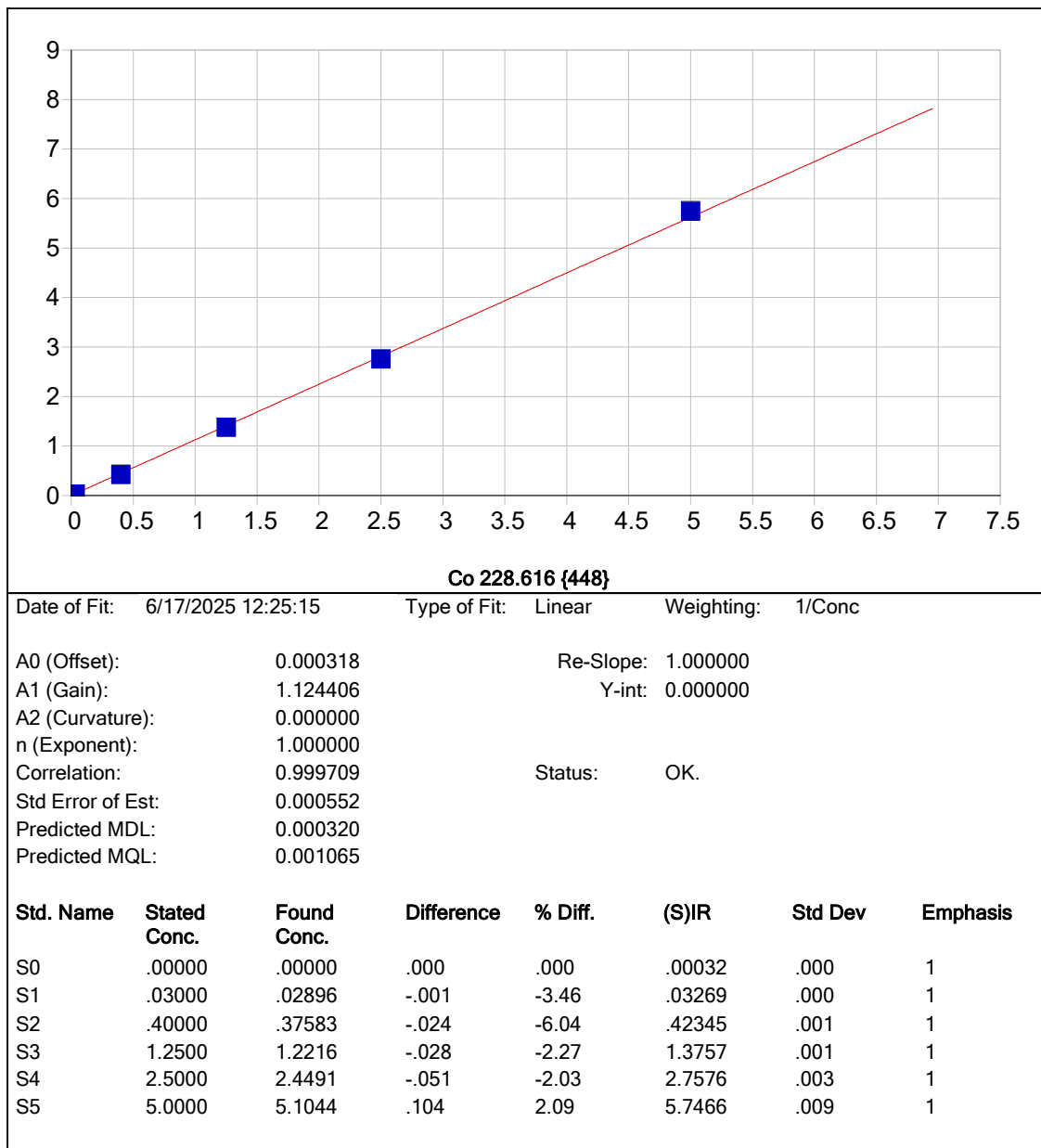


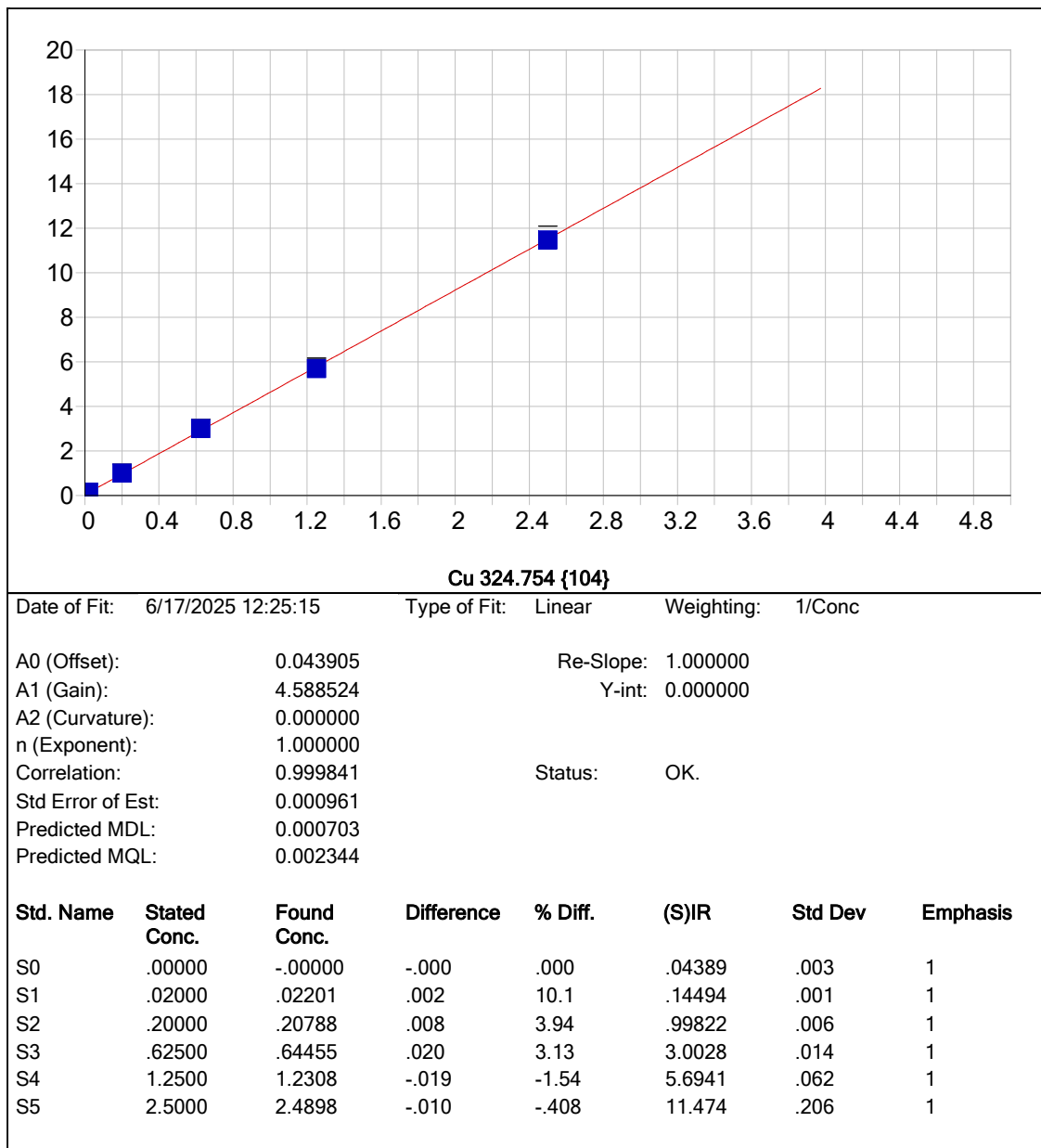


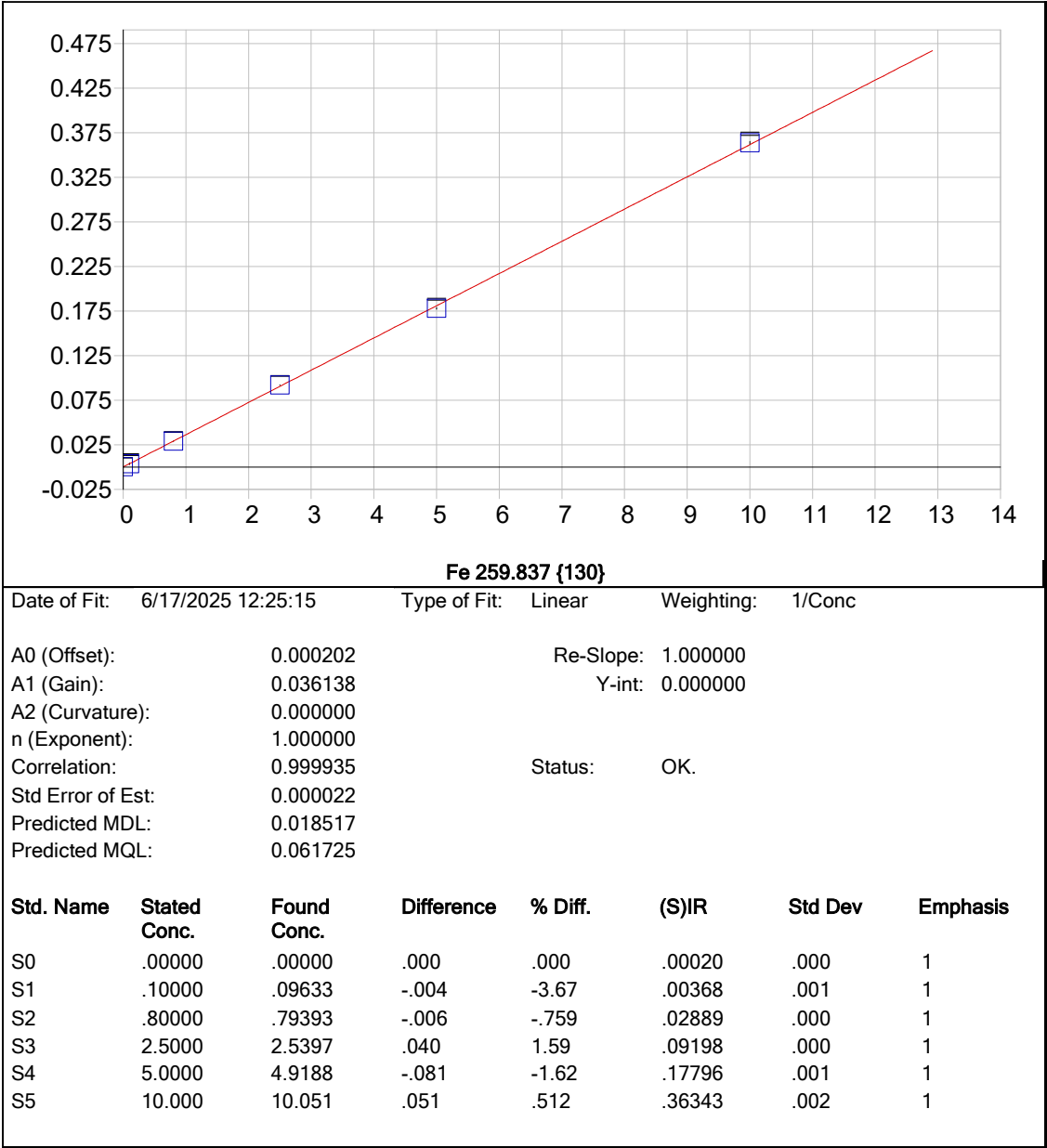


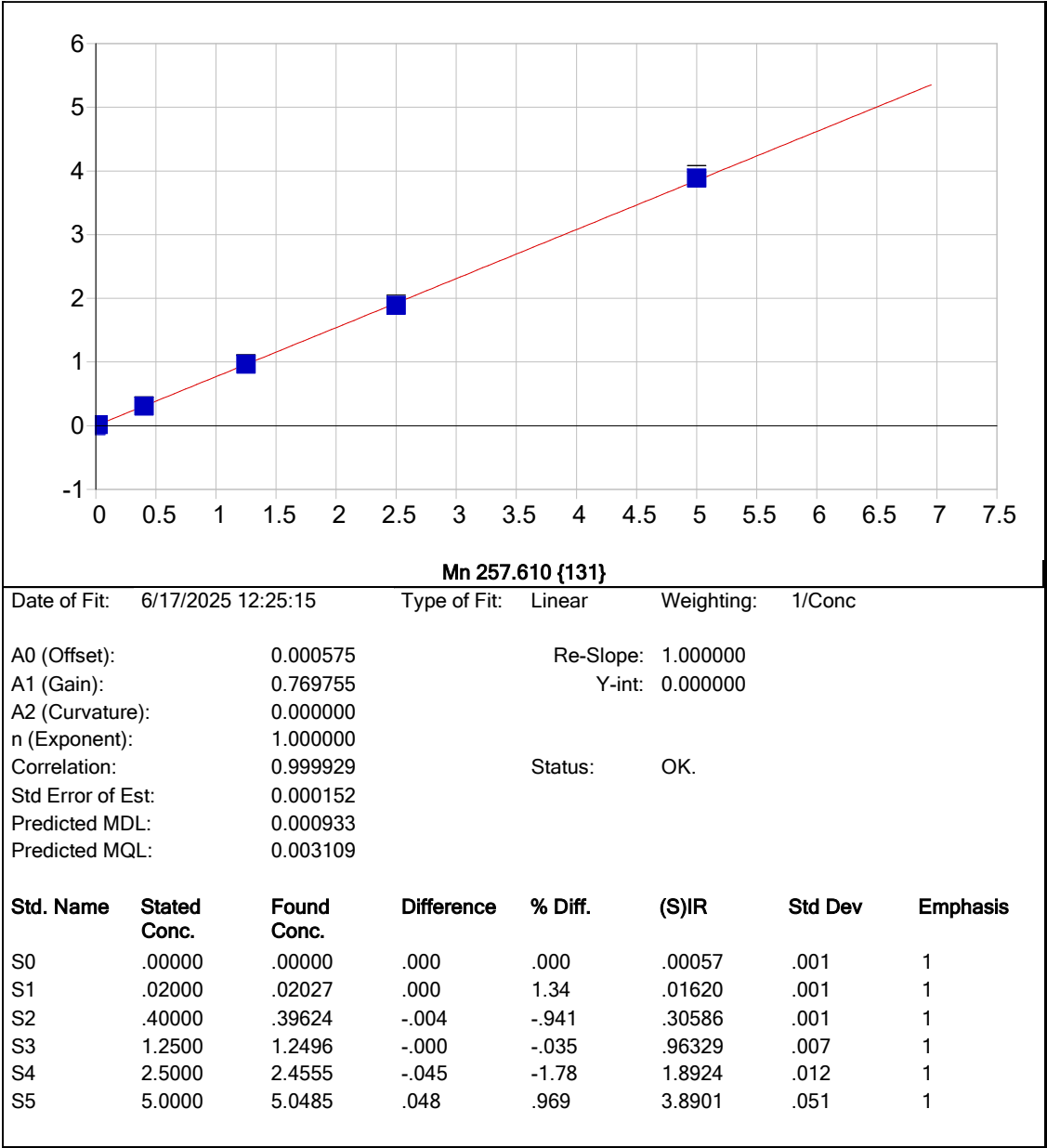


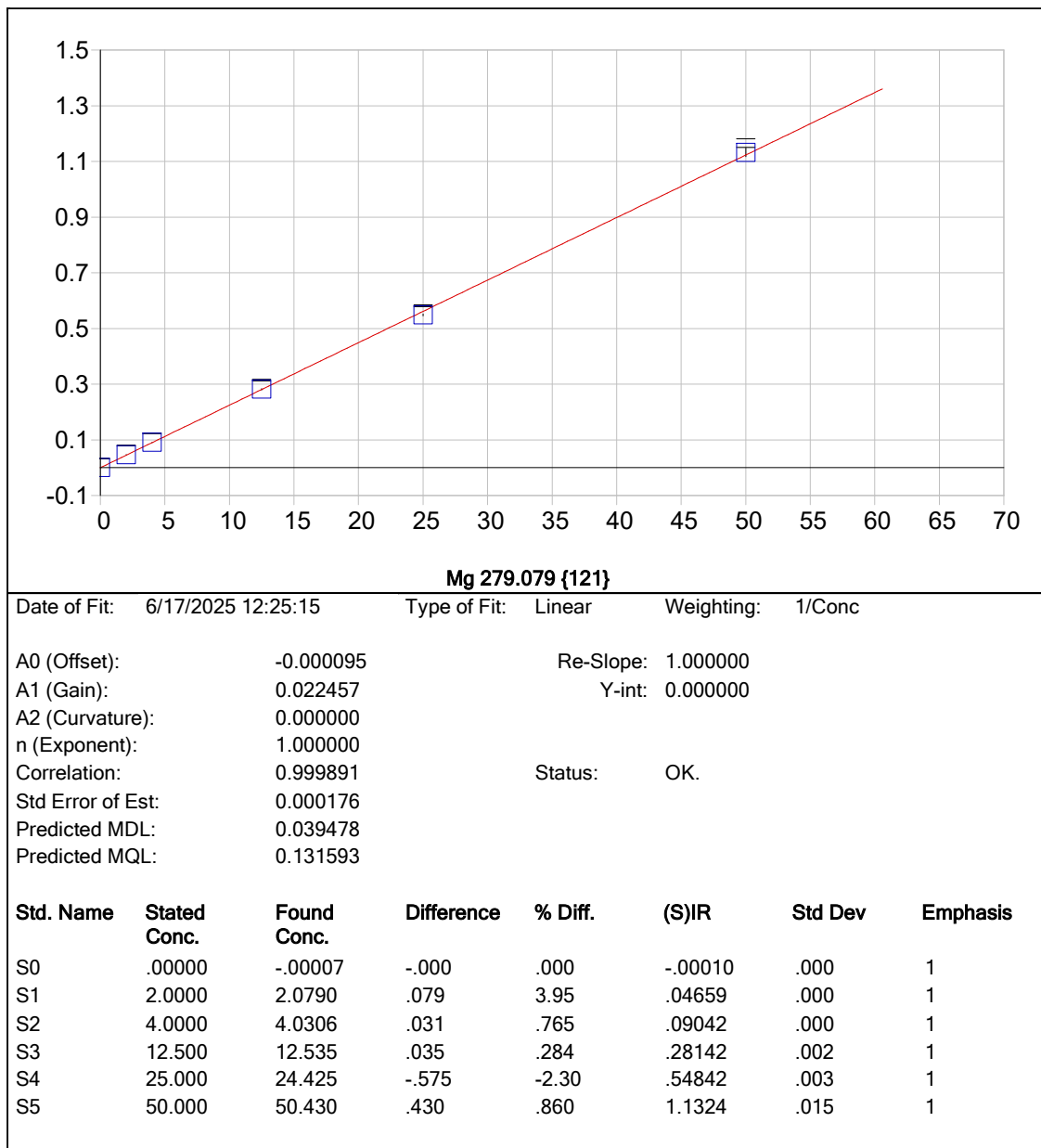


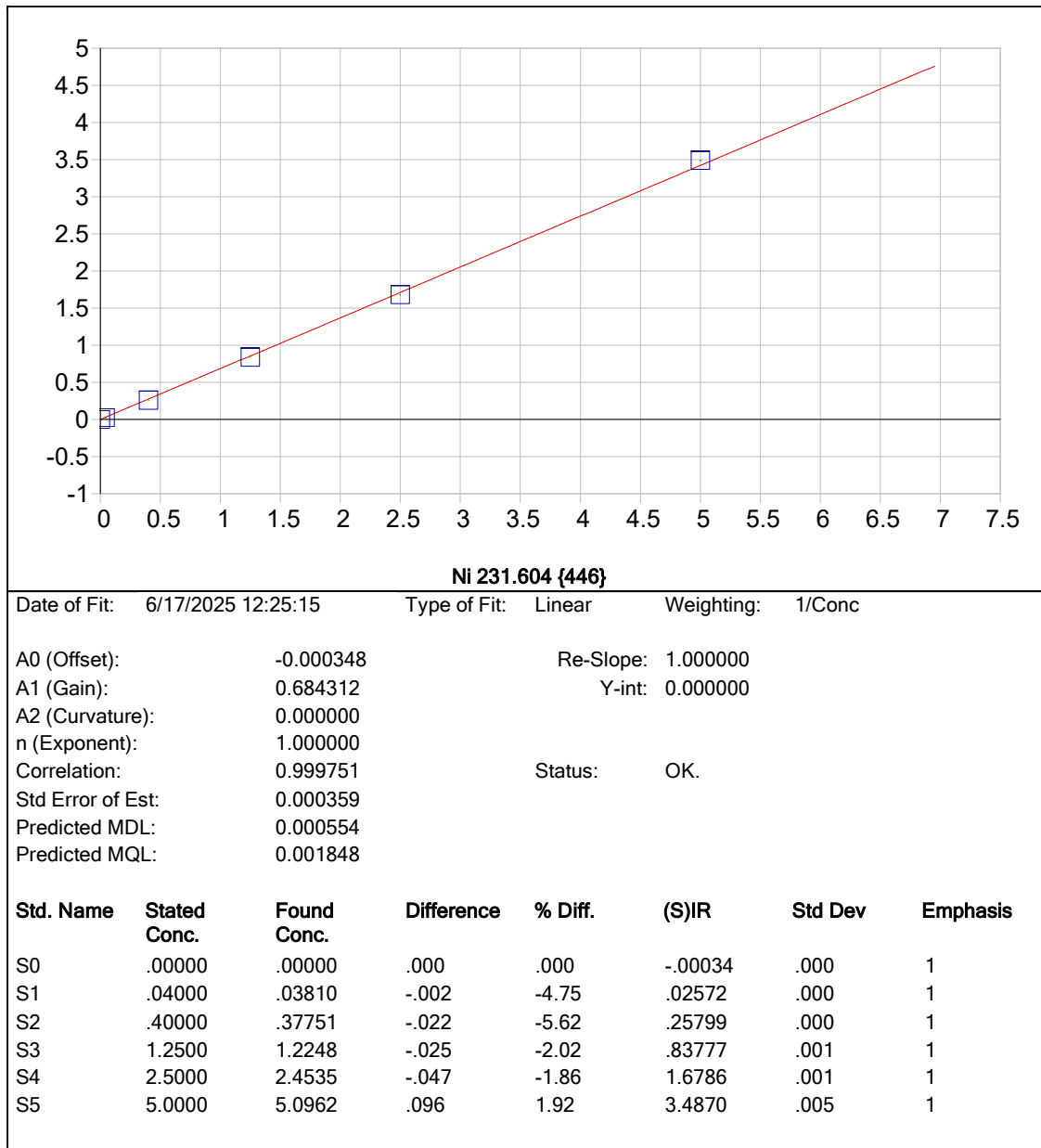


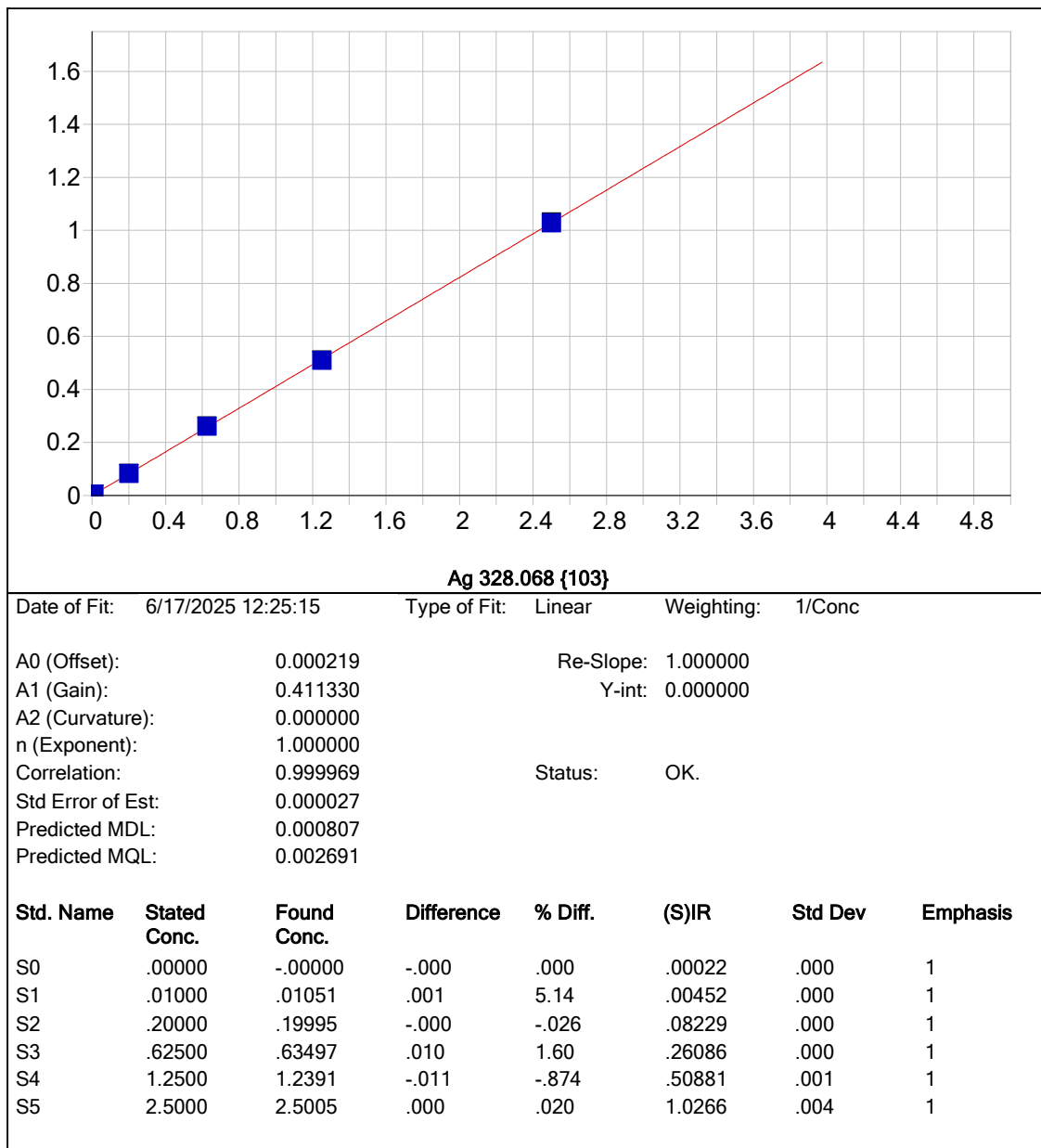


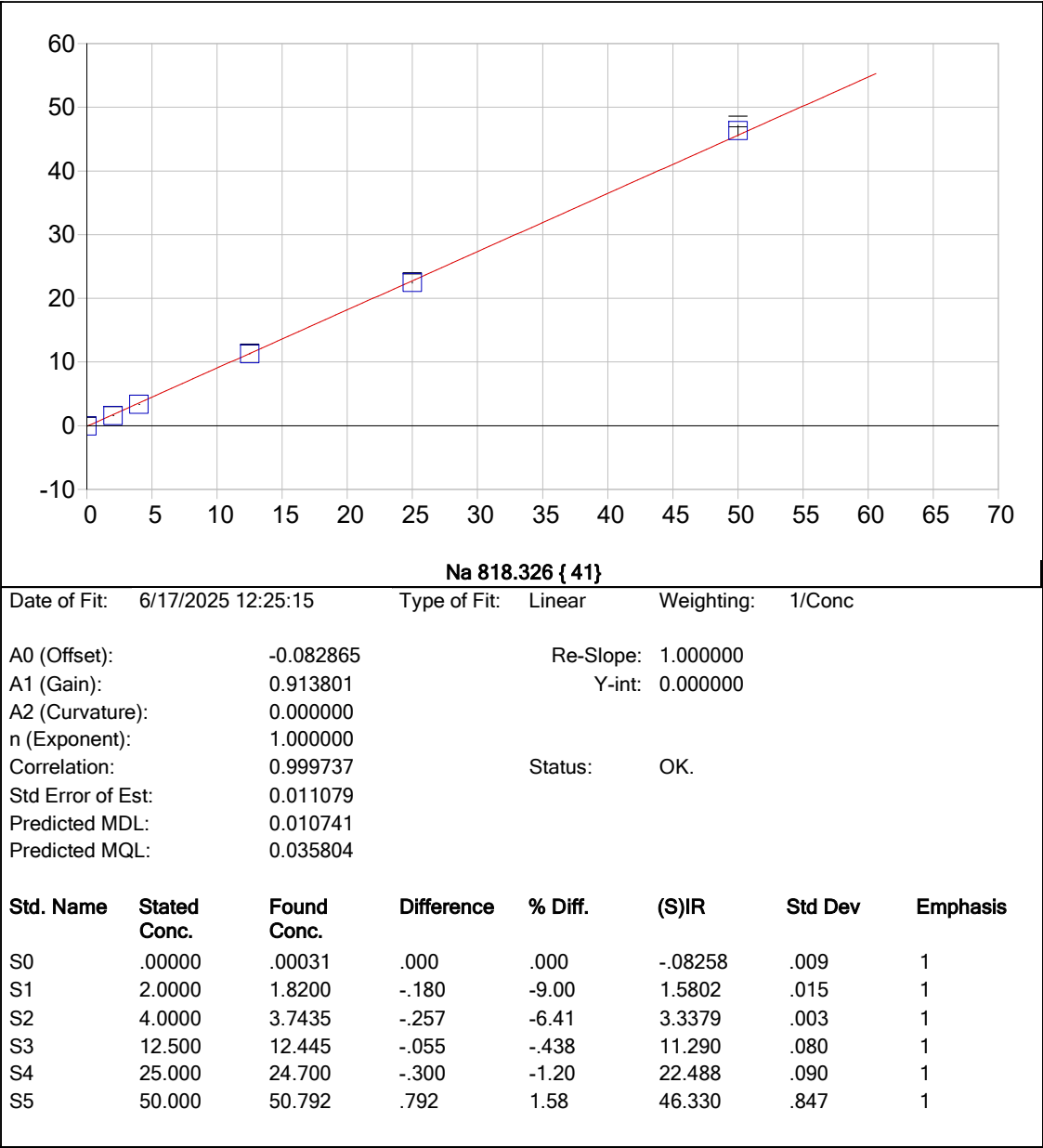


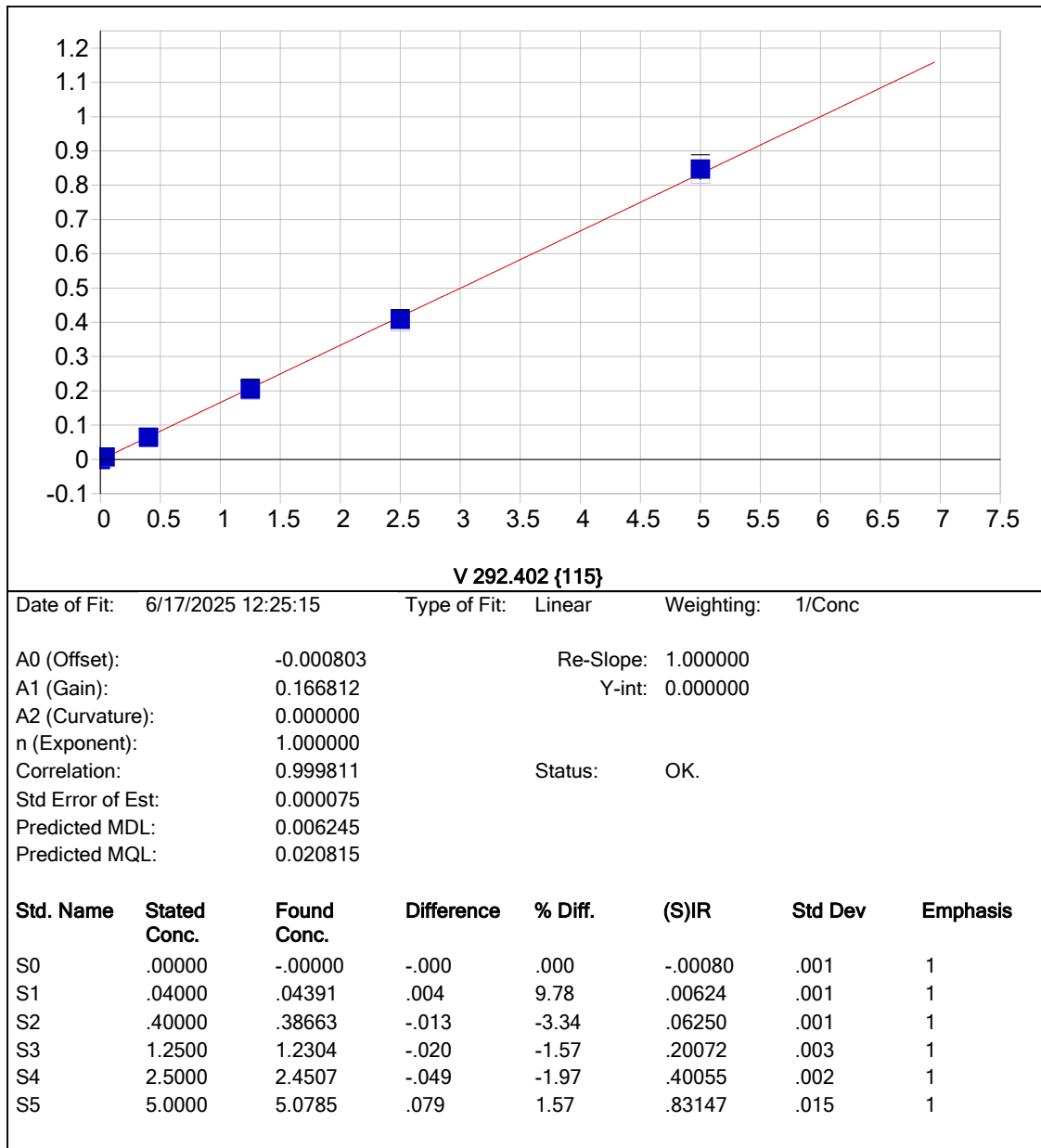


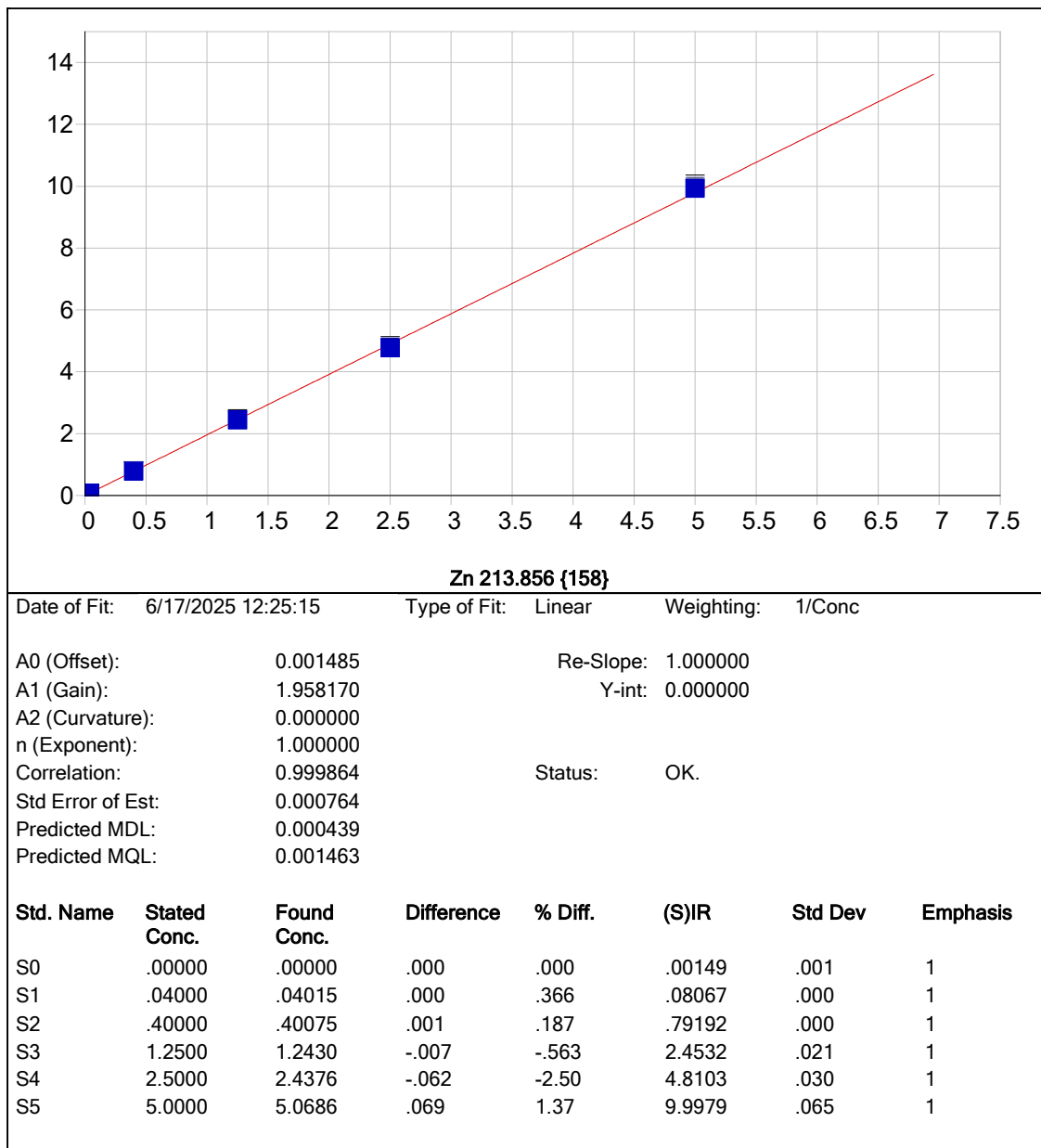


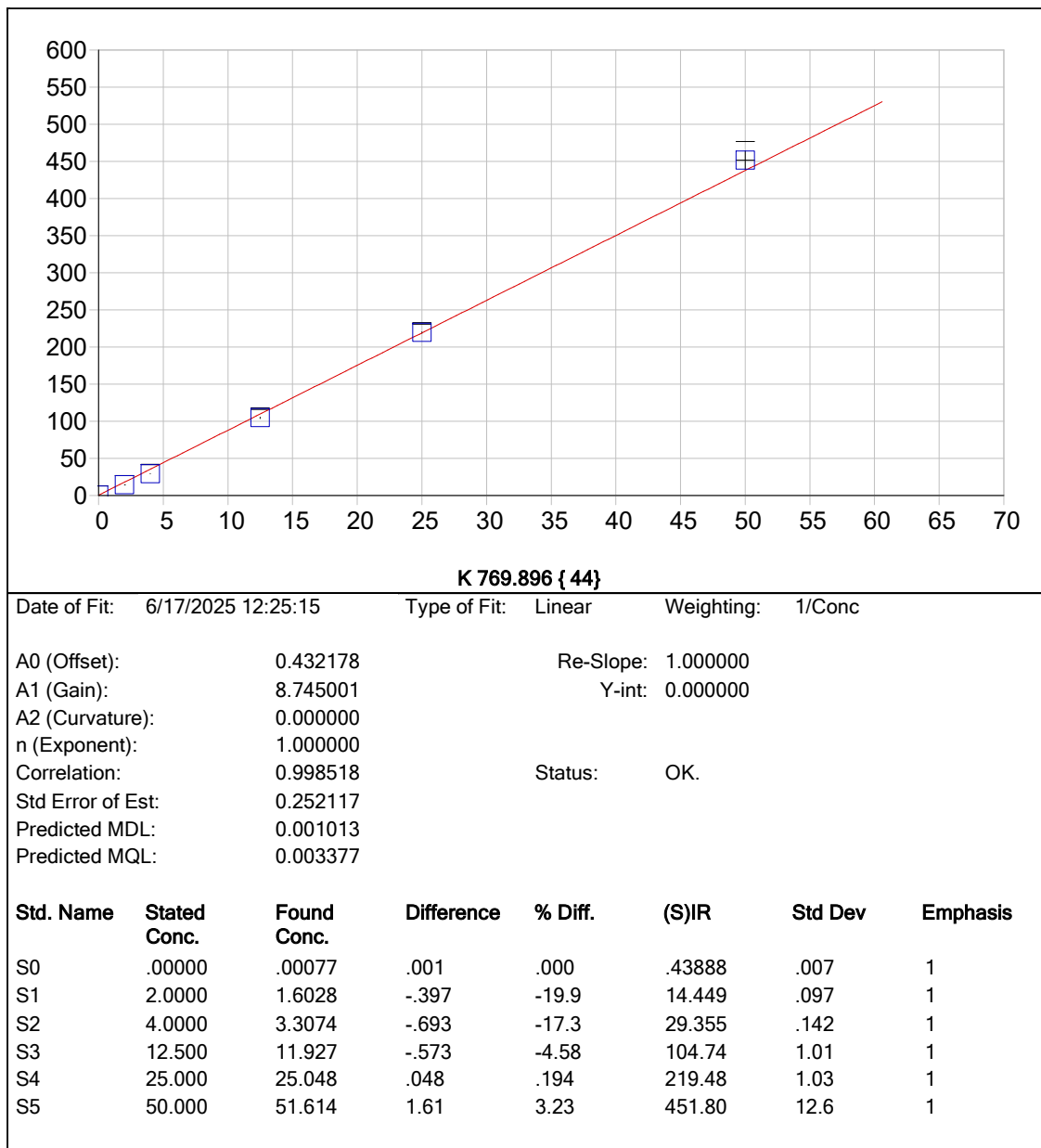


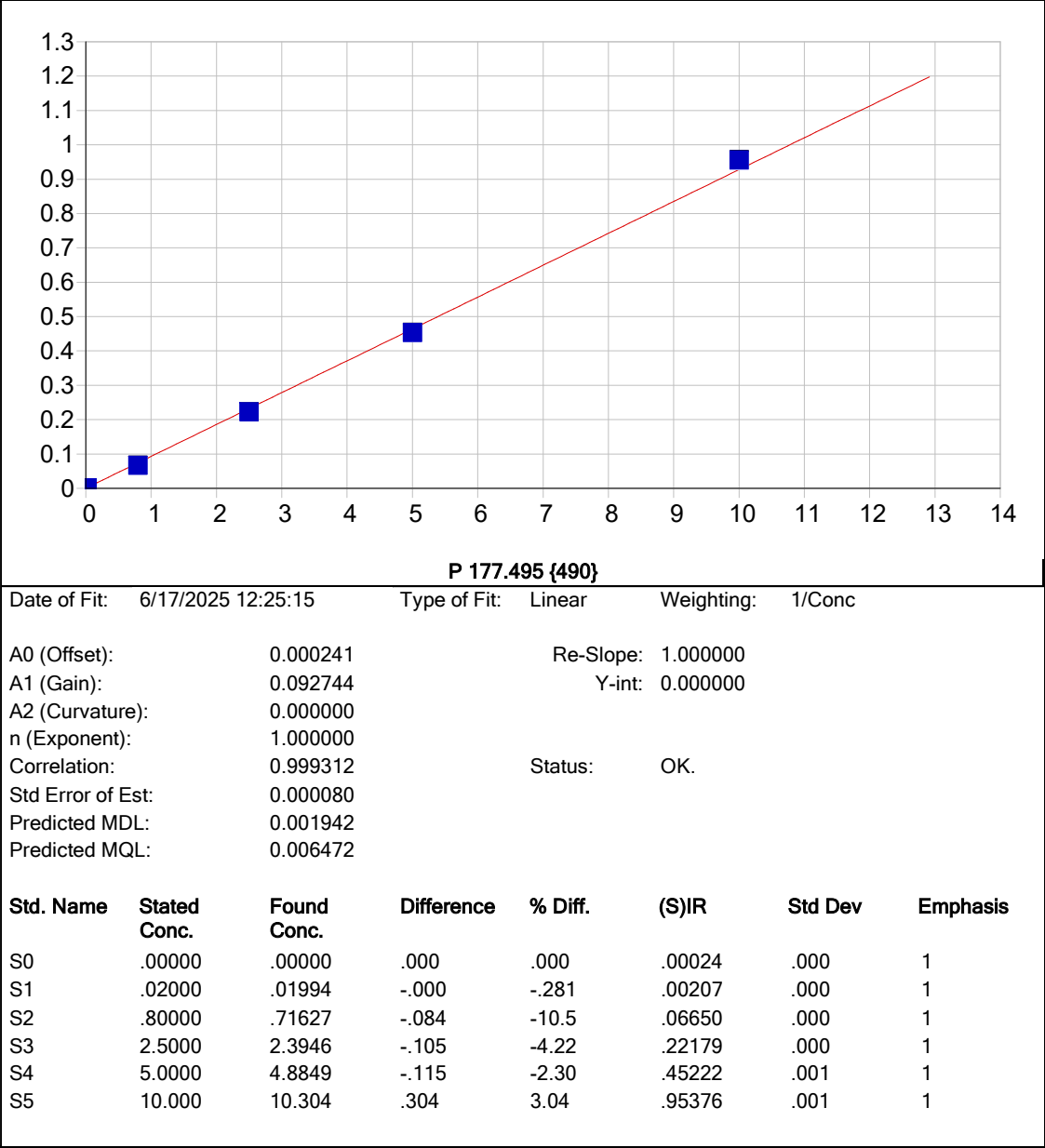


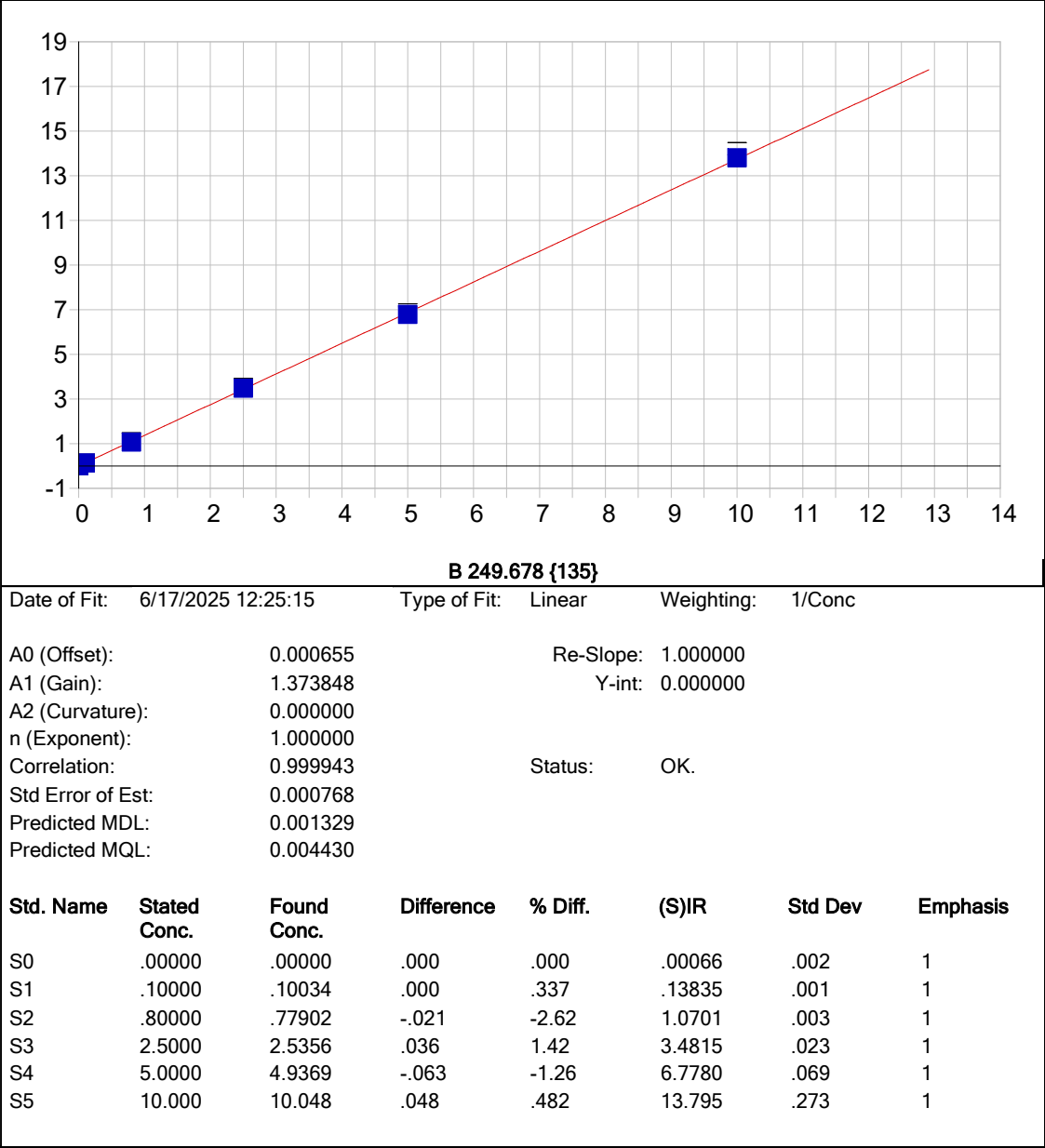


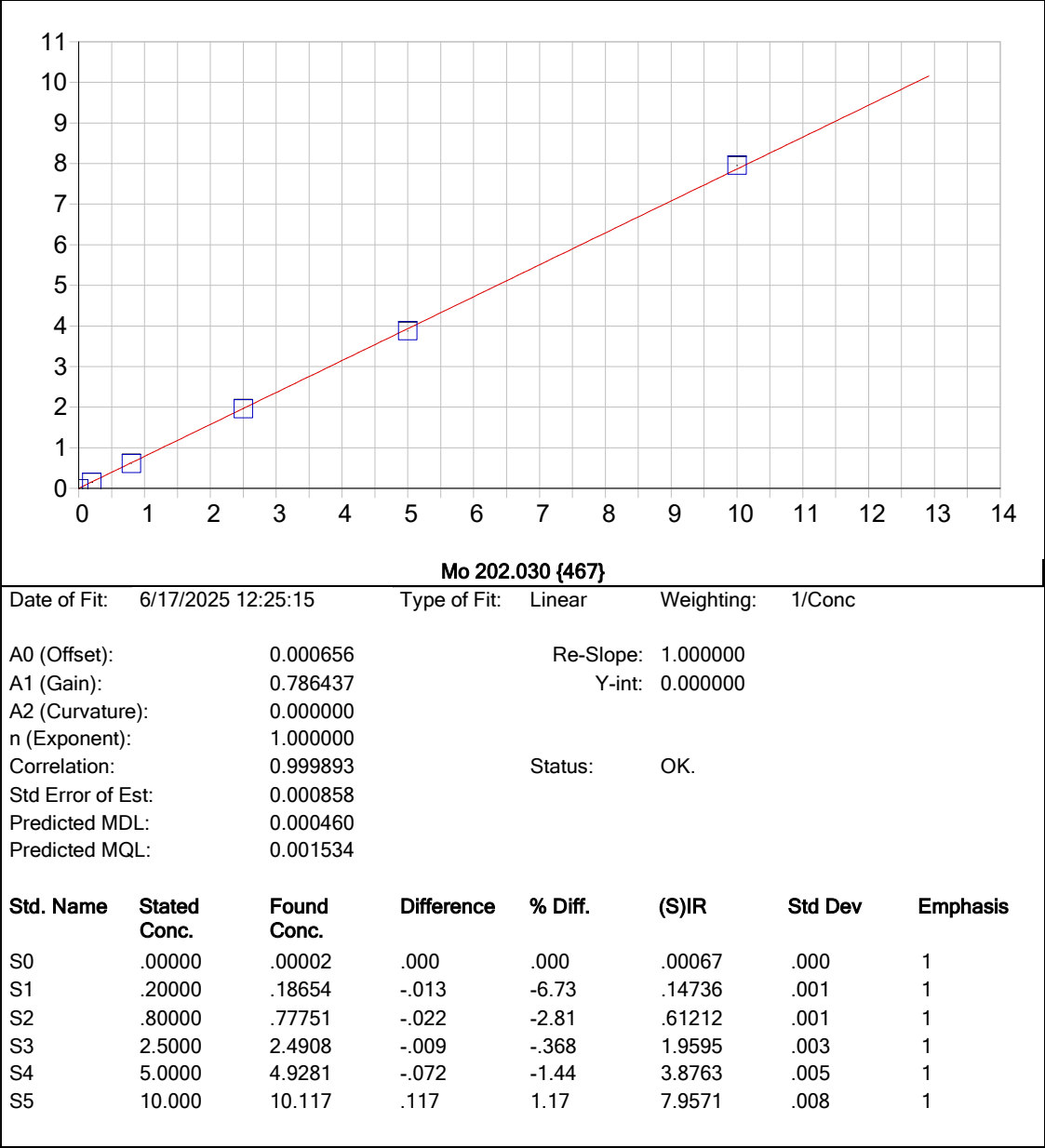


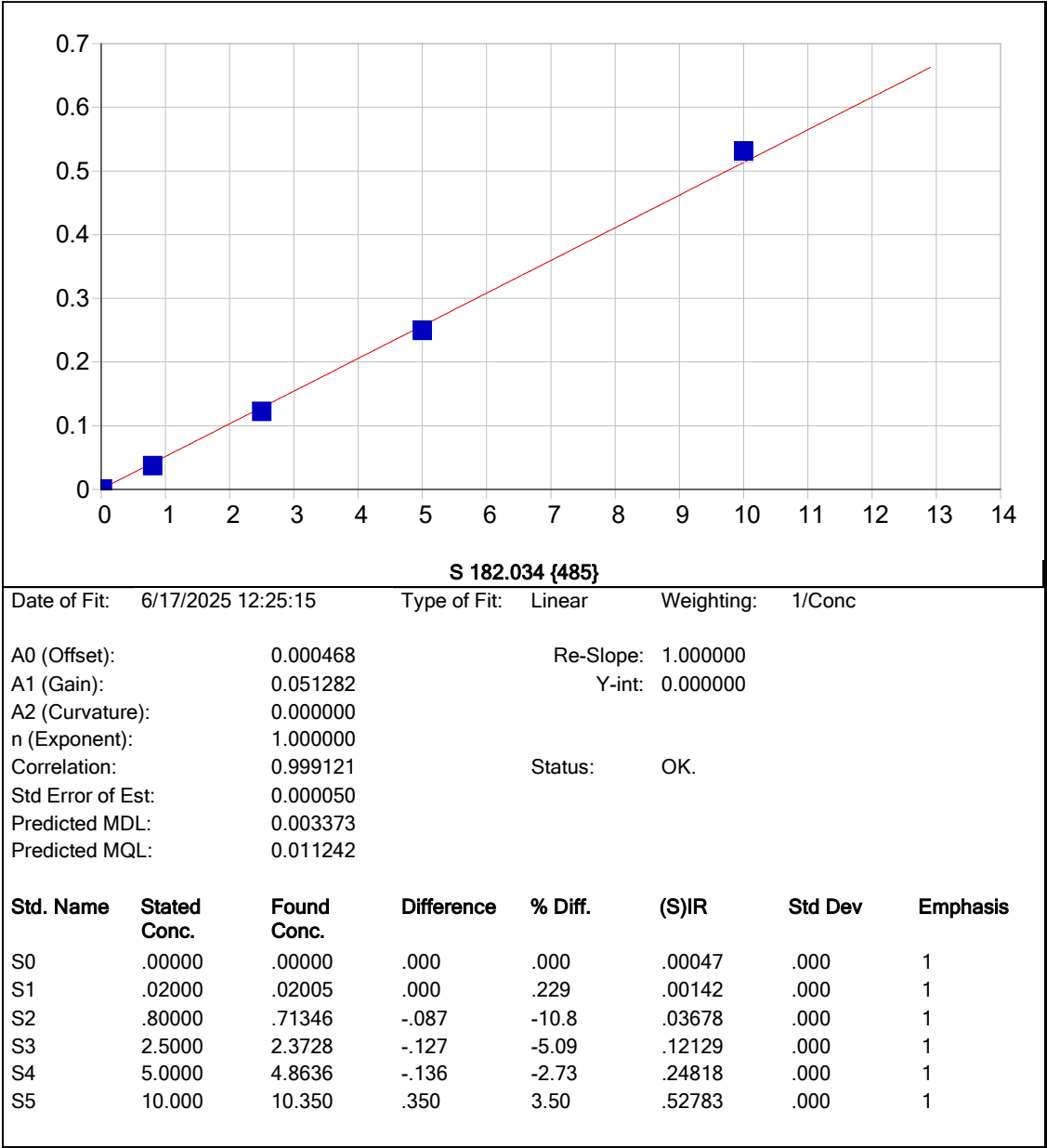


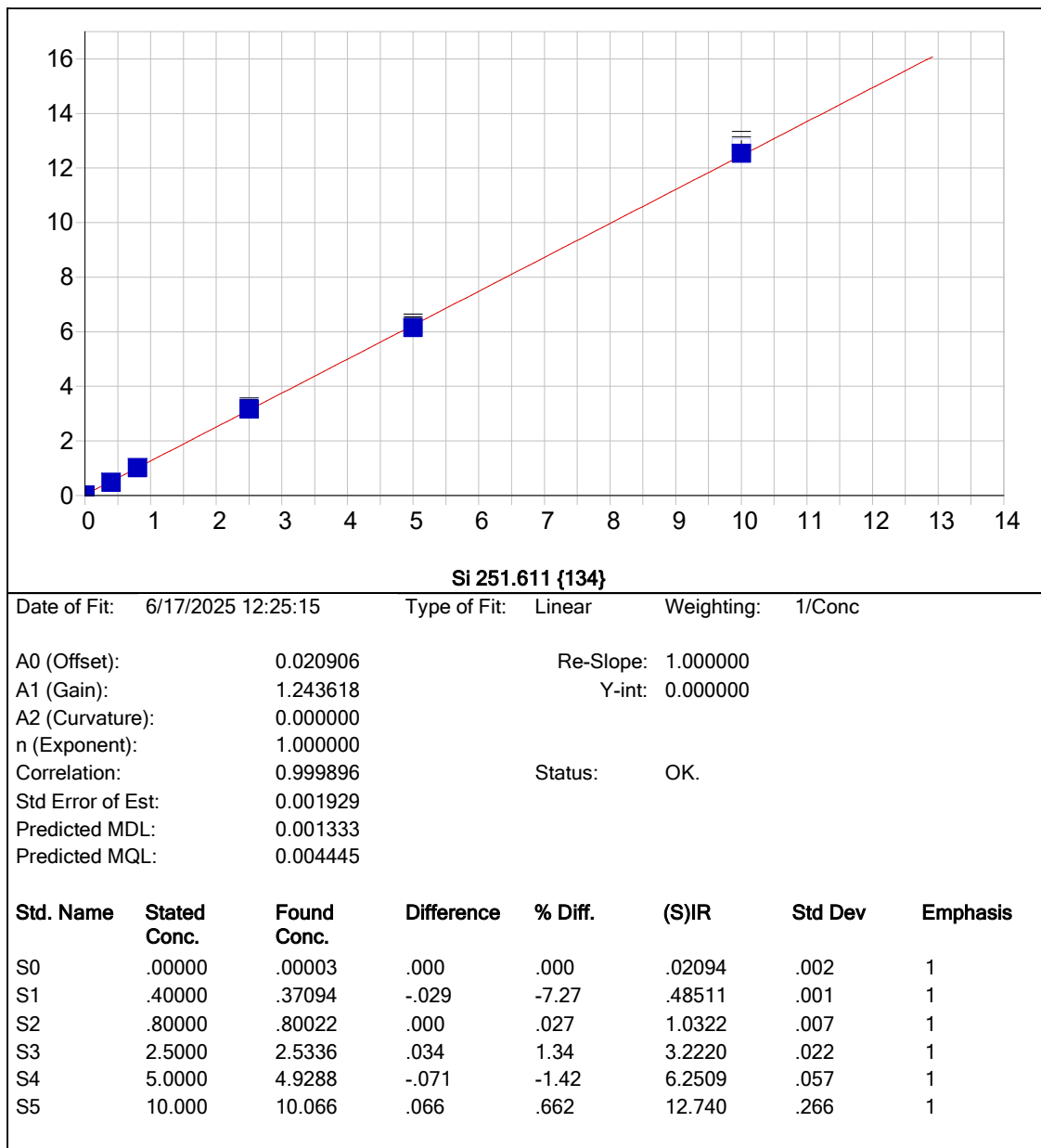




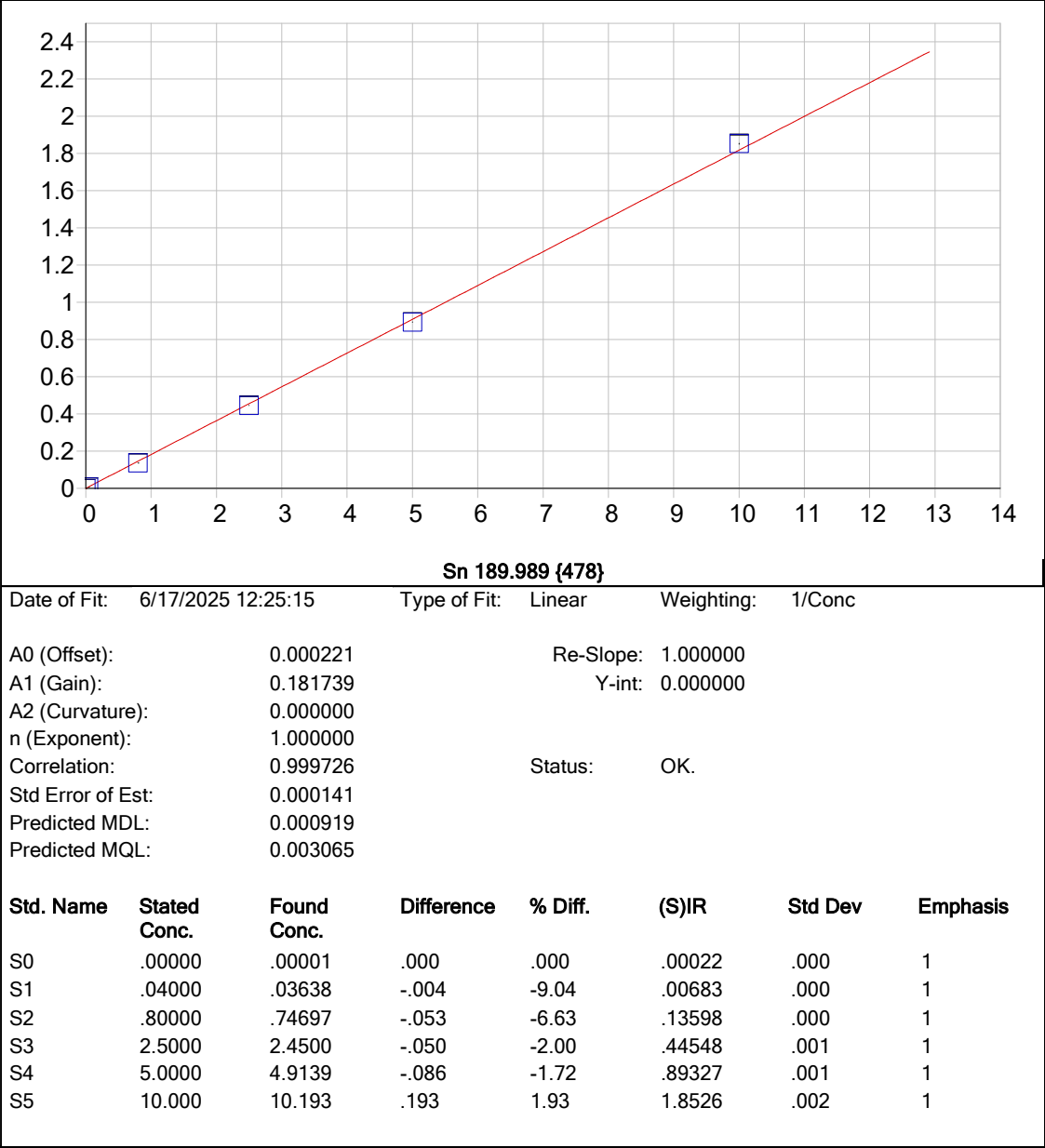


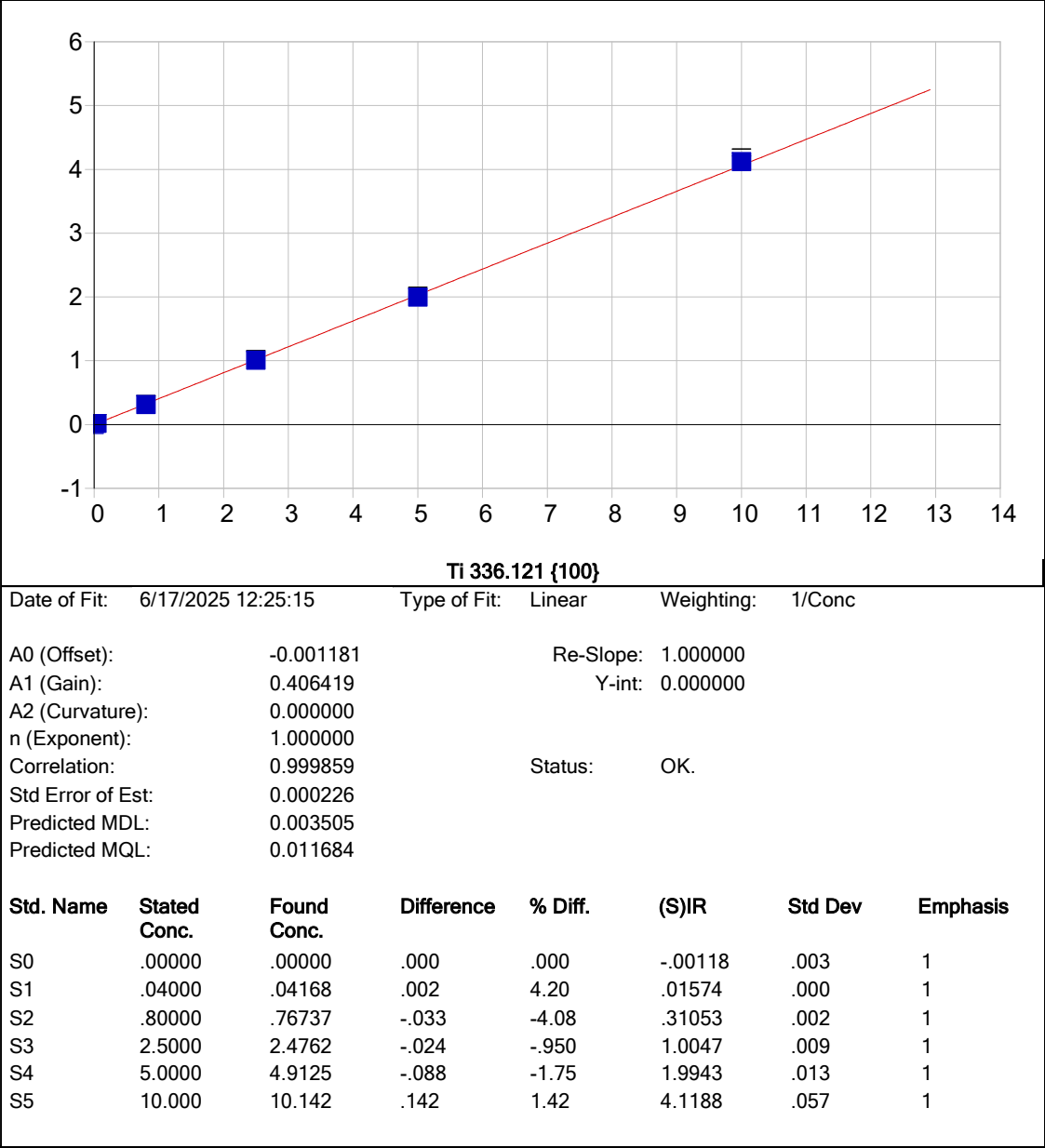


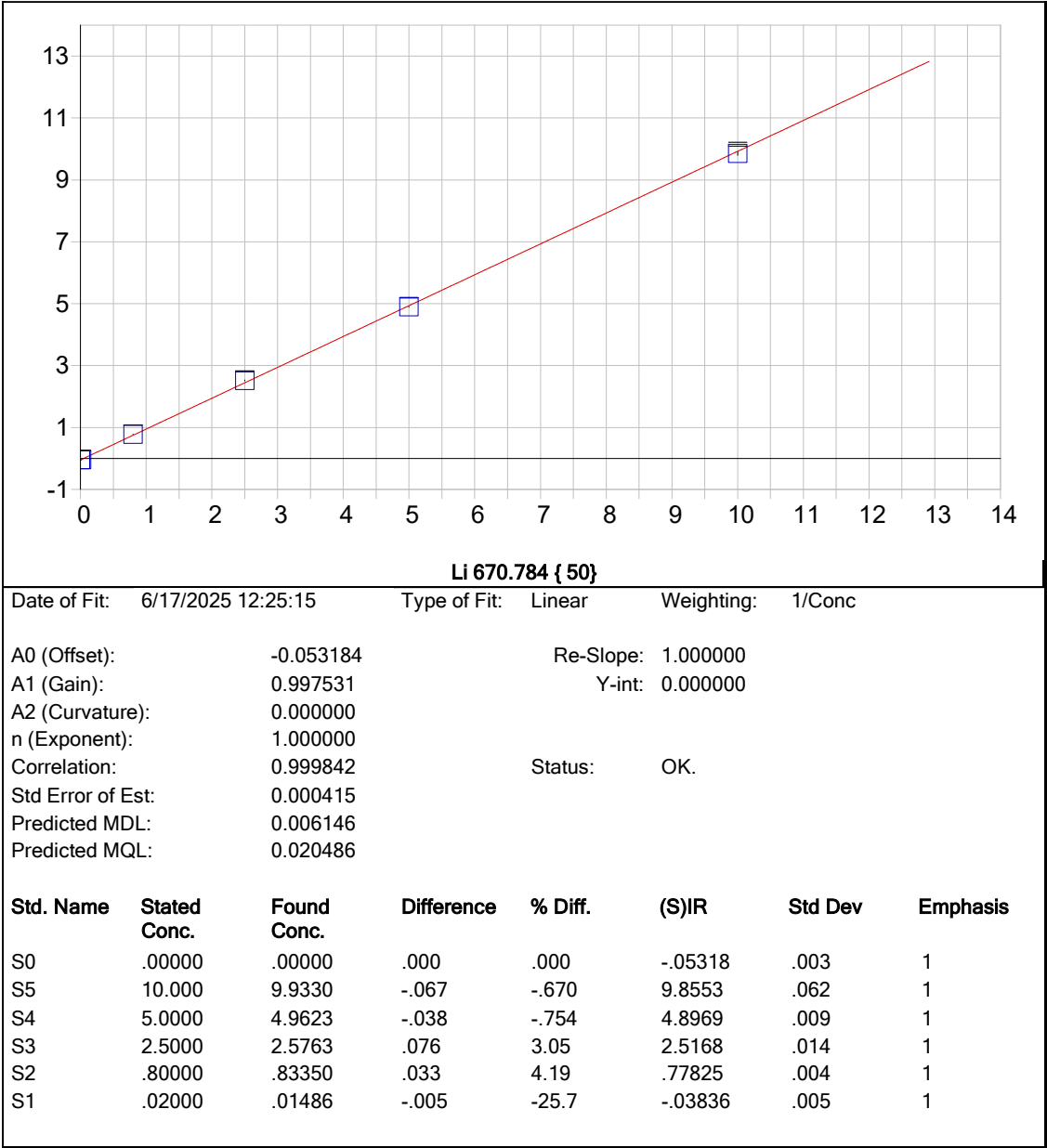


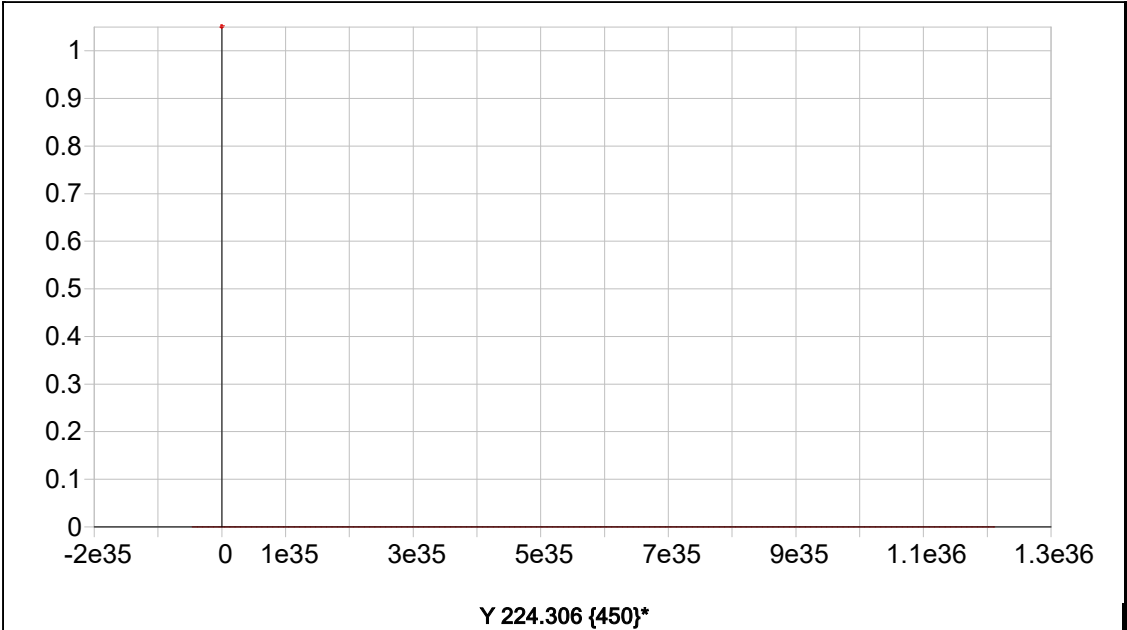


- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

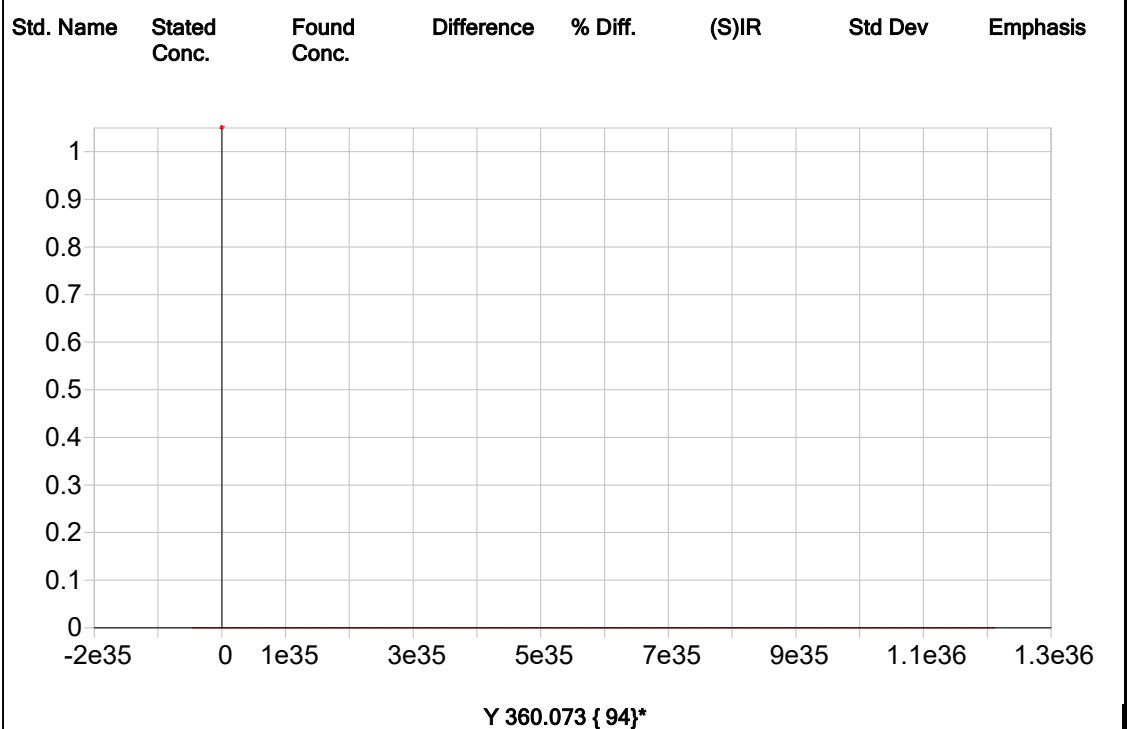




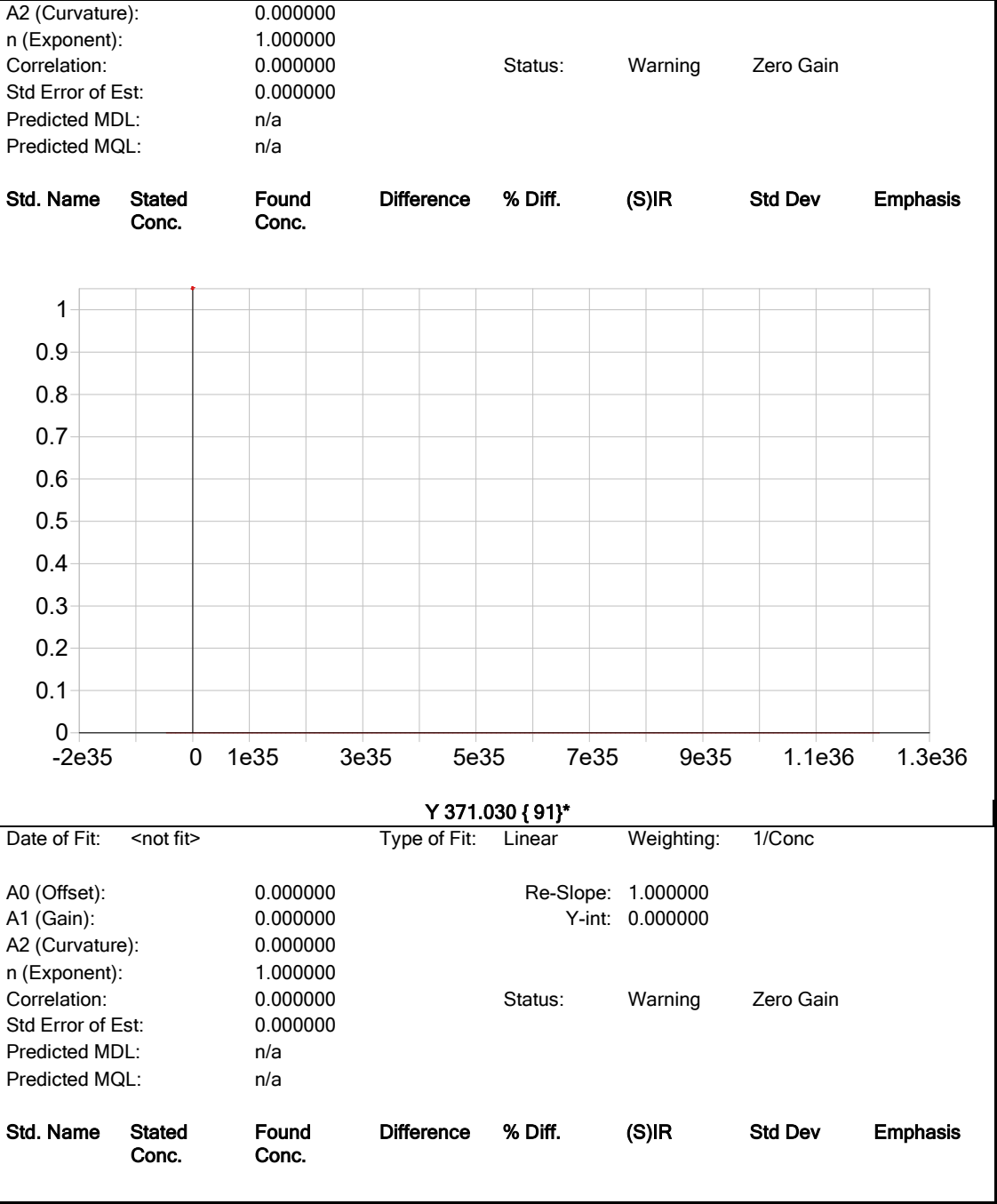


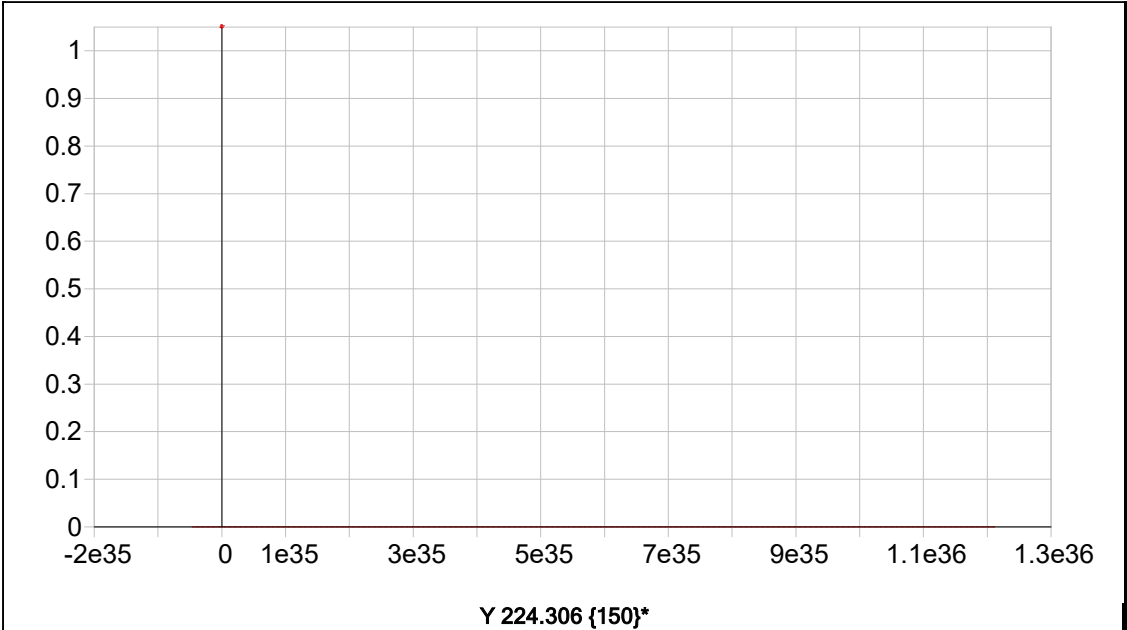


Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

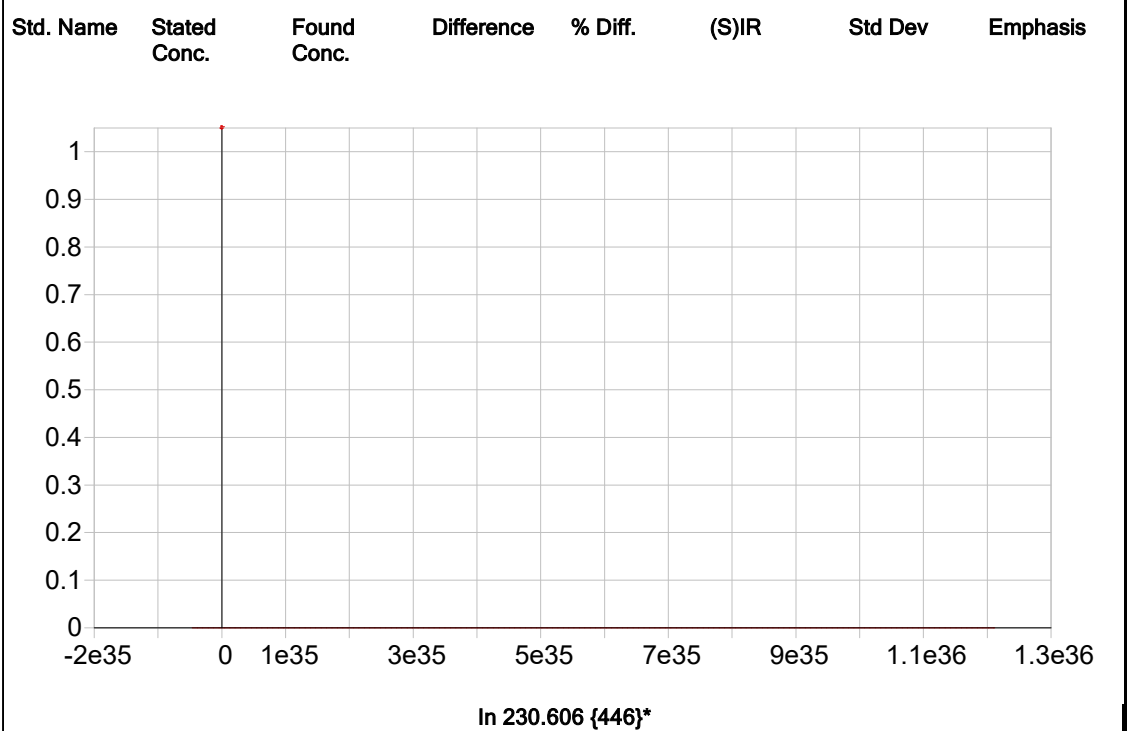


Date of Fit:	<not fit>		Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000			
A1 (Gain):	0.000000	Y-int:	0.000000			

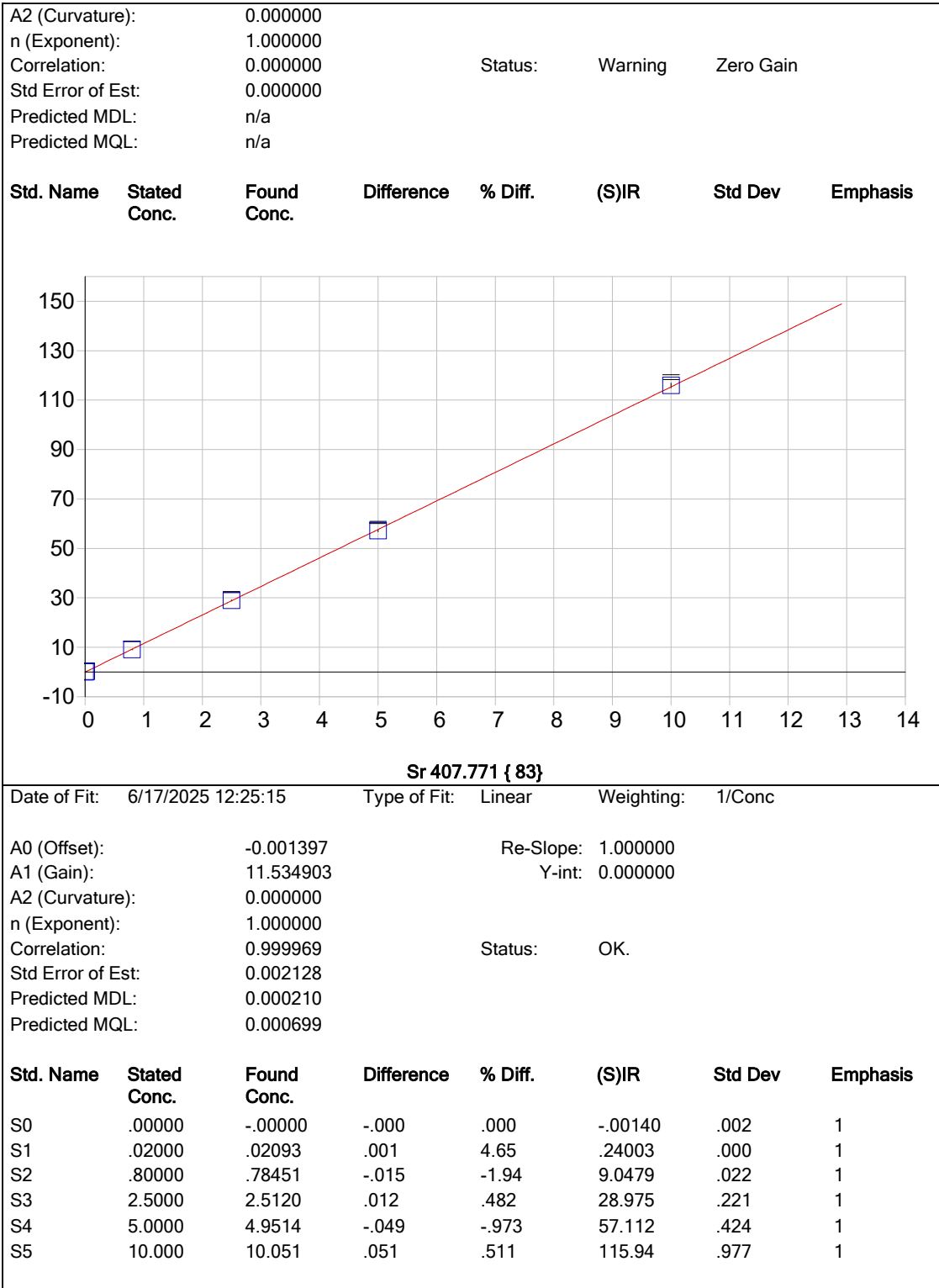




Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				



Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		



Sample Name: S0 Acquired: 6/17/2025 11:58:38 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00030	-.00132	.00038	.00018	.00089	-.00136	.02043	.00693
Stddev	.00010	.00026	.00029	.00043	.00012	.00093	.00208	.00204
%RSD	32.947	19.476	76.475	236.15	13.133	68.508	10.162	29.474
#1	-.00019	-.00161	.00047	.00066	.00092	-.00075	.02125	.00479
#2	-.00035	-.00125	.00061	-.00016	.00076	-.00091	.02198	.00885
#3	-.00037	-.00111	.00005	.00004	.00100	-.00244	.01807	.00714
Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00037	.00806	.00079	.00032	.04389	.00020	.00057	-.00010
Stddev	.00020	.00097	.00005	.00013	.00267	.00032	.00059	.00044
%RSD	53.967	12.023	5.9207	41.336	6.0873	157.93	102.84	454.35
#1	.00037	.00708	.00079	.00022	.04690	-.00015	-.00008	-.00059
#2	.00058	.00808	.00084	.00047	.04297	.00047	.00107	.00023
#3	.00018	.00901	.00075	.00027	.04180	.00029	.00073	.00008
Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00034	.00022	-.08258	-.00080	.00149	.43888	.00024	.00066
Stddev	.00025	.00021	.00949	.00113	.00055	.00748	.00020	.00190
%RSD	72.426	96.350	11.489	141.12	36.733	1.7037	84.754	289.29
#1	-.00063	.00038	-.07163	-.00047	.00209	.44273	.00009	.00156
#2	-.00020	.00030	-.08827	.00013	.00104	.44365	.00047	-.00153
#3	-.00021	-.00002	-.08785	-.00207	.00133	.43027	.00016	.00194
Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.00067	.00047	.02094	.00022	-.00118	-.05318	-.00140	
Stddev	.00020	.00011	.00196	.00010	.00253	.00349	.00179	
%RSD	29.865	22.811	9.3414	45.302	214.50	6.5655	127.84	
#1	.00090	.00040	.01908	.00029	.00160	-.05466	.00061	
#2	.00055	.00059	.02075	.00027	-.00179	-.05569	-.00284	
#3	.00056	.00041	.02298	.00011	-.00335	-.04919	-.00198	

Sample Name: S0 Acquired: 6/17/2025 11:58:38 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3530.1	45066.	3197.9	4160.1	4974.2
Stddev	5.5	292.	17.4	24.0	12.4
%RSD	.15513	.64688	.54260	.57760	.24836
#1	3535.2	45034.	3180.5	4148.9	4980.3
#2	3530.7	44791.	3197.9	4143.7	4982.4
#3	3524.3	45372.	3215.2	4187.7	4960.0

Sample Name: S1 Acquired: 6/17/2025 12:03:10 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00086	.00456	.00604	.00270	.00931	.00850	.43635	.12296
Stddev	.00004	.00015	.00092	.00015	.00009	.00248	.00220	.00075
%RSD	4.2669	3.2449	15.177	5.4322	.98285	29.213	.50480	.61004
#1	.00082	.00458	.00688	.00255	.00938	.01106	.43867	.12332
#2	.00089	.00469	.00619	.00270	.00933	.00610	.43609	.12210
#3	.00088	.00440	.00506	.00285	.00920	.00834	.43428	.12347
Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02672	.26028	.00350	.03269	.14494	.00368	.01620	.04659
Stddev	.00010	.00176	.00031	.00042	.00131	.00093	.00084	.00047
%RSD	.38694	.67733	8.7172	1.2726	.90276	25.336	5.2130	1.0148
#1	.02677	.26229	.00349	.03267	.14640	.00451	.01542	.04712
#2	.02678	.25899	.00381	.03229	.14387	.00387	.01609	.04645
#3	.02660	.25956	.00320	.03312	.14455	.00267	.01710	.04621
Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02572	.00452	1.5802	.00624	.08067	14.449	.00207	.13835
Stddev	.00019	.00036	.0151	.00068	.00028	.097	.00011	.00144
%RSD	.72542	8.0035	.95370	10.884	.35036	.67280	5.4007	1.0382
#1	.02593	.00413	1.5707	.00641	.08058	14.405	.00198	.13682
#2	.02558	.00484	1.5723	.00681	.08099	14.382	.00204	.13855
#3	.02566	.00461	1.5976	.00549	.08044	14.560	.00220	.13967
Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.14736	.00142	.48511	.00683	.01574	-.03836	.24003	
Stddev	.00088	.00011	.00088	.00018	.00035	.00511	.00032	
%RSD	.59618	7.6150	.18119	2.6265	2.2536	13.312	.13196	
#1	.14772	.00142	.48410	.00663	.01544	-.04382	.23995	
#2	.14636	.00152	.48562	.00695	.01613	-.03370	.24038	
#3	.14800	.00131	.48561	.00692	.01565	-.03757	.23977	

Sample Name: S1 Acquired: 6/17/2025 12:03:10 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3567.7	45625.	3258.3	4217.4	4939.2
Stddev	4.0	132.	20.2	11.3	3.0
%RSD	.11199	.28822	.62103	.26801	.06014
#1	3563.2	45569.	3265.1	4224.7	4935.9
#2	3569.1	45775.	3274.4	4223.1	4941.6
#3	3570.7	45531.	3235.6	4204.4	4940.2

Sample Name: S2 Acquired: 6/17/2025 12:07:37 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.04203	.11923	.36825	.09654	.13327	.16963	6.5967	.75185
Stddev	.00010	.00022	.00064	.00019	.00036	.00085	.0232	.00332
%RSD	.24165	.18389	.17302	.19314	.26659	.50401	.35229	.44101
#1	.04195	.11901	.36859	.09670	.13286	.16955	6.6098	.75536
#2	.04200	.11945	.36865	.09658	.13347	.16882	6.6103	.75144
#3	.04215	.11923	.36752	.09633	.13348	.17053	6.5698	.74877
Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.7403	.51318	.04745	.42345	.99822	.02889	.30586	.09042
Stddev	.0016	.00150	.00021	.00066	.00617	.00037	.00093	.00021
%RSD	.09087	.29274	.44622	.15694	.61767	1.2866	.30248	.23740
#1	1.7420	.51474	.04722	.42321	1.0035	.02895	.30484	.09067
#2	1.7403	.51175	.04747	.42420	.99145	.02850	.30607	.09026
#3	1.7388	.51306	.04764	.42294	.99971	.02923	.30665	.09033
Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.25799	.08229	3.3379	.06250	.79192	29.355	.06650	1.0701
Stddev	.00026	.00015	.0030	.00056	.00041	.142	.00024	.0032
%RSD	.10228	.18055	.08912	.89050	.05212	.48456	.35913	.29515
#1	.25778	.08215	3.3413	.06224	.79227	29.452	.06643	1.0736
#2	.25789	.08244	3.3360	.06314	.79147	29.192	.06676	1.0675
#3	.25828	.08228	3.3364	.06212	.79202	29.422	.06630	1.0691
Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.61212	.03678	1.0322	.13598	.31053	.77825	9.0479	
Stddev	.00069	.00034	.0066	.00046	.00195	.00382	.0221	
%RSD	.11344	.91846	.63860	.34147	.62720	.49109	.24398	
#1	.61158	.03640	1.0378	.13603	.31141	.78195	9.0506	
#2	.61188	.03703	1.0249	.13549	.31188	.77432	9.0685	
#3	.61290	.03692	1.0337	.13641	.30830	.77849	9.0246	

Sample Name: S2 Acquired: 6/17/2025 12:07:37 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3474.2	44594.	3195.9	4108.6	4682.5
Stddev	12.8	192.	20.2	17.4	13.8
%RSD	.36910	.43081	.63355	.42390	.29410
#1	3482.7	44435.	3173.0	4088.6	4689.1
#2	3459.5	44539.	3211.4	4117.0	4666.7
#3	3480.5	44807.	3203.3	4120.3	4691.8

Sample Name: S3 Acquired: 6/17/2025 12:11:57 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.14073	.38617	1.1976	.31045	.42439	.52444	21.178	2.3970
Stddev	.00027	.00037	.0024	.00064	.00067	.00125	.210	.0146
%RSD	.19532	.09673	.20450	.20545	.15904	.23827	.99096	.61082
#1	.14053	.38576	1.1952	.31026	.42419	.52493	20.978	2.3818
#2	.14104	.38625	1.2001	.31117	.42383	.52302	21.397	2.3981
#3	.14062	.38649	1.1976	.30993	.42514	.52537	21.159	2.4110
Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.7367	1.5985	.15075	1.3757	3.0028	.09198	.96329	.28142
Stddev	.0073	.0048	.00032	.0013	.0137	.00034	.00701	.00223
%RSD	.12690	.29872	.21048	.09752	.45451	.37020	.72756	.79374
#1	5.7307	1.5940	.15040	1.3753	2.9871	.09197	.95585	.27955
#2	5.7448	1.6035	.15102	1.3771	3.0096	.09233	.96977	.28389
#3	5.7345	1.5979	.15084	1.3746	3.0118	.09165	.96424	.28081
Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.83777	.26086	11.290	.20072	2.4532	104.74	.22179	3.4815
Stddev	.00079	.00050	.080	.00298	.0206	1.01	.00045	.0227
%RSD	.09395	.19025	.70530	1.4840	.84150	.96039	.20280	.65195
#1	.83736	.26129	11.198	.19777	2.4433	103.58	.22223	3.4563
#2	.83868	.26098	11.334	.20372	2.4770	105.42	.22182	3.4878
#3	.83728	.26032	11.338	.20066	2.4394	105.20	.22133	3.5004
Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	1.9595	.12129	3.2220	.44548	1.0047	2.5168	28.975	
Stddev	.0033	.00024	.0216	.00054	.0090	.0138	.221	
%RSD	.16612	.19528	.67083	.12094	.89345	.54955	.76388	
#1	1.9592	.12136	3.1981	.44490	.99462	2.5045	28.728	
#2	1.9564	.12149	3.2279	.44596	1.0118	2.5317	29.156	
#3	1.9629	.12103	3.2401	.44558	1.0077	2.5141	29.040	

Sample Name: S3 Acquired: 6/17/2025 12:11:57 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3434.5	43494.	3159.0	4044.8	4497.4
Stddev	12.7	314.	28.5	48.0	16.8
%RSD	.36873	.72131	.90140	1.1877	.37409
#1	3448.3	43732.	3190.8	4078.6	4516.6
#2	3431.9	43138.	3135.9	3989.8	4485.2
#3	3423.4	43611.	3150.2	4065.8	4490.5

Sample Name: S4 Acquired: 6/17/2025 12:16:21 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.28730	.76613	2.3961	.62038	.84397	1.0349	41.655	4.6336
Stddev	.00036	.00190	.0051	.00156	.00149	.0046	.326	.0697
%RSD	.12464	.24761	.21317	.25141	.17624	.44294	.78360	1.5039
#1	.28767	.76423	2.3902	.61870	.84362	1.0323	41.330	4.6905
#2	.28695	.76616	2.3995	.62179	.84560	1.0402	41.983	4.6543
#3	.28729	.76802	2.3986	.62064	.84269	1.0323	41.653	4.5558
Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.552	3.1472	.29314	2.7576	5.6941	.17796	1.8924	.54842
Stddev	.005	.0150	.00098	.0032	.0619	.00097	.0118	.00341
%RSD	.04402	.47680	.33290	.11526	1.0863	.54515	.62416	.62233
#1	11.548	3.1389	.29228	2.7541	5.7388	.17695	1.8837	.54475
#2	11.558	3.1646	.29294	2.7603	5.7200	.17802	1.9059	.55150
#3	11.552	3.1382	.29420	2.7583	5.6235	.17889	1.8876	.54900
Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.6786	.50881	22.488	.40055	4.8103	219.48	.45222	6.7780
Stddev	.0006	.00092	.090	.00202	.0295	1.03	.00075	.0692
%RSD	.03587	.18161	.40182	.50533	.61412	.46903	.16547	1.0212
#1	1.6792	.50775	22.521	.39872	4.7817	218.64	.45169	6.8294
#2	1.6785	.50927	22.557	.40273	4.8085	220.63	.45188	6.8053
#3	1.6781	.50942	22.386	.40021	4.8407	219.18	.45307	6.6993
Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	3.8763	.24818	6.2509	.89327	1.9943	4.8969	57.112	
Stddev	.0050	.00018	.0569	.00094	.0129	.0093	.424	
%RSD	.12785	.07305	.91070	.10548	.64513	.19049	.74176	
#1	3.8706	.24819	6.2887	.89229	1.9810	4.8876	56.725	
#2	3.8795	.24799	6.2787	.89336	2.0067	4.9062	57.565	
#3	3.8788	.24835	6.1855	.89417	1.9953	4.8968	57.047	

Sample Name: S4 Acquired: 6/17/2025 12:16:21 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3376.4	42700.	3151.9	3985.0	4324.2
Stddev	12.0	517.	23.1	43.4	13.5
%RSD	.35633	1.2106	.73324	1.0894	.31156
#1	3388.3	43268.	3156.2	4030.6	4335.0
#2	3364.3	42574.	3127.0	3980.3	4309.1
#3	3376.5	42257.	3172.6	3944.2	4328.5

Sample Name: S5 Acquired: 6/17/2025 12:20:43 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.61217	1.5477	5.0107	1.2736	1.7272	2.1247	85.071	9.3506
Stddev	.00085	.0019	.0028	.0014	.0034	.0123	1.587	.1788
%RSD	.13839	.11949	.05505	.10701	.19560	.57795	1.8651	1.9124
#1	.61287	1.5483	5.0117	1.2731	1.7234	2.1132	83.276	9.1441
#2	.61241	1.5492	5.0129	1.2752	1.7285	2.1376	86.285	9.4526
#3	.61123	1.5456	5.0076	1.2726	1.7298	2.1233	85.653	9.4550
Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	23.963	6.3904	.59727	5.7466	11.474	.36343	3.8901	1.1324
Stddev	.023	.0447	.00014	.0089	.206	.00179	.0508	.0153
%RSD	.09509	.69988	.02421	.15480	1.7952	.49308	1.3057	1.3519
#1	23.988	6.3702	.59733	5.7528	11.237	.36177	3.8397	1.1178
#2	23.956	6.4417	.59711	5.7506	11.571	.36319	3.9413	1.1484
#3	23.944	6.3593	.59738	5.7364	11.613	.36533	3.8894	1.1311
Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.4870	1.0266	46.330	.83147	9.9979	451.80	.95376	13.795
Stddev	.0050	.0036	.847	.01522	.0650	12.62	.00117	.273
%RSD	.14370	.34760	1.8290	1.8304	.65042	2.7921	.12249	1.9764
#1	3.4915	1.0262	45.354	.81585	9.9343	438.28	.95433	13.481
#2	3.4880	1.0232	46.878	.84626	9.9952	463.25	.95452	13.938
#3	3.4816	1.0303	46.759	.83229	10.064	453.86	.95241	13.966
Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	7.9571	.52783	12.740	1.8526	4.1188	9.8553	115.94	
Stddev	.0081	.00047	.266	.0019	.0567	.0624	.98	
%RSD	.10155	.08894	2.0888	.10078	1.3759	.63322	.84278	
#1	7.9506	.52777	12.434	1.8547	4.0662	9.8214	114.93	
#2	7.9544	.52833	12.870	1.8521	4.1788	9.9273	116.88	
#3	7.9661	.52740	12.917	1.8511	4.1114	9.8172	116.01	

Sample Name: S5 Acquired: 6/17/2025 12:20:43 Type: Cal
Method: METHOD 6010D, 200.7(v6) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3268.2	41667.	3070.2	3866.6	4088.7
Stddev	5.0	223.	55.4	9.6	11.0
%RSD	.15306	.53541	1.8050	.24906	.26933
#1	3263.5	41585.	3130.4	3868.5	4076.0
#2	3273.5	41496.	3021.3	3856.2	4094.9
#3	3267.8	41919.	3058.9	3875.2	4095.2

Sample Name: ICV01 Acquired: 6/17/2025 12:25:15 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.879333	4.051495	3.886118	3.975694	4.134775	7.944982
Stddev	.005422	.003596	.007071	.005280	.003848	.035866
%RSD	.1397649	.0887485	.1819553	.1328130	.0930538	.4514274
#1	3.880462	4.051944	3.883597	3.975002	4.134984	7.906468
#2	3.873435	4.047695	3.880653	3.981285	4.130828	7.951053
#3	3.884101	4.054844	3.894104	3.970793	4.138515	7.977425
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.174096	2.075246	1.972521	19.82175	8.156680	1.993102
Stddev	.034342	.0020027	.002838	.05021	.0012872	.003368
%RSD	.4201351	.9650243	.1438736	.2532942	.1578115	.1689966
#1	8.134823	2.064672	1.975194	19.76394	8.153414	1.995767
#2	8.188980	2.098343	1.969543	19.84695	8.170871	1.989316
#3	8.198486	2.062723	1.972826	19.85437	8.145756	1.994222
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.045175	3.962061	2.008642	20.24289	1.995563	9.563283
Stddev	.008008	.046648	.007092	.13984	.002631	.0018841
%RSD	.7661774	1.177355	.3530524	.6908279	.1318333	.1970140
#1	1.042408	3.908223	2.000735	20.08177	1.997120	9.584285
#2	1.054200	3.990420	2.014438	20.31410	1.992526	9.557697
#3	1.038918	3.987540	2.010754	20.33279	1.997044	9.547866
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.71066	2.012594	F 2.019087	20.45330	F .0254471	4.002420
Stddev	.10400	.011200	.007588	.09754	.0034932	.029198
%RSD	.5021557	.5564894	.3758317	.4768784	13.72736	.7295132
#1	20.68035	2.001947	2.027588	20.40642	.0221942	3.990298
#2	20.82645	2.011560	2.012996	20.56542	.0250081	4.035726
#3	20.62519	2.024275	2.016676	20.38804	.0291391	3.981235

Sample Name: ICV01 Acquired: 6/17/2025 12:25:15 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.009705	F .0424869	3.791165	3.985675	4.048246	F .0151796
Stddev	.003976	.0029811	.028493	.012233	.014944	.0017039
%RSD	.0991510	7.016473	.7515598	.3069302	.3691515	11.22523
#1	4.011664	.0456533	3.779748	3.996034	4.031050	.0149085
#2	4.005130	.0397344	3.823596	3.972179	4.058087	.0170028
#3	4.012322	.0420730	3.770152	3.988814	4.055602	.0136274

Elem	Sr4077
Units	ppm
Avg	F .0011753
Stddev	.0002303
%RSD	19.59692
#1	.0012930
#2	.0009099
#3	.0013230

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3453.619	42903.58	3156.979	4020.647	4475.477
Stddev	5.727	218.22	11.755	20.660	8.171
%RSD	.1658322	.5086375	.3723433	.5138384	.1825651
#1	3447.096	42863.27	3165.093	4006.828	4467.589
#2	3457.825	43139.15	3143.498	4044.397	4483.904
#3	3455.936	42708.32	3162.344	4010.716	4474.939

Sample Name: LLICV01 Acquired: 6/17/2025 12:41:46 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0197302	.0402477	.0125348	.0209381	.0543128	.0894522
Stddev	.0015812	.0015836	.0009309	.0012985	.0012330	.0215288
%RSD	8.014321	3.934671	7.426243	6.201478	2.270101	24.06739
#1	.0206861	.0420559	.0125363	.0206062	.0557293	.0771037
#2	.0179051	.0395798	.0134650	.0223703	.0534811	.1143114
#3	.0205996	.0391075	.0116033	.0198378	.0537278	.0769416
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1009738	F .0064289	F .0057626	2.055588	.0097366	.0298433
Stddev	.0005320	.0001392	.0001359	.014925	.0005452	.0000596
%RSD	.5269156	2.165771	2.357928	.7260734	5.599774	.1996190
#1	.1011134	.0063844	.0057166	2.040127	.0091158	.0298100
#2	.1014221	.0065849	.0056556	2.056723	.0101376	.0299120
#3	.1003859	.0063173	.0059155	2.069913	.0099563	.0298078
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0233276	.1104679	.0210641	2.129709	.0396608	.0106652
Stddev	.0009371	.0150758	.0009691	.023990	.0004480	.0004774
%RSD	4.017294	13.64722	4.600584	1.126443	1.129496	4.476659
#1	.0226920	.1008905	.0208555	2.151326	.0400997	.0107538
#2	.0244038	.1026676	.0202163	2.133903	.0392043	.0110921
#3	.0228868	.1278457	.0221204	2.103899	.0396784	.0101496
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.843068	.0446728	.0414835	1.649751	.0204399	.1078346
Stddev	.024345	.0027005	.0001040	.018661	.0014245	.0003130
%RSD	1.320871	6.045056	.2508307	1.131115	6.969007	.2902516
#1	1.836490	.0443460	.0413930	1.647460	.0194510	.1080013
#2	1.870025	.0421506	.0414602	1.669452	.0197961	.1080290
#3	1.822688	.0475218	.0415972	1.632343	.0220726	.1074736

Sample Name: LLICV01 Acquired: 6/17/2025 12:41:46 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1914851	.0214869	.3795816	.0381386	.0445279	F .0312849
Stddev	.0002466	.0034109	.0052875	.0003907	.0038137	.0077583
%RSD	.1287792	15.87452	1.392970	1.024401	8.564617	24.79897
#1	.1914302	.0208172	.3785028	.0385803	.0425488	.0366824
#2	.1912706	.0251830	.3853252	.0378384	.0489243	.0347782
#3	.1917546	.0184605	.3749167	.0379970	.0421107	.0223941

Elem	Sr4077
Units	ppm
Avg	.0214003
Stddev	.0001972
%RSD	.9215577
#1	.0214465
#2	.0211841
#3	.0215703

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3507.006	44518.85	3185.044	4126.803	4856.701
Stddev	3.361	174.36	27.673	20.063	5.338
%RSD	.0958305	.3916640	.8688445	.4861520	.1099118
#1	3503.898	44336.88	3192.188	4109.740	4851.929
#2	3506.546	44684.46	3154.500	4148.904	4862.465
#3	3510.572	44535.20	3208.446	4121.763	4855.708

Sample Name: ICB01 Acquired: 6/17/2025 12:46:18 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030125	.0007505	.0003389	-.001536	.0040056	-.007322	-.000383
Stddev	.0015945	.0022175	.0014109	.002429	.0038502	.011497	.001427
%RSD	52.92989	295.4512	416.3169	158.1768	96.11899	157.0302	372.7118
#1	.0035965	-.001569	-.000224	-.001116	.0065146	.003858	.001091
#2	.0012084	.000972	-.000703	.000656	-.000427	-.019112	-.001758
#3	.0042328	.002849	.001944	-.004148	.005930	-.006711	-.000481
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000398	-.000025	.0234290	.0007042	.0000703	.0004162	.0384526
Stddev	.0000556	.000039	.0262198	.0010523	.0003950	.0005112	.0084376
%RSD	139.6131	155.2507	111.9115	149.4372	562.1816	122.8415	21.94287
#1	-.000008	-.000046	-.003690	.0018916	-.000350	.0010028	.0294867
#2	.000026	-.000049	.048646	.0003333	.000434	.0000659	.0462374
#3	.000101	.000020	.025330	-.000113	.000127	.0001799	.0396336
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004379	.0438695	.0007756	-.000023	.0192310	.0011215	.0028455
Stddev	.0002798	.0361675	.0000925	.000478	.0133620	.0051313	.0006394
%RSD	63.88067	82.44347	11.92067	2112.878	69.48153	457.5344	22.47197
#1	.0001628	.0021080	.0008120	-.000444	.0287190	.0069671	.0026496
#2	.0004289	.0644763	.0008443	-.000121	.0039501	-.000963	.0035599
#3	.0007221	.0650241	.0006705	.000497	.0250240	-.002639	.0023269
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0166405	.0037589	.0047814	.0001976	-.001397	.0094198	.0021016
Stddev	.0012333	.0022591	.0019562	.0001984	.001380	.0009980	.0011106
%RSD	7.411496	60.10038	40.91372	100.3874	98.73004	10.59517	52.84558
#1	.0163841	.0062985	.0036996	.0004225	.000160	.0094710	.0033823
#2	.0155556	.0019729	.0070396	.0001230	-.002466	.0103913	.0014047
#3	.0179819	.0030054	.0036049	.0000474	-.001886	.0083972	.0015177

Sample Name: ICB01 Acquired: 6/17/2025 12:46:18 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0026827	.0063715	.0001381
Stddev	.0034855	.0051354	.0002913
%RSD	129.9235	80.59941	210.8937
#1	.0011012	.0083071	.0002355
#2	.0002683	.0005496	-.000189
#3	.0066786	.0102579	.000368

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3500.488	44554.06	3198.330	4112.654	4888.282
Stddev	15.819	74.60	22.353	8.793	28.108
%RSD	.4519007	.1674452	.6988849	.2138123	.5750091
#1	3499.790	44591.82	3199.854	4122.235	4886.431
#2	3485.029	44468.13	3175.255	4110.773	4861.146
#3	3516.643	44602.23	3219.882	4104.953	4917.270

Sample Name: CRI01 Acquired: 6/17/2025 12:50:42 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0193742	.0397557	.0116822	.0179859	.0524921	.1135448
Stddev	.0009447	.0019044	.0012328	.0024298	.0016028	.0245477
%RSD	4.876175	4.790355	10.55320	13.50943	3.053455	21.61944
#1	.0199889	.0378131	.0102628	.0157960	.0524379	.0958481
#2	.0198472	.0398344	.0122973	.0205998	.0509170	.1032173
#3	.0182864	.0416195	.0124865	.0175620	.0541213	.1415690
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1036534	F .0064301	F .0057716	2.039425	.0093846	.0299695
Stddev	.0002445	.0000740	.0000475	.002840	.0008040	.0001319
%RSD	.2358867	1.151067	.8234046	.1392704	8.567437	.4400297
#1	.1036331	.0064853	.0058199	2.036726	.0098207	.0298908
#2	.1034197	.0063460	.0057700	2.039163	.0084567	.0301217
#3	.1039075	.0064590	.0057249	2.042388	.0098763	.0298959
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0232468	.1032549	.0206006	2.153729	.0390558	.0107719
Stddev	.0000953	.0106221	.0006005	.025553	.0002627	.0007317
%RSD	.4098874	10.28727	2.914925	1.186444	.6725888	6.792710
#1	.0232313	.1075139	.0207386	2.183012	.0393360	.0110525
#2	.0231603	.0911642	.0211200	2.135948	.0390164	.0099414
#3	.0233490	.1110865	.0199431	2.142228	.0388151	.0113218
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.872079	.0432292	.0417540	1.659478	.0179149	.1063155
Stddev	.016826	.0046362	.0002643	.011004	.0008883	.0019550
%RSD	.8988086	10.72474	.6328794	.6631013	4.958199	1.838881
#1	1.872601	.0391039	.0419589	1.664609	.0172870	.1053519
#2	1.854997	.0423370	.0414558	1.646846	.0175264	.1050293
#3	1.888638	.0482467	.0418473	1.666980	.0189312	.1085653

Sample Name: CRI01 Acquired: 6/17/2025 12:50:42 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1919522	.0173160	.3831138	.0376811	.0420374	.0193606
Stddev	.0001866	.0042883	.0050494	.0008265	.0008352	.0043852
%RSD	.0972159	24.76523	1.317983	2.193330	1.986674	22.65002
#1	.1921639	.0207480	.3885022	.0370252	.0413152	.0149913
#2	.1918118	.0125087	.3784909	.0374088	.0418451	.0193290
#3	.1918808	.0186912	.3823481	.0386094	.0429519	.0237615

Elem	Sr4077
Units	ppm
Avg	.0214000
Stddev	.0001984
%RSD	.9270603
#1	.0215184
#2	.0211710
#3	.0215106

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3503.737	44518.81	3163.739	4123.116	4857.528
Stddev	8.527	280.27	13.331	5.332	18.218
%RSD	.2433570	.6295480	.4213547	.1293226	.3750545
#1	3494.419	44711.81	3162.424	4123.127	4837.347
#2	3505.640	44197.33	3177.679	4117.779	4862.478
#3	3511.151	44647.27	3151.115	4128.443	4872.760

Sample Name: ICSA01 Acquired: 6/17/2025 13:11:11 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003705	.0141458	.0055005	.0005823	.0211756	246.7200
Stddev	.003107	.0024151	.0013954	.0074406	.0036124	1.0265
%RSD	83.87297	17.07298	25.36920	1277.843	17.05915	.4160572
#1	-.001748	.0131998	.0044035	-.007435	.0176628	247.8953
#2	-.002079	.0168908	.0050268	.007267	.0248799	246.2650
#3	-.007288	.0123470	.0070710	.001915	.0209839	245.9996
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054969	.0002769	-.001653	238.2526	.0481675	.0219515
Stddev	.0008332	.0000944	.000066	.7086	.0008090	.0004186
%RSD	15.15793	34.09204	3.997593	.2974080	1.679612	1.906738
#1	.0046099	.0003229	-.001718	239.0462	.0472574	.0223388
#2	.0056177	.0001683	-.001656	237.6834	.0488051	.0215075
#3	.0062632	.0003395	-.001586	238.0280	.0484399	.0220083
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008459	102.8050	.0059930	245.4287	.0020953	.0046057
Stddev	.000616	.5248	.0007151	1.4287	.0013759	.0008961
%RSD	7.282220	.5104868	11.93204	.5821411	65.66435	19.45677
#1	-.009147	103.3632	.0051773	246.1826	.0024150	.0042540
#2	-.008272	102.7303	.0065121	243.7809	.0032831	.0039388
#3	-.007958	102.3216	.0062894	246.3226	.0005877	.0056243
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1163653	.0017813	.0103255	.0005776	.0077533	F .0411546
Stddev	.0073386	.0056065	.0002004	.0006183	.0030250	.0011090
%RSD	6.306535	314.7365	1.940607	107.0386	39.01597	2.694767
#1	.1080790	.0049404	.0105486	.0009676	.0111630	.0404153
#2	.1220440	.0050954	.0102672	-.000135	.0067053	.0424298
#3	.1189730	-.004692	.0101607	.000901	.0053916	.0406187

Sample Name: ICSA01 Acquired: 6/17/2025 13:11:11 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008871	.0181528	-.003728	.0050435	.0107274	-.003504
Stddev	.000379	.0047475	.002583	.0030643	.0017732	.004045
%RSD	4.267509	26.15305	69.29632	60.75666	16.52954	115.4442
#1	-.008735	.0236219	-.001764	.0017692	.0093774	-.002928
#2	-.009299	.0157431	-.002766	.0078421	.0100693	-.007807
#3	-.008580	.0150934	-.006655	.0055193	.0127356	.000222

Elem	Sr4077
Units	ppm
Avg	.0999828
Stddev	.0005198
%RSD	.5198455
#1	.1002365
#2	.0993849
#3	.1003271

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3193.571	39278.92	3052.420	3725.377	3961.631
Stddev	9.186	222.25	37.217	21.198	9.488
%RSD	.2876556	.5658271	1.219277	.5690219	.2394973
#1	3203.700	39076.77	3019.291	3706.316	3968.270
#2	3191.233	39516.91	3092.691	3748.207	3965.858
#3	3185.779	39243.08	3045.276	3721.608	3950.764

Sample Name: ICSAB01 Acquired: 6/17/2025 13:22:04 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0948043	.0973854	.0530686	.0506694	.6299909	250.5020
Stddev	.0043349	.0026104	.0003246	.0031851	.0028988	.1041
%RSD	4.572467	2.680438	.6116412	6.286056	.4601274	.0415635
#1	.0982382	.0973263	.0533761	.0543459	.6301855	250.5644
#2	.0962412	.0948051	.0527293	.0489154	.6269997	250.3818
#3	.0899333	.1000248	.0531003	.0487468	.6327875	250.5598
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5232721	.5243625	1.017303	242.4944	.5642554	.5221870
Stddev	.0010646	.0042200	.001320	.1435	.0017161	.0008454
%RSD	.2034477	.8047935	.1297272	.0591854	.3041391	.1618959
#1	.5230866	.5209899	1.017529	242.4412	.5662285	.5228986
#2	.5244172	.5290948	1.015884	242.6569	.5634275	.5212525
#3	.5223125	.5230030	1.018494	242.3850	.5631101	.5224098
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4924850	104.2141	.5093427	248.8037	1.002386	.1732658
Stddev	.0050638	.1046	.0024972	.7074	.001018	.0012493
%RSD	1.028222	.1003814	.4902740	.2843193	.1015893	.7210136
#1	.4903040	104.1956	.5115257	249.1915	1.002452	.1746922
#2	.4982739	104.3267	.5098828	249.2325	1.001337	.1727385
#3	.4888770	104.1199	.5066197	247.9873	1.003370	.1723666
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1219016	.5025043	1.053614	-.002544	F .0187230	F 1.008938
Stddev	.0178682	.0075588	.001553	.000498	.0035889	.005139
%RSD	14.65786	1.504222	.1473565	19.55796	19.16837	.5093557
#1	.1077313	.5045803	1.053681	-.002039	.0209477	1.004445
#2	.1419741	.4941244	1.052029	-.003034	.0145827	1.014542
#3	.1159992	.5088082	1.055132	-.002560	.0206385	1.007827

Sample Name: ICSAB01 Acquired: 6/17/2025 13:22:04 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .9969571	.0272436	F .8830533	F 1.014534	F 1.009466	-.004230
Stddev	.0007734	.0047403	.0077937	.001142	.002677	.001967
%RSD	.0775736	17.39975	.8825859	.1125292	.2652029	46.48890
#1	.9964011	.0310612	.8787134	1.015723	1.009648	-.004145
#2	.9978403	.0287318	.8920509	1.013446	1.006703	-.006238
#3	.9966299	.0219377	.8783957	1.014431	1.012048	-.002307

Elem	Sr4077
Units	ppm
Avg	F .1014309
Stddev	.0005797
%RSD	.5714698
#1	.1018384
#2	.1016870
#3	.1007673

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3235.935	39903.21	3097.254	3771.075	4017.123
Stddev	4.745	366.89	18.082	22.444	6.625
%RSD	.1466369	.9194544	.5837984	.5951693	.1649278
#1	3241.410	39483.10	3090.815	3745.515	4024.739
#2	3233.025	40160.58	3083.273	3787.565	4012.689
#3	3233.369	40065.95	3117.674	3780.146	4013.940

Sample Name: ICSA01DLX20 Acquired: 6/17/2025 13:28:02 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002681	.0056287	.0005139	-.002720	.0041294	12.88931	-.000517
Stddev	.005736	.0008999	.0021302	.003345	.0018372	.01463	.000633
%RSD	213.9409	15.98810	414.5158	122.9733	44.49036	.1134919	122.4259
#1	-.004729	.0064946	-.001801	-.005035	.0053705	12.89483	-.001239
#2	-.007112	.0056932	.002391	-.004242	.0049989	12.87272	-.000258
#3	.003797	.0046982	.000951	.001115	.0020189	12.90037	-.000055
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000032	-.000158	12.63209	.0025681	.0054850	-.000329	5.521515
Stddev	.0000321	.000078	.04192	.0007438	.0004022	.000167	.023422
%RSD	989.3286	49.76620	.3318686	28.96404	7.333147	50.83632	.4242027
#1	.0000168	-.000077	12.68041	.0027239	.0052102	-.000269	5.548097
#2	-.000033	-.000233	12.61047	.0032217	.0052981	-.000200	5.503905
#3	.000026	-.000163	12.60540	.0017587	.0059466	-.000518	5.512543
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002310	13.32312	-.000491	.0010230	.0087497	.0028064	.0012109
Stddev	.0008163	.11092	.000536	.0009488	.0163447	.0108494	.0002347
%RSD	353.3671	.8325550	109.1574	92.74417	186.8040	386.5931	19.37737
#1	-.000213	13.45096	-.000968	.0011970	.0004794	.0152654	.0009417
#2	.001173	13.26603	-.000596	-.000001	.0275767	-.004559	.0013191
#3	-.000267	13.25237	.000090	.001873	-.001807	-.002287	.0013719
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0061058	.0019505	.0032805	-.002303	.0028959	.0044613	.0002608
Stddev	.0002672	.0009806	.0007369	.000195	.0001802	.0009393	.0004564
%RSD	4.376359	50.27401	22.46377	8.485302	6.221376	21.05430	175.0176
#1	.0064048	.0027246	.0040214	-.002079	.0030011	.0035163	-.000238
#2	.0058902	.0008478	.0025477	-.002393	.0026879	.0044728	.000657
#3	.0060225	.0022790	.0032724	-.002438	.0029988	.0053948	.000364

Sample Name: ICSA01DLX20 Acquired: 6/17/2025 13:28:02 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0009860	-.016024	.0052277
Stddev	.0009987	.001665	.0001344
%RSD	101.2841	10.38998	2.571315
#1	-.000073	-.017297	.0052404
#2	.001121	-.014140	.0050874
#3	.001910	-.016636	.0053554

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3497.407	44054.40	3176.612	4109.832	4743.774
Stddev	11.223	353.41	19.283	25.339	5.550
%RSD	.3209032	.8022132	.6070345	.6165355	.1169926
#1	3510.366	43695.84	3154.521	4081.640	4750.147
#2	3490.885	44402.43	3185.242	4117.152	4740.004
#3	3490.969	44064.93	3190.073	4130.706	4741.172

Sample Name: ICSAB01DLX20 Acquired: 6/17/2025 13:35:13 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034646	.0064977	.0032758	-.001432	.0331312	12.55715	.0253812
Stddev	.0019859	.0022038	.0009883	.002904	.0015998	.04374	.0010443
%RSD	57.31929	33.91612	30.17008	202.8592	4.828604	.3483135	4.114518
#1	.0040914	.0076333	.0030460	-.004388	.0346359	12.58338	.0265756
#2	.0050615	.0039577	.0024226	-.001324	.0314509	12.58141	.0249281
#3	.0012410	.0079021	.0043587	.001417	.0333069	12.50666	.0246400
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0271594	.0482236	12.35394	.0287157	.0294438	.0273048	5.351570
Stddev	.0003480	.0000530	.03993	.0003537	.0004112	.0003673	.019861
%RSD	1.281265	.1099637	.3232437	1.231603	1.396476	1.345183	.3711179
#1	.0275545	.0482100	12.39938	.0283544	.0294464	.0276265	5.334115
#2	.0268981	.0482821	12.33803	.0290612	.0298537	.0269046	5.347415
#3	.0270257	.0481786	12.32442	.0287317	.0290314	.0273832	5.373179
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0271922	13.15786	.0482351	.0085364	-.003461	.0241786	.0521965
Stddev	.0006596	.12045	.0006154	.0001182	.007924	.0076501	.0005410
%RSD	2.425572	.9153953	1.275799	1.385049	228.9642	31.63986	1.036457
#1	.0268991	13.28929	.0480999	.0083999	-.004212	.0236638	.0518267
#2	.0279476	13.05276	.0489068	.0086067	.004812	.0167990	.0528174
#3	.0267301	13.13152	.0476985	.0086026	-.010983	.0320731	.0519453
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029826	.0029720	.0535306	.0496533	.0013601	.0532524	.0499419
Stddev	.0003611	.0008239	.0008458	.0003272	.0017814	.0005955	.0013026
%RSD	12.10606	27.72171	1.579958	.6589212	130.9734	1.118306	2.608163
#1	.0033973	.0038236	.0543694	.0495376	-.000595	.0531059	.0506881
#2	.0027376	.0021789	.0535443	.0493997	.002891	.0527437	.0506998
#3	.0028131	.0029135	.0526780	.0500226	.001784	.0539075	.0484379

Sample Name: ICSAB01DLX20 Acquired: 6/17/2025 13:35:13 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0519060	-.015341	.0050368
Stddev	.0015927	.002212	.0001808
%RSD	3.068350	14.41568	3.588635
#1	.0505993	-.017800	.0052374
#2	.0536801	-.014710	.0049866
#3	.0514387	-.013514	.0048865

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3496.911	44291.04	3158.729	4115.718	4753.523
Stddev	5.976	183.97	23.802	28.391	4.435
%RSD	.1709061	.4153754	.7535249	.6898226	.0932959
#1	3503.768	44357.58	3131.276	4139.155	4753.386
#2	3492.812	44083.06	3171.336	4084.148	4749.159
#3	3494.151	44432.49	3173.576	4123.853	4758.025

Sample Name: CCV01 Acquired: 6/17/2025 13:40:12 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.784505	4.911499	4.788888	4.859942	4.871255	9.699720	9.771120
Stddev	.002553	.008962	.013735	.007105	.008130	.028090	.031932
%RSD	.0533667	.1824781	.2868022	.1461988	.1668901	.2895935	.3268047
#1	4.783513	4.909743	4.788873	4.860556	4.864468	9.694160	9.744781
#2	4.782596	4.903545	4.775161	4.852550	4.869033	9.730175	9.806636
#3	4.787405	4.921210	4.802630	4.866720	4.880265	9.674827	9.761943
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2499363	2.415679	24.32687	.9828058	2.403719	1.246311	4.846489
Stddev	.0019113	.002924	.07364	.0016413	.002874	.009284	.011612
%RSD	.7647007	.1210565	.3027218	.1670053	.1195650	.7449362	.2395972
#1	.2486799	2.413533	24.24368	.9819461	2.401397	1.239758	4.838272
#2	.2521358	2.414495	24.38372	.9846984	2.402826	1.256935	4.859773
#3	.2489933	2.419010	24.35322	.9817730	2.406933	1.242239	4.841421
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.428938	24.10687	2.409497	1.231171	24.79542	2.419627	2.430530
Stddev	.003017	.26679	.001121	.003942	.18850	.022692	.005240
%RSD	.1241939	1.106708	.0465415	.3201458	.7602357	.9378285	.2155754
#1	2.425778	24.04092	2.408483	1.226640	24.65593	2.407159	2.426638
#2	2.429247	24.40045	2.409307	1.233807	25.00987	2.405902	2.436488
#3	2.431788	23.87924	2.410701	1.233067	24.72044	2.445819	2.428466
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.05531	4.868345	4.997659	4.871813	4.784436	4.928310	4.847473
Stddev	.27112	.002367	.039986	.006678	.017321	.038160	.004658
%RSD	1.082082	.0486289	.8000861	.1370796	.3620364	.7742943	.0960856
#1	24.82909	4.871072	4.969263	4.866250	4.770186	4.899831	4.847860
#2	25.35583	4.866817	5.043386	4.869969	4.779407	4.971667	4.842634
#3	24.98101	4.867147	4.980328	4.879219	4.803716	4.913430	4.851925

Sample Name: CCV01 Acquired: 6/17/2025 13:40:12 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.860574	4.866048	4.903286
Stddev	.001308	.007690	.021594
%RSD	.0269007	.1580339	.4404070
#1	4.859086	4.861410	4.887704
#2	4.861093	4.861809	4.927936
#3	4.861542	4.874924	4.894219

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3373.121	42570.80	3104.334	3986.297	4333.721
Stddev	4.496	94.85	18.891	7.664	4.753
%RSD	.1332839	.2228144	.6085399	.1922499	.1096680
#1	3378.245	42664.01	3121.360	3994.667	4339.165
#2	3369.837	42574.01	3084.012	3984.599	4331.597
#3	3371.282	42474.38	3107.631	3979.625	4330.400

Sample Name: CCB01 Acquired: 6/17/2025 13:48:41 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0023889	.0006605	-.000433	-.000201	.0010245	-.018698	.0000796
Stddev	.0020299	.0008434	.000319	.002473	.0033036	.014632	.0010652
%RSD	84.97179	127.6963	73.62063	1233.184	322.4607	78.25275	1338.837

#1	.0003502	.0009913	-.000228	-.002030	.0015434	-.006099	-.000812
#2	.0044098	-.000298	-.000271	-.001185	-.002508	-.034746	-.000208
#3	.0024066	.001288	-.000801	.002613	.004038	-.015249	.001259

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000033	.0000233	.0209922	.0005217	.0001478	-.000160	.0052126
Stddev	.000071	.0000555	.0184468	.0004710	.0001189	.000313	.0104065
%RSD	217.5028	238.4274	87.87475	90.28313	80.47866	195.7818	199.6421

#1	-.000044	-.000041	.0029344	-.000015	.0001879	-.000403	.0143766
#2	.000043	.000052	.0398049	.000867	.0000140	.000193	-.006101
#3	-.000097	.000058	.0202373	.000713	.0002415	-.000268	.007362

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008425	.0310227	.0011286	.0008734	.0081059	.0079877	.0005199
Stddev	.0004209	.0344754	.0005391	.0004480	.0096457	.0079984	.0003996
%RSD	49.95964	111.1296	47.76182	51.28850	118.9961	100.1343	76.85889

#1	.0004630	.0484498	.0005125	.0013710	.0055543	-.001185	.0009813
#2	.0012952	-.008687	.0015131	.0005023	.0187710	.013508	.0002923
#3	.0007692	.053305	.0013603	.0007469	-.000007	.011640	.0002861

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0189673	.0021510	.0048023	.0010239	.0009563	.0080552	.0026241
Stddev	.0014964	.0022769	.0012606	.0004217	.0036043	.0020186	.0008471
%RSD	7.889494	105.8508	26.25016	41.18871	376.9112	25.05931	32.28086

#1	.0197458	.0030479	.0033941	.0009361	-.000116	.0058927	.0028093
#2	.0199141	-.000438	.0058257	.0014826	-.001990	.0098897	.0016997
#3	.0172422	.003843	.0051869	.0006529	.004975	.0083830	.0033632

Sample Name: CCB01 Acquired: 6/17/2025 13:48:41 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0023689	-.004576	.0001303
Stddev	.0047246	.004360	.0000416
%RSD	199.4399	95.28475	31.96046
#1	.0077018	.000283	.0000961
#2	-.001294	-.005863	.0001181
#3	.000699	-.008147	.0001766

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3536.451	44982.00	3194.159	4155.348	4951.549
Stddev	5.304	253.52	5.635	29.011	7.685
%RSD	.1499757	.5636123	.1764108	.6981535	.1552138
#1	3530.337	44891.27	3193.945	4133.809	4944.306
#2	3539.816	45268.40	3199.897	4188.336	4950.731
#3	3539.199	44786.32	3188.633	4143.899	4959.611

Sample Name: Q2264-04 Acquired: 6/17/2025 13:53:16 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.010372	.0052444	.0435573	-.004509	.0050911	.0253747	.0108326
Stddev	.000727	.0021208	.0016474	.001625	.0020237	.0302691	.0013276
%RSD	7.007576	40.43930	3.782194	36.03630	39.74937	119.2885	12.25593
#1	-.009578	.0032511	.0416868	-.005950	.0055626	.0022051	.0118862
#2	-.011005	.0050090	.0447924	-.002748	.0028733	.0142969	.0112702
#3	-.010533	.0074730	.0441927	-.004829	.0068375	.0596221	.0093414
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000146	.0000356	28.82567	.0012579	.0106987	2.507506	1.397798
Stddev	.000062	.0000586	.05991	.0007653	.0001562	.011438	.049328
%RSD	42.17122	164.3487	.2078524	60.83516	1.459516	.4561345	3.528949
#1	-.000148	-.000003	28.86576	.0021152	.0105213	2.518230	1.412648
#2	-.000207	.000007	28.85446	.0010147	.0107596	2.508820	1.437994
#3	-.000084	.000103	28.75680	.0006438	.0108152	2.495469	1.342751
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0593270	4.654325	.0026161	.0004289	109.5145	.0110860	.4735454
Stddev	.0006706	.055843	.0001224	.0003459	1.3286	.0018049	.0021113
%RSD	1.130378	1.199813	4.677705	80.65249	1.213133	16.28105	.4458536
#1	.0591669	4.589856	.0026707	.0006323	107.9854	.0091573	.4719633
#2	.0600632	4.685425	.0024759	.0000295	110.3863	.0113665	.4759428
#3	.0587509	4.687694	.0027016	.0006248	110.1717	.0127343	.4727300
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.78070	1.668411	.0311214	-.003518	4.492871	3.731658	.0038894
Stddev	.01174	.002590	.0007044	.000364	.007622	.018161	.0006054
%RSD	.1088800	.1552234	2.263460	10.34505	.1696444	.4866624	15.56516
#1	10.76721	1.666795	.0308332	-.003934	4.487218	3.744448	.0040389
#2	10.78635	1.667040	.0306067	-.003360	4.489856	3.739654	.0044060
#3	10.78855	1.671398	.0319242	-.003259	4.501539	3.710871	.0032233

Sample Name: Q2264-04 Acquired: 6/17/2025 13:53:16 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0023964	-.006562	.2039061
Stddev	.0020513	.008409	.0011199
%RSD	85.59875	128.1540	.5492200
#1	.0022703	.001662	.2051852
#2	.0045078	-.006202	.2034312
#3	.0004110	-.015145	.2031019

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3443.799	43302.50	3182.833	4020.749	4462.491
Stddev	2.185	280.17	9.056	19.927	9.108
%RSD	.0634595	.6470021	.2845180	.4955934	.2040952
#1	3441.667	43538.04	3187.507	4038.600	4456.490
#2	3446.034	43376.80	3188.596	4024.396	4472.971
#3	3443.696	42992.68	3172.395	3999.250	4458.013

Sample Name: Q2264-04LX5 Acquired: 6/17/2025 14:02:28 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000794	.0016684	.0071836	-.001505	.0040416	-.018832	.0009427
Stddev	.001829	.0016422	.0012076	.004108	.0007675	.015869	.0007106
%RSD	230.5112	98.43258	16.81091	272.9372	18.98949	84.26619	75.37874
#1	-.000034	.0016381	.0058955	-.005830	.0048549	-.000525	.0004053
#2	.000534	.0033254	.0073652	-.001029	.0039396	-.027297	.0017484
#3	-.002880	.0000415	.0082903	.002344	.0033301	-.028673	.0006744
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000078	-.000015	5.768921	-.000271	.0032070	.5137947	.2662599
Stddev	.000051	.000025	.024875	.000784	.0001036	.0059299	.0146248
%RSD	64.51505	168.4061	.4311855	289.5568	3.231192	1.154139	5.492660
#1	-.000115	-.000027	5.795722	-.001135	.0031651	.5204253	.2808935
#2	-.000099	-.000031	5.764467	.000396	.0031309	.5089996	.2662422
#3	-.000021	.000014	5.746575	-.000074	.0033251	.5119592	.2516440
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0123096	.9359203	.0008563	.0000719	22.06628	.0073715	.0931215
Stddev	.0001526	.0155270	.0005442	.0007245	.28573	.0079319	.0005775
%RSD	1.239563	1.659012	63.54928	1007.325	1.294891	107.6018	.6202012
#1	.0123081	.9421041	.0014846	-.000741	22.38264	.0136106	.0927041
#2	.0121578	.9474026	.0005308	.000309	21.82698	-.001555	.0937806
#3	.0124630	.9182541	.0005536	.000648	21.98922	.010059	.0928797
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.819365	.3148889	.0071143	-.000879	.8569475	.7693860	.0009227
Stddev	.020407	.0018536	.0008927	.000130	.0038283	.0076973	.0015192
%RSD	1.121648	.5886631	12.54831	14.73262	.4467427	1.000442	164.6601
#1	1.842102	.3169553	.0074451	-.001028	.8613433	.7781162	.0025064
#2	1.802637	.3143390	.0061033	-.000792	.8543450	.7635767	.0007842
#3	1.813358	.3133725	.0077943	-.000817	.8551541	.7664652	-.000523

Sample Name: Q2264-04LX5 Acquired: 6/17/2025 14:02:28 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0006137	-.003869	.0410317
Stddev	.0046130	.003649	.0001587
%RSD	751.6918	94.29261	.3867439
#1	.0044236	-.003067	.0412118
#2	-.004515	-.007852	.0409710
#3	.001933	-.000689	.0409123

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3529.597	44891.03	3243.562	4142.836	4765.500
Stddev	12.423	252.38	30.468	38.351	23.044
%RSD	.3519667	.5622090	.9393368	.9257233	.4835504
#1	3515.648	45060.82	3219.303	4174.770	4739.839
#2	3539.471	45011.27	3277.758	4153.440	4784.426
#3	3533.672	44601.01	3233.624	4100.299	4772.235

Sample Name: Q2264-04MS Acquired: 6/17/2025 14:06:50 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7602605	1.921893	.9662696	1.867495	.7949657	1.962986	.2107016
Stddev	.0006898	.001177	.0017450	.002355	.0004022	.016290	.0019568
%RSD	.0907349	.0612254	.1805890	.1260863	.0505977	.8298599	.9287132
#1	.7610360	1.921979	.9657396	1.866620	.7952601	1.979587	.2119979
#2	.7600299	1.920676	.9648511	1.870162	.7951297	1.962346	.2084507
#3	.7597154	1.923025	.9682181	1.865703	.7945074	1.947026	.2116563
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2000125	.1942991	30.13039	.4057735	.2073132	2.825658	4.459047
Stddev	.0014270	.0001218	.09460	.0012589	.0002109	.020907	.038405
%RSD	.7134374	.0626678	.3139702	.3102405	.1017504	.7398833	.8612923
#1	.1983800	.1941780	30.19850	.4069012	.2070737	2.802578	4.488923
#2	.2006353	.1944216	30.02237	.4044153	.2073947	2.831066	4.415727
#3	.2010221	.1942978	30.17029	.4060040	.2074712	2.843329	4.472491
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2583242	6.651441	.4950224	.0363888	112.0203	.3133189	.6815104
Stddev	.0018231	.079981	.0004544	.0006063	.1053	.0056074	.0045022
%RSD	.7057507	1.202460	.0917870	1.666189	.0939978	1.789682	.6606168
#1	.2596688	6.616928	.4954248	.0363937	112.1340	.3102924	.6763128
#2	.2562491	6.594512	.4951129	.0369927	111.9261	.3098751	.6840150
#3	.2590548	6.742884	.4945296	.0357801	112.0008	.3197893	.6842032
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.88149	7.550219	.3038360	.4034430	4.514667	4.651575	.6773310
Stddev	.03324	.023119	.0043148	.0011055	.004535	.039092	.0012825
%RSD	.1519255	.3062072	1.420102	.2740199	.1004509	.8404137	.1893417
#1	21.90185	7.540853	.2988765	.4022515	4.509581	4.608544	.6759066
#2	21.84312	7.533252	.3067279	.4044354	4.518288	4.661280	.6776921
#3	21.89949	7.576551	.3059037	.4036421	4.516132	4.684900	.6783941

Sample Name: Q2264-04MS Acquired: 6/17/2025 14:06:50 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2050264	.1715873	.4009260
Stddev	.0018232	.0069432	.0021448
%RSD	.8892527	4.046454	.5349489
#1	.2068204	.1647228	.4011005
#2	.2031754	.1714324	.3986993
#3	.2050832	.1786066	.4029781

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3454.554	43325.00	3174.119	4014.988	4458.223
Stddev	11.774	472.67	8.306	23.092	13.117
%RSD	.3408353	1.090991	.2616732	.5751492	.2942312
#1	3467.496	42780.04	3165.549	3991.677	4471.356
#2	3451.693	43623.58	3182.133	4015.432	4458.194
#3	3444.474	43571.39	3174.676	4037.855	4445.121

Sample Name: Q2264-04MSD Acquired: 6/17/2025 14:11:23 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7534879	1.903068	.9545787	1.856147	.7867443	1.968819	.2082236
Stddev	.0015745	.003044	.0025319	.007087	.0035617	.031194	.0023858
%RSD	.2089543	.1599422	.2652328	.3818065	.4527143	1.584398	1.145797
#1	.7534015	1.901317	.9565414	1.864311	.7884737	1.983972	.2086906
#2	.7551037	1.901304	.9517209	1.851583	.7826481	1.989542	.2103414
#3	.7519584	1.906583	.9554738	1.852546	.7891111	1.932943	.2056388
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1945179	.1926310	30.11807	.4028750	.2051658	2.755629	4.424077
Stddev	.0001240	.0002812	.04975	.0026916	.0002904	.004696	.015454
%RSD	.0637460	.1460045	.1651709	.6680909	.1415569	.1704322	.3493084
#1	.1945598	.1929557	30.11069	.3997923	.2054651	2.753054	4.441018
#2	.1946156	.1924755	30.17110	.4047591	.2048852	2.761050	4.420463
#3	.1943784	.1924619	30.07243	.4040735	.2051471	2.752784	4.410751
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2619027	6.652626	.4908746	.0355958	110.6388	.3100397	.6765678
Stddev	.0005703	.075034	.0006963	.0001774	1.1173	.0012892	.0010812
%RSD	.2177719	1.127879	.1418406	.4984941	1.009873	.4158231	.1598063
#1	.2622947	6.732735	.4916077	.0357757	109.9926	.3104082	.6767688
#2	.2612484	6.641153	.4907939	.0355910	111.9289	.3086064	.6775344
#3	.2621651	6.583989	.4902222	.0354209	109.9948	.3111046	.6754002
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.62884	7.503612	.2956318	.3997325	4.552768	4.532977	.6730652
Stddev	.13977	.007149	.0030793	.0006774	.012014	.016860	.0017449
%RSD	.6462108	.0952807	1.041593	.1694543	.2638864	.3719354	.2592449
#1	21.59843	7.505920	.2924179	.3996941	4.562021	4.524735	.6746196
#2	21.78131	7.509322	.2985560	.3990751	4.539190	4.552372	.6733982
#3	21.50678	7.495593	.2959214	.4004282	4.557093	4.521822	.6711778

Sample Name: Q2264-04MSD Acquired: 6/17/2025 14:11:23 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2035181	.1697208	.3975948
Stddev	.0024281	.0063503	.0016397
%RSD	1.193056	3.741614	.4124148
#1	.2063091	.1623884	.3980821
#2	.2018918	.1733241	.3989356
#3	.2023533	.1734497	.3957666

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3444.053	42723.87	3197.242	3970.887	4453.124
Stddev	3.951	296.38	19.544	17.362	7.977
%RSD	.1147320	.6937141	.6112838	.4372275	.1791345
#1	3446.079	42833.22	3200.869	3961.722	4455.189
#2	3439.500	42388.35	3176.138	3960.028	4444.318
#3	3446.581	42950.05	3214.718	3990.911	4459.866

Sample Name: Q2264-04A Acquired: 6/17/2025 14:15:51 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7416038	1.876852	.9537454	1.830515	.7869084	1.957835	.2078045
Stddev	.0009682	.001378	.0011090	.006993	.0016887	.021742	.0019258
%RSD	.1305503	.0734113	.1162803	.3820219	.2146032	1.110496	.9267578
#1	.7427126	1.875740	.9546843	1.822792	.7853742	1.946574	.2075936
#2	.7409255	1.878394	.9525218	1.836419	.7866332	1.944035	.2098271
#3	.7411734	1.876423	.9540301	1.832333	.7887179	1.982898	.2059928
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1946927	.1897911	30.00752	.3964503	.2025142	2.761884	4.442980
Stddev	.0019280	.0003725	.14274	.0014567	.0003826	.025568	.025087
%RSD	.9902774	.1962459	.4756905	.3674443	.1889147	.9257338	.5646444
#1	.1925957	.1902074	29.95227	.3977267	.2029494	2.734289	4.454796
#2	.1950936	.1896765	30.16963	.3948633	.2023624	2.766593	4.414167
#3	.1963887	.1894894	29.90067	.3967608	.2022309	2.784769	4.459978
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2555092	6.602221	.4839292	.0682359	109.5583	.3073283	.6709679
Stddev	.0002702	.040803	.0015843	.0011715	.8778	.0045623	.0018320
%RSD	.1057395	.6180197	.3273893	1.716832	.8012132	1.484514	.2730438
#1	.2552048	6.555152	.4857337	.0686073	110.0816	.3098654	.6689246
#2	.2557205	6.623943	.4827663	.0669237	108.5449	.3100582	.6724640
#3	.2556023	6.627568	.4832876	.0691767	110.0484	.3020614	.6715150
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.35267	7.410567	.2947303	.4010046	4.426592	4.585282	.6902393
Stddev	.10036	.017434	.0044006	.0001387	.005587	.052390	.0014885
%RSD	.4699891	.2352597	1.493109	.0345825	.1262092	1.142560	.2156456
#1	21.23786	7.430689	.2900507	.4008733	4.431477	4.526636	.6917698
#2	21.42368	7.399984	.2953548	.4009909	4.427799	4.601752	.6887967
#3	21.39647	7.401027	.2987853	.4011497	4.420500	4.627456	.6901514

Sample Name: Q2264-04A Acquired: 6/17/2025 14:15:51 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2078806	.1772850	.3964824
Stddev	.0024147	.0075783	.0019632
%RSD	1.161593	4.274621	.4951589
#1	.2101276	.1810095	.3959907
#2	.2081869	.1685652	.3986447
#3	.2053273	.1822803	.3948117

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3444.971	43087.47	3180.271	3990.707	4455.827
Stddev	9.617	503.80	6.720	44.502	6.790
%RSD	.2791600	1.169256	.2113144	1.115143	.1523899
#1	3455.177	42567.80	3179.546	3954.178	4461.324
#2	3436.078	43120.86	3173.943	3977.671	4448.237
#3	3443.657	43573.75	3187.325	4040.271	4457.921

Sample Name: Q2264-04DUP Acquired: 6/17/2025 14:21:05 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.010771	.0037099	.0415114	-.002761	.0044137	.0253968	.0101252
Stddev	.003567	.0009061	.0003465	.002672	.0024388	.0198498	.0006067
%RSD	33.12017	24.42325	.8348311	96.80700	55.25482	78.15844	5.992404
#1	-.009826	.0029892	.0412748	-.005483	.0026391	.0127787	.0099343
#2	-.007772	.0034134	.0413502	-.002658	.0071946	.0151349	.0096369
#3	-.014716	.0047271	.0419092	-.000141	.0034074	.0482770	.0108045
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000193	-.000002	28.82649	.0009982	.0098203	2.495915	1.386444
Stddev	.000134	.000053	.03436	.0007392	.0000893	.031140	.017769
%RSD	69.22060	2831.844	.1191951	74.05211	.9094863	1.247650	1.281604
#1	-.000345	-.000061	28.83315	.0010229	.0098662	2.476617	1.406296
#2	-.000094	.000012	28.78928	.0017248	.0097174	2.479289	1.381009
#3	-.000139	.000043	28.85703	.0002470	.0098774	2.531840	1.372028
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0590966	4.669864	.0027820	.0003001	107.4279	.0058620	.4719637
Stddev	.0013883	.072976	.0006418	.0003170	.8271	.0049311	.0007267
%RSD	2.349258	1.562702	23.06952	105.6257	.7698734	84.12068	.1539661
#1	.0586699	4.621697	.0035149	.0005428	106.4906	.0002044	.4722116
#2	.0579717	4.634069	.0023202	-.000059	107.7382	.0092476	.4725341
#3	.0606482	4.753826	.0025110	.000416	108.0550	.0081340	.4711456
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.61623	1.653234	.0293439	-.004016	4.422956	3.698081	.0040802
Stddev	.17168	.005527	.0003642	.000282	.010444	.038744	.0012053
%RSD	1.617194	.3342972	1.241185	7.033307	.2361351	1.047667	29.53938
#1	10.44985	1.647477	.0296149	-.004222	4.411069	3.667346	.0052955
#2	10.60607	1.653726	.0294870	-.003694	4.427137	3.685295	.0028852
#3	10.79276	1.658498	.0289299	-.004132	4.430662	3.741601	.0040600

Sample Name: Q2264-04DUP Acquired: 6/17/2025 14:21:05 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0082937	-.012978	.2023059
Stddev	.0009224	.006520	.0015692
%RSD	11.12121	50.23469	.7756467

#1	.0083069	-.010790	.2007890
#2	.0073649	-.007834	.2022061
#3	.0092094	-.020310	.2039226

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3445.069	43362.06	3204.135	4031.229	4478.130
Stddev	14.139	50.57	39.582	3.189	23.001
%RSD	.4103995	.1166332	1.235328	.0791000	.5136331

#1	3435.972	43392.98	3232.149	4034.411	4462.668
#2	3461.358	43389.50	3221.403	4031.244	4504.562
#3	3437.877	43303.70	3158.853	4028.033	4467.159

Sample Name: Q2290-01 Acquired: 6/17/2025 14:25:41 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000658	.0025713	.0119141	-.000073	.0069071	1.182473	.0324821
Stddev	.002683	.0027712	.0011719	.000435	.0001617	.034611	.0013891
%RSD	407.8508	107.7773	9.836251	598.5796	2.340256	2.926978	4.276605
#1	.001978	.0008988	.0132283	.000397	.0068991	1.182170	.0325544
#2	-.000565	.0010449	.0109778	-.000155	.0067497	1.148016	.0338337
#3	-.003386	.0057701	.0115361	-.000461	.0070726	1.217235	.0310582
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000018	-.000056	23.19775	.0028952	.0097964	.0241745	2.328783
Stddev	.000094	.000056	.03096	.0003570	.0002058	.0001963	.029965
%RSD	529.5762	99.01891	.1334819	12.33233	2.101142	.8121234	1.286737
#1	-.000010	-.000094	23.20364	.0025034	.0095587	.0239479	2.295831
#2	-.000115	-.000083	23.22535	.0032022	.0099114	.0242826	2.354400
#3	.000072	.000008	23.16427	.0029798	.0099190	.0242929	2.336118
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0793283	6.178553	.0045454	.0003780	120.7743	.0114382	.0413161
Stddev	.0007037	.022689	.0005601	.0003799	.2522	.0047304	.0000785
%RSD	.8870073	.3672205	12.32261	100.5129	.2088585	41.35652	.1900194
#1	.0798015	6.199133	.0047748	.0003297	120.4831	.0062193	.0412260
#2	.0796637	6.182302	.0049543	.0000245	120.9171	.0126513	.0413701
#3	.0785197	6.154222	.0039070	.0007797	120.9228	.0154439	.0413521
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.533922	.3269443	.0507263	.0100772	6.811363	2.171521	-.000640
Stddev	.067109	.0024956	.0009320	.0002578	.013899	.007475	.000687
%RSD	1.027080	.7633029	1.837387	2.558519	.2040616	.3442094	107.3973
#1	6.540119	.3262428	.0516673	.0098219	6.800486	2.162919	-.001424
#2	6.597717	.3297155	.0507082	.0100722	6.827023	2.175203	-.000145
#3	6.463930	.3248745	.0498035	.0103375	6.806582	2.176439	-.000350

Sample Name: Q2290-01 Acquired: 6/17/2025 14:25:41 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0640596	-.016283	.0835486
Stddev	.0038274	.001041	.0002731
%RSD	5.974701	6.394955	.3269096
#1	.0661924	-.017478	.0834020
#2	.0663454	-.015805	.0833800
#3	.0596410	-.015567	.0838637

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3424.409	42682.70	3191.907	3971.575	4441.578
Stddev	9.022	137.72	7.053	7.550	12.035
%RSD	.2634547	.3226684	.2209539	.1900957	.2709566
#1	3432.955	42830.43	3199.797	3964.107	4455.194
#2	3425.295	42659.83	3189.709	3979.204	4437.173
#3	3414.977	42557.85	3186.215	3971.413	4432.365

Sample Name: Q2290-02 Acquired: 6/17/2025 14:30:20 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006348	.0030520	.0059519	-.004960	.0051658	1.267873	.0296303
Stddev	.002760	.0005545	.0017450	.002016	.0031366	.022935	.0009650
%RSD	43.47769	18.16711	29.31920	40.64077	60.71793	1.808956	3.256728
#1	-.008274	.0036520	.0079590	-.002839	.0015440	1.273402	.0305556
#2	-.007585	.0029455	.0047943	-.006851	.0069818	1.287538	.0286300
#3	-.003186	.0025585	.0051023	-.005189	.0069717	1.242679	.0297054
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000160	-.000077	24.80636	.0017983	.0106284	.0213710	2.847053
Stddev	.000094	.000051	.16207	.0002059	.0003328	.0009426	.041987
%RSD	59.06266	66.32872	.6533219	11.45257	3.131241	4.410654	1.474758
#1	-.000056	-.000041	24.87958	.0018120	.0104820	.0205838	2.837549
#2	-.000182	-.000136	24.91891	.0019971	.0103940	.0224155	2.892977
#3	-.000242	-.000055	24.62061	.0015858	.0110094	.0211137	2.810632
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1553424	7.444382	.0045538	.0000624	234.1220	.0125338	.0296772
Stddev	.0015252	.080040	.0006737	.0005341	2.1738	.0011098	.0003302
%RSD	.9818167	1.075176	14.79310	855.9384	.9284806	8.854753	1.112686
#1	.1560518	7.454777	.0038564	.0002800	235.7590	.0129917	.0295298
#2	.1563837	7.518716	.0046042	.0004533	231.6556	.0112682	.0300554
#3	.1535917	7.359652	.0052009	-.000546	234.9513	.0133414	.0294463
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.420051	.2444596	.0580531	.0265347	9.388288	2.701726	.0001550
Stddev	.061786	.0015665	.0017637	.0006543	.008756	.012395	.0005393
%RSD	.8326963	.6407975	3.038048	2.465896	.0932606	.4587941	348.0174
#1	7.478445	.2461068	.0561086	.0260910	9.387535	2.691360	.0007509
#2	7.355355	.2429888	.0585011	.0272862	9.379934	2.698362	-.000300
#3	7.426354	.2442832	.0595496	.0262270	9.397396	2.715456	.000014

Sample Name: Q2290-02 Acquired: 6/17/2025 14:30:20 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0706807	-.017054	.0980953
Stddev	.0016733	.006528	.0010805
%RSD	2.367379	38.27991	1.101434
#1	.0699449	-.018278	.0989923
#2	.0725958	-.022883	.0983978
#3	.0695014	-.010000	.0968959

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3392.756	41684.70	3150.425	3934.217	4311.631
Stddev	11.025	525.37	26.480	46.389	15.136
%RSD	.3249613	1.260343	.8405120	1.179123	.3510480
#1	3385.662	41080.88	3120.155	3880.712	4310.338
#2	3405.458	41935.95	3169.294	3958.758	4327.372
#3	3387.148	42037.26	3161.827	3963.181	4297.183

Sample Name: Q2291-01 Acquired: 6/17/2025 14:34:57 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000172	.0023554	.0703188	-.003503	.0070164	9.555027
Stddev	.0013283	.0013392	.0017593	.002391	.0007942	.055139
%RSD	7701.120	56.85809	2.501882	68.26012	11.31854	.5770627
#1	-.000288	.0038673	.0685751	-.005475	.0071043	9.604865
#2	-.001132	.0018809	.0702879	-.000843	.0077630	9.564420
#3	.001471	.0013181	.0720933	-.004191	.0061820	9.495795
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1160362	.0003273	.0018642	26.85665	.0349938	.0158078
Stddev	.0008377	.0001134	.0000624	.18376	.0006142	.0000803
%RSD	.7219485	34.64952	3.346073	.6842360	1.755034	.5077137
#1	.1169195	.0002496	.0018554	26.96267	.0356973	.0158072
#2	.1159361	.0004574	.0018067	26.96281	.0345646	.0158883
#3	.1152530	.0002748	.0019306	26.64445	.0347195	.0157278
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0854300	15.88919	.2834753	15.50329	.0152267	.0012261
Stddev	.0013372	.17365	.0036599	.07883	.0004611	.0008107
%RSD	1.565240	1.092900	1.291097	.5084454	3.028258	66.12492
#1	.0852177	15.99616	.2876693	15.58374	.0152817	.0020642
#2	.0868606	15.98258	.2818293	15.49994	.0156579	.0004458
#3	.0842116	15.68883	.2809274	15.42619	.0147406	.0011682
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.80360	.0398128	.6881759	9.892415	.7638041	.0279023
Stddev	.49838	.0090655	.0115086	.155013	.0028565	.0006334
%RSD	1.519271	22.77025	1.672339	1.566991	.3739854	2.270067
#1	32.69007	.0479141	.7012665	9.980897	.7605688	.0283926
#2	33.34895	.0300211	.6836122	9.982923	.7648655	.0271871
#3	32.37178	.0415030	.6796491	9.713425	.7659780	.0281271

Sample Name: Q2291-01 Acquired: 6/17/2025 14:34:57 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007020	3.646373	F 15.92834	.0041093	.5445273	-.006107
Stddev	.0004129	.003428	.29611	.0009234	.0052338	.003421
%RSD	58.82525	.0940107	1.859016	22.47065	.9611594	56.01209
#1	.0002855	3.644519	15.84336	.0032402	.5430585	-.003160
#2	.0007093	3.650329	16.25764	.0040090	.5503385	-.009859
#3	.0011113	3.644271	15.68400	.0050788	.5401848	-.005304

Elem	Sr4077
Units	ppm
Avg	.0628184
Stddev	.0006376
%RSD	1.015013
#1	.0634112
#2	.0629002
#3	.0621438

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3516.979	43875.61	3247.271	4074.857	4609.728
Stddev	13.591	899.76	40.614	80.951	14.681
%RSD	.3864530	2.050702	1.250716	1.986587	.3184879
#1	3507.900	42858.51	3238.867	3982.089	4597.452
#2	3532.605	44567.71	3211.517	4131.171	4625.992
#3	3510.432	44200.61	3291.430	4111.311	4605.741

Sample Name: Q2292-01 Acquired: 6/17/2025 14:39:23 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017197	-.000821	.0037913	-.000368	.0021702	2.378128	.0446226
Stddev	.0004955	.000826	.0014118	.003247	.0032343	.042819	.0000689
%RSD	28.81274	100.6587	37.23711	882.6629	149.0297	1.800523	.1542961
#1	.0021750	.000109	.0053914	.000583	.0048026	2.333010	.0446737
#2	.0011920	-.001472	.0032612	.002298	.0031482	2.383175	.0446498
#3	.0017922	-.001099	.0027213	-.003984	-.001440	2.418200	.0445443
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000019	-.000061	3.107928	.0062300	.0029457	.0248858	3.778545
Stddev	.000091	.000109	.016840	.0004550	.0005029	.0003599	.017422
%RSD	468.1872	180.2026	.5418433	7.303495	17.07084	1.446119	.4610668
#1	-.000100	-.000048	3.099720	.0057050	.0035062	.0251415	3.773922
#2	.000080	.000042	3.127298	.0065094	.0025340	.0244742	3.763901
#3	-.000038	-.000176	3.096765	.0064757	.0027970	.0250415	3.797811
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0633744	1.581200	.0024382	-.000253	9.099543	.0114810	.1010084
Stddev	.0012400	.023114	.0004511	.000290	.033526	.0079788	.0000419
%RSD	1.956550	1.461824	18.50018	114.3200	.3684340	69.49513	.0414503
#1	.0632052	1.554929	.0029246	-.000401	9.124370	.0197403	.1010161
#2	.0622278	1.598417	.0023564	-.000440	9.061406	.0038160	.1009632
#3	.0646903	1.590254	.0020337	.000080	9.112852	.0108868	.1010459
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.541771	.3092004	.0156023	.0062033	.8515590	4.829354	-.000141
Stddev	.021819	.0025187	.0006061	.0003508	.0041493	.003034	.000274
%RSD	.6160481	.8145720	3.884626	5.655947	.4872574	.0628233	194.6177
#1	3.548645	.3063067	.0160992	.0065898	.8491633	4.831928	.000078
#2	3.517342	.3103947	.0157807	.0061150	.8563502	4.826009	-.000052
#3	3.559325	.3108997	.0149271	.0059050	.8491635	4.830125	-.000448

Sample Name: Q2292-01 Acquired: 6/17/2025 14:39:23 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1714870	-.016088	.0116867
Stddev	.0040585	.006796	.0001112
%RSD	2.366670	42.24085	.9517438
#1	.1670459	-.013543	.0118089
#2	.1724117	-.010932	.0116598
#3	.1750034	-.023788	.0115914

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3600.971	46020.45	3239.500	4213.217	4934.935
Stddev	12.243	163.68	19.589	24.507	15.816
%RSD	.3399912	.3556610	.6047034	.5816711	.3205003
#1	3592.088	45894.02	3227.682	4216.869	4925.778
#2	3614.937	46205.33	3262.112	4235.693	4953.199
#3	3595.889	45962.00	3228.706	4187.089	4925.829

Sample Name: CCV02 Acquired: 6/17/2025 14:43:44 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.882624	5.025646	4.898173	4.926788	4.997803	9.907404	10.05331
Stddev	.014491	.006444	.008232	.009468	.009769	.028078	.07742
%RSD	.2967838	.1282235	.1680708	.1921716	.1954673	.2834053	.7700710
#1	4.865898	5.018205	4.888991	4.915916	4.986528	9.876959	10.03596
#2	4.891368	5.029295	4.900636	4.933220	5.003747	9.932280	9.98604
#3	4.890607	5.029438	4.904893	4.931228	5.003134	9.912973	10.13793
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2526186	2.463995	25.19014	1.003987	2.448833	1.263066	4.990494
Stddev	.0019522	.006553	.11244	.002214	.006870	.009649	.016760
%RSD	.7727770	.2659399	.4463551	.2205650	.2805427	.7639495	.3358483
#1	.2504757	2.457133	25.06986	1.001873	2.441375	1.255276	4.978684
#2	.2530844	2.464665	25.20797	1.006290	2.450220	1.260063	4.983122
#3	.2542958	2.470187	25.29261	1.003797	2.454903	1.273860	5.009677
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.485188	24.83812	2.459566	1.268283	25.13663	2.502691	2.505056
Stddev	.013822	.18878	.005901	.004637	.03231	.024033	.015792
%RSD	.5561817	.7600342	.2399130	.3656475	.1285406	.9602968	.6303898
#1	2.480532	24.72529	2.453741	1.264431	25.11389	2.481099	2.486828
#2	2.474296	24.73302	2.459418	1.266988	25.12238	2.498389	2.514586
#3	2.500737	25.05606	2.465540	1.273430	25.17361	2.528585	2.513754
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.00457	5.012659	5.042835	5.021581	4.900059	4.990224	4.966810
Stddev	.06110	.014632	.036416	.008486	.009896	.049356	.014653
%RSD	.2349731	.2918910	.7221409	.1690002	.2019481	.9890529	.2950119
#1	25.93951	5.005891	5.004801	5.012456	4.889826	4.944021	4.951841
#2	26.06074	5.002636	5.046319	5.023049	4.909579	4.984430	4.967465
#3	26.01347	5.029449	5.077383	5.029238	4.900771	5.042221	4.981125

Sample Name: CCV02 Acquired: 6/17/2025 14:43:44 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.986949	5.015032	5.004213
Stddev	.030522	.029740	.031803
%RSD	.6120312	.5930197	.6355257
#1	4.980356	4.980934	4.992026
#2	4.960262	5.035616	4.980306
#3	5.020228	5.028545	5.040307

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3376.875	42051.60	3118.953	3931.681	4349.396
Stddev	1.691	222.36	7.770	13.442	4.299
%RSD	.0500816	.5287694	.2491167	.3418934	.0988467
#1	3378.825	41801.65	3111.800	3917.249	4353.991
#2	3375.995	42125.74	3127.220	3933.950	4348.726
#3	3375.806	42227.41	3117.840	3943.845	4345.471

Sample Name: CCB02 Acquired: 6/17/2025 14:50:04 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009431	.0019307	.0014700	.0002251	.0005451	-.025852	-.000049
Stddev	.0035824	.0019982	.0004156	.0024443	.0012139	.009717	.001143
%RSD	379.8629	103.4973	28.26877	1086.048	222.7060	37.58617	2353.361
#1	.0047050	-.000260	.0019497	-.002552	.0002893	-.024042	-.001138
#2	-.002428	.002399	.0012414	.001179	-.000521	-.036346	-.000149
#3	.000552	.003653	.0012190	.002049	.001866	-.017167	.001141
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000003	.0000230	.0283393	-.000115	.0002339	-.000443	.0156345
Stddev	.000062	.0000631	.0088738	.000537	.0002371	.000334	.0139809
%RSD	1916.311	274.5144	31.31262	466.5869	101.3668	75.58124	89.42339
#1	-.000031	-.000044	.0314106	-.000711	-.000016	-.000394	.0146693
#2	.000068	.000032	.0352694	.000331	.000456	-.000798	.0300729
#3	-.000047	.000081	.0183379	.000034	.000262	-.000135	.0021612
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012176	.0528759	.0003355	.0003194	-.016289	.0046019	.0003656
Stddev	.0020211	.0450955	.0002586	.0004583	.009472	.0043166	.0000807
%RSD	165.9933	85.28544	77.07721	143.4579	58.15179	93.80106	22.06537
#1	.0003522	.0021829	.0003814	.0004877	-.020429	-.000148	.0003683
#2	.0035273	.0885309	.0005679	.0006698	-.022985	.008285	.0004449
#3	-.000227	.0679141	.0000570	-.000199	-.005451	.005669	.0002836
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0191753	.0019119	.0061249	.0006967	.0018389	.0074708	.0026175
Stddev	.0006213	.0008462	.0020263	.0005075	.0018264	.0013426	.0004793
%RSD	3.240070	44.25783	33.08384	72.84247	99.32072	17.97138	18.31180
#1	.0185119	.0028099	.0037859	.0001832	.0021114	.0076076	.0031652
#2	.0192705	.0017965	.0072411	.0011980	.0035138	.0087398	.0022750
#3	.0197436	.0011294	.0073477	.0007088	-.000108	.0060650	.0024122

Sample Name: CCB02 Acquired: 6/17/2025 14:50:04 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0046634	.0010023	.0001441
Stddev	.0004352	.0028247	.0001048
%RSD	9.332530	281.8311	72.70092
#1	.0043663	-.002173	.0002054
#2	.0051629	.001944	.0002038
#3	.0044608	.003235	.0000231

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3513.610	44123.36	3195.654	4097.633	4931.773
Stddev	11.520	221.35	51.530	38.174	14.836
%RSD	.3278772	.5016613	1.612515	.9316079	.3008302
#1	3510.753	44346.47	3251.303	4141.711	4931.877
#2	3503.788	44119.79	3149.588	4075.844	4916.885
#3	3526.290	43903.82	3186.070	4075.344	4946.557

Sample Name: Q2292-02 Acquired: 6/17/2025 14:54:29 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009177	.0032843	.0038331	-.007105	.0040396	.3528635	.0402335
Stddev	.002787	.0017717	.0007710	.000543	.0019017	.0299470	.0015920
%RSD	30.36921	53.94301	20.11442	7.638076	47.07533	8.486852	3.956955
#1	-.012150	.0021005	.0042335	-.006657	.0025331	.3615505	.0403568
#2	-.008756	.0024313	.0029442	-.007708	.0061764	.3195334	.0417603
#3	-.006624	.0053211	.0043214	-.006949	.0034093	.3775067	.0385834
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000032	.0002299	27.70997	.0029332	.0105772	.0203369	.5760633
Stddev	.000089	.0001340	.03236	.0014367	.0002677	.0000990	.0242519
%RSD	283.4243	58.29395	.1167812	48.98113	2.531244	.4866935	4.209934
#1	-.000090	.0003671	27.68063	.0013994	.0108863	.0204174	.5845656
#2	-.000077	.0000993	27.70461	.0031525	.0104255	.0202264	.5949192
#3	.000071	.0002234	27.74468	.0042476	.0104197	.0203669	.5487051
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0509589	3.406062	.0023232	.0015185	592.7135	.0106187	.1222576
Stddev	.0005784	.034325	.0003424	.0005146	2.3867	.0074143	.0001322
%RSD	1.134987	1.007759	14.73998	33.88824	.4026706	69.82329	.1081660
#1	.0504667	3.421743	.0020131	.0010386	593.1381	.0190875	.1221557
#2	.0508142	3.366697	.0026907	.0014550	594.8594	.0074710	.1222100
#3	.0515959	3.429746	.0022659	.0020619	590.1430	.0052975	.1224070
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.767872	.2238676	.0880144	-.000926	21.48550	1.985507	.0003321
Stddev	.065851	.0020549	.0003576	.000034	.02376	.006827	.0003058
%RSD	.8477403	.9179014	.4063125	3.685037	.1105918	.3438242	92.07971
#1	7.695145	.2216982	.0876028	-.000888	21.50987	1.979719	.0000384
#2	7.823458	.2257847	.0882491	-.000937	21.46240	1.983766	.0003092
#3	7.785011	.2241199	.0881913	-.000954	21.48424	1.993035	.0006486

Sample Name: Q2292-02 Acquired: 6/17/2025 14:54:29 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0215035	-.015415	.1146070
Stddev	.0034009	.005829	.0006045
%RSD	15.81557	37.81735	.5274829
#1	.0241743	-.017681	.1139699
#2	.0226615	-.019771	.1146787
#3	.0176749	-.008793	.1151725

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3230.552	38792.23	3121.322	3740.981	3984.055
Stddev	8.360	202.54	11.702	11.881	10.299
%RSD	.2587795	.5221271	.3748992	.3175815	.2585037
#1	3238.742	38685.56	3132.285	3739.350	3995.645
#2	3222.032	38665.33	3109.000	3730.000	3980.568
#3	3230.882	39025.82	3122.682	3753.593	3975.953

Sample Name: Q2293-01 Acquired: 6/17/2025 14:59:08 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002973	-.000682	.0046061	-.000212	.0011461	.8136138	.0060608
Stddev	.001078	.000615	.0015435	.000703	.0027575	.0118037	.0017023
%RSD	36.26979	90.24892	33.50991	331.3104	240.6048	1.450773	28.08705
#1	-.003192	-.000774	.0035533	-.000610	-.000537	.8270851	.0065813
#2	-.003924	-.001245	.0038870	-.000626	.004328	.8050837	.0074421
#3	-.001802	-.000025	.0063779	.000600	-.000353	.8086724	.0041590
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000202	-.000059	2.880510	-.000208	.0022003	.0152388	1.567477
Stddev	.000081	.000056	.008396	.000755	.0002094	.0010209	.047179
%RSD	40.23993	94.50795	.2914877	363.5277	9.516824	6.699635	3.009885
#1	-.000133	-.000108	2.883147	.000653	.0020105	.0152689	1.542999
#2	-.000292	-.000071	2.887271	-.000515	.0024249	.0162444	1.537567
#3	-.000182	.000002	2.871111	-.000761	.0021654	.0142031	1.621865
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1296371	.5810186	.0013794	-.000150	8.817267	.0102630	.0681083
Stddev	.0005786	.0066126	.0004094	.000364	.068649	.0050235	.0005607
%RSD	.4463091	1.138104	29.67467	242.2490	.7785764	48.94806	.8233085
#1	.1298474	.5817220	.0014520	-.000252	8.784318	.0158959	.0685680
#2	.1289828	.5740825	.0017477	-.000452	8.896179	.0086457	.0674836
#3	.1300811	.5872514	.0009387	.000254	8.771303	.0062473	.0682735
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.232846	.3399120	.0343561	.0007478	.7557854	2.566713	-.000787
Stddev	.034054	.0013017	.0012563	.0003531	.0016940	.021416	.000709
%RSD	.8045080	.3829464	3.656572	47.21126	.2241389	.8343898	90.17028
#1	4.211275	.3385740	.0357223	.0010877	.7538383	2.569995	-.000336
#2	4.272103	.3411740	.0340953	.0007729	.7565972	2.586298	-.000419
#3	4.215159	.3399879	.0332508	.0003829	.7569208	2.543844	-.001605

Sample Name: Q2293-01 Acquired: 6/17/2025 14:59:08 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0314169	-.016336	.0208595
Stddev	.0032909	.002826	.0002058
%RSD	10.47491	17.29844	.9866458
#1	.0293474	-.017533	.0207886
#2	.0296915	-.018366	.0206986
#3	.0352117	-.013109	.0210914

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3626.954	45961.33	3251.430	4229.507	4981.238
Stddev	1.678	142.68	29.863	14.464	7.354
%RSD	.0462711	.3104453	.9184612	.3419709	.1476255
#1	3627.947	46118.81	3276.536	4236.648	4988.119
#2	3625.017	45924.53	3218.406	4239.011	4982.106
#3	3627.900	45840.65	3259.349	4212.861	4973.489

Sample Name: Q2312-01 Acquired: 6/17/2025 15:03:29 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0277887	-.002214	.2005242	.0295592	.0128570	110.8769	.9751470
Stddev	.0025818	.003245	.0009968	.0015052	.0029165	.1625	.0014731
%RSD	9.290862	146.5313	.4971036	5.092240	22.68385	.1465591	.1510618
#1	.0277422	-.003149	.2013116	.0309972	.0097055	111.0610	.9763565
#2	.0252304	-.004890	.2008577	.0296856	.0134049	110.7534	.9735065
#3	.0303934	.001395	.1994034	.0279948	.0154607	110.8162	.9755781
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074067	-.002646	16.05039	.1364712	.0920341	.2275087	200.4965
Stddev	.0001564	.000018	.04779	.0004928	.0004699	.0021942	.6440
%RSD	2.111389	.6682667	.2977629	.3610753	.5106125	.9644364	.3212007
#1	.0075635	-.002650	16.10430	.1369760	.0925764	.2295701	201.2286
#2	.0072507	-.002626	16.01322	.1359915	.0917791	.2252023	200.2436
#3	.0074060	-.002661	16.03366	.1364463	.0917467	.2277537	200.0174
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.419005	30.08982	.1792673	.0097497	23.17736	.2486828	.4104591
Stddev	.028968	.01900	.0003756	.0002220	.29027	.0042194	.0011711
%RSD	.3904561	.0631580	.2095207	2.277080	1.252403	1.696711	.2853211
#1	7.448504	30.08415	.1790435	.0095725	23.40012	.2442268	.4114129
#2	7.390599	30.07430	.1797009	.0096778	22.84909	.2492045	.4091520
#3	7.417911	30.11102	.1790574	.0099987	23.28286	.2526171	.4108125
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.51862	9.933715	.1006162	.0021285	.7051400	8.649231	.0213032
Stddev	.21719	.011363	.0021521	.0004398	.0034268	.137421	.0003452
%RSD	1.734918	.1143856	2.138917	20.66455	.4859729	1.588822	1.620206
#1	12.64874	9.933866	.0991427	.0017633	.7086258	8.782148	.0211388
#2	12.26790	9.922277	.1030859	.0020054	.7017754	8.507710	.0216998
#3	12.63924	9.945001	.0996200	.0026168	.7050188	8.657836	.0210709

Sample Name: Q2312-01 Acquired: 6/17/2025 15:03:29 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.100545	.1475102	.1851742
Stddev	.010598	.0025042	.0002785
%RSD	.5045579	1.697624	.1503693
#1	2.112782	.1479199	.1852293
#2	2.094570	.1448265	.1848722
#3	2.094284	.1497843	.1854209

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4214.325	51303.62	3914.578	4843.690	4351.274
Stddev	14.969	295.11	21.423	25.921	21.647
%RSD	.3552046	.5752207	.5472717	.5351574	.4974882
#1	4209.818	51504.17	3894.439	4858.950	4340.302
#2	4231.030	50964.76	3937.088	4813.761	4376.210
#3	4202.126	51441.93	3912.208	4858.360	4337.310

Sample Name: Q2319-01 Acquired: 6/17/2025 15:07:53 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0227747	.0008404	.2187121	.0471943	.0219153	154.2451	1.380689
Stddev	.0013243	.0022867	.0022624	.0036949	.0011004	.0584	.005162
%RSD	5.814954	272.0850	1.034412	7.829072	5.021183	.0378408	.3738386
#1	.0241622	.0033303	.2213237	.0513232	.0217973	154.1947	1.375348
#2	.0215242	-.001166	.2174614	.0460605	.0230699	154.3090	1.385650
#3	.0226378	.000357	.2173513	.0441991	.0208786	154.2314	1.381070
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106554	-.004577	18.59945	.2298432	.1698592	.1990977	324.4444
Stddev	.0001366	.000147	.01993	.0006019	.0005257	.0006863	.6068
%RSD	1.282059	3.202444	.1071600	.2618938	.3094795	.3447015	.1870349
#1	.0106125	-.004552	18.61440	.2291502	.1693713	.1988798	325.0566
#2	.0108083	-.004734	18.57682	.2301436	.1704159	.1985468	324.4335
#3	.0105454	-.004444	18.60713	.2302358	.1697904	.1998665	323.8431
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.21485	66.98842	.3337077	.0146519	6.773833	.3447427	.7015681
Stddev	.05024	.24611	.0007228	.0004136	.023194	.0035385	.0050479
%RSD	.4112962	.3673851	.2165980	2.822514	.3424058	1.026412	.7195244
#1	12.16925	66.78344	.3341118	.0151085	6.780790	.3430577	.7058611
#2	12.20659	66.92045	.3341381	.0145449	6.747956	.3423616	.6960070
#3	12.26870	67.26136	.3328732	.0143024	6.792752	.3488088	.7028363
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.73393	4.928840	.1896096	.0029020	.6627391	4.147406	.0191749
Stddev	.08479	.005507	.0021710	.0003922	.0024855	.019574	.0008633
%RSD	.3295049	.1117342	1.144986	13.51345	.3750277	.4719553	4.502167
#1	25.82918	4.922491	.1900866	.0024582	.6599300	4.139594	.0194286
#2	25.66667	4.932320	.1915024	.0030459	.6646530	4.132944	.0182133
#3	25.70593	4.931710	.1872398	.0032019	.6636342	4.169680	.0198830

Sample Name: Q2319-01 Acquired: 6/17/2025 15:07:53 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.556710	.3663253	.1233858
Stddev	.008500	.0010153	.0002489
%RSD	.2389954	.2771694	.2017595
#1	3.549761	.3662963	.1231130
#2	3.554182	.3673548	.1234437
#3	3.566188	.3653247	.1236006

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4067.606	50045.11	3814.663	4740.002	4288.678
Stddev	10.198	149.37	4.109	14.116	12.206
%RSD	.2507192	.2984786	.1077233	.2978141	.2846093
#1	4067.941	49897.18	3819.338	4724.586	4293.963
#2	4077.632	50042.26	3813.033	4752.297	4297.350
#3	4057.244	50195.89	3811.619	4743.123	4274.720

Sample Name: Q2322-01 Acquired: 6/17/2025 15:12:15 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0577202	-.003883	.8764269	.0170677	.0217408	84.05214	.6793974
Stddev	.0031538	.000181	.0018045	.0018436	.0005095	.49253	.0044595
%RSD	5.463980	4.668770	.2058889	10.80177	2.343339	.5859799	.6563890
#1	.0543981	-.003683	.8749791	.0158051	.0218529	83.87848	.6789094
#2	.0580893	-.004036	.8758531	.0191834	.0221849	84.60798	.6840808
#3	.0606733	-.003930	.8784485	.0162147	.0211846	83.66997	.6752019
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050055	-.001268	389.5439	.1985497	.1242249	1.028466	194.6209
Stddev	.0000828	.000007	2.3929	.0005300	.0004918	.006942	1.2763
%RSD	1.653843	.5573094	.6142931	.2669363	.3958884	.6749441	.6557945
#1	.0050067	-.001261	389.2559	.1991351	.1241270	1.025221	194.5736
#2	.0050878	-.001275	392.0677	.1981025	.1237894	1.036436	195.9202
#3	.0049222	-.001267	387.3079	.1984115	.1247583	1.023741	193.3689
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.172391	198.1569	.2244428	.0085781	4.700916	.3496483	.9262334
Stddev	.024286	1.3762	.0012032	.0003078	.013292	.0088332	.0032830
%RSD	.7655539	.6944789	.5361015	3.588407	.2827592	2.526319	.3544462
#1	3.166887	198.1233	.2253641	.0082252	4.696398	.3488981	.9231094
#2	3.198956	199.5495	.2230815	.0087182	4.715878	.3588327	.9259357
#3	3.151328	196.7978	.2248828	.0087910	4.690471	.3412140	.9296551
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.13991	6.957242	.4545495	-.002067	5.912691	6.149641	.0891977
Stddev	.18873	.009437	.0022310	.000180	.010376	.080532	.0010202
%RSD	1.436298	.1356415	.4908116	8.703627	.1754926	1.309533	1.143707
#1	13.35622	6.948725	.4536764	-.002016	5.901060	6.105736	.0898861
#2	13.05474	6.955614	.4570850	-.001919	5.916015	6.242584	.0896812
#3	13.00878	6.967387	.4528872	-.002267	5.920999	6.100603	.0880256

Sample Name: Q2322-01 Acquired: 6/17/2025 15:12:15 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.158638	.1605002	.4962251
Stddev	.037150	.0041644	.0034317
%RSD	.8933298	2.594648	.6915635
#1	4.149905	.1564101	.4957885
#2	4.199377	.1647352	.4998542
#3	4.126632	.1603554	.4930326

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3846.281	47251.18	3760.047	4460.087	3951.540
Stddev	1.590	328.58	20.434	21.976	.336
%RSD	.0413317	.6953979	.5434589	.4927326	.0085120
#1	3845.718	46971.75	3741.231	4436.865	3951.406
#2	3845.050	47613.17	3757.125	4480.558	3951.923
#3	3848.076	47168.62	3781.785	4462.837	3951.292

Sample Name: Q2323-01 Acquired: 6/17/2025 15:16:35 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0283193	-.016983	.3220483	.0379356	.0288619	119.1371	1.013481
Stddev	.0007403	.002644	.0010467	.0024838	.0011760	.1780	.009121
%RSD	2.613997	15.57077	.3250002	6.547379	4.074488	.1494108	.8999680
#1	.0274659	-.019859	.3232568	.0375075	.0284276	118.9318	1.004712
#2	.0287874	-.016432	.3214556	.0356937	.0301932	119.2309	1.012816
#3	.0287048	-.014657	.3214325	.0406056	.0279648	119.2485	1.022917
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065448	-.003014	75.32847	.2777154	.2028652	.5346930	288.1523
Stddev	.0000544	.000086	.22778	.0012519	.0002227	.0088898	.9414
%RSD	.8306141	2.853057	.3023861	.4507913	.1097866	1.662592	.3267094
#1	.0065502	-.002926	75.12910	.2776824	.2028735	.5293731	287.0737
#2	.0064880	-.003098	75.27958	.2789836	.2030836	.5297502	288.5741
#3	.0065964	-.003017	75.57672	.2764804	.2026384	.5449557	288.8091
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.616351	58.14854	.2883909	.0126702	5.535662	.5699458	.6719122
Stddev	.046466	.44668	.0014322	.0010592	.093926	.0051232	.0048732
%RSD	.4831951	.7681718	.4966046	8.359489	1.696744	.8988910	.7252790
#1	9.579799	57.77183	.2900392	.0117215	5.468030	.5654068	.6685091
#2	9.600611	58.03178	.2874512	.0138130	5.496052	.5689298	.6697327
#3	9.668642	58.64200	.2876822	.0124762	5.642905	.5755009	.6774948
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.268690	6.419596	.4646241	-.002095	4.066727	4.540597	.0583019
Stddev	.084798	.005365	.0042048	.000761	.004740	.102870	.0002814
%RSD	.9148834	.0835688	.9049985	36.32940	.1165486	2.265550	.4826921
#1	9.194821	6.414554	.4607667	-.001969	4.063292	4.473506	.0583165
#2	9.249962	6.419001	.4639991	-.001404	4.072134	4.489254	.0585758
#3	9.361285	6.425234	.4691064	-.002910	4.064753	4.659032	.0580135

Sample Name: Q2323-01 Acquired: 6/17/2025 15:16:35 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.450672	.1449848	.2167539
Stddev	.031282	.0014552	.0015152
%RSD	.4849445	1.003702	.6990478
#1	6.426215	.1466598	.2155921
#2	6.439879	.1442635	.2162019
#3	6.485921	.1440311	.2184677

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4058.978	49837.96	3846.504	4722.671	4235.874
Stddev	13.445	161.41	58.314	18.656	13.458
%RSD	.3312331	.3238601	1.516039	.3950298	.3177225
#1	4065.164	49931.78	3884.923	4728.469	4238.655
#2	4043.553	49651.58	3875.186	4737.739	4221.242
#3	4068.216	49930.51	3779.403	4701.804	4247.724

Sample Name: Q2324-01 Acquired: 6/17/2025 15:20:57 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0243563	-.029693	.1984491	.0432408	.0217324	120.5139	.7837721
Stddev	.0053781	.002367	.0008991	.0019423	.0003856	.2171	.0047558
%RSD	22.08087	7.972376	.4530522	4.491904	1.774105	.1801515	.6067828
#1	.0246172	-.029549	.1976929	.0454782	.0212872	120.4358	.7862111
#2	.0188525	-.032130	.1982113	.0422571	.0219546	120.7593	.7868136
#3	.0295992	-.027402	.1994432	.0419871	.0219554	120.3468	.7782916
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0092095	-.004271	27.78358	.1886055	.1487566	.3600564	296.6211
Stddev	.0000930	.000066	.02503	.0011627	.0004286	.0035889	.3318
%RSD	1.009472	1.555406	.0900815	.6164745	.2881314	.9967623	.1118470
#1	.0091101	-.004194	27.76396	.1899206	.1492514	.3604656	296.5189
#2	.0092944	-.004312	27.81177	.1877139	.1485174	.3634232	296.9920
#3	.0092241	-.004307	27.77501	.1881819	.1485009	.3562804	296.3525
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.279386	43.49086	.1460282	.0134016	7.035524	.4214774	.4429041
Stddev	.010239	.24009	.0005017	.0005709	.059588	.0042641	.0012463
%RSD	.4492092	.5520455	.3435620	4.260279	.8469654	1.011704	.2814003
#1	2.281193	43.42894	.1465026	.0127469	7.041866	.4202628	.4441550
#2	2.288602	43.75584	.1455031	.0137955	7.091688	.4179524	.4428949
#3	2.268364	43.28780	.1460788	.0136627	6.973018	.4262170	.4416624
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.08516	6.048155	.1435666	.0048963	1.406582	4.476611	.0214728
Stddev	.16959	.009380	.0045521	.0004448	.007310	.044272	.0005922
%RSD	.9377521	.1550955	3.170748	9.084205	.5196843	.9889554	2.757737
#1	18.16096	6.052944	.1436453	.0045326	1.399388	4.455975	.0218077
#2	18.20364	6.037347	.1389756	.0053922	1.406355	4.527433	.0218216
#3	17.89089	6.054175	.1480789	.0047640	1.414002	4.446424	.0207890

Sample Name: Q2324-01 Acquired: 6/17/2025 15:20:57 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	7.139879	.0697172	.2491103
Stddev	.023015	.0039228	.0010378
%RSD	.3223375	5.626709	.4165894
#1	7.131052	.0686273	.2498866
#2	7.166000	.0740696	.2495127
#3	7.122585	.0664546	.2479316

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4351.799	53919.78	4038.023	5086.108	4333.671
Stddev	9.859	336.43	26.385	35.405	8.819
%RSD	.2265501	.6239364	.6534260	.6961110	.2035102
#1	4352.953	53661.37	4030.140	5059.621	4337.769
#2	4361.030	54300.19	4016.477	5126.321	4339.696
#3	4341.414	53797.80	4067.451	5072.383	4323.548

Sample Name: Q2325-01 Acquired: 6/17/2025 15:25:18 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0661471	.0053346	2.132882	.0328373	.0175461	120.5467	1.715606
Stddev	.0037285	.0018277	.003164	.0032754	.0028824	.2455	.002331
%RSD	5.636658	34.26083	.1483642	9.974626	16.42760	.2036793	.1358856
#1	.0657356	.0059541	2.136477	.0343712	.0195971	120.3463	1.712987
#2	.0700643	.0032777	2.131652	.0350643	.0187906	120.8206	1.717456
#3	.0626415	.0067720	2.130517	.0290765	.0142505	120.4733	1.716373
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0091668	-.002415	60.80478	.1526729	.1295290	.5576831	224.5596
Stddev	.0000404	.000066	.05404	.0004250	.0004297	.0082753	.5237
%RSD	.4405933	2.716175	.0888735	.2783600	.3317320	1.483879	.2332290
#1	.0091628	-.002396	60.79229	.1525826	.1300172	.5560388	223.9870
#2	.0091285	-.002489	60.86397	.1523004	.1293612	.5666572	225.0144
#3	.0092090	-.002362	60.75808	.1531358	.1292084	.5503534	224.6772
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.280128	30.29572	.2089455	.0132101	13.78273	.2529124	.6121969
Stddev	.015800	.05859	.0004284	.0009037	.15860	.0059451	.0033516
%RSD	.1702543	.1933924	.2050146	6.840869	1.150714	2.350652	.5474771
#1	9.288168	30.34200	.2094070	.0131759	13.74810	.2513543	.6152621
#2	9.290290	30.31531	.2088690	.0123240	13.95578	.2594813	.6086181
#3	9.261925	30.22985	.2085606	.0141304	13.64430	.2479014	.6127103
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.964590	13.32907	.1049616	-.002363	4.130557	8.821787	.1292275
Stddev	.083586	.02111	.0021538	.000355	.011601	.145479	.0009263
%RSD	1.049465	.1583642	2.052019	15.01700	.2808572	1.649092	.7168030
#1	7.889638	13.35219	.1031862	-.002100	4.143904	8.836356	.1282323
#2	8.054727	13.31081	.1043410	-.002766	4.124869	8.959434	.1293859
#3	7.949407	13.32422	.1073576	-.002221	4.122897	8.669571	.1300645

Sample Name: Q2325-01 Acquired: 6/17/2025 15:25:18 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.472151	.1300096	.3399271
Stddev	.002725	.0057100	.0008184
%RSD	.1102220	4.391972	.2407574
#1	2.469691	.1360977	.3392825
#2	2.471683	.1247735	.3408479
#3	2.475080	.1291577	.3396509

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4431.901	53516.64	4125.727	5088.152	4289.613
Stddev	16.341	375.55	35.792	51.957	14.659
%RSD	.3687198	.7017397	.8675205	1.021130	.3417372
#1	4439.859	53426.28	4121.663	5050.170	4292.025
#2	4442.740	53929.12	4092.142	5147.362	4302.916
#3	4413.106	53194.52	4163.378	5066.926	4273.897

Sample Name: Q2325-01DUP Acquired: 6/17/2025 15:29:40 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0605468	.0035860	2.023617	.0248527	.0145347	114.3448	1.439594
Stddev	.0018725	.0034671	.005814	.0074186	.0007217	6.8375	.085206
%RSD	3.092708	96.68543	.2873024	29.85014	4.965297	5.979696	5.918728
#1	.0592170	-.000147	2.022896	.0330351	.0137986	121.0555	1.524258
#2	.0626883	.004199	2.018197	.0185657	.0152410	107.3873	1.353857
#3	.0597352	.006706	2.029757	.0229574	.0145645	114.5917	1.440669
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0090011	-.001871	60.22974	.1395288	.1153407	.4320054	200.6863
Stddev	.0004041	.000542	3.60833	.0011313	.0005251	.0207032	11.8215
%RSD	4.489692	28.98687	5.990943	.8107936	.4552141	4.792337	5.890520
#1	.0093843	-.002472	63.80518	.1385451	.1149639	.4530606	212.2723
#2	.0085789	-.001416	56.58940	.1407650	.1159405	.4116732	188.6427
#3	.0090401	-.001726	60.29463	.1392762	.1151178	.4312824	201.1439
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.340576	27.77979	.1990884	.0121060	13.05238	.2313385	.5775648
Stddev	.381399	1.67307	.0009368	.0013427	.57016	.0155621	.0018997
%RSD	6.015209	6.022605	.4705561	11.09104	4.368246	6.726974	.3289186
#1	6.721698	29.46220	.1982240	.0134946	13.62369	.2430965	.5773266
#2	5.958901	26.11623	.1989574	.0108145	12.48337	.2136913	.5757954
#3	6.341128	27.76095	.2000839	.0120090	13.05007	.2372277	.5795723
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.113826	12.13344	.0898032	-.002646	3.743627	4.468276	.1736413
Stddev	.318401	.02792	.0087579	.000392	.006501	.188144	.0007800
%RSD	4.475803	.2300932	9.752343	14.82756	.1736613	4.210651	.4491917
#1	7.430506	12.10348	.0962695	-.002469	3.738875	4.660426	.1745194
#2	6.793732	12.13812	.0798364	-.002373	3.740970	4.284413	.1730291
#3	7.117239	12.15872	.0933036	-.003096	3.751036	4.459988	.1733752

Sample Name: Q2325-01DUP Acquired: 6/17/2025 15:29:40 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.959467	.1247493	.3264079
Stddev	.116466	.0048390	.0187111
%RSD	5.943751	3.879009	5.732438
#1	2.072903	.1282266	.3450887
#2	1.840191	.1267985	.3076665
#3	1.965308	.1192228	.3264686

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4505.898	55211.69	4205.686	5268.646	4400.594
Stddev	10.419	112.49	178.185	14.996	5.107
%RSD	.2312400	.2037451	4.236763	.2846335	.1160482
#1	4506.517	55335.20	4035.002	5275.485	4404.676
#2	4495.182	55115.12	4390.527	5279.004	4394.867
#3	4515.994	55184.74	4191.530	5251.449	4402.238

Sample Name: Q2325-01LX5 Acquired: 6/17/2025 15:34:01 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138234	.0031863	.4443402	.0057409	.0057178	31.21356	.4372079
Stddev	.0016499	.0010096	.0014650	.0013373	.0016001	.04305	.0014376
%RSD	11.93542	31.68602	.3297017	23.29345	27.98378	.1379325	.3288085
#1	.0157225	.0043456	.4429079	.0072648	.0061751	31.26206	.4364751
#2	.0130053	.0024999	.4442770	.0047628	.0039388	31.19876	.4388642
#3	.0127425	.0027136	.4458358	.0051952	.0070393	31.17985	.4362844
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025060	-.001093	15.84539	.0384096	.0298689	.1522586	58.53511
Stddev	.0000851	.000063	.04370	.0007174	.0001457	.0010901	.18838
%RSD	3.394777	5.811360	.2757761	1.867704	.4876560	.7159728	.3218229
#1	.0024435	-.001073	15.89558	.0382160	.0299468	.1510416	58.64460
#2	.0026028	-.001041	15.81574	.0392040	.0299591	.1525889	58.64313
#3	.0024716	-.001164	15.82487	.0378090	.0297009	.1531454	58.31759
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.438366	8.043400	.0423471	.0034499	3.566280	.0688591	.1585811
Stddev	.002245	.069659	.0008947	.0007319	.024788	.0005570	.0001632
%RSD	.0920524	.8660447	2.112774	21.21574	.6950541	.8089413	.1029278
#1	2.436195	8.019642	.0432447	.0037832	3.538217	.0687525	.1584542
#2	2.438226	8.121830	.0414553	.0039558	3.575433	.0694617	.1587652
#3	2.440678	7.988726	.0423413	.0026106	3.585188	.0683630	.1585238
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.737301	2.678909	.0264627	-.001976	.8174688	2.444973	.0257774
Stddev	.009607	.004866	.0013716	.000429	.0022629	.037336	.0013763
%RSD	.5529900	.1816390	5.183135	21.69031	.2768131	1.527033	5.339150
#1	1.726492	2.684445	.0280465	-.001789	.8176358	2.403671	.0248926
#2	1.744868	2.676971	.0256765	-.001672	.8196435	2.454923	.0273631
#3	1.740543	2.675310	.0256652	-.002466	.8151270	2.476326	.0250765

Sample Name: Q2325-01LX5 Acquired: 6/17/2025 15:34:01 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6312103	.0264116	.0879327
Stddev	.0064712	.0038167	.0001285
%RSD	1.025212	14.45077	.1460881
#1	.6250723	.0303178	.0880775
#2	.6305886	.0262257	.0878882
#3	.6379699	.0226913	.0878324

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3725.925	46194.89	3392.156	4340.838	4670.761
Stddev	11.759	231.26	24.867	15.243	6.479
%RSD	.3156114	.5006213	.7330762	.3511610	.1387241
#1	3727.079	46346.78	3420.802	4353.547	4672.798
#2	3737.064	45928.74	3379.536	4323.937	4675.977
#3	3713.631	46309.16	3376.129	4345.031	4663.508

Sample Name: CCV03 Acquired: 6/17/2025 15:38:18 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.740394	4.890484	4.741339	4.773239	4.855672	9.898098	9.713265
Stddev	.015405	.008047	.010417	.014792	.003427	.076158	.106789
%RSD	.3249823	.1645371	.2197026	.3098900	.0705831	.7694219	1.099413
#1	4.758005	4.898883	4.745104	4.772224	4.853831	9.892708	9.719616
#2	4.729414	4.882844	4.729564	4.758982	4.853559	9.824779	9.603443
#3	4.733763	4.889723	4.749350	4.788513	4.859627	9.976808	9.816737
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2469835	2.396754	24.42838	.9812190	2.368361	1.232873	4.868518
Stddev	.0020919	.004186	.09251	.0053282	.003367	.009057	.030626
%RSD	.8469936	.1746528	.3786817	.5430160	.1421697	.7346311	.6290687
#1	.2464991	2.401105	24.38464	.9783262	2.371172	1.233853	4.861120
#2	.2451762	2.396403	24.36585	.9873679	2.364629	1.223366	4.842268
#3	.2492751	2.392755	24.53464	.9779629	2.369282	1.241400	4.902165
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.397339	23.79463	2.387913	1.234543	24.38918	2.389203	2.424259
Stddev	.016408	.12928	.006624	.002133	.26654	.034532	.009309
%RSD	.6844170	.5433015	.2773907	.1727772	1.092868	1.445319	.3839913
#1	2.395676	23.83607	2.395138	1.236625	24.36026	2.400838	2.429816
#2	2.381827	23.64971	2.382126	1.234641	24.13827	2.350357	2.429449
#3	2.414516	23.89810	2.386475	1.232362	24.66900	2.416414	2.413512
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.11109	4.910746	4.925637	4.886258	4.756801	4.868191	4.841747
Stddev	.38401	.008586	.029127	.006327	.002664	.039878	.007866
%RSD	1.529264	.1748323	.5913277	.1294818	.0560138	.8191528	.1624593
#1	25.27827	4.920547	4.916626	4.890396	4.758416	4.851016	4.850153
#2	24.67182	4.904555	4.902081	4.889403	4.753726	4.839778	4.834565
#3	25.38317	4.907135	4.958205	4.878975	4.758262	4.913778	4.840522

Sample Name: CCV03 Acquired: 6/17/2025 15:38:18 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.826913	4.820232	4.836632
Stddev	.039382	.018140	.037964
%RSD	.8158929	.3763250	.7849367
#1	4.840305	4.826470	4.837432
#2	4.782581	4.799796	4.798273
#3	4.857853	4.834430	4.874190

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3387.738	42328.66	3135.352	3979.831	4363.695
Stddev	16.948	304.19	43.718	37.619	22.234
%RSD	.5002661	.7186288	1.394355	.9452510	.5095153
#1	3386.911	42031.70	3120.012	3945.325	4356.378
#2	3371.219	42639.59	3184.673	4019.936	4346.042
#3	3405.084	42314.70	3101.373	3974.233	4388.666

Sample Name: CCB03 Acquired: 6/17/2025 15:42:33 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034259	.0033284	.0000612	-.002271	.0000126	-.030534	-.000742
Stddev	.0012533	.0008886	.0002426	.000821	.0008961	.021139	.000983
%RSD	36.58337	26.69765	396.0961	36.13613	7104.842	69.23179	132.4544
#1	.0045952	.0043169	.0000109	-.002215	-.000938	-.007304	-.000383
#2	.0021028	.0025959	-.000152	-.003118	.000135	-.048640	.000011
#3	.0035798	.0030725	.000325	-.001480	.000841	-.035658	-.001854
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000173	-.000042	.0093914	-.000880	-.000039	.0003326	.0275489
Stddev	.0000636	.000032	.0064778	.000064	.000228	.0008796	.0263764
%RSD	366.6838	76.62995	68.97567	7.231429	576.6446	264.4436	95.74409
#1	.0000750	-.000016	.0054061	-.000816	.000097	-.000492	.0325260
#2	.0000278	-.000077	.0059022	-.000880	-.000302	.000231	-.000962
#3	-.000051	-.000032	.0168658	-.000943	.000086	.001259	.051082
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001504	-.014299	.0004988	.0006049	-.018885	.0075602	.0000067
Stddev	.0015771	.033545	.0004782	.0008267	.011602	.0082736	.0003628
%RSD	1048.386	234.5968	95.87557	136.6622	61.43439	109.4359	5381.850
#1	-.000179	.010306	.0010082	.0004008	-.008276	.0069845	-.000407
#2	.001866	-.000693	.0000595	-.000101	-.017106	-.000410	.000268
#3	-.001236	-.052509	.0004288	.001515	-.031274	.016107	.000159
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0032100	.0006149	.0095085	.0002875	-.002446	.0055513	.0006018
Stddev	.0011301	.0019588	.0011527	.0004173	.002988	.0011186	.0003501
%RSD	35.20648	318.5858	12.12329	145.1463	122.1613	20.14972	58.16912
#1	.0043665	.0004907	.0107799	-.000191	.000399	.0045226	.0001993
#2	.0021082	-.001279	.0092140	.000575	-.002177	.0053893	.0007711
#3	.0031555	.002633	.0085316	.000478	-.005559	.0067421	.0008351

Sample Name: CCB03 Acquired: 6/17/2025 15:42:33 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0007689	-.008823	-.000126
Stddev	.0007253	.006091	.000400
%RSD	94.32887	69.03111	316.0600
#1	.0000135	-.007210	.000326
#2	.0008334	-.015559	-.000275
#3	.0014597	-.003702	-.000430

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3595.040	44988.43	3244.133	4184.451	5068.826
Stddev	26.695	42.42	45.931	9.964	38.714
%RSD	.7425577	.0942848	1.415819	.2381094	.7637677
#1	3567.493	44979.73	3191.097	4191.805	5027.932
#2	3620.793	45034.52	3270.515	4173.111	5104.910
#3	3596.834	44951.03	3270.788	4188.436	5073.635

Sample Name: Q2325-01MS Acquired: 6/17/2025 15:46:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8401980	1.977347	2.869815	1.450205	.2594601	126.7809
Stddev	.0018473	.002582	.003498	.003658	.0027735	.3302
%RSD	.2198634	.1305949	.1218850	.2522111	1.068953	.2604517
#1	.8418495	1.977952	2.872130	1.448307	.2564221	126.5444
#2	.8382031	1.974516	2.865792	1.447887	.2618567	126.6401
#3	.8405413	1.979574	2.871525	1.454422	.2601016	127.1581
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.696339	.1695454	.1982830	73.92634	.4589685	.3200299
Stddev	.014074	.0015968	.0003759	.29355	.0019883	.0012401
%RSD	.8296461	.9418358	.1895871	.3970904	.4332144	.3874932
#1	1.692887	.1677031	.1984328	73.73646	.4569842	.3186014
#2	1.684312	.1705315	.1985608	73.77811	.4589606	.3208302
#3	1.711817	.1704017	.1978552	74.26446	.4609608	.3206581
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6872608	201.3760	7.010660	31.05386	.7185032	.0709615
Stddev	.0055446	.3131	.036697	.24569	.0008889	.0004649
%RSD	.8067642	.1554622	.5234423	.7911796	.1237110	.6550786
#1	.6808822	201.1252	7.003737	30.90684	.7175029	.0712960
#2	.6899731	201.2760	6.977918	30.91724	.7192024	.0704307
#3	.6909271	201.7269	7.050326	31.33749	.7188042	.0711577
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.94256	.4726031	.7962087	16.04018	F 25.54447	.2713154
Stddev	.10583	.0045086	.0032759	.24253	.01659	.0017744
%RSD	.7082221	.9539817	.4114385	1.512007	.0649346	.6540191
#1	14.82118	.4685666	.7979538	15.76709	25.52604	.2692890
#2	14.99108	.4774687	.7982427	16.23045	25.54916	.2720662
#3	15.01544	.4717740	.7924297	16.12299	25.55821	.2725910

Sample Name: Q2325-01MS Acquired: 6/17/2025 15:46:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3037655	3.593015	11.09532	.8216526	2.064383	.2987718
Stddev	.0005043	.013660	.16002	.0012162	.007415	.0040533
%RSD	.1660332	.3801943	1.442200	.1480222	.3592081	1.356652
#1	.3042233	3.606359	10.91734	.8207091	2.060266	.3010210
#2	.3032249	3.593627	11.22730	.8230252	2.059939	.3012017
#3	.3038483	3.579059	11.14133	.8212234	2.072943	.2940926

Elem	Sr4077
Units	ppm
Avg	.5492972
Stddev	.0031609
%RSD	.5754456
#1	.5477255
#2	.5472303
#3	.5529359

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4413.672	53988.80	4094.605	5134.702	4326.014
Stddev	8.216	271.02	22.386	29.604	5.689
%RSD	.1861503	.5020021	.5467160	.5765440	.1315175
#1	4404.841	53762.08	4119.651	5100.578	4320.235
#2	4421.089	54288.99	4087.620	5150.020	4331.610
#3	4415.086	53915.33	4076.545	5153.509	4326.197

Sample Name: Q2325-01MSD Acquired: 6/17/2025 15:51:14 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8400456	1.957584	3.096017	1.449847	.2758834	136.3939	1.690417
Stddev	.0060415	.006907	.009418	.001549	.0015986	.4881	.006528
%RSD	.7191812	.3528294	.3041878	.1068707	.5794415	.3578325	.3861506
#1	.8330840	1.951247	3.086544	1.448918	.2741941	136.9573	1.694695
#2	.8439153	1.964946	3.105379	1.448987	.2773724	136.1234	1.693651
#3	.8431374	1.956560	3.096127	1.451635	.2760836	136.1009	1.682903
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1700812	.1973721	54.72984	.4749918	.3262936	.7292061	209.5010
Stddev	.0012799	.0003051	.19715	.0018800	.0010453	.0069130	.6086
%RSD	.7525034	.1546029	.3602156	.3957956	.3203606	.9480170	.2905050
#1	.1705065	.1970514	54.95498	.4769886	.3257223	.7340156	210.0116
#2	.1710943	.1974062	54.58811	.4747312	.3256585	.7323186	209.6641
#3	.1686429	.1976588	54.64643	.4732558	.3275001	.7212840	208.8275
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.529413	34.51982	.7277843	.0712141	15.88059	.4961870	.7899872
Stddev	.030363	.21681	.0017795	.0004203	.19993	.0032928	.0007615
%RSD	.5491118	.6280635	.2445090	.5902407	1.258966	.6636139	.0963967
#1	5.564015	34.73219	.7259137	.0715391	16.08322	.4987599	.7908531
#2	5.517002	34.52842	.7279833	.0713636	15.87509	.4924762	.7894216
#3	5.507222	34.29884	.7294559	.0707394	15.68347	.4973248	.7896870
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.40564	17.20179	.2750739	.3035445	3.640525	9.886137	.8269998
Stddev	.19234	.00809	.0015511	.0003551	.006569	.036752	.0012372
%RSD	1.105035	.0470297	.5638906	.1169770	.1804533	.3717493	.1496023
#1	17.58709	17.19925	.2755349	.3035286	3.646547	9.918840	.8266538
#2	17.20400	17.21085	.2763423	.3031976	3.633519	9.893206	.8259724
#3	17.42583	17.19528	.2733445	.3039072	3.641510	9.846364	.8283732

Sample Name: Q2325-01MSD Acquired: 6/17/2025 15:51:14 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.188002	.3101903	.4779440
Stddev	.008028	.0045639	.0025722
%RSD	.3669002	1.471313	.5381888
#1	2.196867	.3140400	.4805056
#2	2.185916	.3113820	.4779652
#3	2.181223	.3051488	.4753613

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4335.156	52660.06	4015.023	5023.828	4279.079
Stddev	8.465	486.52	46.425	34.570	6.894
%RSD	.1952657	.9238972	1.156274	.6881196	.1611148
#1	4344.027	52104.08	3966.470	4989.982	4285.628
#2	4334.275	53007.82	4019.624	5059.079	4279.724
#3	4327.166	52868.28	4058.976	5022.423	4271.885

Sample Name: Q2325-01A Acquired: 6/17/2025 15:55:31 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8265946	1.918126	2.968264	1.456358	.6035588	113.8604
Stddev	.0015074	.004156	.008954	.005667	.0020038	3.6261
%RSD	.1823647	.2166693	.3016617	.3891140	.3319945	3.184669
#1	.8254193	1.920912	2.960745	1.450890	.6031044	109.6739
#2	.8260704	1.913349	2.965876	1.455979	.6018212	116.0149
#3	.8282941	1.920117	2.978170	1.462205	.6057507	115.8923
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.728687	.1577228	.1904212	57.30002	.4521106	.3173167
Stddev	.049220	.0032908	.0003611	1.72501	.0026041	.0006780
%RSD	2.847268	2.086451	.1896271	3.010493	.5759961	.2136758
#1	1.671870	.1539254	.1905864	55.31049	.4493479	.3173478
#2	1.758329	.1595022	.1900070	58.21118	.4524640	.3166237
#3	1.755862	.1597409	.1906701	58.37840	.4545201	.3179787
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7521521	211.6608	8.737569	29.23617	.6862578	.0676424
Stddev	.0160105	6.6021	.256462	.92768	.0015081	.0020097
%RSD	2.128625	3.119178	2.935164	3.173066	.2197603	2.971146
#1	.7338733	204.0374	8.441441	28.16501	.6879953	.0654237
#2	.7588938	215.4735	8.883584	29.76469	.6854912	.0681624
#3	.7636893	215.4716	8.887680	29.77882	.6852870	.0693410
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.15882	.4529686	.7379436	15.70994	F 18.57636	.3052899
Stddev	.33220	.0137217	.0060120	.43011	.01924	.0072247
%RSD	2.191492	3.029284	.8146943	2.737791	.1035716	2.366488
#1	14.77785	.4374691	.7445886	15.21498	18.57911	.2969643
#2	15.31049	.4578705	.7328814	15.92203	18.55589	.3099101
#3	15.38811	.4635661	.7363609	15.99281	18.59408	.3089952

Sample Name: Q2325-01A Acquired: 6/17/2025 15:55:31 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2965909	3.961235	9.094429	.7951950	2.431310	.2717149
Stddev	.0004347	.004764	.165487	.0019538	.067407	.0053970
%RSD	.1465495	.1202634	1.819651	.2456968	2.772461	1.986276
#1	.2961160	3.956096	8.907442	.7941771	2.353489	.2665636
#2	.2969690	3.962105	9.153823	.7974475	2.468932	.2773280
#3	.2966877	3.965504	9.222022	.7939603	2.471508	.2712531

Elem	Sr4077
Units	ppm
Avg	.4586174
Stddev	.0129181
%RSD	2.816740
#1	.4437072
#2	.4664472
#3	.4656978

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4492.497	55894.89	4334.201	5294.909	4381.911
Stddev	8.835	521.00	111.980	16.249	11.968
%RSD	.1966535	.9321127	2.583633	.3068765	.2731141
#1	4483.827	56494.97	4463.504	5304.600	4371.189
#2	4501.488	55631.80	4269.481	5303.977	4394.822
#3	4492.176	55557.89	4269.617	5276.150	4379.722

Sample Name: Q2307-01 Acquired: 6/17/2025 15:59:47 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0753255	-.005859	.1922312	.0393990	.0242493	78.03403	.8281562
Stddev	.0013490	.003179	.0008398	.0025078	.0010855	.27106	.0027331
%RSD	1.790829	54.25946	.4368758	6.365204	4.476301	.3473636	.3300174
#1	.0768552	-.002939	.1929963	.0421851	.0233118	78.21739	.8299432
#2	.0748150	-.009246	.1923648	.0373224	.0239975	77.72267	.8250100
#3	.0743063	-.005392	.1913327	.0386894	.0254385	78.16202	.8295154
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0097407	-.005133	53.34948	.2275758	.1545598	.1379786	301.4424
Stddev	.0001106	.000072	.15663	.0011461	.0002360	.0008221	.6784
%RSD	1.135906	1.411707	.2935848	.5035932	.1527066	.5958257	.2250355
#1	.0098346	-.005094	53.47822	.2263078	.1543680	.1387078	302.0236
#2	.0096187	-.005088	53.17510	.2278816	.1544879	.1381405	300.6970
#3	.0097686	-.005217	53.39511	.2285379	.1548234	.1370876	301.6065
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.919930	63.90786	.3303174	.0140879	17.33971	.2754158	.6571510
Stddev	.020927	.25731	.0009501	.0011332	.06394	.0000854	.0031784
%RSD	.5338682	.4026247	.2876488	8.044159	.3687437	.0310236	.4836597
#1	3.926191	64.00444	.3296969	.0128021	17.27045	.2754949	.6538298
#2	3.896587	63.61623	.3298439	.0145203	17.35220	.2753252	.6601640
#3	3.937012	64.10290	.3314112	.0149413	17.39648	.2754273	.6574593
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.33027	6.635695	.1746952	.0054141	13.06515	3.902134	.0226292
Stddev	.17662	.003107	.0027321	.0003017	.01447	.008959	.0014381
%RSD	.7259228	.0468223	1.563932	5.572620	.1107399	.2295978	6.355077
#1	24.51231	6.638993	.1775481	.0055384	13.05147	3.893151	.0238173
#2	24.15963	6.632823	.1744350	.0050701	13.06368	3.911069	.0210304
#3	24.31886	6.635270	.1721025	.0056339	13.08029	3.902182	.0230400

Sample Name: Q2307-01 Acquired: 6/17/2025 15:59:47 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.769878	.2824940	.2352118
Stddev	.010947	.0065329	.0008916
%RSD	.2903804	2.312575	.3790599
#1	3.777755	.2884535	.2356052
#2	3.757378	.2755090	.2341912
#3	3.774502	.2835196	.2358391

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3903.206	48042.15	3655.089	4532.707	4352.250
Stddev	4.445	146.62	7.196	13.724	1.061
%RSD	.1138933	.3051840	.1968881	.3027838	.0243688
#1	3899.241	48110.27	3656.052	4547.315	4353.461
#2	3908.012	48142.32	3661.756	4530.725	4351.802
#3	3902.367	47873.87	3647.460	4520.082	4351.487

Sample Name: Q2310-01 Acquired: 6/17/2025 16:04:08 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0625740	-.011994	.2875185	.0324925	.0188361	104.3313	.8195937
Stddev	.0014004	.001816	.0015697	.0024729	.0014246	6.3585	.0529622
%RSD	2.237966	15.14521	.5459587	7.610631	7.563031	6.094551	6.462010
#1	.0633989	-.010159	.2858034	.0306034	.0194998	97.7567	.7665347
#2	.0609570	-.012031	.2888838	.0315826	.0172008	104.7881	.8197878
#3	.0633659	-.013792	.2878682	.0352914	.0198077	110.4491	.8724587
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107116	-.001088	36.04382	.2122420	.1556051	.7312772	235.2058
Stddev	.0007936	.000504	2.13154	.0050069	.0003036	.0458563	14.6250
%RSD	7.408510	46.30824	5.913733	2.359042	.1951441	6.270709	6.217977
#1	.0100061	-.000555	33.86945	.2064606	.1558789	.6846269	220.2201
#2	.0105579	-.001153	36.13225	.2151158	.1556579	.7329088	235.9559
#3	.0115707	-.001556	38.12977	.2151496	.1552785	.7762959	249.4413
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.620003	57.33862	.2835408	.0101141	14.07133	.3176578	.6721356
Stddev	.459868	3.53129	.0011421	.0016759	.81381	.0157864	.0231055
%RSD	6.035015	6.158651	.4028140	16.57020	5.783472	4.969631	3.437621
#1	7.157639	53.85188	.2837307	.0084493	13.23384	.3019623	.6454916
#2	7.625035	57.25115	.2823156	.0100921	14.12097	.3174775	.6842592
#3	8.077334	60.91283	.2845760	.0118009	14.85919	.3335336	.6866559
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.27443	9.096199	.1030391	-.002712	.8761665	3.504971	.0350675
Stddev	1.03982	.003796	.0057917	.000109	.0049105	.214130	.0012516
%RSD	5.394800	.0417285	5.620845	4.010411	.5604590	6.109325	3.569186
#1	18.17182	9.100229	.0975521	-.002718	.8806881	3.283913	.0336246
#2	19.41413	9.092692	.1024716	-.002601	.8709426	3.519576	.0358595
#3	20.23733	9.095676	.1090936	-.002818	.8768687	3.711426	.0357185

Sample Name: Q2310-01 Acquired: 6/17/2025 16:04:08 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.111265	.1964625	.1635027
Stddev	.307815	.0081494	.0101892
%RSD	6.022296	4.148083	6.231813
#1	4.798251	.1879332	.1534519
#2	5.121939	.1972845	.1632313
#3	5.413604	.2041698	.1738249

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4722.760	58835.17	4404.078	5577.405	4328.963
Stddev	7.164	1039.07	234.298	124.065	6.392
%RSD	.1516997	1.766061	5.320033	2.224421	.1476676
#1	4715.555	59987.67	4650.134	5718.831	4322.200
#2	4722.841	57970.03	4378.459	5486.916	4329.784
#3	4729.883	58547.80	4183.642	5526.468	4334.905

Sample Name: Q2310-01DUP Acquired: 6/17/2025 16:08:30 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0691806	-.012251	.3256774	.0338689	.0195570	104.7495	.8815677
Stddev	.0017067	.002163	.0022489	.0004160	.0009403	.3751	.0093948
%RSD	2.466963	17.65622	.6905168	1.228199	4.807750	.3580863	1.065687
#1	.0710453	-.011645	.3233458	.0337450	.0188827	104.3204	.8727694
#2	.0676960	-.014653	.3258534	.0335290	.0206311	105.0149	.8804712
#3	.0688007	-.010456	.3278331	.0343328	.0191573	104.9133	.8914626
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0123199	-.001568	42.34926	.2202764	.1733722	.7357902	243.4415
Stddev	.0000970	.000186	.11103	.0007685	.0002596	.0148239	1.2403
%RSD	.7872266	11.88262	.2621776	.3488602	.1497548	2.014691	.5094717
#1	.0122097	-.001707	42.23913	.2211256	.1735614	.7194306	242.0947
#2	.0123921	-.001356	42.34747	.2200745	.1730762	.7483313	243.6931
#3	.0123580	-.001641	42.46117	.2196290	.1734790	.7396087	244.5367
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.097758	61.69915	.2958096	.0104026	14.05087	.3373756	.7001102
Stddev	.046658	.47179	.0004331	.0002982	.25397	.0015590	.0019188
%RSD	.6573601	.7646583	.1464183	2.866990	1.807491	.4620839	.2740655
#1	7.060699	61.25377	.2963092	.0101129	13.79275	.3356222	.7012231
#2	7.082420	61.65015	.2955798	.0107087	14.30048	.3386051	.7012129
#3	7.150154	62.19353	.2955397	.0103860	14.05939	.3378997	.6978946
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.73367	9.943945	.1070334	-.002784	.8793422	3.302476	.0266136
Stddev	.43160	.014954	.0022862	.000406	.0037953	.066512	.0006728
%RSD	1.898493	.1503788	2.135997	14.56610	.4316087	2.013990	2.528006
#1	22.33565	9.930298	.1096733	-.002697	.8756454	3.232102	.0264729
#2	23.19241	9.959930	.1057201	-.003227	.8791524	3.364298	.0260223
#3	22.67294	9.941606	.1057067	-.002430	.8832289	3.311029	.0273456

Sample Name: Q2310-01DUP Acquired: 6/17/2025 16:08:30 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.490788	.1976482	.1527320
Stddev	.049243	.0054544	.0010003
%RSD	.8968241	2.759637	.6549077
#1	5.445099	.1984675	.1517614
#2	5.484318	.2026465	.1526750
#3	5.542945	.1918305	.1537595

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4561.663	55573.11	4265.429	5261.702	4248.589
Stddev	16.801	561.20	55.282	34.524	12.934
%RSD	.3683076	1.009846	1.296042	.6561443	.3044313
#1	4578.070	54925.21	4324.489	5222.328	4261.621
#2	4562.425	55885.99	4214.923	5275.990	4248.389
#3	4544.494	55908.12	4256.875	5286.790	4235.756

Sample Name: Q2310-01LX5 Acquired: 6/17/2025 16:12:52 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0149471	-.000348	.0599145	.0077001	.0034624	27.42053	.2141694
Stddev	.0021943	.000348	.0010532	.0007820	.0016750	.04586	.0006867
%RSD	14.68077	100.0159	1.757850	10.15592	48.37779	.1672498	.3206538
#1	.0124301	.000054	.0592129	.0076359	.0016910	27.46711	.2144580
#2	.0164577	-.000539	.0594050	.0085122	.0036754	27.41907	.2133854
#3	.0159535	-.000557	.0611255	.0069521	.0050207	27.37542	.2146647
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028602	-.000817	9.320897	.0550542	.0323364	.2001876	61.71696
Stddev	.0000085	.000025	.032374	.0002035	.0005688	.0026502	.12957
%RSD	.2972823	3.057307	.3473245	.3696332	1.759068	1.323832	.2099398
#1	.0028644	-.000827	9.288172	.0550451	.0329709	.2030768	61.85178
#2	.0028658	-.000835	9.321612	.0548554	.0321663	.1978697	61.59338
#3	.0028504	-.000788	9.352908	.0552621	.0318721	.1996163	61.70572
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.051179	15.23675	.0562180	.0032386	3.686818	.0867399	.1781294
Stddev	.013337	.05064	.0007319	.0004939	.051163	.0060244	.0014751
%RSD	.6502030	.3323402	1.301874	15.24914	1.387738	6.945398	.8280763
#1	2.054728	15.19263	.0570584	.0037445	3.745891	.0907454	.1779467
#2	2.036427	15.29204	.0558748	.0032135	3.656625	.0896626	.1796874
#3	2.062383	15.22558	.0557208	.0027577	3.657937	.0798116	.1767543
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.146076	1.753980	.0267264	-.001480	.1655256	.9741576	.0074946
Stddev	.043559	.007642	.0012446	.000346	.0030373	.0126643	.0003420
%RSD	1.050614	.4357172	4.656907	23.37629	1.834963	1.300022	4.563574
#1	4.196374	1.759973	.0265218	-.001486	.1677032	.9863332	.0076100
#2	4.120877	1.745374	.0255968	-.001823	.1620559	.9610555	.0071098
#3	4.120978	1.756592	.0280607	-.001131	.1668177	.9750839	.0077640

Sample Name: Q2310-01LX5 Acquired: 6/17/2025 16:12:52 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.318587	.0560401	.0433999
Stddev	.006046	.0039581	.0003150
%RSD	.4584973	7.062887	.7258973
#1	1.320227	.0588070	.0433690
#2	1.311890	.0515064	.0431015
#3	1.323643	.0578070	.0437293

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3733.788	46412.48	3383.287	4348.129	4616.972
Stddev	13.428	151.73	33.634	19.248	16.407
%RSD	.3596480	.3269097	.9941076	.4426843	.3553713
#1	3721.509	46447.69	3344.452	4351.669	4598.827
#2	3731.726	46246.24	3402.990	4327.356	4621.327
#3	3748.128	46543.50	3402.419	4365.362	4630.764

Sample Name: Q2310-01MS Acquired: 6/17/2025 16:17:08 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8647105	2.021021	1.282843	1.402366	.3300638	113.7692	1.014198
Stddev	.0029085	.003522	.003737	.002538	.0014209	.0465	.006405
%RSD	.3363528	.1742498	.2912755	.1809771	.4304825	.0408663	.6314901
#1	.8631062	2.017141	1.280650	1.405108	.3297032	113.8202	1.010226
#2	.8680679	2.024015	1.287157	1.401889	.3288580	113.7291	1.021586
#3	.8629576	2.021908	1.280722	1.400100	.3316302	113.7582	1.010781
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1667559	.2048847	42.93836	.5170744	.3675712	1.153276	235.2012
Stddev	.0028997	.0003681	.02423	.0012074	.0003996	.019160	.1685
%RSD	1.738894	.1796812	.0564216	.2335143	.1087284	1.661373	.0716340
#1	.1635966	.2048494	42.94437	.5181774	.3674020	1.131594	235.2308
#2	.1692960	.2052692	42.95902	.5157844	.3680276	1.167931	235.3530
#3	.1673751	.2045355	42.91170	.5172616	.3672840	1.160301	235.0199
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.832516	62.13583	.8121235	.0668472	15.80718	.5436906	.8619222
Stddev	.015272	.11875	.0008244	.0011205	.24466	.0012173	.0016440
%RSD	.1949794	.1911143	.1015137	1.676166	1.547792	.2238873	.1907325
#1	7.816988	61.99909	.8123912	.0674507	15.52611	.5424484	.8637639
#2	7.847518	62.21311	.8127808	.0655543	15.97244	.5437421	.8606029
#3	7.833042	62.19528	.8111985	.0675365	15.92298	.5448813	.8613997
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.81964	15.67013	.3007403	.2986423	.8219164	4.621176	.7504515
Stddev	.54363	.02882	.0006597	.0006596	.0048212	.081714	.0012824
%RSD	1.954130	.1839415	.2193536	.2208794	.5865814	1.768253	.1708874
#1	27.25872	15.66202	.3000055	.2985821	.8239557	4.529146	.7518699
#2	28.34415	15.70214	.3012815	.2993300	.8164107	4.685220	.7493738
#3	27.85605	15.64622	.3009339	.2980149	.8253829	4.649162	.7501107

Sample Name: Q2310-01MS Acquired: 6/17/2025 16:17:08 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.844992	.3723549	.3114728
Stddev	.019809	.0065682	.0008870
%RSD	.3388993	1.763972	.2847780
#1	5.822131	.3684159	.3104782
#2	5.855787	.3799373	.3121821
#3	5.857059	.3687114	.3117580

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4461.058	55173.58	4174.882	5198.784	4168.517
Stddev	23.590	371.27	49.150	38.461	18.072
%RSD	.5288038	.6729207	1.177288	.7398166	.4335297
#1	4481.365	54769.87	4229.109	5154.614	4182.772
#2	4435.181	55500.36	4133.266	5224.880	4148.192
#3	4466.629	55250.51	4162.270	5216.856	4174.588

Sample Name: Q2310-01MSD Acquired: 6/17/2025 16:21:25 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8419134	1.969658	1.232934	1.356092	.3204204	108.3366	.9666234
Stddev	.0014121	.001855	.001579	.003890	.0018081	.1681	.0044657
%RSD	.1677261	.0941929	.1280659	.2868271	.5642878	.1551968	.4619882
#1	.8422007	1.971533	1.232090	1.358708	.3183327	108.1572	.9717439
#2	.8431597	1.967823	1.231956	1.357946	.3214798	108.4906	.9645899
#3	.8403797	1.969618	1.234755	1.351622	.3214488	108.3621	.9635364
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1617868	.1988555	43.58816	.5005979	.3542796	1.029932	226.9204
Stddev	.0011038	.0004063	.03565	.0002868	.0008701	.006562	.2454
%RSD	.6822314	.2043034	.0817918	.0572988	.2455861	.6371239	.1081394
#1	.1623745	.1989367	43.62929	.5004162	.3548919	1.031806	226.7043
#2	.1605135	.1984148	43.56604	.5009286	.3532837	1.022636	227.1872
#3	.1624723	.1992151	43.56915	.5004489	.3546633	1.035352	226.8696
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.893220	57.59802	.7843888	.0658982	15.39271	.5285542	.8124918
Stddev	.009501	.09144	.0003757	.0002790	.08197	.0009308	.0024138
%RSD	.1378308	.1587469	.0478915	.4234081	.5325497	.1761128	.2970928
#1	6.903377	57.68913	.7848043	.0655808	15.39992	.5292823	.8097555
#2	6.891732	57.59867	.7842889	.0660093	15.30736	.5288750	.8143194
#3	6.884551	57.50626	.7840732	.0661046	15.47083	.5275054	.8134005
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.47374	15.19646	.2875603	.2877511	.7179273	5.941687	.7442948
Stddev	.22554	.02722	.0011654	.0011514	.0049394	.037388	.0015995
%RSD	.8519395	.1791521	.4052717	.4001231	.6880082	.6292557	.2149000
#1	26.71092	15.19425	.2862168	.2864444	.7195988	5.954796	.7428765
#2	26.26199	15.17041	.2881657	.2881921	.7218140	5.899510	.7460285
#3	26.44831	15.22473	.2882984	.2886168	.7123690	5.970756	.7439794

Sample Name: Q2310-01MSD Acquired: 6/17/2025 16:21:25 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.259210	.3447899	.3060752
Stddev	.020111	.0033252	.0009804
%RSD	.3823922	.9644059	.3203181
#1	5.280691	.3473118	.3071551
#2	5.240830	.3460362	.3052409
#3	5.256110	.3410216	.3058298

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4575.052	55923.90	4236.020	5299.442	4259.023
Stddev	5.128	172.94	16.601	11.008	10.682
%RSD	.1120824	.3092341	.3919012	.2077197	.2508044
#1	4578.447	56057.08	4223.934	5305.971	4263.719
#2	4577.554	55728.45	4254.948	5286.733	4266.552
#3	4569.153	55986.17	4229.177	5305.622	4246.798

Sample Name: Q2310-01A Acquired: 6/17/2025 16:25:43 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8060726	1.856653	1.186702	1.333293	.5701419	104.8706	.9448188
Stddev	.0031013	.006672	.003483	.004240	.0034840	.3915	.0063569
%RSD	.3847423	.3593339	.2934727	.3180449	.6110797	.3733144	.6728128
#1	.8094497	1.863730	1.190034	1.329666	.5741017	105.3225	.9483246
#2	.8033524	1.850479	1.183086	1.337955	.5687774	104.6536	.9374810
#3	.8054157	1.855749	1.186988	1.332257	.5675467	104.6356	.9486509
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1497939	.1877180	35.61160	.4938309	.3389535	.9278408	233.3018
Stddev	.0016564	.0005504	.16766	.0010699	.0008563	.0117602	.5479
%RSD	1.105765	.2932279	.4708063	.2166545	.2526288	1.267476	.2348635
#1	.1512435	.1881972	35.79329	.4945153	.3392724	.9386713	233.9322
#2	.1479886	.1871168	35.57866	.4943795	.3379836	.9153314	232.9397
#3	.1501495	.1878401	35.46285	.4925980	.3396046	.9295196	233.0335
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.744994	57.50812	.7526136	.0613695	15.94873	.5170765	.8114000
Stddev	.032462	.32365	.0014591	.0009553	.19204	.0042066	.0051628
%RSD	.4191332	.5627835	.1938681	1.556678	1.204083	.8135424	.6362863
#1	7.782326	57.82765	.7539682	.0603381	16.09235	.5188057	.8172531
#2	7.723414	57.18051	.7510687	.0615466	15.73061	.5122809	.8074931
#3	7.729240	57.51619	.7528038	.0622239	16.02324	.5201430	.8094539
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.10232	14.60253	.2933727	.2794452	.8682407	4.329037	.7092017
Stddev	.52216	.04159	.0006574	.0009568	.0038736	.047621	.0015580
%RSD	2.000440	.2848049	.2240999	.3423893	.4461403	1.100047	.2196853
#1	26.51906	14.64554	.2930198	.2804954	.8686843	4.371192	.7106819
#2	25.51659	14.56252	.2929670	.2792171	.8641644	4.277381	.7075761
#3	26.27131	14.59953	.2941312	.2786230	.8718733	4.338539	.7093473

Sample Name: Q2310-01A Acquired: 6/17/2025 16:25:43 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.157773	.3362925	.2998015
Stddev	.020417	.0022279	.0012607
%RSD	.3958551	.6624866	.4205198
#1	5.179645	.3375172	.3005629
#2	5.139216	.3376394	.2983462
#3	5.154459	.3337209	.3004952

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4682.890	57402.23	4368.132	5431.454	4292.794
Stddev	6.844	18.95	48.945	21.116	5.941
%RSD	.1461403	.0330040	1.120493	.3887753	.1383971
#1	4679.959	57422.89	4322.188	5408.633	4285.942
#2	4678.001	57398.15	4419.607	5450.300	4295.925
#3	4690.711	57385.66	4362.601	5435.429	4296.514

Sample Name: CCV04 Acquired: 6/17/2025 16:30:01 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.841701	5.015694	4.854937	4.881242	4.983966	10.00004	10.06144
Stddev	.010521	.014428	.010156	.007343	.005291	.02679	.05168
%RSD	.2172900	.2876633	.2091986	.1504359	.1061553	.2679150	.5136633
#1	4.834953	4.999576	4.843213	4.889437	4.978168	9.97611	10.08458
#2	4.836327	5.020101	4.860554	4.879032	4.985198	10.02898	10.09751
#3	4.853823	5.027404	4.861046	4.875258	4.988532	9.99504	10.00223
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2595564	2.459890	25.35550	1.012385	2.430568	1.290435	4.984529
Stddev	.0039207	.005326	.07321	.000794	.001285	.016752	.037641
%RSD	1.510525	.2165289	.2887227	.0783924	.0528745	1.298178	.7551490
#1	.2615193	2.453806	25.33607	1.012010	2.430298	1.298582	5.026030
#2	.2621080	2.462152	25.43646	1.013297	2.429439	1.301556	4.952594
#3	.2550420	2.463712	25.29396	1.011849	2.431966	1.271168	4.974964
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.467395	24.47323	2.456909	1.276387	25.44596	2.462314	2.494105
Stddev	.008295	.19182	.003179	.001785	.24668	.011244	.007384
%RSD	.3361983	.7838112	.1293838	.1398476	.9694371	.4566511	.2960381
#1	2.464995	24.60517	2.453430	1.277796	25.56498	2.469147	2.485679
#2	2.476626	24.56133	2.457634	1.274380	25.61057	2.468459	2.497189
#3	2.460565	24.25318	2.459662	1.276986	25.16233	2.449337	2.499446
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.35875	5.044673	5.156052	5.019685	4.859631	5.131015	4.957077
Stddev	.04498	.010637	.080018	.008789	.025014	.070605	.013564
%RSD	.1706430	.2108541	1.551932	.1750858	.5147371	1.376053	.2736248
#1	26.38741	5.033067	5.188802	5.010466	4.830750	5.156116	4.946262
#2	26.38194	5.046997	5.214500	5.027969	4.874443	5.185639	4.952673
#3	26.30691	5.053957	5.064854	5.020620	4.873701	5.051288	4.972296

Sample Name: CCV04 Acquired: 6/17/2025 16:30:01 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.978842	5.017287	4.998264
Stddev	.008933	.022786	.015699
%RSD	.1794100	.4541430	.3140844
#1	4.971042	5.004706	5.003880
#2	4.988587	5.043590	5.010383
#3	4.976898	5.003567	4.980530

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3355.991	41842.30	3056.732	3938.291	4333.713
Stddev	10.610	254.94	24.605	27.362	8.366
%RSD	.3161583	.6092880	.8049558	.6947679	.1930376
#1	3349.983	41956.12	3043.402	3953.206	4332.290
#2	3349.747	42020.51	3041.668	3954.954	4326.151
#3	3368.242	41550.28	3085.127	3906.712	4342.699

Sample Name: CCB04 Acquired: 6/17/2025 16:34:16 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014127	.0028377	.0002386	-.000994	.0007767	-.015026	-.000970
Stddev	.0036885	.0014662	.0008658	.001057	.0024798	.033941	.001648
%RSD	261.1021	51.66728	362.8869	106.3584	319.2650	225.8813	169.8722
#1	.0056098	.0042044	.0010281	-.001110	-.001771	.010215	-.001136
#2	-.001313	.0030196	.0003750	.000116	.000918	-.001682	.000754
#3	-.000059	.0012890	-.000687	-.001989	.003183	-.053611	-.002528
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000013	.0001256	-.002831	-.000707	.0002033	-.000251	.0168841
Stddev	.000049	.0001277	.019014	.000222	.0001882	.000065	.0161203
%RSD	382.7625	101.7018	671.7376	31.39095	92.57951	25.73286	95.47582
#1	-.000002	.0002731	-.017837	-.000646	.0004079	-.000264	.0283992
#2	-.000067	.0000542	.018552	-.000523	.0001640	-.000308	.0237922
#3	.000030	.0000495	-.009207	-.000954	.0000378	-.000181	-.001539
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001754	.0346423	.0005695	.0007504	-.025505	.0050299	-.000074
Stddev	.0006654	.0346808	.0002347	.0009295	.003639	.0040976	.000271
%RSD	379.3133	100.1112	41.21559	123.8677	14.26625	81.46552	365.9363
#1	.0003197	-.000906	.0004877	-.000288	-.028648	.0097431	.000168
#2	-.000550	.068385	.0008342	.001504	-.021519	.0030333	-.000023
#3	.000757	.036449	.0003866	.001035	-.026349	.0023133	-.000368
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069593	.0010263	.0103245	.0003955	-.003164	.0086986	.0011379
Stddev	.0008274	.0013690	.0009752	.0004183	.001967	.0007291	.0000609
%RSD	11.88966	133.3852	9.445735	105.7585	62.14680	8.381514	5.354169
#1	.0070405	.0019314	.0109704	.0008615	-.000964	.0085377	.0011075
#2	.0077430	.0016963	.0108004	.0002726	-.003779	.0080634	.0010982
#3	.0060942	-.000549	.0092027	.0000524	-.004751	.0094947	.0012081

Sample Name: CCB04 Acquired: 6/17/2025 16:34:16 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0051914	-.005764	.0003357
Stddev	.0050298	.001990	.0000979
%RSD	96.88640	34.52105	29.15315
#1	.0108503	-.008058	.0002266
#2	.0012300	-.004499	.0004156
#3	.0034939	-.004735	.0003649

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3539.341	44630.57	3194.342	4143.856	5010.345
Stddev	16.250	347.83	18.084	20.479	18.230
%RSD	.4591361	.7793552	.5661166	.4941963	.3638431
#1	3542.270	44481.25	3213.424	4126.921	5017.721
#2	3521.825	44382.34	3192.146	4138.031	4989.583
#3	3553.927	45028.13	3177.458	4166.617	5023.731

Sample Name: PB168444BL Acquired: 6/17/2025 16:40:19 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027834	.0009486	.0015734	.0007698	.0006144	-.030240	-.001764
Stddev	.0004155	.0024035	.0007497	.0030022	.0015024	.007048	.001062
%RSD	14.92760	253.3747	47.65000	389.9970	244.5438	23.30580	60.18432
#1	.0026361	.0034289	.0009079	-.001299	-.000046	-.034760	-.002663
#2	.0032525	-.001370	.0014265	-.000605	.002334	-.033839	-.000593
#3	.0024617	.000787	.0023856	.004213	-.000444	-.022119	-.002038
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000022	.0000169	.0303922	-.000860	-.000146	.0000145	.0217271
Stddev	.0001328	.0000658	.0111560	.000570	.000048	.0007752	.0227856
%RSD	6157.790	389.0086	36.70682	66.29018	32.61710	5357.051	104.8717
#1	.0001525	-.000023	.0400865	-.000210	-.000167	-.000259	-.004279
#2	-.000099	-.000019	.0328917	-.001277	-.000092	.000889	.031273
#3	-.000047	.000093	.0181985	-.001094	-.000181	-.000587	.038187
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000562	.0021368	.0003620	.0003808	-.033009	-.000074	.0000143
Stddev	.000821	.0268046	.0000370	.0004657	.008722	.007222	.0004296
%RSD	146.0506	1254.401	10.21596	122.2888	26.42183	9698.948	3010.166
#1	-.000596	.0093737	.0004042	.0003773	-.029193	-.001577	-.000013
#2	-.001365	.0245800	.0003350	.0008482	-.026846	-.006427	-.000401
#3	.000275	-.027543	.0003470	-.000083	-.042989	.007780	.000457
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060474	.0010675	.0051850	.0002954	-.000486	.0043563	-.000256
Stddev	.0004441	.0024451	.0005434	.0002236	.002001	.0017575	.000418
%RSD	7.343525	229.0447	10.47954	75.69835	411.9436	40.34372	163.0680
#1	.0059281	-.001724	.0047199	.0002444	.000186	.0057116	-.000235
#2	.0056751	.002832	.0050530	.0005400	.001093	.0023705	.000151
#3	.0065390	.002094	.0057823	.0001017	-.002736	.0049869	-.000685

Sample Name: PB168444BL Acquired: 6/17/2025 16:40:19 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0044545	-.009401	.0001087
Stddev	.0026858	.006070	.0002581
%RSD	60.29456	64.56066	237.5909
#1	.0013977	-.011427	-.000135
#2	.0055298	-.002578	.000380
#3	.0064362	-.014199	.000081

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3507.351	44092.08	3151.256	4109.411	4976.747
Stddev	8.572	102.80	21.137	18.654	8.530
%RSD	.2444053	.2331394	.6707494	.4539229	.1713994
#1	3500.519	44206.24	3165.942	4102.859	4975.183
#2	3504.564	44006.85	3160.794	4094.917	4969.108
#3	3516.970	44063.15	3127.030	4130.456	4985.952

Sample Name: PB168444BS Acquired: 6/17/2025 16:49:00 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7179165	2.036162	.9417636	1.952161	.8134987	2.049177	.2035294
Stddev	.0045663	.005710	.0018058	.006323	.0034035	.042090	.0035216
%RSD	.6360471	.2804115	.1917415	.3239228	.4183808	2.053977	1.730252
#1	.7152030	2.033322	.9422094	1.948394	.8095727	2.074906	.1994642
#2	.7153582	2.042735	.9433046	1.959462	.8156175	2.000605	.2056445
#3	.7231885	2.032430	.9397766	1.948628	.8153058	2.072021	.2054796
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2168662	.1902692	1.052879	.4102236	.1922879	.3365039	3.224460
Stddev	.0036083	.0003427	.003612	.0009284	.0000936	.0045878	.022546
%RSD	1.663820	.1801200	.3430854	.2263254	.0486973	1.363380	.6992226
#1	.2129760	.1899947	1.048917	.4112524	.1922760	.3322280	3.231272
#2	.2201033	.1906533	1.055989	.4099702	.1922008	.3413503	3.242815
#3	.2175194	.1901595	1.053731	.4094481	.1923869	.3359334	3.199293
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2040511	2.047246	.4873386	.0771327	2.949505	.2980968	.2077921
Stddev	.0031265	.031980	.0004618	.0008204	.041134	.0080798	.0009865
%RSD	1.532209	1.562089	.0947582	1.063647	1.394592	2.710465	.4747606
#1	.2004577	2.015965	.4871851	.0764813	2.907587	.2890274	.2088865
#2	.2055470	2.045893	.4878576	.0768626	2.989807	.3045269	.2069711
#3	.2061487	2.079881	.4869731	.0780541	2.951121	.3007360	.2075187
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.379732	5.676030	.3128847	.4023931	-.001922	.9528087	.6721064
Stddev	.131124	.001677	.0033674	.0008256	.001993	.0126407	.0005907
%RSD	1.397956	.0295437	1.076229	.2051675	103.7057	1.326676	.0878873
#1	9.236213	5.674776	.3106744	.4026092	.000077	.9390501	.6722492
#2	9.493268	5.677935	.3167603	.4030891	-.003909	.9639085	.6726125
#3	9.409716	5.675379	.3112195	.4014810	-.001934	.9554676	.6714573

Sample Name: PB168444BS Acquired: 6/17/2025 16:49:00 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1993595	.2172216	.2022364
Stddev	.0022652	.0030628	.0021924
%RSD	1.136262	1.410001	1.084087
#1	.2009640	.2203804	.1997606
#2	.2003462	.2170198	.2039321
#3	.1967682	.2142647	.2030165

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3509.005	43690.78	3133.021	4101.532	4818.858
Stddev	5.427	524.55	24.128	41.115	7.805
%RSD	.1546618	1.200597	.7701287	1.002418	.1619679
#1	3514.580	43093.50	3146.506	4054.437	4826.997
#2	3503.738	43902.25	3105.164	4119.892	4818.142
#3	3508.697	44076.58	3147.391	4130.268	4811.436

Sample Name: PB168489BL Acquired: 6/17/2025 17:00:24 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007038	.0010193	.0006601	-.000948	-.000498	-.012956
Stddev	.0024317	.0010617	.0007064	.003686	.002071	.008953
%RSD	345.4957	104.1606	107.0079	388.7095	415.7612	69.09965
#1	.0028618	-.000043	.0012316	-.004336	-.002820	-.002796
#2	.0011807	.001020	-.000130	-.001484	.001160	-.016383
#3	-.001931	.002081	.000878	.002976	.000166	-.019690
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001684	-.000085	-.000065	.0278111	.0000646	.0000886
Stddev	.001788	.000111	.000047	.0192261	.0004851	.0003490
%RSD	106.1847	131.4369	71.78117	69.13121	751.3428	394.0420
#1	-.001004	-.000211	-.000061	.0057140	.0001172	.0003992
#2	-.003711	-.000002	-.000021	.0370063	.0005212	-.000289
#3	-.000335	-.000041	-.000114	.0407129	-.000445	.000156
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000263	.0104957	-.000926	.0138862	-.000379	-.000392
Stddev	.000470	.0209278	.001648	.0186651	.000017	.000119
%RSD	178.3367	199.3937	177.9464	134.4142	4.446951	30.27029
#1	.000214	.0016121	.000078	.0300718	-.000377	-.000470
#2	-.000278	.0343998	-.000029	.0181185	-.000363	-.000451
#3	-.000725	-.004525	-.002828	-.006532	-.000396	-.000256
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.011005	.0032955	.0000194	.0052927	.0031019	.0002000
Stddev	.005614	.0069859	.0002123	.0023344	.0008183	.0014101
%RSD	51.01680	211.9868	1094.345	44.10616	26.37962	705.1246
#1	-.016354	.0010741	-.000193	.0079716	.0039674	.0011577
#2	-.005158	.0111220	.000232	.0036935	.0029974	-.001419
#3	-.011502	-.002310	.000020	.0042132	.0023409	.000861

Sample Name: PB168489BL Acquired: 6/17/2025 17:00:24 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001070	-.003596	.0022907	.0002875	.0022562	F -.010003
Stddev	.0006208	.003290	.0019337	.0008422	.0029679	.005578
%RSD	580.1888	91.50907	84.41348	292.9541	131.5422	55.76477
#1	-.000356	-.001966	.0021924	-.000638	-.000241	-.005389
#2	.000812	-.001438	.0042716	.000492	.005537	-.008417
#3	-.000135	-.007383	.0004081	.001009	.001473	-.016201

Elem	Sr4077
Units	ppm
Avg	.0000557
Stddev	.0000707
%RSD	127.0387
#1	.0000316
#2	.0000001
#3	.0001354

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3517.326	43489.51	3146.803	4075.144	4983.190
Stddev	18.193	273.17	36.412	28.913	15.938
%RSD	.5172280	.6281256	1.157097	.7094882	.3198451
#1	3527.382	43513.14	3126.139	4091.835	4994.112
#2	3496.325	43205.30	3125.424	4041.758	4964.901
#3	3528.271	43750.10	3188.845	4091.838	4990.557

Sample Name: PB168489BS Acquired: 6/17/2025 17:05:27 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7101119	2.014780	.9268957	1.925086	.7911284	2.011282	.1988881
Stddev	.0014044	.001652	.0016535	.011511	.0018483	.012210	.0008021
%RSD	.1977767	.0820089	.1783854	.5979633	.2336289	.6070984	.4033109
#1	.7085308	2.015332	.9282099	1.919827	.7896399	2.022867	.1983723
#2	.7112148	2.012923	.9250392	1.917144	.7905482	1.998530	.1998122
#3	.7105901	2.016086	.9274381	1.938287	.7931973	2.012450	.1984797
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2131339	.1879861	1.039213	.4036510	.1892562	.3301787	3.187753
Stddev	.0025343	.0002312	.018057	.0020751	.0003607	.0033731	.015624
%RSD	1.189066	.1229613	1.737579	.5140797	.1905688	1.021589	.4901184
#1	.2149707	.1877295	1.018891	.4028553	.1888400	.3327821	3.186579
#2	.2141885	.1880511	1.045332	.4020915	.1894521	.3313857	3.203930
#3	.2102426	.1881779	1.053415	.4060062	.1894766	.3263681	3.172749
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2009303	1.998379	.4804088	.0761764	2.918195	.2934807	.2032655
Stddev	.0011099	.006204	.0007725	.0009407	.016155	.0038870	.0015216
%RSD	.5523805	.3104579	.1608005	1.234865	.5535884	1.324456	.7485648
#1	.1997181	2.005391	.4795320	.0756253	2.921258	.2956635	.2015905
#2	.2018968	1.993602	.4807050	.0756413	2.932599	.2957856	.2045622
#3	.2011760	1.996144	.4809894	.0772625	2.900728	.2889929	.2036439
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.271303	5.604138	.3078720	.3916820	.0009885	.9241341	.6571414
Stddev	.155044	.010065	.0045491	.0008474	.0026835	.0095745	.0019035
%RSD	1.672295	.1795912	1.477589	.2163529	271.4691	1.036049	.2896658
#1	9.339044	5.593821	.3118036	.3908503	-.002110	.9299202	.6552602
#2	9.380950	5.604664	.3089229	.3916514	.002518	.9293997	.6570974
#3	9.093917	5.613929	.3028894	.3925443	.002557	.9130826	.6590665

Sample Name: PB168489BS Acquired: 6/17/2025 17:05:27 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1918604	.1998218	.2003482
Stddev	.0043062	.0069633	.0009816
%RSD	2.244437	3.484767	.4899615
#1	.1886974	.1985868	.1998933
#2	.1967645	.1935586	.2014747
#3	.1901192	.2073200	.1996765

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3510.252	43764.13	3127.844	4106.193	4809.036
Stddev	10.307	275.00	24.867	18.592	13.123
%RSD	.2936157	.6283799	.7950299	.4527707	.2728725
#1	3520.967	43762.40	3106.021	4110.381	4818.944
#2	3500.410	44039.99	3122.594	4122.333	4794.154
#3	3509.379	43489.99	3154.918	4085.864	4814.012

Sample Name: PB168475BL Acquired: 6/17/2025 17:10:21 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010024	.0000335	-.000696	-.000770	-.001384	-.036123
Stddev	.0012937	.0016942	.000580	.003105	.003474	.028707
%RSD	129.0647	5053.254	83.27144	403.0988	251.0679	79.46977
#1	.0023838	.0009563	-.001366	-.004285	.001799	-.068249
#2	.0008040	.0010660	-.000382	.000374	-.000860	-.012984
#3	-.000181	-.001922	-.000342	.001600	-.005090	-.027137
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001077	.0000157	.0000599	.0148759	-.000882	.0000133
Stddev	.000797	.0000328	.0000191	.0018801	.000566	.0003268
%RSD	73.98662	208.4471	31.91459	12.63848	64.11527	2455.266
#1	-.001730	-.000021	.0000659	.0140354	-.001346	.0003339
#2	-.001312	.000024	.0000753	.0135627	-.001049	.0000254
#3	-.000189	.000043	.0000385	.0170296	-.000252	-.000319
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008877	-.010587	-.001141	.0223287	-.000061	.0002985
Stddev	.0003868	.006996	.000638	.0297025	.000119	.0008622
%RSD	43.57568	66.08159	55.93413	133.0240	193.8177	288.8759
#1	.0004701	-.002574	-.001877	.0205090	.000062	.0012709
#2	.0012337	-.013708	-.000791	.0528991	-.000174	-.000003
#3	.0009593	-.015480	-.000754	-.006422	-.000072	-.000373
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.019451	.0027350	-.000032	.0049939	.0017330	.0001098
Stddev	.010326	.0039583	.000486	.0008048	.0018007	.0006632
%RSD	53.08713	144.7250	1516.513	16.11450	103.9057	604.2631
#1	-.008264	.0054366	.000027	.0055785	.0037904	.0008666
#2	-.021473	.0045770	.000422	.0040761	.0004440	-.000369
#3	-.028616	-.001809	-.000545	.0053273	.0009645	-.000168

Sample Name: PB168475BL Acquired: 6/17/2025 17:10:21 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000111	-.001944	.0029831	.0002390	.0034268	F -.010415
Stddev	.000168	.002222	.0009606	.0006733	.0017034	.004301
%RSD	150.9424	114.2896	32.20257	281.7008	49.70831	41.29809
#1	-.000144	-.001882	.0019429	.0010148	.0017397	-.011324
#2	-.000260	.000246	.0038368	-.000105	.0051460	-.014190
#3	.000071	-.004196	.0031696	-.000193	.0033947	-.005732
Elem	Sr4077					
Units	ppm					
Avg	-.000063					
Stddev	.000372					
%RSD	594.5419					
#1	.000048					
#2	-.000477					
#3	.000241					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	3532.102	44166.04	3141.069	4129.881	5008.837	
Stddev	9.599	169.82	12.528	7.768	10.857	
%RSD	.2717678	.3845108	.3988442	.1880996	.2167627	
#1	3522.095	44108.59	3155.488	4136.904	4999.502	
#2	3541.234	44032.39	3134.867	4131.204	5020.752	
#3	3532.976	44357.13	3132.852	4121.537	5006.257	

Sample Name: PB168475BS Acquired: 6/17/2025 17:14:46 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7021365	1.993415	.9206095	1.902249	.7926224	1.975026	.1986057
Stddev	.0021140	.001862	.0016549	.006189	.0041432	.008515	.0013026
%RSD	.3010860	.0933933	.1797592	.3253633	.5227221	.4311481	.6558496
#1	.6997006	1.993797	.9201874	1.900036	.7880008	1.965334	.1999682
#2	.7032161	1.995056	.9192065	1.909240	.7960040	1.981308	.1973728
#3	.7034927	1.991391	.9224345	1.897470	.7938625	1.978435	.1984760
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2097952	.1868815	1.019332	.4011676	.1879616	.3257954	3.156659
Stddev	.0006610	.0001806	.009484	.0007495	.0003010	.0027939	.014738
%RSD	.3150500	.0966449	.9303738	.1868316	.1601396	.8575602	.4668801
#1	.2103402	.1869410	1.016961	.4006872	.1876838	.3289716	3.170673
#2	.2090600	.1866787	1.011259	.4020313	.1879196	.3246966	3.158012
#3	.2099855	.1870248	1.029776	.4007844	.1882814	.3237179	3.141291
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1990639	1.981767	.4768373	.0754666	2.889761	.2923708	.2012071
Stddev	.0007717	.053616	.0010212	.0005988	.019989	.0074444	.0024702
%RSD	.3876534	2.705476	.2141549	.7934177	.6917220	2.546231	1.227672
#1	.1998913	2.043220	.4757257	.0757462	2.899822	.2973851	.2037780
#2	.1989366	1.957546	.4777338	.0747792	2.902721	.2959103	.2009916
#3	.1983638	1.944534	.4770522	.0758744	2.866741	.2838170	.1988518
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.142427	5.564039	.3038633	.3922820	-.004349	.9196011	.6591501
Stddev	.060673	.003471	.0020709	.0009189	.003096	.0068525	.0006578
%RSD	.6636430	.0623762	.6815376	.2342344	71.18468	.7451616	.0997887
#1	9.083786	5.561902	.3060509	.3912225	-.002419	.9265283	.6583919
#2	9.138549	5.568043	.3019330	.3928599	-.007919	.9194491	.6595684
#3	9.204946	5.562172	.3036060	.3927637	-.002708	.9128258	.6594900

Sample Name: PB168475BS Acquired: 6/17/2025 17:14:46 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1939038	.2027560	.1992800
Stddev	.0058665	.0034347	.0004223
%RSD	3.025469	1.693984	.2119324
#1	.1951271	.2022643	.1994520
#2	.1990621	.1995937	.1995892
#3	.1875220	.2064100	.1987988

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3530.384	43996.19	3162.117	4135.724	4830.357
Stddev	20.299	221.31	21.317	37.610	27.206
%RSD	.5749918	.5030274	.6741370	.9094012	.5632320
#1	3529.605	43948.89	3142.851	4100.628	4827.295
#2	3551.062	43802.35	3158.483	4131.119	4858.965
#3	3510.486	44237.33	3185.017	4175.425	4804.811

Sample Name: PB168490BL Acquired: 6/17/2025 17:19:09 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018308	.0015382	.0005650	-.001154	-.001160	-.022816	-.000809
Stddev	.0021825	.0018232	.0006331	.003438	.003729	.019912	.000939
%RSD	119.2102	118.5343	112.0390	298.0245	321.3810	87.27411	116.0775
#1	-.000144	.0029081	-.000017	-.000139	-.003079	-.038975	-.000918
#2	.004174	.0022377	.001239	.001663	-.003540	-.028902	-.001688
#3	.001462	-.000531	.000474	-.004984	.003138	-.000571	.000180
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000008	-.000055	-.000056	-.000982	-.000233	.0000471	.0162866
Stddev	.000192	.000066	.010818	.000912	.000072	.0007227	.0085188
%RSD	2328.457	119.6660	19390.59	92.87982	30.78957	1535.085	52.30579
#1	.000047	-.000125	-.010132	.000071	-.000238	.0004558	.0260972
#2	-.000222	-.000047	.011376	-.001519	-.000159	-.000787	.0107610
#3	.000149	.000007	-.001411	-.001497	-.000302	.000473	.0120016
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000110	.0414898	.0002897	-.000014	-.008497	.0066398	.0001684
Stddev	.000872	.0081959	.0004864	.000319	.013316	.0047875	.0000212
%RSD	791.4164	19.75400	167.9040	2300.076	156.7252	72.10362	12.56271
#1	-.001045	.0323891	.0005636	-.000274	-.022128	.0033595	.0001613
#2	.000681	.0482887	.0005774	-.000110	.004481	.0121335	.0001922
#3	.000033	.0437917	-.000272	.000343	-.007842	.0044263	.0001517
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050851	.0017477	.0008560	.0004012	-.003081	.0035332	-.000529
Stddev	.0010015	.0015254	.0008007	.0004965	.005771	.0011230	.000820
%RSD	19.69397	87.27795	93.53710	123.7475	187.3126	31.78310	155.0162
#1	.0054394	.0034220	.0007870	.0006157	-.008414	.0044981	-.000610
#2	.0039546	.0004369	.0000921	-.000166	.003046	.0038010	-.001305
#3	.0058612	.0013843	.0016890	.000754	-.003875	.0023006	.000328

Sample Name: PB168490BL Acquired: 6/17/2025 17:19:09 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000646	-.009733	-.000094
Stddev	.002396	.001534	.000443
%RSD	371.1188	15.76092	473.0981

#1	.000204	-.009506	-.000519
#2	-.003351	-.011368	.000365
#3	.001210	-.008325	-.000126

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3539.510	44137.73	3142.990	4120.160	5009.585
Stddev	18.948	258.71	26.544	21.115	27.327
%RSD	.5353329	.5861441	.8445323	.5124799	.5454892

#1	3551.329	43839.19	3137.215	4097.325	5032.507
#2	3549.547	44277.61	3171.946	4138.978	5016.903
#3	3517.655	44296.38	3119.809	4124.178	4979.344

Sample Name: PB168490BS Acquired: 6/17/2025 17:23:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7168484	2.031336	.9386454	1.948863	.8063951	2.042466	.2030776
Stddev	.0006094	.000656	.0011416	.012062	.0040903	.025656	.0030729
%RSD	.0850070	.0323067	.1216243	.6189033	.5072306	1.256150	1.513174
#1	.7165377	2.031136	.9397253	1.955859	.8017244	2.048722	.1996228
#2	.7164571	2.030802	.9387602	1.955794	.8081233	2.014260	.2055059
#3	.7175505	2.032068	.9374507	1.934935	.8093376	2.064416	.2041040
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2158123	.1903655	1.030040	.4106763	.1915042	.3341594	3.241934
Stddev	.0029951	.0001383	.005880	.0009262	.0002451	.0050364	.013480
%RSD	1.387845	.0726500	.5708428	.2255238	.1279822	1.507192	.4157980
#1	.2128929	.1905045	1.035705	.4104593	.1914398	.3286878	3.226832
#2	.2188779	.1902279	1.030449	.4116917	.1917750	.3386015	3.252748
#3	.2156660	.1903641	1.023966	.4098779	.1912977	.3351888	3.246223
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2029596	2.051944	.4869576	.0768521	2.949949	.3065257	.2067183
Stddev	.0021510	.032481	.0011614	.0006833	.025369	.0024931	.0012905
%RSD	1.059810	1.582926	.2384947	.8891707	.8599975	.8133236	.6242975
#1	.2005013	2.017534	.4882670	.0764042	2.923424	.3036565	.2080718
#2	.2044956	2.056228	.4865534	.0776387	2.973979	.3077572	.2055016
#3	.2038820	2.082070	.4860523	.0765135	2.952444	.3081634	.2065817
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.391414	5.681730	.3115552	.4001312	-.004676	.9443942	.6713144
Stddev	.132177	.010365	.0053181	.0007889	.001660	.0145557	.0026850
%RSD	1.407426	.1824202	1.706947	.1971593	35.50826	1.541275	.3999584
#1	9.249957	5.687182	.3054873	.3992398	-.006557	.9288421	.6741321
#2	9.511773	5.669777	.3154064	.4007394	-.003415	.9576901	.6687855
#3	9.412513	5.688231	.3137717	.4004143	-.004056	.9466505	.6710257

Sample Name: PB168490BS Acquired: 6/17/2025 17:23:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1990013	.2113936	.2035114
Stddev	.0047261	.0022194	.0011475
%RSD	2.374913	1.049870	.5638285
#1	.1962577	.2129373	.2021937
#2	.1962877	.2088502	.2042905
#3	.2044585	.2123933	.2040500

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3534.917	43838.05	3143.133	4112.299	4842.668
Stddev	3.230	148.39	37.080	32.275	6.025
%RSD	.0913692	.3384962	1.179721	.7848443	.1244060
#1	3538.379	43787.98	3182.948	4082.018	4845.404
#2	3534.390	44005.00	3109.586	4146.254	4846.840
#3	3531.984	43721.18	3136.866	4108.624	4835.761

Sample Name: Q2311-08 Acquired: 6/17/2025 17:27:54 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.013473	.0136499	.0065137	-.016182	.0127384	.2076971	.1301281
Stddev	.001990	.0028512	.0008539	.003354	.0023132	.0162551	.0006503
%RSD	14.76738	20.88839	13.10934	20.72853	18.15957	7.826364	.4997314
#1	-.011447	.0120089	.0061147	-.012668	.0138782	.1947891	.1296038
#2	-.013550	.0119985	.0059324	-.016529	.0100764	.2023501	.1308557
#3	-.015424	.0169422	.0074941	-.019350	.0142605	.2259523	.1299246
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000057	.0000596	200.5674	.0039405	.0209493	.0031562	.2740586
Stddev	.000100	.0001510	.9205	.0010457	.0001413	.0001560	.0172580
%RSD	174.5028	253.5782	.4589625	26.53601	.6743641	4.944065	6.297179
#1	-.000172	.0002105	201.0518	.0030966	.0211050	.0029947	.2939774
#2	.000013	.0000598	199.5058	.0051103	.0208294	.0033062	.2646179
#3	-.000014	-.000092	201.1445	.0036147	.0209133	.0031675	.2635805
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2090464	3.947752	.0012438	-.000163	281.4839	.0058521	.0200531
Stddev	.0003697	.051369	.0005994	.002024	2.3597	.0023286	.0004470
%RSD	.1768426	1.301211	48.18984	1244.314	.8383209	39.79051	2.228988
#1	.2094053	3.989571	.0019192	.001067	279.4199	.0033675	.0204912
#2	.2090671	3.890413	.0010368	.000944	280.9753	.0062043	.0200703
#3	.2086668	3.963273	.0007753	-.002499	284.0564	.0079846	.0195977
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.968362	.0358784	.0491560	-.009281	4.813147	5.384930	.0027789
Stddev	.027804	.0026040	.0015251	.000419	.001054	.038760	.0008978
%RSD	.7006508	7.257883	3.102587	4.517497	.0218936	.7197841	32.30596
#1	3.995004	.0334542	.0491807	-.009728	4.812703	5.426343	.0037966
#2	3.939525	.0386310	.0506687	-.008897	4.812389	5.349525	.0024411
#3	3.970557	.0355500	.0476187	-.009218	4.814350	5.378920	.0020991

Sample Name: Q2311-08 Acquired: 6/17/2025 17:27:54 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0092931	-.004729	1.004045
Stddev	.0037068	.003159	.005728
%RSD	39.88728	66.81184	.5705067
#1	.0113182	-.001745	1.007843
#2	.0050149	-.008039	.997457
#3	.0115462	-.004403	1.006836

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3325.166	40155.15	3097.173	3824.260	4164.571
Stddev	11.732	268.67	7.056	17.990	9.810
%RSD	.3528374	.6690868	.2278052	.4704140	.2355663
#1	3311.733	40371.44	3089.048	3827.689	4153.443
#2	3333.408	39854.40	3100.708	3804.803	4171.968
#3	3330.356	40239.62	3101.762	3840.289	4168.303

Sample Name: Q2311-04 Acquired: 6/17/2025 17:32:25 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.015097	.0144169	.0225212	-.014084	.0125797	.2032655	.3269424
Stddev	.004902	.0021729	.0006669	.002038	.0001315	.0244092	.0027972
%RSD	32.46964	15.07165	2.961396	14.47373	1.045130	12.00855	.8555782
#1	-.011612	.0151385	.0217593	-.014289	.0126603	.1854146	.3262920
#2	-.020703	.0119750	.0229996	-.011950	.0124280	.2310807	.3245276
#3	-.012977	.0161372	.0228047	-.016012	.0126508	.1933012	.3300075
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000083	.0005263	180.7889	.0015692	.0214733	.0063588	.2832936
Stddev	.000125	.0000256	.2181	.0015619	.0000829	.0009235	.0129257
%RSD	149.7383	4.866933	.1206514	99.53574	.3862807	14.52324	4.562647
#1	-.000217	.0005547	181.0050	.0030723	.0214410	.0060734	.2981313
#2	.000030	.0005191	180.7928	-.000045	.0215675	.0073913	.2744768
#3	-.000063	.0005050	180.5689	.001681	.0214113	.0056117	.2772725
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5690057	4.339595	.0029162	.0007913	346.4834	.0116316	.1156219
Stddev	.0028558	.027927	.0008272	.0005525	1.6515	.0079712	.0010639
%RSD	.5018964	.6435408	28.36487	69.82257	.4766580	68.53020	.9201740
#1	.5722778	4.371644	.0033676	.0013976	345.6696	.0153477	.1168498
#2	.5670150	4.320479	.0034196	.0006598	345.3966	.0024809	.1149735
#3	.5677243	4.326662	.0019615	.0003164	348.3839	.0170663	.1150424
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.443960	.0488535	.0577546	-.008806	2.659725	8.574511	.0032707
Stddev	.089031	.0010794	.0009915	.000295	.009654	.051244	.0013025
%RSD	.9427281	2.209526	1.716705	3.345939	.3629695	.5976337	39.82302
#1	9.539887	.0498392	.0588818	-.009116	2.653905	8.621590	.0019170
#2	9.428010	.0477000	.0573644	-.008529	2.654402	8.582014	.0033800
#3	9.363982	.0490215	.0570175	-.008774	2.670869	8.519929	.0045151

Sample Name: Q2311-04 Acquired: 6/17/2025 17:32:25 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0313450	-.010124	1.853160
Stddev	.0035210	.003150	.006088
%RSD	11.23305	31.11482	.3285043

#1	.0290323	-.012365	1.855581
#2	.0296055	-.011484	1.846234
#3	.0353972	-.006522	1.857665

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3329.222	40103.14	3114.100	3827.297	4138.213
Stddev	9.308	122.87	16.133	25.211	15.450
%RSD	.2795715	.3063813	.5180744	.6587103	.3733589

#1	3318.862	39963.14	3096.520	3800.490	4120.456
#2	3331.928	40153.22	3117.553	3850.530	4148.585
#3	3336.877	40193.05	3128.228	3830.872	4145.597

Sample Name: CCV05 Acquired: 6/17/2025 17:37:04 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.821859	5.011920	4.845698	4.884926	4.951012	10.00090	10.02455
Stddev	.004925	.006255	.009434	.004774	.006125	.03998	.07394
%RSD	.1021307	.1248118	.1946883	.0977260	.1237128	.3997236	.7376291
#1	4.827527	5.019114	4.855176	4.883769	4.957585	10.04088	10.10880
#2	4.818628	5.008885	4.845609	4.880838	4.945465	10.00090	9.99448
#3	4.819421	5.007760	4.836308	4.890172	4.949985	9.96093	9.97039
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2570148	2.462307	25.01563	1.010615	2.424506	1.276851	4.895714
Stddev	.0042898	.002293	.06408	.001711	.001557	.020572	.011100
%RSD	1.669107	.0931122	.2561411	.1692795	.0642389	1.611124	.2267387
#1	.2619403	2.464875	25.08861	1.009967	2.424978	1.300551	4.883535
#2	.2550069	2.460464	24.96862	1.012555	2.425774	1.266395	4.905263
#3	.2540971	2.461583	24.98964	1.009323	2.422768	1.263608	4.898346
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.439940	24.26036	2.449880	1.271773	25.17308	2.429354	2.481659
Stddev	.016213	.19551	.002552	.001190	.32117	.012871	.007773
%RSD	.6644848	.8058621	.1041864	.0935481	1.275842	.5298006	.3132031
#1	2.457665	24.39119	2.452815	1.270486	25.54133	2.443406	2.476561
#2	2.436296	24.35428	2.448645	1.272834	25.02700	2.418137	2.477811
#3	2.425859	24.03562	2.448179	1.271998	24.95092	2.426520	2.490605
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.90358	5.057016	5.140106	4.987044	4.880304	5.077568	4.943861
Stddev	.35309	.003985	.081906	.004343	.001760	.072270	.001958
%RSD	1.363100	.0787968	1.593463	.0870948	.0360618	1.423327	.0395974
#1	26.17208	5.059816	5.233787	4.992002	4.879579	5.159971	4.945607
#2	26.03504	5.052454	5.104511	4.985220	4.879022	5.047786	4.941744
#3	25.50361	5.058778	5.082021	4.983910	4.882310	5.024948	4.944231

Sample Name: CCV05 Acquired: 6/17/2025 17:37:04 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.963302	5.027091	5.010155
Stddev	.030310	.009584	.029925
%RSD	.6106880	.1906453	.5972774
#1	4.997533	5.038136	5.043001
#2	4.952503	5.020959	5.003024
#3	4.939870	5.022179	4.984440

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3426.731	42227.93	3104.586	3989.346	4415.883
Stddev	10.939	304.42	33.090	23.432	16.467
%RSD	.3192306	.7208888	1.065833	.5873757	.3728954
#1	3414.584	42578.49	3066.493	4014.155	4397.408
#2	3429.803	42075.01	3121.064	3986.294	4421.231
#3	3435.806	42030.28	3126.202	3967.589	4429.011

Sample Name: CCB05 Acquired: 6/17/2025 17:41:40 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030479	.0026869	.0029404	.0016014	.0005223	.0192515	.0039267
Stddev	.0018041	.0001688	.0003911	.0021836	.0006262	.0257428	.0010178
%RSD	59.19271	6.282950	13.30085	136.3573	119.8881	133.7190	25.92078
#1	.0009938	.0025249	.0024896	.0022984	.0009502	.0226574	.0048112
#2	.0043754	.0026741	.0031426	.0033513	-.000196	-.008025	.0028142
#3	.0037744	.0028618	.0031891	-.000846	.000813	.043122	.0041548
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000263	.0010576	.0028794	-.000499	.0012123	.0009809	-.008120
Stddev	.0000929	.0000194	.0071780	.000417	.0001952	.0009907	.020475
%RSD	353.5018	1.835797	249.2883	83.58755	16.10398	101.0010	252.1482
#1	.0001049	.0010561	-.004729	-.000018	.0014360	.0010916	-.031687
#2	.0000501	.0010777	.003836	-.000728	.0011244	-.000061	.005307
#3	-.000076	.0010390	.009531	-.000752	.0010764	.001912	.002019
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009610	-.030321	.0010048	.0008429	-.004448	.0032430	.0017893
Stddev	.0006883	.016966	.0009902	.0003305	.018937	.0069074	.0003130
%RSD	71.62732	55.95483	98.55325	39.21377	425.7611	212.9927	17.49188
#1	.0003686	-.047892	.0020919	.0011406	-.018057	.0105834	.0016930
#2	.0017161	-.029038	.0007681	.0004872	.017179	-.003129	.0021391
#3	.0007982	-.014032	.0001543	.0009009	-.012465	.002275	.0015357
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0128831	.0018221	.0101898	.0027493	.0040466	.0096857	.0026272
Stddev	.0010259	.0016167	.0014101	.0007648	.0001787	.0011657	.0003294
%RSD	7.963261	88.72808	13.83855	27.81821	4.416478	12.03474	12.53825
#1	.0118106	.0005707	.0102573	.0026847	.0038768	.0090495	.0029602
#2	.0138550	.0012481	.0087472	.0035443	.0042331	.0089766	.0026201
#3	.0129839	.0036476	.0115650	.0020188	.0040299	.0110310	.0023015

Sample Name: CCB05 Acquired: 6/17/2025 17:41:40 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0059914	.0049751	.0028197
Stddev	.0067807	.0037529	.0000836
%RSD	113.1739	75.43269	2.965200
#1	.0099935	.0048578	.0027412
#2	.0098182	.0087853	.0029076
#3	-.001838	.0012823	.0028104

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3572.756	44388.58	3190.821	4135.598	5035.814
Stddev	16.479	48.08	9.847	8.359	16.279
%RSD	.4612329	.1083154	.3085968	.2021138	.3232558
#1	3588.222	44334.09	3195.512	4139.022	5052.195
#2	3555.423	44406.61	3197.446	4141.702	5019.640
#3	3574.624	44425.04	3179.506	4126.071	5035.607

Sample Name: Q2334-01 Acquired: 6/17/2025 17:50:37 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009590	.0106243	.0108003	-.005492	.0077029	5.569421
Stddev	.001895	.0016117	.0008200	.002140	.0020795	.026120
%RSD	19.76529	15.17024	7.592037	38.96012	26.99675	.4689825
#1	-.009424	.0119804	.0116954	-.006743	.0055059	5.579310
#2	-.011562	.0110502	.0100855	-.006711	.0079622	5.539800
#3	-.007782	.0088424	.0106199	-.003021	.0096406	5.589152
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0561085	.0000082	-.000102	80.60137	.0091207	.0171404
Stddev	.0002369	.0000794	.000073	.18795	.0007462	.0002286
%RSD	.4221627	966.7321	71.56991	.2331826	8.181500	1.333623
#1	.0561913	-.000083	-.000163	80.68456	.0091782	.0169434
#2	.0558413	.000044	-.000021	80.38618	.0098364	.0170867
#3	.0562928	.000063	-.000121	80.73337	.0083473	.0173910
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0670244	4.865107	1.059748	10.19189	.0033564	.0006611
Stddev	.0009448	.011983	.001433	.08264	.0003058	.0005204
%RSD	1.409676	.2463085	.1352498	.8108700	9.112348	78.70794
#1	.0669786	4.878090	1.060821	10.24136	.0037042	.0010323
#2	.0661033	4.854471	1.058120	10.09648	.0031296	.0008848
#3	.0679913	4.862761	1.060302	10.23782	.0032353	.0000663
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.53300	.0231094	.0527941	1.971921	.2545997	.1363080
Stddev	.27058	.0069083	.0004999	.031207	.0010520	.0020496
%RSD	1.385250	29.89379	.9468159	1.582545	.4131802	1.503628
#1	19.78306	.0297311	.0533265	1.997172	.2545406	.1386058
#2	19.24574	.0236507	.0523348	1.937033	.2556800	.1346682
#3	19.57019	.0159464	.0527210	1.981558	.2535786	.1356500

Sample Name: Q2334-01 Acquired: 6/17/2025 17:50:37 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006037	2.970470	F 19.65868	.0023370	.1131547	-.015913
Stddev	.000393	.004242	.31545	.0008479	.0028659	.003075
%RSD	6.514020	.1428142	1.604614	36.28272	2.532686	19.32140
#1	-.006431	2.966936	19.93736	.0026436	.1162413	-.014572
#2	-.006036	2.969301	19.31622	.0013784	.1105780	-.013737
#3	-.005644	2.975175	19.72247	.0029890	.1126448	-.019431

Elem	Sr4077
Units	ppm
Avg	.3722302
Stddev	.0010319
%RSD	.2772235
#1	.3730322
#2	.3710660
#3	.3725924

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3528.627	43297.83	3176.845	4079.670	4671.033
Stddev	9.517	94.40	47.596	3.895	7.684
%RSD	.2697013	.2180287	1.498219	.0954687	.1644998
#1	3523.225	43370.03	3138.302	4077.326	4664.970
#2	3523.040	43191.00	3230.046	4084.166	4668.455
#3	3539.615	43332.45	3162.186	4077.517	4679.675

Sample Name: Q2334-01DUP Acquired: 6/17/2025 17:54:56 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.010250	.0115725	.0108601	-.007182	.0076095	5.622031
Stddev	.000396	.0002232	.0014927	.002239	.0012175	.033092
%RSD	3.858646	1.928598	13.74448	31.17696	16.00017	.5886183
#1	-.010001	.0117263	.0091956	-.009735	.0062511	5.608560
#2	-.010044	.0116748	.0113047	-.005548	.0086025	5.597798
#3	-.010706	.0113166	.0120799	-.006265	.0079748	5.659734
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0565016	.0000665	-.000058	78.39451	.0089736	.0166656
Stddev	.0004974	.0000539	.000032	.11475	.0004360	.0002315
%RSD	.8804130	81.14742	55.18524	.1463791	4.858164	1.389407
#1	.0562249	.0001287	-.000052	78.28700	.0089995	.0164214
#2	.0570758	.0000374	-.000030	78.51534	.0085253	.0166933
#3	.0562040	.0000333	-.000093	78.38118	.0093961	.0168820
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0649693	4.810233	1.039390	9.989851	.0037313	.0005408
Stddev	.0005561	.035072	.001626	.072493	.0003825	.0005397
%RSD	.8559490	.7291079	.1564731	.7256697	10.24982	99.79533
#1	.0650558	4.804981	1.037611	9.941195	.0033648	-.000030
#2	.0643750	4.778084	1.040800	9.955191	.0037011	.000611
#3	.0654770	4.847635	1.039758	10.07317	.0041279	.001042
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.41826	.0217356	.0519283	1.964375	.2544420	.1309313
Stddev	.05925	.0042216	.0003677	.012627	.0032478	.0010849
%RSD	.3051308	19.42250	.7081530	.6427879	1.276433	.8285792
#1	19.43137	.0240905	.0523529	1.965343	.2564624	.1297175
#2	19.35355	.0242544	.0517140	1.951293	.2506957	.1312696
#3	19.46985	.0168618	.0517180	1.976491	.2561680	.1318066

Sample Name: Q2334-01DUP Acquired: 6/17/2025 17:54:56 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006445	2.901224	F 19.62389	.0008581	.1132798	-.010341
Stddev	.000489	.009786	.11507	.0012567	.0025041	.004918
%RSD	7.592149	.3372956	.5863802	146.4477	2.210567	47.55840
#1	-.006615	2.909554	19.54682	.0019075	.1125516	-.005067
#2	-.005893	2.903672	19.56870	-.000535	.1160673	-.011155
#3	-.006826	2.890447	19.75616	.001201	.1112205	-.014801

Elem	Sr4077
Units	ppm
Avg	.3648721
Stddev	.0007610
%RSD	.2085588
#1	.3641417
#2	.3656604
#3	.3648143

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3500.371	43100.02	3149.535	4060.158	4641.629
Stddev	1.502	32.62	14.042	23.286	1.498
%RSD	.0429206	.0756766	.4458343	.5735320	.0322825
#1	3500.550	43062.38	3150.311	4042.133	4640.894
#2	3501.776	43117.79	3163.173	4086.450	4640.641
#3	3498.788	43119.89	3135.122	4051.892	4643.353

Sample Name: Q2334-01LX5 Acquired: 6/17/2025 17:59:17 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002170	.0061587	.0028086	-.002708	.0045336	1.939575	.0135342
Stddev	.002050	.0014494	.0011004	.002328	.0004156	.016873	.0012867
%RSD	94.46503	23.53505	39.17872	85.99500	9.166301	.8699499	9.507407
#1	-.001878	.0069200	.0040627	-.002111	.0041416	1.949727	.0124203
#2	-.004349	.0044872	.0023587	-.000735	.0044900	1.948901	.0149427
#3	-.000281	.0070689	.0020045	-.005276	.0049693	1.920097	.0132395
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000016	-.000041	17.04528	.0020097	.0070652	.0135103	1.219808
Stddev	.000074	.000015	.06223	.0001706	.0002319	.0005443	.029412
%RSD	479.5305	35.61990	.3650923	8.486585	3.282887	4.028577	2.411162
#1	-.000013	-.000052	17.00276	.0022033	.0073204	.0129484	1.253072
#2	.000058	-.000047	17.11671	.0019444	.0068673	.0140351	1.197246
#3	-.000091	-.000024	17.01638	.0018815	.0070079	.0135476	1.209106
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2249346	2.257027	.0007571	-.000095	4.043687	.0086260	.0112115
Stddev	.0004969	.036043	.0003900	.000099	.011048	.0040787	.0001569
%RSD	.2209275	1.596926	51.51700	103.7039	.2732170	47.28347	1.399942
#1	.2243610	2.216548	.0009128	-.000031	4.035782	.0129848	.0112579
#2	.2252353	2.285646	.0003133	-.000209	4.038968	.0049018	.0113400
#3	.2252074	2.268886	.0010452	-.000046	4.056311	.0079915	.0110366
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4216050	.0556171	.0319729	-.002654	.6107702	6.197387	.0006829
Stddev	.0035419	.0006016	.0008451	.000401	.0041959	.032316	.0001716
%RSD	.8401005	1.081608	2.643287	15.09632	.6869839	.5214439	25.12405
#1	.4175790	.0559404	.0310781	-.003085	.6155959	6.162321	.0005966
#2	.4229946	.0549230	.0320830	-.002583	.6087314	6.225970	.0005717
#3	.4242415	.0559879	.0327576	-.002293	.6079834	6.203870	.0008805

Sample Name: Q2334-01LX5 Acquired: 6/17/2025 17:59:17 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0526383	-.005739	.0790758
Stddev	.0038699	.006594	.0007206
%RSD	7.351906	114.9089	.9113047
#1	.0539117	-.012903	.0782469
#2	.0557110	.000078	.0794272
#3	.0482921	-.004391	.0795533

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3633.628	45207.62	3249.833	4245.544	4960.043
Stddev	12.918	213.44	16.862	19.099	19.909
%RSD	.3555150	.4721278	.5188630	.4498648	.4013821
#1	3619.694	44981.13	3263.918	4223.545	4937.889
#2	3635.984	45405.02	3254.433	4255.195	4965.804
#3	3645.205	45236.71	3231.149	4257.892	4976.436

Sample Name: Q2334-01MS Acquired: 6/17/2025 18:03:39 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7235646	1.957358	.9387662	1.833207	.7428134	9.099668
Stddev	.0038525	.003873	.0005668	.007339	.0022853	.042089
%RSD	.5324330	.1978672	.0603791	.4003566	.3076620	.4625291
#1	.7192023	1.954764	.9384787	1.826925	.7409567	9.141568
#2	.7249910	1.955500	.9394192	1.841274	.7421177	9.057393
#3	.7265005	1.961810	.9384007	1.831423	.7453657	9.100041
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2544125	.2078918	.1919040	79.59115	.4175524	.2079241
Stddev	.0030053	.0012730	.0000290	.23784	.0007268	.0008571
%RSD	1.181275	.6123198	.0151112	.2988240	.1740555	.4121999
#1	.2578297	.2093514	.1919251	79.86538	.4181333	.2083718
#2	.2532274	.2070120	.1919160	79.46692	.4177864	.2069359
#3	.2521805	.2073119	.1918710	79.44115	.4167374	.2084646
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3858208	8.228605	1.322297	11.96530	.4880787	.0719914
Stddev	.0015220	.019505	.006924	.06958	.0010102	.0008933
%RSD	.3944758	.2370331	.5236549	.5815051	.2069840	1.240901
#1	.3875474	8.251027	1.325871	11.97424	.4889925	.0715607
#2	.3846736	8.219231	1.326705	12.02998	.4869939	.0730184
#3	.3852413	8.215558	1.314317	11.89169	.4882498	.0713949
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.24262	.3241836	.2493012	12.95257	6.059386	.4093354
Stddev	.15782	.0020496	.0015328	.03609	.013741	.0030848
%RSD	.7095275	.6322437	.6148554	.2786705	.2267706	.7536072
#1	22.41379	.3227122	.2485495	12.98425	6.075031	.4121499
#2	22.21120	.3265247	.2510648	12.96018	6.053852	.4098188
#3	22.10288	.3233139	.2482894	12.91327	6.049275	.4060374

Sample Name: Q2334-01MS Acquired: 6/17/2025 18:03:39 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3969452	3.704595	F 23.21122	.5283101	.3190347	.1884799
Stddev	.0008300	.004777	.12367	.0012278	.0046958	.0016989
%RSD	.2090907	.1289604	.5327988	.2323942	1.471869	.9013623
#1	.3969835	3.708685	23.35055	.5289525	.3238830	.1891629
#2	.3960967	3.699344	23.16868	.5268944	.3187132	.1865458
#3	.3977554	3.705755	23.11444	.5290833	.3145080	.1897310

Elem	Sr4077
Units	ppm
Avg	.5599298
Stddev	.0034531
%RSD	.6167049
#1	.5636119
#2	.5594137
#3	.5567637

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3500.616	43728.95	3152.287	4110.103	4610.202
Stddev	10.314	239.80	24.807	28.477	6.750
%RSD	.2946334	.5483848	.7869634	.6928579	.1464183
#1	3512.477	43624.67	3127.175	4114.862	4616.676
#2	3495.620	43558.95	3152.910	4079.546	4610.724
#3	3493.752	44003.24	3176.778	4135.900	4603.206

Sample Name: Q2334-01MSD Acquired: 6/17/2025 18:07:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7424069	1.997590	.9563672	1.867882	.7614679	9.231623
Stddev	.0036425	.003610	.0004796	.004215	.0019659	.025244
%RSD	.4906272	.1807219	.0501445	.2256472	.2581723	.2734466
#1	.7460248	1.996871	.9567651	1.872323	.7633248	9.206662
#2	.7387404	1.994394	.9565017	1.863938	.7594087	9.257140
#3	.7424556	2.001506	.9558347	1.867385	.7616703	9.231067
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2572496	.2107631	.1959534	81.05881	.4252337	.2128158
Stddev	.0019039	.0013515	.0003065	.08335	.0019842	.0007234
%RSD	.7400925	.6412330	.1564368	.1028316	.4666261	.3399070
#1	.2570148	.2122128	.1956058	80.96714	.4231408	.2126153
#2	.2554740	.2105384	.1960691	81.07925	.4270876	.2122138
#3	.2592600	.2095380	.1961852	81.13005	.4254728	.2136183
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3932593	8.428941	1.248154	12.17471	.4987338	.0734059
Stddev	.0012004	.037821	.006770	.04633	.0008482	.0008609
%RSD	.3052540	.4487075	.5423957	.3805509	.1700756	1.172761
#1	.3922279	8.424459	1.248320	12.15852	.4979908	.0729980
#2	.3945770	8.468804	1.241303	12.13864	.4996580	.0728247
#3	.3929729	8.393561	1.254840	12.22696	.4985526	.0743949
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.35835	.3202714	.2539011	12.97135	6.197122	.4138619
Stddev	.01565	.0045455	.0002471	.08001	.011993	.0009068
%RSD	.0699981	1.419282	.0973172	.6168062	.1935331	.2190994
#1	22.35227	.3223933	.2539591	12.94194	6.183448	.4148355
#2	22.34665	.3233681	.2536301	12.91021	6.202059	.4137090
#3	22.37612	.3150529	.2541139	13.06190	6.205859	.4130414

Sample Name: Q2334-01MSD Acquired: 6/17/2025 18:07:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4081154	3.015020	F 23.29754	.5383096	.3204063	.1943076
Stddev	.0006974	.005745	.06022	.0004189	.0014793	.0023555
%RSD	.1708864	.1905355	.2584832	.0778237	.4616797	1.212253
#1	.4080038	3.014641	23.36626	.5378300	.3206243	.1935405
#2	.4074805	3.020945	23.27240	.5384947	.3217645	.1924312
#3	.4088619	3.009475	23.25397	.5386041	.3188302	.1969510

Elem	Sr4077
Units	ppm
Avg	.5676574
Stddev	.0022189
%RSD	.3908903
#1	.5678167
#2	.5653631
#3	.5697923

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3502.471	43974.93	3174.592	4120.407	4609.109
Stddev	5.539	252.47	4.520	23.921	3.619
%RSD	.1581393	.5741137	.1423777	.5805523	.0785229
#1	3502.045	44265.64	3173.796	4145.825	4607.935
#2	3508.211	43810.71	3170.523	4117.060	4613.170
#3	3497.158	43848.44	3179.457	4098.335	4606.223

Sample Name: Q2334-02 Acquired: 6/17/2025 18:16:27 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000838	.0076525	.0323333	-.001173	.0118972	23.57143
Stddev	.002444	.0003887	.0005941	.002051	.0029964	.04582
%RSD	291.8304	5.080092	1.837532	174.8223	25.18602	.1943686
#1	-.002169	.0080065	.0328425	-.003345	.0092582	23.60906
#2	-.002327	.0072365	.0316805	-.000906	.0151545	23.52041
#3	.001983	.0077145	.0324768	.000731	.0112788	23.58483
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1773268	.0013134	.0000843	56.87944	.0257350	.0205829
Stddev	.0007967	.0001011	.0000139	.20067	.0006453	.0004417
%RSD	.4492681	7.696290	16.49035	.3528066	2.507490	2.146127
#1	.1772340	.0011968	.0000877	56.95180	.0251253	.0202765
#2	.1765806	.0013758	.0000962	56.65263	.0256688	.0203831
#3	.1781658	.0013677	.0000690	57.03391	.0264108	.0210893
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1393646	13.40171	.8528589	7.786842	.0165512	.0008541
Stddev	.0012677	.05055	.0074138	.026816	.0002518	.0006045
%RSD	.9096317	.3771596	.8692914	.3443802	1.521206	70.77738
#1	.1401642	13.45745	.8552172	7.762952	.0163525	.0014298
#2	.1379029	13.35884	.8445528	7.781725	.0168343	.0002245
#3	.1400266	13.38885	.8588067	7.815848	.0164666	.0009079
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.21942	.0307873	.1837766	14.58465	.7323384	.1698598
Stddev	.53786	.0042282	.0003430	.23377	.0037292	.0014651
%RSD	1.244483	13.73347	.1866403	1.602857	.5092159	.8625193
#1	43.44729	.0284759	.1836049	14.69868	.7364569	.1714639
#2	42.60514	.0356673	.1835534	14.31575	.7313678	.1685923
#3	43.60584	.0282187	.1841715	14.73953	.7291905	.1695232

Sample Name: Q2334-02 Acquired: 6/17/2025 18:16:27 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003136	9.215554	F 45.95026	.0017926	.2255734	.0047302
Stddev	.000272	.007238	.46524	.0007473	.0040443	.0043084
%RSD	8.677617	.0785402	1.012493	41.69033	1.792909	91.08197
#1	-.003449	9.216013	46.18300	.0010491	.2291720	.0001730
#2	-.002960	9.208097	45.41458	.0025437	.2211965	.0052809
#3	-.002998	9.222551	46.25320	.0017849	.2263517	.0087368

Elem	Sr4077
Units	ppm
Avg	.5469203
Stddev	.0036454
%RSD	.6665292
#1	.5465748
#2	.5434599
#3	.5507260

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3566.218	44245.27	3245.781	4174.171	4575.954
Stddev	14.824	288.88	44.380	27.800	22.575
%RSD	.4156801	.6529109	1.367308	.6659971	.4933418
#1	3552.549	44186.78	3230.025	4178.678	4551.524
#2	3581.975	44558.92	3295.889	4199.441	4596.043
#3	3564.130	43990.11	3211.429	4144.392	4580.294

Sample Name: Q2334-01A Acquired: 6/17/2025 18:20:53 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7347383	1.965607	.9444552	1.851526	.7481154	9.161531
Stddev	.0019123	.003076	.0008347	.001634	.0015583	.036308
%RSD	.2602736	.1565126	.0883836	.0882283	.2082946	.3963069
#1	.7359699	1.964341	.9434998	1.849740	.7466560	9.201663
#2	.7357097	1.969114	.9448229	1.852945	.7497566	9.151968
#3	.7325352	1.963365	.9450430	1.851893	.7479335	9.130961
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2582569	.2078090	.1934061	80.59010	.4187806	.2098168
Stddev	.0016919	.0014238	.0001319	.36899	.0007689	.0002910
%RSD	.6551081	.6851397	.0682180	.4578581	.1835979	.1387012
#1	.2579521	.2080836	.1933413	80.75755	.4184722	.2094887
#2	.2567381	.2062679	.1933191	80.16708	.4196559	.2099178
#3	.2600804	.2090754	.1935579	80.84568	.4182139	.2100439
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3873100	8.352934	1.289274	12.07343	.4914878	.0723154
Stddev	.0026942	.046774	.004096	.05871	.0006883	.0009655
%RSD	.6956214	.5599712	.3177151	.4862438	.1400393	1.335143
#1	.3873510	8.309767	1.289573	12.04636	.4922786	.0717242
#2	.3845955	8.346405	1.285036	12.03314	.4910246	.0734295
#3	.3899835	8.402629	1.293213	12.14079	.4911601	.0717924
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.23169	.3154746	.2499790	12.88135	6.100728	.4087865
Stddev	.11769	.0039792	.0006069	.04160	.005138	.0005381
%RSD	.5293573	1.261343	.2427994	.3229535	.0842217	.1316328
#1	22.29333	.3109274	.2493013	12.92069	6.106503	.4087279
#2	22.09598	.3171773	.2504725	12.83781	6.099020	.4082801
#3	22.30574	.3183192	.2501630	12.88554	6.096661	.4093515

Sample Name: Q2334-01A Acquired: 6/17/2025 18:20:53 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4003885	3.391904	F 23.10003	.5311446	.3153976	.1872065
Stddev	.0005798	.004771	.11235	.0016330	.0026077	.0013877
%RSD	.1448058	.1406498	.4863600	.3074536	.8267905	.7412785
#1	.3997948	3.386416	23.12319	.5294095	.3150224	.1875034
#2	.4004175	3.395060	22.97790	.5326515	.3181725	.1884217
#3	.4009533	3.394235	23.19899	.5313729	.3129978	.1856944

Elem	Sr4077
Units	ppm
Avg	.5653164
Stddev	.0011727
%RSD	.2074339
#1	.5648369
#2	.5644595
#3	.5666528

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3518.713	43918.25	3164.964	4125.351	4624.321
Stddev	5.408	177.46	18.375	4.021	6.641
%RSD	.1536932	.4040617	.5805751	.0974731	.1436210
#1	3524.207	43858.23	3160.955	4123.006	4625.825
#2	3513.396	43778.60	3185.013	4123.052	4617.056
#3	3518.535	44117.94	3148.925	4129.994	4630.081

Sample Name: Q2334-03DLX5 Acquired: 6/17/2025 18:25:12 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0108277	.0030408	.1543561	.0187392	.0108880	143.6332
Stddev	.0017218	.0009648	.0003297	.0014512	.0008826	.5759
%RSD	15.90179	31.72952	.2135912	7.744005	8.106043	.4009631
#1	.0116137	.0039367	.1543429	.0203304	.0118701	144.0159
#2	.0088532	.0020193	.1546922	.0174887	.0101613	143.9129
#3	.0120163	.0031665	.1540333	.0183985	.0106324	142.9709
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8230464	.0068724	-.002300	23.43919	.1312997	.0834700
Stddev	.0030893	.0001041	.000110	.08404	.0013603	.0007357
%RSD	.3753429	1.514776	4.761823	.3585547	1.036008	.8813663
#1	.8242424	.0067780	-.002381	23.42624	.1309809	.0842406
#2	.8253588	.0069841	-.002175	23.52895	.1327910	.0827751
#3	.8195380	.0068550	-.002343	23.36237	.1301271	.0833944
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3338743	126.5531	4.497723	32.42308	.1762321	.0055314
Stddev	.0029114	.7242	.013883	.14000	.0006697	.0013353
%RSD	.8720015	.5722109	.3086765	.4317845	.3800024	24.14105
#1	.3367014	127.1915	4.498024	32.32350	.1769506	.0068862
#2	.3308854	126.7015	4.511454	32.58315	.1761204	.0042165
#3	.3340362	125.7662	4.483692	32.36259	.1756252	.0054914
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.780796	.1354841	.5738103	16.55065	3.039181	.1075658
Stddev	.110112	.0073522	.0040692	.16273	.018356	.0012052
%RSD	1.125797	5.426617	.7091521	.9832079	.6039683	1.120439
#1	9.832054	.1270286	.5781161	16.48298	3.059396	.1065844
#2	9.654399	.1390536	.5732865	16.43268	3.023556	.1089110
#3	9.855934	.1403702	.5700285	16.73629	3.034591	.1072020

Sample Name: Q2334-03DLX5 Acquired: 6/17/2025 18:25:12 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005613	3.366911	F 29.72224	.0019540	1.060850	.1482906
Stddev	.0004257	.021547	.20445	.0008836	.012258	.0019532
%RSD	75.83328	.6399643	.6878669	45.21998	1.155515	1.317160
#1	.0008814	3.389043	29.93674	.0018611	1.066429	.1479280
#2	.0007243	3.346000	29.52959	.0011206	1.069326	.1503997
#3	.0000782	3.365690	29.70039	.0028805	1.046794	.1465440

Elem	Sr4077
Units	ppm
Avg	.2210257
Stddev	.0008125
%RSD	.3676255
#1	.2216892
#2	.2212686
#3	.2201194

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3667.083	44870.32	3310.822	4294.811	4495.313
Stddev	6.069	118.84	25.141	25.994	11.382
%RSD	.1654937	.2648582	.7593673	.6052379	.2531873
#1	3660.260	44786.32	3298.308	4266.324	4483.460
#2	3671.879	44818.36	3339.765	4300.867	4506.155
#3	3669.110	45006.30	3294.394	4317.242	4496.325

Sample Name: Q2296-13 Acquired: 6/17/2025 18:29:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0568071	-.017967	.2438490	.0364673	.0158313	180.7807	.7175163
Stddev	.0009410	.001372	.0013771	.0016128	.0016842	.5697	.0052056
%RSD	1.656428	7.638794	.5647313	4.422536	10.63818	.3151436	.7255067
#1	.0575617	-.018047	.2439901	.0348372	.0149610	181.0499	.7169884
#2	.0571068	-.019297	.2451501	.0380622	.0177725	180.1263	.7125948
#3	.0557528	-.016556	.2424068	.0365025	.0147603	181.1659	.7229658
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0073849	-.001861	13.24299	.2099753	.1169754	.1947629	232.5008
Stddev	.0000576	.000142	.03286	.0008462	.0002781	.0013135	.7231
%RSD	.7798972	7.605228	.2481033	.4029771	.2377644	.6744309	.3110140
#1	.0073601	-.001975	13.25604	.2091831	.1172621	.1962792	232.9934
#2	.0073437	-.001703	13.20561	.2108666	.1167067	.1939733	231.6706
#3	.0074507	-.001907	13.26731	.2098761	.1169575	.1940362	232.8383
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.911662	32.59583	.2030544	.0102746	3.839860	.3556725	.6645064
Stddev	.015844	.15323	.0007916	.0004739	.019220	.0092494	.0019009
%RSD	.5441614	.4700986	.3898266	4.612480	.5005478	2.600552	.2860616
#1	2.909710	32.52862	.2036298	.0106316	3.852399	.3594747	.6666847
#2	2.896884	32.48768	.2033818	.0104551	3.817731	.3451279	.6631833
#3	2.928391	32.77118	.2021517	.0097369	3.849449	.3624148	.6636513
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.754019	4.437759	.0834956	.0030547	.6780572	5.192428	.0133238
Stddev	.056930	.005245	.0006304	.0003122	.0040476	.363682	.0005809
%RSD	.8429101	.1181988	.7549580	10.21973	.5969470	7.004090	4.360121
#1	6.750141	4.440228	.0828705	.0026975	.6817239	4.838946	.0130959
#2	6.699126	4.441314	.0841311	.0031912	.6787339	5.172820	.0139841
#3	6.812789	4.431735	.0834852	.0032754	.6737139	5.565518	.0128914

Sample Name: Q2296-13 Acquired: 6/17/2025 18:29:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.553725	.1856142	.1364945
Stddev	.014059	.0036842	.0004687
%RSD	.5505121	1.984879	.3434034
#1	2.547792	.1876820	.1365648
#2	2.543605	.1813606	.1359946
#3	2.569777	.1878000	.1369241

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4583.526	55900.01	4220.922	5356.850	4547.674
Stddev	10.280	516.38	23.636	37.292	7.238
%RSD	.2242912	.9237562	.5599826	.6961612	.1591655
#1	4593.770	56436.57	4236.769	5392.893	4553.712
#2	4573.210	55856.95	4232.244	5359.235	4539.650
#3	4583.597	55406.51	4193.755	5318.423	4549.659

Sample Name: Q2296-17 Acquired: 6/17/2025 18:33:56 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0202485	-.006368	.2325469	.0366001	.0171424	121.2637	.6310672
Stddev	.0011144	.001689	.0015356	.0009335	.0008559	.1539	.0031764
%RSD	5.503507	26.52955	.6603238	2.550660	4.993178	.1269123	.5033318
#1	.0197732	-.006259	.2320650	.0358956	.0166188	121.0943	.6291873
#2	.0215217	-.004735	.2313101	.0376589	.0181302	121.3948	.6292797
#3	.0194505	-.008109	.2342656	.0362458	.0166782	121.3020	.6347345
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0082443	-.003993	13.71560	.1633701	.1127636	.4727690	240.3067
Stddev	.0000285	.000090	.05869	.0009316	.0002574	.0038215	.7476
%RSD	.3450473	2.254258	.4279115	.5702296	.2282540	.8083301	.3111040
#1	.0082276	-.003895	13.65125	.1635490	.1124788	.4692316	239.4441
#2	.0082282	-.004013	13.72935	.1623621	.1129795	.4722531	240.7679
#3	.0082772	-.004071	13.76619	.1641993	.1128325	.4768223	240.7081
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.267920	37.75001	.2069132	.0107688	3.758216	.2320663	.4496445
Stddev	.018113	.15978	.0003457	.0009561	.033807	.0016782	.0014794
%RSD	.3438385	.4232538	.1670917	8.878456	.8995417	.7231500	.3290117
#1	5.247863	37.57761	.2067428	.0097774	3.727852	.2339732	.4513286
#2	5.272813	37.77930	.2066857	.0108437	3.752153	.2308147	.4490505
#3	5.283083	37.89311	.2073110	.0116852	3.794645	.2314109	.4485545
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.35286	3.094803	.1171123	.0007260	.2759598	13.31370	.0067913
Stddev	.02361	.003059	.0007059	.0000397	.0011219	.07158	.0004270
%RSD	.1768302	.0988543	.6027848	5.464351	.4065290	.5376238	6.288080
#1	13.32570	3.093625	.1169964	.0007714	.2769236	13.26336	.0063913
#2	13.36854	3.098277	.1178691	.0006983	.2762275	13.28209	.0072411
#3	13.36433	3.092509	.1164716	.0007081	.2747283	13.39564	.0067415

Sample Name: Q2296-17 Acquired: 6/17/2025 18:33:56 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.579446	.2115262	.1105032
Stddev	.004443	.0024674	.0003054
%RSD	.1722486	1.166474	.2763973
#1	2.574316	.2103127	.1102783
#2	2.581961	.2143654	.1103804
#3	2.582062	.2099005	.1108509

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4177.006	51810.92	3836.977	4903.320	4574.108
Stddev	23.737	193.68	22.636	17.690	25.448
%RSD	.5682842	.3738154	.5899347	.3607710	.5563522
#1	4189.301	51737.32	3855.731	4883.665	4586.145
#2	4192.075	52030.61	3843.368	4908.330	4591.305
#3	4149.644	51664.84	3811.833	4917.964	4544.875

Sample Name: CCV06 Acquired: 6/17/2025 18:38:19 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.801469	4.982893	4.821806	4.885008	4.917234	9.898373	9.843696
Stddev	.008549	.006965	.005779	.001630	.004796	.030142	.054314
%RSD	.1780457	.1397784	.1198489	.0333607	.0975297	.3045162	.5517606
#1	4.793101	4.990888	4.825546	4.883657	4.921372	9.878821	9.820124
#2	4.801116	4.979658	4.815150	4.886818	4.918353	9.883211	9.805151
#3	4.810188	4.978134	4.824721	4.884550	4.911978	9.933085	9.905814
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2562043	2.442845	24.75819	.9867140	2.418448	1.268317	4.896153
Stddev	.0023570	.001925	.07848	.0050435	.003429	.011662	.010183
%RSD	.9199512	.0788054	.3169923	.5111432	.1417721	.9194694	.2079817
#1	.2547143	2.441180	24.68006	.9816525	2.414687	1.259339	4.903205
#2	.2589216	2.444953	24.75750	.9917393	2.419259	1.281498	4.884478
#3	.2549769	2.442403	24.83702	.9867502	2.421399	1.264114	4.900775
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.401516	23.88318	2.434349	1.248188	25.06522	2.403329	2.421693
Stddev	.009334	.08113	.000187	.005226	.18353	.009891	.010437
%RSD	.3886825	.3396940	.0076706	.4186644	.7322192	.4115375	.4309849
#1	2.393517	23.80990	2.434440	1.244804	24.94553	2.403447	2.426497
#2	2.399261	23.86928	2.434473	1.254206	25.27652	2.393381	2.428864
#3	2.411772	23.97036	2.434134	1.245553	24.97361	2.413161	2.409719
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.76769	5.038032	5.083754	4.940260	4.846227	5.105818	4.907411
Stddev	.20637	.005638	.050823	.003949	.016607	.049331	.002665
%RSD	.8009031	.1119181	.9997113	.0799419	.3426873	.9661779	.0543121
#1	25.53074	5.031590	5.059620	4.943849	4.827680	5.076829	4.905379
#2	25.86420	5.042070	5.142148	4.940903	4.851281	5.162778	4.910429
#3	25.90812	5.040436	5.049495	4.936029	4.859720	5.077848	4.906426

Sample Name: CCV06 Acquired: 6/17/2025 18:38:19 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.864268	4.971443	4.939636
Stddev	.026014	.016014	.022898
%RSD	.5348040	.3221119	.4635491
#1	4.864187	4.957477	4.929987
#2	4.838295	4.967932	4.923143
#3	4.890323	4.988921	4.965779

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3429.938	43506.72	3138.837	4081.003	4417.043
Stddev	1.698	125.20	10.999	14.924	3.755
%RSD	.0495038	.2877691	.3504294	.3656884	.0850213
#1	3429.658	43521.44	3151.527	4075.060	4421.152
#2	3428.398	43623.91	3132.033	4097.982	4413.789
#3	3431.759	43374.81	3132.951	4069.966	4416.187

Sample Name: CCB06 Acquired: 6/17/2025 18:42:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012540	.0022981	-.000824	.0002918	-.001883	-.031357	-.000823
Stddev	.0010913	.0005292	.001021	.0007748	.001907	.002341	.000073
%RSD	87.02235	23.03003	123.8686	265.5687	101.2851	7.467181	8.922846
#1	.0000338	.0028603	-.000023	-.000575	.000282	-.033216	-.000907
#2	.0015920	.0022246	-.000476	.000917	-.003315	-.032128	-.000776
#3	.0021364	.0018095	-.001974	.000534	-.002617	-.028727	-.000784
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000050	.0000011	.0021838	-.000796	.0003120	.0002465	.0187136
Stddev	.000058	.0000257	.0207133	.000767	.0000851	.0005630	.0192762
%RSD	116.4933	2377.477	948.4942	96.36205	27.26896	228.4361	103.0063
#1	-.000076	.0000291	.0257815	-.000091	.0002185	-.000138	.0120199
#2	-.000089	-.000004	-.012992	-.001612	.0003848	-.000015	.0036766
#3	.000017	-.000022	-.006239	-.000683	.0003328	.000893	.0404444
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006410	.0266493	.0004913	.0006610	.0048603	.0125709	.0031978
Stddev	.0003167	.0240782	.0002138	.0011094	.0141922	.0063189	.0003516
%RSD	49.39882	90.35183	43.52644	167.8424	291.9992	50.26666	10.99401
#1	.0008637	.0524662	.0003032	.0014112	.0056094	.0057504	.0033054
#2	.0007809	.0048037	.0007239	-.000613	-.009692	.0182261	.0028050
#3	.0002785	.0226780	.0004468	.001185	.018663	.0137360	.0034831
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095768	.0022246	.0116381	.0006160	.0019517	.0113371	.0007435
Stddev	.0005660	.0016225	.0007419	.0000230	.0019329	.0017150	.0011999
%RSD	5.909950	72.93366	6.374508	3.733192	99.03166	15.12776	161.3854
#1	.0101309	.0040920	.0124659	.0006251	.0038401	.0131887	.0021141
#2	.0095998	.0011602	.0114149	.0006330	.0020378	.0098030	.0002345
#3	.0089997	.0014217	.0110334	.0005898	-.000023	.0110195	-.000118

Sample Name: CCB06 Acquired: 6/17/2025 18:42:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0033672	-.008224	.0000823
Stddev	.0015451	.006286	.0001252
%RSD	45.88707	76.42990	152.1573
#1	.0028300	-.010589	.0002261
#2	.0021624	-.012984	.0000239
#3	.0051093	-.001099	-.000003

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3571.659	45327.18	3222.927	4198.589	5025.697
Stddev	13.752	331.93	11.077	38.628	15.213
%RSD	.3850292	.7322869	.3437068	.9200143	.3027115
#1	3556.198	45658.63	3235.703	4235.077	5008.131
#2	3576.254	44994.78	3217.082	4158.129	5034.648
#3	3582.526	45328.14	3215.997	4202.561	5034.311

Sample Name: Q2311-01 Acquired: 6/17/2025 18:47:00 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1774054	-.006325	1.782199	.0566522	.0344094	123.1948	1.337290
Stddev	.0038646	.000464	.003450	.0005766	.0022932	.4453	.007486
%RSD	2.178408	7.331585	.1935893	1.017837	6.664364	.3614352	.5598020
#1	.1730006	-.006017	1.783941	.0571065	.0327807	122.7615	1.329568
#2	.1789884	-.006858	1.784431	.0568466	.0334158	123.1718	1.337786
#3	.1802271	-.006099	1.778225	.0560035	.0370318	123.6512	1.344516
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0093902	-.006211	239.1728	.3353661	.1711187	.7657406	449.6233
Stddev	.0001295	.000086	.9085	.0011213	.0002393	.0078807	2.1057
%RSD	1.378551	1.382304	.3798692	.3343428	.1398697	1.029160	.4683199
#1	.0092453	-.006147	238.3172	.3342557	.1708908	.7569286	447.3468
#2	.0094309	-.006177	239.0748	.3353448	.1713680	.7681801	450.0218
#3	.0094944	-.006308	240.1263	.3364979	.1710972	.7721130	451.5012
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.692803	66.58499	.2439186	.0216559	5.120692	.4879361	1.214487
Stddev	.026289	.37171	.0012966	.0004139	.067913	.0035440	.006231
%RSD	.5601994	.5582469	.5315592	1.911224	1.326249	.7263215	.5130260
#1	4.670098	66.27672	.2426420	.0211865	5.042679	.4840665	1.218568
#2	4.686706	66.48048	.2452342	.0218130	5.166604	.4887177	1.207315
#3	4.721605	66.99776	.2438795	.0219683	5.152794	.4910240	1.217578
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.47990	11.12888	1.905708	.0047106	3.301311	13.28677	.0814488
Stddev	.10015	.01258	.019435	.0001728	.003484	.15087	.0006315
%RSD	.6077174	.1130120	1.019850	3.668613	.1055446	1.135526	.7753462
#1	16.57373	11.11503	1.883987	.0047384	3.304102	13.12327	.0808483
#2	16.37444	11.13205	1.911681	.0045256	3.302426	13.31640	.0821073
#3	16.49152	11.13958	1.921456	.0048679	3.297406	13.42062	.0813907

Sample Name: Q2311-01 Acquired: 6/17/2025 18:47:00 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.048004	.1778952	2.566085
Stddev	.025646	.0022285	.013651
%RSD	.6335507	1.252708	.5319968
#1	4.018390	.1759426	2.552674
#2	4.062779	.1774202	2.565615
#3	4.062843	.1803230	2.579965

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3728.095	45862.50	3513.832	4314.319	4248.722
Stddev	16.225	120.52	29.174	19.695	15.296
%RSD	.4352160	.2627761	.8302629	.4565020	.3600190
#1	3724.973	45724.94	3547.517	4292.707	4244.888
#2	3713.657	45949.51	3496.627	4318.993	4235.708
#3	3745.654	45913.04	3497.353	4331.256	4265.571

Sample Name: Q2311-05 Acquired: 6/17/2025 18:51:19 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1007535	-.009310	.3734160	.0404016	.0303396	87.57254
Stddev	.0017258	.004004	.0016421	.0038055	.0019380	.21579
%RSD	1.712894	43.00698	.4397583	9.419168	6.387669	.2464181
#1	.1024527	-.006285	.3738617	.0374183	.0288098	87.32345
#2	.1008054	-.007795	.3715970	.0446873	.0296901	87.69134
#3	.0990023	-.013850	.3747892	.0390992	.0325190	87.70283
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5213138	.0079467	-.006321	152.9557	.2951205	.1480939
Stddev	.0019065	.0000210	.000248	.3245	.0016666	.0004056
%RSD	.3657029	.2645691	3.918319	.2121672	.5647272	.2738541
#1	.5203622	.0079669	-.006035	152.6010	.2941051	.1481272
#2	.5200704	.0079483	-.006473	153.2376	.2970439	.1476727
#3	.5235087	.0079249	-.006454	153.0286	.2942124	.1484818
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2603312	361.5979	3.400721	40.64235	.1543782	.0139963
Stddev	.0006273	1.4509	.012399	.18371	.0003981	.0000545
%RSD	.2409563	.4012362	.3646046	.4520273	.2578773	.3891435
#1	.2608995	359.9704	3.386594	40.44625	.1542462	.0139364
#2	.2596582	362.0678	3.405769	40.67032	.1540628	.0140098
#3	.2604360	362.7557	3.409799	40.81047	.1548255	.0140428
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.659214	.4824241	.5449905	11.48223	4.983707	.7855585
Stddev	.022138	.0129527	.0027044	.07761	.007027	.0024809
%RSD	.8324839	2.684922	.4962211	.6759502	.1409953	.3158088
#1	2.681432	.4678277	.5440770	11.53495	4.984104	.7875157
#2	2.637158	.4925474	.5480333	11.39311	4.976490	.7827684
#3	2.659052	.4868973	.5428612	11.51864	4.990527	.7863915

Sample Name: Q2311-05 Acquired: 6/17/2025 18:51:19 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004668	3.332417	F 13.82586	.0285703	2.904645	.1180850
Stddev	.000145	.006109	.09949	.0010160	.006119	.0063651
%RSD	3.102386	.1833178	.7195602	3.556219	.2106704	5.390269
#1	-.004662	3.328604	13.88562	.0281178	2.898795	.1217384
#2	-.004526	3.329184	13.71101	.0297340	2.904138	.1107352
#3	-.004815	3.339463	13.88094	.0278592	2.911002	.1217813

Elem	Sr4077
Units	ppm
Avg	.8600874
Stddev	.0022918
%RSD	.2664603
#1	.8583816
#2	.8591881
#3	.8626924

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3714.384	46353.64	3489.459	4357.730	4358.188
Stddev	6.939	286.22	25.888	22.948	5.551
%RSD	.1868098	.6174655	.7418837	.5266078	.1273614
#1	3712.052	46682.35	3485.694	4383.889	4361.860
#2	3708.912	46219.03	3517.023	4340.991	4351.803
#3	3722.189	46159.55	3465.660	4348.311	4360.902

Sample Name: Q2296-01 Acquired: 6/17/2025 18:55:40 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0854928	-.013221	2.153361	.0387680	.0212832	187.1675
Stddev	.0035415	.001699	.002890	.0027617	.0039156	.5043
%RSD	4.142431	12.85100	.1342174	7.123758	18.39750	.2694535
#1	.0890824	-.014611	2.154621	.0419003	.0239133	187.2846
#2	.0853946	-.013724	2.150055	.0377206	.0231530	186.6149
#3	.0820015	-.011327	2.155408	.0366832	.0167832	187.6030
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.608444	.0110984	.0005007	38.72341	.2271294	.1466372
Stddev	.010214	.0001195	.0000591	.17156	.0052022	.0004985
%RSD	.6349986	1.076563	11.80381	.4430316	2.290415	.3399822
#1	1.603816	.0111494	.0004768	38.67606	.2240445	.1471950
#2	1.601363	.0109619	.0005680	38.58050	.2242081	.1462350
#3	1.620152	.0111839	.0004573	38.91367	.2331357	.1464815
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4411307	276.8051	6.274843	43.61432	.3051849	.0128657
Stddev	.0060072	.7935	.033639	.27661	.0014143	.0003977
%RSD	1.361786	.2866787	.5360929	.6342285	.4634269	3.090917
#1	.4424796	276.3490	6.259904	43.49271	.3063877	.0129691
#2	.4345637	276.3449	6.251262	43.41935	.3036268	.0132014
#3	.4463489	277.7214	6.313365	43.93091	.3055403	.0124265
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.803530	.3990031	1.350957	11.97959	11.20182	.1335392
Stddev	.023725	.0086320	.027189	.15622	.01965	.0041587
%RSD	.8462599	2.163390	2.012590	1.304077	.1753847	3.114234
#1	2.800166	.3923374	1.340775	12.03427	11.21992	.1308380
#2	2.781667	.3959183	1.330329	11.80338	11.18093	.1383282
#3	2.828758	.4087537	1.381768	12.10113	11.20462	.1314514

Sample Name: Q2296-01 Acquired: 6/17/2025 18:55:40 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028125	2.607687	F 17.70512	.0412085	3.128735	.2163263
Stddev	.0001037	.007391	.47588	.0014785	.022560	.0057181
%RSD	3.686135	.2834391	2.687810	3.587727	.7210483	2.643278
#1	.0028248	2.612785	17.75488	.0402226	3.110013	.2204910
#2	.0027033	2.611067	17.20631	.0404944	3.122411	.2098068
#3	.0029095	2.599211	18.15416	.0429084	3.153782	.2186810

Elem	Sr4077
Units	ppm
Avg	.2541279
Stddev	.0012553
%RSD	.4939717
#1	.2531367
#2	.2537075
#3	.2555394

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4773.540	57823.25	4399.643	5493.121	4351.243
Stddev	7.472	702.87	34.268	60.749	2.138
%RSD	.1565272	1.215553	.7788809	1.105916	.0491398
#1	4781.580	58338.42	4378.854	5530.851	4353.629
#2	4766.809	58108.78	4439.195	5525.468	4350.601
#3	4772.232	57022.54	4380.879	5423.042	4349.499

Sample Name: Q2296-01DUP Acquired: 6/17/2025 19:00:00 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0788727	-.011220	1.873097	.0378916	.0214674	188.2669
Stddev	.0029817	.001938	.001868	.0007014	.0021874	.4199
%RSD	3.780362	17.27735	.0997250	1.850965	10.18942	.2230222
#1	.0822061	-.009046	1.872293	.0374559	.0224280	187.8786
#2	.0779523	-.011844	1.875233	.0387007	.0230102	188.7124
#3	.0764598	-.012769	1.871767	.0375182	.0189641	188.2097
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.552861	.0100501	.0004231	32.76402	.2260288	.1341728
Stddev	.004022	.0000838	.0000174	.10291	.0011715	.0001524
%RSD	.2590322	.8335025	4.118897	.3140925	.5182854	.1136055
#1	1.548665	.0100869	.0004364	32.74301	.2248669	.1343450
#2	1.556684	.0101092	.0004034	32.87581	.2260099	.1341184
#3	1.553233	.0099543	.0004296	32.67323	.2272096	.1340551
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4175819	259.0752	6.164615	40.14420	.2799709	.0120240
Stddev	.0023191	.5849	.017522	.04817	.0005631	.0008874
%RSD	.5553528	.2257700	.2842354	.1199830	.2011247	7.380176
#1	.4184381	258.4002	6.152004	40.11599	.2793380	.0113631
#2	.4193511	259.4322	6.184623	40.19982	.2801585	.0130326
#3	.4149565	259.3933	6.157220	40.11680	.2804162	.0116762
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.599100	.3966920	1.360698	11.54325	8.805755	.1223909
Stddev	.012729	.0070950	.003128	.05775	.011612	.0008130
%RSD	.4897580	1.788549	.2298625	.5003103	.1318632	.6642361
#1	2.595058	.4023384	1.358795	11.48878	8.793087	.1231638
#2	2.613359	.3887280	1.364308	11.60381	8.815894	.1215431
#3	2.588882	.3990096	1.358992	11.53717	8.808283	.1224659

Sample Name: Q2296-01DUP Acquired: 6/17/2025 19:00:00 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025638	2.154796	F 16.67300	.0349368	2.984113	.2136999
Stddev	.0009394	.000765	.07892	.0007951	.001862	.0032017
%RSD	36.64023	.0355149	.4733424	2.275872	.0623956	1.498242
#1	.0016230	2.155074	16.59287	.0355613	2.985733	.2100096
#2	.0035018	2.155383	16.75066	.0352074	2.984528	.2153527
#3	.0025668	2.153930	16.67547	.0340417	2.982079	.2157375

Elem	Sr4077
Units	ppm
Avg	.2522837
Stddev	.0009334
%RSD	.3699791
#1	.2512354
#2	.2530245
#3	.2525914

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4641.717	57569.10	4276.739	5470.364	4430.168
Stddev	26.511	392.88	18.735	26.616	23.694
%RSD	.5711528	.6824430	.4380598	.4865556	.5348266
#1	4652.946	57979.00	4289.811	5498.801	4445.295
#2	4611.440	57532.48	4255.275	5466.240	4402.862
#3	4660.766	57195.81	4285.130	5446.050	4442.347

Sample Name: Q2296-01LX5 Acquired: 6/17/2025 19:04:21 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0160467	-.000868	.4515551	.0084493	.0069766	50.40692	.4294012
Stddev	.0046564	.000647	.0018441	.0032323	.0017523	.21969	.0022559
%RSD	29.01786	74.57769	.4083867	38.25510	25.11624	.4358368	.5253660
#1	.0121878	-.001597	.4499868	.0095694	.0050591	50.20387	.4282103
#2	.0147336	-.000360	.4510919	.0109725	.0084947	50.64014	.4320031
#3	.0212186	-.000648	.4535867	.0048059	.0073760	50.37675	.4279903
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030124	-.000710	10.50879	.0595629	.0323423	.1261868	75.06766
Stddev	.0000766	.000020	.06596	.0005646	.0002735	.0017161	.31484
%RSD	2.542149	2.765686	.6277001	.9479499	.8455594	1.359936	.4194042
#1	.0030847	-.000688	10.43300	.0600304	.0326458	.1260830	74.96142
#2	.0029322	-.000717	10.55327	.0589356	.0321150	.1279523	75.42187
#3	.0030205	-.000725	10.54009	.0597227	.0322662	.1245249	74.81968
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.718365	12.16760	.0632005	.0034627	.7826417	.1142600	.3658732
Stddev	.013406	.04991	.0005313	.0006447	.0095421	.0022792	.0004481
%RSD	.7801384	.4101653	.8407060	18.61785	1.219213	1.994730	.1224733
#1	1.703973	12.11206	.0636706	.0027348	.7849692	.1137133	.3653572
#2	1.730497	12.18206	.0626240	.0036917	.7908047	.1167628	.3661643
#3	1.720626	12.20869	.0633070	.0039616	.7721512	.1123038	.3660981
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.708291	2.240795	.0353422	-.000380	.5146566	5.928616	.0093870
Stddev	.024152	.008056	.0009477	.000107	.0032703	.055726	.0004909
%RSD	.8917647	.3595029	2.681375	28.23165	.6354416	.9399517	5.229775
#1	2.697129	2.241792	.0353763	-.000494	.5174078	5.928233	.0088217
#2	2.736005	2.232286	.0362724	-.000364	.5110408	5.984532	.0096338
#3	2.691740	2.248305	.0343780	-.000282	.5155210	5.873082	.0097056

Sample Name: Q2296-01LX5 Acquired: 6/17/2025 19:04:21 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8710487	.0560051	.0686722
Stddev	.0095925	.0025339	.0003422
%RSD	1.101260	4.524408	.4983474
#1	.8604711	.0584046	.0684200
#2	.8734912	.0533553	.0690618
#3	.8791839	.0562556	.0685349

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3808.698	47575.22	3425.926	4456.340	4679.544
Stddev	14.263	240.73	28.854	32.136	26.022
%RSD	.3744945	.5060066	.8422386	.7211207	.5560828
#1	3822.830	47710.43	3451.149	4491.184	4703.380
#2	3808.957	47717.96	3394.462	4449.970	4683.471
#3	3794.306	47297.28	3432.168	4427.866	4651.782

Sample Name: Q2296-01MS Acquired: 6/17/2025 19:08:37 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8755171	1.965173	3.088814	1.413175	.2807723	202.4356	1.756188
Stddev	.0023946	.004902	.002947	.005086	.0019293	.5160	.004481
%RSD	.2735117	.2494221	.0954120	.3599303	.6871508	.2548850	.2551744
#1	.8728405	1.967932	3.090797	1.415645	.2811837	202.6584	1.755908
#2	.8774563	1.959513	3.085427	1.416555	.2824626	202.8027	1.751853
#3	.8762546	1.968073	3.090217	1.407325	.2786704	201.8456	1.760802
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1640992	.2042803	35.70289	.5531540	.3543703	.7706293	270.0909
Stddev	.0020084	.0005164	.02542	.0025309	.0004845	.0082206	.7351
%RSD	1.223885	.2527991	.0711903	.4575331	.1367137	1.066736	.2721830
#1	.1624439	.2047109	35.72835	.5550184	.3541549	.7633193	270.6895
#2	.1663335	.2037077	35.70280	.5502729	.3549251	.7795285	270.3128
#3	.1635201	.2044222	35.67752	.5541708	.3540309	.7690402	269.2703
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.879841	42.38616	.8256636	.0683538	4.641471	.6363554	1.790872
Stddev	.013783	.16253	.0007605	.0003345	.029969	.0058823	.009864
%RSD	.2003342	.3834531	.0921088	.4894321	.6456871	.9243750	.5507996
#1	6.867634	42.25235	.8264047	.0687061	4.624995	.6403217	1.802250
#2	6.877101	42.33910	.8248851	.0683151	4.676064	.6295970	1.785633
#3	6.894788	42.56702	.8257009	.0680403	4.623355	.6391475	1.784733
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.43328	16.12023	.2631252	.2969119	2.418996	3.858702	.7120322
Stddev	.35456	.01377	.0019777	.0007133	.008363	.034274	.0010458
%RSD	1.824515	.0854457	.7516045	.2402510	.3457260	.8882211	.1468727
#1	19.39485	16.13611	.2645923	.2962533	2.414147	3.839006	.7126816
#2	19.80549	16.11150	.2608761	.2968129	2.414189	3.898278	.7108258
#3	19.09949	16.11310	.2639071	.2976696	2.428653	3.838821	.7125891

Sample Name: Q2296-01MS Acquired: 6/17/2025 19:08:37 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.621152	.3801399	.4272255
Stddev	.005208	.0014633	.0006446
%RSD	.1986882	.3849487	.1508829
#1	2.615471	.3784531	.4270577
#2	2.622285	.3810689	.4266813
#3	2.625700	.3808978	.4279373

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4681.741	57661.78	4365.764	5466.590	4349.360
Stddev	15.523	488.11	22.651	40.943	16.960
%RSD	.3315649	.8465018	.5188361	.7489638	.3899538
#1	4688.406	57201.68	4382.869	5421.145	4354.972
#2	4692.819	58173.75	4340.075	5500.598	4362.802
#3	4663.999	57609.90	4374.348	5478.026	4330.304

Sample Name: Q2296-01MSD Acquired: 6/17/2025 19:12:53 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8453150	1.924022	2.191053	1.414265	.2608464	209.0907	1.728839
Stddev	.0047626	.000957	.004558	.006279	.0016052	.2235	.004627
%RSD	.5634101	.0497606	.2080419	.4440079	.6153903	.1068801	.2676171
#1	.8485665	1.923361	2.191596	1.421334	.2625820	208.9457	1.729043
#2	.8398483	1.923584	2.186247	1.409333	.2605419	209.3481	1.724113
#3	.8475303	1.925120	2.195315	1.412127	.2594152	208.9783	1.733359
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1670459	.1985475	28.06379	.5417847	.3322675	.7464053	251.8030
Stddev	.0027901	.0001012	.05789	.0024526	.0007880	.0119484	.2085
%RSD	1.670266	.0509871	.2062697	.4526840	.2371564	1.600788	.0827947
#1	.1639400	.1984595	28.12837	.5425733	.3324722	.7327128	251.6755
#2	.1678573	.1985249	28.01658	.5437460	.3313973	.7517850	252.0436
#3	.1693404	.1986582	28.04642	.5390349	.3329329	.7547180	251.6899
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.490939	38.00354	.7981322	.0669368	4.379850	.6204208	1.874352
Stddev	.017551	.07332	.0003522	.0000959	.053707	.0024796	.002255
%RSD	.3196403	.1929336	.0441298	.1432925	1.226240	.3996565	.1203054
#1	5.489546	37.92398	.7977589	.0669638	4.317870	.6183753	1.876166
#2	5.474126	38.06839	.7984587	.0668302	4.408988	.6197084	1.875063
#3	5.509146	38.01824	.7981789	.0670163	4.412691	.6231785	1.871827
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.94218	14.75345	.2677905	.2936333	1.897046	9.922499	.7437481
Stddev	.11277	.00526	.0005727	.0006639	.001482	.166924	.0008470
%RSD	.5953382	.0356306	.2138607	.2260983	.0781205	1.682279	.1138875
#1	18.81196	14.75915	.2675698	.2929232	1.897106	9.731085	.7435699
#2	19.00680	14.74880	.2673609	.2937383	1.898497	9.998607	.7430044
#3	19.00777	14.75241	.2684407	.2942385	1.895535	10.03780	.7446701

Sample Name: Q2296-01MSD Acquired: 6/17/2025 19:12:53 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.602498	.3685331	.3841652
Stddev	.009874	.0017187	.0007723
%RSD	.3794175	.4663490	.2010209
#1	2.603696	.3704494	.3838623
#2	2.592079	.3680221	.3835902
#3	2.611718	.3671280	.3850429

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4573.663	56328.65	4167.295	5330.813	4345.176
Stddev	10.446	531.97	31.734	46.515	5.528
%RSD	.2284024	.9443996	.7614903	.8725693	.1272245
#1	4563.633	55750.61	4202.851	5277.412	4341.592
#2	4584.481	56437.71	4157.188	5352.522	4351.543
#3	4572.876	56797.64	4141.846	5362.505	4342.394

Sample Name: Q2296-01A Acquired: 6/17/2025 19:17:10 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6663551	1.439241	2.768422	1.076066	.4613703	181.9549
Stddev	.1203795	.299267	.194791	.202567	.0896450	3.6076
%RSD	18.06537	20.79338	7.036171	18.82475	19.43017	1.982711
#1	.5465565	1.139320	2.559950	.873569	.3719485	177.9626
#2	.6652016	1.440554	2.799527	1.075926	.4609254	184.9813
#3	.7873072	1.737849	2.945788	1.278702	.5512370	182.9208
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.595300	.0743049	.1480748	37.71212	.3407885	.2902950
Stddev	.036210	.0131387	.0305063	.82791	.0422104	.0336323
%RSD	2.269811	17.68217	20.60192	2.195336	12.38609	11.58556
#1	1.553715	.0612923	.1174856	36.78276	.3082832	.2554652
#2	1.612320	.0740561	.1482415	38.37083	.3255885	.2928338
#3	1.619863	.0875662	.1784974	37.98278	.3884937	.3225859
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5204578	269.0375	6.093070	43.15272	.6671378	.0350721
Stddev	.0271658	5.0547	.124767	.78254	.0838226	.0035824
%RSD	5.219605	1.878817	2.047687	1.813421	12.56451	10.21428
#1	.4931285	263.4959	5.949103	42.24954	.5803903	.0313860
#2	.5207877	273.3952	6.169727	43.62821	.6733309	.0352895
#3	.5474572	270.2213	6.160381	43.58040	.7476920	.0385409
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.636147	.4356494	1.358473	15.09263	15.05617	.2224416
Stddev	.191021	.0118173	.081962	.66883	1.15819	.0190411
%RSD	5.253392	2.712568	6.033395	4.431477	7.692444	8.560022
#1	3.451550	.4229661	1.306858	14.37841	13.83174	.2014784
#2	3.623890	.4376322	1.315582	15.19527	15.20257	.2271813
#3	3.833002	.4463499	1.452981	15.70420	16.13419	.2386652

Sample Name: Q2296-01A Acquired: 6/17/2025 19:17:10 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2274661	2.478521	F 20.29690	.5718989	3.206374	.2438765
Stddev	.0446344	.074335	.43136	.1072784	.071741	.0169653
%RSD	19.62242	2.999157	2.125241	18.75829	2.237461	6.956495
#1	.1825367	2.392701	19.85723	.4625606	3.123915	.2244520
#2	.2280621	2.522752	20.31405	.5761448	3.254474	.2513896
#3	.2717995	2.520111	20.71943	.6769913	3.240734	.2557878

Elem	Sr4077
Units	ppm
Avg	.2814195
Stddev	.0106208
%RSD	3.774011
#1	.2697178
#2	.2840916
#3	.2904491

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4748.150	59689.25	4435.367	5630.129	4386.444
Stddev	98.737	2356.80	40.848	218.436	116.912
%RSD	2.079486	3.948452	.9209540	3.879763	2.665301
#1	4859.891	60594.57	4482.387	5725.020	4520.914
#2	4672.672	61459.15	4408.634	5785.072	4308.873
#3	4711.888	57014.02	4415.081	5380.296	4329.546

Sample Name: Q2296-09 Acquired: 6/17/2025 19:21:26 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0620260	-.015233	.2327784	.0419537	.0193081	186.9835	.6606451
Stddev	.0005591	.001432	.0016334	.0003546	.0022057	.8740	.0036732
%RSD	.9013356	9.397870	.7016887	.8451652	11.42386	.4674394	.5560003
#1	.0614150	-.015354	.2336449	.0423586	.0176587	186.8798	.6577660
#2	.0621512	-.016600	.2337960	.0418037	.0184520	187.9047	.6647820
#3	.0625119	-.013744	.2308944	.0416988	.0218135	186.1659	.6593874
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072108	-.004643	12.33854	.1985078	.1205558	.3889841	287.4322
Stddev	.0001528	.000128	.04633	.0004433	.0004049	.0034758	.7913
%RSD	2.118312	2.759642	.3754623	.2233378	.3358454	.8935585	.2752941
#1	.0070404	-.004497	12.33284	.1989585	.1205577	.3854546	287.6966
#2	.0073354	-.004737	12.38745	.1984926	.1201499	.3924036	288.0574
#3	.0072566	-.004696	12.29532	.1980722	.1209596	.3890940	286.5426
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.380787	33.63928	.2228110	.0103408	2.929368	.3651310	.5706918
Stddev	.015276	.13662	.0004203	.0009704	.035289	.0057163	.0028304
%RSD	.4518475	.4061262	.1886339	9.384105	1.204677	1.565534	.4959594
#1	3.381737	33.55286	.2232413	.0093501	2.898145	.3608611	.5730518
#2	3.395565	33.79678	.2224014	.0112895	2.967655	.3629068	.5714699
#3	3.365058	33.56819	.2227904	.0103827	2.922303	.3716250	.5675538
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.710798	4.323818	.1197375	.0051466	.6238614	9.927812	.0102559
Stddev	.177879	.005756	.0017988	.0001440	.0059394	.085540	.0017812
%RSD	2.306884	.1331220	1.502242	2.798003	.9520427	.8616194	17.36767
#1	7.673292	4.330319	.1217461	.0052327	.6306881	9.858478	.0089502
#2	7.904440	4.319370	.1182753	.0052268	.6198788	10.02340	.0122850
#3	7.554663	4.321764	.1191912	.0049804	.6210173	9.90156	.0095324

Sample Name: Q2296-09 Acquired: 6/17/2025 19:21:26 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.910533	.1707085	.1068542
Stddev	.015442	.0065121	.0008255
%RSD	.5305423	3.814745	.7725774
#1	2.906677	.1696954	.1063794
#2	2.927537	.1776677	.1078075
#3	2.897385	.1647623	.1063758

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4102.530	50640.05	3729.169	4789.271	4400.145
Stddev	8.105	122.28	46.309	17.242	6.455
%RSD	.1975619	.2414624	1.241798	.3600088	.1467070
#1	4103.121	50624.10	3767.703	4788.174	4394.538
#2	4110.323	50526.54	3677.795	4772.605	4407.202
#3	4094.145	50769.53	3742.008	4807.036	4398.694

Sample Name: CCV07 Acquired: 6/17/2025 19:25:49 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.862876	4.988057	4.871744	4.940791	4.961308	9.893006	10.05472
Stddev	.011632	.006154	.003883	.003395	.003469	.025087	.03531
%RSD	.2392009	.1233754	.0796975	.0687150	.0699169	.2535870	.3511557
#1	4.850280	4.981087	4.867605	4.941350	4.961145	9.864740	10.02409
#2	4.873212	4.992743	4.872321	4.937151	4.957924	9.912631	10.09334
#3	4.865137	4.990340	4.875306	4.943872	4.964856	9.901647	10.04674
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2585374	2.446730	24.79956	.9855375	2.444648	1.295876	4.896459
Stddev	.0024920	.003631	.01644	.0035202	.004881	.012573	.048247
%RSD	.9638857	.1483830	.0662733	.3571872	.1996498	.9702058	.9853383
#1	.2606422	2.442808	24.80771	.9878729	2.439530	1.304891	4.840973
#2	.2591843	2.449973	24.78065	.9814886	2.445162	1.301223	4.928527
#3	.2557857	2.447409	24.81033	.9872510	2.449251	1.281513	4.919877
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.429438	24.18637	2.444155	1.240658	25.98675	2.446908	2.467936
Stddev	.006971	.02939	.001732	.002041	.20766	.000253	.017116
%RSD	.2869416	.1215324	.0708770	.1645128	.7990823	.0103224	.6935287
#1	2.426932	24.15357	2.442279	1.240076	26.12362	2.447134	2.457235
#2	2.437316	24.21034	2.444494	1.238971	26.08882	2.446954	2.487676
#3	2.424067	24.19519	2.445694	1.242927	25.74782	2.446635	2.458897
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.21155	5.035827	5.176117	4.961063	4.866335	5.281317	4.921662
Stddev	.14826	.006901	.046755	.005632	.011213	.045146	.011195
%RSD	.5656295	.1370433	.9032821	.1135301	.2304282	.8548249	.2274734
#1	26.34433	5.028762	5.208920	4.954611	4.854588	5.312980	4.910018
#2	26.23875	5.036169	5.196850	4.963587	4.876925	5.301350	4.932348
#3	26.05157	5.042552	5.122580	4.964993	4.867492	5.229622	4.922619

Sample Name: CCV07 Acquired: 6/17/2025 19:25:49 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.926378	4.947020	5.027059
Stddev	.015315	.015211	.013801
%RSD	.3108860	.3074780	.2745298
#1	4.924003	4.950627	5.025311
#2	4.942742	4.960104	5.041650
#3	4.912389	4.930330	5.014215

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3387.510	43306.54	3055.300	4008.663	4349.348
Stddev	7.036	42.49	34.359	14.782	12.475
%RSD	.2077148	.0981045	1.124586	.3687440	.2868147
#1	3392.978	43287.03	3028.909	4014.488	4362.578
#2	3389.981	43355.28	3042.839	3991.856	4347.665
#3	3379.572	43277.31	3094.151	4019.645	4337.800

Sample Name: CCB07 Acquired: 6/17/2025 19:30:03 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000001	.0024087	-.000876	-.000568	-.000568	.0047280	-.000758
Stddev	.001737	.0005130	.000662	.006053	.002731	.0212249	.000782
%RSD	242156.4	21.29632	75.56592	1065.564	480.9253	448.9187	103.1298
#1	-.001998	.0029341	-.000977	.000551	.002352	-.015291	.000034
#2	.000838	.0023830	-.001482	-.007103	-.000996	.026982	-.000780
#3	.001158	.0019091	-.000169	.004847	-.003059	.002493	-.001528
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000040	-.000007	.0187461	-.000911	-.000325	-.000052	.0277930
Stddev	.000040	.000043	.0113940	.000727	.000178	.000728	.0198768
%RSD	100.4794	627.7919	60.78077	79.76889	54.83909	1391.948	71.51731
#1	.000005	-.000020	.0220486	-.001474	-.000528	-.000099	.0488733
#2	-.000054	-.000042	.0060656	-.001168	-.000196	.000698	.0251143
#3	-.000071	.000042	.0281241	-.000091	-.000250	-.000756	.0093914
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000151	.0518379	.0002056	.0001779	.0074699	.0097001	.0000349
Stddev	.001074	.0343350	.0000648	.0007721	.0032530	.0022148	.0006013
%RSD	710.3157	66.23534	31.50237	434.1279	43.54749	22.83308	1724.242
#1	-.001310	.0184297	.0002781	-.000400	.0098166	.0116453	-.000361
#2	.000044	.0870301	.0001534	.001055	.0088365	.0072896	-.000261
#3	.000812	.0500537	.0001854	-.000122	.0037566	.0101656	.000727
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041069	.0010631	.0090328	.0009339	.0012526	.0082042	.0007795
Stddev	.0010002	.0007261	.0006386	.0002335	.0024902	.0022928	.0004177
%RSD	24.35424	68.29459	7.069378	25.00450	198.8021	27.94617	53.58855
#1	.0031610	.0007276	.0097649	.0011472	.0000086	.0099772	.0002978
#2	.0051538	.0005655	.0085907	.0006844	.0041197	.0056150	.0009987
#3	.0040060	.0018962	.0087428	.0009700	-.000371	.0090205	.0010419

Sample Name: CCB07 Acquired: 6/17/2025 19:30:03 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0064258	-.002878	-.000048
Stddev	.0008534	.005785	.000209
%RSD	13.28160	200.9926	432.1483
#1	.0064401	-.008623	.000190
#2	.0072721	.002946	-.000134
#3	.0055653	-.002958	-.000201

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3520.329	45216.36	3123.668	4149.648	4956.940
Stddev	8.168	150.97	11.663	28.675	13.203
%RSD	.2320206	.3338939	.3733620	.6910262	.2663448
#1	3528.639	45158.68	3113.949	4159.544	4972.157
#2	3512.311	45387.68	3136.600	4172.065	4950.136
#3	3520.037	45102.74	3120.454	4117.336	4948.528

Sample Name: Q2296-21 Acquired: 6/17/2025 19:34:28 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0561760	-.009488	9.604479	.0372055	.0243608	123.2277	.9708341
Stddev	.0032376	.000641	.002828	.0011936	.0013916	.2552	.0047723
%RSD	5.763325	6.760876	.0294415	3.208011	5.712289	.2070639	.4915674
#1	.0526703	-.010220	9.605573	.0372537	.0230624	123.1330	.9702560
#2	.0590534	-.009025	9.601268	.0383742	.0241901	123.5166	.9758690
#3	.0568044	-.009218	9.606597	.0359885	.0258298	123.0334	.9663771
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0076156	.0003431	22.74659	.2270277	.1219463	.5689663	264.0062
Stddev	.0001495	.0000921	.01519	.0003177	.0001791	.0089827	.6522
%RSD	1.962495	26.85437	.0667817	.1399370	.1468359	1.578775	.2470359
#1	.0075747	.0004488	22.74956	.2268167	.1220090	.5714882	264.1879
#2	.0077812	.0002804	22.73014	.2268733	.1217443	.5764185	264.5483
#3	.0074908	.0002999	22.76009	.2273931	.1220856	.5589922	263.2824
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.737029	38.61674	.2680751	.0137656	2.927648	.3363732	3.075928
Stddev	.023564	.17970	.0008010	.0002738	.038812	.0061052	.015030
%RSD	.4107374	.4653369	.2988099	1.988940	1.325697	1.815001	.4886338
#1	5.715588	38.45003	.2689771	.0137166	2.936669	.3368305	3.059715
#2	5.762258	38.80709	.2678013	.0140606	2.961155	.3300522	3.078674
#3	5.733242	38.59310	.2674468	.0135196	2.885120	.3422368	3.089396
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.71774	7.690881	.1525538	.0099661	2.169123	11.14206	.1052961
Stddev	.09239	.005696	.0012575	.0002416	.004814	.11204	.0008436
%RSD	.7884983	.0740593	.8243116	2.424006	.2219377	1.005555	.8011453
#1	11.76484	7.691091	.1538558	.0102146	2.167446	11.05658	.1061445
#2	11.77709	7.685083	.1524596	.0099516	2.174551	11.26890	.1052864
#3	11.61128	7.696468	.1513461	.0097321	2.165371	11.10071	.1044574

Sample Name: Q2296-21 Acquired: 6/17/2025 19:34:28 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.188399	.2114205	.2442665
Stddev	.007496	.0033271	.0004794
%RSD	.2350936	1.573707	.1962470
#1	3.181437	.2084486	.2448197
#2	3.187426	.2107978	.2440081
#3	3.196334	.2150149	.2439719

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4208.825	52656.82	3850.064	4935.588	4481.853
Stddev	12.081	384.70	34.652	34.270	10.627
%RSD	.2870365	.7305788	.9000426	.6943456	.2371215
#1	4222.617	52746.03	3850.148	4969.056	4493.791
#2	4203.746	52989.07	3815.369	4937.138	4478.347
#3	4200.113	52235.35	3884.674	4900.569	4473.422

Sample Name: Q2297-01 Acquired: 6/17/2025 19:38:50 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1582884	.0067056	2.280841	.0271504	.0261199	71.48062
Stddev	.0012191	.0012718	.001987	.0005037	.0006561	.10638
%RSD	.7701705	18.96657	.0871195	1.855406	2.511791	.1488257

#1	.1569039	.0054326	2.278547	.0268389	.0261841	71.40830
#2	.1592012	.0067079	2.281943	.0268808	.0254341	71.60277
#3	.1587601	.0079763	2.282032	.0277316	.0267415	71.43079

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8913168	.0070405	.0015036	52.61758	.1911763	.0832037
Stddev	.0013726	.0000896	.0000583	.09666	.0016069	.0004948
%RSD	.1539946	1.272370	3.875369	.1837039	.8405372	.5946956

#1	.8916776	.0070705	.0015627	52.52672	.1893293	.0829508
#2	.8924729	.0069398	.0014462	52.71914	.1922537	.0828865
#3	.8897998	.0071113	.0015019	52.60686	.1919458	.0837738

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8862183	193.1654	9.000692	34.12320	.2459578	.0082728
Stddev	.0058734	.5280	.007096	.13868	.0010325	.0001629
%RSD	.6627439	.2733399	.0788399	.4064105	.4197990	1.969185

#1	.8877671	192.7046	8.997873	34.26781	.2465826	.0083045
#2	.8797258	193.7415	8.995437	33.99133	.2465247	.0084175
#3	.8911621	193.0500	9.008764	34.11048	.2447660	.0080963

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.07066	.2862179	7.268147	9.204542	5.422995	.1974433
Stddev	.03572	.0032886	.020754	.023420	.003078	.0012873
%RSD	.2959382	1.148978	.2855520	.2544413	.0567498	.6519846

#1	12.09585	.2888382	7.263015	9.217046	5.423467	.1959677
#2	12.02977	.2825276	7.250440	9.219057	5.425810	.1980259
#3	12.08634	.2872879	7.290986	9.177524	5.419709	.1983363

Sample Name: Q2297-01 Acquired: 6/17/2025 19:38:50 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018798	3.164798	F 15.00766	.1466219	2.312588	.1179879
Stddev	.0004406	.002558	.07725	.0014027	.008676	.0022712
%RSD	23.43812	.0808163	.5147525	.9566699	.3751492	1.924964
#1	.0023568	3.166424	15.01689	.1461461	2.302737	.1188399
#2	.0017947	3.161849	14.92620	.1482006	2.315936	.1197099
#3	.0014880	3.166120	15.07988	.1455191	2.319090	.1154139

Elem	Sr4077
Units	ppm
Avg	.2953275
Stddev	.0003275
%RSD	.1108932
#1	.2952141
#2	.2950717
#3	.2956966

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3947.349	49664.28	3591.714	4627.482	4420.678
Stddev	3.561	350.92	22.796	23.955	7.947
%RSD	.0902209	.7065907	.6346938	.5176743	.1797720
#1	3949.813	49468.88	3566.705	4600.090	4427.413
#2	3943.266	49454.54	3611.332	4637.842	4411.913
#3	3948.967	50069.40	3597.105	4644.513	4422.709

Sample Name: Q2307-03DLX5 Acquired: 6/17/2025 19:43:12 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0150930	.0015886	.0355816	.0015144	.0047488	21.23976
Stddev	.0009218	.0027416	.0004928	.0004617	.0036489	.09660
%RSD	6.107418	172.5845	1.384937	30.48751	76.83843	.4548007
#1	.0160980	-.001562	.0354018	.0018905	.0007260	21.18431
#2	.0148940	.003435	.0361391	.0009991	.0056753	21.35130
#3	.0142869	.002892	.0352041	.0016535	.0078452	21.18366
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4065144	.0019012	-.000506	16.17190	.0584063	.0276565
Stddev	.0035846	.0001336	.000076	.05585	.0003763	.0001518
%RSD	.8817924	7.025879	14.92408	.3453686	.6442070	.5489959
#1	.4044285	.0020006	-.000581	16.11364	.0586830	.0278263
#2	.4106535	.0019538	-.000508	16.22498	.0585582	.0275338
#3	.4044612	.0017494	-.000430	16.17708	.0579779	.0276094
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1854635	31.74864	.7059646	12.79292	.0533206	.0009024
Stddev	.0011692	.15150	.0031981	.09032	.0004465	.0006208
%RSD	.6304064	.4771890	.4530039	.7060032	.8373222	68.78808
#1	.1864914	31.69272	.7049405	12.69891	.0534264	.0006047
#2	.1857077	31.92016	.7095493	12.87903	.0537047	.0016160
#3	.1841916	31.63305	.7034041	12.80081	.0528307	.0004866
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.184891	.0440282	.1443937	5.341073	1.000012	.0361723
Stddev	.036266	.0038675	.0009164	.029875	.001226	.0025304
%RSD	.6994552	8.784179	.6346373	.5593497	.1226005	6.995426
#1	5.199886	.0418089	.1433608	5.325715	1.001426	.0345256
#2	5.211255	.0484940	.1447110	5.375503	.999255	.0349053
#3	5.143532	.0417817	.1451092	5.321999	.999354	.0390859

Sample Name: Q2307-03DLX5 Acquired: 6/17/2025 19:43:12 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000198	3.312490	F 17.92555	.0011753	.3614258	.0473560
Stddev	.000302	.007153	.15469	.0005091	.0061408	.0027121
%RSD	152.2440	.2159368	.8629547	43.32012	1.699061	5.727054
#1	-.000405	3.305490	17.99996	.0017225	.3571826	.0503947
#2	-.000338	3.319786	18.02898	.0010876	.3684674	.0451806
#3	.000148	3.312195	17.74772	.0007156	.3586274	.0464927

Elem	Sr4077
Units	ppm
Avg	.0609794
Stddev	.0005175
%RSD	.8487296
#1	.0608195
#2	.0615581
#3	.0605607

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3588.021	45645.95	3177.822	4192.654	4653.355
Stddev	8.209	337.59	24.567	19.993	9.471
%RSD	.2287965	.7395913	.7730843	.4768538	.2035375
#1	3596.444	46035.42	3191.833	4214.685	4664.174
#2	3587.574	45436.83	3149.455	4175.665	4649.326
#3	3580.044	45465.61	3192.178	4187.613	4646.564

Sample Name: Q2316-01 Acquired: 6/17/2025 19:47:28 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000448	.0013116	.0050187	-.000531	.0012519	.0575587	.0015450
Stddev	.001991	.0005710	.0004061	.001339	.0014683	.0202581	.0018082
%RSD	443.9923	43.53695	8.091375	252.2423	117.2933	35.19558	117.0318
#1	.001459	.0019706	.0047887	-.000863	.0029383	.0579592	.0020655
#2	-.000291	.0009644	.0047799	.000943	.0005597	.0371034	-.000466
#3	-.002513	.0009996	.0054876	-.001673	.0002575	.0776137	.003036
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000094	-.000044	3.975445	.0003813	.0077120	.0110417	1.905401
Stddev	.000049	.000121	.022234	.0005951	.0000659	.0001255	.016685
%RSD	52.31248	275.7597	.5592783	156.0941	.8540119	1.136794	.8756749
#1	-.000094	-.000034	3.956442	-.000071	.0077518	.0111464	1.886363
#2	-.000143	.000072	3.999897	.001056	.0077483	.0110761	1.917480
#3	-.000045	-.000169	3.969997	.000159	.0076360	.0109025	1.912360
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0190083	1.618367	.0149986	-.000622	13.95121	.0091064	.0297525
Stddev	.0010235	.048802	.0004577	.000650	.00811	.0077225	.0002498
%RSD	5.384432	3.015527	3.051799	104.5064	.0581458	84.80324	.8395187
#1	.0201525	1.570215	.0147230	-.000124	13.95837	.0021109	.0298827
#2	.0186923	1.667795	.0147458	-.000385	13.94240	.0078151	.0299103
#3	.0181800	1.617091	.0155270	-.001357	13.95286	.0173932	.0294645
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.130872	.0125506	.0103906	-.000528	4.354748	6.276638	-.000613
Stddev	.005422	.0003871	.0015163	.000317	.008744	.035314	.000780
%RSD	.4794237	3.084048	14.59244	59.99984	.2007897	.5626321	127.1745
#1	1.128272	.0122399	.0096652	-.000708	4.347626	6.304208	.000255
#2	1.127239	.0124278	.0093734	-.000162	4.352111	6.236833	-.000839
#3	1.137104	.0129842	.0121333	-.000714	4.364507	6.288873	-.001255

Sample Name: Q2316-01 Acquired: 6/17/2025 19:47:28 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0024993	-.016765	.0220794
Stddev	.0014512	.005144	.0001344
%RSD	58.06583	30.68241	.6087265
#1	.0016834	-.015992	.0222345
#2	.0016397	-.012051	.0220065
#3	.0041749	-.022252	.0219972

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3573.866	46264.28	3155.346	4210.260	4936.228
Stddev	6.828	316.73	6.446	31.396	6.374
%RSD	.1910475	.6846189	.2042921	.7457050	.1291211
#1	3567.181	46478.00	3159.900	4231.330	4931.704
#2	3573.588	45900.39	3147.970	4174.176	4933.462
#3	3580.828	46414.44	3158.167	4225.274	4943.518

Sample Name: Q2316-02 Acquired: 6/17/2025 19:51:48 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002762	.0021656	.0040416	-.001691	.0020682	-.011128	.0040951
Stddev	.001730	.0003374	.0008967	.002304	.0015071	.021606	.0011984
%RSD	62.62067	15.57910	22.18593	136.2519	72.86676	194.1488	29.26351
#1	-.000766	.0024919	.0032690	.000530	.0003753	.012628	.0027400
#2	-.003700	.0021867	.0038311	-.001533	.0032636	-.016410	.0045302
#3	-.003819	.0018181	.0050249	-.004070	.0025659	-.029604	.0050152
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000101	-.000042	4.536672	.0002667	.0079084	.0079483	.0866743
Stddev	.000019	.000025	.029510	.0007335	.0002995	.0006802	.0230703
%RSD	18.91843	59.94890	.6504663	275.0064	3.787559	8.557511	26.61719
#1	-.000095	-.000070	4.531763	-.000389	.0082236	.0071649	.0697049
#2	-.000122	-.000022	4.509924	.001059	.0078742	.0082911	.1129430
#3	-.000086	-.000034	4.568328	.000131	.0076275	.0083888	.0773752
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0237743	1.699435	.0058662	.0004893	14.32695	.0076524	.0221411
Stddev	.0013378	.067213	.0002890	.0005939	.13883	.0027523	.0002350
%RSD	5.627278	3.954994	4.925880	121.3813	.9690371	35.96624	1.061201
#1	.0229244	1.633798	.0061783	-.000013	14.23573	.0103338	.0218984
#2	.0230819	1.696387	.0058123	.001145	14.25839	.0077893	.0223675
#3	.0253164	1.768119	.0056079	.000337	14.48672	.0048343	.0221576
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.204227	.0318356	.0126194	-.000354	.9743842	6.406519	.0001215
Stddev	.010817	.0019218	.0005899	.000389	.0019153	.043804	.0005836
%RSD	.8982855	6.036626	4.674365	109.8199	.1965690	.6837452	480.3081
#1	1.200736	.0339037	.0127977	-.000769	.9765302	6.390494	.0000142
#2	1.195586	.0314983	.0119609	.000001	.9728482	6.372985	.0007513
#3	1.216359	.0301047	.0130995	-.000294	.9737742	6.456080	-.000401

Sample Name: Q2316-02 Acquired: 6/17/2025 19:51:48 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0032664	-.018040	.0286742
Stddev	.0020311	.008333	.0002568
%RSD	62.18270	46.18941	.8956831
#1	.0045413	-.027661	.0287391
#2	.0009241	-.013132	.0283911
#3	.0043339	-.013328	.0288923

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3568.066	46207.05	3164.044	4198.837	4920.820
Stddev	11.171	117.93	20.144	11.178	14.330
%RSD	.3130957	.2552176	.6366669	.2662260	.2912042
#1	3580.396	46225.19	3174.561	4199.083	4937.351
#2	3558.619	46081.10	3176.755	4187.537	4913.164
#3	3565.182	46314.86	3140.818	4209.890	4911.945

Sample Name: Q2316-02DUP Acquired: 6/17/2025 19:56:11 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001350	-.000293	.0034804	-.001808	-.000017	.0665135	.0045034
Stddev	.001039	.002493	.0003852	.000242	.000645	.0342389	.0004267
%RSD	76.99448	850.3556	11.06722	13.37481	3703.216	51.47661	9.475874
#1	-.000597	.000346	.0038019	-.001735	-.000278	.0306837	.0040110
#2	-.002535	.001818	.0035858	-.001612	-.000491	.0989016	.0047656
#3	-.000916	-.003044	.0030535	-.002078	.000717	.0699552	.0047337
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000108	-.000012	4.469239	-.000099	.0076697	.0103121	.0958715
Stddev	.000091	.000021	.018499	.000214	.0002454	.0008470	.0106979
%RSD	84.16265	178.2768	.4139284	216.3458	3.199774	8.213953	11.15863
#1	-.000005	-.000031	4.450053	-.000230	.0079315	.0106810	.1069660
#2	-.000176	.000011	4.486965	-.000216	.0076328	.0093432	.0856200
#3	-.000142	-.000015	4.470700	.000148	.0074449	.0109123	.0950286
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0222883	1.687935	.0054431	-.000013	14.27321	.0011470	.0227526
Stddev	.0011178	.049114	.0001127	.000128	.20704	.0061764	.0003549
%RSD	5.015310	2.909695	2.070345	981.0640	1.450535	538.5096	1.559696
#1	.0224963	1.632970	.0053164	.000129	14.09837	.0024153	.0223544
#2	.0210811	1.703319	.0055319	-.000117	14.21942	.0065907	.0230356
#3	.0232876	1.727515	.0054812	-.000051	14.50183	-.005565	.0228676
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.209653	.0316574	.0123874	-.000408	.9709953	6.355067	-.000547
Stddev	.019948	.0009463	.0019050	.000199	.0043967	.112169	.000346
%RSD	1.649045	2.989276	15.37851	48.85874	.4528028	1.765035	63.28268
#1	1.198458	.0316208	.0118096	-.000561	.9718016	6.253795	-.000934
#2	1.197818	.0326215	.0108382	-.000480	.9749331	6.335776	-.000269
#3	1.232684	.0307300	.0145144	-.000182	.9662513	6.475631	-.000437

Sample Name: Q2316-02DUP Acquired: 6/17/2025 19:56:11 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0034815	-.023320	.0282036
Stddev	.0016299	.005492	.0002318
%RSD	46.81454	23.55219	.8218138
#1	.0053026	-.017170	.0280667
#2	.0029820	-.025056	.0284712
#3	.0021599	-.027735	.0280728

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3554.086	45916.08	3133.386	4170.318	4891.734
Stddev	9.160	153.78	51.543	22.210	13.324
%RSD	.2577255	.3349103	1.644946	.5325659	.2723878
#1	3564.588	45758.57	3165.900	4157.298	4907.098
#2	3547.752	46065.83	3160.300	4195.962	4883.343
#3	3549.917	45923.83	3073.958	4157.692	4884.760

Sample Name: Q2316-02LX5 Acquired: 6/17/2025 20:00:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001079	-.000055	.0010213	-.001353	-.000472	-.016959	-.000138
Stddev	.001100	.001810	.0006300	.000733	.002347	.017379	.000267
%RSD	101.9405	3290.092	61.68744	54.16101	497.2313	102.4807	193.9357
#1	-.000390	-.001001	.0016900	-.000531	-.003162	-.016454	-.000175
#2	-.000500	.002032	.0009350	-.001590	.001157	.000163	.000146
#3	-.002349	-.001196	.0004389	-.001937	.000589	-.034585	-.000384
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000023	-.000030	.9065599	-.000124	.0014020	.0022142	.0235838
Stddev	.000031	.000058	.0104173	.000785	.0002468	.0004040	.0113872
%RSD	133.0056	195.5068	1.149104	631.0640	17.60515	18.24708	48.28414
#1	.000012	-.000069	.8952275	.000016	.0016857	.0026389	.0107690
#2	-.000040	.000037	.9087326	-.000970	.0012833	.0021691	.0325417
#3	-.000042	-.000056	.9157195	.000581	.0012369	.0018346	.0274406
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0038056	.3308560	.0011064	.0007757	2.634572	.0074227	.0044484
Stddev	.0002938	.0336579	.0001809	.0002626	.021242	.0079827	.0003502
%RSD	7.721299	10.17297	16.34824	33.85023	.8062721	107.5449	7.873753
#1	.0035331	.3096765	.0010581	.0010019	2.651735	.0071096	.0043948
#2	.0041169	.3132246	.0013065	.0008375	2.610815	.0155574	.0041280
#3	.0037667	.3696667	.0009545	.0004878	2.641166	-.000399	.0048223
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1904271	.0086861	.0028764	.0000799	.1952165	1.306912	-.000107
Stddev	.0017565	.0023507	.0011528	.0003381	.0016862	.006380	.001280
%RSD	.9223952	27.06281	40.07879	423.3818	.8637314	.4881632	1201.097
#1	.1888050	.0111765	.0033005	-.000301	.1940515	1.311798	.000726
#2	.1901836	.0083758	.0037570	.000344	.1971500	1.299694	-.001580
#3	.1922926	.0065059	.0015716	.000197	.1944480	1.309244	.000534

Sample Name: Q2316-02LX5 Acquired: 6/17/2025 20:00:34 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0081696	-.012306	.0056331
Stddev	.0044410	.000683	.0003473
%RSD	54.36036	5.551153	6.166105
#1	.0132212	-.012953	.0056608
#2	.0064076	-.011592	.0052728
#3	.0048799	-.012374	.0059658

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3568.771	45857.21	3137.005	4183.806	4967.201
Stddev	7.900	155.64	11.466	17.315	12.095
%RSD	.2213528	.3394069	.3655067	.4138643	.2435004
#1	3568.854	45685.04	3129.351	4199.123	4961.342
#2	3560.831	45898.64	3150.188	4165.018	4959.151
#3	3576.630	45987.94	3131.476	4187.276	4981.110

Sample Name: Q2316-02MS Acquired: 6/17/2025 20:04:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7050307	1.924890	.9321000	1.844765	.7826698	1.998553	.2062760
Stddev	.0038089	.003376	.0035270	.003469	.0045128	.029252	.0009969
%RSD	.5402505	.1753796	.3783939	.1880635	.5765938	1.463658	.4832834
#1	.7059643	1.927300	.9280534	1.844756	.7780278	2.012182	.2065230
#2	.7008417	1.926338	.9345212	1.841300	.7870412	1.964973	.2051788
#3	.7082860	1.921032	.9337254	1.848238	.7829405	2.018504	.2071262
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1991973	.1856156	5.399909	.3952023	.1989023	.3386748	3.234235
Stddev	.0029271	.0002615	.039480	.0012644	.0004618	.0041053	.034324
%RSD	1.469457	.1408779	.7311239	.3199402	.2322013	1.212167	1.061256
#1	.2002257	.1853169	5.372465	.3938306	.1983725	.3415220	3.226499
#2	.1958948	.1857266	5.382107	.3963212	.1992201	.3339689	3.204439
#3	.2014714	.1858032	5.445156	.3954550	.1991143	.3405336	3.271766
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2306728	3.671819	.4803479	.0696869	16.94139	.2989092	.2161265
Stddev	.0006391	.072491	.0008547	.0002432	.21395	.0042671	.0012511
%RSD	.2770736	1.974261	.1779411	.3490128	1.262881	1.427546	.5788798
#1	.2313441	3.589935	.4793671	.0696280	17.09371	.3022654	.2154004
#2	.2300716	3.697721	.4807424	.0694786	16.69679	.3003552	.2175712
#3	.2306028	3.727801	.4809341	.0699542	17.03367	.2941071	.2154080
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.81104	5.479587	.2873553	.4024484	.9441624	7.046141	.6662255
Stddev	.20450	.008219	.0038482	.0010393	.0017269	.092862	.0007871
%RSD	1.731392	.1499839	1.339172	.2582511	.1828994	1.317916	.1181472
#1	11.97608	5.471320	.2900069	.4015309	.9422363	7.091394	.6656597
#2	11.58227	5.487756	.2829416	.4022373	.9446785	6.939327	.6671244
#3	11.87478	5.479686	.2891173	.4035771	.9455723	7.107701	.6658923

Sample Name: Q2316-02MS Acquired: 6/17/2025 20:04:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1998690	.1846774	.2289972
Stddev	.0035434	.0088028	.0015704
%RSD	1.772864	4.766569	.6857699
#1	.1976078	.1833745	.2287860
#2	.1980465	.1940590	.2275430
#3	.2039527	.1765987	.2306624

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3458.871	44578.87	3065.960	4068.771	4679.833
Stddev	2.739	116.65	37.002	19.782	10.016
%RSD	.0791935	.2616716	1.206869	.4861797	.2140165
#1	3462.030	44555.17	3041.453	4056.913	4689.772
#2	3457.440	44475.89	3108.524	4057.792	4669.742
#3	3457.144	44705.55	3047.904	4091.607	4679.986

Sample Name: Q2316-02MSD Acquired: 6/17/2025 20:09:17 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6927612	1.888210	.9143340	1.803772	.7657110	1.936684	.1987076
Stddev	.0002806	.005906	.0024056	.002450	.0040232	.016179	.0011112
%RSD	.0405013	.3127574	.2630960	.1358248	.5254247	.8354039	.5592090
#1	.6924387	1.892942	.9166667	1.806364	.7694759	1.918219	.1999588
#2	.6929488	1.881592	.9144739	1.801495	.7614715	1.943455	.1978359
#3	.6928962	1.890096	.9118616	1.803457	.7661856	1.948377	.1983279
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1941375	.1818147	5.306689	.3870192	.1946599	.3283282	3.147542
Stddev	.0009593	.0001377	.037037	.0005664	.0006089	.0012925	.025571
%RSD	.4941090	.0757304	.6979362	.1463476	.3127830	.3936507	.8124144
#1	.1934375	.1819680	5.297250	.3868966	.1940550	.3276229	3.118674
#2	.1952309	.1817744	5.347533	.3876368	.1946521	.3298199	3.167348
#3	.1937442	.1817016	5.275285	.3865241	.1952726	.3275419	3.156603
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2140221	3.529873	.4710686	.0684219	16.66160	.2897739	.2127693
Stddev	.0007736	.059293	.0004220	.0004983	.08758	.0042352	.0020290
%RSD	.3614591	1.679755	.0895866	.7283047	.5256169	1.461553	.9535948
#1	.2147939	3.595630	.4713667	.0683522	16.57899	.2935531	.2125013
#2	.2140257	3.480480	.4705857	.0679621	16.75342	.2905722	.2108876
#3	.2132467	3.513510	.4712535	.0689514	16.65241	.2851963	.2149189
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.53076	5.370001	.2813311	.3936362	.9372227	6.942820	.6522949
Stddev	.07162	.003746	.0001173	.0005524	.0049753	.013144	.0010679
%RSD	.6211462	.0697662	.0417101	.1403388	.5308558	.1893132	.1637172
#1	11.45591	5.373585	.2814598	.3940375	.9414639	6.932300	.6515610
#2	11.59865	5.370305	.2813035	.3930061	.9384581	6.957553	.6518036
#3	11.53772	5.366111	.2812300	.3938649	.9317461	6.938605	.6535201

Sample Name: Q2316-02MSD Acquired: 6/17/2025 20:09:17 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1917744	.1744551	.2216733
Stddev	.0019198	.0026212	.0010307
%RSD	1.001070	1.502478	.4649830
#1	.1934677	.1745410	.2224782
#2	.1921668	.1717921	.2220303
#3	.1896887	.1770323	.2205116

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3513.800	45289.02	3131.234	4131.610	4748.206
Stddev	8.179	162.36	17.504	30.541	10.480
%RSD	.2327694	.3584879	.5590055	.7391927	.2207151
#1	3506.985	45472.55	3150.579	4154.778	4741.722
#2	3511.545	45230.34	3116.491	4143.050	4742.599
#3	3522.870	45164.15	3126.632	4097.001	4760.296

Sample Name: Q2316-02A Acquired: 6/17/2025 20:13:38 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8453544	2.287007	1.114895	2.202557	.9272894	2.332796	.2433099
Stddev	.0027288	.007573	.003375	.002573	.0007733	.058761	.0051440
%RSD	.3228012	.3311095	.3027399	.1168036	.0833888	2.518904	2.114154
#1	.8458075	2.278712	1.111417	2.199687	.9281472	2.338536	.2469502
#2	.8424274	2.288759	1.115111	2.204657	.9266460	2.388476	.2455544
#3	.8478283	2.293550	1.118157	2.203327	.9270749	2.271376	.2374251
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2375161	.2222295	5.586011	.4728593	.2366733	.4002147	3.813838
Stddev	.0049392	.0004370	.129883	.0003755	.0002977	.0074513	.114265
%RSD	2.079515	.1966412	2.325150	.0794050	.1257830	1.861818	2.996063
#1	.2375366	.2218009	5.650567	.4730747	.2369845	.4010273	3.887034
#2	.2424449	.2222131	5.670968	.4730775	.2366441	.4072264	3.872309
#3	.2325666	.2226744	5.436498	.4724258	.2363912	.3923904	3.682170
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2566704	3.939325	.5745141	.0430509	17.85842	.3547578	.2565152
Stddev	.0052485	.080672	.0013035	.0008353	.28578	.0120058	.0015358
%RSD	2.044830	2.047853	.2268871	1.940342	1.600273	3.384231	.5987224
#1	.2584019	3.989255	.5739015	.0421190	17.93659	.3676899	.2572365
#2	.2608345	3.982464	.5736297	.0433012	18.09698	.3526175	.2547515
#3	.2507750	3.846256	.5760110	.0437324	17.54168	.3439661	.2575575
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.73736	6.559095	.3426360	.4776840	.9772331	7.377402	.7908981
Stddev	.10012	.006225	.0067483	.0011337	.0015498	.131417	.0027588
%RSD	.7288117	.0949022	1.969515	.2373322	.1585888	1.781349	.3488203
#1	13.82377	6.552431	.3421544	.4768642	.9768610	7.385494	.7885286
#2	13.76066	6.560094	.3496122	.4772101	.9759032	7.504586	.7902388
#3	13.62764	6.564760	.3361415	.4789778	.9789350	7.242126	.7939268

Sample Name: Q2316-02A Acquired: 6/17/2025 20:13:38 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2305190	.2071438	.2639357
Stddev	.0031689	.0060104	.0057378
%RSD	1.374677	2.901535	2.173926
#1	.2315986	.2120605	.2669620
#2	.2330070	.2089274	.2675267
#3	.2269514	.2004435	.2573183

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3489.648	45139.76	3112.459	4121.178	4711.547
Stddev	7.200	313.63	46.501	42.809	12.702
%RSD	.2063279	.6947904	1.494028	1.038745	.2695862
#1	3497.961	44932.62	3098.378	4096.307	4724.382
#2	3485.613	45500.58	3074.626	4170.609	4711.274
#3	3485.370	44986.06	3164.373	4096.618	4698.983

Sample Name: CCV08 Acquired: 6/17/2025 20:17:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.852232	4.965262	4.872680	4.935115	4.930687	9.824346	9.913385
Stddev	.007462	.005358	.006242	.010629	.018082	.047541	.090149
%RSD	.1537934	.1079021	.1281089	.2153650	.3667321	.4839091	.9093686
#1	4.844235	4.961029	4.876748	4.946685	4.951431	9.782715	9.811628
#2	4.859010	4.971285	4.875799	4.932877	4.922374	9.814173	9.945265
#3	4.853450	4.963472	4.865493	4.925784	4.918256	9.876150	9.983263
Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2512258	2.437130	24.50196	.9684613	2.444304	1.265287	4.766118
Stddev	.0040960	.001382	.15211	.0016668	.000871	.023620	.016360
%RSD	1.630407	.0566903	.6208182	.1721042	.0356504	1.866798	.3432584
#1	.2467959	2.437291	24.33214	.9688559	2.443408	1.241694	4.774638
#2	.2520060	2.435675	24.54805	.9698954	2.444357	1.265233	4.747256
#3	.2548757	2.438424	24.62571	.9666327	2.445149	1.288935	4.776458
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.392618	24.05649	2.435121	1.226173	25.68192	2.413489	2.437616
Stddev	.018320	.06162	.000529	.001958	.40960	.013969	.020386
%RSD	.7656785	.2561650	.0217378	.1596433	1.594909	.5787866	.8363248
#1	2.371500	23.99894	2.434946	1.224131	25.29149	2.399570	2.450439
#2	2.402122	24.04904	2.435716	1.228034	25.64594	2.427507	2.414108
#3	2.404233	24.12151	2.434702	1.226355	26.10832	2.413390	2.448300
Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.97037	4.998695	5.030078	4.919838	4.856249	5.118265	4.893109
Stddev	.30186	.005506	.091553	.005494	.002957	.101303	.002798
%RSD	1.162332	.1101580	1.820105	.1116731	.0608988	1.979251	.0571747
#1	25.75975	4.995449	4.935555	4.926136	4.855491	5.017444	4.894390
#2	25.83516	4.995582	5.036338	4.917350	4.859511	5.117308	4.889900
#3	26.31620	5.005053	5.118339	4.916029	4.853744	5.220044	4.895036

Sample Name: CCV08 Acquired: 6/17/2025 20:17:58 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.854172	4.888935	4.971561
Stddev	.034693	.027443	.035250
%RSD	.7147135	.5613340	.7090317
#1	4.817681	4.860908	4.932140
#2	4.858103	4.890142	4.982495
#3	4.886733	4.915755	5.000048

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3386.464	43192.32	3070.341	3974.000	4335.167
Stddev	.475	283.57	32.810	42.346	3.314
%RSD	.0140128	.6565376	1.068627	1.065583	.0764453
#1	3386.404	42868.28	3094.632	3929.027	4338.148
#2	3386.966	43313.61	3083.376	4013.108	4335.753
#3	3386.023	43395.08	3033.017	3979.866	4331.598

Sample Name: CCB08 Acquired: 6/17/2025 20:22:13 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0047052	.0062481	.0045300	.0040052	.0037778	.0310464
Stddev	.0032612	.0031723	.0008725	.0016372	.0017063	.0231167
%RSD	69.31044	50.77201	19.26029	40.87746	45.16751	74.45870
#1	.0075674	.0092778	.0055373	.0058955	.0057218	.0574541
#2	.0053932	.0065162	.0040119	.0030332	.0030843	.0212132
#3	.0011549	.0029502	.0040407	.0030870	.0025275	.0144720
Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0375625	.0005378	.0022419	.0883025	.0015881	.0022175
Stddev	.0074903	.0001446	.0004781	.0106587	.0004777	.0006681
%RSD	19.94077	26.88557	21.32699	12.07070	30.07950	30.12899
#1	.0455608	.0006429	.0027833	.0892536	.0020228	.0029882
#2	.0364136	.0005977	.0020649	.0984538	.0016649	.0018612
#3	.0307131	.0003729	.0018775	.0772001	.0010767	.0018030
Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028367	.0417494	.0094224	.0843463	.0028941	.0026876
Stddev	.0009907	.0207505	.0027317	.0922820	.0005932	.0002912
%RSD	34.92432	49.70251	28.99196	109.4085	20.49626	10.83357
#1	.0039684	.0261669	.0116157	.0912625	.0033839	.0029385
#2	.0024160	.0337776	.0102892	.1729757	.0030637	.0027560
#3	.0021258	.0653036	.0063625	-.011199	.0022345	.0023683
Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0427482	.0059623	.0046974	.0358746	.0056787	.0200809
Stddev	.0118722	.0019332	.0013669	.0068222	.0020957	.0036400
%RSD	27.77247	32.42396	29.09976	19.01682	36.90466	18.12646
#1	.0563934	.0072638	.0060623	.0431763	.0077656	.0242393
#2	.0370681	.0037409	.0047013	.0347842	.0056962	.0185310
#3	.0347830	.0068823	.0033285	.0296632	.0035743	.0174724

Sample Name: CCB08 Acquired: 6/17/2025 20:22:13 Type: Unk
Method: METHOD 6010D, 200.7(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056396	-.000281	.0216694	.0053078	F .0220484	F .0177273
Stddev	.0006586	.002072	.0027771	.0007166	.0058419	.0030623
%RSD	11.67832	737.3710	12.81600	13.50115	26.49587	17.27447
#1	.0063997	.002069	.0246975	.0050958	.0285262	.0177334
#2	.0052790	-.001071	.0210692	.0061064	.0204397	.0207866
#3	.0052400	-.001841	.0192414	.0047210	.0171795	.0146620

Elem	Sr4077
Units	ppm
Avg	.0196797
Stddev	.0039225
%RSD	19.93171
#1	.0237297
#2	.0194111
#3	.0158985

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3495.762	45209.98	3102.297	4116.687	4895.723
Stddev	.449	146.40	28.039	16.718	7.190
%RSD	.0128446	.3238243	.9038124	.4061105	.1468608
#1	3496.227	45379.00	3106.555	4124.326	4895.764
#2	3495.331	45122.96	3127.964	4128.221	4888.512
#3	3495.728	45127.97	3072.373	4097.514	4902.892

SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pipette ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

Block ID: 1. HOT BLOCK #2 2. N/A

Start Digest Date: 06/13/2025 Time : 11:35 Temp : 96 °C

End Digest Date: 06/13/2025 Time : 14:40 Temp : 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: *SLS*

Supervisor Signature: *[Signature]*

Temp : 1. 96°C 2. N/A

Standard Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6007
LFS-2	0.25	M6016
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
CONC: HNO3	3.00	M6158
1:1 HCL	5.00	MP85156
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK#1 CELL#50 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
06/13/25 16:40	<i>SLS met. dig</i>	<i>[Signature]</i>
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB168475BL	PBW475	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	1
PB168475BS	LCS475	<2	50	25	Colorless	Colorless	Clear	Clear	M6007,M6016	2
Q2307-03	LINDEN-SAA-WATER	<2	2	25	Brown	ligh	Cloudy	Clear	N/A	3
Q2316-01	RW8-SP100-20250612	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	4
Q2316-02	RW8-SP303-20250612	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	5
Q2316-02MS	RW8-SP303-20250612MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6007,M6016	6
Q2316-02MSD	RW8-SP303-20250612MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6007,M6016	7
Q2316-02DUP	RW8-SP303-20250612DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	8

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB168475

WorkList ID : 190182

Department : Digestion

Date : 06-13-2025 11:02:19

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2307-03	LINDEN-SAA-WATER	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	D51	06/12/2025	6010D
Q2316-01	RW8-SP100-20250612	Water	Metals Group4	1:1 HNO3 to pH < 2	TETR06	D41	06/12/2025	6010D
Q2316-02	RW8-SP303-20250612	Water	Metals Group4	1:1 HNO3 to pH < 2	TETR06	D41	06/12/2025	6010D

Date/Time 06/13/25 12:15

Raw Sample Received by: SLB.mcd 419

Raw Sample Relinquished by: DP SR

Date/Time 06/13/28 12:15

Raw Sample Received by: DP SR

Raw Sample Relinquished by: SLB.mcd 419

Instrument ID: P5

Daily Analysis Runlog For Sequence/QC Batch ID # LB136187

Review By	jaswal	Review On	6/19/2025 12:06:04 PM
Supervise By	MOHAN	Supervise On	6/19/2025 12:50:23 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85867,MP85897,MP85871,MP85870,MP85869,MP85868		
ICV Standard	MP85872,MP85897		
CCV Standard	MP85875		
ICSA Standard	MP85873,MP85874		
CRI Standard	MP85897		
LCS Standard			
Chk Standard	MP85876,MP85877		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	06/17/25 11:58		Jaswal	OK
2	S1	S1	CAL2	06/17/25 12:03		Jaswal	OK
3	S2	S2	CAL3	06/17/25 12:07		Jaswal	OK
4	S3	S3	CAL4	06/17/25 12:11		Jaswal	OK
5	S4	S4	CAL5	06/17/25 12:16		Jaswal	OK
6	S5	S5	CAL6	06/17/25 12:20		Jaswal	OK
7	ICV01	ICV01	ICV	06/17/25 12:25		Jaswal	OK
8	LLICV01	LLICV01	LLICV	06/17/25 12:41		Jaswal	OK
9	ICB01	ICB01	ICB	06/17/25 12:46		Jaswal	OK
10	CRI01	CRI01	CRDL	06/17/25 12:50		Jaswal	OK
11	ICSA01	ICSA01	ICSA	06/17/25 13:11		Jaswal	OK
12	ICSAB01	ICSAB01	ICSAB	06/17/25 13:22		Jaswal	OK
13	ICSADL	ICSADL	ICSA	06/17/25 13:28		Jaswal	OK
14	ICSABDL	ICSABDL	ICSAB	06/17/25 13:35		Jaswal	OK
15	CCV01	CCV01	CCV	06/17/25 13:40		Jaswal	OK
16	CCB01	CCB01	CCB	06/17/25 13:48		Jaswal	OK
17	Q2264-04	EF-WW	SAM	06/17/25 13:53		Jaswal	OK
18	Q2264-04L	EF-WWL	SD	06/17/25 14:02		Jaswal	OK

Instrument ID: P5

Daily Analysis Runlog For Sequence/QC Batch ID # LB136187

Review By	jaswal	Review On	6/19/2025 12:06:04 PM
Supervise By	MOHAN	Supervise On	6/19/2025 12:50:23 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85867,MP85897,MP85871,MP85870,MP85869,MP85868		
ICV Standard	MP85872,MP85897		
CCV Standard	MP85875		
ICSA Standard	MP85873,MP85874		
CRI Standard	MP85897		
LCS Standard			
Chk Standard	MP85876,MP85877		

19	Q2264-04MS	EF-WWMS	MS	06/17/25 14:06		Jaswal	OK
20	Q2264-04MSD	EF-WWMSD	MSD	06/17/25 14:11		Jaswal	OK
21	Q2264-04A	EF-WWA	PS	06/17/25 14:15	0.1ML M6004,M6013-10ML SAMPLE	Jaswal	OK
22	Q2264-04DUP	EF-WWDUP	DUP	06/17/25 14:21		Jaswal	OK
23	Q2290-01	Outfall 1	SAM	06/17/25 14:25		Jaswal	OK
24	Q2290-02	Outfall 2	SAM	06/17/25 14:30		Jaswal	OK
25	Q2291-01	Outfall 001	SAM	06/17/25 14:34		Jaswal	OK
26	Q2292-01	SW-1	SAM	06/17/25 14:39		Jaswal	OK
27	CCV02	CCV02	CCV	06/17/25 14:43		Jaswal	OK
28	CCB02	CCB02	CCB	06/17/25 14:50		Jaswal	OK
29	Q2292-02	SW-2	SAM	06/17/25 14:54		Jaswal	OK
30	Q2293-01	SW-3	SAM	06/17/25 14:59		Jaswal	OK
31	Q2312-01	TP-1	SAM	06/17/25 15:03		Jaswal	OK
32	Q2319-01	MH-B	SAM	06/17/25 15:07		Jaswal	OK
33	Q2322-01	CL-01-061325	SAM	06/17/25 15:12		Jaswal	OK
34	Q2323-01	PL-01-06132025	SAM	06/17/25 15:16		Jaswal	OK
35	Q2324-01	HD-01-6132025	SAM	06/17/25 15:20		Jaswal	OK
36	Q2325-01	TP-8	SAM	06/17/25 15:25		Jaswal	OK
37	Q2325-01DUP	TP-8DUP	DUP	06/17/25 15:29		Jaswal	OK

Instrument ID: P5

Daily Analysis Runlog For Sequence/QC Batch ID # LB136187

Review By	jaswal	Review On	6/19/2025 12:06:04 PM
Supervise By	MOHAN	Supervise On	6/19/2025 12:50:23 PM

STD. NAME	STD REF.#
ICAL Standard	MP85867,MP85897,MP85871,MP85870,MP85869,MP85868
ICV Standard	MP85872,MP85897
CCV Standard	MP85875
ICSA Standard	MP85873,MP85874
CRI Standard	MP85897
LCS Standard	
Chk Standard	MP85876,MP85877

38	Q2325-01L	TP-8L	SD	06/17/25 15:34		Jaswal	OK
39	CCV03	CCV03	CCV	06/17/25 15:38		Jaswal	OK
40	CCB03	CCB03	CCB	06/17/25 15:42		Jaswal	OK
41	Q2325-01MS	TP-8MS	MS	06/17/25 15:46		Jaswal	OK
42	Q2325-01MSD	TP-8MSD	MSD	06/17/25 15:51		Jaswal	OK
43	Q2325-01A	TP-8A	PS	06/17/25 15:55	0.1ML M6004,M6013-10ML SAMPLE	Jaswal	OK
44	Q2307-01	LINDEN-SAA	SAM	06/17/25 15:59		Jaswal	OK
45	Q2310-01	TP-7	SAM	06/17/25 16:04		Jaswal	OK
46	Q2310-01DUP	TP-7DUP	DUP	06/17/25 16:08		Jaswal	OK
47	Q2310-01L	TP-7L	SD	06/17/25 16:12		Jaswal	OK
48	Q2310-01MS	TP-7MS	MS	06/17/25 16:17		Jaswal	OK
49	Q2310-01MSD	TP-7MSD	MSD	06/17/25 16:21		Jaswal	OK
50	Q2310-01A	TP-7A	PS	06/17/25 16:25	0.1ML M6004,M6013-10ML SAMPLE	Jaswal	OK
51	CCV04	CCV04	CCV	06/17/25 16:30		Jaswal	OK
52	CCB04	CCB04	CCB	06/17/25 16:34		Jaswal	OK
53	PB168444BL	PB168444BL	MB	06/17/25 16:40		Jaswal	OK
54	PB168444BS	PB168444BS	LCS	06/17/25 16:49		Jaswal	OK
55	PB168489BL	PB168489BL	MB	06/17/25 17:00		Jaswal	OK
56	PB168489BS	PB168489BS	LCS	06/17/25 17:05		Jaswal	OK

Instrument ID: P5

Daily Analysis Runlog For Sequence/QC Batch ID # LB136187

Review By	jaswal	Review On	6/19/2025 12:06:04 PM
Supervise By	MOHAN	Supervise On	6/19/2025 12:50:23 PM

STD. NAME	STD REF.#
ICAL Standard	MP85867,MP85897,MP85871,MP85870,MP85869,MP85868
ICV Standard	MP85872,MP85897
CCV Standard	MP85875
ICSA Standard	MP85873,MP85874
CRI Standard	MP85897
LCS Standard	
Chk Standard	MP85876,MP85877

57	PB168475BL	PB168475BL	MB	06/17/25 17:10		Jaswal	OK
58	PB168475BS	PB168475BS	LCS	06/17/25 17:14		Jaswal	OK
59	PB168490BL	PB168490BL	MB	06/17/25 17:19		Jaswal	OK
60	PB168490BS	PB168490BS	LCS	06/17/25 17:23		Jaswal	OK
61	Q2311-08	TP04-MH4-WC	SAM	06/17/25 17:27		Jaswal	OK
62	Q2311-04	TP03-MH2MH3-WC	SAM	06/17/25 17:32		Jaswal	OK
63	CCV05	CCV05	CCV	06/17/25 17:37		Jaswal	OK
64	CCB05	CCB05	CCB	06/17/25 17:41		Jaswal	OK
65	Q2334-01	MW3	SAM	06/17/25 17:50		Jaswal	OK
66	Q2334-01DUP	MW3DUP	DUP	06/17/25 17:54		Jaswal	OK
67	Q2334-01L	MW3L	SD	06/17/25 17:59		Jaswal	OK
68	Q2334-01MS	MW3MS	MS	06/17/25 18:03		Jaswal	OK
69	Q2334-01MSD	MW3MSD	MSD	06/17/25 18:07		Jaswal	OK
70	Q2334-02	MW4	SAM	06/17/25 18:16		Jaswal	OK
71	Q2334-01A	MW3A	PS	06/17/25 18:20	0.1ML M6004,M6013-10ML SAMPLE	Jaswal	OK
72	Q2334-03DL	GBTW1DL	SAM	06/17/25 18:25	Straight 5X	Jaswal	OK
73	Q2296-13	WC-4	SAM	06/17/25 18:29		Jaswal	OK
74	Q2296-17	WC-5	SAM	06/17/25 18:33		Jaswal	OK
75	CCV06	CCV06	CCV	06/17/25 18:38		Jaswal	OK

Instrument ID: P5

Daily Analysis Runlog For Sequence/QC Batch ID # LB136187

Review By	jaswal	Review On	6/19/2025 12:06:04 PM
Supervise By	MOHAN	Supervise On	6/19/2025 12:50:23 PM

STD. NAME	STD REF.#
ICAL Standard	MP85867,MP85897,MP85871,MP85870,MP85869,MP85868
ICV Standard	MP85872,MP85897
CCV Standard	MP85875
ICSA Standard	MP85873,MP85874
CRI Standard	MP85897
LCS Standard	
Chk Standard	MP85876,MP85877

76	CCB06	CCB06	CCB	06/17/25 18:42		Jaswal	OK
77	Q2311-01	TP03-MH2MH3-WC	SAM	06/17/25 18:47		Jaswal	OK
78	Q2311-05	TP04-MH4-WC	SAM	06/17/25 18:51		Jaswal	OK
79	Q2296-01	WC-1	SAM	06/17/25 18:55		Jaswal	OK
80	Q2296-01DUP	WC-1DUP	DUP	06/17/25 19:00		Jaswal	OK
81	Q2296-01L	WC-1L	SD	06/17/25 19:04		Jaswal	OK
82	Q2296-01MS	WC-1MS	MS	06/17/25 19:08		Jaswal	OK
83	Q2296-01MSD	WC-1MSD	MSD	06/17/25 19:12		Jaswal	OK
84	Q2296-01A	WC-1A	PS	06/17/25 19:17	0.1ML M6004,M6013-10ML SAMPLE	Jaswal	OK
85	Q2296-09	WC-3	SAM	06/17/25 19:21		Jaswal	OK
86	CCV07	CCV07	CCV	06/17/25 19:25		Jaswal	OK
87	CCB07	CCB07	CCB	06/17/25 19:30		Jaswal	OK
88	Q2296-21	WC-6	SAM	06/17/25 19:34		Jaswal	OK
89	Q2297-01	TP-3	SAM	06/17/25 19:38		Jaswal	OK
90	Q2307-03DL	LINDEN-SAA-WATER	SAM	06/17/25 19:43		Jaswal	OK
91	Q2316-01	RW8-SP100-2025061	SAM	06/17/25 19:47		Jaswal	OK
92	Q2316-02	RW8-SP303-2025061	SAM	06/17/25 19:51		Jaswal	OK
93	Q2316-02DUP	RW8-SP303-2025061	DUP	06/17/25 19:56		Jaswal	OK
94	Q2316-02L	RW8-SP303-2025061	SD	06/17/25 20:00		Jaswal	OK

Instrument ID: P5

Daily Analysis Runlog For Sequence/QC Batch ID # LB136187

Review By	jaswal	Review On	6/19/2025 12:06:04 PM
Supervise By	MOHAN	Supervise On	6/19/2025 12:50:23 PM

STD. NAME	STD REF.#
ICAL Standard	MP85867,MP85897,MP85871,MP85870,MP85869,MP85868
ICV Standard	MP85872,MP85897
CCV Standard	MP85875
ICSA Standard	MP85873,MP85874
CRI Standard	MP85897
LCS Standard	
Chk Standard	MP85876,MP85877

95	Q2316-02MS	RW8-SP303-2025061	MS	06/17/25 20:04		Jaswal	OK
96	Q2316-02MSD	RW8-SP303-2025061	MSD	06/17/25 20:09		Jaswal	OK
97	Q2316-02A	RW8-SP303-2025061	PS	06/17/25 20:13	0.1ML M6004,M6013-10ML SAMPLE	Jaswal	OK
98	CCV08	CCV08	CCV	06/17/25 20:17		Jaswal	OK
99	CCB08	CCB08	CCB	06/17/25 20:22		Jaswal	OK

Prep Standard - Chemical Standard Summary

Order ID : Q2316
Test : Metals Group4
Prepbatch ID : PB168475,
Sequence ID/Qc Batch ID: LB136187, LB136187,

Standard ID :
MP85156, MP85867, MP85868, MP85869, MP85870, MP85871, MP85872, MP85873, MP85874, MP85875, MP85876, MP85877, MP85896, MP85897,

Chemical ID :
M5466, M5467, M5471, M5658, M5697, M5747, M5748, M5798, M5799, M5800, M5801, M5811, M5814, M5820, M5942, M5962, M5969, M5970, M5984, M5985, M5996, M5997, M6007, M6016, M6021, M6023, M6028, M6030, M6032, M6077, M6127, M6128, M6137, M6138, M6142, M6144, M6145, M6146, M6150, M6151, M6152, M6155, M6158, M6159, M6162, W3112,

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
170	1:1HCL	MP85156	04/07/2025	08/18/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 1250.00000ml of M6151 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
902	ICP AES CAL BLK (SO/ICB/CCB)	MP85867	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
								06/14/2025

FROM 125.00000ml of M6151 + 2350.00000ml of W3112 + 25.00000ml of M6162 = Final Quantity: 2500.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
907	ICP AES STD S (S5)	MP85868	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025
FROM 5.00000ml of M5467 + 5.00000ml of M5471 + 5.00000ml of M5820 + 5.00000ml of M5969 + 5.00000ml of M5970 + 5.00000ml of M5996 + 5.00000ml of M5997 + 5.00000ml of M6077 + 5.00000ml of M6146 + 455.00000ml of MP85867 = Final Quantity: 500.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
910	ICP AES STD S4	MP85869	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025
FROM 50.00000ml of MP85867 + 50.00000ml of MP85868 = Final Quantity: 100.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
909	ICP AES STD S3	MP85870	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 25.00000ml of MP85868 + 75.00000ml of MP85867 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
908	ICP AES S2/CRI MINERALS ONLY STD	MP85871	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 8.00000ml of MP85868 + 92.00000ml of MP85867 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
912	ICP AES ICV SOLN	MP85872	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 10.00000ml of M6150 + 90.00000ml of MP85867 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
904	ICP AES ICSA SOLN	MP85873	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 25.00000ml of M6152 + 225.00000ml of MP85867 = Final Quantity: 250.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3494	ICP AES ICSAB SOLN-1	MP85874	06/02/2025	06/20/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 10.00000ml of M6152 + 10.00000ml of M6155 + 80.00000ml of MP85867 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
911	ICP AES CCV SOLN	MP85875	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 50.00000ml of MP85867 + 50.00000ml of MP85868 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
919	ICP AES INTERNAL STD	MP85876	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025
FROM 1.00000ml of M5984 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6162 = Final Quantity: 2000.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
903	ICP AES RINSE SOLN	MP85877	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025
FROM 200.00000ml of M6162 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml								

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2950	ICP AES S1/CRI STOCK STD	MP85896	06/02/2025	06/13/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025
FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.05000ml of M6159 + 0.06000ml of M5747 + 0.10000ml of M5471 + 0.10000ml of M5697 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5969 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5942 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6145 + 0.25000ml of M5466 + 0.25000ml of M6146 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M6127 + 1.00000ml of M6138 + 1.00000ml of M6142 + 1.00000ml of M6144 + 2.00000ml of M6137 + 90.03000ml of MP85867 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2951	ICP AES S1/CRI WORK STD	MP85897	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025
FROM 2.00000ml of MP85896 + 90.03000ml of MP85867 = Final Quantity: 100.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	061322	06/13/2025	03/06/2023 / bin	03/01/2023 / bin	M5466

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	04/14/2025 / jaswal	03/16/2023 / jaswal	M5471

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	06/18/2024 / Jaswal	02/22/2024 / Jaswal	M5942

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	03/31/2026	03/31/2025 / kareem	06/11/2024 / Jaswal	M5969

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	07/01/2024 / Jaswal	07/01/2024 / Jaswal	M5970

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	08/05/2024 / kareem	06/14/2024 / Jaswal	M5984

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	U2-IN729349	02/21/2028	10/08/2024 / Jaswal	06/14/2024 / Jaswal	M5985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	05/07/2024 / JANVI	02/22/2024 / kareem	M5996

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB727800	12/21/2027	02/03/2025 / JANVI	02/22/2024 / kareem	M5997

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	05/27/2026	05/27/2025 / Janvi	05/14/2024 / Jaswal	M6007

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	10/30/2025	04/30/2025 / mohan	05/14/2024 / Jaswal	M6016

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / TI, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6028

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	010924	01/09/2027	01/14/2025 / Jaswal	08/05/2024 / Jaswal	M6032

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	09/06/2029	01/23/2025 / kareem	09/19/2024 / kareem	M6077

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	112124	11/21/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6127

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	101124	10/11/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6128

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSI1-1 / SILICON 125mL 1000ug/mL	V2-SI744713	07/10/2029	01/14/2025 / Jaswal	10/03/2024 / Jaswal	M6137

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	121824	12/18/2027	04/17/2025 / Janvi	01/13/2025 / Jaswal	M6138

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	103024	10/30/2027	05/06/2025 / JANVI	01/13/2025 / Jaswal	M6142

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	072424	07/24/2027	01/23/2025 / kareem	01/13/2025 / Jaswal	M6144

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	121724	12/17/2027	02/04/2025 / Jaswal	01/13/2025 / Jaswal	M6145

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	01/31/2025 / kareem	10/18/2024 / kareem	M6146

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-1014	07/07/2025	02/07/2025 / JANVI	04/20/2021 / JANVI	M6150

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	08/24/2025	02/24/2025 / kareem	04/20/2021 / kareem	M6152

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	06/20/2025	02/10/2025 / kareem	02/09/2024 / kareem	M6155

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011325	03/18/2026	03/18/2025 / kareem	02/09/2025 / kareem	M6159

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24H0162012	11/27/2025	05/27/2025 / Sagar	04/27/2025 / Sagar	M6162

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57056
010924
Barium (Ba)

Lot #
Solvent: 24002546 Nitric Acid

Expiration Date:

010927

2% 40.0 (mL) Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
	010924
<i>Pedro L. Renteria</i>	
Reviewed By:	Pedro L. Renteria
	010924

Compound

Lot **Nominal** **Purity** **Uncertainty** **Assay** **Target** **Actual** **Actual** **Expanded**

RM# **Number** **Conc. (µg/mL)** **(%)** **Purity (%)** **(%)** **Weight (g)** **Weight (g)** **Conc. (µg/mL)** **+/- (µg/mL)**

SDS Information
(Solvent Safety Info. On Attached pg.)
CAS# **OSHA PEL (TWA)** **LD50**

NIST **SRM**

1. Barium nitrate (Ba)

IN023 BA0022019A1

1000

99.999

0.10

52.3

3.82417

3.82441

1000.1

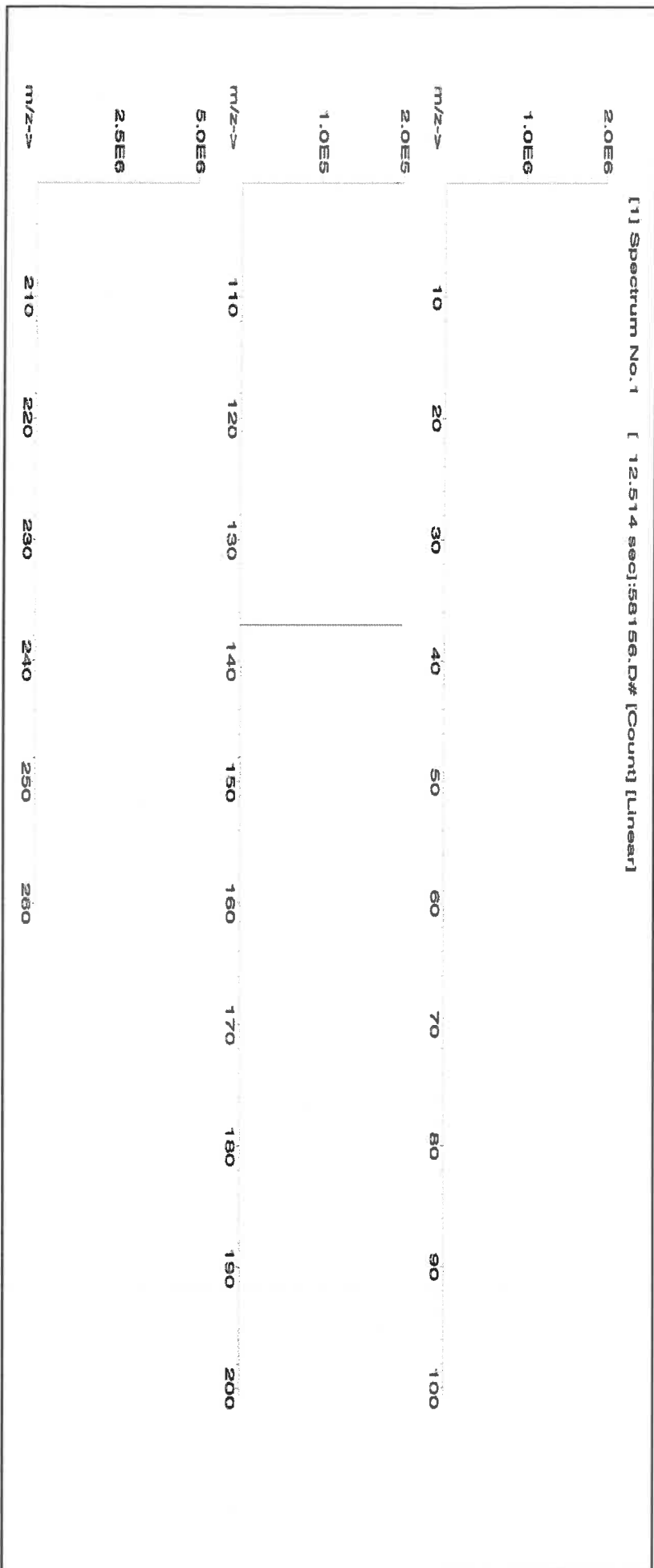
2.0

10022-31-8

0.5 mg/m3

or-hat 355 mg/kg 3104a

[1] Spectrum No.1 [12.514 sec]:58156.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



M6028



CERTIFIED WEIGHT REPORT:

Part Number: 57048
Lot Number: 070124
Description: Cadmium (Cd)

Solvent: 24002546 Nitric Acid
Lot #

Expiration Date: 070127

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 2000.07

SE-05 Balance Uncertainty
0.100 Flask Uncertainty

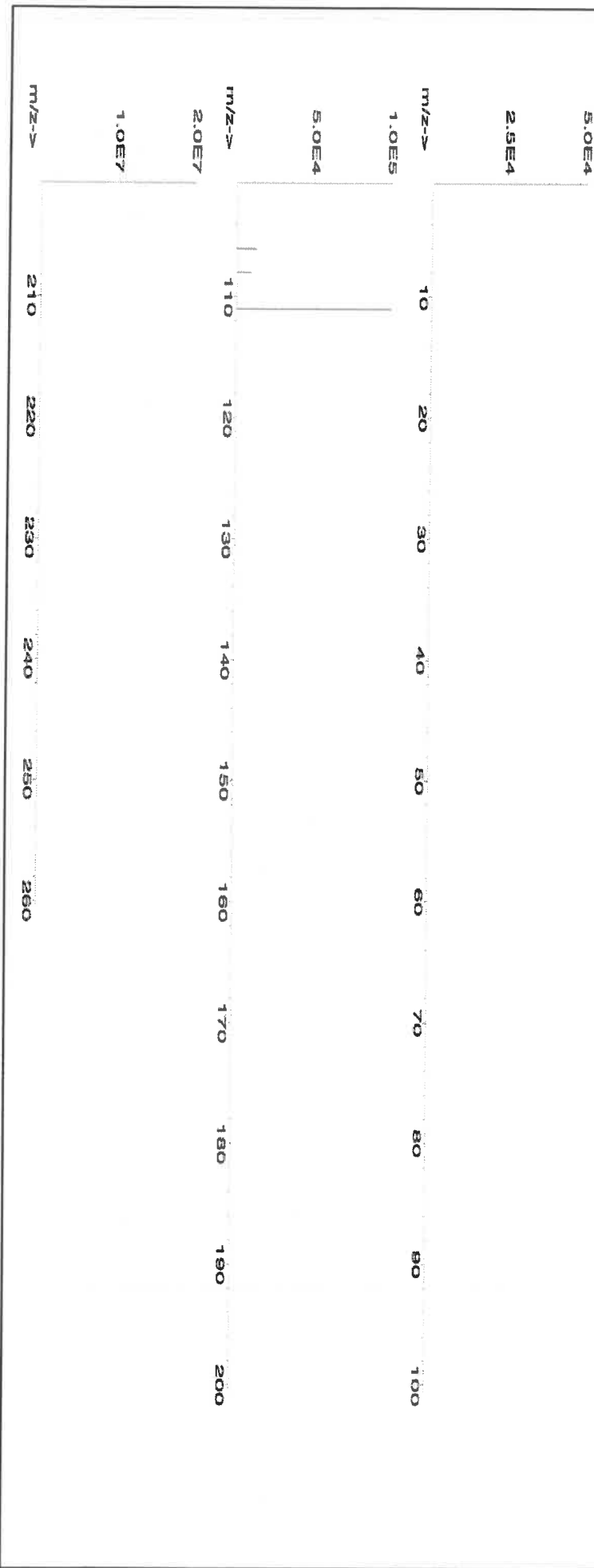
2% 40.0 (mL) Nitric Acid

<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

Compound	Lot				Expanded				SDS Information			
	RW#	Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)

1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM09221A1	1000	99.999	0.10	36.5	5.4797	5.4804	1000.1	2.0	10022-68-1	0.01 mg/m3
--------------------------------------	-------	------------	------	--------	------	------	--------	--------	--------	-----	------------	------------

[T1 Spectrum No.1 [12.514 sec]:\$8148.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.2	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Ba	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Cd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pr	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 051523
Description: Iron (Fe)

Solvent: 21110221 Nitric Acid

Lot #

Expiration Date: 051526

5.0% 250.0 (mL) Nitric Acid

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

5E-05 Balance Uncertainty

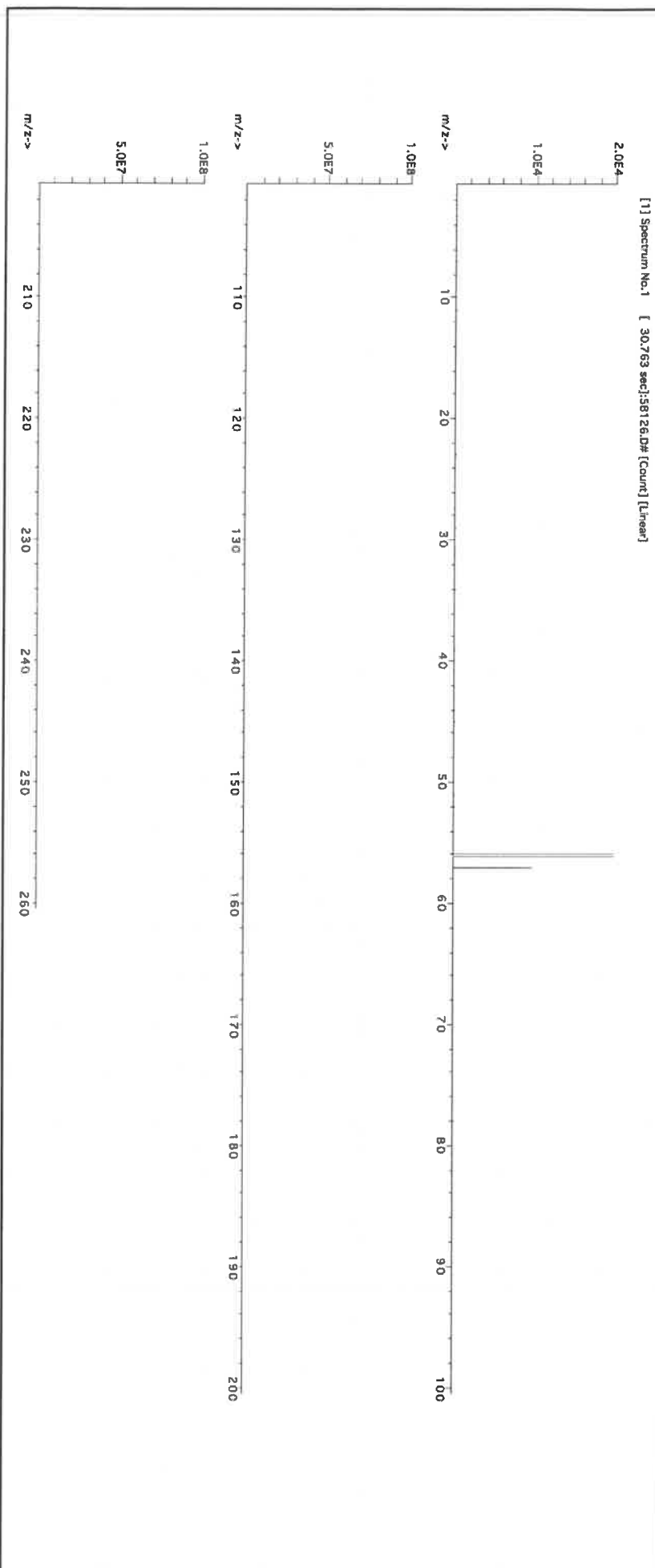
Weight shown below was diluted to (mL): 5000.1 **0.12 Flask Uncertainty**

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
	051523
<i>Pedro L. Renias</i>	
Reviewed By:	Pedro L. Renias
	051523

SDS Information

Compound	Lot	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-----	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	10001.5	20.0	7439-89-6	5 mg/m3	or-tral 7500mg/kg 3126a
--------------	-------	-------------	-------	--------	------	-------	---------	---------	---------	------	-----------	---------	-------------------------





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ce	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rb	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Refine your results. Redefine your industry.

RD:05/14/2024

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO ₃

Value / Analyte(s):	1 000 µg/mL ea: Potassium,	
	600 µg/mL ea: Phosphorus,	
	300 µg/mL ea: Sodium,	Iron,
	200 µg/mL ea: Magnesium, Cerium, Thallium,	Aluminum, Selenium,
	100 µg/mL ea: Lead,	Calcium,
	80 µg/mL ea: Arsenic,	
	70 µg/mL ea: Mercury,	
	50 µg/mL ea: Nickel,	
	40 µg/mL ea: Chromium,	
	30 µg/mL ea: Copper, Vanadium,	Boron,
	20 µg/mL ea: Zinc, Barium, Cadmium, Manganese,	Strontium, Beryllium, Cobalt, Lithium,
	7.5 µg/mL ea: Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum (1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty (z)} = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{ts}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum ((w_i)^2 (u_{\text{char } i})^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty (z)} = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{ts}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 30, 2026

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

RD:05/14/2024

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: WW-LFS-2
Lot Number: U2-MEB731108
Matrix: 5% (v/v) HNO₃
tr. HF
Value / Analyte(s):
200 µg/mL ea:
Silica,
80 µg/mL ea:
Antimony,
70 µg/mL ea:
Tin,
40 µg/mL ea:
Molybdenum,
20 µg/mL ea:
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO ₂	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO ₂	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i})^2 / (\sum (1/u_{\text{char } i})^2)$$

$$\text{CRM/RM Expanded Uncertainty } (z) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{ITS}}^2 + u_{\text{TS}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum (w_i)^2 (u_{\text{char } i})^2]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ITS} = long term stability standard uncertainty (storage)

u_{TS} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (z) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{ITS}}^2 + u_{\text{TS}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ITS} = long term stability standard uncertainty (storage)

u_{TS} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures [Terms and Conditions of Sale](https://www.inorganicventures.com/terms-and-conditions-sale). <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com;

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 17, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





AN 5466

Certified Reference Material CRM



ANAB ISO 17034 Accredited
AFR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 061322
Description: Cerium (Ce)

Solvent: 2051001 Nitric Acid

Lot #

Expiration Date: 061325
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB

2% 20.0 (mL) Nitric Acid

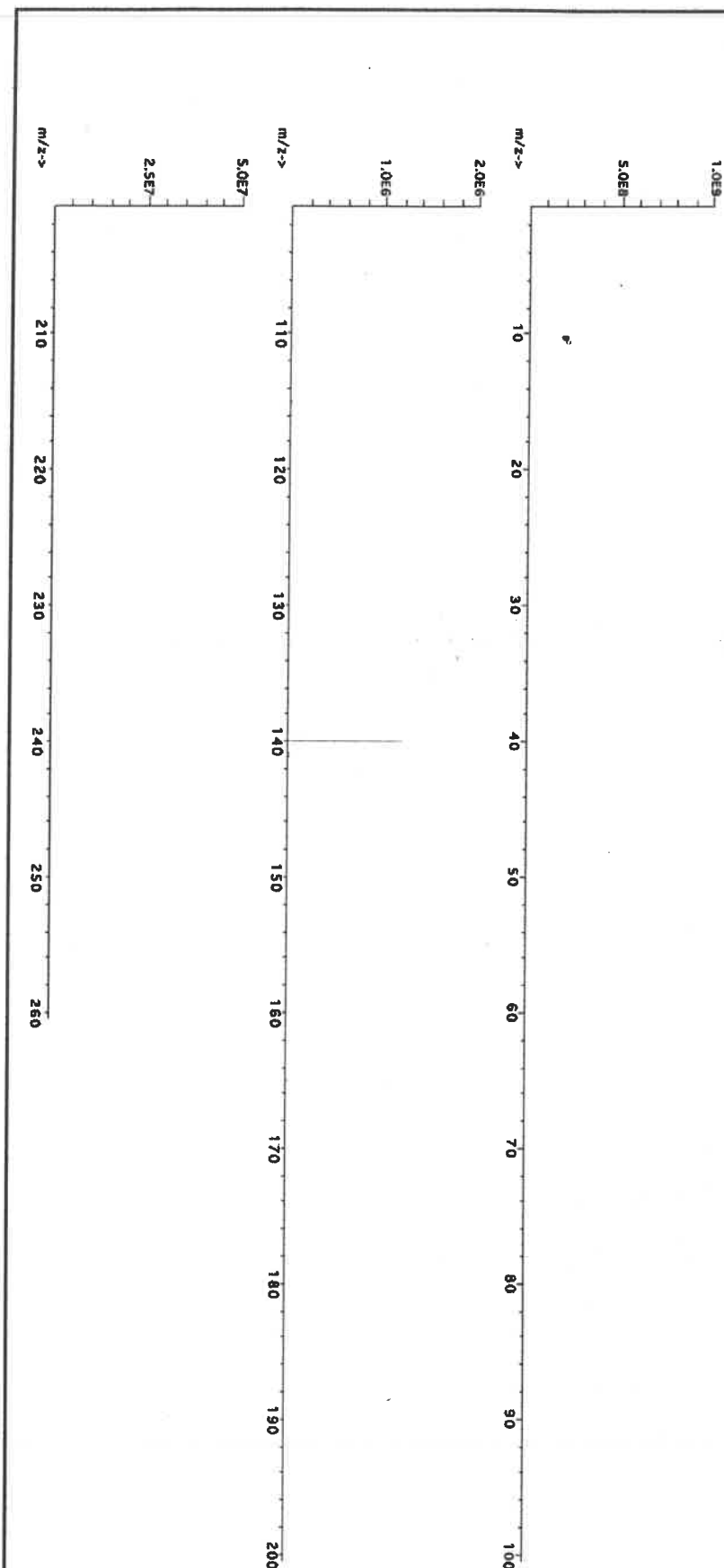
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

Formulated By: Lawrence Barry	061322
Reviewed By: Pedro L. Renteria	061322

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	Uncertainty +/- (µg/mL)

1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04923	1000.0	2.0	10294-41-4	NA	NA	NA
------------------------------------	-------	----------	------	--------	------	------	---------	---------	--------	-----	------------	----	----	----

[1] Spectrum No.1 [43.472 sec:158.00e [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Rc	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pr	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



M5467 R: 03/01/23 (14)

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57058
020623
Cerium (Ce)

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:

020626
Ambient (20 °C)
1000
6UTB

Weight shown below was diluted to (mL):

1000.12

Solvent: Nitric Acid

2% Nitric Acid
20.0 (mL)

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

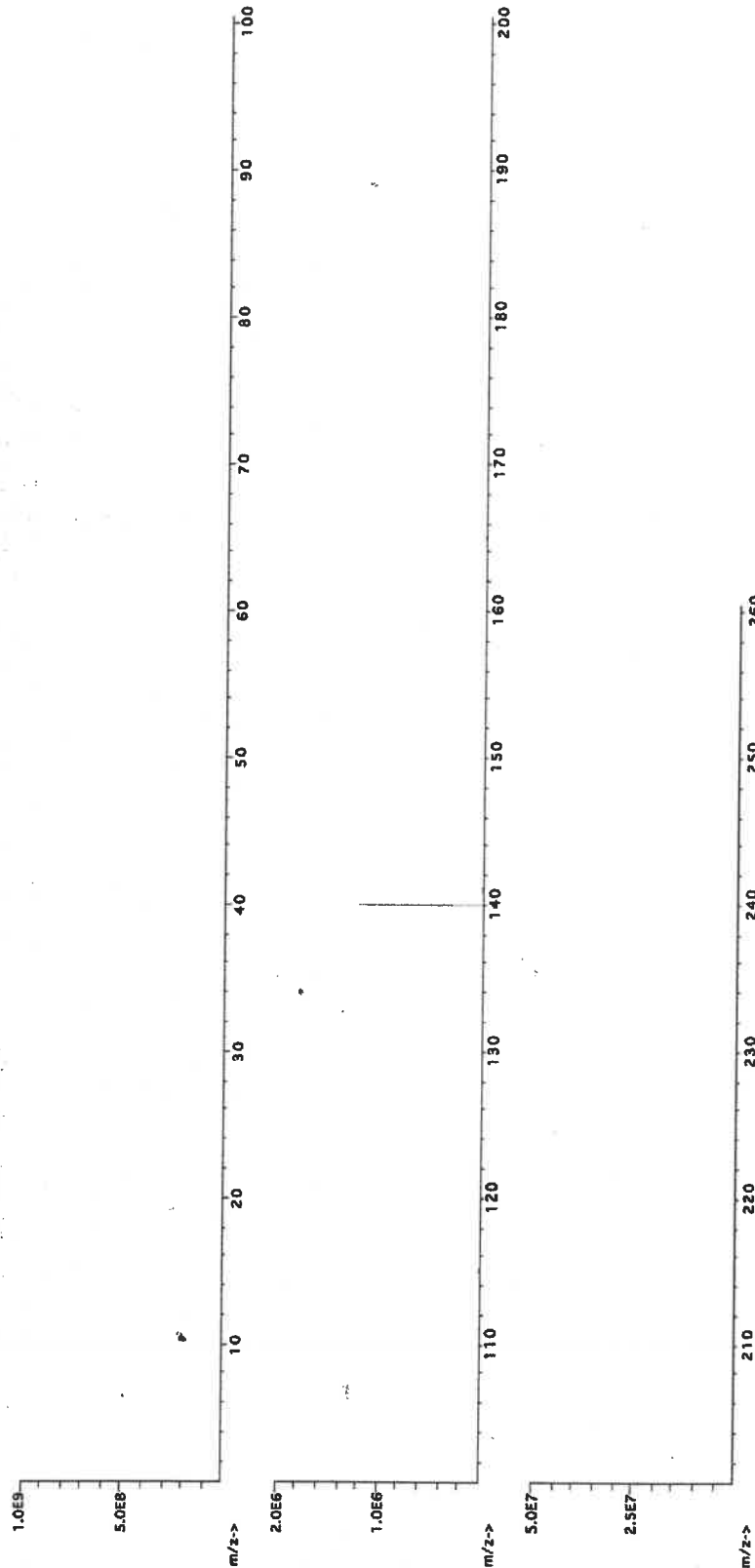
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

SDS Information

Expanded Uncertainty +/- (µg/mL) CAS# OSHA PEL (TWA) LD50 SRM

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM
1. Cerium nitrate hexahydrate (Ce)	IN146 Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	1000.0	2.0	10294-41-4	NA	NA

[1] Spectrum No.1 [43.472 sec]58158.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 58024
Lot Number: 060523
Description: Chromium (Cr)

Lot # 2110221 **Solvent:** Nitric Acid

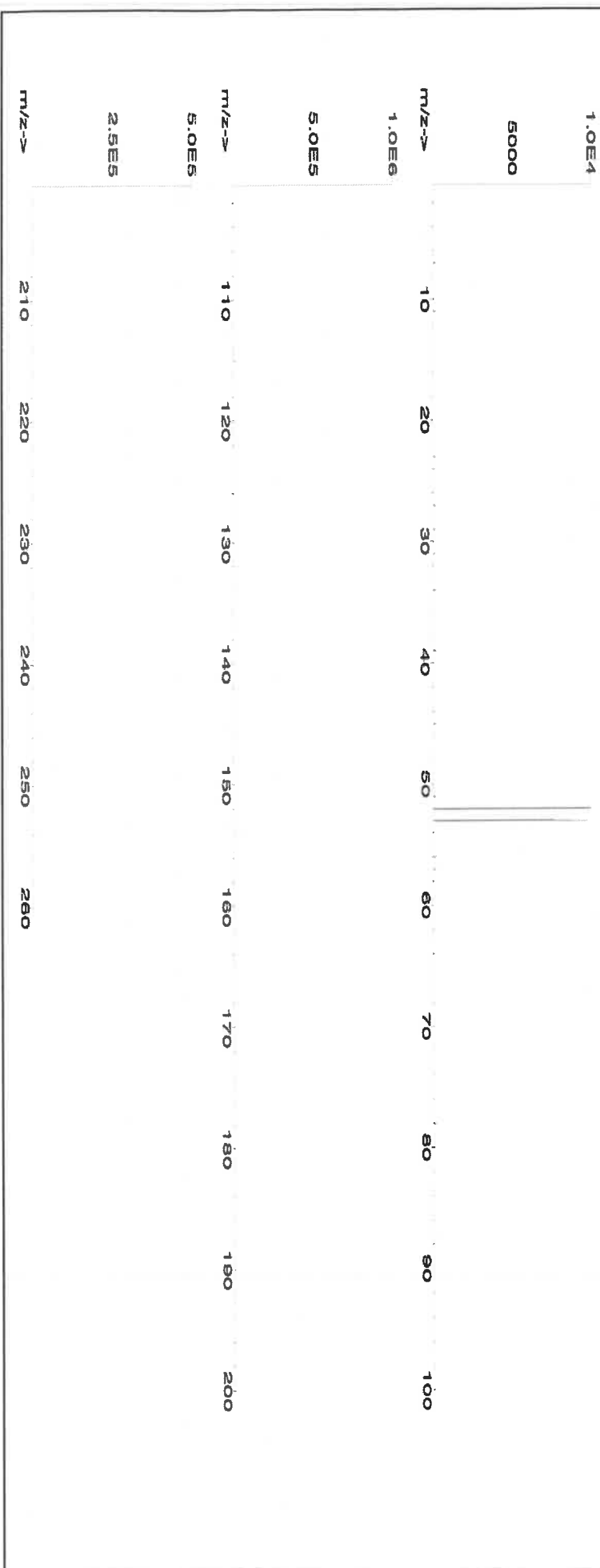
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

Expiration Date: 060526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02 0.058 Balance Uncertainty
Flask Uncertainty

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Chromium(III) nitrate nonahydrate (Cr) 58124 071122 0.1000 200.0 0.084 1000 10000.1 1000.0 2.2 7789-02-8 0.5 mg(Cr)/m3 or rat 3250 mg/kg 3112a

[1] Spectrum No.1 [31.393 sec]:57024.D# [Count] [Linear]





Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: **58029**
Lot Number: **102523**
Description: **Copper (Cu)**

Lot # **24002546** Solvent: **Nitric Acid**

Expiration Date: **102526**

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage: **Ambient (20 °C)**

Nominal Concentration (µg/mL): **1000**

NIST Test Number: **6UTB**

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): **2000.02**

0.058 Flask Uncertainty

Formulated By: *[Signature]* Benson Chan 102523

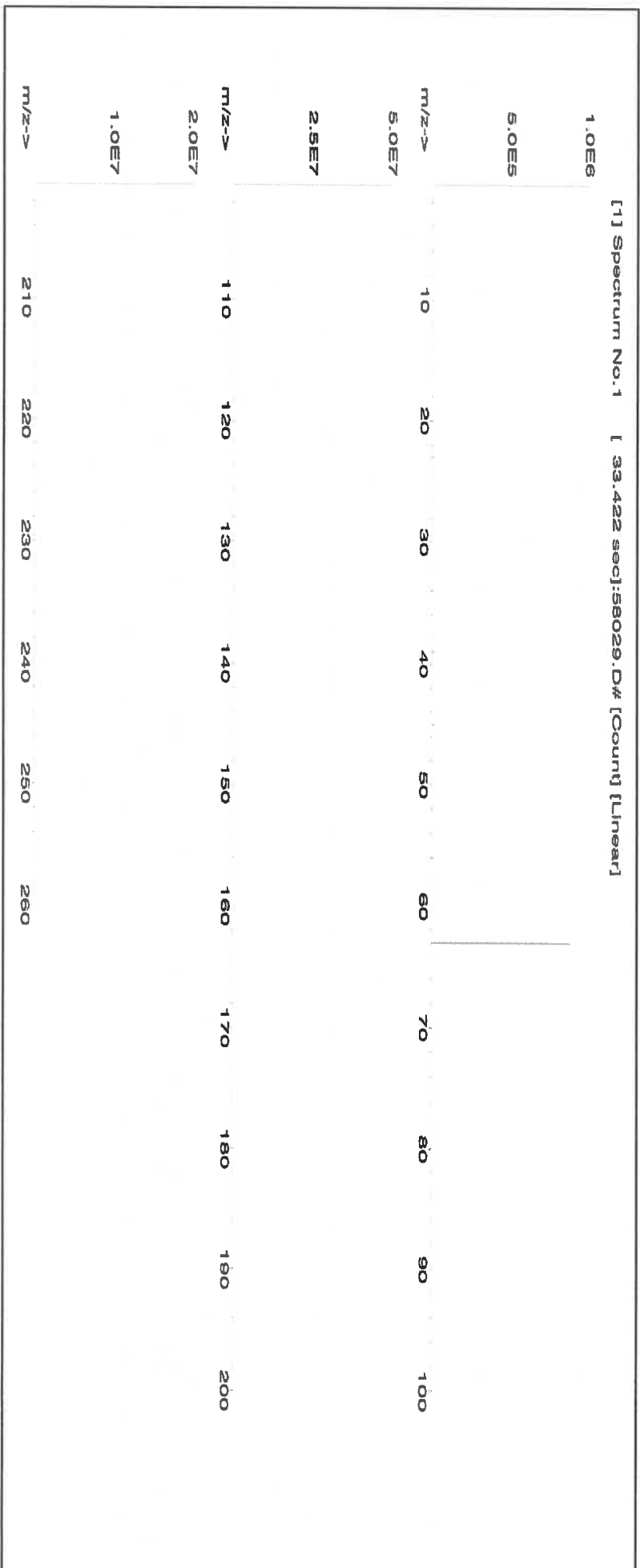
Reviewed By: *[Signature]* Pedro L. Rentas 102523

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Copper(II) nitrate trihydrate (Cu) 58129 100223 0.1000 200.0 0.084 1000 10000.1 1000.0 2.2 10031-43-3 1 mg/m3 or-rat 794 mg/kg 3114

[1] Spectrum No.1 [33.422 sec]:58029.D# [Count] [Linear]





Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://AbsoluteStandards.com>

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Bu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Solvent: 24002546 Nitric Acid

Lot #

R: 12/20/23 MS747

Formulated By:	Lawrence Barry
	100923
Reviewed By:	Pedro L. Rentas
	100923

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2% 60.0 (mL) Nitric Acid

Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

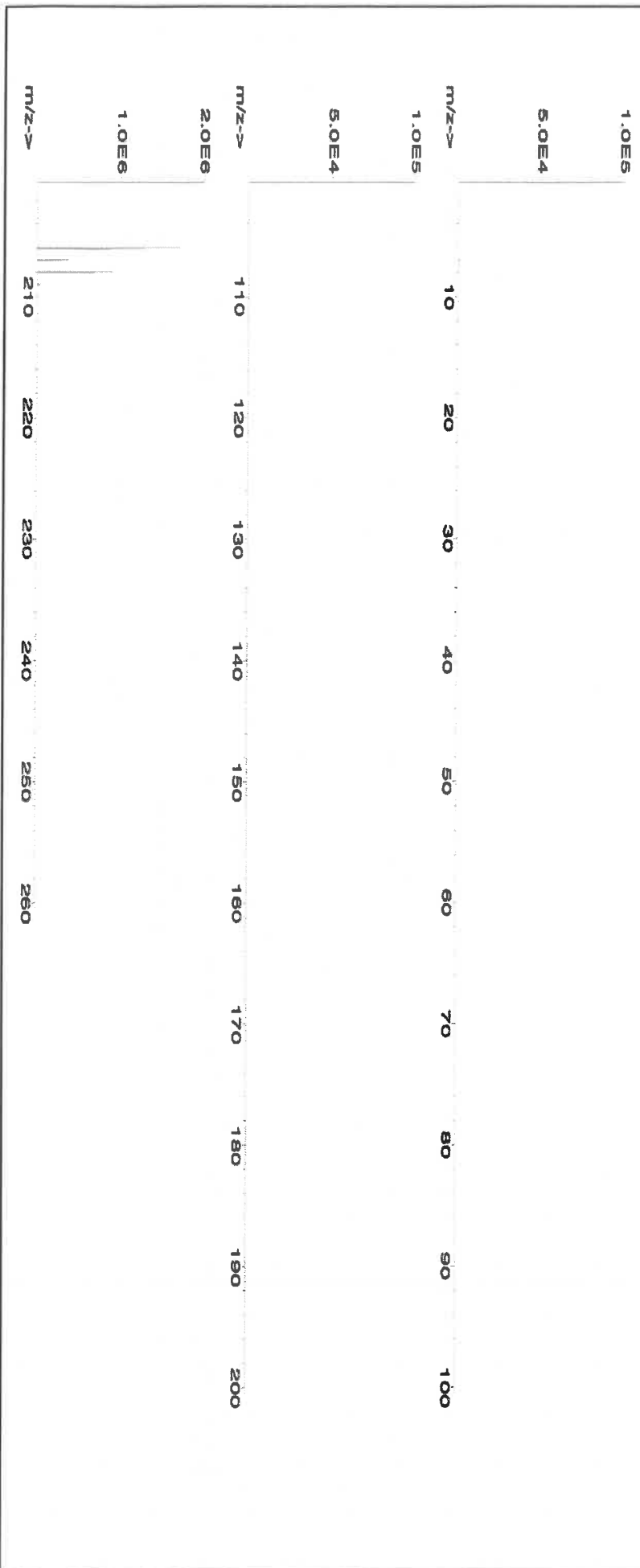
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded		NIST
										Uncertainty	+/- (µg/mL)	

SDS Information

(Solvent Safety Info. On Attached pg.)
CAS# OSHA PEL (TWA) LD50 SRM

1. Lead(II) nitrate (Pb) IN029 PB0122016A1 1000 99.999 0.10 62.5 4.80071 4.80077 1000.0 2.0 10099-74-8 0.05 mg/m3 Intvms-ret 89 mg/kg 3128

[1] Spectrum No. 1 [14.144 sec]:58082.D# [Count] [Linear]





Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://AbsoluteStandards.com>

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Ba	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **57028**
Lot Number: **091223**
Description: **Nickel (NI)**

Lot # **24002546** Solvent: **Nitric Acid**

Expiration Date: **091226**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6U7B**

2.0% 40.0 (mL) Nitric Acid

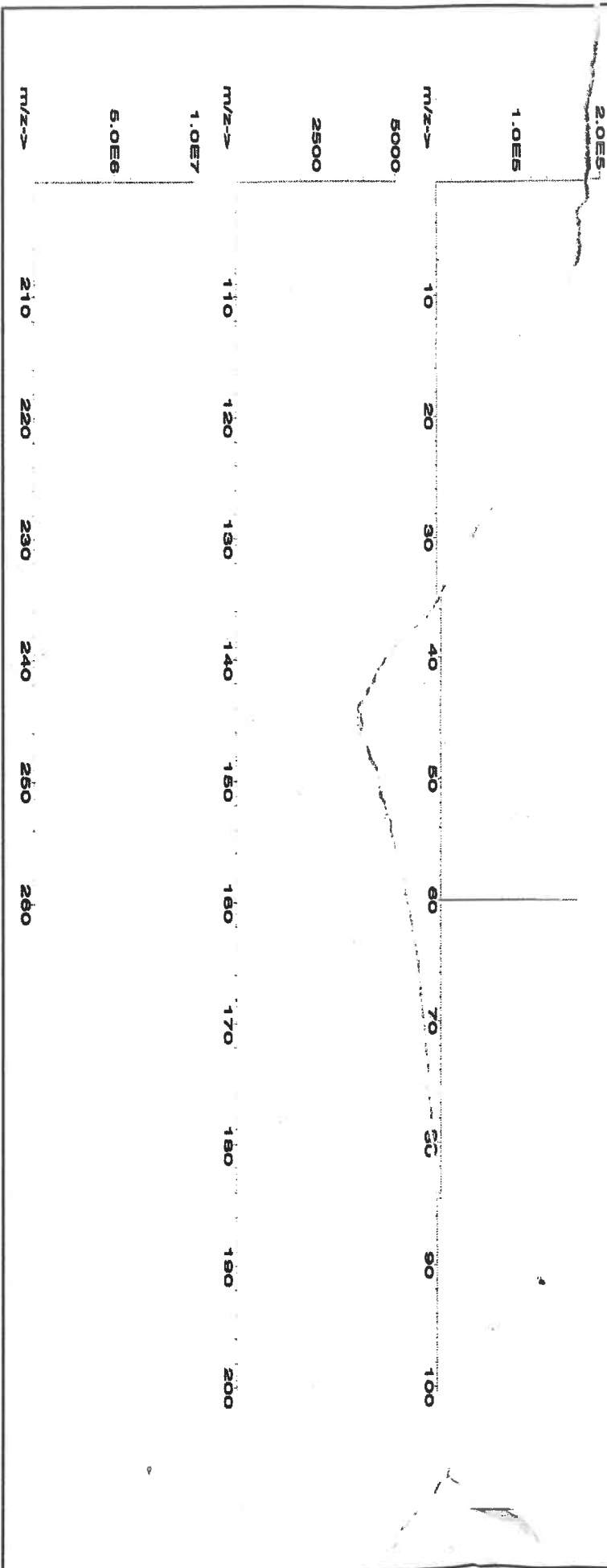
Volume shown below was diluted to (mL): **2000.02** Balance Uncertainty: **5E-05** Flask Uncertainty: **0.056**

Formulated By:	<i>Lawrence Barry</i>	091223
Reviewed By:	<i>Pedro L. Renteria</i>	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Nickel(II) nitrate hexahydrate (NI) 58128 062023 0.1000 200.0 0.084 1000 10000.4 1000.0 2.2 13478-00-7 1 mg/m3 or-rel 1620 mg/kg 3136

[1] Spectrum No.1 [9.135 sec]:56028.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Tb	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 57004
Lot Number: 102523
Description: Beryllium (Be)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date:

102526

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty

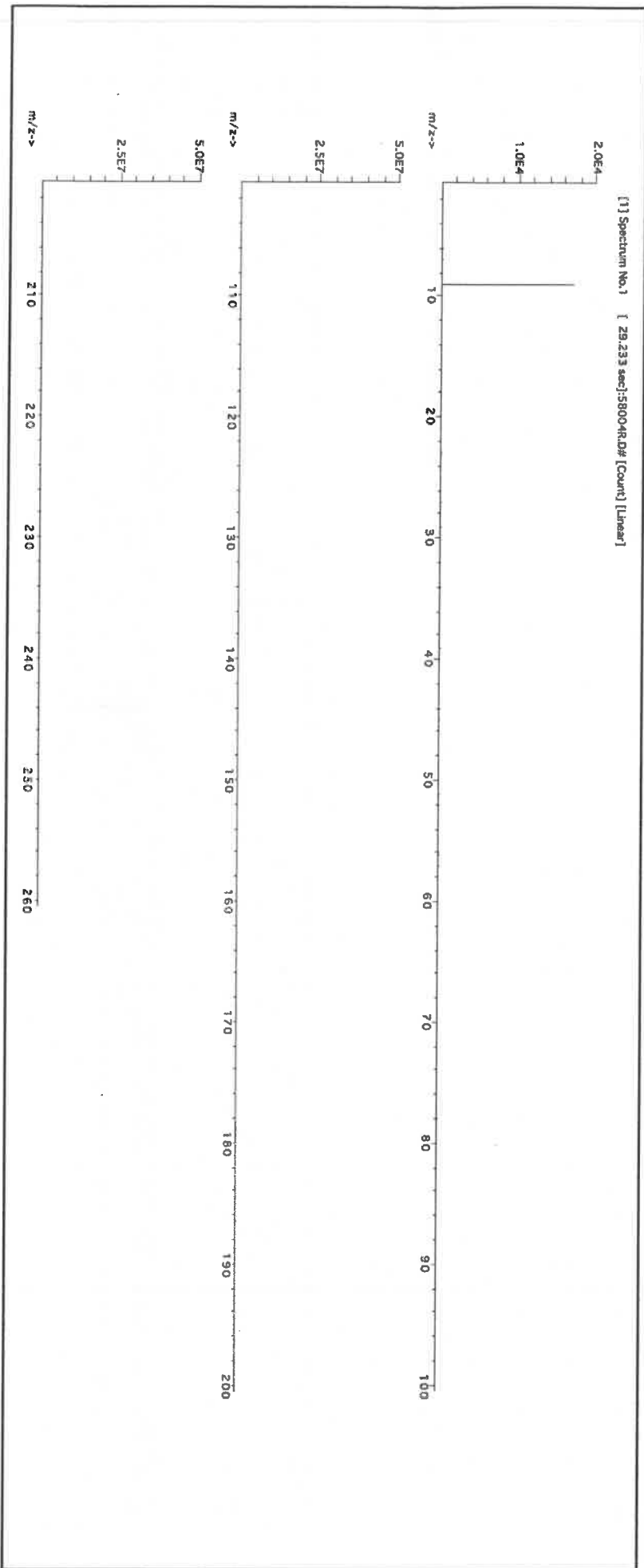
0.058 Flask Uncertainty

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

SDS Information

Compound	Part Number	Lot	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	-----	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-rat 3.16mg/kg	NA
---------------------------	-------	--------	--------	-------	-------	------	---------	--------	-----	------------	----------	------------------------	----





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<0.02	U	<0.02
As	<0.02	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.2	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Ta	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

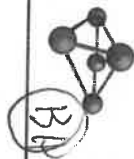
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R-02509124

M599



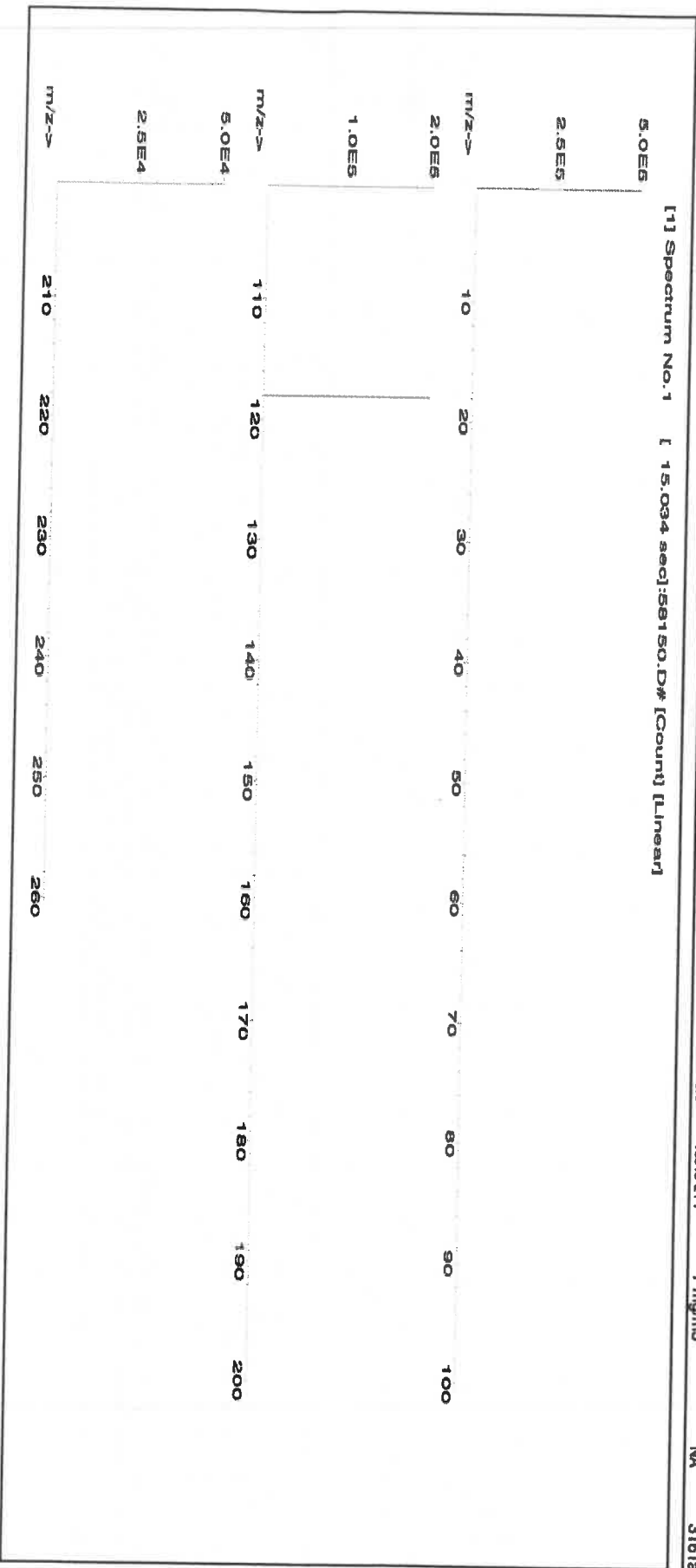
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Benson Chan	
071123	
Reviewed By: Pedro L. Rientas	
071123	

SDS Information									
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)

1. Ammonium hexafluoroantimonate(V) (Sn) INO10 SMD042023A1 1000 99.999 0.10 44.2 1.13107 1.13286 1001.6 2.0 16919-24-7 7 mg/m3 NA 3161a

[1] Spectrum No. 1 [15.034 sec] :56150.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Ta	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



R: 02/09/24 115800 (54)

CERTIFIED WEIGHT REPORT:

Part Number: 57027
Lot Number: 091923
Description: Cobalt (Co)

Expiration Date: 091926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02

Lot # 24002546
Solvent: Nitric Acid

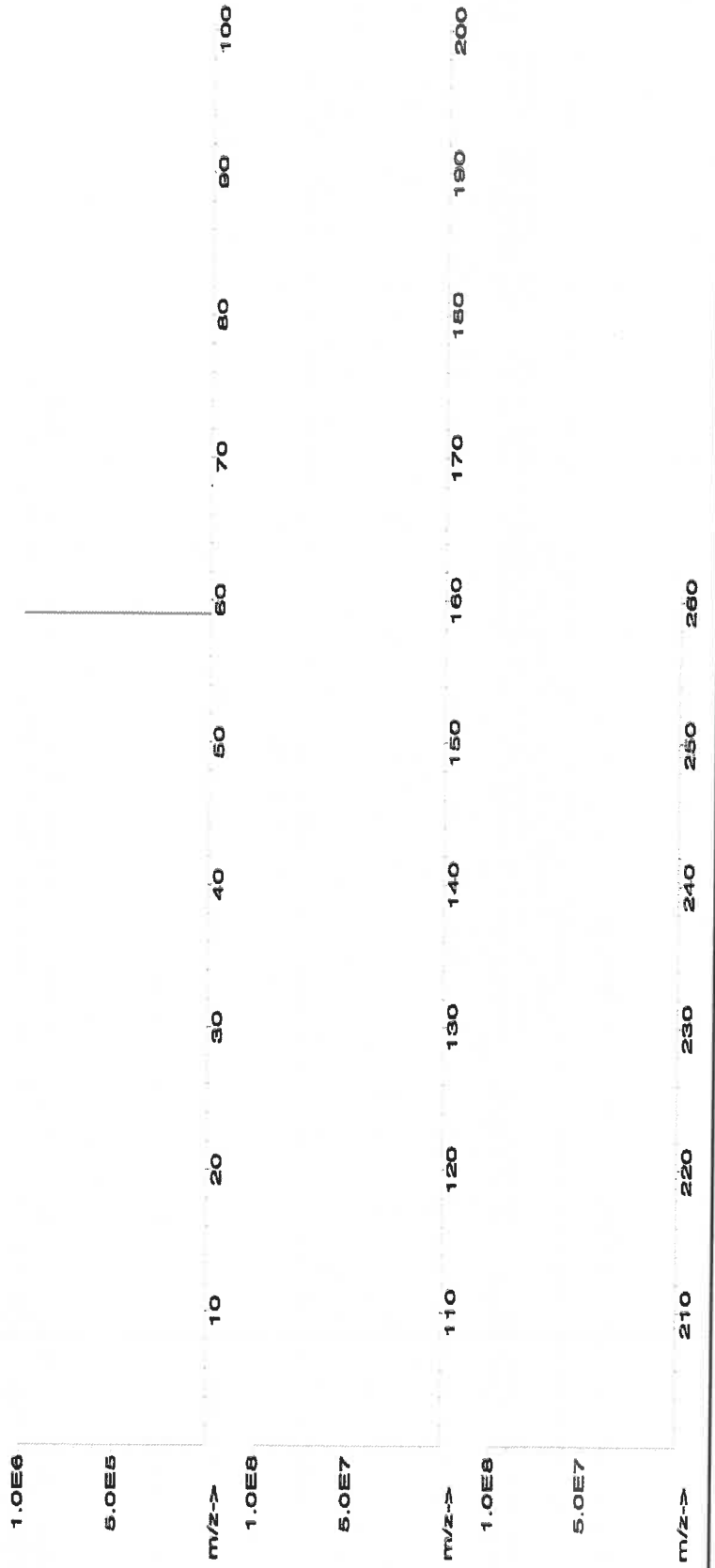
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

SDS Information

Expanded Uncertainty +/- (µg/mL)
Final Conc. (µg/mL)
Initial Conc. (µg/mL)
Nominal Conc. (µg/mL)
Pipette (mL)
Balance Uncertainty
Flask Uncertainty

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	1000.0	2.2	10026-22-9 0.02 mg/m3	ori-rat 691 mg/kg 3113

[1] Spectrum No.1 [34.243 sec]:58027.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.2	Na	<0.02	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM

AR: 02/09/24

M5801

BA



CERTIFIED WEIGHT REPORT:

Part Number: 57033
Lot Number: 111323
Description: Arsenic (As)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 111326
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB
Volume shown below was diluted to (mL): 4000.0

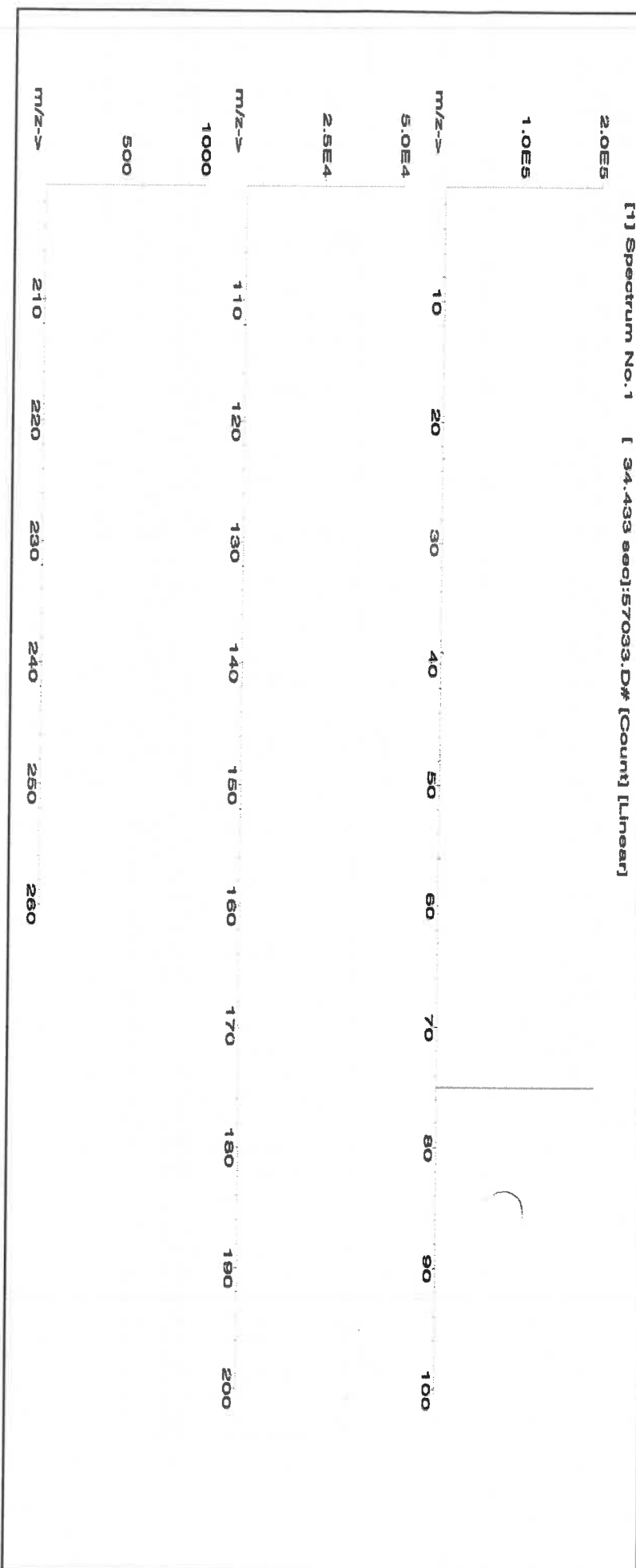
Balance Uncertainty: 5E-05
Flask Uncertainty: 0.06

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rendas	111323

SDS Information									
Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)

1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	1000.0	2.0
						7440-38-2	0.5 mg/m3	or rat 500 mg/kg	3103a

[1] Spectrum No. 1 [34.433 sec]:57033.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Bc	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge*	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sa	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: 57005
Lot Number: 071123
Description: Boron (B)

Solvent: MKB0857V Ammonium hydroxide

Lot #

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2.0% 40.0 (mL) Ammonium hydroxide

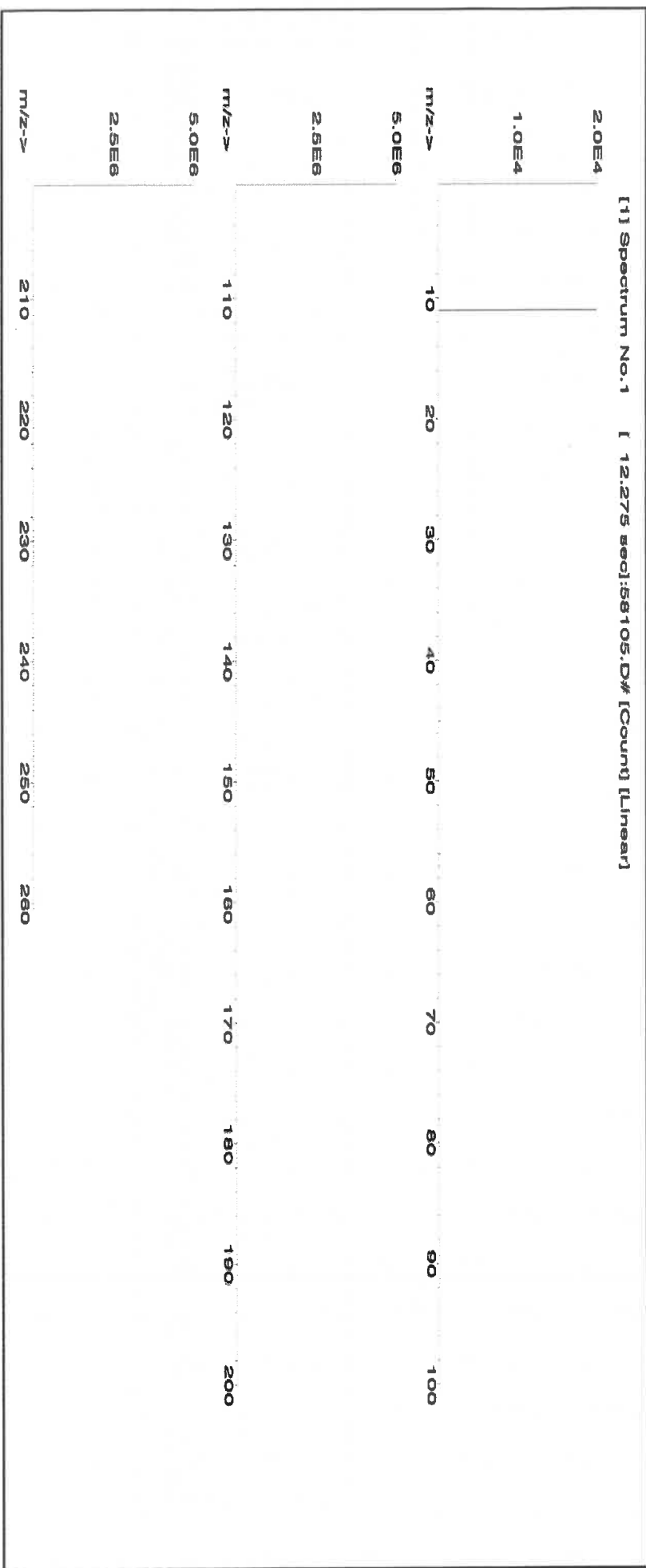
Weight shown below was diluted to (mL): 1999.48 0.058 Balance Uncertainty
Flask Uncertainty

Formulated By:	Benson Chan
	071123
Reviewed By:	Pedro L. Rientas
	071123

SDS Information

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-----	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Boric acid (B) IN018 BV082018A1 1000 99.9999 0.10 17.3 11.55772 11.56201 1000.4 2.0 10043-35-3 2 mg/m3 or-nat 2660 mg/kg 3107





Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
T		Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: 57015
Lot Number: 091123
Description: Phosphorous (P)

Solvent: 24002546 Nitric Acid

Lot #

Formulated By: Lawrence Barry
Reviewed By: Pedro L. Rentas

Expiration Date: 091126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB

2% 40.0 (mL) Nitric Acid

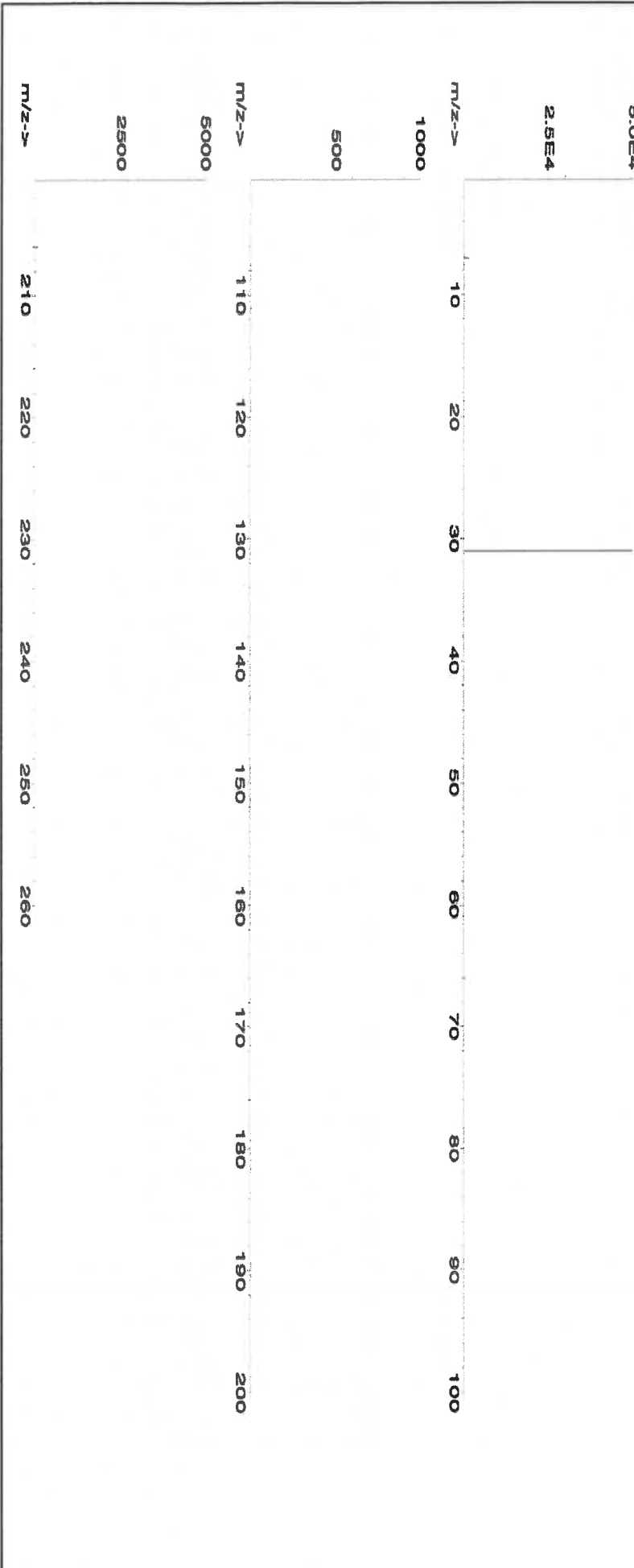
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

SDS Information

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-----	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Ammonium dihydrogen phosphate (P) IN008 PY062019A1 1000 99.999 0.10 27.5 7.2729 7.2730 1000.0 2.0 7722-76-1 5 mg/m3 xH-rat >2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sa	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

R: 02/22/24 M.5942

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGT11
Lot Number: T2-TI719972
Matrix: 2% (v/v) HNO₃
tr. HF
Value / Analyte(s): 1 000 µg/mL ea:
Titanium
Starting Material: Ti Metal
Starting Material Lot#: 2094
Starting Material Purity: 99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL
Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 1002 ± 4 µg/mL
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum (1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char i}^2)]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.

800-368-1131
www.absolutestandards.com



Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://AbsoluteStandards.com>

CERTIFIED WEIGHT REPORT:

Part Number:

57034

Lot Number:

060624

Description:

Selenium (Se)

Lot # Solvent:

24002546

Nitric Acid

2.0% 40.0 (mL)

Nitric Acid

Expiration Date:

060627

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

2000.07

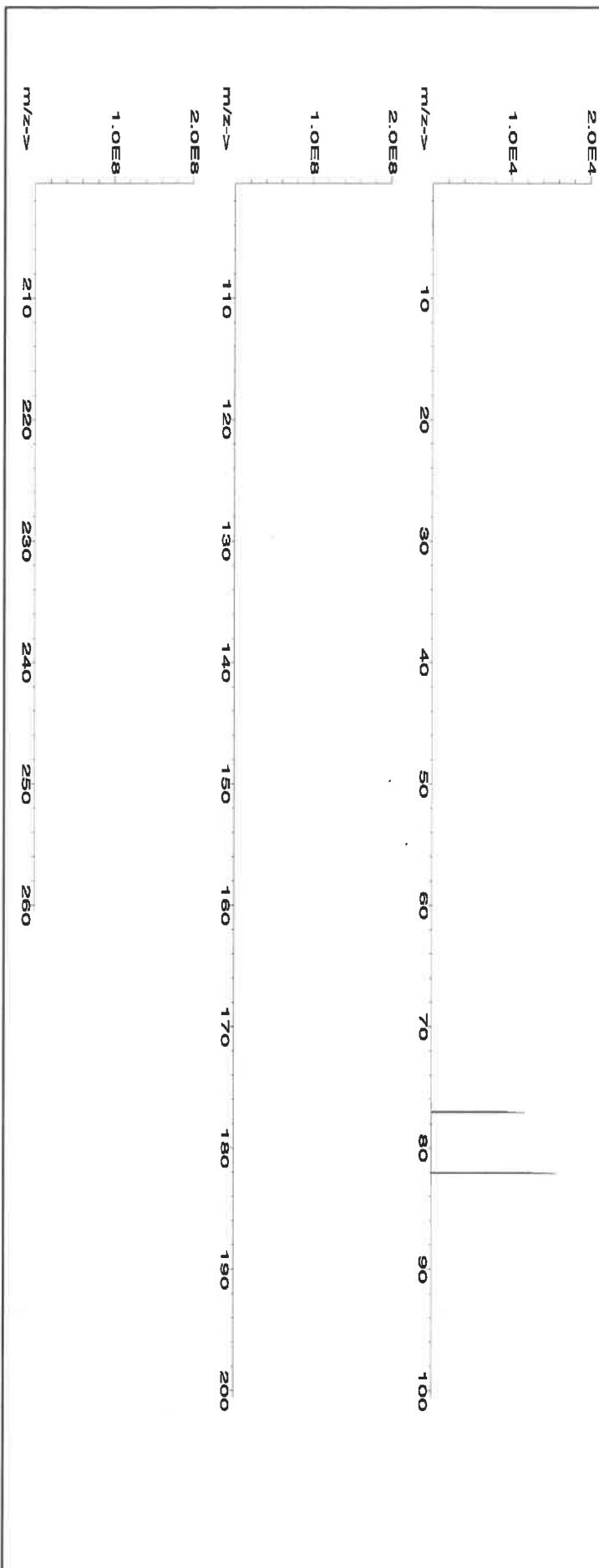
SE-05 Balance Uncertainty
0.100 Flask Uncertainty

Compound

Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)	NIST SRM
-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	--	----------

1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	1000.0	2.2	7782-49-2	0.2 mg/m3	or-tral 6700 mg/kg	3149
------------------	-------	--------	--------	-------	-------	------	---------	--------	-----	-----------	-----------	--------------------	------

[1] Spectrum No.1 [33.702 sec]:58034.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	T	Tb	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **57016**
Lot Number: **122923**
Description: **Sulfur (S)**

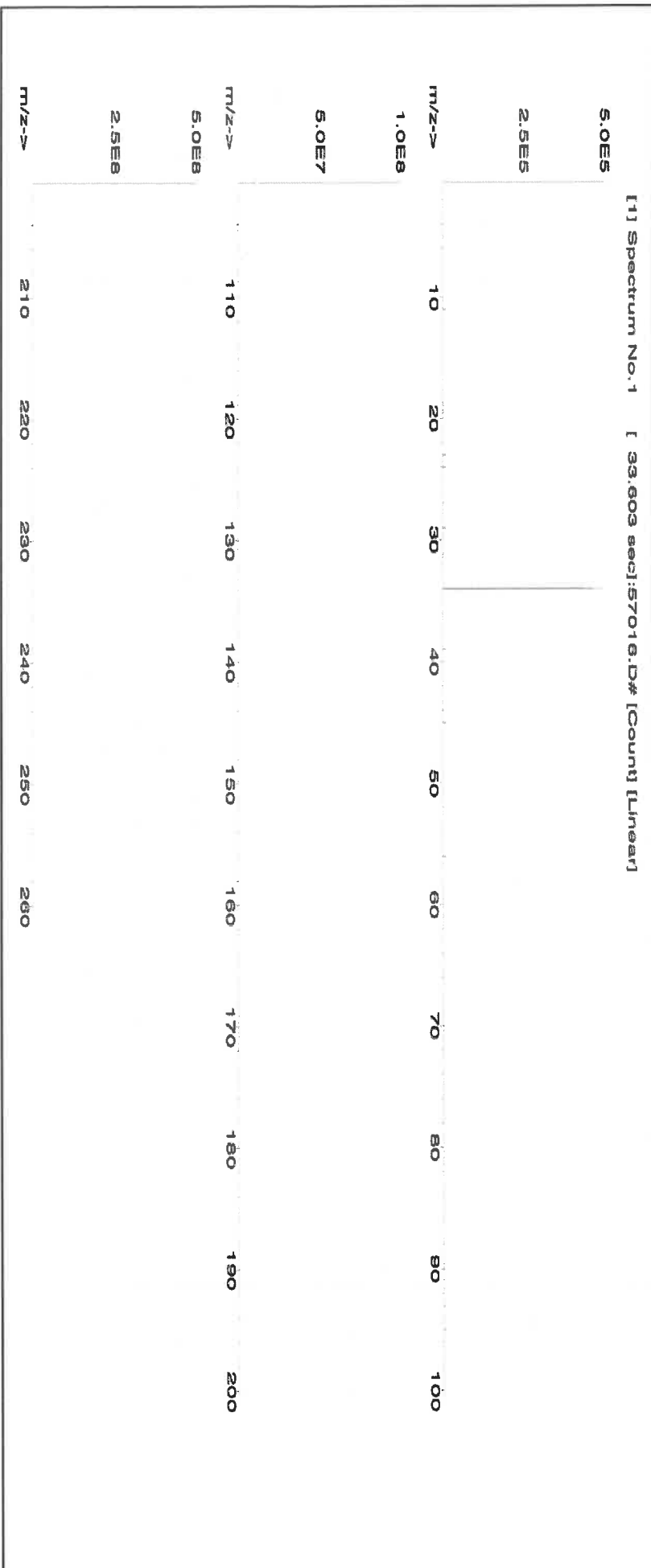
Lot #
Solvent: **122923** ASTM Type 1 Water

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Expiration Date: **122926**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Weight shown below was diluted to (mL): **4000.0** **5E-05** Balance Uncertainty
0.06 Flask Uncertainty

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM

1. Ammonium sulfate (S) IN117 SLBR725V 1000 99.9 0.10 24.3 16.4979 16.4980 1000.0 2.0 7783-20-2 NA or-rel 4250mg/kg 3181



Absolute Standards, Inc.
800-368-1131
www.absolute-standards.com



Certified Reference Material CRM
M5970 M5971 R1 710124



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

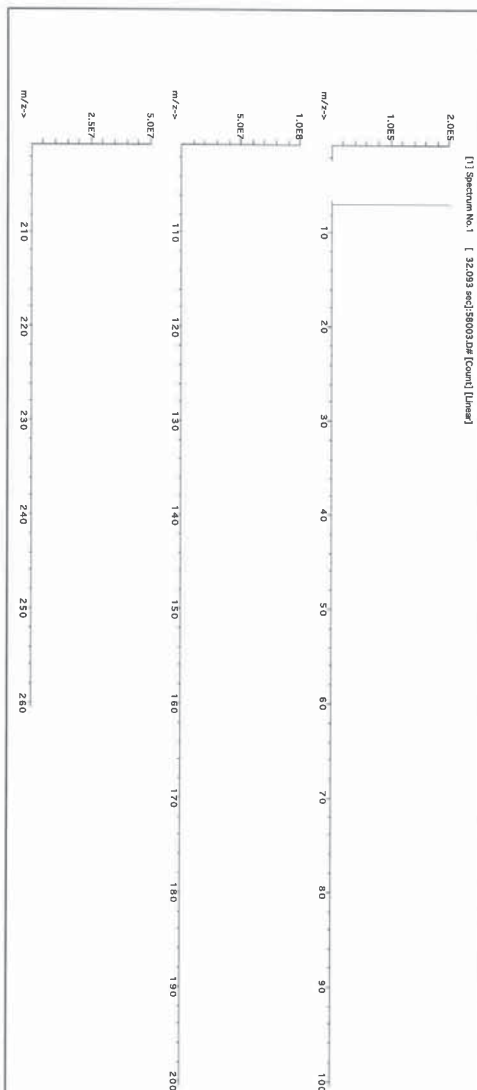
Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 06/21/27
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11

Lot # 24002546
Solvent: Nitric Acid
2.0% 5.0 (mL)
SE-05 Balance Uncertainty 0.016
Fisk Uncertainty

Microscopic Exports	
Formulated By:	062124
Giovanni Esposito	
Reviewed By: <i>[Signature]</i>	
Pietro L. Parias	062124

Compound		Part		Lot		Dilution		Initial		Uncertainty		Nominal		Initial		Final		Expanded		SDS Information		NIST	
Number	Factor	Number	Factor	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Uncertainty	± (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SM

1. Lithium nitrate (Li) 58103 070622 0.1000 25.0 0.004 1000 10000.4 1000.0 2.0 7790-68-4 5 mg/m3 or-hal 1428 mg/kg NA



Part # 57003 Lot # 062124

1 of 2

Printed: 6/24/2024, 11:20:08 PM

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com



Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://AbsoluteStandards.com>

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																			
Al	<0.02	Ca	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.02	Tb	<0.02	W	<0.02
Sb	<0.02	Ce	<0.02	Er	<0.02	In	<0.02	Mg	<0.02	Nb	<0.02	Rb	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cr	<0.02	Gd	<0.02	La	<0.2	Hg	<0.2	Pd	<0.02	Ru	<0.02	Nd	<0.02	Th	<0.02	Yb	<0.02
Be	<0.01	Co	<0.02	Ga	<0.02	Mo	<0.02	Na	<0.02	P	<0.02	Sr	<0.02	S	<0.02	Sn	<0.02	Y	<0.02
Bi	<0.02	Cu	<0.02	Ge	<0.02	Si	<0.02	Fe	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<0.02	Zn	<0.02
B	<0.02	Ca	<0.02	Au	<0.02	Ta	<0.02	Nd	<0.02	La	<0.2	Se	<0.02	Te	<0.02	Tl	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

[Signature]

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Certificate of Analysis

300 Technology Drive
 Christiansburg, VA 24073 USA
 inorganicventures.com

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

M5984
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
 Catalog Number: CGY10
 Lot Number: V2-Y740548
 Matrix: 2% (v/v) HNO₃
 Value / Analyte(s): 10 000 µg/mL ea:
 Yttrium
 Starting Material: Yttrium Oxide
 Starting Material Lot#: 2661 and 06230520YL
 Starting Material Purity: 99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL
 Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10011 ± 25 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	9997 ± 50 µg/mL ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	9984 ± 31 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum(1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty (k)} = U_{\text{CRM/RM}} = k(u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{ts}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum(w_i)^2(u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a)(u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty (k)} = U_{\text{CRM/RM}} = k(u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{ts}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu	0.009037	M	Na	0.086360	M	Se	<	0.005200	M	Zn	0.030125
M	Al	0.014862	O	Fe	0.002410	M	Nb	<	0.000570	O	Si	0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd	0.000923	M	Sm	0.000461			
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300	
O	B	0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600		
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570	
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb	0.005020	M	Tb	0.001044			
M	Bi	<	0.003500	M	Ho	0.009037	M	Pd	<	0.005100	M	Te	<	0.002300		
O	Ca	0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570		
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500	
M	Ce	<	0.002300	O	K	0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570		
M	Co	<	0.000570	M	La	0.000461	M	Re	<	0.000570	M	Tm	<	0.003500		
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570	
M	Cs	<	0.000570	M	Lu	0.000582	M	Ru	<	0.000570	M	V	0.001265			
M	Cu	0.002610	O	Mg	0.001486	n	S	<		M	W	<	0.002300			
M	Dy	0.003815	M	Mn	0.000582	M	Sb	0.005422	s	Y	<					
M	Er	0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb	0.001827			

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale. <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H₂O)_{x+2}
Chemical Compatibility -Soluble in HCl, H₂SO₄ and HNO₃. Avoid HF, H₃PO₄ and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H₂O/ HNO₃); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H₂O / HCl or HNO₃).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 20, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M5985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGIN10
Lot Number: U2-IN729349
Matrix: 5% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Indium
Starting Material: Indium Metal
Starting Material Lot#: 2511
Starting Material Purity: 99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL
Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10021 ± 56 µg/mL ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	10035 ± 25 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	10001 ± 33 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char\ i}^2) / (\sum (1/u_{char\ i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char\ i})^2]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char\ a})$$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char\ a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na	0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al	0.003385	O	Fe	0.004462	M	Nb	<	0.000760	O	Si	0.024619	M	Zr	<	0.000760		
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760			
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760			
O	B	0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760			
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb	0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760			
O	Ca	0.004616	s	In	<			M	Pr	<	0.000760	M	Th	<	0.000760			
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100			
M	Ce	<	0.000760	O	K	0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760			
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760			
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600			
M	Cu	<	0.003800	O	Mg	0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn	0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760			

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale. <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form In Solution - 114.82 +3 6 In(H₂O)₆+3

Chemical Compatibility -Soluble in HCl, HNO₃, and H₂SO₄. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO₃); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; Info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

*R: 2/22/24
M 5996*

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution	
Catalog Number:	CLPP-CAL-1	
Lot Number:	T2-MEB714417	
Matrix:	5% (v/v) HNO ₃	
Value / Analyte(s):	5 000 µg/mL ea:	
	Calcium,	Potassium,
	Magnesium,	Sodium,
	2 000 µg/mL ea:	
	Aluminum,	Barium,
	1 000 µg/mL ea:	
	Iron,	
	500 µg/mL ea:	
	Nickel,	Vanadium,
	Zinc,	Cobalt,
	Manganese,	
	250 µg/mL ea:	
	Silver,	Copper,
	200 µg/mL ea:	
	Chromium,	
	50 µg/mL ea:	
	Beryllium	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum (1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = (\sum (w_i)^2 (u_{\text{char } i}^2))^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° $\pm$ 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

<https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver>

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com; inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

R: 2/22/24
MS997

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CLPP-CAL-3
Lot Number: T2-MEB727800
Matrix: 7% (v/v) HNO₃
Value / Analyte(s):
1 000 µg/mL ea:
Arsenic, Lead,
Selenium, Thallium,
500 µg/mL ea:
Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	1 000 ± 7 µg/mL	Cadmium, Cd	500.0 ± 2.2 µg/mL
Lead, Pb	1 000 ± 4 µg/mL	Selenium, Se	1 000 ± 6 µg/mL
Thallium, Tl	1 000 ± 7 µg/mL		

Density: 1.042 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum (1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty (Z)} = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{ts}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum (w_i)^2 (u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty (Z)} = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{ts}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale. <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 21, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 21, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

Certificate of Analysis

M6074
M6075
M6076
M6077

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

EXP: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CHEM-CLP-4
Lot Number: V2-MEB746762
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum(1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k(u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum(w_i)^2(u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a)(u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k(u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale. <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 06, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

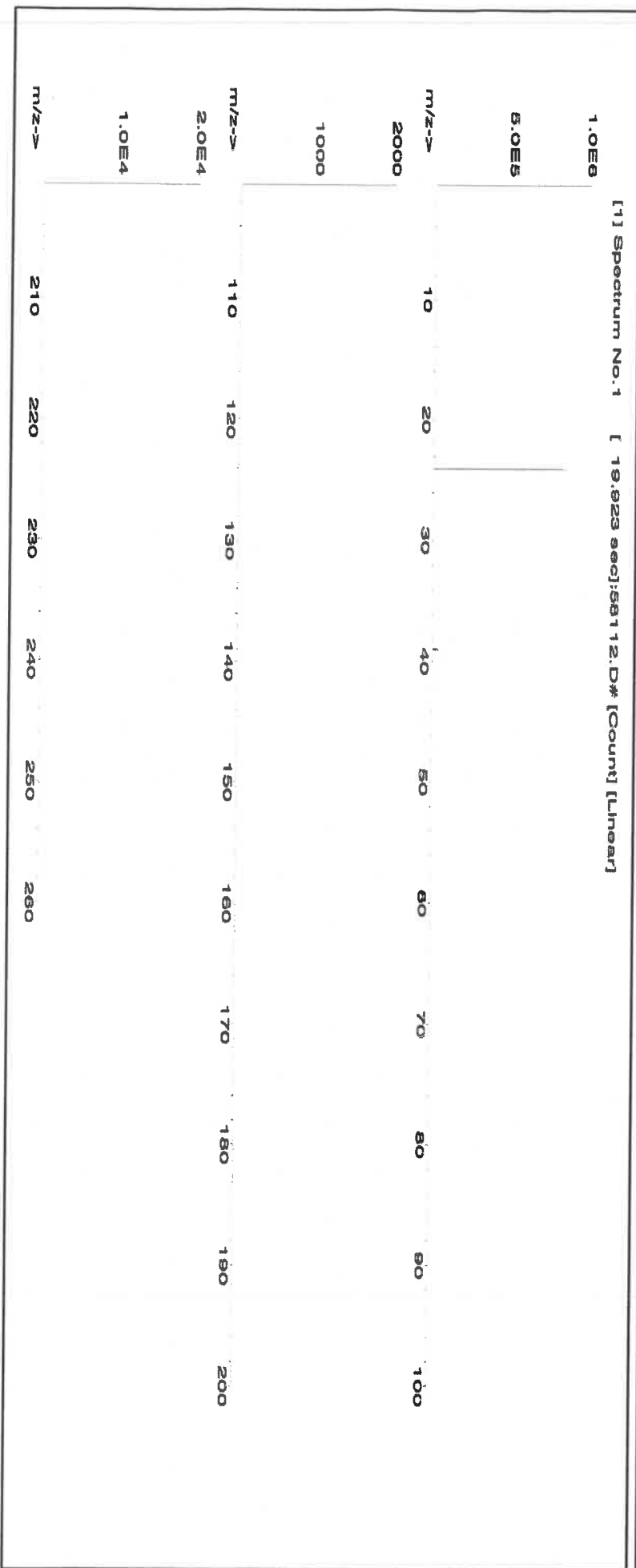
Part Number: 58112
Lot # 24012496
Description: Magnesium (Mg)
Solvent: Nitric Acid

Expiration Date: 11/12/27
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6LUB
Weight shown below was diluted to (mL): 2000.07
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Rentas
	112124

Compound	Lot	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-----	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Magnesium nitrate hexahydrate (Mg) IN030 MG000023A1 10000 99.999 0.10 8.51 234.9183 234.9459 10001.2 20.0 13446-18-9 NA off-rat 5440 mg/kg 3131a





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Rc	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rb	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Ru	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Sm	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sc	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58025
101124
Manganese (Mn)

Lot #
Solvent: Nitric Acid

24002546
2%
80.0 (mL)
Nitric Acid

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:

101127
Ambient (20 °C)
1000
6UTB

Weight shown below was diluted to (mL):

4000.2
0.10
Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Renteria</i>
	101124

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-----	------------	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Manganese(II) nitrate hydrate (Mn) IN031 MMN02020A1 1000 99.999 0.10 20.8 19.2322 19.2344 1000.1 2.0 15710-66-4 5 mg/m3 or-rel >300mg/kg 3132

[1] Spectrum No.1 [34.243 sec]:57025.D# [Count] [Linear]

5.0E6													
2.5E6													
m/z->	10	20	30	40	50	60	70	80	90	100			
1.0E6													
5.0E7													
m/z->	110	120	130	140	150	160	170	180	190	200			
1.0E6													
5.0E7													
m/z->	210	220	230	240	250	260							



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	T	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M6137
R-71013124

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGSI1
Lot Number: V2-SI744713
Matrix: tr. HNO₃
tr. HF
Value / Analyte(s): 1 000 µg/mL ea:
Silicon
Starting Material: Silica
Starting Material Lot#: 1771
Starting Material Purity: 99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL
Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	999 ± 5 µg/mL ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546
Assay Method #2	1000 ± 7 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char\ i})^2 / (\sum (1/(u_{char\ i})^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char\ i})^2]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char\ a})$$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char\ a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na		0.001656	M	Se	<	0.022000	M	Zn	<	0.002500
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form In Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphous (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; Inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 10, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number:	
Lot Number:	
Description:	

58120
121824
Calcium (Ca)

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:

Weight shown below was diluted to (mL):

4000.1 0.15 Flask Uncertainty

111

1000000

SDS Information

Uncertainty	(Solvent Safety Info. On Attached pg.)	NIST
+/- (µg/mL)	CAS# OSHA PEL (TWA)	SRM LD50

Actual	Actual
Weight (g)	Conc. (µg/ml)

Target	Weight (g)
100	100
200	200
300	300
400	400
500	500
600	600
700	700
800	800
900	900
1000	1000

Uncertainty	Assay
Purity (%)	(%)

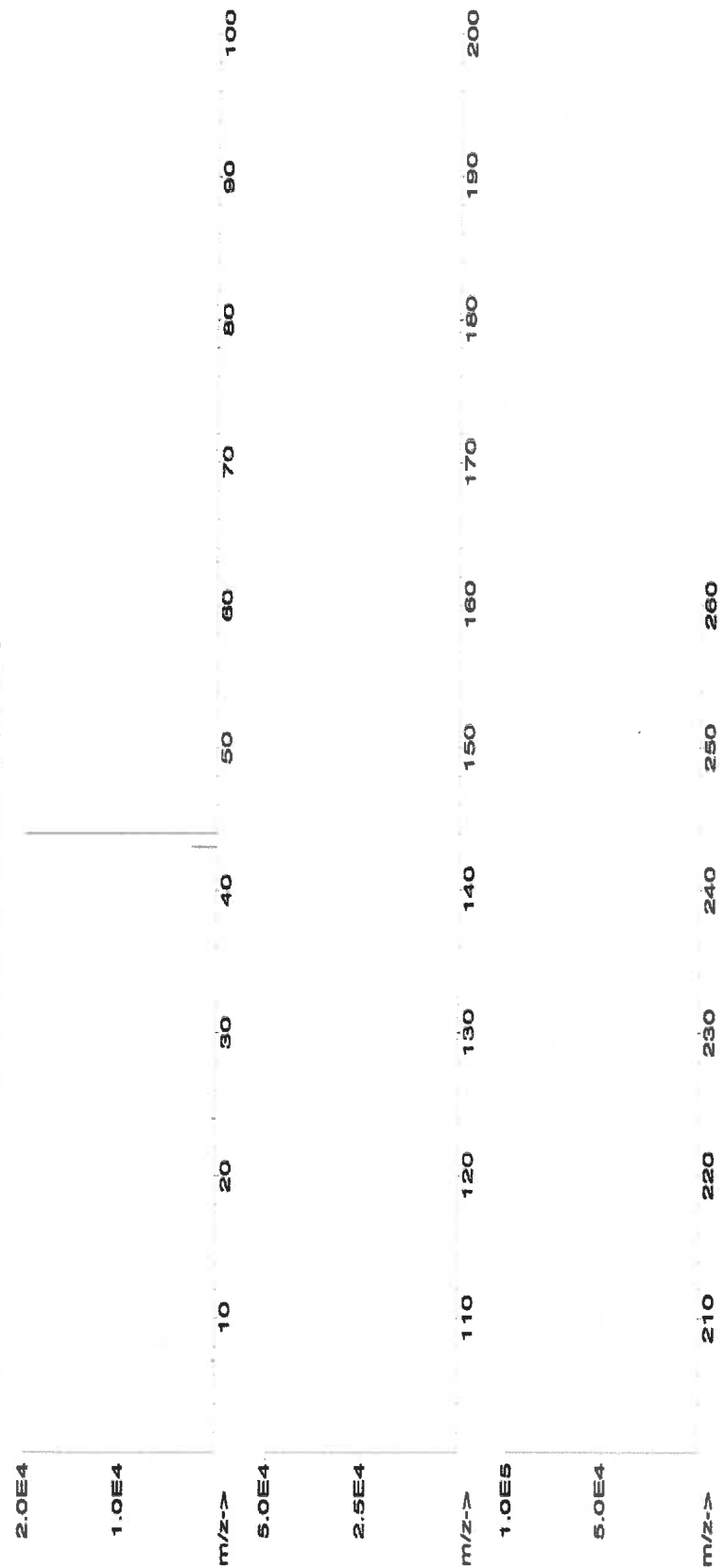
Nominal	Purity
conc. (μg/mL)	(%)

Lot	RM#	Number
-----	-----	--------

Compound

1. Calcium carbonate (Ca)	IN014	CAD032023B3	10000	99.999	0.10	39.9	100.2537	100.2677	10001.4	20.0	471-34-1	5 mg/m3	otf >2000mg/kg	3109a
---------------------------	-------	-------------	-------	--------	------	------	----------	----------	---------	------	----------	---------	----------------	-------

[1] Spectrum No.1 [12.514 sec]:58120.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.02	Er	T	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

Ben. J. D.

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57119
103024
Potassium (K)

R-21113125

Lot #
24002546
Nitric Acid

Giovanni Caporaso	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Renteria
	103024

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):

103027
Ambient (20 °C)
10000

M6141
M6142
M6143

2%
80.0 (mL)
Nitric Acid

Weight shown below was diluted to (mL):

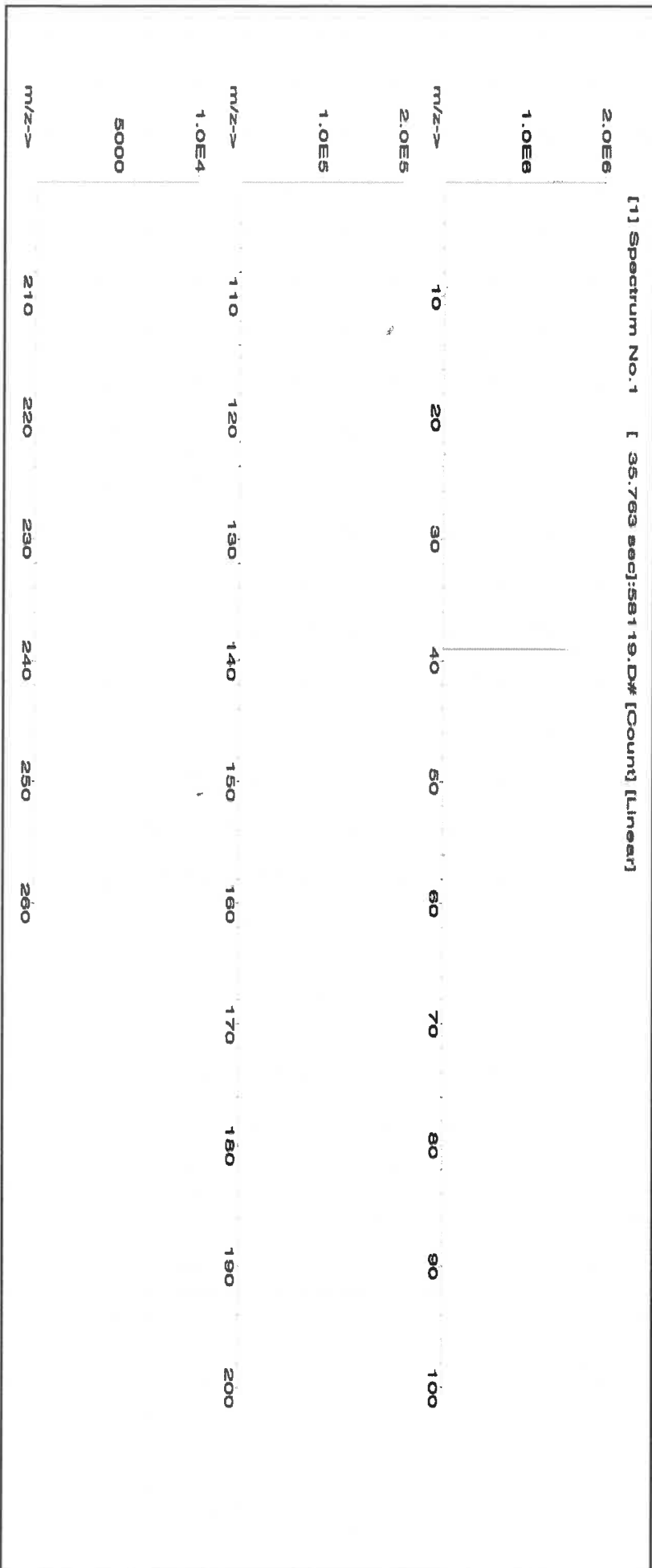
4000.1 0.15 Flask Uncertainty

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-----	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Potassium nitrate (K) IN034 KD062022A1 10000 99.999 0.10 37.7 106.1040 ##### 10001.1 20.0 7757-79-1 5 mg/m3 orl-rat 3750 mg/kg 3141a

[1] Spectrum No. 1 [35.763 sec]:58119.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **58111** Lot # **R-1113125**
Lot Number: **072424** Solvent: **24002546 Nitric Acid**
Description: **Sodium (Na)**

Expiration Date: **072427** 2% 80.0 Nitric Acid (mL)

Recommended Storage: **Ambient (20 °C)**

Nominal Concentration (µg/mL): **10000**

NIST Test Number: **6UTB**

Weight shown below was diluted to (mL): **4000.2** 5E-05 Balance Uncertainty
0.10 Flask Uncertainty

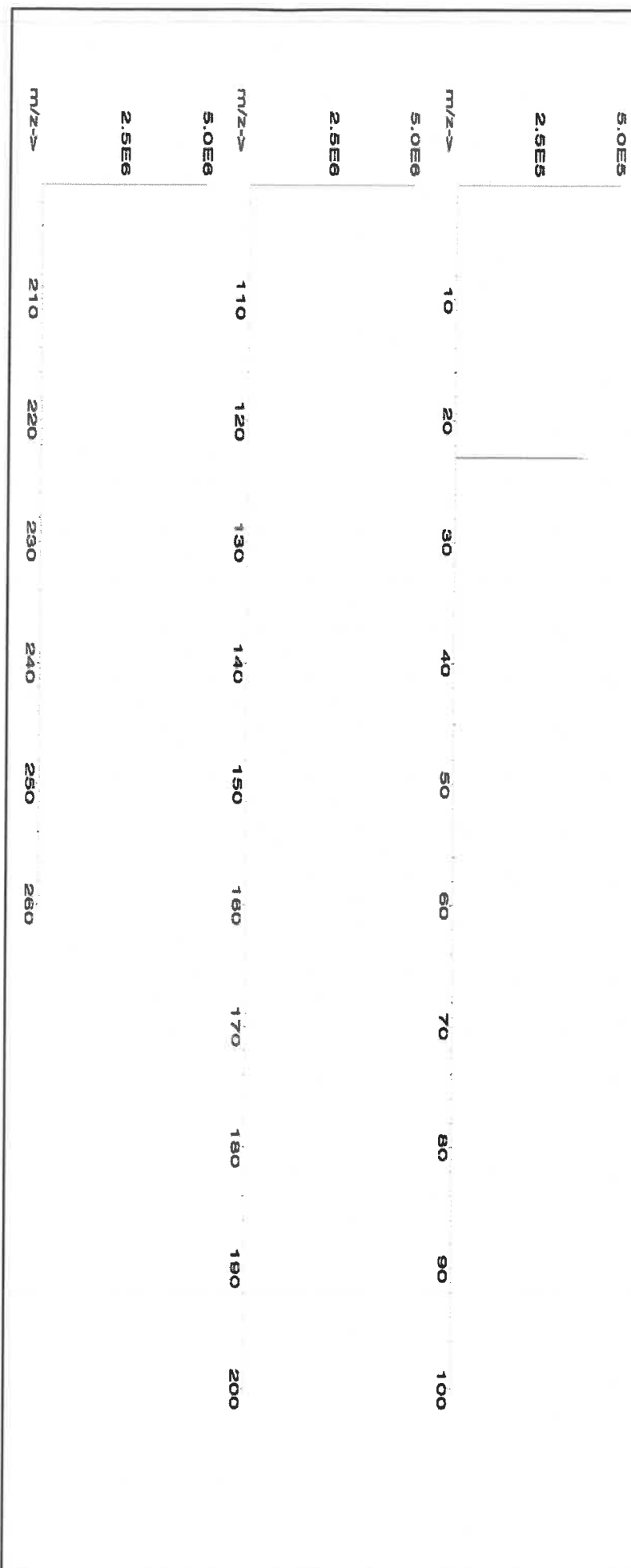
Formulated By:	Benson Chan	072424
Reviewed By:	Pedro L. Renteria	072424

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.999 0.10 26.9 148.7096 ##### 10000.0 20.0 7631-99-4 5 mg/m3 orl-rat 3430 mg/kg 3152a

[1] Spectrum No. 1 [8.935 sec]: 58111.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rb	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



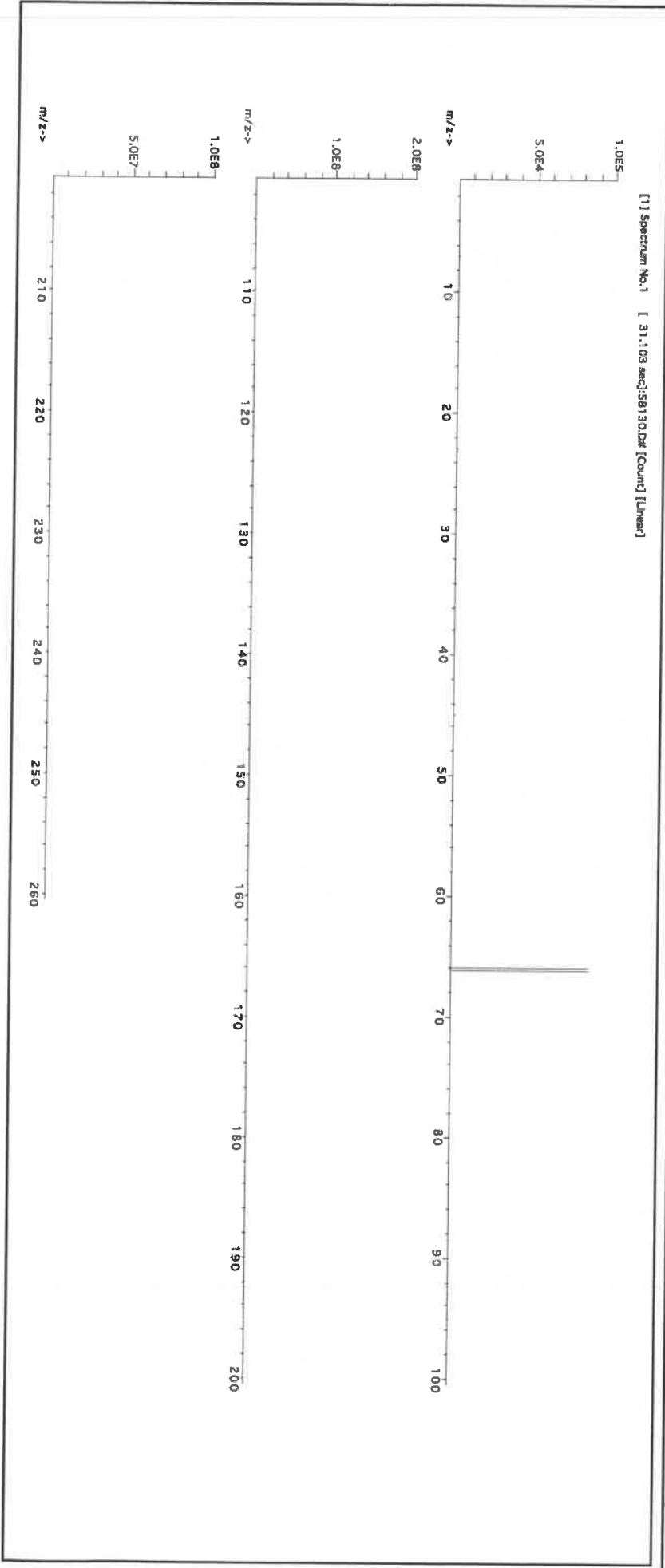
CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 121724
Description: Zinc (Zn)
Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.1
Balance Uncertainty: 5E-05
Flask Uncertainty: 0.10

Lot # 24012496
Nitric Acid
2%
40.0 (mL)
Nitric Acid

Aleah O'Brady
Formulated By: Aleah O'Brady
Reviewed By: Pedro L. Rentias
121724

SDS Information									
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	8.2308	8.2311	1000.0
							2.0	10196-18-6	1 mg/m3
									or-rat 1190mg/kg 3168





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Bu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

R: 4/20/21

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

MG150

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or
Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) ANALYSIS OF SAMPLES

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) K₂Cr₂O₇ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from K₃Fe(CN)₆, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (µg/L) (after 10-fold dilution)	Concentration (µg/L) (after 50-fold dilution)
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	Concentration (µg/L) (after 100-fold dilution)	Analyte	Concentration (µg/L) (after 100-fold dilution)
Hg	4.0	CN ⁻	99

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™



M6151

R → 11/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl ₂)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO ₃)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH ₄)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™



Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA–ANALYZED® Reagent
For Trace Metal Analysis

 **avantor**™

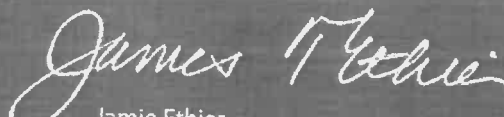


Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
------	---------------	--------

For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC


Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

avantor™



R- 0210212025

m - 6158

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantorsTM



Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

 **avantorsTM**



Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
------	---------------	--------

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak
Director Quality Operations, Bioscience Division

Nitric Acid 69%
CMOS



m-6162

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

R. Date :- 04/27/2025

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	0.1 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	0.1 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 1 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 1 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™



Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 1 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	1 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 1.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	13 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	5 par/ml

>>> Continued on page 3 >>>



Test	Specification	Result

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Joak

Jamie Croak
Director Quality Operations, Bioscience Production



Certified Reference Material CRM

M6030



CERTIFIED WEIGHT REPORT:

Part Number: **57047**
Lot Number: **122823**
Description: **Silver (Ag)**

Lot #
Solvent: 24002546 Nitric Acid

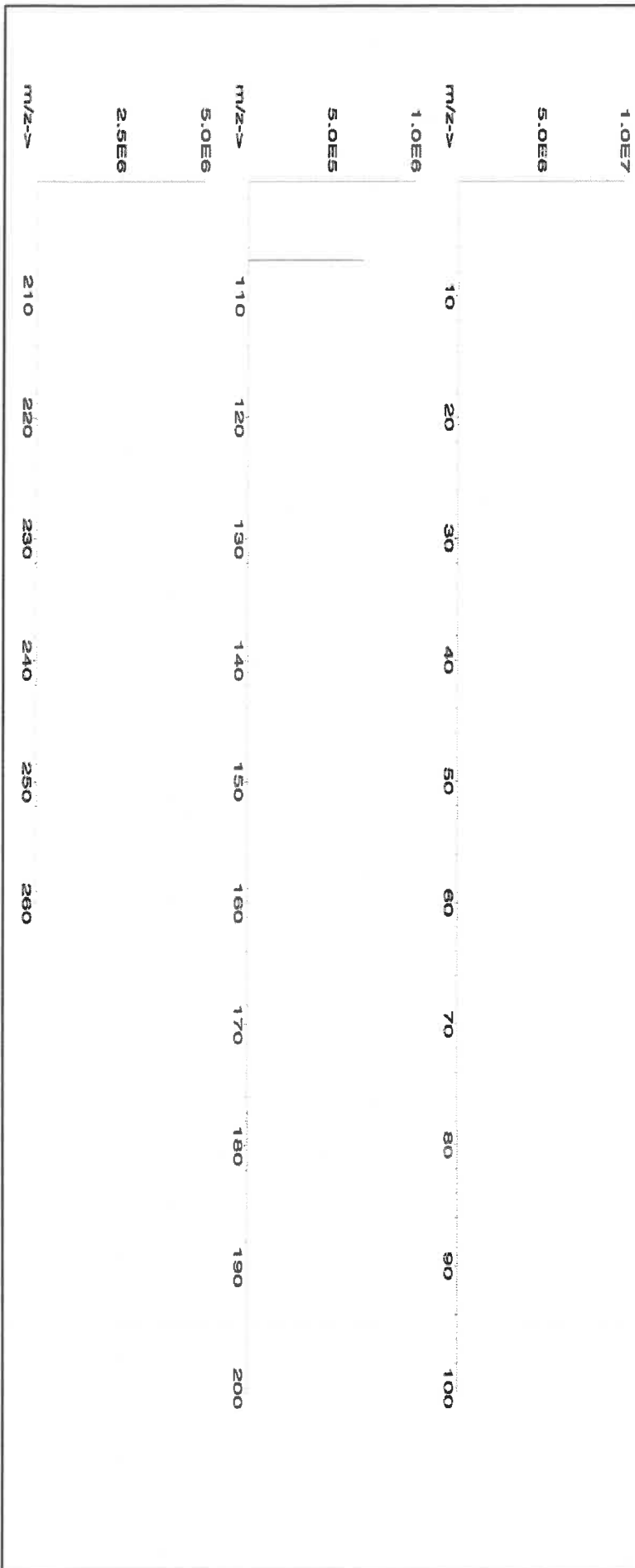
Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
122823	

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.30
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Compound	Lot		Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty		CAS#	SDS Information		NIST SRM
	RM#	Number								+/- (µg/mL)	(µg/mL)		(Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	

1. Silver nitrate (Ag) IN035 J0612AGA1 1000.0 99.999 0.10 63.7 6.27992 6.27998 1000.0 2.0 7761-88-8 10 µg/m³ NA 3151

[1] Spectrum No. 1 [14.044 sec]:58147.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	T	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



R: 10/18/24
Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number:

57051

Lot #

24002546

Solvent:

Nitric Acid

Lot Number:

071724

Description:

Antimony (Sb)

Expiration Date:

071727

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UJB

Volume shown below was diluted to (mL):

2000.26

5E-05 Balance Uncertainty

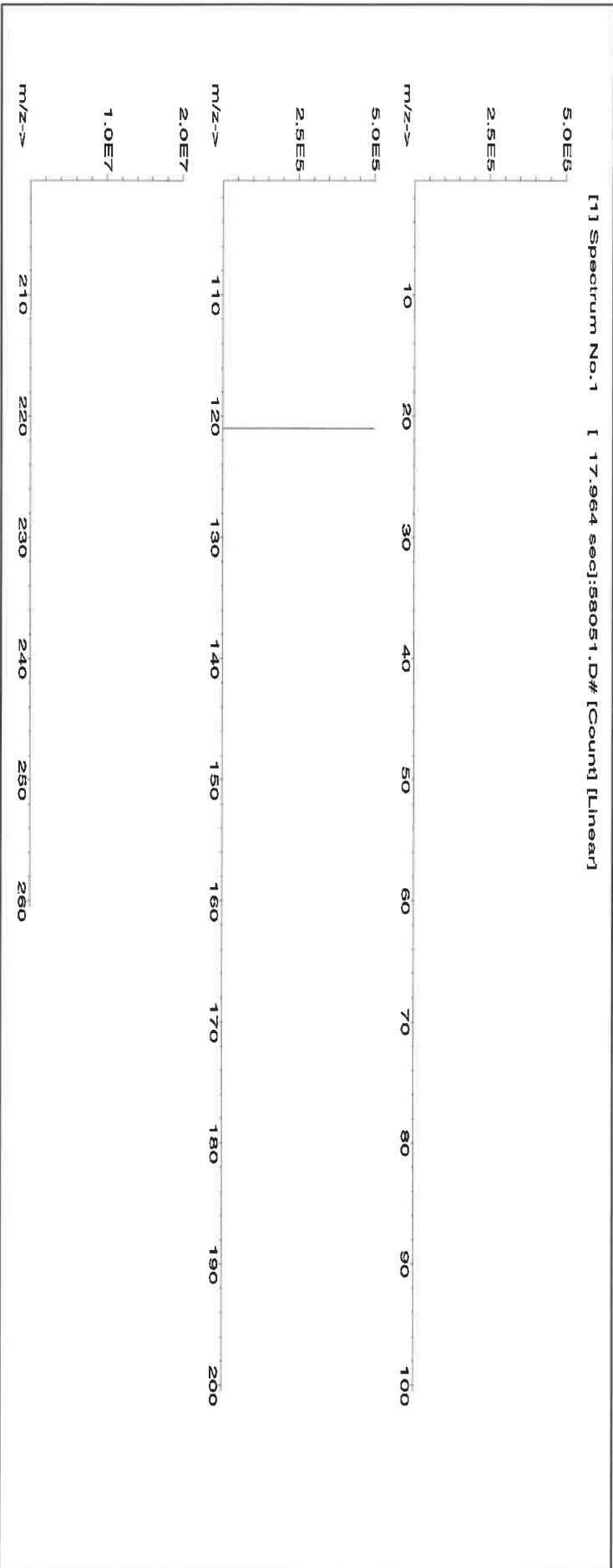
0.058 Flask Uncertainty

Formulated By:	Giovanni Esposito	071724
Reviewed By:	Pedro L. Rentas	071724

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

1. Antimony (Sb) 58151 060324 0.1000 200.0 0.084 1000 10001.4 1000.0 2.2 7440-36-0 0.5 mg/m3 orl-rat 7000 mg/kg 3102a





Har P. [Signature]



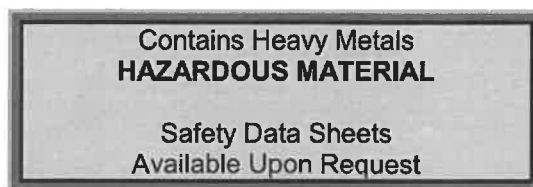
Instructions for QATS Reference Material: ICP-AES ICS

**QATS LABORATORY INORGANIC REFERENCE MATERIAL
INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)**

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.



M6152

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

**QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120**

(C) ANALYSIS OF SAMPLES

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,





Instructions for QATS Reference Material: ICP-AES ICS

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSAB solution by ICP-AES.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

R: 04/20/21

Instructions for QATS Reference Material: ICP-AES ICS

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.



M6155

(A) **SAMPLE DESCRIPTION**

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) **BREAKAGE OR MISSING ITEMS**

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) **ANALYSIS OF SAMPLES**

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,





APTIM

Instructions for QATS Reference Material: ICP-AES ICS

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO₃. Analyze this ICSAB solution by ICP-AES.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

R: 8/5/24

M6019

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGSR1
Lot Number: U2-SR730227
Matrix: 0.1% (v/v) HNO₃
Value / Analyte(s): 1 000 µg/mL ea:
Strontium
Starting Material: SrCO₃
Starting Material Lot#: M2-2192
Starting Material Purity: 99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL
Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	998 ± 4 µg/mL ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985
Assay Method #2	1001 ± 3 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	1001 ± 2 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum (1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{ts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char i}^2)]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{ts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na	0.000200	M	Se	<	0.013862	O	Zn	0.000143	
O	Al	0.000370	O	Fe	0.000410	M	Nb	<	0.000495	i	Si	<			M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495			
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990			
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<				
M	Ba	0.006486	M	Hf	<	0.000495	i	P	<			M	Ta	<	0.000495			
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495			
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724			
O	Ca	0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd	0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495			
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495			
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485			
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980			
M	Cu	0.000099	O	Mg	0.000064	i	S	<				M	W	<	0.003960			
M	Dy	<	0.000495	O	Mn	0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495			

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 Sr(H₂O)₆+2

Chemical Compatibility - Soluble in HCl, and HNO₃. Avoid H₂SO₄, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO₃ / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO₃); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 03, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM

M6023



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57081
Lot Number: 062724
Description: Thallium (TI)

Lot #

Solvent: 24002546 Nitric Acid

Alieah O'Brady
Formulated By: Alieah O'Brady 062724

Expiration Date:

062727

2%

40.0

Nitric Acid

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL):

2000.1

0.10 Flask Uncertainty

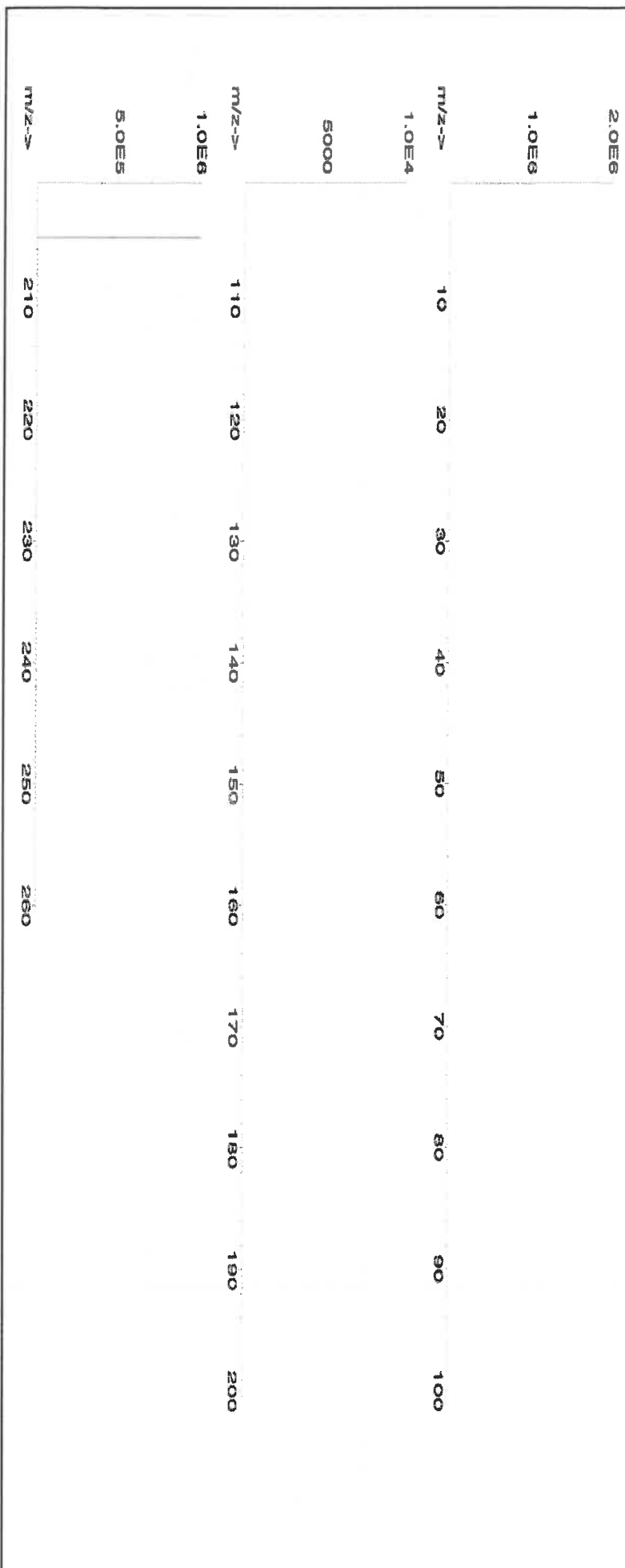
Pedro L. Renteria
Reviewed By: Pedro L. Renterias 062724

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	------------	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Thallium nitrate (TI) IN037 BCCF4399 1000 99.999 0.10 77.0 2.5975 2.5977 1000.1 2.0 10102-45-1 0.1 mg/m3 or-mus 15mg/kg 3158

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Tm	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Sn	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Ti	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Se	<0.02	Ta	<0.02			Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM

M6021



CERTIFIED WEIGHT REPORT:

Part Number: **57023**
Lot Number: **062424**
Description: **Vanadium (V)**

Lot # **24002546**
Solvent: **Nitric Acid**

Aleah O'Brady	
Formulated By:	Aleah O'Brady
	062424
Reviewed By:	Pedro L. Rantas
	062424

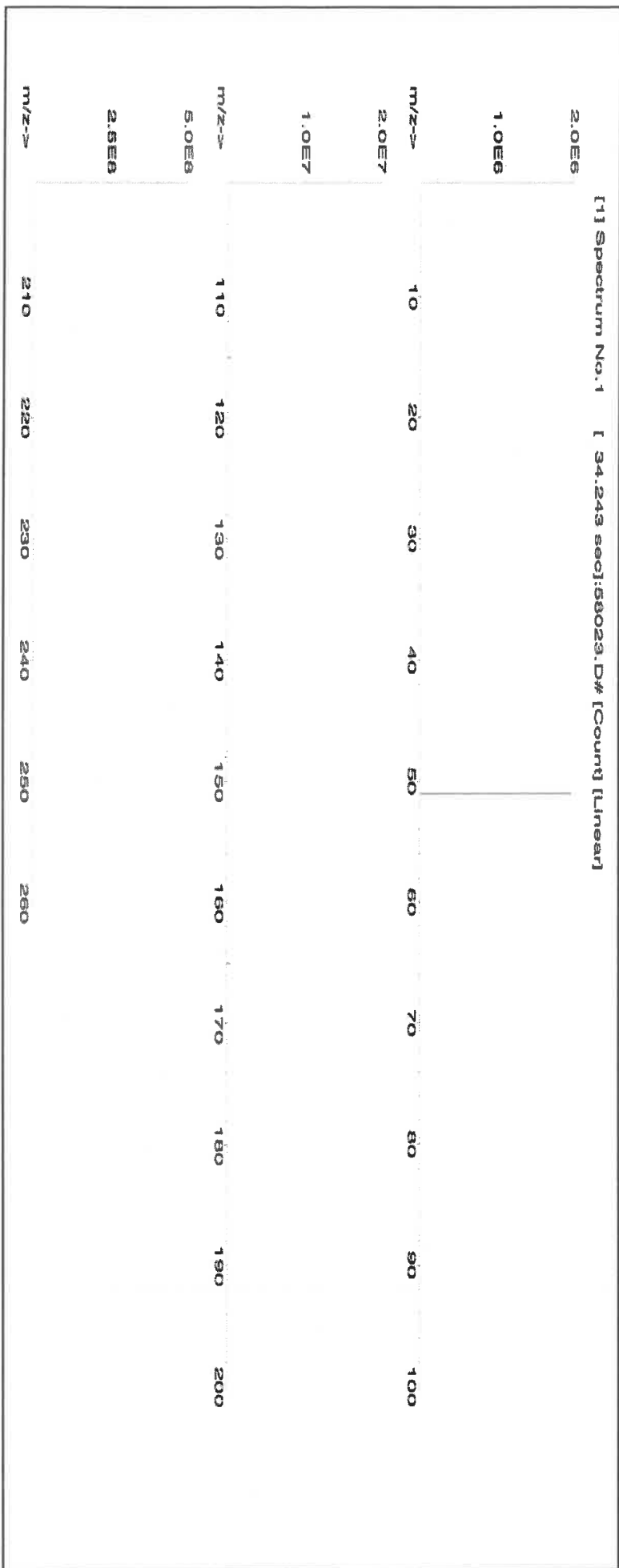
Expiration Date: **062427**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**

Volume shown below was diluted to (mL): **2000.3**
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

2.0%
40.0 (mL)
Nitric Acid

Compound		Part Number		Lot		Dilution Factor		Initial Vol. (mL)		Uncertainty Pipette (mL)		Nominal Conc. (µg/mL)		Initial Conc. (µg/mL)		Final Conc. (µg/mL)		Expanded Uncertainty +/- (µg/mL)		CAS#		OSHA PEL (TWA)		LD50		NIST SRM	
1. Ammonium metavanadate (V)		58123		021224		0.1000		200.0		0.084		1000		10000.3		1000.0		2.2		7803-55-6		0.05 mg/m3		or-rat 58.1mg/kg		3165	

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	T
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Ru	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Sr	<0.02	S	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	Ta	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02		<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



SHIPPING DOCUMENTS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

CHEMTECH CHAIN OF CUSTODY RECORD		284 Sheffield Street, Mountainside, NJ 07092 (908) 789-8900 Fax: (908) 78-8922 www.chemtech.net		Chemtech Project Number: Q2316																					
				COC Number:																					
CLIENT INFORMATION		PROJECT INFORMATION		BILLING INFORMATION																					
COMPANY: Tetra Tech ADDRESS: 4433 Corporation Ln, Suite 300 CITY: Virginia Beach STATE: VA ZIP: 23462 ATTENTION: Ernie Wu PHONE: 757-466-4901 FAX: 757-461-4148		PROJECT NAME: NWIRP Bethpage PROJECT #: 112G08005-WE13 LOCATION: RW8 PROJECT MANAGER: Ernie Wu E-MAIL: ernie.wu@tetrattech.com PHONE: 757-466-4901 FAX: 757-461-4148		BILL TO: PO# ADDRESS: CITY: STATE: ZIP: ATTENTION: PHONE:																					
DATA TURNAROUND INFORMATION		DATA DELIVERABLE INFORMATION		ANALYSIS																					
FAX: 10 DAYS* HARD COPY: 10 DAYS* EDD: 10 DAYS* * TO BE APPROVED BY CHEMTECH STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS		☐ RESEULTS ONLY ☐ USEPA CLP ☐ RESULTS + QC ☐ New York State ASP "B" ☐ New Jersey REDUCED ☐ New York State ASP "A" ☐ New Jersey CLP ☐ Other _____ ☐ EDD Format _____		<table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1,4-Dioxane SW846 8270</td> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td></td> </tr> </table>		1,4-Dioxane SW846 8270	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	
1,4-Dioxane SW846 8270	1	2	3	4	5	6	7	8	9																
1	2	3	4	5	6	7	8	9																	
				PRESERVATIVES																					
CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP GRAB	SAMPLE COLLECTION DATE TIME	# of Bottles																				
1.	RW8-SP100-20250612	GW		6/12/25 13:05	2																				
2.	RW8-SP303-20250612	GW		6/12/25 13:13	4																				
3.																									
4.																									
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1.	6/12/25/1552	
RELINQUISHED BY	DATE/TIME	RECEIVED BY
2.		
RELINQUISHED BY	DATE/TIME	RECEIVED FOR LAB BY
3.	6-12-25	

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 2.47°C

MeOH extraction requires an additional 4oz. Jar for percent solid

Ice in Cooler?: ☐

Comments:

Page _____ of _____

SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight

CHEMTECH: ☐ Picked Up ☐ Overnight

Shipment Complete

☐ YES ☐ NO

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488