

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 : Q3690

ATTENTION : Ernie Wu



Laboratory Certification ID # 20012



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Cover Page

Order ID : Q3690

Project ID : NWIRP Bethpage 112G08005-WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number

Q3690-01
Q3690-02

Client Sample Number

RW8-SP100-20251118
RW8-SP303-20251118

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 : _____

Date: 11/26/2025

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 # Q3690

Test Name: Metals Group4

A. Number of Samples and Date of Receipt:

2 Water samples were received on 11/20/2025.

B. Parameters:

According to the Chain of Custody document, the following analyses were requested: Metals Group4. 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 compounds.

The Duplicate analysis met criteria for all compounds.

The Matrix Spike analysis met criteria for all compounds.

The Matrix Spike Duplicate analysis met criteria for all compounds.

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.

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: Q3690

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_____
Date

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q3690

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: MOHAMMAD AHMED

Date: 11/26/2025

LAB CHRONICLE

OrderID:	Q3690	OrderDate:	11/20/2025 9:59:00 AM
Client:	Tetra Tech NUS, Inc.	Project:	NWIRP Bethpage 112G08005-WE13
Contact:	Ernie Wu	Location:	A11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3690-01	RW8-SP100-20251118	Water			11/18/25			11/20/25
			Metals Group4	6010D		11/20/25	11/21/25	
Q3690-02	RW8-SP303-20251118	Water			11/18/25			11/20/25
			Metals Group4	6010D		11/20/25	11/21/25	

Hit Summary Sheet
SW-846

SDG No.:	Q3690	Order ID:	Q3690
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-SP100-20251118									
Q3690-01	RW8-SP100-20251118	Water	Iron	718		11.7	40.0	50.0	ug/L
Client ID : RW8-SP303-20251118									
Q3690-02	RW8-SP303-20251118	Water	Iron	101		11.7	40.0	50.0	ug/L



SAMPLE DATA

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	11/18/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	11/20/25
Client Sample ID:	RW8-SP100-20251118	SDG No.:	Q3690
Lab Sample ID:	Q3690-01	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	718	1	11.7	40.0	50.0		ug/L	11/20/25 10:35	11/21/25 16:11	6010D	M3010A

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:	11/18/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	11/20/25
Client Sample ID:	RW8-SP303-20251118	SDG No.:	Q3690
Lab Sample ID:	Q3690-02	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	101	1	11.7	40.0	50.0		ug/L	11/20/25 10:35	11/21/25 16:15	6010D	M3010A

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

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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	3840	4000	96	90 - 110	P	11/21/2025	13:00	LB138017

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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	101	100	101	80 - 120	P	11/21/2025	13:09	LB138017

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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	5020	5000	100	90 - 110	P	11/21/2025	13:44	LB138017
CCV02	Iron	4800	5000	96	90 - 110	P	11/21/2025	14:48	LB138017
CCV03	Iron	4870	5000	98	90 - 110	P	11/21/2025	15:38	LB138017
CCV04	Iron	4860	5000	97	90 - 110	P	11/21/2025	16:28	LB138017
CCV05	Iron	4860	5000	97	90 - 110	P	11/21/2025	17:50	LB138017
CCV06	Iron	4950	5000	99	90 - 110	P	11/21/2025	18:41	LB138017
CCV07	Iron	4950	5000	99	90 - 110	P	11/21/2025	19:31	LB138017



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.: Q3690

Contract: TETR06

Lab Code: ACE

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	97.1	100	97	65 - 135	P	11/21/2025	13:17	LB138017



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Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3690
Contract: TETR06 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Iron	23.4	+/-50	U	80.0	100	P	11/21/2025	13:13	LB138017

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3690
Contract: TETR06 **Lab Code:** ACE

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	11/21/2025	13:48	LB138017
CCB02	Iron	23.4	+/-50	U	80.0	100	P	11/21/2025	14:52	LB138017
CCB03	Iron	23.4	+/-50	U	80.0	100	P	11/21/2025	15:42	LB138017
CCB04	Iron	23.4	+/-50	U	80.0	100	P	11/21/2025	16:32	LB138017
CCB05	Iron	23.4	+/-50	U	80.0	100	P	11/21/2025	17:55	LB138017
CCB06	Iron	23.4	+/-50	U	80.0	100	P	11/21/2025	18:45	LB138017
CCB07	Iron	23.4	+/-50	U	80.0	100	P	11/21/2025	19:35	LB138017

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB170663BL		WATER		Batch Number:		PB170663		Prep Date:	11/20/2025	
	Iron	11.7	<25	U	40.0	50.0	P	11/21/2025	14:01	LB138017

Metals
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INTERFERENCE CHECK SAMPLE

Client: <u>Tetra Tech NUS, Inc.</u>	SDG No.: <u>Q3690</u>
Contract: <u>TETR06</u>	Lab Code: <u>ACE</u>
ICS Source: <u>EPA</u>	Instrument ID: <u>P4</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	95400	101000	94	85600	116500	11/21/2025	13:22	LB138017
ICSAB01	Iron	92700	99300	93	84400	114500	11/21/2025	13:26	LB138017



METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: <u>Tetra Tech NUS, Inc.</u>	level: <u>low</u>	sdg no.: <u>Q3690</u>
contract: <u>TETR06</u>		lab code: <u>ACE</u>
matrix: <u>Water</u>	sample id: <u>Q3687-01</u>	client id: <u>N43502MS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q3687-01MS</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	11800		10700		1500	73		P

metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: <u>Tetra Tech NUS, Inc.</u>	level: <u>low</u>	sdg no.: <u>Q3690</u>
contract: <u>TETR06</u>		lab code: <u>ACE</u>
matrix: <u>Water</u>	sample id: <u>Q3687-01</u>	client id: <u>N43502MSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>Q3687-01MSD</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	12300		10700		1500	109		P

Metals
- 5b -

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

Matrix: _____

Level: LOW

Client ID: _____

Sample ID: _____ **Spiked ID:** _____

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

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DUPLICATE SAMPLE SUMMARY

Client:	<u>Tetra Tech NUS, Inc.</u>	Level:	<u>LOW</u>	SDG No.:	<u>Q3690</u>
Contract:	<u>TETR06</u>			Lab Code:	<u>ACE</u>
Matrix:	<u>Water</u>	Sample ID:	<u>Q3687-01</u>	Client ID:	<u>N43502DUP</u>
Percent Solids for Sample:	NA	Duplicate ID	Q3687-01DUP	Percent Solids for Spike Sample:	NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	10700		10900		2		P

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

Metals

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DUPLICATE SAMPLE SUMMARY

Client:	<u>Tetra Tech NUS, Inc.</u>	Level:	<u>LOW</u>	SDG No.:	<u>Q3690</u>
Contract:	<u>TETR06</u>			Lab Code:	<u>ACE</u>
Matrix:	<u>Water</u>	Sample ID:	<u>Q3687-01MS</u>	Client ID:	<u>N43502MSD</u>
Percent Solids for Sample:	NA	Duplicate ID	Q3687-01MSD	Percent Solids for Spike Sample:	NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	11800		12300		4		P

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

Metals

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB170663BS Iron	ug/L	1500	1550		103	87 - 115	P

Metals
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ICP SERIAL DILUTIONS

SAMPLE NO.

N43502L

Lab Name: Alliance **Contract:** TETR06
Lab Code: ACE **Lb No.:** lb138017 **Lab Sample ID :** Q3687-01L **SDG No.:** Q3690
Matrix (soil/water): Water **Level (low/med):** LOW
Concentration Units: ug/L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Iron	10700	10800	1		P



METAL PREPARATION & INSTRUMENT DATA

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Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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	-0.0039600

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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	0.0000730	0.0000000	-0.0015250

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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	-0.0017000	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

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

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Metals
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SAMPLE PREPARATION SUMMARY

Client: Tetra Tech NUS, Inc.

SDG No.: Q3690

Contract: TETR06

Lab Code: ACE

Method: _____

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB170663							
PB170663BL	PB170663BL	MB	WATER	11/20/2025	50.0	25.0	
PB170663BS	PB170663BS	LCS	WATER	11/20/2025	50.0	25.0	
Q3687-01DUP	N43502DUP	DUP	WATER	11/20/2025	50.0	25.0	
Q3687-01MS	N43502MS	MS	WATER	11/20/2025	50.0	25.0	
Q3687-01MSD	N43502MSD	MSD	WATER	11/20/2025	50.0	25.0	
Q3690-01	RW8-SP100-20251118	SAM	WATER	11/20/2025	50.0	25.0	
Q3690-02	RW8-SP303-20251118	SAM	WATER	11/20/2025	50.0	25.0	

metals
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ANALYSIS RUN LOG

Client: Tetra Tech NUS, Inc.

Contract: TETR06

Lab code: ACE

Sdg no.: Q3690

Instrument id number: _____

Method: _____

Run number: LB138017

Start date: 11/21/2025

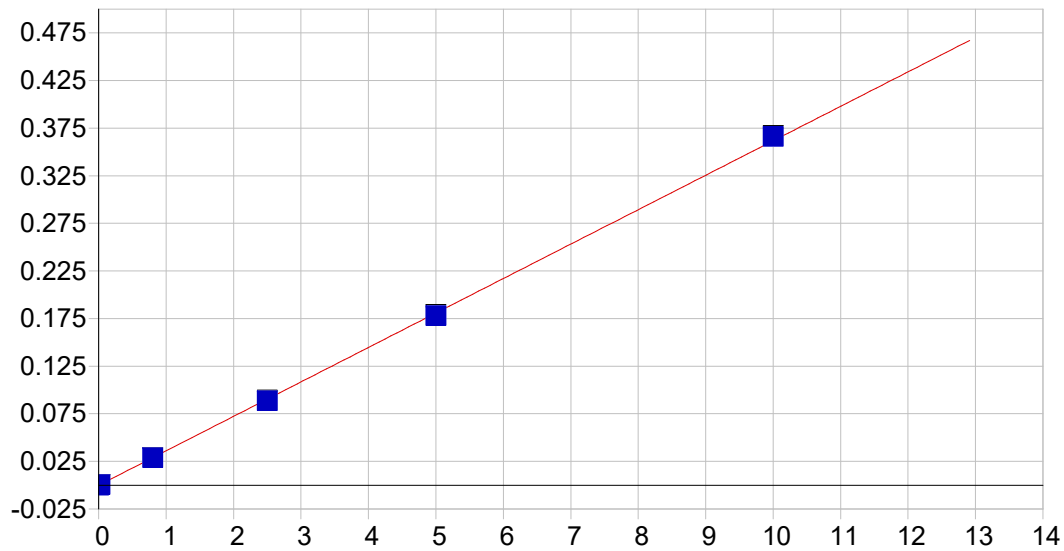
End date: 11/21/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1213	Fe
S1	S1	1	1217	Fe
S2	S2	1	1222	Fe
S3	S3	1	1226	Fe
S4	S4	1	1230	Fe
S5	S5	1	1234	Fe
ICV01	ICV01	1	1300	Fe
LLICV01	LLICV01	1	1309	Fe
ICB01	ICB01	1	1313	Fe
CRI01	CRI01	1	1317	Fe
ICSA01	ICSA01	1	1322	Fe
ICSAB01	ICSAB01	1	1326	Fe
CCV01	CCV01	1	1344	Fe
CCB01	CCB01	1	1348	Fe
PB170663BL	PB170663BL	1	1401	Fe
PB170663BS	PB170663BS	1	1405	Fe
CCV02	CCV02	1	1448	Fe
CCB02	CCB02	1	1452	Fe
CCV03	CCV03	1	1538	Fe
CCB03	CCB03	1	1542	Fe
Q3687-01DUP	N43502DUP	1	1551	Fe
Q3687-01L	N43502L	5	1555	Fe
Q3687-01MS	N43502MS	1	1559	Fe
Q3687-01MSD	N43502MSD	1	1603	Fe
Q3690-01	RW8-SP100-20251118	1	1611	Fe
Q3690-02	RW8-SP303-20251118	1	1615	Fe
CCV04	CCV04	1	1628	Fe
CCB04	CCB04	1	1632	Fe
CCV05	CCV05	1	1750	Fe
CCB05	CCB05	1	1755	Fe
CCV06	CCV06	1	1841	Fe
CCB06	CCB06	1	1845	Fe
CCV07	CCV07	1	1931	Fe
CCB07	CCB07	1	1935	Fe



METAL RAW DATA

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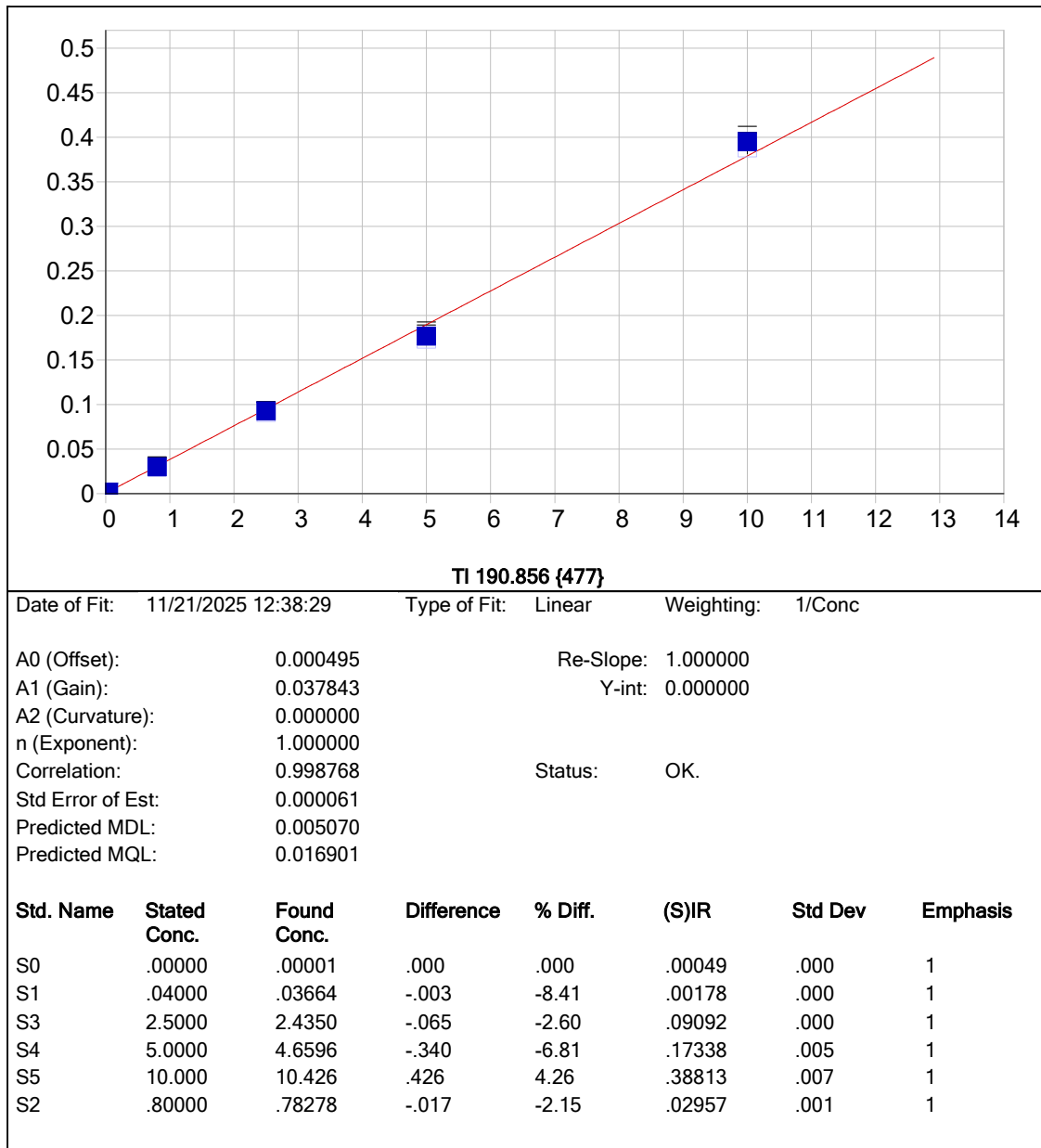


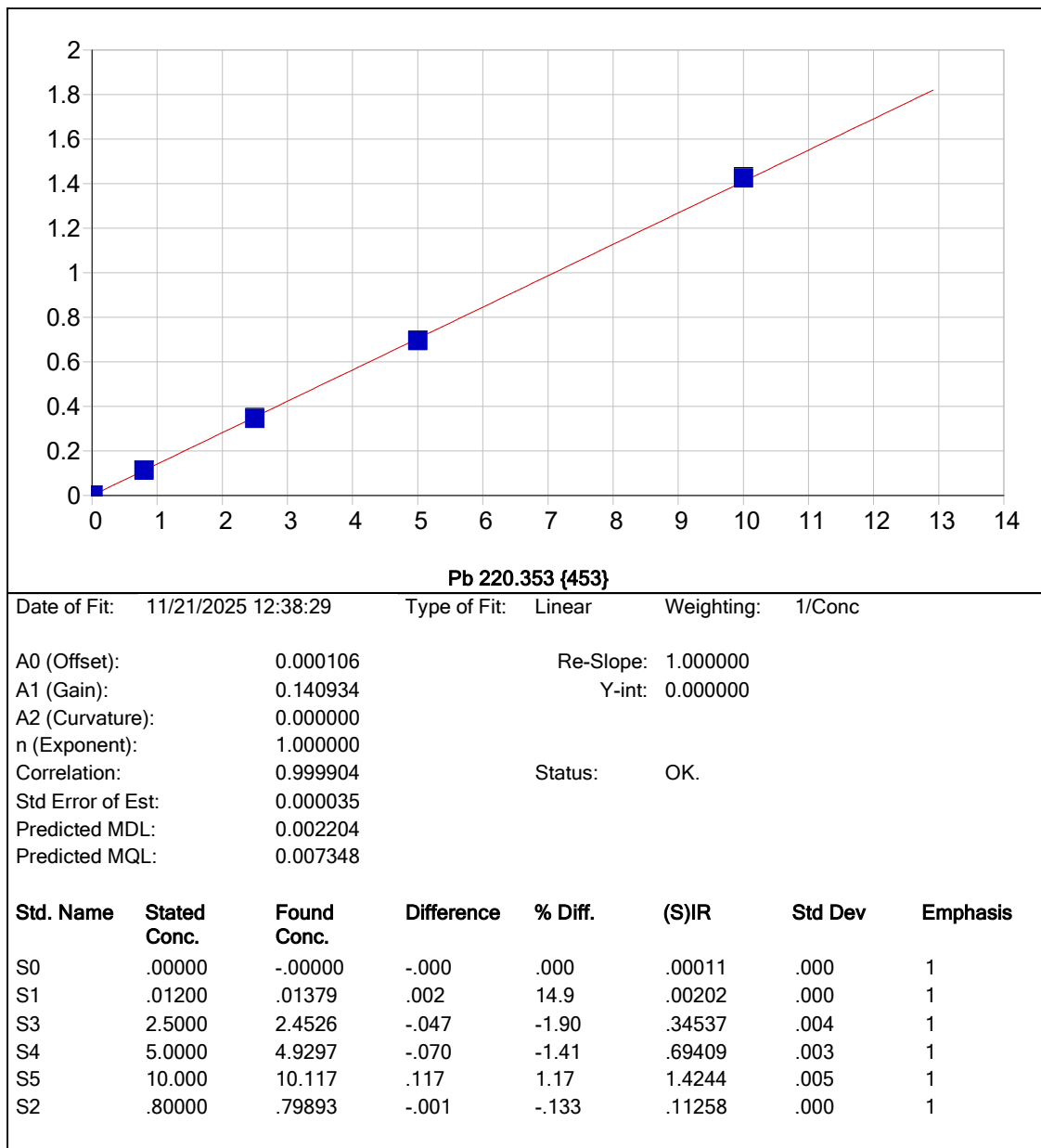
As 189.042 {479}

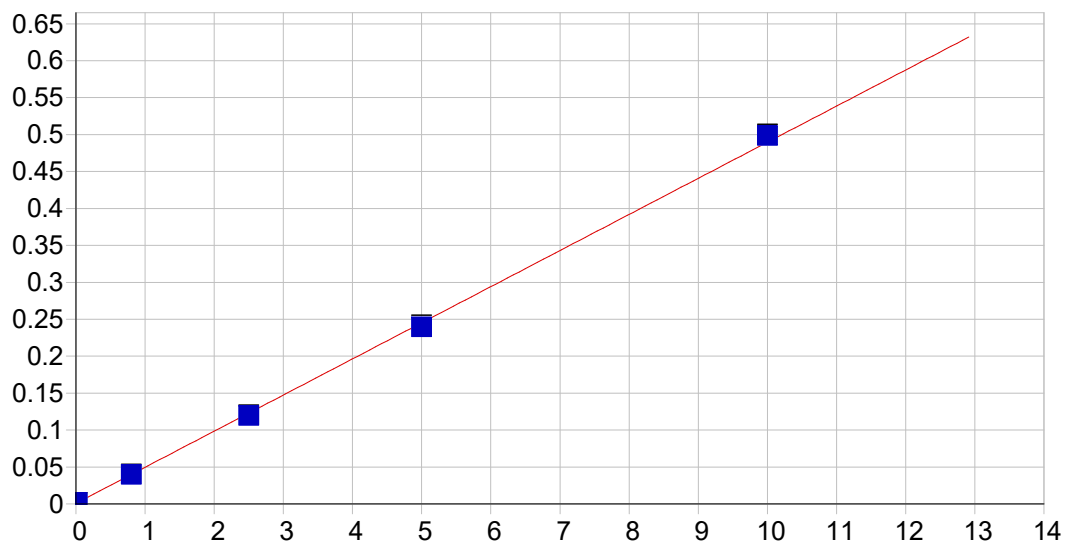
Date of Fit: 11/21/2025 12:38:29 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000072 Re-Slope: 1.000000
A1 (Gain): 0.036181 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999905 Status: OK.
Std Error of Est: 0.000012
Predicted MDL: 0.005176
Predicted MQL: 0.017252

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00007	.000	1
S1	.02000	.02023	.000	1.14	.00066	.000	1
S3	2.5000	2.4540	-.046	-1.84	.08862	.001	1
S4	5.0000	4.9250	-.075	-1.50	.17793	.001	1
S5	10.000	10.122	.122	1.22	.36577	.001	1
S2	.80000	.79914	-.001	-.108	.02881	.000	1





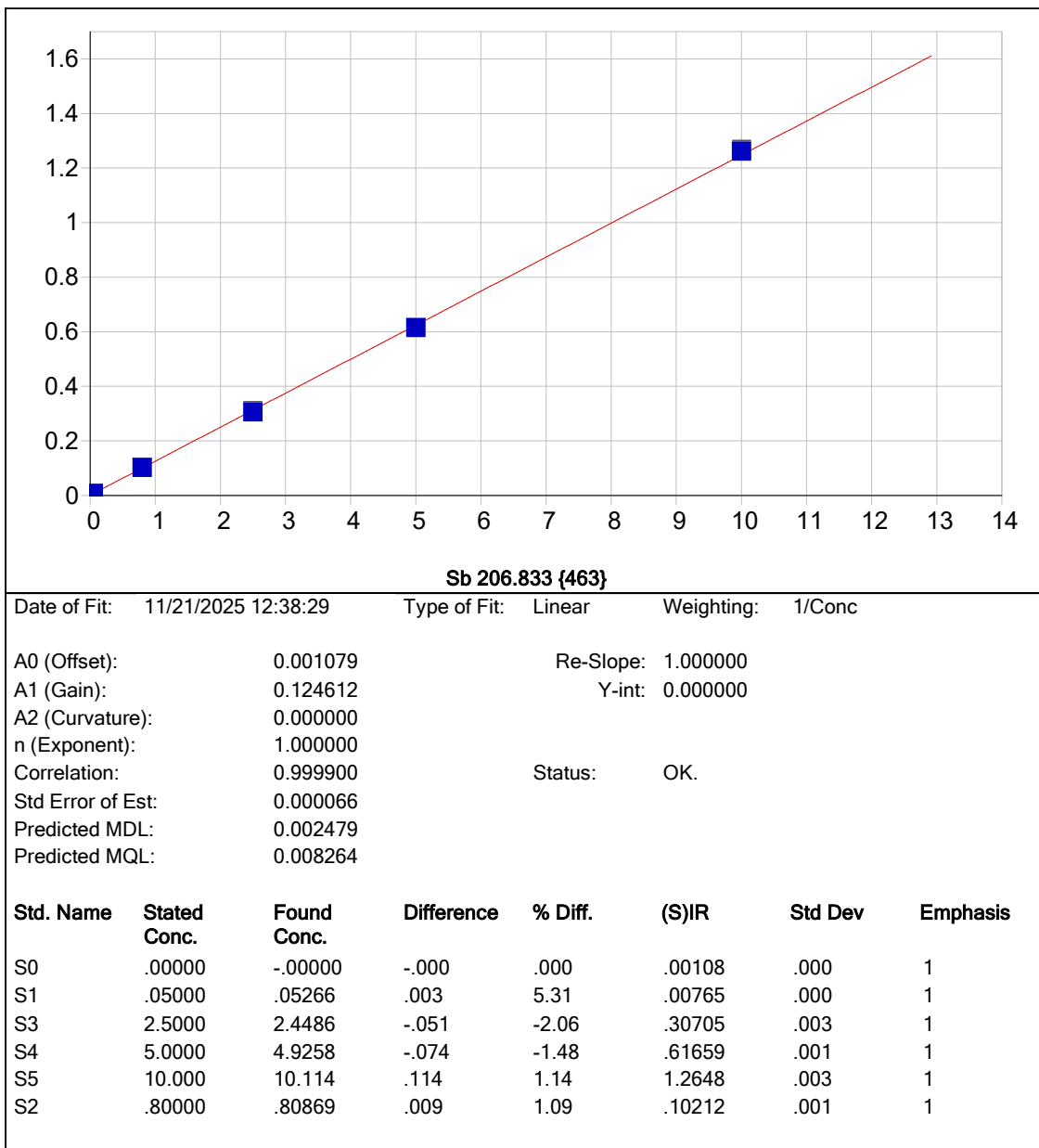


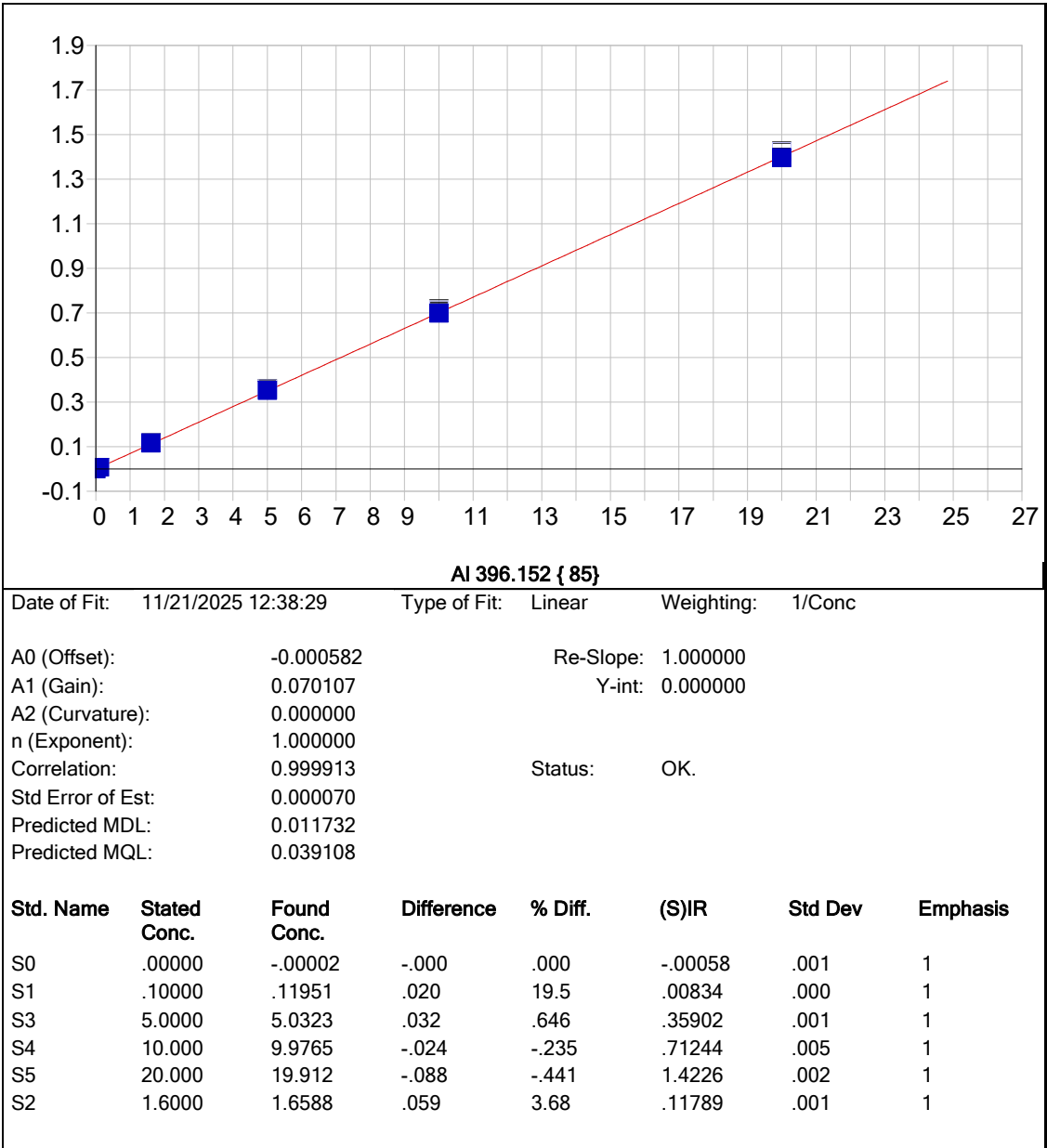
Se 196.090 {472}

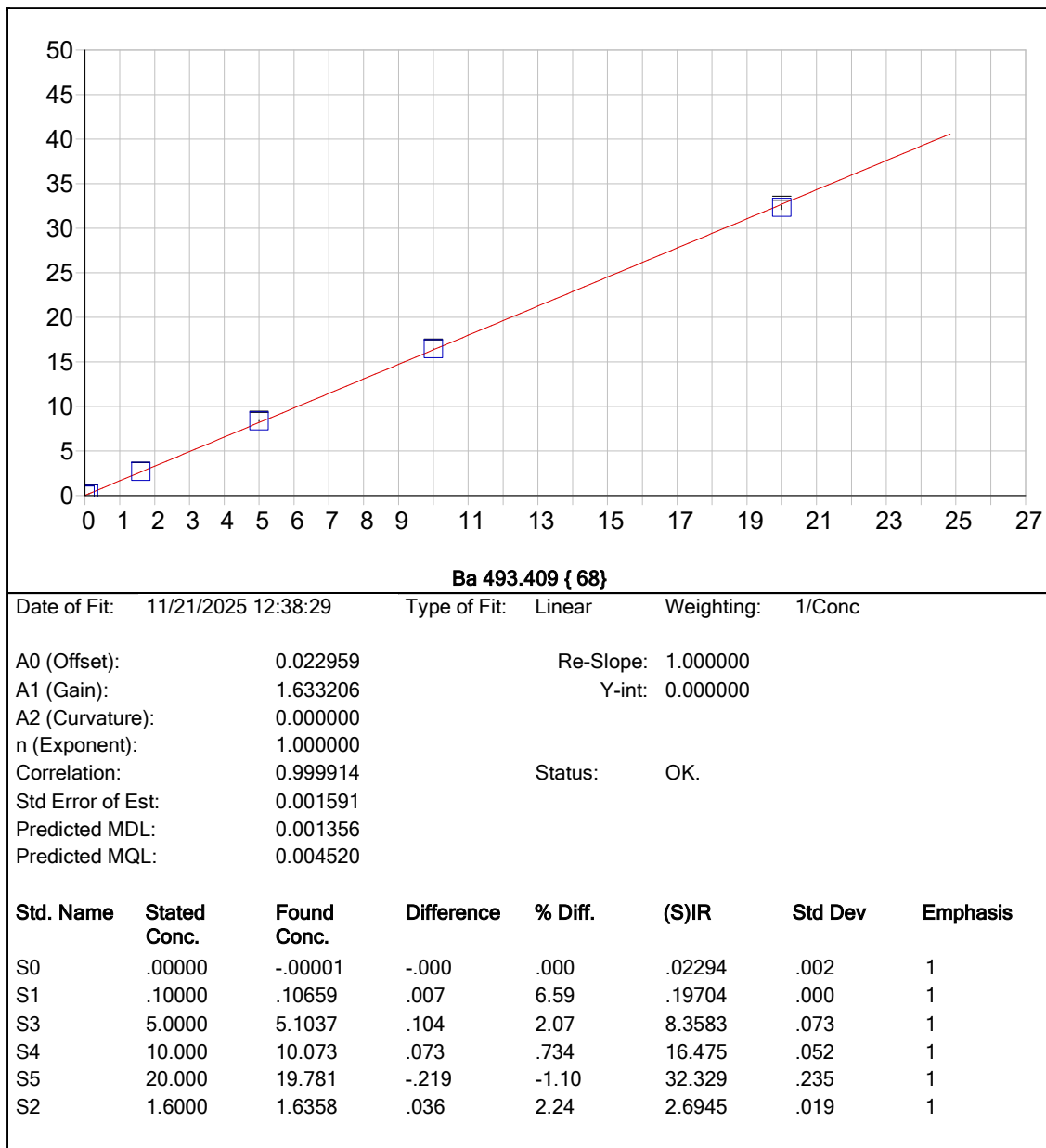
Date of Fit: 11/21/2025 12:38:29 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000758 Re-Slope: 1.000000
A1 (Gain): 0.048889 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999788 Status: OK.
Std Error of Est: 0.000024
Predicted MDL: 0.004987
Predicted MQL: 0.016623

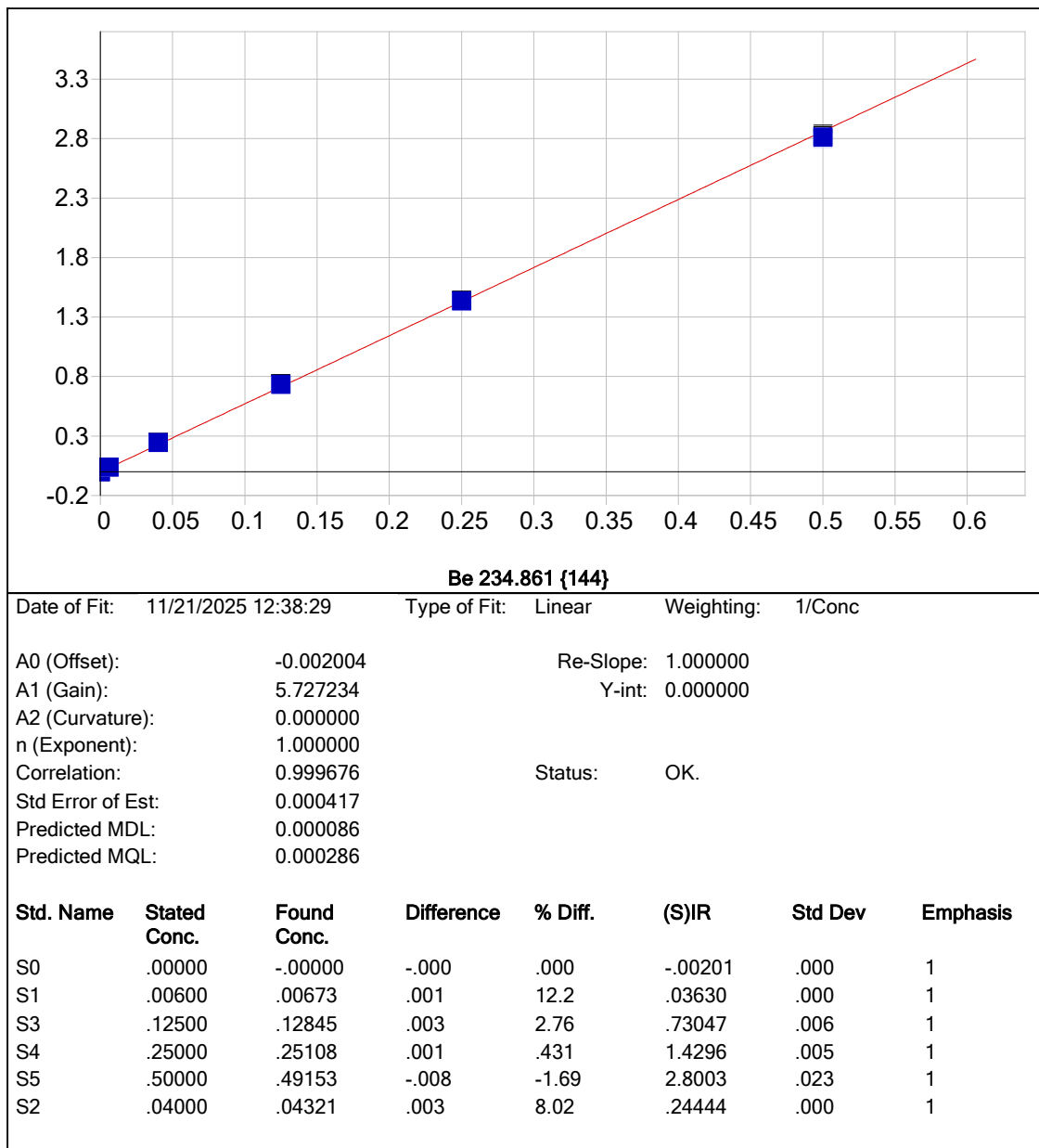
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00076	.000	1
S1	.02000	.02019	.000	.949	.00175	.000	1
S3	2.5000	2.4304	-.070	-2.78	.11954	.001	1
S4	5.0000	4.8892	-.111	-2.22	.23972	.002	1
S5	10.000	10.183	.183	1.83	.49846	.002	1
S2	.80000	.79738	-.003	-.327	.03973	.001	1

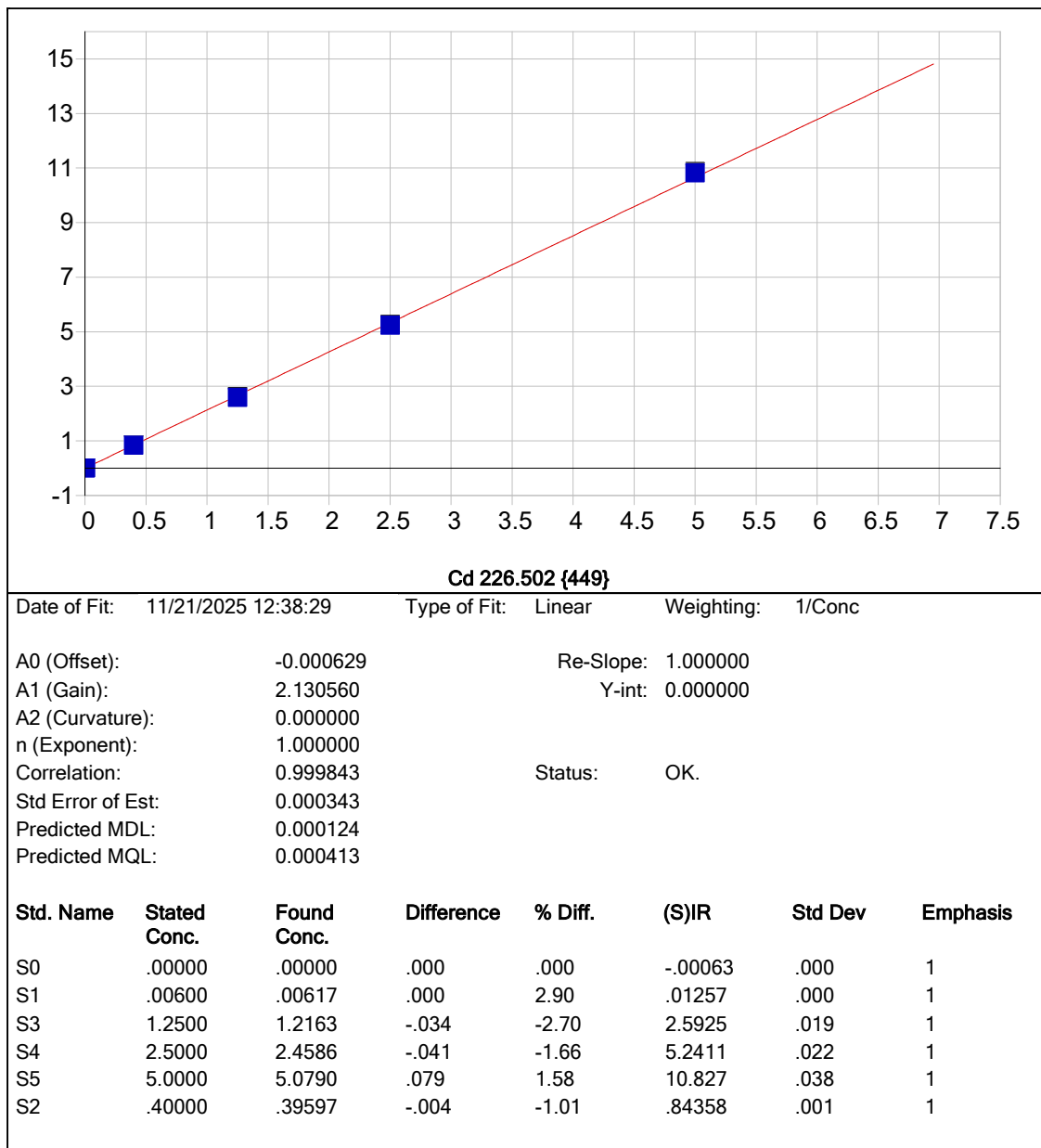


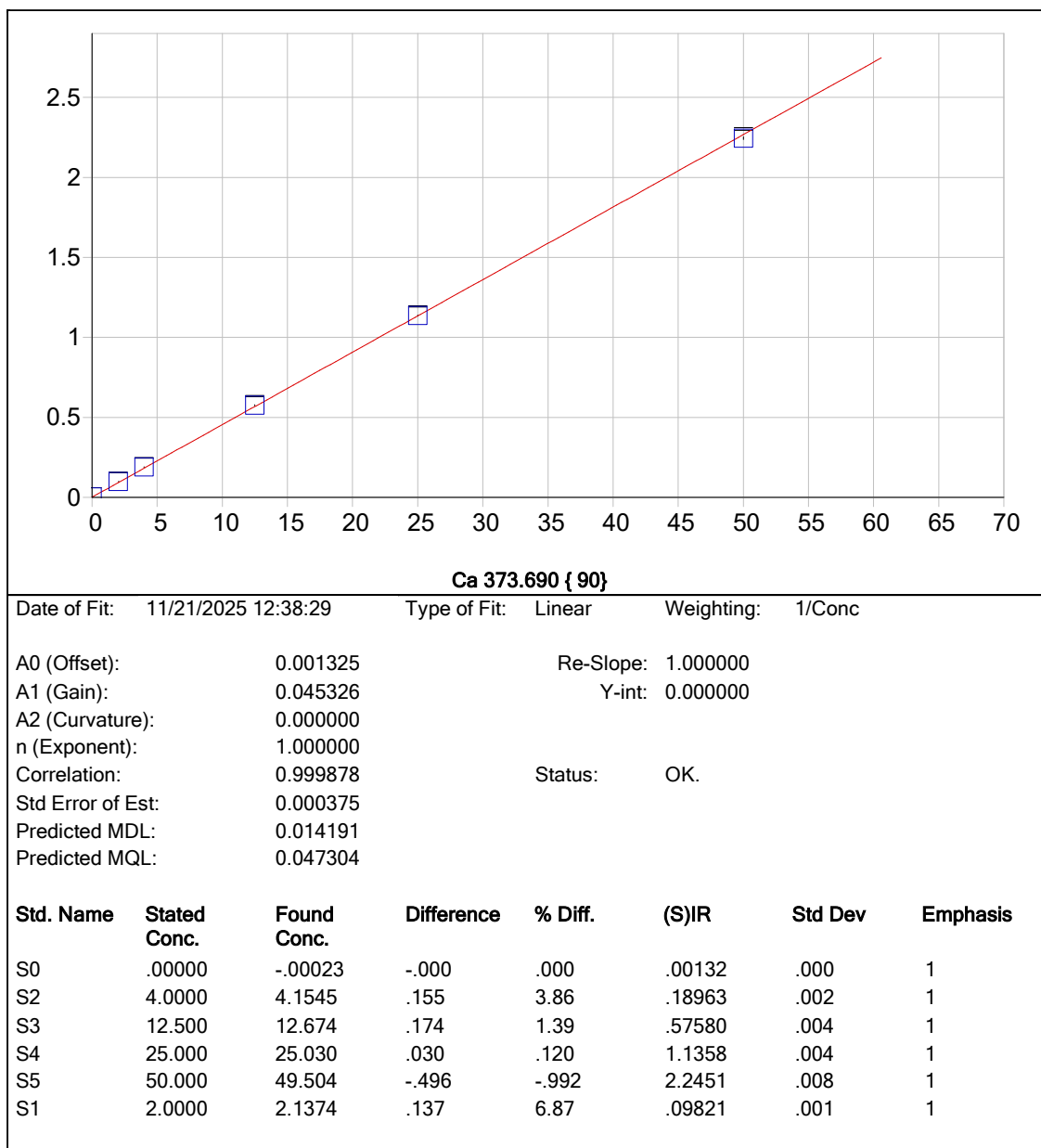


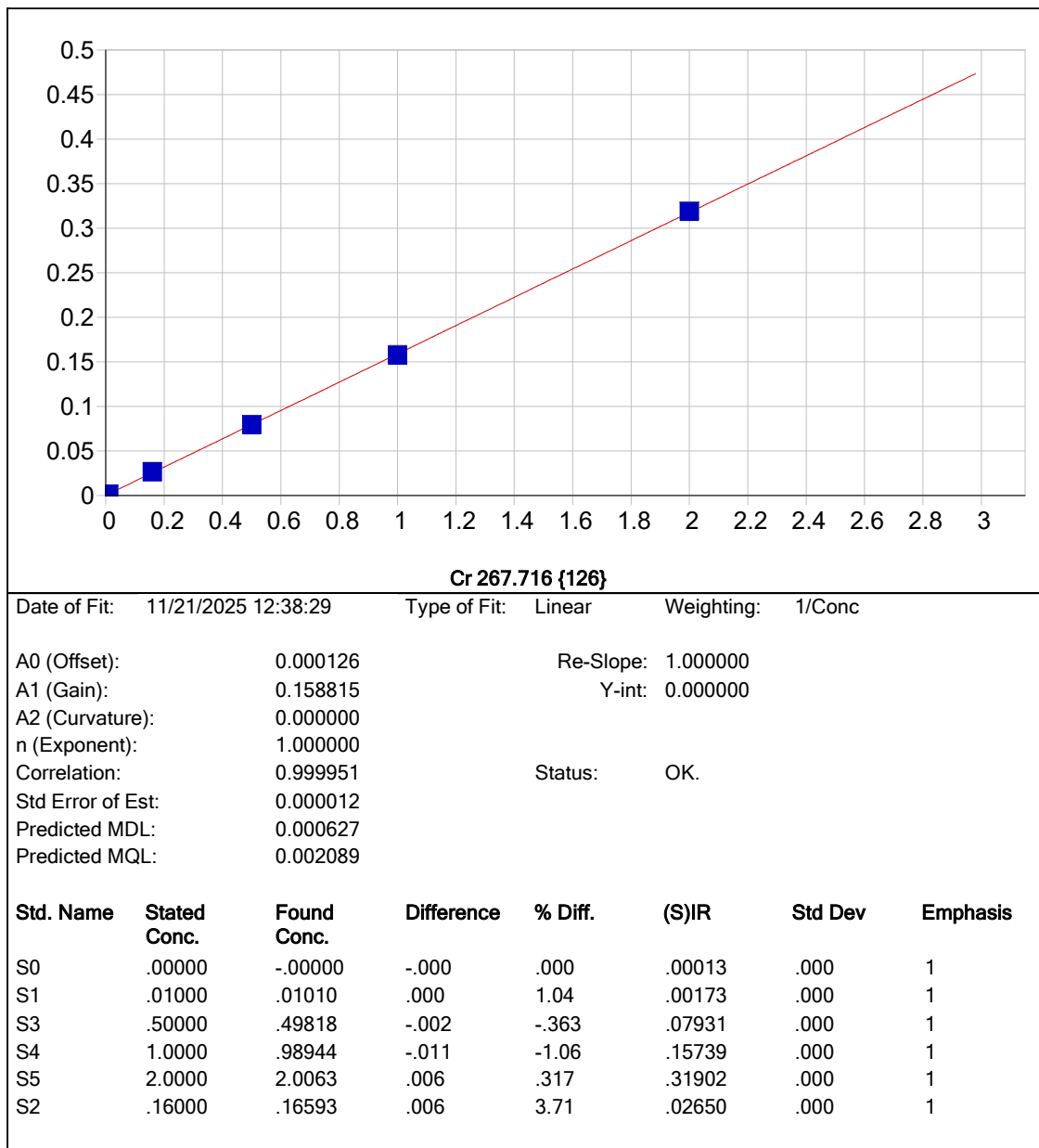


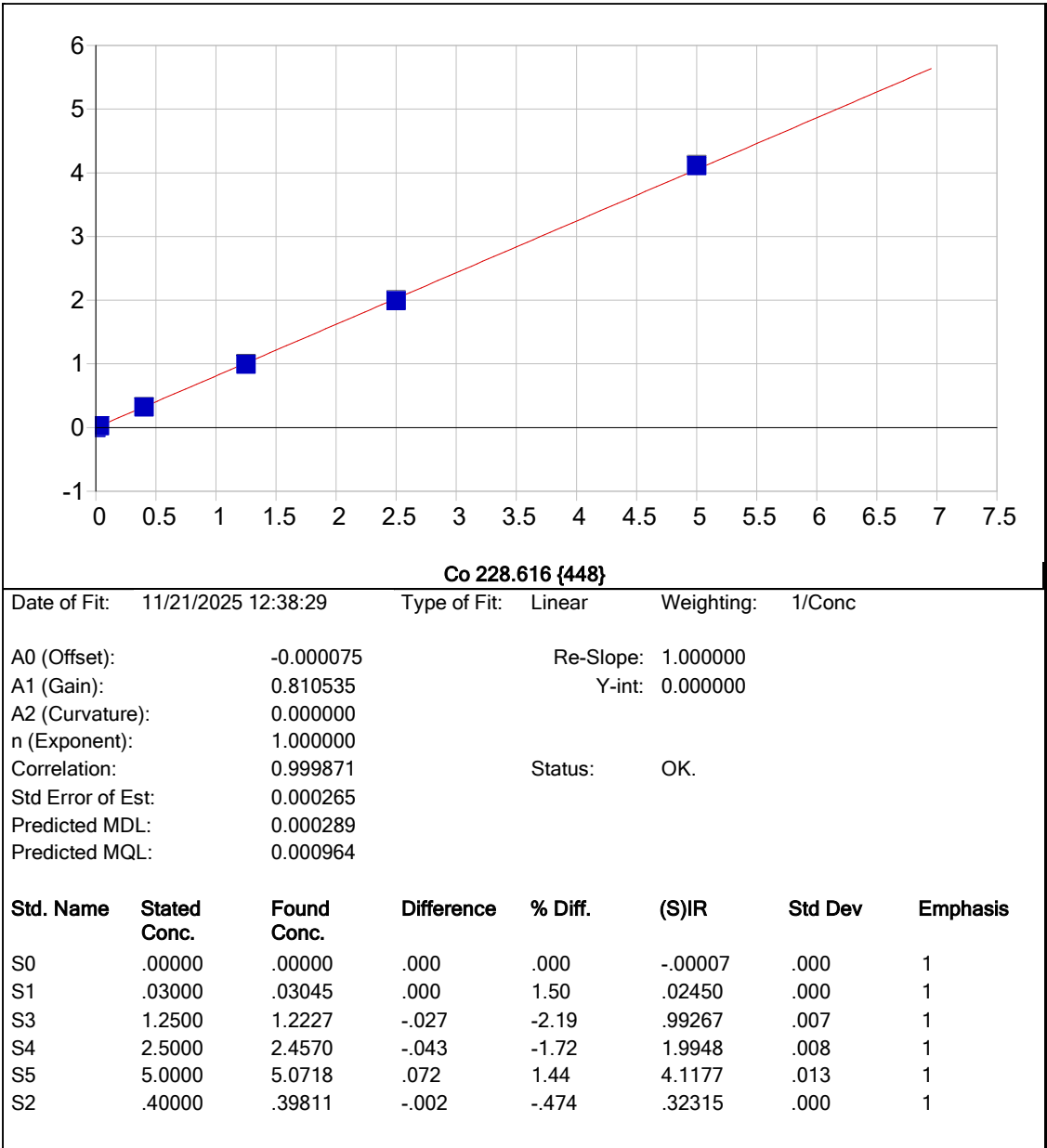
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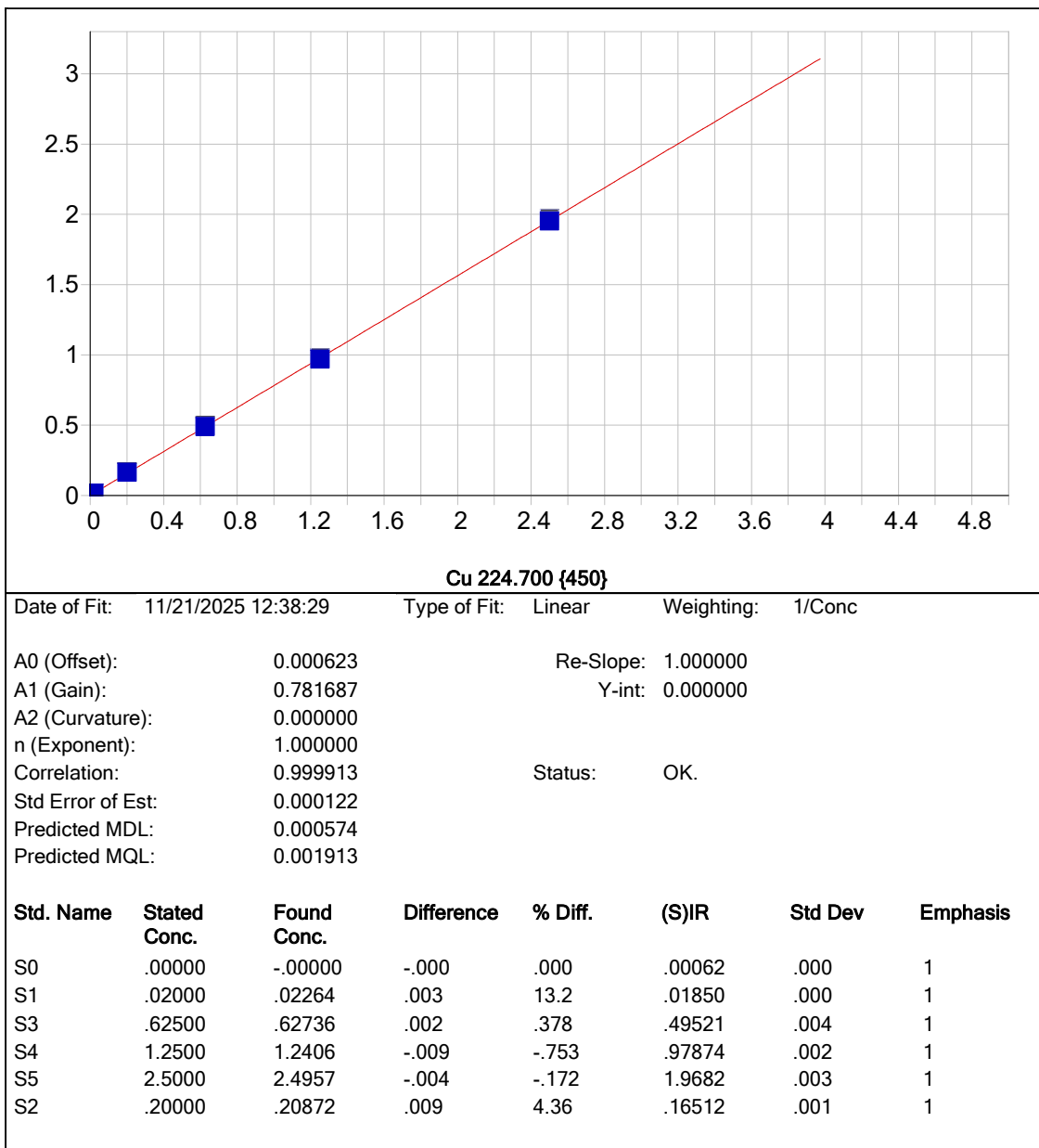




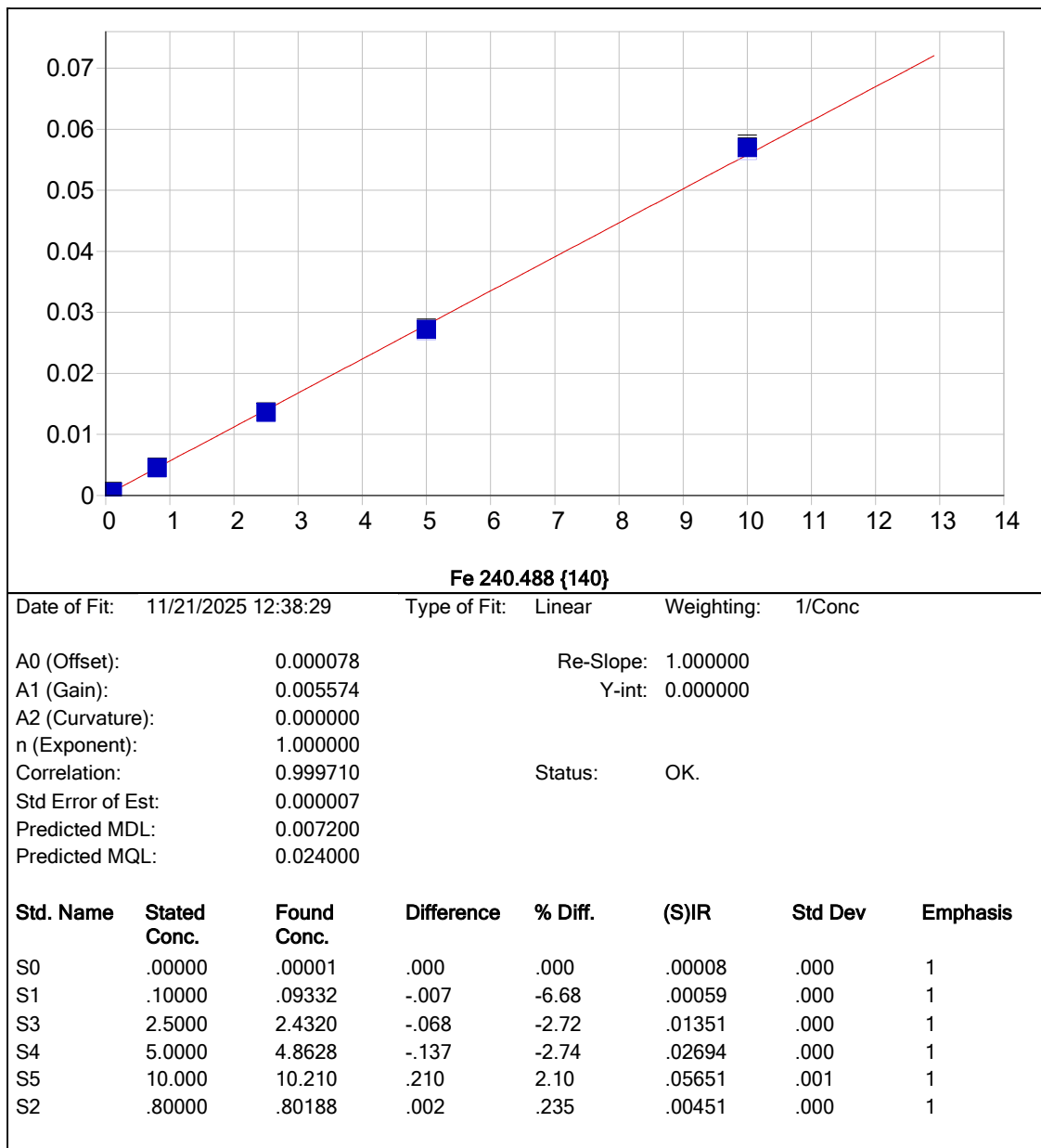


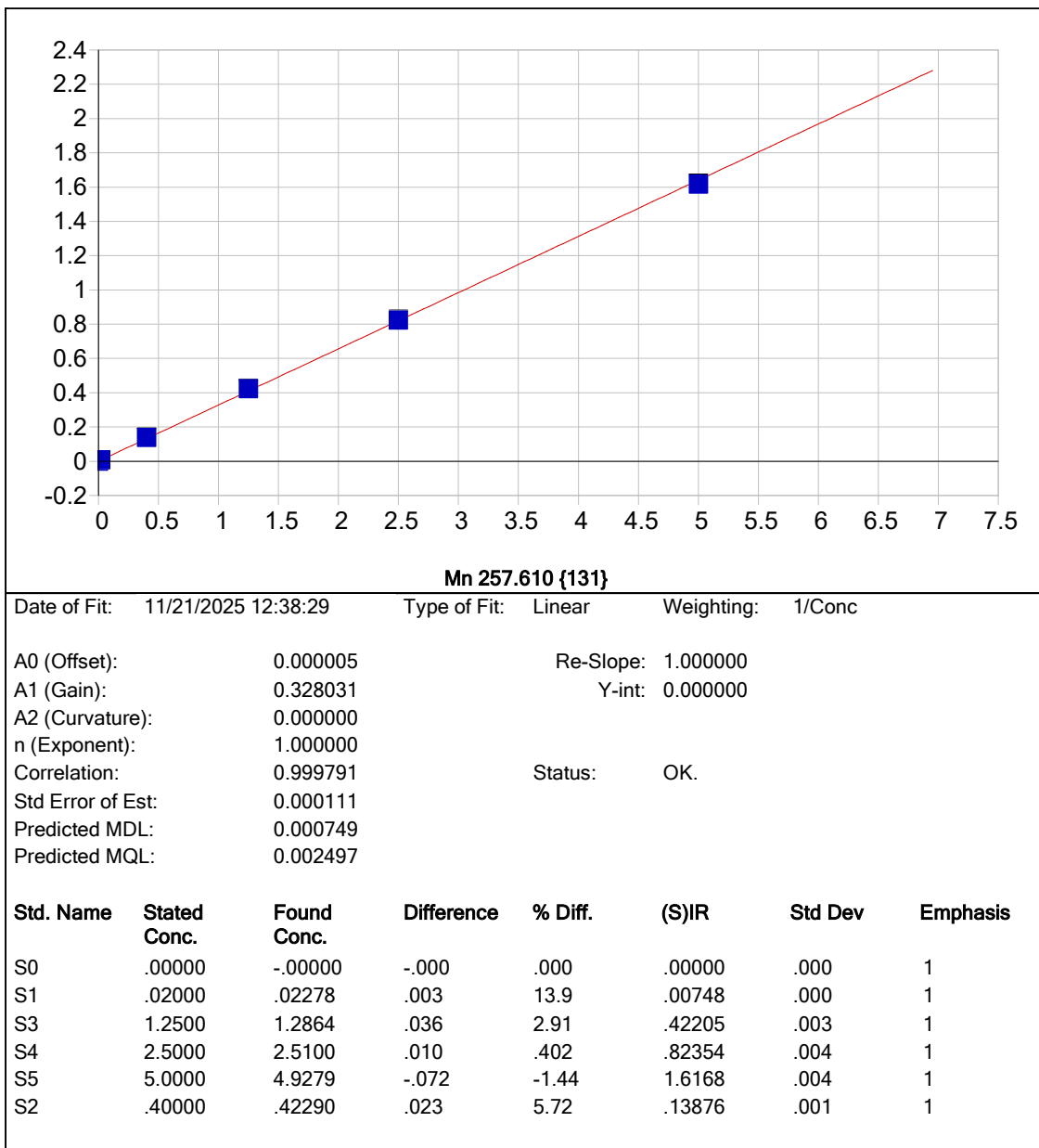


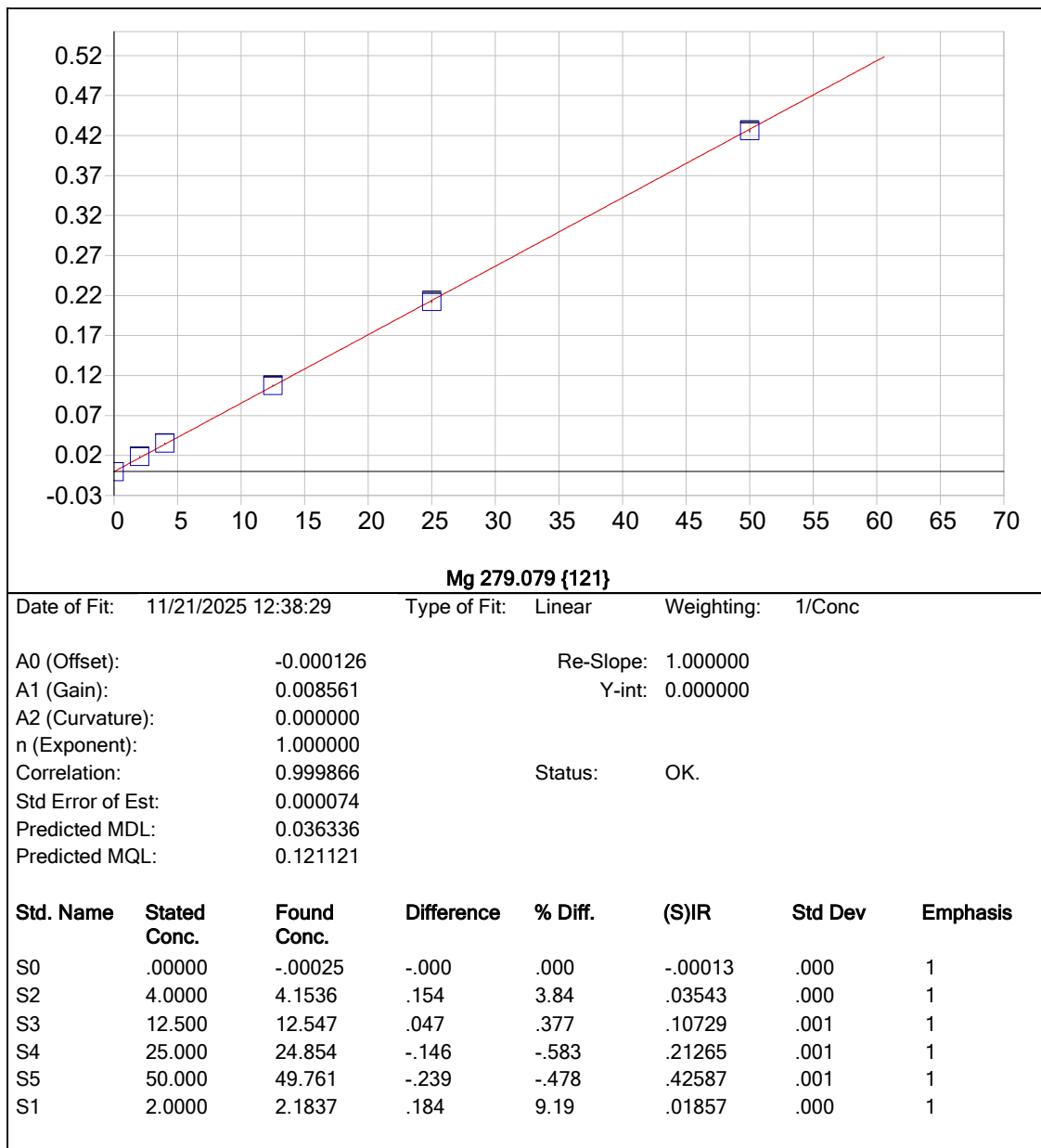
Date of Fit: 11/21/2025 12:38:29		Type of Fit: Linear		Weighting: 1/Conc			
A0 (Offset): -0.000075		Re-Slope: 1.000000					
A1 (Gain): 0.810535		Y-int: 0.000000					
A2 (Curvature): 0.000000							
n (Exponent): 1.000000							
Correlation: 0.999871		Status: OK.					
Std Error of Est: 0.000265							
Predicted MDL: 0.000289							
Predicted MQL: 0.000964							
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00007	.000	1
S1	.03000	.03045	.000	1.50	.02450	.000	1
S3	1.2500	1.2227	-.027	-2.19	.99267	.007	1
S4	2.5000	2.4570	-.043	-1.72	1.9948	.008	1
S5	5.0000	5.0718	.072	1.44	4.1177	.013	1
S2	.40000	.39811	-.002	-.474	.32315	.000	1

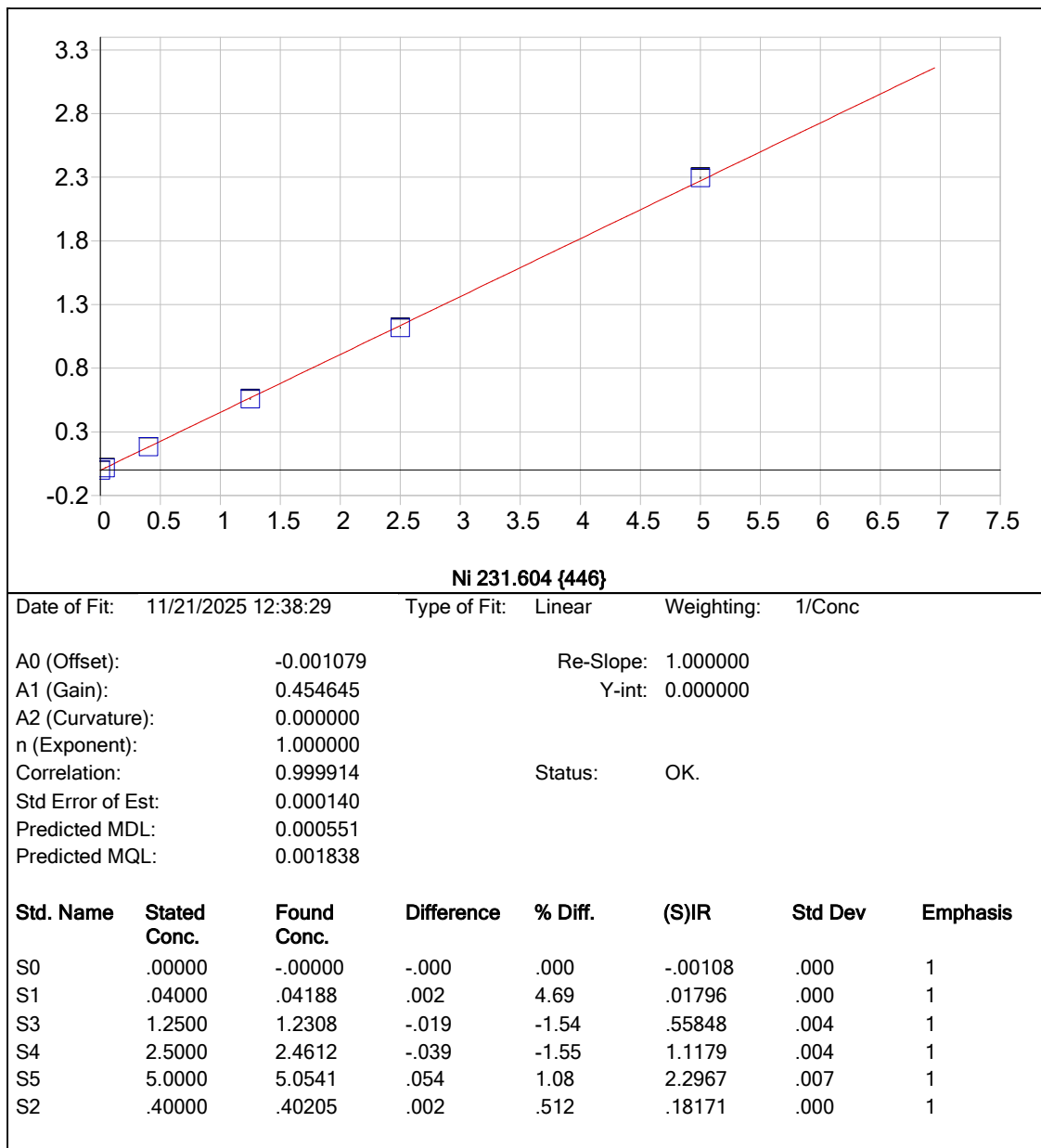


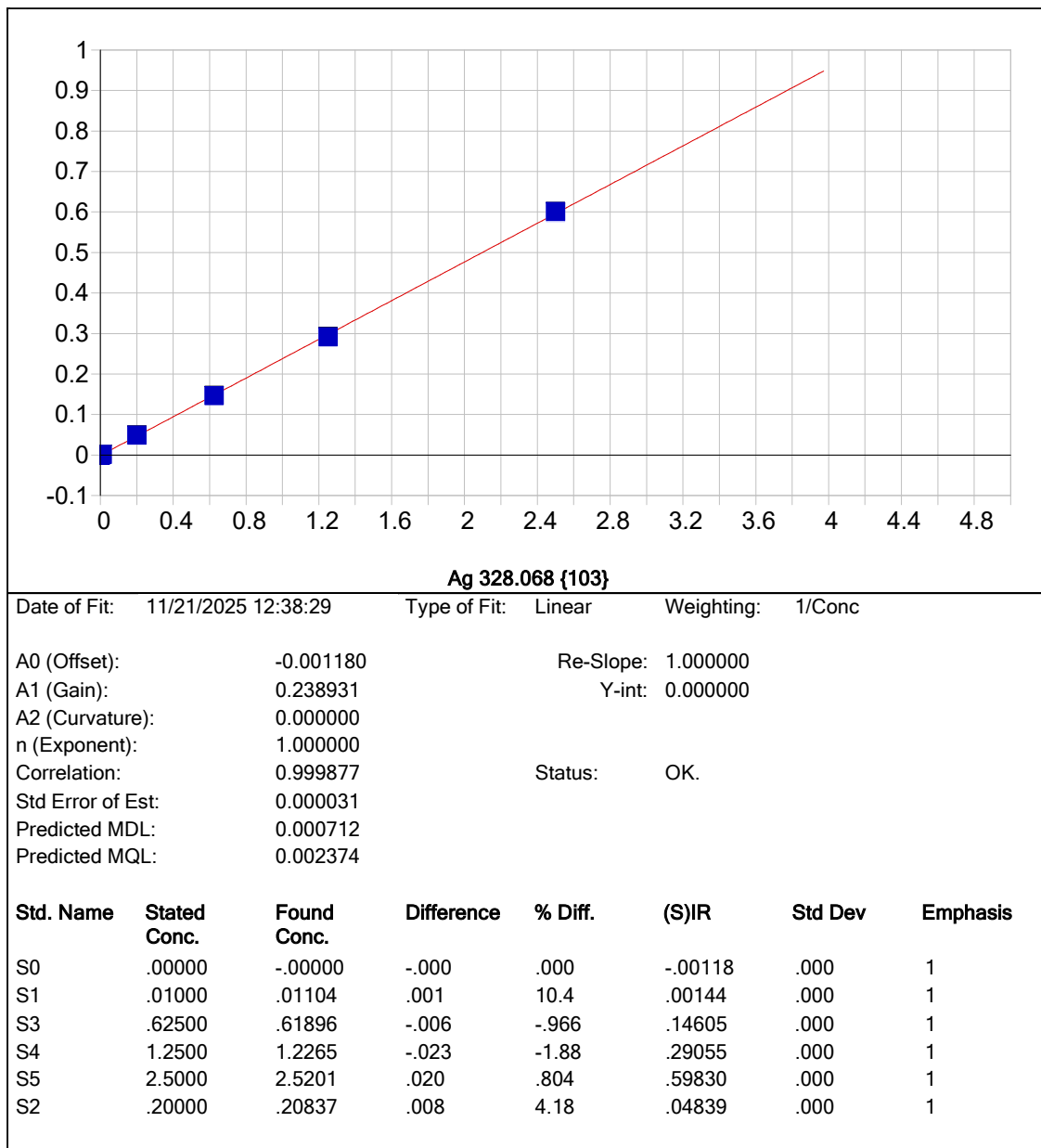
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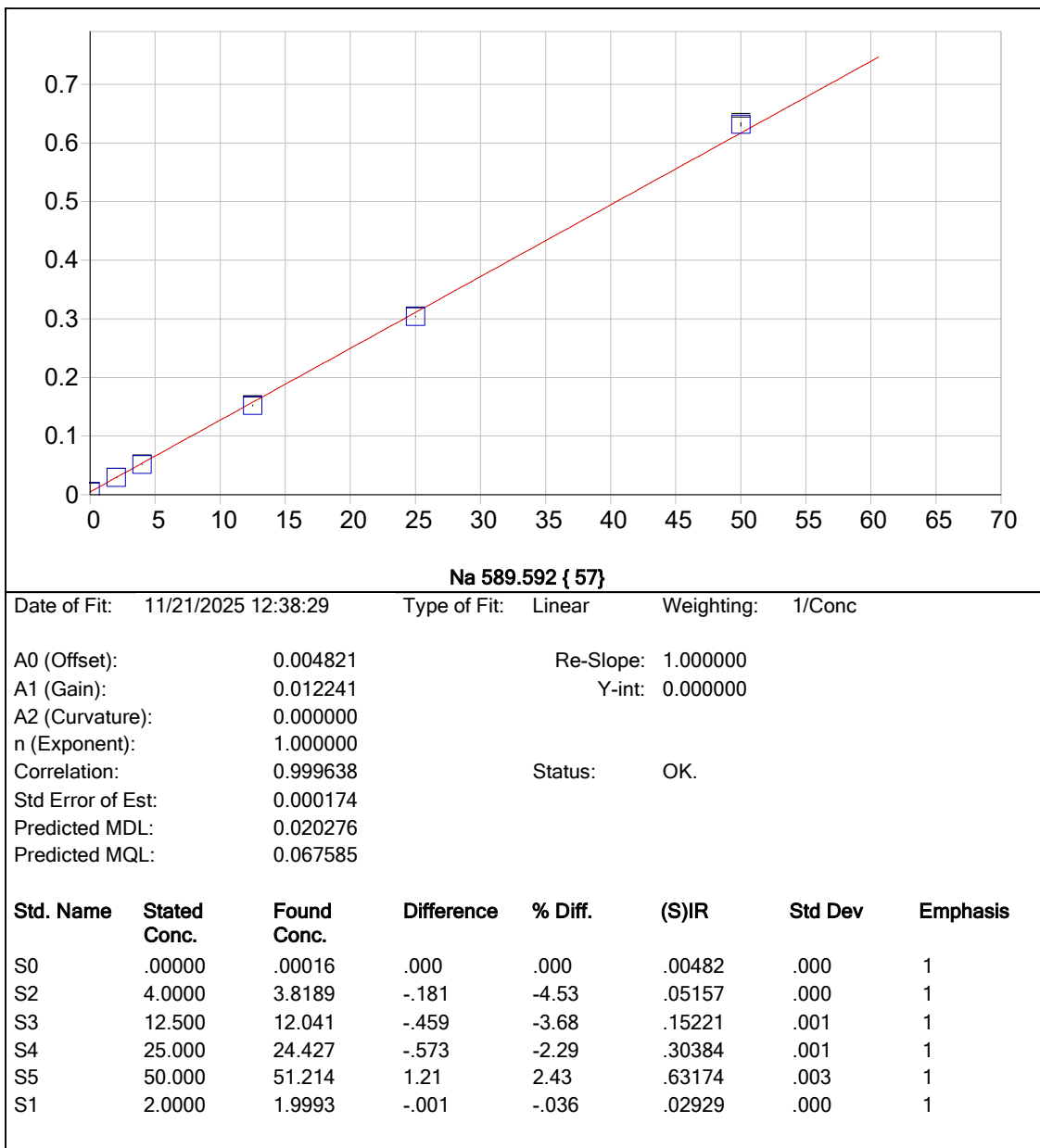


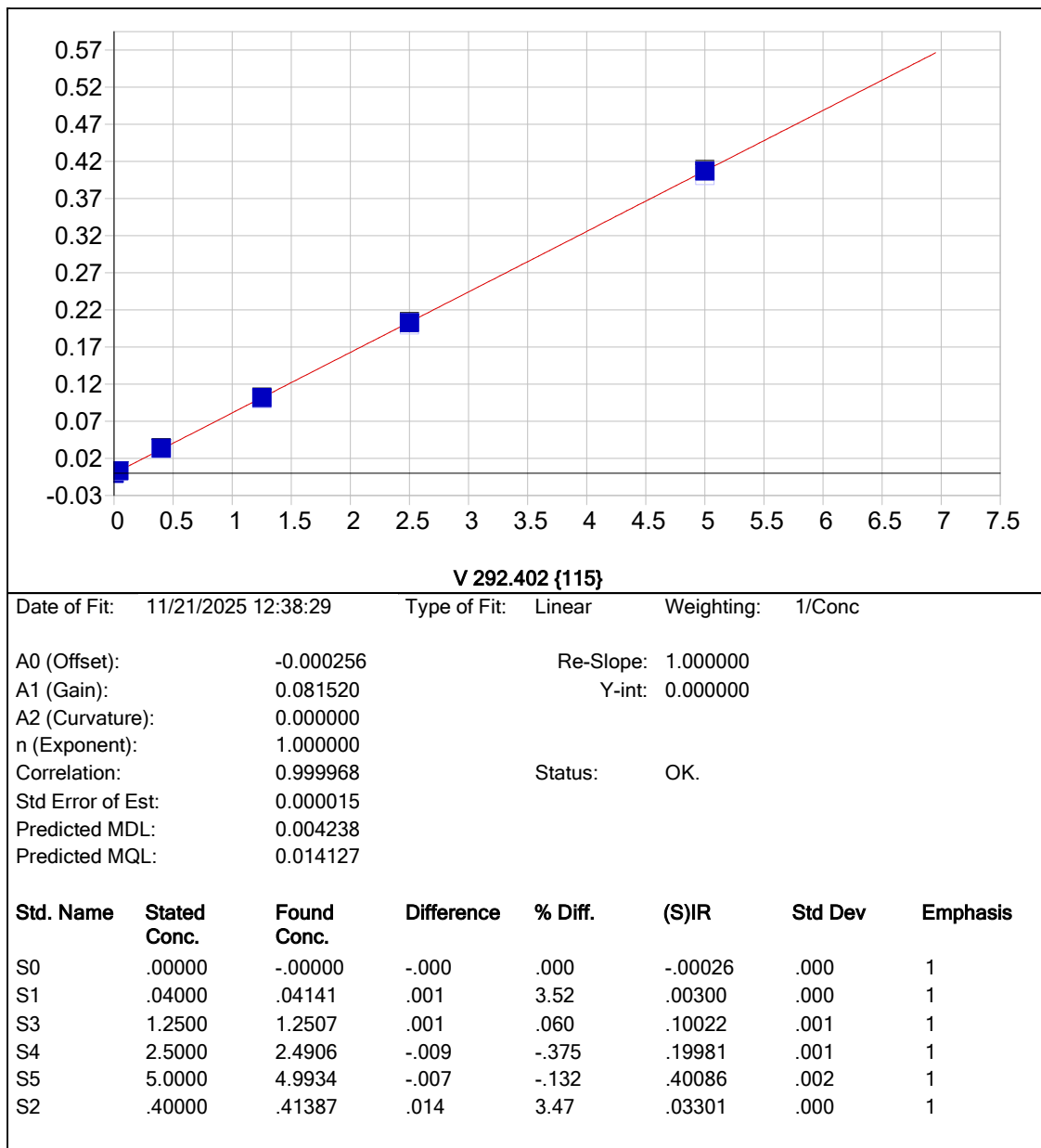


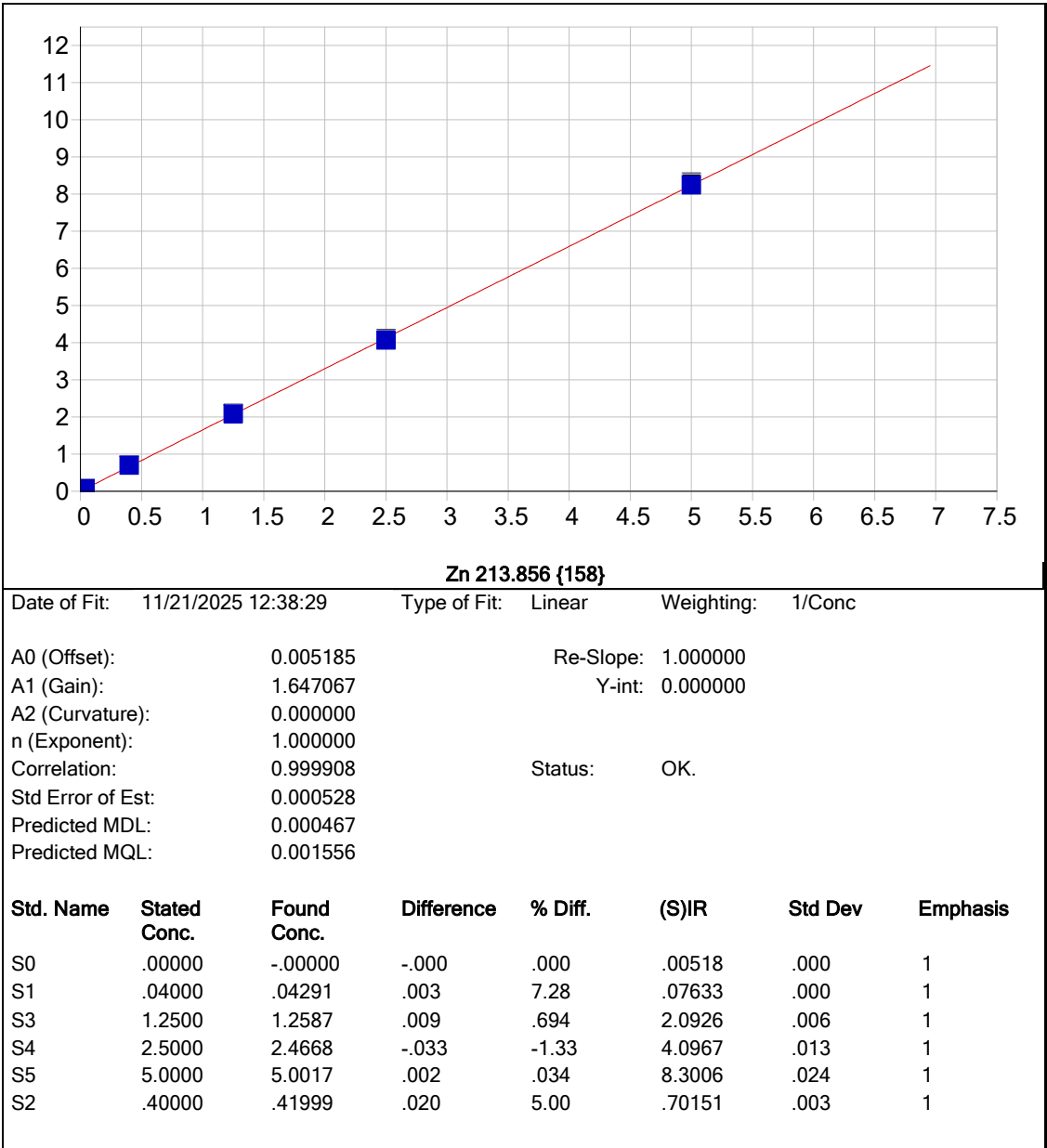


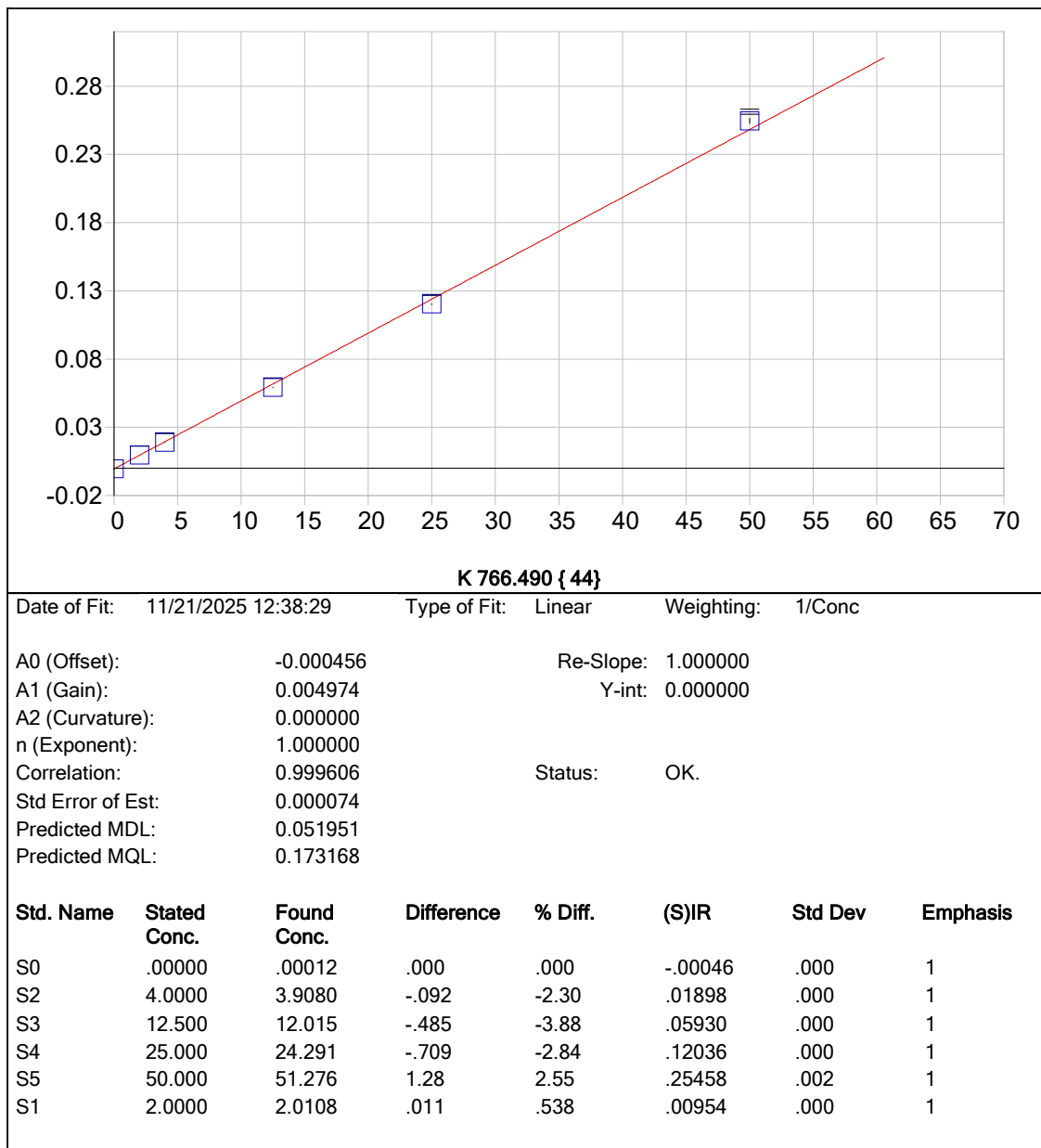


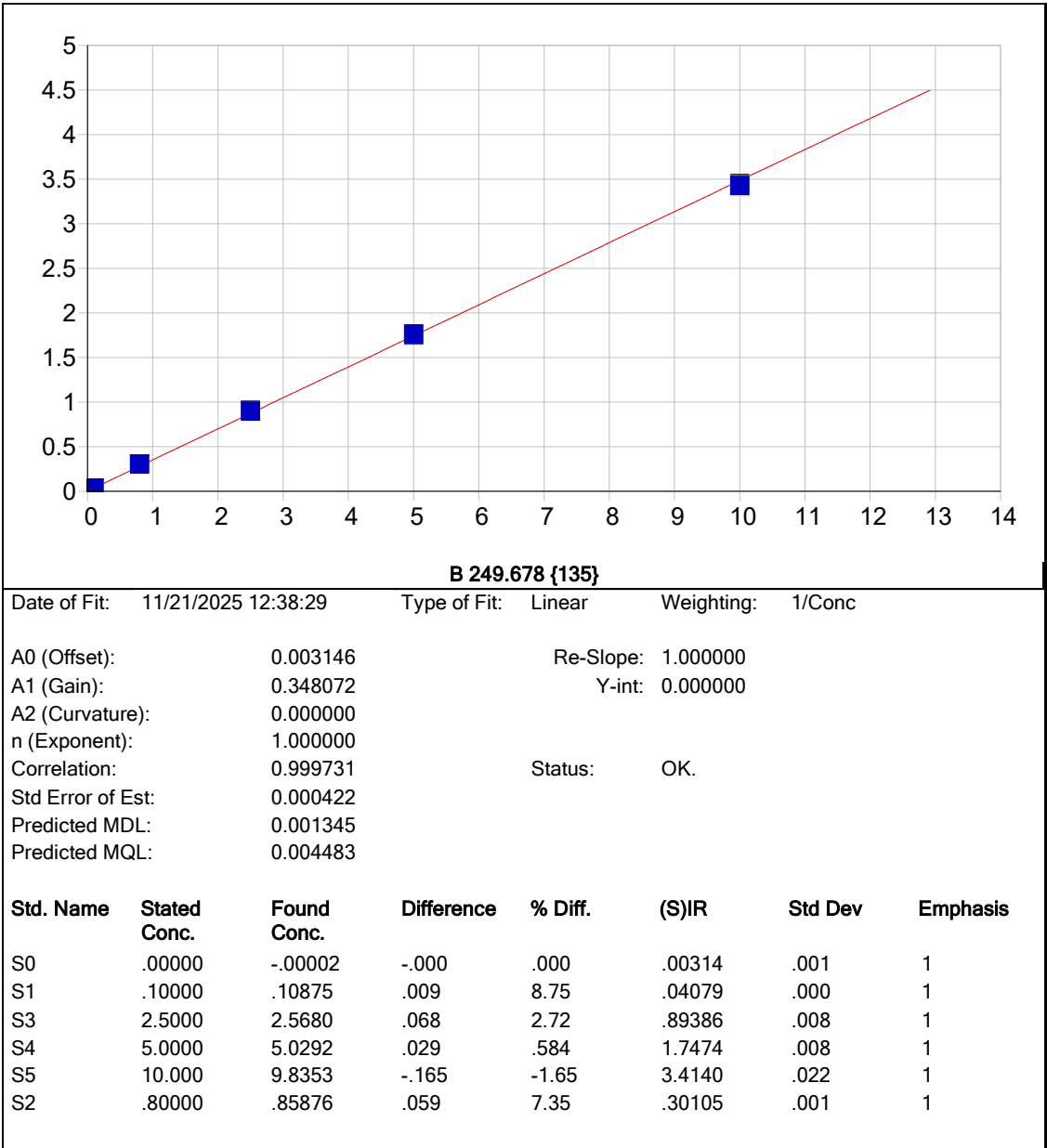


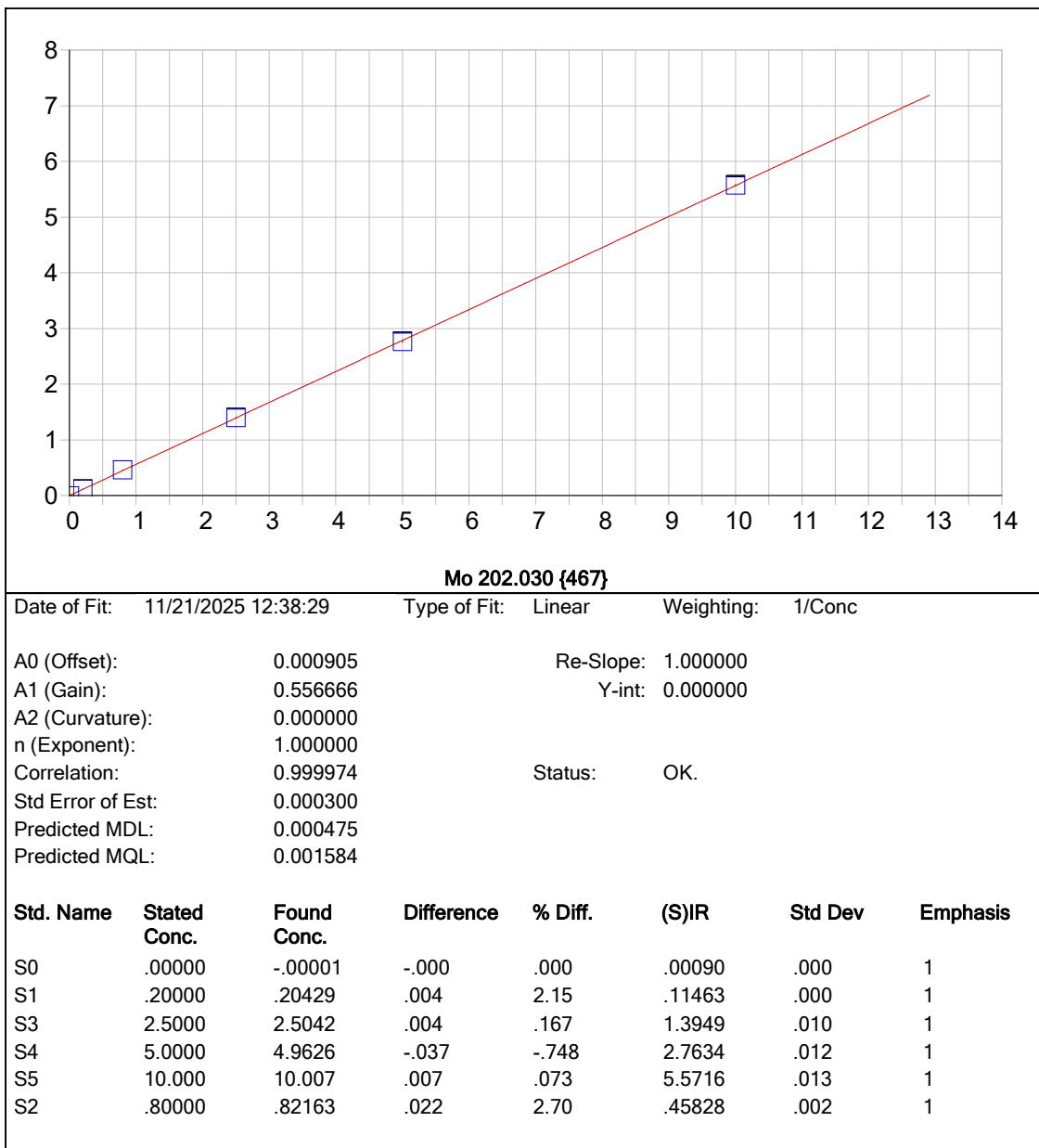


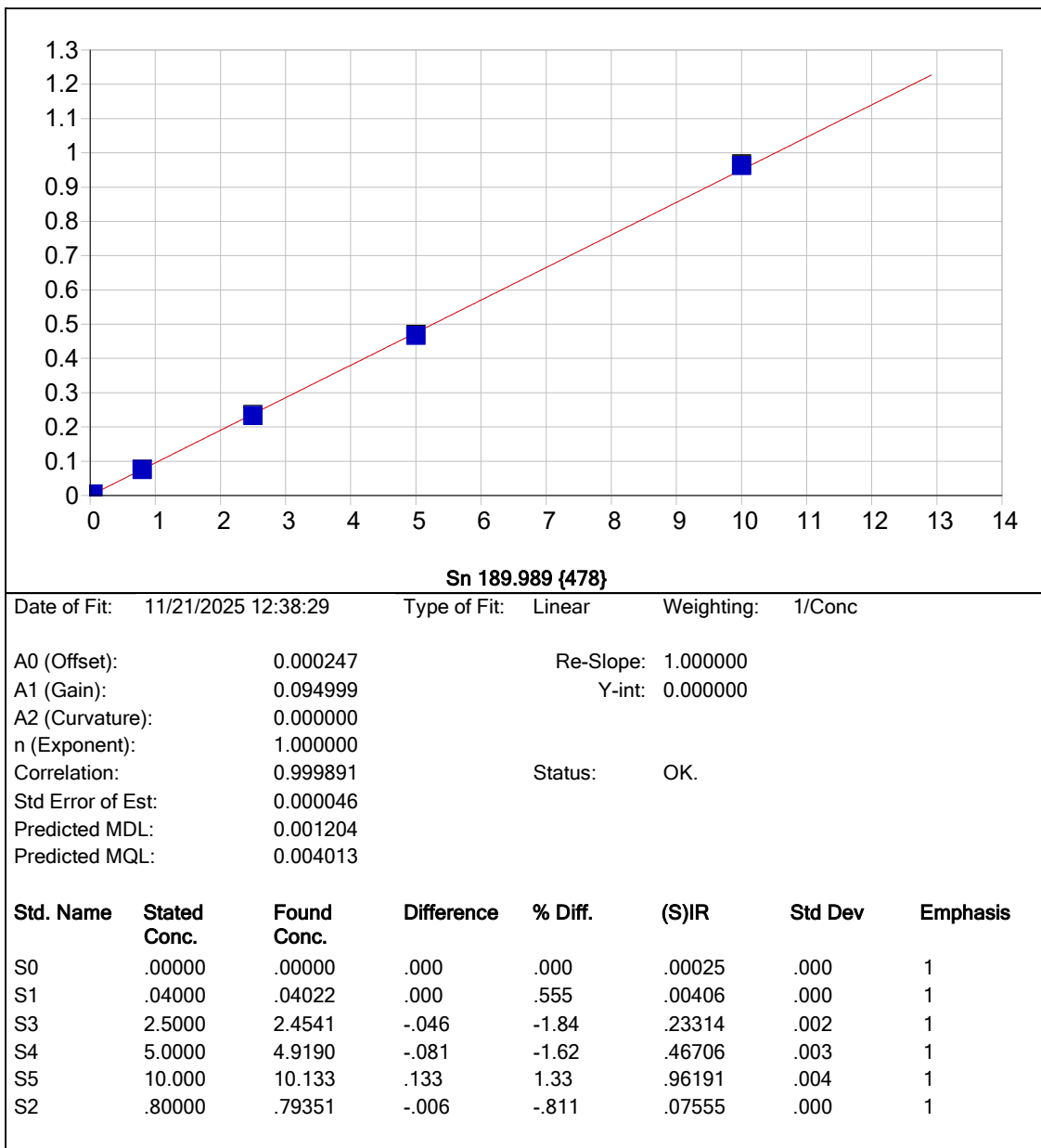


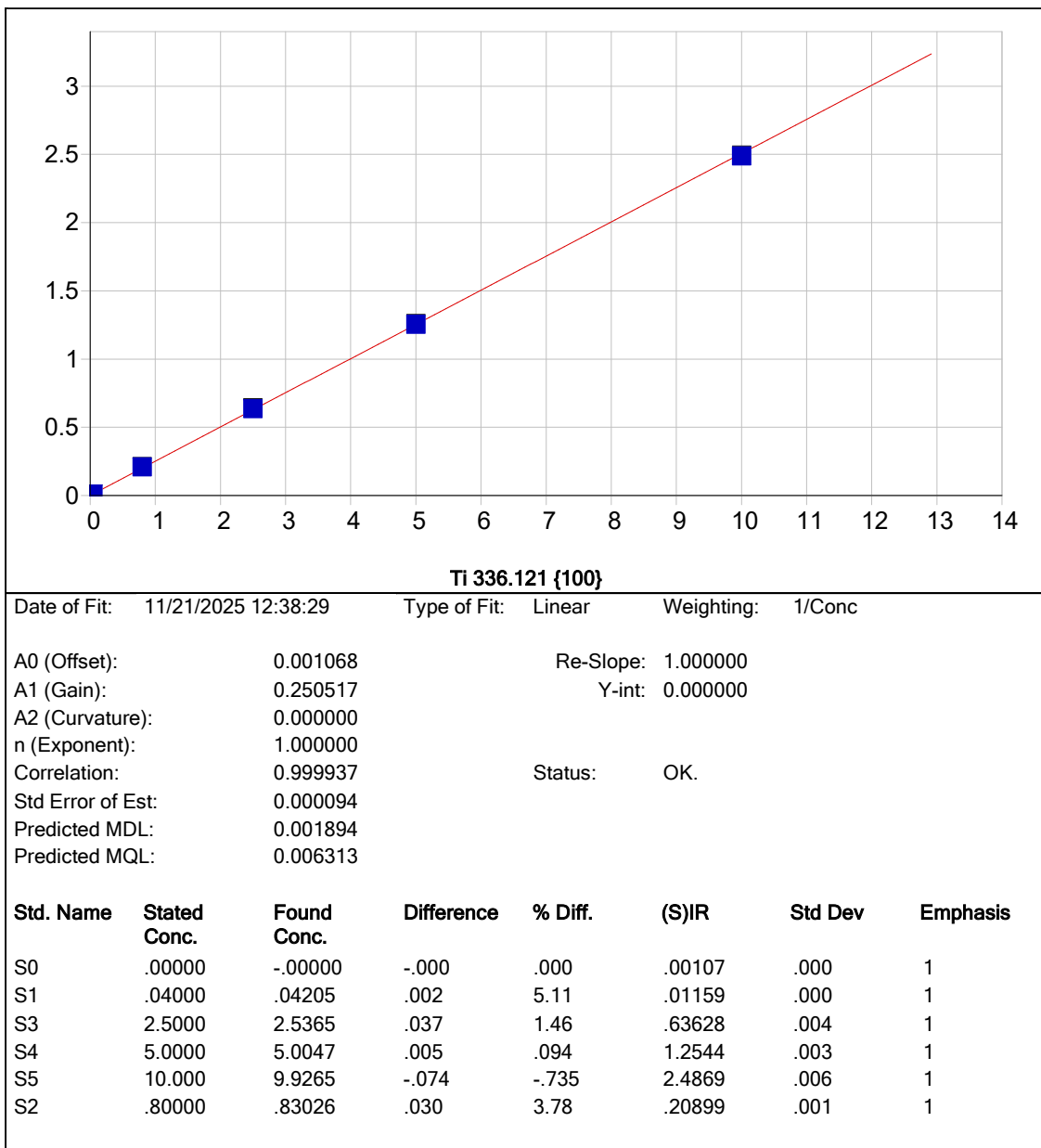




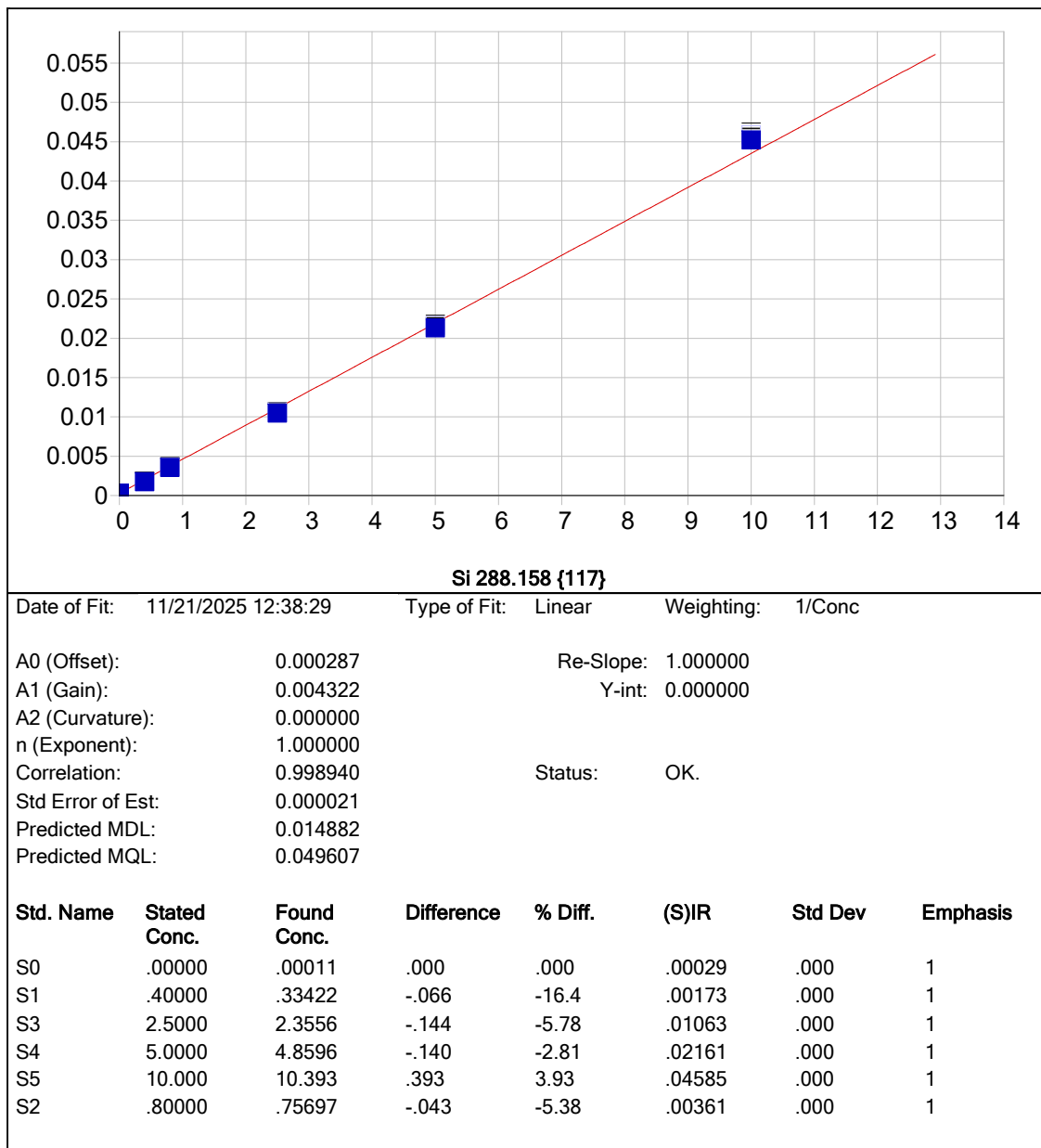




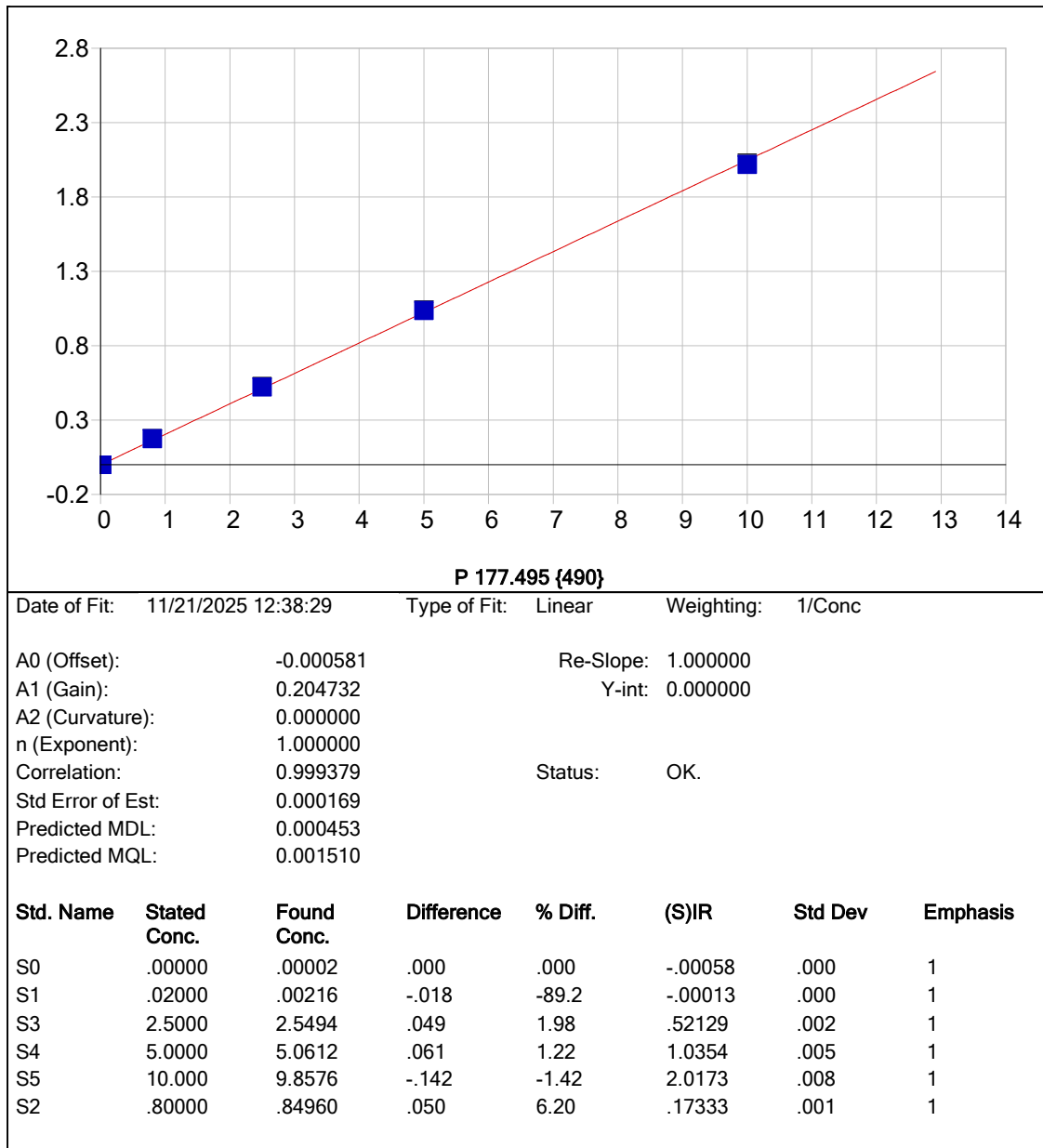


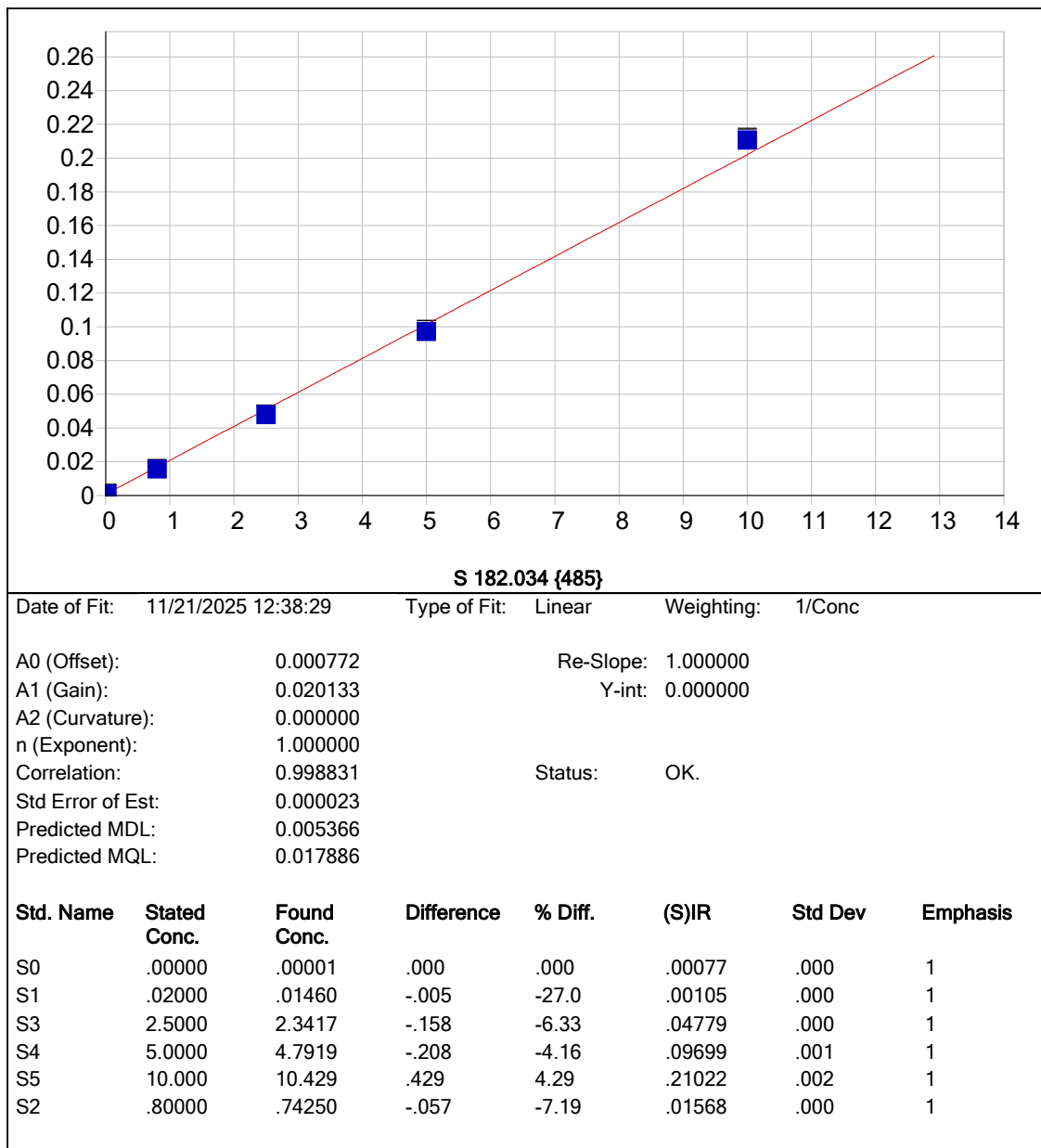


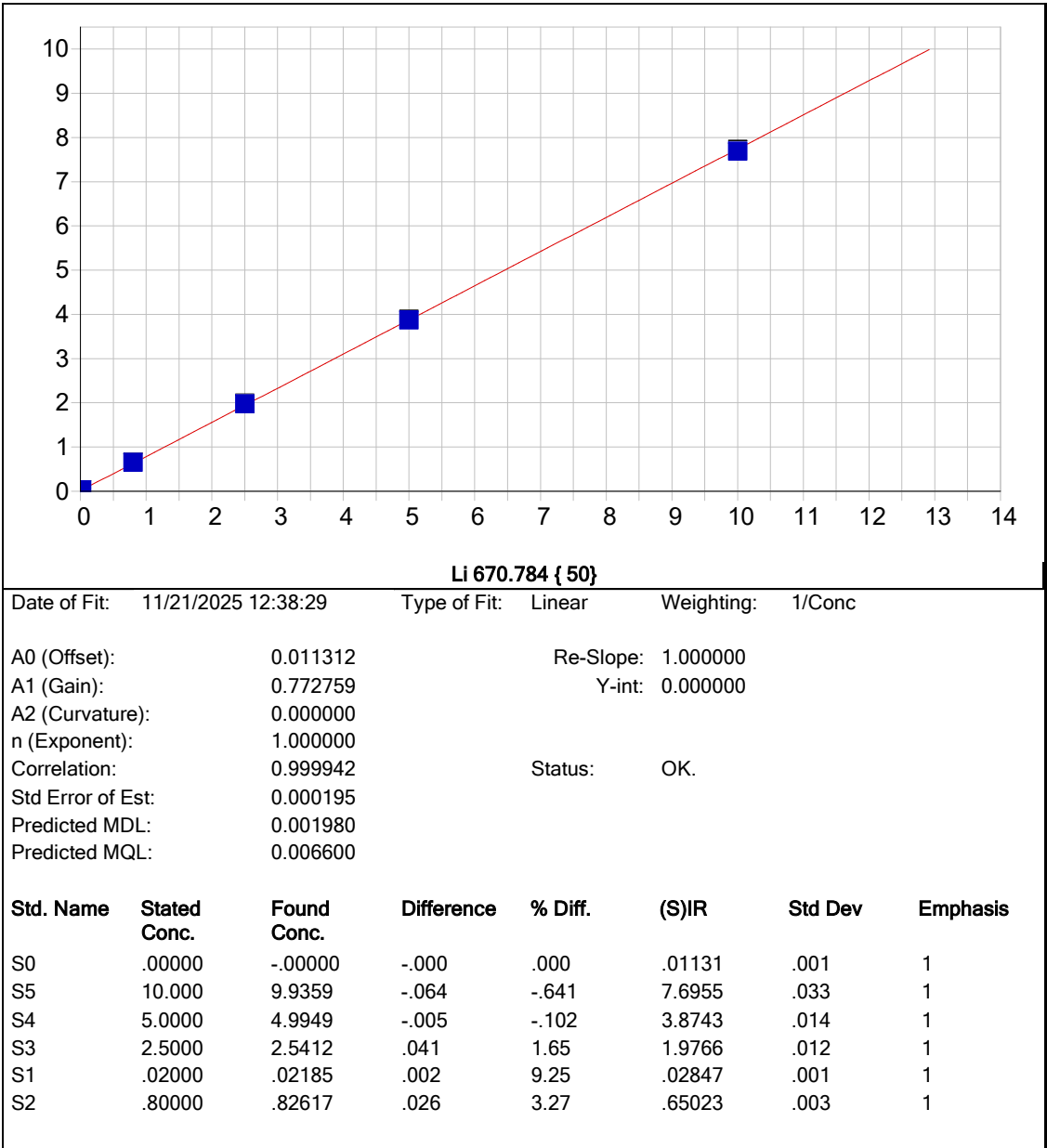
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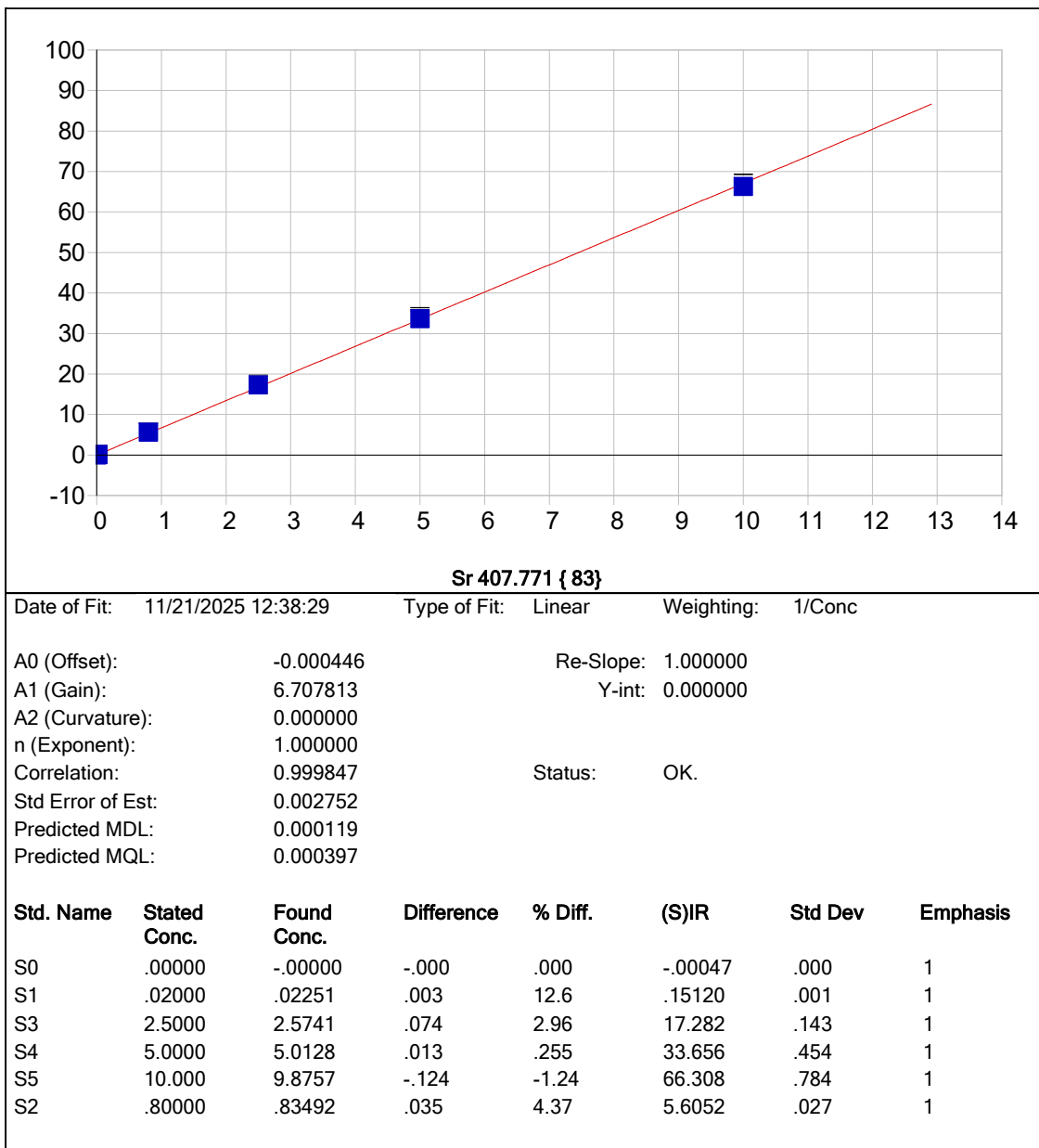


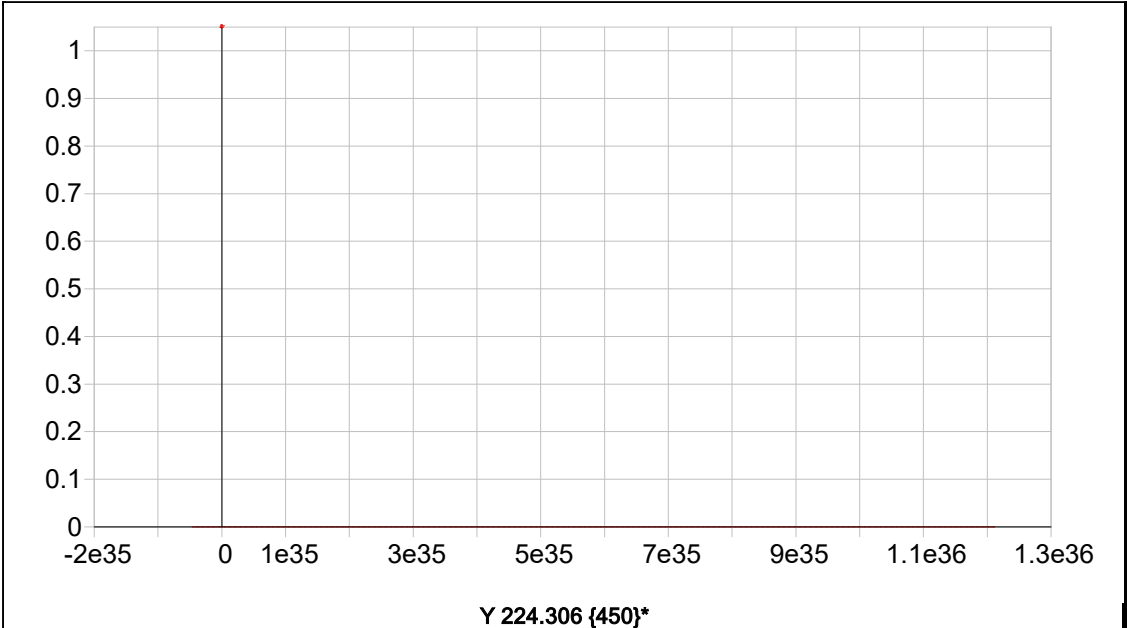
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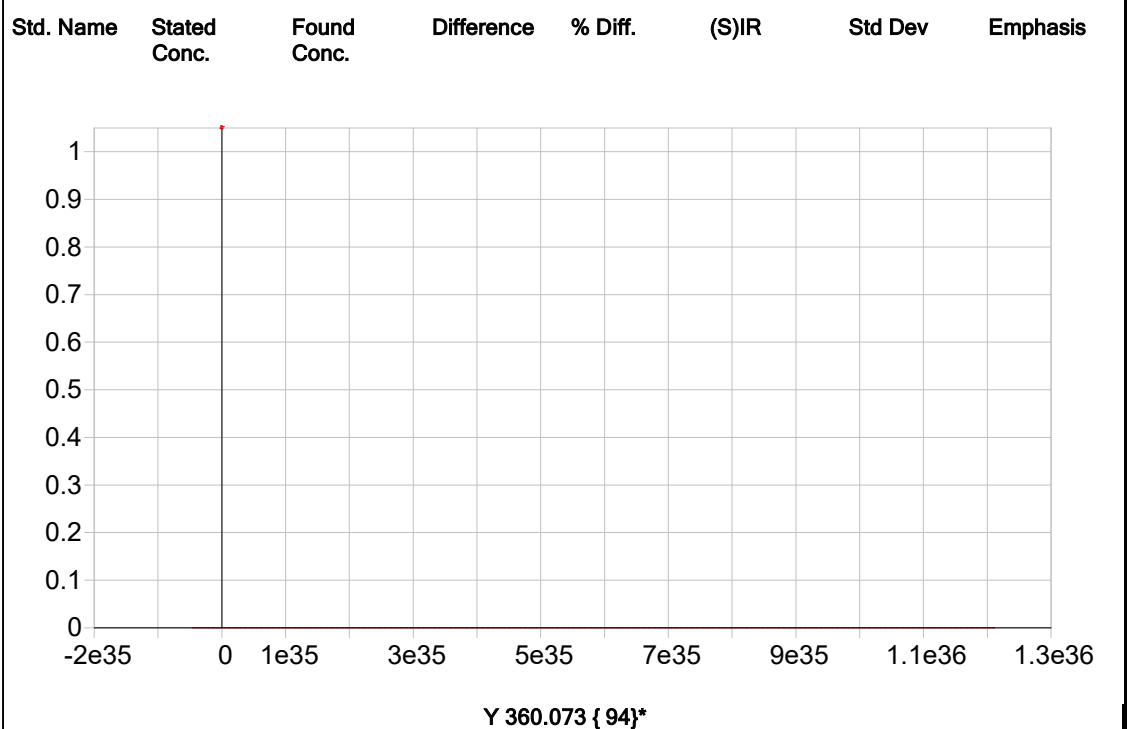




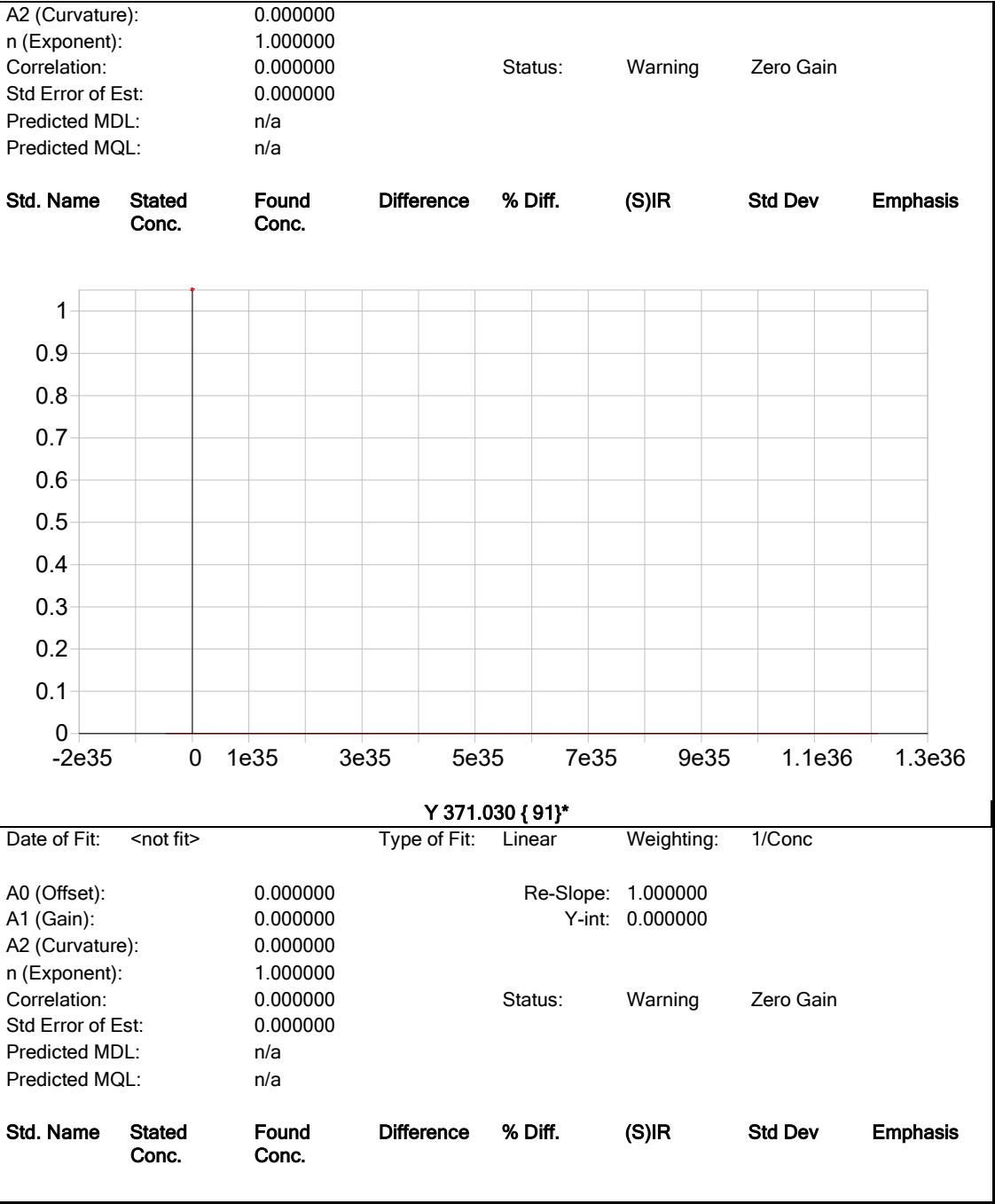


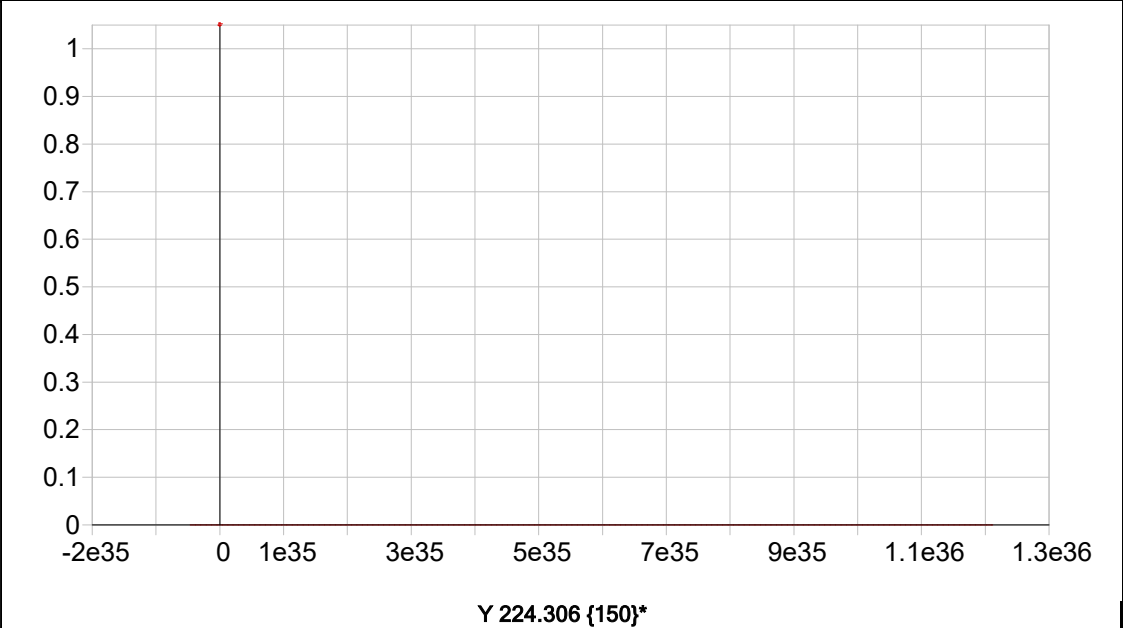


Date of Fit:	11/21/2025 12:12:12	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

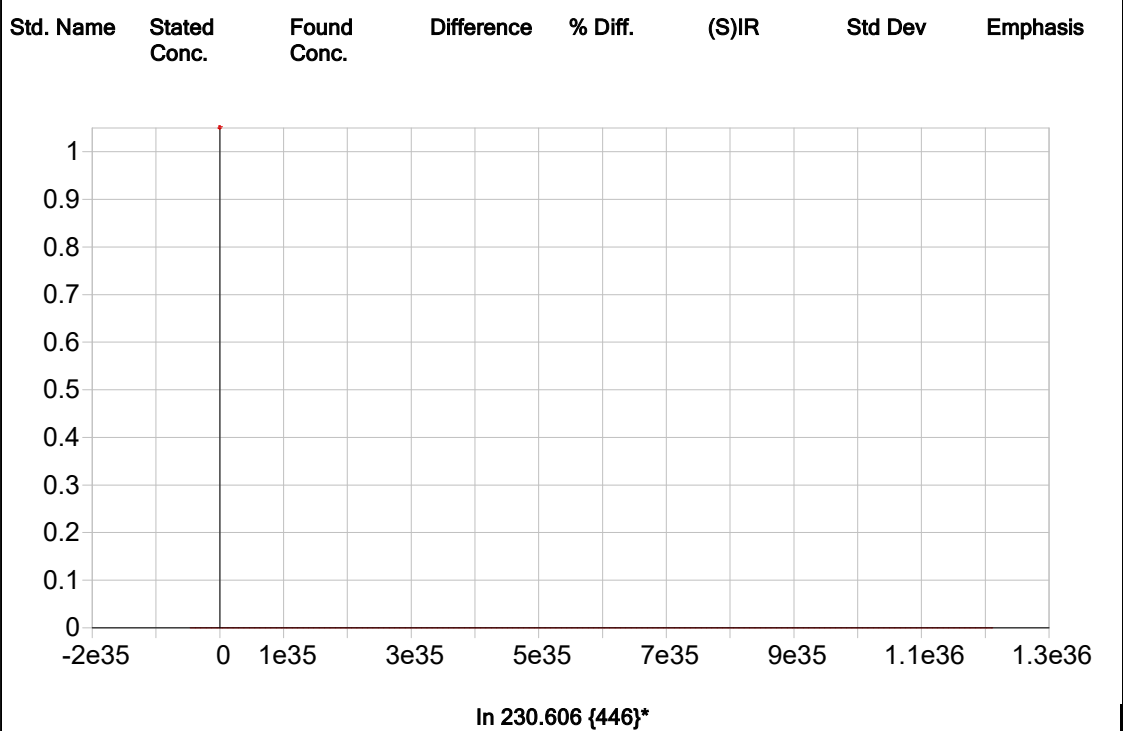


Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		





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			

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					
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis

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Sample Name: S0 Acquired: 11/21/2025 12:13:15 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	-.00007	.00049	.00011	.00076	.00108	-.00058	.02294	-.00201
Stddev	.00010	.00014	.00006	.00012	.00015	.00055	.00160	.00048
%RSD	138.41	28.761	53.707	16.073	13.930	94.736	6.9908	23.996

#1	-.00012	.00056	.00017	.00065	.00125	-.00116	.02283	-.00158
#2	-.00014	.00033	.00009	.00074	.00100	-.00006	.02140	-.00253
#3	.00004	.00059	.00006	.00089	.00099	-.00053	.02460	-.00192

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00063	.00132	.00013	-.00007	.00062	.00008	.00000	-.00013
Stddev	.00015	.00036	.00007	.00010	.00021	.00002	.00002	.00018
%RSD	24.067	27.357	54.020	128.26	33.414	20.768	574.41	142.59

#1	-.00060	.00131	.00005	-.00016	.00040	.00010	-.00001	-.00034
#2	-.00049	.00096	.00015	-.00010	.00066	.00006	.00003	-.00003
#3	-.00079	.00168	.00018	.00003	.00080	.00007	-.00001	-.00002

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00108	-.00118	.00482	-.00026	.00518	-.00046	.00314	.00090
Stddev	.00012	.00005	.00017	.00008	.00009	.00011	.00064	.00018
%RSD	11.173	4.4409	3.5251	31.932	1.8098	24.318	20.243	19.923

#1	-.00102	-.00115	.00467	-.00019	.00526	-.00058	.00254	.00088
#2	-.00122	-.00124	.00500	-.00023	.00508	-.00039	.00381	.00109
#3	-.00100	-.00115	.00480	-.00035	.00519	-.00039	.00307	.00073

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00025	.00107	.00029	-.00058	.00077	.01131	-.00047
Stddev	.00007	.00009	.00002	.00008	.00009	.00106	.00026
%RSD	29.538	8.5299	5.5388	14.465	12.116	9.3739	55.092

#1	.00017	.00110	.00027	-.00064	.00076	.01218	-.00034
#2	.00032	.00096	.00029	-.00061	.00087	.01162	-.00030
#3	.00025	.00114	.00030	-.00048	.00068	.01013	-.00077

Sample Name: S0 Acquired: 11/21/2025 12:13:15 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	2610.4	49019.	8214.8	2507.2	4681.4
Stddev	10.5	145.	33.4	17.1	13.8
%RSD	.40203	.29497	.40696	.68332	.29399
#1	2619.9	48885.	8184.2	2508.6	4691.9
#2	2612.3	49001.	8250.5	2489.5	4686.5
#3	2599.1	49172.	8209.9	2523.7	4665.8

Sample Name: S1 Acquired: 11/21/2025 12:17:39 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	.00066	.00178	.00202	.00175	.00765	.00834	.19704	.03630
Stddev	.00005	.00009	.00035	.00010	.00015	.00025	.00030	.00026
%RSD	7.3310	5.1885	17.180	5.5940	1.9918	2.9458	.15295	.71729
#1	.00060	.00175	.00182	.00185	.00766	.00841	.19685	.03660
#2	.00068	.00171	.00242	.00174	.00781	.00807	.19739	.03612
#3	.00069	.00189	.00181	.00165	.00750	.00854	.19689	.03618
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01257	.09821	.00173	.02450	.01850	.00059	.00748	.01857
Stddev	.00026	.00067	.00003	.00016	.00030	.00001	.00013	.00043
%RSD	2.0708	.68101	1.9336	.64728	1.6306	2.1102	1.6829	2.3393
#1	.01242	.09887	.00177	.02454	.01859	.00058	.00762	.01906
#2	.01241	.09754	.00171	.02433	.01875	.00060	.00743	.01826
#3	.01287	.09821	.00172	.02464	.01817	.00059	.00739	.01838
Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.01796	.00144	.02929	.00300	.07633	.00954	.04079	.11463
Stddev	.00028	.00006	.00011	.00014	.00041	.00012	.00010	.00045
%RSD	1.5499	4.1463	.38516	4.6336	.53597	1.2687	.25536	.38885
#1	.01772	.00148	.02918	.00296	.07674	.00941	.04089	.11447
#2	.01789	.00137	.02940	.00288	.07632	.00963	.04069	.11428
#3	.01826	.00146	.02931	.00315	.07592	.00960	.04080	.11513
Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.00406	.01159	.00173	-.00013	.00105	.02847	.15120	
Stddev	.00011	.00022	.00003	.00002	.00009	.00074	.00147	
%RSD	2.8255	1.9165	1.7139	17.346	8.9370	2.5855	.97029	
#1	.00414	.01166	.00176	-.00015	.00095	.02784	.15227	
#2	.00393	.01135	.00170	-.00011	.00105	.02829	.15180	
#3	.00412	.01178	.00174	-.00015	.00114	.02928	.14953	

Sample Name: S1 Acquired: 11/21/2025 12:17:39 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	2589.7	48788.	8257.6	2536.7	4597.9
Stddev	8.0	93.	36.4	4.7	20.5
%RSD	.30914	.19103	.44113	.18600	.44578
#1	2593.5	48685.	8218.3	2534.2	4602.9
#2	2595.0	48867.	8264.5	2542.1	4615.4
#3	2580.5	48812.	8290.1	2533.8	4575.3

Sample Name: S2 Acquired: 11/21/2025 12:22:01 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02881	.02957	.11258	.03973	.10212	.11789	2.6945	.24444	.84358
Stddev	.00012	.00078	.00022	.00051	.00054	.00085	.0190	.00023	.00130
%RSD	.41894	2.6405	.19796	1.2962	.53113	.71764	.70364	.09280	.15362
#1	.02891	.03041	.11236	.03998	.10232	.11742	2.7126	.24452	.84432
#2	.02868	.02888	.11257	.03914	.10151	.11738	2.6962	.24462	.84208
#3	.02885	.02941	.11281	.04008	.10254	.11887	2.6748	.24418	.84434
Elem	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.18963	.02650	.32315	.16512	.00451	.13876	.03543	.18171	.04839
Stddev	.00152	.00010	.00029	.00097	.00006	.00078	.00021	.00042	.00017
%RSD	.80237	.38751	.08941	.58792	1.4090	.55977	.59782	.23296	.35522
#1	.18788	.02643	.32322	.16488	.00458	.13934	.03557	.18191	.04853
#2	.19062	.02662	.32284	.16428	.00446	.13905	.03519	.18200	.04845
#3	.19039	.02646	.32340	.16618	.00448	.13787	.03554	.18122	.04820
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.05157	.03301	.70151	.01898	.30105	.45828	.07555	.20899	.00361
Stddev	.00041	.00035	.00264	.00019	.00106	.00219	.00046	.00061	.00004
%RSD	.79912	1.0480	.37585	.97466	.35327	.47681	.61063	.28956	.97973
#1	.05198	.03340	.70069	.01912	.30000	.45939	.07578	.20955	.00363
#2	.05157	.03277	.70446	.01877	.30213	.45576	.07502	.20908	.00363
#3	.05115	.03285	.69938	.01906	.30103	.45968	.07585	.20834	.00357
Elem	P_1774	S_1820	Li6707	Sr4077					
Units	Cts/S	Cts/S	Cts/S	Cts/S					
Avg	.17333	.01568	.65023	5.6052					
Stddev	.00084	.00016	.00276	.0268					
%RSD	.48425	1.0038	.42399	.47900					
#1	.17424	.01585	.65201	5.6300					
#2	.17258	.01555	.65163	5.6089					
#3	.17318	.01564	.64706	5.5767					

Sample Name: S2 Acquired: 11/21/2025 12:22:01 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	2558.4	47769.	8021.3	2476.4	4498.4
Stddev	3.2	130.	35.9	12.8	5.8
%RSD	.12505	.27121	.44710	.51635	.12971
#1	2559.6	47675.	8030.0	2466.4	4496.2
#2	2560.7	47716.	7981.9	2472.0	4493.9
#3	2554.7	47917.	8052.1	2490.8	4505.0

Sample Name: S3 Acquired: 11/21/2025 12:26:07 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.08862	.09092	.34537	.11954	.30705	.35902	8.3583	.73047	2.5925
Stddev	.00062	.00039	.00380	.00090	.00256	.00132	.0726	.00625	.0192
%RSD	.70221	.42454	1.0996	.75679	.83489	.36843	.86867	.85562	.74051
#1	.08816	.09067	.34158	.11879	.30450	.35754	8.2973	.72481	2.5732
#2	.08838	.09136	.34533	.11929	.30701	.36008	8.4386	.73718	2.5926
#3	.08933	.09072	.34918	.12055	.30962	.35944	8.3390	.72943	2.6116
Elem	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.57580	.07931	.99267	.49521	.01351	.42205	.10729	.55848	.14605
Stddev	.00385	.00011	.00683	.00429	.00006	.00335	.00076	.00400	.00035
%RSD	.66821	.13376	.68771	.86532	.44382	.79473	.70644	.71574	.24298
#1	.57206	.07940	.98579	.49076	.01346	.41926	.10651	.55467	.14643
#2	.57975	.07919	.99279	.49557	.01358	.42577	.10802	.55814	.14573
#3	.57558	.07933	.99944	.49930	.01350	.42112	.10733	.56264	.14598
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.15221	.10022	2.0926	.05930	.89386	1.3949	.23314	.63628	.01063
Stddev	.00081	.00079	.0057	.00018	.00802	.0097	.00206	.00440	.00004
%RSD	.53112	.79077	.27340	.30790	.89770	.69794	.88301	.69077	.36144
#1	.15226	.09947	2.0974	.05918	.88618	1.3851	.23111	.63248	.01059
#2	.15300	.10105	2.0863	.05951	.90219	1.3950	.23308	.64109	.01065
#3	.15138	.10014	2.0942	.05922	.89323	1.4046	.23523	.63527	.01066
Elem	P_1774	S_1820	Li6707	Sr4077					
Units	Cts/S	Cts/S	Cts/S	Cts/S					
Avg	.52129	.04779	1.9766	17.282					
Stddev	.00243	.00030	.0122	.143					
%RSD	.46660	.63492	.61909	.82551					
#1	.51952	.04748	1.9652	17.123					
#2	.52029	.04779	1.9895	17.326					
#3	.52406	.04809	1.9750	17.398					

Sample Name: S3 Acquired: 11/21/2025 12:26:07 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	2589.7	49125.	8290.2	2513.0	4476.5
Stddev	16.6	155.	44.0	10.8	27.7
%RSD	.63925	.31635	.53086	.43098	.61905
#1	2605.3	48951.	8335.0	2502.4	4503.1
#2	2591.3	49250.	8247.0	2524.1	4478.8
#3	2572.3	49173.	8288.4	2512.6	4447.8

Sample Name: S4 Acquired: 11/21/2025 12:30:14 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.17793	.17338	.69409	.23972	.61659	.71244	16.475	1.4296	5.2411
Stddev	.00124	.00548	.00297	.00229	.00097	.00464	.052	.0052	.0219
%RSD	.69688	3.1625	.42787	.95637	.15666	.65126	.31573	.36538	.41718

#1	.17735	.17350	.69147	.23866	.61591	.70750	16.422	1.4242	5.2277
#2	.17709	.16783	.69348	.23815	.61616	.71312	16.526	1.4298	5.2292
#3	.17936	.17880	.69732	.24235	.61770	.71671	16.477	1.4347	5.2663

Elem	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.1358	.15739	1.9948	.97874	.02694	.82354	.21265	1.1179	.29055
Stddev	.0040	.00049	.0076	.00186	.00019	.00429	.00132	.0041	.00014
%RSD	.34809	.31132	.37969	.19009	.71981	.52099	.62032	.36476	.04927

#1	1.1315	.15710	1.9889	.97763	.02682	.81869	.21118	1.1151	.29059
#2	1.1367	.15711	1.9922	.97771	.02717	.82684	.21373	1.1160	.29038
#3	1.1393	.15796	2.0034	.98089	.02684	.82508	.21303	1.1226	.29066

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.30384	.19981	4.0967	.12036	1.7474	2.7634	.46706	1.2544	.02161
Stddev	.00060	.00113	.0127	.00031	.0083	.0120	.00258	.0029	.00015
%RSD	.19680	.56475	.30991	.25583	.47798	.43461	.55201	.23190	.70464

#1	.30360	.19869	4.0955	.12001	1.7384	2.7588	.46633	1.2513	.02153
#2	.30452	.19980	4.0847	.12047	1.7490	2.7544	.46493	1.2571	.02152
#3	.30340	.20094	4.1100	.12060	1.7548	2.7770	.46993	1.2546	.02179

Elem	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.0354	.09699	3.8743	33.656
Stddev	.0054	.00119	.0140	.454
%RSD	.52029	1.2305	.36223	1.3480

#1	1.0363	.09664	3.8580	33.133
#2	1.0297	.09600	3.8822	33.892
#3	1.0403	.09831	3.8825	33.944

Sample Name: S4 Acquired: 11/21/2025 12:30:14 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	2547.1	48780.	8415.6	2474.2	4328.3
Stddev	5.0	102.	37.7	10.3	11.4
%RSD	.19544	.20862	.44830	.41659	.26407
#1	2550.7	48852.	8454.7	2476.8	4336.6
#2	2549.3	48824.	8412.7	2483.0	4333.1
#3	2541.4	48663.	8379.4	2462.9	4315.3

Sample Name: S5 Acquired: 11/21/2025 12:34:17 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.36577	.38813	1.4244	.49846	1.2648	1.4226	32.329	2.8003	10.827
Stddev	.00111	.00691	.0047	.00202	.0028	.0024	.235	.0227	.038
%RSD	.30219	1.7806	.32915	.40620	.22150	.17207	.72758	.80948	.34976

#1	.36454	.38353	1.4226	.49700	1.2638	1.4253	32.570	2.8251	10.809
#2	.36612	.38479	1.4208	.49761	1.2627	1.4218	32.317	2.7808	10.802
#3	.36666	.39608	1.4297	.50077	1.2680	1.4206	32.100	2.7949	10.871

Elem	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.2451	.31902	4.1177	1.9682	.05651	1.6168	.42587	2.2967	.59830
Stddev	.0079	.00019	.0126	.0028	.00057	.0044	.00140	.0069	.00042
%RSD	.35296	.05811	.30667	.14047	1.0151	.27315	.32815	.29987	.07092

#1	2.2543	.31883	4.1105	1.9677	.05620	1.6198	.42747	2.2929	.59821
#2	2.2405	.31902	4.1103	1.9658	.05717	1.6189	.42526	2.2926	.59876
#3	2.2406	.31920	4.1322	1.9712	.05615	1.6118	.42488	2.3047	.59792

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.63174	.40086	8.3006	.25458	3.4140	5.5716	.96191	2.4869	.04585
Stddev	.00315	.00208	.0239	.00178	.0223	.0126	.00403	.0060	.00036
%RSD	.49833	.51968	.28757	.69945	.65264	.22611	.41907	.24071	.79414

#1	.63085	.40322	8.2768	.25350	3.4390	5.5691	.95792	2.4934	.04544
#2	.63524	.40010	8.3245	.25663	3.3961	5.5605	.96183	2.4859	.04614
#3	.62913	.39927	8.3004	.25361	3.4069	5.5853	.96598	2.4815	.04596

Elem	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.0173	.21022	7.6955	66.308
Stddev	.0076	.00165	.0329	.784
%RSD	.37604	.78544	.42809	1.1824

#1	2.0087	.20859	7.7318	66.354
#2	2.0200	.21017	7.6872	65.502
#3	2.0231	.21189	7.6676	67.068

Sample Name: S5 Acquired: 11/21/2025 12:34:17 Type: Cal
Method: 6010-200.7 NEW(v377) Mode: IR Corr. Factor: 1.000000
User: Jaswal 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	2494.0	47416.	8661.5	2382.3	4126.0
Stddev	6.3	95.	57.2	7.5	12.5
%RSD	.25260	.20046	.66031	.31438	.30260
#1	2488.9	47427.	8596.8	2390.7	4123.3
#2	2501.1	47315.	8705.5	2376.3	4139.7
#3	2492.1	47505.	8682.2	2380.0	4115.2

Sample Name: ICV01 Acquired: 11/21/2025 13:00:37 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.900133	3.720186	3.804172	3.967086	3.950346	7.720336
Stddev	.022051	.061601	.018688	.020701	.012062	.027011
%RSD	.5654017	1.655870	.4912598	.5218144	.3053301	.3498625
#1	3.893871	3.774305	3.786566	3.965265	3.949684	7.690730
#2	3.881891	3.653150	3.802168	3.947356	3.938629	7.743636
#3	3.924639	3.733101	3.823782	3.988637	3.962725	7.726640
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.688031	1.1962194	1.925006	19.28458	1.7911226	1.919346
Stddev	.052033	.0016262	.007493	.05615	.0018989	.006825
%RSD	.6768059	.8287489	.3892418	.2911548	.2400298	.3555771
#1	7.672275	.1943649	1.919236	19.28892	.7902201	1.915436
#2	7.746121	.1974015	1.922308	19.33842	.7933045	1.915375
#3	7.645696	.1968919	1.933474	19.22638	.7898432	1.927226
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9900629	3.841876	1.917487	19.19473	1.930827	.9655497
Stddev	.0022609	.019424	.012310	.13372	.004985	.0009145
%RSD	.2283638	.5055803	.6419771	.6966259	.2581725	.0947149
#1	.9876927	3.831974	1.911341	19.09356	1.926871	.9665818
#2	.9903003	3.864256	1.931660	19.34632	1.929183	.9652272
#3	.9921958	3.829399	1.909460	19.14430	1.936426	.9648402
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.61959	1.916712	1.978186	18.97300	3.882433	3.911546
Stddev	.18906	.002013	.005226	.17066	.035774	.006976
%RSD	1.015387	.1050389	.2641906	.8994875	.9214224	.1783505
#1	18.69899	1.917331	1.981426	19.11894	3.841868	3.909099
#2	18.75600	1.918343	1.980976	19.01471	3.909469	3.906122
#3	18.40378	1.914462	1.972157	18.78535	3.895962	3.919416

Sample Name: ICV01 Acquired: 11/21/2025 13:00:37 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.848847	3.862179	F 3.455427	F .0000544	F .0184876	F -.004112
Stddev	.014876	.014417	.018500	.0001437	.0036138	.000808
%RSD	.3865110	.3732780	.5353816	264.3903	19.54697	19.66111

#1	3.840514	3.850635	3.466636	.0002199	.0196247	-.004515
#2	3.840005	3.878338	3.465570	-.000019	.0144421	-.004640
#3	3.866022	3.857563	3.434074	-.000038	.0213961	-.003181

Elem	Sr4077
Units	ppm
Avg	F -.003055
Stddev	.000031
%RSD	1.011919

#1	-.003044
#2	-.003031
#3	-.003090

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	ln2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2527.959	47407.19	8463.075	2404.514	4321.718
Stddev	1.913	65.06	41.159	12.659	6.824
%RSD	.0756735	.1372399	.4863311	.5264565	.1579021

#1	2529.945	47333.49	8510.599	2394.324	4326.318
#2	2527.803	47431.47	8439.708	2400.534	4324.958
#3	2526.129	47456.63	8438.918	2418.685	4313.877

Sample Name: LLICV01 Acquired: 11/21/2025 13:09:17 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0212091	.0422695	.0117680	.0215000	.0528370	.1159612
Stddev	.0040751	.0015257	.0006546	.0035546	.0023445	.0030111
%RSD	19.21368	3.609447	5.562490	16.53286	4.437227	2.596621

#1	.0221174	.0433989	.0117699	.0249793	.0529820	.1135618
#2	.0167565	.0405338	.0124216	.0216459	.0551056	.1193401
#3	.0247534	.0428757	.0111124	.0178747	.0504234	.1149818

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1005720	.0066397	.0062661	2.123698	.0103880	.0309927
Stddev	.0002877	.0000642	.0000624	.029491	.0001219	.0002874
%RSD	.2860536	.9671772	.9951374	1.388667	1.173169	.9272942

#1	.1002937	.0065697	.0062534	2.089738	.0103390	.0309213
#2	.1008682	.0066958	.0062110	2.142860	.0102983	.0307478
#3	.1005542	.0066535	.0063338	2.138496	.0105267	.0313091

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0223674	.1010101	.0209724	2.187083	.0423249	.0113215
Stddev	.0005960	.0064399	.0003671	.015296	.0001828	.0007657
%RSD	2.664557	6.375467	1.750328	.6993708	.4319912	6.763248

#1	.0216805	.0942823	.0206928	2.195629	.0425353	.0109436
#2	.0226741	.1071171	.0213881	2.196196	.0422051	.0122027
#3	.0227476	.1016309	.0208364	2.169424	.0422342	.0108182

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.908919	.0402090	.0441513	1.988953	.1085963	.2080402
Stddev	.015226	.0033852	.0006675	.043224	.0014479	.0016857
%RSD	.7976073	8.419068	1.511777	2.173215	1.333274	.8102578

#1	1.912587	.0416102	.0435413	1.967874	.1084697	.2070554
#2	1.921975	.0363481	.0448643	2.038672	.1101033	.2070787
#3	1.892194	.0426686	.0440484	1.960312	.1072158	.2099866

Sample Name: LLICV01 Acquired: 11/21/2025 13:09:17 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0389675	.0424152	.3285625	F .0022908	.0160206	.0196993
Stddev	.0008919	.0010790	.0210756	.0000526	.0044202	.0010721
%RSD	2.288755	2.543990	6.414494	2.294399	27.59038	5.442468
#1	.0393941	.0434328	.3073303	.0022310	.0127818	.0186042
#2	.0379425	.0425292	.3494780	.0023296	.0142238	.0207469
#3	.0395661	.0412837	.3288791	.0023117	.0210562	.0197470
Elem	Sr4077					
Units	ppm					
Avg	.0219740					
Stddev	.0001548					
%RSD	.7043999					
#1	.0218504					
#2	.0219239					
#3	.0221476					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2591.435	48468.64	8617.812	2447.571	4621.954	
Stddev	8.597	175.12	36.985	4.798	12.275	
%RSD	.3317537	.3613052	.4291675	.1960232	.2655871	
#1	2599.384	48286.64	8629.101	2442.145	4628.927	
#2	2592.611	48635.95	8576.498	2451.253	4629.154	
#3	2582.310	48483.34	8647.836	2449.315	4607.780	

Sample Name: ICB01 Acquired: 11/21/2025 13:13:37 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	.0002676	-.001392	-.001706	.0011202	.0022446	.0079134	-.001422
Stddev	.0047018	.004705	.000394	.0009041	.0013835	.0041081	.001287
%RSD	1756.839	338.1095	23.10936	80.70748	61.63435	51.91342	90.53074
#1	.0050497	-.004170	-.001665	.0003124	.0019380	.0126562	-.001935
#2	.0001026	-.004046	-.001334	.0009514	.0010402	.0056200	-.002374
#3	-.004349	.004041	-.002119	.0020969	.0037557	.0054640	.000043
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000044	.0000508	-.009216	-.000625	.0001476	.0002526	-.009464
Stddev	.0000130	.0001101	.001214	.000473	.0002100	.0002130	.000512
%RSD	297.2544	216.6880	13.17241	75.60253	142.2660	84.32406	5.410014
#1	.0000042	-.000075	-.008589	-.001170	.0003634	.0000284	-.008910
#2	.0000174	.000131	-.008443	-.000326	-.000056	.0002771	-.009919
#3	-.000009	.000096	-.010615	-.000380	.000136	.0004523	-.009563
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000148	.0114625	-.000239	-.000071	-.133852	.0016109	.0000071
Stddev	.000170	.0089918	.000190	.000697	.012334	.0021329	.0002525
%RSD	114.6825	78.44600	79.38937	977.5849	9.214677	132.4036	3572.745
#1	-.000269	.0015751	-.000336	-.000868	-.120565	.0027585	.0000145
#2	-.000222	.0191509	-.000020	.000226	-.144935	-.000850	-.000249
#3	.000046	.0136613	-.000361	.000428	-.136058	.002924	.000256
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.119261	.0041646	-.000062	-.001054	.0034101	-.027452	-.000438
Stddev	.045478	.0003006	.000709	.001251	.0005702	.005660	.000066
%RSD	38.13312	7.217384	1147.950	118.6720	16.72164	20.61794	14.98010
#1	-.133157	.0043188	-.000879	-.002484	.0035571	-.029000	-.000451
#2	-.068457	.0038182	.000390	-.000518	.0027808	-.021179	-.000367
#3	-.156171	.0043567	.000303	-.000161	.0038925	-.032178	-.000496

Sample Name: ICB01 Acquired: 11/21/2025 13:13:37 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	F -.012756	-.003158	.0000106
Stddev	.004905	.001267	.0001049
%RSD	38.45276	40.11139	985.9172

#1	-.018411	-.004601	.0000477
#2	-.009665	-.002232	-.000108
#3	-.010190	-.002640	.000092

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2601.856	49537.49	8484.498	2497.861	4705.845
Stddev	.580	161.43	30.148	12.875	3.055
%RSD	.0222910	.3258823	.3553317	.5154337	.0649137

#1	2602.004	49648.39	8457.012	2500.188	4708.069
#2	2602.347	49352.28	8516.742	2483.981	4707.105
#3	2601.216	49611.79	8479.740	2509.413	4702.362

Sample Name: CRI01 Acquired: 11/21/2025 13:17:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0210528	.0333840	.0116006	.0191709	.0518521	.1170467
Stddev	.0010730	.0023128	.0015822	.0015239	.0018819	.0052017
%RSD	5.096576	6.927871	13.63883	7.948803	3.629359	4.444145
#1	.0200169	.0307557	.0100255	.0208855	.0508165	.1158166
#2	.0209823	.0351082	.0115865	.0186562	.0507155	.1125704
#3	.0221594	.0342882	.0131898	.0179711	.0540244	.1227533
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1038617	.0064444	.0059753	2.083540	.0098316	.0295607
Stddev	.0007858	.0000584	.0001141	.011626	.0004674	.0002539
%RSD	.7565931	.9067247	1.909166	.5580162	4.754114	.8587289
#1	.1047444	.0063791	.0058913	2.084472	.0103360	.0292780
#2	.1032383	.0064918	.0059294	2.094672	.0097457	.0296352
#3	.1036024	.0064622	.0061052	2.071475	.0094131	.0297690
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0217666	.0970744	.0216982	2.180479	.0401300	.0105818
Stddev	.0002110	.0090638	.0008717	.042397	.0006287	.0001948
%RSD	.9692024	9.336915	4.017344	1.944405	1.566728	1.840955
#1	.0215813	.1031469	.0224901	2.226462	.0401116	.0107641
#2	.0217224	.1014203	.0218403	2.172039	.0407677	.0103765
#3	.0219962	.0866561	.0207642	2.142937	.0395106	.0106049
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.896727	.0422088	.0423422	1.896222	.1060608	.1978906
Stddev	.021010	.0029585	.0004225	.027382	.0011290	.0008500
%RSD	1.107696	7.009308	.9977002	1.444005	1.064509	.4295462
#1	1.885788	.0424554	.0423614	1.911655	.1047582	.1969650
#2	1.883443	.0391347	.0419104	1.864608	.1066666	.1980708
#3	1.920949	.0450364	.0427547	1.912403	.1067576	.1986361

Sample Name: CRI01 Acquired: 11/21/2025 13:17:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0377988	.0407209	F .3145796	F .0020153	F .0098183	.0193424
Stddev	.0007881	.0012137	.0082497	.0001223	.0042695	.0009494
%RSD	2.084990	2.980641	2.622460	6.067645	43.48486	4.908411

#1	.0385823	.0420498	.3207538	.0019043	.0146557	.0203595
#2	.0370062	.0404419	.3052102	.0019952	.0082235	.0184795
#3	.0378079	.0396709	.3177747	.0021464	.0065758	.0191882

Elem	Sr4077
Units	ppm
Avg	.0218694
Stddev	.0001055
%RSD	.4824585

#1	.0217531
#2	.0218962
#3	.0219590

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2580.407	48552.04	8309.043	2497.183	4597.912
Stddev	12.427	98.11	21.098	6.021	16.765
%RSD	.4816057	.2020755	.2539191	.2411119	.3646234

#1	2582.769	48474.18	8288.091	2490.614	4602.845
#2	2591.483	48662.24	8308.755	2498.496	4611.657
#3	2566.967	48519.70	8330.284	2502.439	4579.234

Sample Name: ICSA01 Acquired: 11/21/2025 13:22:19 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0083715	.0125121	.0083187	.0130642	.0000436	251.6127	.0019162
Stddev	.0076226	.0018594	.0040855	.0047063	.0031572	.6101	.0011028
%RSD	91.05383	14.86056	49.11158	36.02412	7249.392	.2424810	57.54837
#1	.0171417	.0108482	.0101112	.0163432	.0013526	250.9113	.0031893
#2	.0033410	.0121688	.0112016	.0076717	-.003558	252.0204	.0012558
#3	.0046319	.0145191	.0036434	.0151776	.002336	251.9064	.0013036
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008775	.0039976	239.1585	.0502984	.0021198	.0015977	95.38774
Stddev	.0000590	.0003328	.5147	.0000395	.0001979	.0004447	.07635
%RSD	6.726892	8.326188	.2152244	.0784526	9.336192	27.83535	.0800402
#1	.0009145	.0041494	238.5670	.0502840	.0018916	.0012229	95.36303
#2	.0008094	.0036159	239.5052	.0502681	.0022446	.0020892	95.32681
#3	.0009086	.0042274	239.4031	.0503430	.0022232	.0014812	95.47338
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0091391	254.2259	.0055831	-.005790	-.004497	.0028943	.0063291
Stddev	.0013656	.8428	.0001954	.000646	.002594	.0035230	.0003639
%RSD	14.94264	.3315029	3.499081	11.15795	57.69660	121.7255	5.750138
#1	.0104897	253.3188	.0053632	-.006536	-.001551	.0069508	.0062529
#2	.0077589	254.9846	.0056495	-.005419	-.006440	.0011311	.0060092
#3	.0091688	254.3743	.0057365	-.005414	-.005499	.0006009	.0067250
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009927	.0219988	.0005827	-.005185	-.003570	-.017631	.0007086
Stddev	.022410	.0014444	.0003799	.000801	.001392	.004799	.0006489
%RSD	225.7422	6.565684	65.19085	15.45372	39.00870	27.21849	91.56908
#1	-.010170	.0234352	.0005948	-.004425	-.002171	-.017470	.0009672
#2	.012603	.0205466	.0009564	-.005107	-.003581	-.022509	-.000030
#3	-.032215	.0220145	.0001969	-.006022	-.004956	-.012915	.001188

Sample Name: ICSA01 Acquired: 11/21/2025 13:22:19 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003763	F -.033331	.0111128
Stddev	.004993	.000471	.0006848
%RSD	132.6707	1.412408	6.162483

#1	-.000262	-.033637	.0103972
#2	-.009480	-.032789	.0117620
#3	-.001547	-.033568	.0111793

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2392.512	45405.18	8178.169	2299.706	3858.451
Stddev	4.882	85.86	25.251	12.086	10.342
%RSD	.2040493	.1890988	.3087635	.5255544	.2680423

#1	2391.336	45334.92	8206.313	2285.939	3862.639
#2	2397.874	45500.89	8157.496	2304.607	3866.043
#3	2388.325	45379.74	8170.698	2308.572	3846.672

Sample Name: ICSAB01 Acquired: 11/21/2025 13:26:36 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1085709	.1065698	.0527552	.0494354	.5871863	242.8742
Stddev	.0068356	.0034928	.0031758	.0063755	.0013642	.8366
%RSD	6.296001	3.277442	6.019810	12.89658	.2323221	.3444775
#1	.1016994	.1054942	.0491024	.0433797	.5879363	243.3597
#2	.1086431	.1037413	.0548619	.0488378	.5856117	241.9081
#3	.1153700	.1104738	.0543012	.0560886	.5880109	243.3546
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4770147	.4915276	.9751812	229.9396	.5395959	.4877940
Stddev	.0035712	.0013232	.0040471	.9429	.0003483	.0028876
%RSD	.7486632	.2692061	.4150055	.4100833	.0645533	.5919731
#1	.4784546	.4930504	.9730157	230.1800	.5391943	.4861687
#2	.4729483	.4906580	.9726777	228.8997	.5398162	.4860854
#3	.4796413	.4908744	.9798503	230.7391	.5397771	.4911280
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4697607	92.71754	.4786885	246.2515	.9723520	.1830216
Stddev	.0019774	.69431	.0012205	.2559	.0048829	.0006068
%RSD	.4209415	.7488466	.2549692	.1039187	.5021754	.3315664
#1	.4683598	92.54804	.4773922	246.3527	.9683295	.1825123
#2	.4688997	92.12367	.4788579	245.9605	.9709416	.1828594
#3	.4720227	93.48091	.4798155	246.4413	.9777849	.1836930
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.050879	.4706377	1.015158	-.042386	1.119126	1.114611
Stddev	.008398	.0022856	.000425	.018643	.001942	.003182
%RSD	16.50609	.4856388	.0418349	43.98426	.1735141	.2855198
#1	-.041219	.4709391	1.015630	-.021427	1.120494	1.112794
#2	-.056443	.4727577	1.014807	-.048608	1.116903	1.112754
#3	-.054974	.4682164	1.015037	-.057122	1.119980	1.118286

Sample Name: ICSAB01 Acquired: 11/21/2025 13:26:36 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.122113	1.094082	1.023315	F .0001269	F -.000080	F -.031557
Stddev	.001258	.005309	.017543	.0001502	.004023	.002110
%RSD	.1121494	.4852606	1.714325	118.3768	5002.306	6.685687
#1	1.123328	1.091670	1.003891	.0001734	.004491	-.032345
#2	1.122196	1.090407	1.028049	.0002484	-.003080	-.029167
#3	1.120816	1.100169	1.038005	-.000041	-.001651	-.033160
Elem	Sr4077					
Units	ppm					
Avg	F .0084399					
Stddev	.0002523					
%RSD	2.989407					
#1	.0086093					
#2	.0081499					
#3	.0085605					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2416.399	45500.26	8387.720	2297.602	3900.323	
Stddev	5.864	106.37	12.365	4.481	11.631	
%RSD	.2426632	.2337841	.1474127	.1950289	.2981978	
#1	2421.457	45567.33	8376.252	2294.201	3904.779	
#2	2417.768	45555.84	8400.819	2302.679	3909.067	
#3	2409.972	45377.61	8386.088	2295.926	3887.124	

Sample Name: ICSA01DLX20 Acquired: 11/21/2025 13:30:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	-.000457	-.002727	-.000305	-.002586	.0004621	11.21530	-.001189
Stddev	.002732	.003407	.000836	.001375	.0033732	.02727	.000598
%RSD	597.5437	124.9507	273.8825	53.17915	729.9519	.2431680	50.28254
#1	.000652	-.005524	.000658	-.001005	.0000601	11.21365	-.001757
#2	.001546	.001068	-.000843	-.003505	-.002692	11.24335	-.000565
#3	-.003569	-.003725	-.000732	-.003249	.004018	11.18889	-.001245
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000809	.0001553	11.05697	.0020109	.0001807	.0005194	4.299485
Stddev	.0000694	.0001092	.01934	.0003317	.0002100	.0001200	.004688
%RSD	85.77403	70.32396	.1749370	16.49477	116.2260	23.09392	.1090415
#1	.0001088	.0000589	11.07710	.0021104	.0001176	.0005877	4.300406
#2	.0001319	.0002740	11.05528	.0022815	.0004150	.0005895	4.303644
#3	.0000019	.0001332	11.03853	.0016408	.0000095	.0003809	4.294405
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016481	11.37522	.0004187	-.000660	-.152909	.0035509	.0007245
Stddev	.0006783	.02161	.0002736	.000091	.012970	.0031051	.0000120
%RSD	41.15892	.1900131	65.33065	13.82860	8.482213	87.44500	1.656564
#1	.0012890	11.37150	.0003071	-.000594	-.162422	.0034389	.0007311
#2	.0012248	11.39846	.0007305	-.000764	-.158169	.0005033	.0007317
#3	.0024305	11.35571	.0002186	-.000622	-.138135	.0067105	.0007106
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.123898	.0015361	-.000379	-.001857	.0006868	-.032700	.0000065
Stddev	.023658	.0005693	.000724	.000439	.0026253	.009142	.0000827
%RSD	19.09497	37.06432	190.8585	23.66420	382.2431	27.95654	1279.500
#1	-.145492	.0008953	.000236	-.001864	.0016730	-.030471	.0000999
#2	-.098610	.0017293	-.001177	-.001414	-.002289	-.024879	-.000057
#3	-.127591	.0019836	-.000197	-.002292	.002676	-.042750	-.000023

Sample Name: ICSA01DLX20 Acquired: 11/21/2025 13:30:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.012469	-.006069	.0003897
Stddev	.007845	.001929	.0000637
%RSD	62.91248	31.77481	16.33846

#1	-.019011	-.004006	.0004455
#2	-.014625	-.006376	.0003204
#3	-.003772	-.007826	.0004032

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2592.855	48956.37	8514.999	2458.067	4558.524
Stddev	5.188	134.31	6.155	3.206	16.639
%RSD	.2000925	.2743374	.0722810	.1304216	.3650096

#1	2593.768	48866.14	8508.005	2454.648	4569.013
#2	2597.526	49110.72	8517.402	2461.006	4567.221
#3	2587.271	48892.25	8519.590	2458.546	4539.339

Sample Name: ICSAB01DLX20 Acquired: 11/21/2025 13:34:57 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	.0060378	.0038682	.0008466	.0016619	.0298178	12.27394	.0221182
Stddev	.0040303	.0020342	.0005561	.0022858	.0009827	.00281	.0001854
%RSD	66.75058	52.58644	65.69126	137.5413	3.295772	.0228655	.8382629
#1	.0028014	.0016627	.0012337	.0025790	.0295186	12.27170	.0219905
#2	.0105521	.0056706	.0002093	.0033466	.0290195	12.27302	.0223309
#3	.0047599	.0042714	.0010967	-.000940	.0309154	12.27709	.0220333
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0251834	.0475832	12.05288	.0277917	.0238772	.0249141	4.664008
Stddev	.0000710	.0002890	.01907	.0005310	.0000822	.0002488	.028205
%RSD	.2819125	.6073293	.1582388	1.910759	.3441801	.9985939	.6047387
#1	.0252375	.0474571	12.07216	.0277257	.0237830	.0246407	4.632560
#2	.0252097	.0473787	12.05247	.0283526	.0239143	.0249744	4.687067
#3	.0251030	.0479138	12.03402	.0272968	.0239344	.0251272	4.672397
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0252023	12.47098	.0483033	.0089718	-.145209	.0263472	.0502195
Stddev	.0005465	.02673	.0003027	.0002991	.007611	.0015742	.0006326
%RSD	2.168311	.2143666	.6266810	3.333322	5.241152	5.974839	1.259661
#1	.0256444	12.44648	.0480107	.0091765	-.138058	.0246531	.0499691
#2	.0253712	12.49950	.0482839	.0091104	-.144361	.0277649	.0509390
#3	.0245914	12.46697	.0486152	.0086286	-.153208	.0266237	.0497505
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.123025	.0564022	.0560238	.0535954	.0575275	.0125497	-.000422
Stddev	.018004	.0011377	.0004734	.0013545	.0018630	.0062507	.000357
%RSD	14.63447	2.017176	.8449230	2.527273	3.238393	49.80737	84.47558
#1	-.139926	.0551049	.0559155	.0521127	.0559338	.0183705	-.000130
#2	-.125059	.0572300	.0556139	.0547679	.0595757	.0133351	-.000317
#3	-.104091	.0568719	.0565419	.0539056	.0570732	.0059434	-.000820

Sample Name: ICSAB01DLX20 Acquired: 11/21/2025 13:34:57 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.010487	-.005300	.0005562
Stddev	.004099	.002549	.0000077
%RSD	39.08308	48.08827	1.388605
#1	-.007603	-.007134	.0005476
#2	-.008679	-.006377	.0005585
#3	-.015179	-.002390	.0005625

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2598.703	49078.20	8553.556	2464.885	4571.714
Stddev	2.668	134.48	11.549	5.317	6.802
%RSD	.1026723	.2740183	.1350251	.2157015	.1487806
#1	2600.869	49118.33	8548.007	2461.620	4577.836
#2	2599.517	48928.22	8545.829	2462.014	4572.914
#3	2595.722	49188.05	8566.833	2471.020	4564.392

Sample Name: CCV01 Acquired: 11/21/2025 13:44:23 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.949786	4.801014	4.948774	4.887386	5.005789	10.11850
Stddev	.040440	.176515	.031422	.046222	.027186	.03336
%RSD	.8169962	3.676610	.6349378	.9457357	.5430915	.3297228

#1	4.959628	4.959586	4.924532	4.900804	5.001841	10.09564
#2	4.905334	4.610829	4.937517	4.835940	4.980793	10.10308
#3	4.984396	4.832628	4.984274	4.925414	5.034734	10.15678

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.23031	2.548827	2.463543	25.30946	1.005729	2.475179
Stddev	.06519	.0013631	.015564	.04756	.000772	.012809
%RSD	.6371936	.5348024	.6317837	.1879196	.0767961	.5175121

#1	10.18154	2.537046	2.454726	25.29913	1.005005	2.467343
#2	10.20503	2.563757	2.454388	25.26792	1.005640	2.468233
#3	10.30435	2.545676	2.481514	25.36135	1.006542	2.489961

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.264451	5.022605	2.540046	25.01849	2.482899	1.264583
Stddev	.005390	.047572	.016131	.07549	.013234	.002083
%RSD	.4262700	.9471532	.6350547	.3017242	.5330064	.1647157

#1	1.263507	5.008962	2.527230	25.09473	2.473942	1.263090
#2	1.259596	4.983345	2.534748	24.94378	2.476656	1.263697
#3	1.270251	5.075508	2.558159	25.01696	2.498100	1.266963

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.33992	2.512559	2.524445	25.02391	5.080671	4.983296
Stddev	.24149	.016680	.008408	.20788	.027175	.028811
%RSD	.9530167	.6638470	.3330668	.8307369	.5348618	.5781576

#1	25.24645	2.502194	2.516255	25.04554	5.056421	4.985280
#2	25.15914	2.503683	2.533056	24.80606	5.110041	4.953543
#3	25.61418	2.531799	2.524024	25.22013	5.075549	5.011063

Sample Name: CCV01 Acquired: 11/21/2025 13:44:23 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.928178	5.061806	4.979471	F 5.273475	4.790566	5.092496
Stddev	.032439	.018052	.032488	.044990	.032298	.028690
%RSD	.6582347	.3566257	.6524390	.8531369	.6741992	.5633704
#1	4.929982	5.047724	4.979475	5.282866	4.802850	5.067782
#2	4.894874	5.055538	4.946981	5.224530	4.753929	5.085749
#3	4.959677	5.082157	5.011957	5.313028	4.814921	5.123958
Elem	Sr4077					
Units	ppm					
Avg	5.049140					
Stddev	.025971					
%RSD	.5143730					
#1	5.030936					
#2	5.037602					
#3	5.078881					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2506.709	47417.26	8340.016	2419.080	4262.122	
Stddev	10.960	96.59	38.678	6.227	18.064	
%RSD	.4372217	.2036936	.4637642	.2573998	.4238355	
#1	2504.791	47455.11	8373.267	2424.880	4269.568	
#2	2518.501	47489.20	8297.569	2412.500	4275.273	
#3	2496.834	47307.49	8349.212	2419.859	4241.525	

Sample Name: CCB01 Acquired: 11/21/2025 13:48:26 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	.0007802	-.003467	-.000553	-.002535	-.001343	.0022315	.0002837
Stddev	.0007366	.002837	.001291	.001144	.001767	.0101350	.0009289
%RSD	94.40678	81.83212	233.6619	45.14605	131.5394	454.1842	327.4521
#1	.0014823	-.000280	-.001178	-.001481	-.001234	.0013823	.0011668
#2	.0000134	-.004406	.000932	-.002371	-.003162	-.007452	.0003694
#3	.0008450	-.005716	-.001412	-.003752	.000367	.012764	-.000685
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000707	.0000127	-.009415	-.000274	.0000672	-.000268	-.010456
Stddev	.0000401	.0000746	.001550	.000429	.0002387	.000086	.004371
%RSD	56.76034	585.8451	16.45896	156.4223	355.2675	32.29813	41.80255
#1	.0000321	.0000267	-.007920	-.000141	.0001568	-.000170	-.011767
#2	.0001122	-.000068	-.011014	-.000754	-.000203	-.000300	-.005580
#3	.0000677	.000079	-.009313	.000072	.000248	-.000333	-.014022
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002067	.0092605	.0005749	.0004692	-.152828	.0011723	-.000336
Stddev	.0005019	.0168763	.0003493	.0001060	.014232	.0017287	.000174
%RSD	242.8641	182.2385	60.76238	22.59294	9.312314	147.4670	51.84699
#1	.0007860	-.002233	.0003624	.0005221	-.161925	-.000307	-.000176
#2	-.000070	.001379	.0009781	.0003471	-.160131	.003073	-.000521
#3	-.000096	.028636	.0003842	.0005382	-.136427	.000751	-.000311
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.049093	.0074748	-.000022	-.000618	.0003412	-.021872	-.000366
Stddev	.044383	.0008527	.000266	.001139	.0008007	.006914	.000116
%RSD	90.40703	11.40822	1187.627	184.4107	234.6496	31.61376	31.76818
#1	-.072688	.0065137	-.000297	-.001345	.0007824	-.016168	-.000421
#2	-.076694	.0081409	-.000005	-.001203	-.000583	-.019885	-.000445
#3	.002104	.0077698	.000234	.000695	.000824	-.029562	-.000232

Sample Name: CCB01 Acquired: 11/21/2025 13:48:26 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	F -.012405	-.002463	.0000436
Stddev	.006997	.000922	.0000825
%RSD	56.40400	37.43085	189.1378

#1	-.020472	-.002665	.0000196
#2	-.008751	-.001457	.0001355
#3	-.007992	-.003267	-.000024

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2625.113	49168.46	8518.668	2491.558	4742.785
Stddev	10.724	52.41	77.046	5.878	21.349
%RSD	.4084971	.1065990	.9044356	.2359044	.4501404

#1	2635.041	49200.95	8434.898	2488.610	4764.240
#2	2626.557	49107.99	8534.612	2487.738	4742.572
#3	2613.740	49196.43	8586.495	2498.327	4721.543

Sample Name: PB170660BL Acquired: 11/21/2025 13:52:47 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004883	-.006485	-.003286	-.003160	-.000240	.0057642	-.000611
Stddev	.001439	.002351	.001456	.002427	.002880	.0094164	.000364
%RSD	29.46265	36.25229	44.30800	76.81784	1199.903	163.3602	59.55247
#1	-.003933	-.008767	-.004724	-.001132	-.003138	.0139560	-.000500
#2	-.004178	-.004071	-.001812	-.002499	.002621	.0078602	-.001017
#3	-.006538	-.006616	-.003323	-.005849	-.000203	-.004524	-.000316
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000662	-.000056	-.004463	-.000285	.0000005	-.000012	-.011871
Stddev	.0000354	.000075	.001955	.000179	.0001461	.000216	.002061
%RSD	53.46924	133.8823	43.81225	62.76167	30005.78	1748.760	17.36436
#1	.0000757	.000014	-.006198	-.000446	.0001635	.000211	-.014211
#2	.0000270	-.000136	-.002344	-.000317	-.000119	-.000029	-.010322
#3	.0000959	-.000046	-.004847	-.000092	-.000043	-.000219	-.011081
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000453	-.019953	.0001906	-.000025	-.086370	.0006633	-.000248
Stddev	.000948	.024136	.0001638	.000818	.011430	.0040001	.000260
%RSD	209.1238	120.9617	85.92538	3289.437	13.23321	603.0493	104.5883
#1	-.001249	.005601	.0001668	.000025	-.099128	.0052687	-.000338
#2	-.000706	-.042362	.0000400	.000767	-.077066	-.001945	.000044
#3	.000596	-.023099	.0003650	-.000867	-.082916	-.001334	-.000452
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.122816	.0042045	-.000488	-.000701	.0016182	-.031244	-.000092
Stddev	.018349	.0014281	.000503	.001259	.0019799	.011362	.000133
%RSD	14.94004	33.96601	102.9173	179.7390	122.3501	36.36672	145.0447
#1	-.143552	.0056156	.000022	-.001506	-.000289	-.028082	-.000163
#2	-.108679	.0027600	-.000503	-.001347	.001479	-.021797	.000062
#3	-.116218	.0042378	-.000983	.000751	.003664	-.043852	-.000174

Sample Name: PB170660BL Acquired: 11/21/2025 13:52:47 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	F -.016909	-.004311	.0000879
Stddev	.001420	.000326	.0001047
%RSD	8.396247	7.571867	119.0967

#1	-.018216	-.003958	.0000850
#2	-.017113	-.004602	.0001941
#3	-.015399	-.004374	-.000015

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2571.528	48294.95	8348.047	2422.866	4624.245
Stddev	9.307	72.47	38.724	5.171	13.172
%RSD	.3619102	.1500644	.4638662	.2134135	.2848379

#1	2574.003	48259.16	8331.716	2420.666	4624.013
#2	2579.347	48378.35	8392.261	2419.159	4637.531
#3	2561.234	48247.33	8320.164	2428.773	4611.191

Sample Name: PB170660BS Acquired: 11/21/2025 13:57:06 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8104642	2.140009	.9988073	2.096797	.8315058	2.075983
Stddev	.0052845	.068505	.0057443	.008749	.0038132	.011559
%RSD	.6520336	3.201151	.5751114	.4172483	.4585875	.5567808
#1	.8111279	2.062570	1.000575	2.095648	.8299771	2.062868
#2	.8048792	2.164755	.992387	2.088679	.8286942	2.080394
#3	.8153855	2.192703	1.003460	2.106063	.8358462	2.084686
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1991373	.2088641	.2034448	1.058671	.4268754	.2035433
Stddev	.0001481	.0011562	.0007174	.008614	.0007365	.0009087
%RSD	.0743518	.5535564	.3526110	.8136908	.1725276	.4464220
#1	.1992387	.2075732	.2039060	1.053277	.4261609	.2037799
#2	.1989674	.2098043	.2026183	1.054131	.4276320	.2025398
#3	.1992059	.2092149	.2038101	1.068606	.4268332	.2043103
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3176502	3.104879	.2056922	2.108365	.5131886	.0797182
Stddev	.0015470	.014909	.0006012	.032517	.0026314	.0004487
%RSD	.4870038	.4801740	.2922743	1.542309	.5127597	.5628026
#1	.3186259	3.108748	.2052390	2.078720	.5145475	.0798156
#2	.3158665	3.088417	.2063742	2.143144	.5101555	.0792288
#3	.3184581	3.117471	.2054634	2.103232	.5148627	.0801102
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.931127	.3094968	.2171633	9.991857	.3117817	.4195696
Stddev	.019365	.0036353	.0012656	.043450	.0018192	.0023035
%RSD	.6606699	1.174584	.5827622	.4348494	.5835015	.5490087
#1	2.942104	.3100246	.2175922	9.993686	.3096840	.4197502
#2	2.942510	.3128393	.2181587	10.03436	.3129276	.4171811
#3	2.908768	.3056264	.2157391	9.94752	.3127335	.4217774

Sample Name: PB170660BS Acquired: 11/21/2025 13:57:06 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7015444	.2033591	.8777422	F .6455057	F -.016903	.2061385
Stddev	.0021149	.0026210	.0042009	.0030094	.001483	.0010542
%RSD	.3014625	1.288842	.4786067	.4662153	8.774340	.5113842
#1	.7022093	.2003944	.8780965	.6424162	-.016250	.2056660
#2	.6991769	.2043148	.8817547	.6456730	-.015858	.2073462
#3	.7032469	.2053681	.8733753	.6484281	-.018600	.2054032
Elem	Sr4077					
Units	ppm					
Avg	.2016102					
Stddev	.0009159					
%RSD	.4542882					
#1	.2010801					
#2	.2026678					
#3	.2010828					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2566.722	47632.81	8541.574	2388.581	4515.500	
Stddev	10.571	106.50	47.751	12.117	17.496	
%RSD	.4118421	.2235953	.5590385	.5072973	.3874626	
#1	2562.304	47714.40	8586.739	2391.659	4508.112	
#2	2578.784	47512.32	8491.601	2375.221	4535.478	
#3	2559.076	47671.71	8546.382	2398.862	4502.910	

Sample Name: PB170663BL Acquired: 11/21/2025 14:01:12 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000175	-.002348	-.000468	-.004754	.0002427	.0046985	-.001654
Stddev	.003364	.001301	.001761	.001474	.0023719	.0056340	.001485
%RSD	1918.978	55.38552	376.0540	31.00195	977.0859	119.9125	89.76542
#1	.001956	-.003453	.001109	-.006440	.0024982	.0078159	.000021
#2	.001571	-.002678	-.002368	-.003711	.0004606	.0080848	-.002807
#3	-.004053	-.000915	-.000145	-.004112	-.002231	-.001805	-.002177
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001397	.0000856	-.008670	-.000065	.0001019	.0000622	-.009057
Stddev	.0000283	.0000755	.004677	.000370	.0000476	.0000539	.003370
%RSD	20.25984	88.17050	53.94485	567.4587	46.73925	86.60339	37.20812
#1	.0001630	.0000308	-.010339	.000325	.0000559	.0000574	-.011108
#2	.0001082	.0000543	-.003387	-.000411	.0000989	.0001183	-.005168
#3	.0001480	.0001717	-.012283	-.000109	.0001511	.0000109	-.010896
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000177	-.002803	-.000012	-.000239	-.104282	-.000364	.0004640
Stddev	.000224	.012042	.000742	.000448	.011854	.000864	.0000892
%RSD	126.5078	429.5800	6117.930	187.5712	11.36709	237.4297	19.23169
#1	-.000248	-.001368	-.000257	-.000600	-.106882	-.000369	.0004927
#2	.000074	.008457	-.000601	-.000379	-.114620	-.001226	.0005354
#3	-.000357	-.015498	.000822	.000263	-.091344	.000503	.0003639
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.087782	.0011958	-.000743	-.000818	.0021917	-.022179	.0001256
Stddev	.041087	.0007977	.000300	.000539	.0009472	.006145	.0003468
%RSD	46.80575	66.71038	40.35372	65.88831	43.22002	27.70863	276.0635
#1	-.133174	.0021087	-.000583	-.000225	.0011731	-.025360	-.000087
#2	-.077037	.0006323	-.001089	-.001278	.0030461	-.015095	-.000062
#3	-.053135	.0008466	-.000557	-.000951	.0023558	-.026081	.000526

Sample Name: PB170663BL Acquired: 11/21/2025 14:01:12 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	F -.012494	-.004616	.0000336
Stddev	.004532	.001314	.0001009
%RSD	36.27208	28.46075	300.5038

#1	-.016225	-.005718	.0000562
#2	-.013806	-.003162	-.000077
#3	-.007451	-.004968	.000121

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2608.008	49156.77	8487.274	2468.828	4720.139
Stddev	4.796	153.27	53.929	6.289	8.718
%RSD	.1838850	.3117948	.6354089	.2547444	.1846876

#1	2607.313	49293.38	8526.251	2473.247	4719.659
#2	2613.114	48991.02	8425.727	2471.609	4729.086
#3	2603.598	49185.92	8509.843	2461.627	4711.671

Sample Name: PB170663BS Acquired: 11/21/2025 14:05:32 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8121968	2.125383	.9955852	2.069524	.8274251	2.074578
Stddev	.0038539	.043102	.0053806	.008076	.0080333	.009458
%RSD	.4745068	2.027977	.5404436	.3902424	.9708740	.4559196
#1	.8105799	2.164154	.9906354	2.067135	.8223221	2.077719
#2	.8094148	2.078971	.9948083	2.062912	.8232681	2.063949
#3	.8165959	2.133024	1.001312	2.078526	.8366850	2.082066
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2050381	.2122678	.2020938	1.040273	.4195139	.2031361
Stddev	.0011434	.0012054	.0012452	.011352	.0019689	.0008360
%RSD	.5576600	.5678512	.6161550	1.091205	.4693283	.4115574
#1	.2055324	.2120501	.2013727	1.031188	.4192389	.2024826
#2	.2058513	.2135672	.2013771	1.052998	.4216058	.2028476
#3	.2037307	.2111861	.2035316	1.036633	.4176969	.2040782
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3191857	3.093632	.2108568	2.099892	.5122917	.0795950
Stddev	.0016161	.013388	.0013108	.026541	.0026018	.0005179
%RSD	.5063123	.4327447	.6216338	1.263940	.5078738	.6506602
#1	.3175672	3.107669	.2105570	2.119063	.5119569	.0799564
#2	.3191906	3.092221	.2122915	2.069599	.5098735	.0798269
#3	.3207993	3.081006	.2097219	2.111013	.5150447	.0790017
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.929221	.3100637	.2172544	9.957629	.3164167	.4183245
Stddev	.034113	.0019903	.0006278	.026093	.0012882	.0014552
%RSD	1.164576	.6418885	.2889879	.2620411	.4071177	.3478632
#1	2.921085	.3118476	.2176110	9.928502	.3154859	.4172817
#2	2.966667	.3104264	.2165294	9.978869	.3178869	.4177049
#3	2.899912	.3079170	.2176227	9.965514	.3158772	.4199869

Sample Name: PB170663BS Acquired: 11/21/2025 14:05:32 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7011057	.2053497	.8384301	F .6569931	F -.015080	.2126252
Stddev	.0045306	.0021493	.0170696	.0011143	.005573	.0017199
%RSD	.6462020	1.046642	2.035904	.1695982	36.95720	.8088696
#1	.7008458	.2032218	.8372040	.6573149	-.021002	.2112032
#2	.6967106	.2075197	.8220066	.6557534	-.009937	.2145368
#3	.7057606	.2053075	.8560798	.6579110	-.014302	.2121356
Elem	Sr4077					
Units	ppm					
Avg	.2056905					
Stddev	.0003009					
%RSD	.1462665					
#1	.2059024					
#2	.2058230					
#3	.2053461					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2585.728	48425.46	8439.805	2473.921	4559.174	
Stddev	8.810	154.13	41.106	7.654	13.964	
%RSD	.3407002	.3182780	.4870456	.3093846	.3062750	
#1	2593.157	48578.89	8459.483	2480.323	4565.151	
#2	2588.031	48270.65	8392.560	2465.443	4569.154	
#3	2575.996	48426.85	8467.373	2475.997	4543.216	

Sample Name: Q3677-01 Acquired: 11/21/2025 14:09:38 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0117969	.0107550	.0803632	-.039944	.0102384	67.46496
Stddev	.0059828	.0132438	.0069096	.009114	.0059173	.15188
%RSD	50.71562	123.1413	8.597947	22.81630	57.79495	.2251246
#1	.0055376	.0059434	.0813354	-.049168	.0049310	67.40377
#2	.0123946	.0257320	.0730190	-.030944	.0091655	67.63790
#3	.0174584	.0005896	.0867352	-.039720	.0166188	67.35323
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5709109	.0052138	.0038640	F 5019.595	.1114135	.0322789
Stddev	.0068097	.0000158	.0002091	39.734	.0017755	.0000269
%RSD	1.192774	.3021833	5.410719	.7915789	1.593583	.0832747
#1	.5720720	.0052110	.0036495	5065.186	.1118824	.0322622
#2	.5635953	.0051997	.0040671	4992.340	.1129075	.0323099
#3	.5770653	.0052308	.0038752	5001.260	.1094507	.0322646
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2400930	64.71358	1.539477	229.9999	.0680892	-.010035
Stddev	.0006572	.33271	.012326	.1279	.0005714	.000187
%RSD	.2737106	.5141229	.8006417	.0556191	.8391612	1.865543
#1	.2394161	64.89771	1.538889	229.8586	.0685827	-.009843
#2	.2407285	64.32951	1.527456	230.0332	.0682217	-.010218
#3	.2401342	64.91351	1.552087	230.1079	.0674632	-.010045
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.081647	.0767591	1.393742	10.89485	.1484080	.0669119
Stddev	.044569	.0028072	.003089	.10403	.0013358	.0015226
%RSD	.8770678	3.657127	.2216348	.9548594	.9000607	2.275496
#1	5.091252	.0787549	1.391004	10.94814	.1496933	.0654342
#2	5.033058	.0735493	1.393130	10.77497	.1470269	.0684757
#3	5.120631	.0779732	1.397091	10.96143	.1485039	.0668258

Sample Name: Q3677-01 Acquired: 11/21/2025 14:09:38 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0431704	2.970405	2.648494	.1966159	F 43.31508	-.706010
Stddev	.0022418	.016451	.016885	.0008251	.23483	.008558
%RSD	5.192813	.5538137	.6375455	.4196522	.5421489	1.212190

#1	.0419445	2.967524	2.637500	.1958068	43.05275	-.715735
#2	.0457577	2.955586	2.667936	.1974561	43.38683	-.699626
#3	.0418089	2.988106	2.640046	.1965849	43.50567	-.702669

Elem	Sr4077
Units	ppm
Avg	7.096596
Stddev	.055912
%RSD	.7878641

#1	7.057756
#2	7.071354
#3	7.160678

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2114.283	40730.07	8071.787	2039.110	2929.511
Stddev	3.061	124.68	16.765	10.005	7.245
%RSD	.1447614	.3061111	.2077023	.4906545	.2473025

#1	2116.978	40603.36	8058.852	2029.513	2930.696
#2	2114.915	40734.23	8090.728	2038.338	2936.091
#3	2110.955	40852.62	8065.780	2049.478	2921.747

Sample Name: Q3678-01 Acquired: 11/21/2025 14:14:05 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0495345	.0091128	.0071665	-.003868	-.001061	122.6204
Stddev	.0013045	.0061628	.0024173	.006702	.002388	.3461
%RSD	2.633555	67.62782	33.73017	173.2818	225.0558	.2822479
#1	.0480739	.0057299	.0059574	-.011327	-.003762	123.0153
#2	.0499460	.0162262	.0055925	-.001921	.000770	122.4762
#3	.0505836	.0053824	.0099498	.001645	-.000191	122.3698
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.103636	.0045584	.0123924	62.71819	.5876602	.1526671
Stddev	.006016	.0001366	.0002709	.29839	.0031155	.0014622
%RSD	.5450788	2.996129	2.185639	.4757582	.5301442	.9577672
#1	1.109128	.0046791	.0121302	63.04610	.5864663	.1512716
#2	1.097206	.0044101	.0126712	62.46263	.5853182	.1525418
#3	1.104573	.0045859	.0123759	62.64583	.5911960	.1541879
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1262368	227.5446	1.231130	149.8293	.4207567	-.016903
Stddev	.0007901	.5426	.006586	.2682	.0003055	.000622
%RSD	.6259022	.2384575	.5349610	.1790315	.0726144	3.680956
#1	.1261008	227.1276	1.237509	150.0731	.4206060	-.017553
#2	.1255235	227.3481	1.224355	149.5420	.4205558	-.016844
#3	.1270861	228.1581	1.231527	149.8729	.4211083	-.016313
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.997126	.5974123	.2319301	106.7252	.0798411	.0031037
Stddev	.006162	.0042492	.0003831	.1172	.0024311	.0001407
%RSD	.3085384	.7112704	.1651835	.1098147	3.044870	4.531828
#1	1.992267	.5948184	.2320537	106.6170	.0822598	.0032659
#2	1.995054	.6023162	.2315004	106.7089	.0773978	.0030153
#3	2.004057	.5951024	.2322360	106.8497	.0798656	.0030299

Sample Name: Q3678-01 Acquired: 11/21/2025 14:14:05 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0488360	F 22.21925	3.254176	1.375043	F 12.45183	.3194289
Stddev	.0007699	.08746	.007976	.006812	.09329	.0018935
%RSD	1.576547	.3936185	.2451134	.4954071	.7492340	.5927781

#1	.0497231	22.31816	3.247975	1.372352	12.38481	.3207735
#2	.0484424	22.15215	3.263175	1.369988	12.41230	.3172635
#3	.0483423	22.18744	3.251380	1.382790	12.55838	.3202497

Elem	Sr4077
Units	ppm
Avg	-.136360
Stddev	.000808
%RSD	.5926911

#1	-.135434
#2	-.136724
#3	-.136923

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2826.783	53799.23	9929.730	2681.928	3973.896
Stddev	9.697	166.64	40.746	9.219	14.314
%RSD	.3430401	.3097427	.4103474	.3437377	.3601962

#1	2830.747	53951.99	9897.741	2682.974	3980.900
#2	2833.870	53824.18	9975.604	2690.579	3983.360
#3	2815.732	53621.52	9915.844	2672.231	3957.429

Sample Name: Q3681-01 Acquired: 11/21/2025 14:18:10 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0658408	.0009907	1.693898	-.004535	-.006642	167.3616	1.409331
Stddev	.0049587	.0016617	.001181	.002584	.002456	.1433	.007092
%RSD	7.531315	167.7388	.0696961	56.98183	36.97357	.0856364	.5031977
#1	.0715224	.0027099	1.693200	-.004142	-.004357	167.4385	1.414610
#2	.0636146	.0008690	1.693233	-.007293	-.006331	167.1962	1.401270
#3	.0623853	-.000607	1.695261	-.002170	-.009239	167.4500	1.412113
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0116595	.0168734	47.64880	.3085030	.1494275	1.083828	286.1584
Stddev	.0000615	.0002344	.07424	.0002812	.0005696	.004932	1.0476
%RSD	.5275626	1.389343	.1558111	.0911493	.3812083	.4550436	.3660861
#1	.0116311	.0166619	47.72131	.3084515	.1491045	1.078284	287.0146
#2	.0116173	.0171254	47.57294	.3082511	.1490927	1.085473	284.9903
#3	.0117301	.0168328	47.65214	.3088064	.1500852	1.087727	286.4704
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.693002	45.60662	.3426218	-.015099	3.505634	.3913087	1.065222
Stddev	.028681	.14197	.0015208	.000567	.011638	.0024059	.003863
%RSD	.5037892	.3112923	.4438804	3.755277	.3319817	.6148325	.3626562
#1	5.707507	45.48795	.3411257	-.015185	3.516254	.3911547	1.068590
#2	5.659966	45.76390	.3425736	-.015618	3.493193	.3937879	1.061005
#3	5.711533	45.56802	.3441662	-.014493	3.507456	.3889835	1.066072
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.99376	.1645334	.0034619	.1118055	3.362711	3.325307	1.003461
Stddev	.03732	.0031273	.0001557	.0007249	.006272	.013088	.005374
%RSD	.2333178	1.900695	4.496368	.6483184	.1865074	.3935825	.5355655
#1	15.96562	.1674662	.0033009	.1112970	3.362817	3.315879	.998594
#2	15.97956	.1612425	.0036116	.1114840	3.356386	3.340250	1.002560
#3	16.03609	.1648914	.0034733	.1126355	3.368928	3.319792	1.009228

Sample Name: Q3681-01 Acquired: 11/21/2025 14:18:10 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.447494	.2443115	-.058856
Stddev	.022589	.0014627	.000264
%RSD	.6552334	.5986992	.4490270

#1	3.427307	.2442119	-.059113
#2	3.471893	.2429012	-.058585
#3	3.443283	.2458215	-.058870

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3044.353	57307.83	10595.93	2866.286	4162.020
Stddev	7.604	110.61	14.69	.979	13.147
%RSD	.2497852	.1930186	.1386125	.0341426	.3158909

#1	3050.570	57307.70	10588.66	2866.390	4169.941
#2	3046.615	57197.28	10586.31	2865.260	4169.274
#3	3035.874	57418.51	10612.84	2867.209	4146.843

Sample Name: Q3681-01DUP Acquired: 11/21/2025 14:22:14 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0616958	-.004421	1.693893	-.004649	-.008381	167.6972	1.425470
Stddev	.0027134	.005981	.004890	.003052	.001549	.1596	.001964
%RSD	4.398017	135.2849	.2887031	65.64091	18.47968	.0951902	.1377598
#1	.0631583	-.011327	1.690172	-.004629	-.007760	167.8787	1.426787
#2	.0585649	-.001037	1.692075	-.007711	-.010143	167.5788	1.426411
#3	.0633643	-.000899	1.699432	-.001607	-.007238	167.6340	1.423213
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0116260	.0163279	47.47113	.3075281	.1488116	1.080013	288.6008
Stddev	.0001388	.0000778	.03288	.0016631	.0007441	.003966	1.0474
%RSD	1.194099	.4761581	.0692577	.5407869	.5000411	.3671837	.3629177
#1	.0117822	.0164078	47.50711	.3094484	.1482555	1.079055	289.1471
#2	.0115169	.0162525	47.44266	.3065557	.1485224	1.076614	289.2620
#3	.0115788	.0163236	47.46361	.3065801	.1496569	1.084370	287.3932
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.674734	45.89611	.3088588	-.014807	3.214927	.3953698	1.029090
Stddev	.004701	.15612	.0018839	.000637	.019818	.0014952	.007446
%RSD	.0828325	.3401656	.6099720	4.303204	.6164237	.3781836	.7235642
#1	5.678792	45.71858	.3069066	-.014922	3.233746	.3942258	1.023074
#2	5.669583	45.95774	.3090038	-.014120	3.194243	.3970617	1.037417
#3	5.675828	46.01201	.3106661	-.015379	3.216792	.3948220	1.026778
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.74466	.1737405	.0034898	.0829744	3.381457	3.398824	1.002709
Stddev	.04781	.0064161	.0003996	.0005552	.005399	.025839	.004288
%RSD	.3036453	3.692937	11.44942	.6691354	.1596651	.7602251	.4276460
#1	15.79303	.1762082	.0038773	.0825927	3.387685	3.403973	.997759
#2	15.74353	.1785564	.0035129	.0827192	3.378108	3.421700	1.005283
#3	15.69743	.1664569	.0030792	.0836114	3.378578	3.370798	1.005086

Sample Name: Q3681-01DUP Acquired: 11/21/2025 14:22:14 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.015003	.2474786	-.060802
Stddev	.018391	.0002049	.001151
%RSD	.6099944	.0828099	1.893718
#1	3.009480	.2473566	-.061656
#2	3.035523	.2473641	-.061258
#3	3.000006	.2477152	-.059493

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3033.481	57048.45	10609.12	2861.191	4154.629
Stddev	7.217	14.44	24.49	14.300	14.483
%RSD	.2379200	.0253139	.2308126	.4997970	.3485943
#1	3038.952	57055.55	10612.18	2864.621	4170.061
#2	3036.191	57031.83	10631.94	2845.489	4152.494
#3	3025.301	57057.97	10583.25	2873.465	4141.332

Sample Name: Q3681-01LX5 Acquired: 11/21/2025 14:26:19 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0118292	-.001742	.3295646	-.002238	-.004858	38.21710	.3218353
Stddev	.0031193	.002891	.0006484	.004941	.002892	.05644	.0010419
%RSD	26.36955	165.9696	.1967519	220.7480	59.52114	.1476914	.3237378
#1	.0084243	-.000272	.3293428	.001957	-.007903	38.19443	.3229736
#2	.0145490	-.005073	.3290562	-.007684	-.002149	38.28135	.3216035
#3	.0125143	.000119	.3302949	-.000988	-.004523	38.17551	.3209288
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0029057	.0021051	11.01614	.0700575	.0285747	.2578466	64.48252
Stddev	.0000413	.0001624	.02000	.0002672	.0002140	.0005250	.28515
%RSD	1.421240	7.714000	.1815862	.3813296	.7489724	.2036263	.4422133
#1	.0029217	.0020153	11.03288	.0699151	.0284486	.2573894	64.81175
#2	.0028588	.0020074	11.02155	.0698917	.0284538	.2577303	64.32178
#3	.0029366	.0022925	10.99398	.0703657	.0288219	.2584200	64.31402
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.340457	10.51189	.0664068	-.003893	.6917501	.0876249	.2421666
Stddev	.003355	.05208	.0005584	.000441	.0067603	.0032099	.0012530
%RSD	.2502675	.4954702	.8408185	11.31703	.9772775	3.663206	.5174338
#1	1.344287	10.45252	.0667145	-.004401	.6915720	.0904257	.2407216
#2	1.338042	10.54987	.0667437	-.003633	.6850806	.0841221	.2429533
#3	1.339041	10.53328	.0657623	-.003644	.6985977	.0883270	.2428249
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.384012	.0343225	.0005046	.0197429	.7934099	1.174488	.1942060
Stddev	.056690	.0009079	.0002334	.0015980	.0058678	.012392	.0014754
%RSD	1.675218	2.645110	46.26004	8.094233	.7395686	1.055119	.7597264
#1	3.318554	.0343259	.0003215	.0181729	.7991857	1.166722	.1928316
#2	3.416387	.0352287	.0007675	.0213676	.7935898	1.188780	.1940213
#3	3.417095	.0334129	.0004248	.0196883	.7874542	1.167964	.1957651

Sample Name: Q3681-01LX5 Acquired: 11/21/2025 14:26:19 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6236401	.0537779	-.011428
Stddev	.0032801	.0020252	.000135
%RSD	.5259641	3.765859	1.183609

#1	.6265793	.0525062	-.011478
#2	.6201017	.0527142	-.011531
#3	.6242391	.0561134	-.011275

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2674.244	50306.60	8936.132	2537.526	4441.880
Stddev	4.948	52.07	13.665	12.818	9.615
%RSD	.1850057	.1035090	.1529165	.5051421	.2164694

#1	2679.276	50299.31	8938.267	2539.164	4452.392
#2	2674.073	50258.57	8921.525	2523.968	4439.720
#3	2669.385	50361.94	8948.603	2549.447	4433.529

Sample Name: Q3681-01MS Acquired: 11/21/2025 14:30:31 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7275385	1.998084	2.138994	1.643797	.3449059	177.6889	1.376221
Stddev	.0096473	.041505	.008243	.003384	.0019368	.3028	.010591
%RSD	1.326016	2.077232	.3853462	.2058508	.5615386	.1703880	.7696038
#1	.7277562	2.027902	2.136893	1.641803	.3453441	177.3601	1.369494
#2	.7177843	2.015669	2.132006	1.641885	.3465859	177.7506	1.388430
#3	.7370751	1.950682	2.148084	1.647704	.3427875	177.9561	1.370740
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1791690	.2136737	36.07842	.6473648	.3508917	.9680149	269.2305
Stddev	.0001883	.0006729	.12177	.0006612	.0018404	.0012139	1.0439
%RSD	.1050984	.3149268	.3375215	.1021357	.5244846	.1254056	.3877251
#1	.1792287	.2132357	35.94361	.6480465	.3497010	.9677286	268.0704
#2	.1793202	.2133369	36.18044	.6467262	.3499627	.9669697	269.5269
#3	.1789581	.2144485	36.11122	.6473217	.3530114	.9693464	270.0941
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.273868	44.39301	.8040522	.0525865	6.038972	.6754633	1.198222
Stddev	.025525	.11114	.0024652	.0002197	.062897	.0031360	.008516
%RSD	.4839939	.2503566	.3065970	.4178731	1.041515	.4642702	.7106958
#1	5.261699	44.26469	.8025580	.0527320	5.982696	.6789104	1.207153
#2	5.303201	44.45874	.8027010	.0523337	6.106869	.6747001	1.197321
#3	5.256705	44.45560	.8068976	.0526939	6.027350	.6727794	1.190193
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.89723	.3494339	.3410312	.7284165	4.692588	4.278274	1.522502
Stddev	.11993	.0058817	.0013687	.0019626	.010857	.013457	.003968
%RSD	.5476934	1.683220	.4013520	.2694299	.2313629	.3145357	.2606410
#1	21.76249	.3430072	.3408068	.7269774	4.683477	4.266123	1.519097
#2	21.99230	.3507450	.3397885	.7276200	4.704601	4.275962	1.521549
#3	21.93691	.3545494	.3424983	.7306521	4.689685	4.292737	1.526859

Sample Name: Q3681-01MS Acquired: 11/21/2025 14:30:31 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.869379	.4041660	.0841432
Stddev	.004913	.0041227	.0020117
%RSD	.2628087	1.020053	2.390847

#1	1.871880	.4003458	.0841065
#2	1.863719	.4085360	.0861730
#3	1.872539	.4036162	.0821500

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2946.632	55870.58	10131.53	2828.830	4125.816
Stddev	4.561	71.37	22.51	13.889	10.230
%RSD	.1547771	.1277505	.2221944	.4909795	.2479436

#1	2944.995	55952.97	10129.01	2827.369	4130.984
#2	2951.785	55831.40	10110.38	2815.729	4132.430
#3	2943.115	55827.38	10155.19	2843.392	4114.033

Sample Name: CCV02 Acquired: 11/21/2025 14:48:36 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	4.812510	4.770705	4.789319	4.852541	4.885296	9.695942	9.469242
Stddev	.032449	.039351	.014517	.018950	.021400	.006388	.016124
%RSD	.6742612	.8248571	.3031189	.3905145	.4380543	.0658793	.1702793
#1	4.778748	4.761517	4.776897	4.843970	4.870633	9.699995	9.462080
#2	4.815318	4.813838	4.785782	4.839391	4.875402	9.688579	9.487706
#3	4.843463	4.736761	4.805278	4.874263	4.909853	9.699252	9.457939
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2429966	2.391473	23.88969	.9782227	2.395907	1.222250	4.804868
Stddev	.0008401	.006623	.10342	.0008721	.009516	.007128	.015843
%RSD	.3457132	.2769622	.4328906	.0891529	.3971616	.5831530	.3297352
#1	.2429568	2.388408	23.79012	.9779860	2.389991	1.216971	4.786611
#2	.2421771	2.386937	23.88238	.9774933	2.390846	1.219421	4.815006
#3	.2438558	2.399074	23.99656	.9791887	2.406884	1.230358	4.812987
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.369899	23.93570	2.397168	1.213932	25.09130	2.395190	2.442805
Stddev	.005528	.09331	.009469	.001722	.08052	.002068	.009749
%RSD	.2332714	.3898386	.3949985	.1418597	.3209237	.0863342	.3991014
#1	2.364082	23.97381	2.388329	1.213506	25.05982	2.394751	2.449381
#2	2.375085	23.82937	2.396012	1.212464	25.18281	2.397441	2.431604
#3	2.370529	24.00393	2.407161	1.215828	25.03127	2.393376	2.447430
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.52605	4.817050	4.901925	4.795756	4.776762	4.794353	5.008770
Stddev	.07360	.012891	.016821	.019821	.009682	.007368	.025756
%RSD	.3128413	.2676037	.3431604	.4132958	.2026928	.1536730	.5142128
#1	23.50379	4.819013	4.892953	4.778742	4.768501	4.795310	4.982951
#2	23.60821	4.803291	4.891492	4.791006	4.787417	4.786554	5.008898
#3	23.46615	4.828848	4.921331	4.817520	4.774369	4.801196	5.034462

Sample Name: CCV02 Acquired: 11/21/2025 14:48:36 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.734761	4.691080	4.789812
Stddev	.028291	.006058	.004408
%RSD	.5975253	.1291449	.0920337
#1	4.711856	4.685460	4.784894
#2	4.726041	4.697497	4.791134
#3	4.766386	4.690283	4.793408

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2542.921	48456.31	8596.843	2420.407	4340.342
Stddev	7.159	97.65	42.272	10.600	6.668
%RSD	.2815290	.2015196	.4917159	.4379279	.1536188
#1	2542.827	48491.55	8609.009	2419.481	4342.324
#2	2550.127	48531.45	8631.698	2431.439	4345.794
#3	2535.810	48345.93	8549.822	2410.301	4332.908

Sample Name: CCB02 Acquired: 11/21/2025 14:52:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	-.001850	-.003546	-.000002	-.003043	.0022415	.0115161	-.001186
Stddev	.001336	.004482	.000672	.003083	.0011621	.0013966	.001023
%RSD	72.23277	126.3938	43642.29	101.3175	51.84389	12.12782	86.28139
#1	-.002091	.000188	-.000768	-.004272	.0026635	.0117016	-.002197
#2	-.000410	-.008516	.000279	-.005321	.0009274	.0100360	-.001209
#3	-.003049	-.002310	.000485	.000465	.0031337	.0128107	-.000151
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000274	.0000878	-.012038	-.000378	-.000111	.0002637	-.005784
Stddev	.0000542	.0000769	.010329	.000189	.000285	.0001756	.004227
%RSD	197.6838	87.63792	85.80601	50.06326	257.5483	66.58015	73.08018
#1	-.000020	.0000170	-.018145	-.000387	.000215	.0004115	-.010435
#2	.000016	.0000767	-.000112	-.000185	-.000313	.0003099	-.002178
#3	.000086	.0001697	-.017856	-.000563	-.000235	.0000696	-.004739
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000020	-.021148	.0005435	.0005240	-.082875	-.001580	-.000091
Stddev	.000173	.014144	.0003149	.0006840	.013726	.002015	.000589
%RSD	860.4869	66.88060	57.93463	130.5211	16.56164	127.5481	643.6098
#1	.000037	-.004817	.0007744	.0006431	-.068492	-.002188	-.000770
#2	-.000215	-.029169	.0001848	.0011407	-.095832	-.003222	.000282
#3	.000117	-.029458	.0006713	-.000212	-.084302	.000669	.000214
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.110976	.0100082	.0002223	-.000530	.0013318	-.014280	-.000013
Stddev	.033383	.0011377	.0003967	.001002	.0015101	.002106	.000256
%RSD	30.08113	11.36749	178.4198	188.8426	113.3922	14.74517	1921.377
#1	-.072663	.0088771	.0005781	.000468	.0009146	-.014618	-.000226
#2	-.126465	.0111523	.0002943	-.000524	.0030067	-.016196	.000270
#3	-.133802	.0099952	-.000205	-.001535	.0000741	-.012026	-.000084

Sample Name: CCB02 Acquired: 11/21/2025 14:52:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.009987	-.000824	-.000049
Stddev	.001505	.000169	.000059
%RSD	15.07483	20.55811	122.0176
#1	-.011505	-.000918	-.000023
#2	-.009962	-.000628	-.000117
#3	-.008494	-.000925	-.000007

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2604.393	49377.72	8496.599	2505.029	4681.851
Stddev	8.963	128.15	37.689	13.434	15.825
%RSD	.3441530	.2595239	.4435826	.5362677	.3380025
#1	2603.224	49318.73	8512.603	2508.015	4676.114
#2	2613.883	49524.73	8453.549	2516.719	4699.744
#3	2596.072	49289.68	8523.646	2490.354	4669.694

Sample Name: Q3681-01MSD Acquired: 11/21/2025 14:56:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7276507	1.955500	2.146799	1.648717	.3433302	179.9287	1.382980
Stddev	.0067893	.041566	.006416	.003298	.0021748	.2061	.006806
%RSD	.9330365	2.125616	.2988626	.2000149	.6334279	.1145576	.4921201
#1	.7203972	1.978422	2.144213	1.650310	.3436664	180.0001	1.388569
#2	.7287016	1.907520	2.142078	1.644925	.3410069	180.0896	1.384969
#3	.7338532	1.980560	2.154104	1.650916	.3453172	179.6964	1.375401
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1795758	.2146410	36.41753	.6484649	.3516592	.9668422	269.7634
Stddev	.0003606	.0010980	.09902	.0014201	.0013159	.0034496	1.2974
%RSD	.2007977	.5115339	.2719114	.2189879	.3741894	.3567947	.4809439
#1	.1798299	.2142622	36.52164	.6493407	.3510985	.9637532	271.2554
#2	.1797344	.2137827	36.40641	.6468265	.3507165	.9662087	268.9003
#3	.1791631	.2158782	36.32453	.6492276	.3531625	.9705647	269.1345
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.281914	44.94593	.7998620	.0522629	6.114899	.6860030	1.192334
Stddev	.038144	.09827	.0041534	.0008511	.016276	.0017335	.000651
%RSD	.7221616	.2186343	.5192616	1.628578	.2661772	.2526905	.0546304
#1	5.322591	44.94687	.7980890	.0531495	6.126235	.6850313	1.191869
#2	5.276205	44.84720	.7968894	.0521869	6.096249	.6880043	1.193078
#3	5.246947	45.04373	.8046077	.0514524	6.122214	.6849733	1.192055
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.00849	.3488710	.3421145	.7250045	4.748202	4.621022	1.521245
Stddev	.07412	.0041505	.0010759	.0043307	.018970	.026720	.005345
%RSD	.3367792	1.189707	.3144843	.5973374	.3995206	.5782292	.3513782
#1	22.06063	.3491390	.3416791	.7251087	4.767537	4.601445	1.522935
#2	22.04121	.3445930	.3413245	.7206226	4.747452	4.610159	1.515258
#3	21.92364	.3528810	.3433398	.7292821	4.729619	4.651463	1.525541

Sample Name: Q3681-01MSD Acquired: 11/21/2025 14:56:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.821396	.4094292	.0846359
Stddev	.009061	.0030362	.0017840
%RSD	.4974942	.7415764	2.107791

#1	1.811118	.4122614	.0844967
#2	1.828233	.4098027	.0864854
#3	1.824838	.4062235	.0829257

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2977.655	56446.40	10246.87	2842.973	4171.758
Stddev	5.588	199.68	37.09	12.382	10.947
%RSD	.1876599	.3537471	.3619654	.4355247	.2624087

#1	2972.866	56222.75	10209.26	2848.564	4166.569
#2	2983.794	56606.76	10247.92	2851.574	4184.334
#3	2976.306	56509.70	10283.42	2828.782	4164.369

Sample Name: Q3681-01A Acquired: 11/21/2025 15:01:01 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7201646	1.924567	2.610859	1.626855	.6461350	166.8582	1.553013
Stddev	.0095727	.038697	.015261	.009691	.0034097	.2887	.005568
%RSD	1.329232	2.010667	.5845326	.5957130	.5277053	.1730381	.3585531
#1	.7170961	1.918132	2.606541	1.618614	.6428068	167.1319	1.559435
#2	.7125024	1.966078	2.598222	1.637532	.6459776	166.5565	1.550080
#3	.7308953	1.889491	2.627814	1.624418	.6496207	166.8861	1.549524
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1700906	.2106652	47.43514	.6307286	.3427430	1.293114	280.0683
Stddev	.0004785	.0012879	.04078	.0012711	.0017220	.007129	1.8360
%RSD	.2813373	.6113750	.0859795	.2015233	.5024215	.5512742	.6555554
#1	.1698062	.2098833	47.48132	.6320580	.3415111	1.288585	282.1639
#2	.1698226	.2099607	47.40407	.6295252	.3420074	1.289425	279.2981
#3	.1706431	.2121518	47.42001	.6306025	.3447107	1.301331	278.7428
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.725147	46.74892	.7864681	.0477400	5.337323	.6303115	1.165933
Stddev	.027594	.13104	.0039346	.0007617	.044254	.0039195	.005649
%RSD	.4819837	.2803119	.5002909	1.595542	.8291416	.6218310	.4845156
#1	5.756812	46.70528	.7835947	.0484898	5.386752	.6296549	1.164185
#2	5.712385	46.64527	.7848570	.0477634	5.323834	.6267618	1.172249
#3	5.706244	46.89622	.7909526	.0469669	5.301383	.6345178	1.161364
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.22485	.3700741	.3457774	.7752775	3.490729	4.307972	1.602431
Stddev	.13186	.0084937	.0021486	.0005175	.007573	.042047	.007825
%RSD	.5677655	2.295120	.6213906	.0667523	.2169437	.9760173	.4883217
#1	23.37709	.3789861	.3435289	.7758111	3.499433	4.305825	1.595776
#2	23.15085	.3620720	.3459935	.7747778	3.485651	4.267040	1.600465
#3	23.14660	.3691643	.3478098	.7752437	3.487103	4.351050	1.611052

Sample Name: Q3681-01A Acquired: 11/21/2025 15:01:01 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.920227	.4048097	.1029200
Stddev	.006860	.0006008	.0002746
%RSD	.2348980	.1484239	.2668100
#1	2.916200	.4041163	.1026275
#2	2.928148	.4051362	.1029602
#3	2.916334	.4051767	.1031723

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3053.959	58129.59	10581.09	2890.467	4197.830
Stddev	12.126	198.00	20.09	1.943	18.186
%RSD	.3970721	.3406103	.1898740	.0672377	.4332153
#1	3061.686	57910.32	10561.09	2888.571	4209.469
#2	3060.209	58183.15	10601.27	2890.375	4207.148
#3	3039.983	58295.30	10580.91	2892.455	4176.874

Sample Name: Q3686-01 Acquired: 11/21/2025 15:05:02 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0187805	-.020272	.0365034	-.014569	-.013615	17.85896	.3797001
Stddev	.0059134	.004939	.0021753	.001529	.001247	.23990	.0048263
%RSD	31.48686	24.36341	5.959280	10.49283	9.161612	1.343314	1.271086
#1	.0251689	-.025463	.0390145	-.014623	-.012219	17.71531	.3756616
#2	.0176745	-.019722	.0351939	-.016070	-.014005	17.72566	.3783934
#3	.0134983	-.015631	.0353018	-.013014	-.014621	18.13591	.3850452
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035319	.0167704	37.98527	.0038922	.0556825	.2281227	278.9289
Stddev	.0000427	.0008621	.58624	.0003126	.0004030	.0064829	5.9060
%RSD	1.209125	5.140592	1.543329	8.030447	.7237681	2.841840	2.117376
#1	.0034827	.0160705	37.63095	.0037189	.0553637	.2218782	284.1347
#2	.0035594	.0165074	37.66292	.0037047	.0555484	.2276696	280.1411
#3	.0035537	.0177334	38.66195	.0042530	.0561355	.2348202	272.5109
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.221072	9.740206	.0319297	-.016898	1.712906	.0472676	.3639352
Stddev	.034890	.203082	.0006340	.001426	.064471	.0039344	.0035181
%RSD	1.570872	2.084985	1.985526	8.437730	3.763839	8.323655	.9666806
#1	2.196998	9.601623	.0317536	-.016395	1.772875	.0441543	.3679968
#2	2.205132	9.645672	.0326332	-.015792	1.721121	.0459588	.3618365
#3	2.261085	9.973321	.0314024	-.018507	1.644721	.0516895	.3619723
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.767883	.0768376	.1180389	.0265954	3.084671	2.113243	1.727662
Stddev	.168243	.0378393	.0010432	.0008808	.031364	.055069	.012562
%RSD	2.485901	49.24576	.8837407	3.311713	1.016774	2.605895	.7270975
#1	6.924162	.1049996	.1171650	.0262681	3.058316	2.167706	1.714061
#2	6.789686	.0916874	.1177581	.0275929	3.076336	2.114435	1.730099
#3	6.589802	.0338259	.1191938	.0259250	3.119361	2.057587	1.738827

Sample Name: Q3686-01 Acquired: 11/21/2025 15:05:02 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	7.214884	.0296124	-.212198
Stddev	.063327	.0009246	.006304
%RSD	.8777266	3.122495	2.970805

#1	7.153615	.0287014	-.217650
#2	7.210953	.0305501	-.213649
#3	7.280085	.0295858	-.205295

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3427.469	65805.77	11700.71	3238.032	4405.991
Stddev	6.376	828.28	329.21	26.967	13.818
%RSD	.1860406	1.258668	2.813552	.8328184	.3136162

#1	3433.080	64849.36	11882.52	3207.034	4409.438
#2	3428.791	66286.01	11898.91	3256.094	4417.759
#3	3420.534	66281.93	11320.69	3250.968	4390.776

Sample Name: Q3676-01 Acquired: 11/21/2025 15:09:09 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005413	-.002293	.0012326	.0000739	-.001480	.1420906
Stddev	.001849	.006451	.0036539	.0040601	.002331	.0088584
%RSD	34.16040	281.3793	296.4265	5495.800	157.5632	6.234307
#1	-.007140	-.008749	.0050987	-.000110	-.001969	.1460751
#2	-.003462	-.002283	-.002164	-.003891	-.003528	.1319397
#3	-.005635	.004154	.000763	.004223	.001057	.1482569
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0872219	.0000142	.0003858	59.67402	.0033469	.0004415
Stddev	.0013105	.0000727	.0003451	.15121	.0004067	.0004993
%RSD	1.502523	512.0455	89.45804	.2533938	12.15237	113.1070
#1	.0860781	.0000391	.0002241	59.72573	.0031574	.0003312
#2	.0869358	.0000711	.0001511	59.79259	.0030695	.0000065
#3	.0886519	-.000068	.0007820	59.50374	.0038138	.0009867
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1689480	.1356962	.0262289	15.06376	.0064319	-.000555
Stddev	.0013143	.0071489	.0004503	.02095	.0004722	.000354
%RSD	.7779579	5.268301	1.716833	.1391003	7.341151	63.78908
#1	.1689387	.1363134	.0267113	15.08727	.0059479	-.000928
#2	.1676383	.1282587	.0258196	15.04706	.0064564	-.000223
#3	.1702669	.1425164	.0261557	15.05694	.0068913	-.000515
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	72.29464	.0014159	.0547374	5.917943	.0579034	.0025567
Stddev	.62694	.0024276	.0003118	.064189	.0012502	.0007423
%RSD	.8671948	171.4529	.5695467	1.084646	2.159105	29.03349
#1	71.73852	.0002879	.0545486	5.860511	.0593458	.0022948
#2	72.17132	.0042022	.0545664	5.906085	.0571304	.0019808
#3	72.97406	-.000242	.0550972	5.987235	.0572341	.0033944

Sample Name: Q3676-01 Acquired: 11/21/2025 15:09:09 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0645016	.0046716	6.616983	.1205372	F 29.35103	-.012978
Stddev	.0011142	.0020933	.076239	.0022338	.11036	.000890
%RSD	1.727391	44.80882	1.152176	1.853163	.3760032	6.859995
#1	.0646062	.0030561	6.550141	.1200431	29.45436	-.013685
#2	.0633388	.0070364	6.600789	.1185919	29.23477	-.011978
#3	.0655598	.0039222	6.700018	.1229766	29.36397	-.013271
Elem	Sr4077					
Units	ppm					
Avg	.2656877					
Stddev	.0002443					
%RSD	.0919580					
#1	.2654061					
#2	.2658436					
#3	.2658134					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2522.350	47914.33	8713.558	2399.230	4395.289	
Stddev	4.007	71.42	56.149	5.251	9.557	
%RSD	.1588598	.1490678	.6443863	.2188534	.2174280	
#1	2526.204	47995.94	8675.611	2393.167	4391.277	
#2	2522.640	47883.88	8687.005	2402.260	4406.198	
#3	2518.205	47863.19	8778.059	2402.263	4388.393	

Sample Name: Q3676-01DUP Acquired: 11/21/2025 15:13:22 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003006	-.006145	.0006425	-.001647	.0007742	.1251964
Stddev	.005265	.005136	.0041407	.003895	.0021451	.0042814
%RSD	175.1419	83.58114	644.4504	236.5609	277.0634	3.419742
#1	-.008591	-.000578	-.000647	-.005637	.0021108	.1294660
#2	-.002293	-.007158	-.002700	-.001449	-.001700	.1252198
#3	.001866	-.010700	.005275	.002146	.001912	.1209033
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0893183	-.000009	.0000787	59.97142	.0033984	.0002360
Stddev	.0012011	.000010	.0001778	.17567	.0003803	.0001918
%RSD	1.344766	107.9359	225.7892	.2929244	11.18947	81.30206
#1	.0892389	-.000003	-.000102	60.08089	.0031725	.0001272
#2	.0881588	-.000004	.000253	59.76879	.0038374	.0001232
#3	.0905571	-.000021	.000086	60.06458	.0031852	.0004575
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1641363	.1193680	.0184250	15.18317	.0042805	-.000081
Stddev	.0013052	.0037297	.0002335	.07679	.0002059	.000501
%RSD	.7951843	3.124544	1.267310	.5057618	4.811331	617.5571
#1	.1633852	.1200517	.0186915	15.17767	.0043754	-.000636
#2	.1633802	.1153437	.0182565	15.10928	.0040442	.000340
#3	.1656433	.1227085	.0183270	15.26256	.0044219	.000053
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	73.62280	-.002841	.0354053	5.756254	.0565618	.0018104
Stddev	.58660	.002270	.0004186	.030899	.0012258	.0003404
%RSD	.7967629	79.88927	1.182283	.5367916	2.167210	18.80397
#1	73.66374	-.005221	.0349222	5.724338	.0579202	.0016425
#2	74.18786	-.002600	.0356328	5.786025	.0555381	.0022021
#3	73.01681	-.000701	.0356609	5.758398	.0562271	.0015864

Sample Name: Q3676-01DUP Acquired: 11/21/2025 15:13:22 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021327	.0036774	6.533328	.1187739	F 29.52082	-.013525
Stddev	.0005765	.0011448	.056847	.0004412	.17643	.002026
%RSD	27.03144	31.13134	.8701115	.3714247	.5976406	14.97834

#1	.0025162	.0034795	6.528124	.1186793	29.35583	-.015808
#2	.0014697	.0026444	6.592599	.1183877	29.70681	-.012821
#3	.0024122	.0049083	6.479262	.1192547	29.49983	-.011945

Elem	Sr4077
Units	ppm
Avg	.2694597
Stddev	.0011263
%RSD	.4179677

#1	.2705976
#2	.2683454
#3	.2694362

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2530.285	48017.07	8591.716	2417.009	4407.079
Stddev	11.931	231.79	76.463	6.591	10.575
%RSD	.4715396	.4827212	.8899617	.2726955	.2399472

#1	2536.124	48235.09	8595.093	2409.399	4415.705
#2	2538.172	47773.61	8666.434	2420.735	4410.250
#3	2516.559	48042.52	8513.620	2420.893	4395.281

Sample Name: Q3676-01LX5 Acquired: 11/21/2025 15:17:38 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003593	-.005862	.0005448	-.003743	-.002015	.0310687	.0163428
Stddev	.003414	.003660	.0012142	.002278	.000331	.0130730	.0005065
%RSD	95.02922	62.43416	222.8878	60.86894	16.40377	42.07766	3.099429
#1	.000146	-.003489	.0000079	-.002476	-.002380	.0234170	.0169117
#2	-.006545	-.004020	-.000308	-.006373	-.001735	.0236255	.0159407
#3	-.004379	-.010077	.001935	-.002380	-.001931	.0461636	.0161760
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000114	.0000116	12.03751	.0004749	-.000082	.0341163	.0194184
Stddev	.0000434	.0000761	.04739	.0003216	.000247	.0004111	.0044005
%RSD	379.6857	657.2413	.3936734	67.70735	301.9051	1.204942	22.66175
#1	.0000027	.0000399	12.07177	.0001768	.000077	.0337796	.0152936
#2	.0000586	-.000075	12.05733	.0008157	-.000366	.0339950	.0189109
#3	-.000027	.000070	11.98343	.0004323	.000044	.0345744	.0240507
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041088	3.026612	.0013068	-.000177	13.22203	-.000236	.0068916
Stddev	.0003699	.018825	.0005336	.000054	.14797	.002927	.0001857
%RSD	9.001832	.6219970	40.83353	30.30850	1.119119	1238.242	2.694240
#1	.0042950	3.006365	.0018742	-.000235	13.07498	-.002962	.0067380
#2	.0043485	3.029881	.0008151	-.000167	13.37090	-.000605	.0070980
#3	.0036828	3.043588	.0012311	-.000129	13.22022	.002858	.0068389
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9861120	.0120517	.0002055	.0003393	.0023677	1.241424	.0240373
Stddev	.0197638	.0004323	.0000524	.0006842	.0018516	.009555	.0005104
%RSD	2.004214	3.586673	25.48100	201.6311	78.20173	.7696447	2.123261
#1	1.008020	.0118699	.0001962	.0011267	.0017465	1.231775	.0241643
#2	.980692	.0117400	.0002619	-.000111	.0009066	1.241615	.0234755
#3	.969624	.0125452	.0001584	.000003	.0044500	1.250881	.0244723

Sample Name: Q3676-01LX5 Acquired: 11/21/2025 15:17:38 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.131373	-.003599	.0549119
Stddev	.070352	.000827	.0001897
%RSD	1.147403	22.96808	.3454706

#1	6.141919	-.004312	.0549871
#2	6.056344	-.003793	.0550525
#3	6.195856	-.002693	.0546961

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2567.920	48360.67	8500.055	2461.097	4520.994
Stddev	6.076	284.70	28.760	11.337	12.091
%RSD	.2366299	.5887012	.3383485	.4606371	.2674334

#1	2572.080	48624.44	8470.736	2469.606	4527.993
#2	2570.734	48058.86	8501.208	2448.228	4527.955
#3	2560.947	48398.72	8528.221	2465.458	4507.032

Sample Name: Q3676-01MS Acquired: 11/21/2025 15:21:55 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7752389	1.900569	.9063329	1.917906	.7840502	2.045849
Stddev	.0119450	.049535	.0024231	.029286	.0062543	.004322
%RSD	1.540820	2.606327	.2673512	1.526985	.7976965	.2112625
#1	.7670526	1.848041	.9055844	1.905785	.7781329	2.047277
#2	.7697184	1.907231	.9043723	1.896627	.7834232	2.049277
#3	.7889457	1.946436	.9090419	1.951307	.7905944	2.040994
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2751415	.1919066	.1847902	59.97496	.3975696	.1895873
Stddev	.0016132	.0002171	.0007358	.07062	.0015228	.0010406
%RSD	.5863266	.1131306	.3981583	.1177464	.3830264	.5488884
#1	.2769883	.1917101	.1842940	59.91205	.3987847	.1890720
#2	.2740071	.1921396	.1844411	60.05135	.3958613	.1889049
#3	.2744291	.1918701	.1856355	59.96147	.3980628	.1907850
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4458773	2.923653	.2051784	16.83714	.4722848	.0632243
Stddev	.0025825	.006955	.0009848	.04284	.0031120	.0023828
%RSD	.5791854	.2378954	.4799611	.2544428	.6589248	3.768822
#1	.4444391	2.920930	.2041637	16.86879	.4708131	.0611587
#2	.4443342	2.931558	.2061303	16.85425	.4701817	.0626830
#3	.4488587	2.918471	.2052411	16.78839	.4758597	.0658312
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	70.84966	.2919203	.2301411	14.78558	.3304407	.4262258
Stddev	.31189	.0024349	.0005159	.05733	.0018986	.0032663
%RSD	.4402097	.8340917	.2241646	.3877276	.5745628	.7663408
#1	71.03085	.2943733	.2304869	14.83578	.3282779	.4235502
#2	70.48952	.2918835	.2295481	14.72311	.3312117	.4252616
#3	71.02860	.2895040	.2303882	14.79786	.3318325	.4298657

Sample Name: Q3676-01MS Acquired: 11/21/2025 15:21:55 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6786615	.1966290	7.050234	.7208417	F 30.03245	.1808380
Stddev	.0041582	.0009649	.009122	.0044365	.21678	.0018644
%RSD	.6127016	.4907073	.1293922	.6154610	.7218250	1.030967

#1	.6773547	.1961091	7.047556	.7192255	29.87053	.1791879
#2	.6753136	.1977423	7.042750	.7174399	29.94809	.1804657
#3	.6833161	.1960355	7.060395	.7258597	30.27873	.1828605

Elem	Sr4077
Units	ppm
Avg	.4520693
Stddev	.0007850
%RSD	.1736392

#1	.4522394
#2	.4512133
#3	.4527553

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2513.391	48214.45	8351.438	2409.369	4370.356
Stddev	9.740	169.04	22.453	15.979	10.804
%RSD	.3875151	.3505980	.2688553	.6632145	.2472192

#1	2522.732	48019.67	8336.008	2391.137	4381.080
#2	2514.142	48300.94	8341.110	2420.942	4370.516
#3	2503.296	48322.75	8377.197	2416.027	4359.473

Sample Name: Q3676-01MSD Acquired: 11/21/2025 15:25:57 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8241935	1.884108	.9605832	2.044028	.8312910	2.170374
Stddev	.0030183	.137317	.0020551	.011208	.0003843	.010573
%RSD	.3662148	7.288184	.2139403	.5483154	.0462324	.4871454
#1	.8208180	1.967673	.9585520	2.049855	.8316547	2.166501
#2	.8266326	1.959024	.9605362	2.051123	.8313295	2.162284
#3	.8251301	1.725626	.9626614	2.031107	.8308889	2.182337
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2900253	.2000819	.1957638	63.21917	.4206834	.2007935
Stddev	.0016904	.0005143	.0006786	.14873	.0018808	.0009157
%RSD	.5828535	.2570401	.3466529	.2352554	.4470859	.4560227
#1	.2915445	.1995230	.1949906	63.21962	.4190808	.1997445
#2	.2882043	.2005352	.1962609	63.07022	.4202154	.2012035
#3	.2903270	.2001875	.1960397	63.36767	.4227541	.2014326
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4708730	3.110924	.2171644	17.74621	.4987553	.0582943
Stddev	.0016697	.032128	.0011954	.04607	.0019243	.0019179
%RSD	.3545888	1.032747	.5504350	.2596125	.3858098	3.290062
#1	.4691136	3.132879	.2183640	17.79352	.4967572	.0573217
#2	.4724355	3.074049	.2171560	17.74362	.5005961	.0570575
#3	.4710697	3.125843	.2159733	17.70149	.4989126	.0605036
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	77.93691	.3109822	.2415940	15.90114	.3411472	.4535763
Stddev	.88861	.0012739	.0008459	.15046	.0027556	.0016976
%RSD	1.140169	.4096240	.3501421	.9462397	.8077546	.3742643
#1	78.76059	.3112638	.2425526	16.04189	.3379772	.4524273
#2	76.99517	.3120916	.2412773	15.74255	.3429712	.4555262
#3	78.05497	.3095910	.2409522	15.91897	.3424931	.4527755

Sample Name: Q3676-01MSD Acquired: 11/21/2025 15:25:57 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7168993	.2082639	7.533842	.7530489	F 31.11504	.1941551
Stddev	.0041144	.0024914	.050725	.0014367	.36798	.0010935
%RSD	.5739104	1.196258	.6732971	.1907796	1.182647	.5631945

#1	.7150029	.2086395	7.539288	.7536806	31.27220	.1931282
#2	.7216199	.2105462	7.480614	.7540615	31.37834	.1940323
#3	.7140752	.2056061	7.581625	.7514046	30.69457	.1953048

Elem	Sr4077
Units	ppm
Avg	.4781320
Stddev	.0025642
%RSD	.5362888

#1	.4805554
#2	.4754471
#3	.4783936

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2492.574	47612.82	8373.446	2372.113	4332.932
Stddev	5.031	210.95	18.591	6.104	11.123
%RSD	.2018406	.4430552	.2220179	.2573200	.2567189

#1	2498.025	47546.32	8394.859	2366.099	4337.815
#2	2488.110	47849.00	8361.433	2378.303	4320.203
#3	2491.586	47443.13	8364.044	2371.936	4340.779

Sample Name: Q3676-01A Acquired: 11/21/2025 15:30:00 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7574999	1.833535	.8981311	1.907752	.7849809	2.026916
Stddev	.0052272	.024748	.0039570	.011025	.0058588	.003325
%RSD	.6900635	1.349723	.4405816	.5779123	.7463559	.1640641
#1	.7619449	1.857574	.8997401	1.909346	.7850794	2.026741
#2	.7517411	1.808135	.8936230	1.896017	.7790736	2.023682
#3	.7588137	1.834898	.9010301	1.917894	.7907898	2.030326
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2723349	.1865284	.1824158	60.73037	.3940875	.1865266
Stddev	.0012390	.0005820	.0007427	.23900	.0015618	.0009060
%RSD	.4549676	.3120068	.4071455	.3935348	.3963062	.4857087
#1	.2719616	.1869414	.1820086	60.72790	.3924764	.1866015
#2	.2713254	.1858628	.1819658	60.49262	.3955949	.1855855
#3	.2737177	.1867809	.1832730	60.97059	.3941911	.1873928
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4454345	2.957409	.2051393	17.06474	.4667984	.0568076
Stddev	.0028070	.021061	.0008503	.10674	.0020407	.0012375
%RSD	.6301676	.7121362	.4145155	.6254913	.4371776	2.178420
#1	.4434307	2.933382	.2051211	17.13681	.4664721	.0556678
#2	.4442301	2.972675	.2042982	16.94211	.4649405	.0566313
#3	.4486427	2.966170	.2059986	17.11529	.4689827	.0581239
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	75.01786	.2902089	.2352029	15.23949	.3235244	.4242144
Stddev	.30001	.0038168	.0008849	.03925	.0004976	.0016705
%RSD	.3999118	1.315202	.3762322	.2575560	.1537909	.3937877
#1	74.69297	.2944302	.2358912	15.22641	.3237777	.4249621
#2	75.28442	.2870012	.2355129	15.28361	.3229511	.4223007
#3	75.07618	.2891953	.2342047	15.20844	.3238442	.4253805

Sample Name: Q3676-01A Acquired: 11/21/2025 15:30:00 Type: Unk

Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000

User: Jaswal Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6785775	.1939340	7.447492	.7161040	F 30.73407	.1799247
Stddev	.0033205	.0007475	.026241	.0039666	.27041	.0008319
%RSD	.4893396	.3854595	.3523468	.5539167	.8798388	.4623401

#1	.6781445	.1946306	7.417516	.7181267	30.72715	.1803824
#2	.6754946	.1931443	7.466311	.7115338	30.46719	.1789645
#3	.6820933	.1940270	7.458648	.7186515	31.00788	.1804273

Elem	Sr4077
Units	ppm
Avg	.4527211
Stddev	.0009197
%RSD	.2031401

#1	.4531126
#2	.4516705
#3	.4533803

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2496.583	47071.31	8471.172	2354.206	4330.436
Stddev	10.574	112.76	43.603	5.800	12.059
%RSD	.4235379	.2395477	.5147258	.2463886	.2784753

#1	2495.792	47177.44	8459.284	2359.238	4331.331
#2	2507.530	47083.58	8519.487	2355.517	4342.024
#3	2486.426	46952.93	8434.746	2347.862	4317.955

Sample Name: Q3676-04 Acquired: 11/21/2025 15:34:03 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001144	-.014241	.0429482	-.003200	.0259994	8.315802
Stddev	.006216	.006041	.0036752	.008511	.0031608	.038478
%RSD	543.3075	42.41875	8.557343	266.0199	12.15728	.4627149
#1	-.004112	-.020768	.0416316	.001357	.0223588	8.286158
#2	-.005321	-.013110	.0471003	-.013019	.0275954	8.359286
#3	.006000	-.008846	.0401126	.002064	.0280439	8.301962
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.572766	.0007640	.0033826	693.1816	.0954703	.0066651
Stddev	.014552	.0000663	.0000820	8.9796	.0009267	.0003355
%RSD	.5656077	8.677839	2.422648	1.295422	.9706771	5.033053
#1	2.560470	.0007008	.0034771	692.1280	.0947700	.0069723
#2	2.588831	.0007583	.0033299	702.6415	.0965211	.0063072
#3	2.568997	.0008330	.0033409	684.7752	.0951198	.0067158
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9829289	22.09526	.2384058	137.5434	.1186950	.0080093
Stddev	.0034972	.17702	.0016569	.5120	.0002135	.0004119
%RSD	.3557887	.8011862	.6949918	.3722106	.1799099	5.142717
#1	.9796302	21.90639	.2368291	137.2784	.1188111	.0078371
#2	.9825609	22.25739	.2401327	138.1335	.1188254	.0084793
#3	.9865954	22.12201	.2382556	137.2182	.1184486	.0077114
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1277.464	.0149379	1.715364	64.73957	.0816610	.0081181
Stddev	5.057	.0026019	.012965	.41978	.0007451	.0004575
%RSD	.3958634	17.41796	.7558411	.6484194	.9123648	5.635265
#1	1271.819	.0159630	1.701944	64.34549	.0810743	.0083399
#2	1281.582	.0119796	1.727821	65.18104	.0824992	.0084224
#3	1278.990	.0168711	1.716325	64.69218	.0814094	.0075920

Sample Name: Q3676-04 Acquired: 11/21/2025 15:34:03 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1197230	.0533629	F 24.91918	.7316165	F 51.07481	-.097139
Stddev	.0009340	.0019737	.16982	.0012324	.13306	.001745
%RSD	.7801450	3.698628	.6814660	.1684506	.2605279	1.796627

#1	.1186595	.0518400	24.78292	.7330019	51.22650	-.096931
#2	.1204103	.0555927	25.10943	.7306422	51.02021	-.098979
#3	.1200991	.0526560	24.86520	.7312055	50.97774	-.095507

Elem	Sr4077
Units	ppm
Avg	3.468767
Stddev	.025697
%RSD	.7408069

#1	3.458929
#2	3.497930
#3	3.449443

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2140.702	42828.46	8429.025	2062.875	3471.985
Stddev	5.218	189.18	40.069	12.921	6.554
%RSD	.2437427	.4417259	.4753717	.6263540	.1887733

#1	2145.028	42862.16	8446.915	2073.461	3470.898
#2	2142.172	42624.69	8383.127	2048.477	3479.014
#3	2134.907	42998.53	8457.032	2066.687	3466.042

Sample Name: CCV03 Acquired: 11/21/2025 15:38:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	4.851961	4.892124	4.804955	4.904378	4.900880	9.699990	9.554775
Stddev	.027500	.131257	.023252	.038166	.025200	.014560	.097733
%RSD	.5667708	2.683019	.4839113	.7782029	.5141982	.1501040	1.022866
#1	4.865939	5.040163	4.787986	4.936316	4.912546	9.683447	9.644595
#2	4.820280	4.789968	4.795420	4.862110	4.871960	9.710859	9.450696
#3	4.869663	4.846240	4.831458	4.914708	4.918133	9.705663	9.569034
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2445370	2.392672	23.98897	.9763825	2.399716	1.223304	4.874966
Stddev	.0005780	.012502	.05463	.0015172	.012991	.005867	.011488
%RSD	.2363468	.5225278	.2277207	.1553930	.5413618	.4796153	.2356521
#1	.2449505	2.387072	24.05090	.9767922	2.392265	1.221562	4.878918
#2	.2438766	2.383950	23.94764	.9776528	2.392166	1.218505	4.883957
#3	.2447840	2.406996	23.96837	.9747025	2.414716	1.229845	4.862024
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.399805	23.98121	2.403832	1.231590	26.22984	2.406610	2.469211
Stddev	.011645	.05256	.011600	.002931	.16295	.008647	.007976
%RSD	.4852372	.2191787	.4825474	.2379797	.6212348	.3592919	.3230221
#1	2.413214	23.92127	2.396830	1.232807	26.41666	2.400895	2.460016
#2	2.393966	24.01947	2.397445	1.233717	26.15581	2.416557	2.473352
#3	2.392234	24.00288	2.417222	1.228247	26.11705	2.402377	2.474265
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.03303	4.847871	4.898337	4.838636	4.806082	4.869665	5.088236
Stddev	.17658	.012141	.019489	.022149	.020471	.024057	.014896
%RSD	.7347377	.2504498	.3978722	.4577465	.4259423	.4940130	.2927484
#1	24.23080	4.861870	4.907810	4.843308	4.829719	4.843006	5.074429
#2	23.97708	4.840212	4.875922	4.814524	4.794413	4.876234	5.086255
#3	23.89120	4.841530	4.911279	4.858076	4.794112	4.889755	5.104023

Sample Name: CCV03 Acquired: 11/21/2025 15:38:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.823554	4.744111	4.810239
Stddev	.023004	.024480	.039494
%RSD	.4769172	.5160174	.8210422

#1	4.843601	4.771681	4.841955
#2	4.798438	4.724918	4.822760
#3	4.828625	4.735736	4.766002

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2528.909	47666.86	8543.333	2432.045	4292.955
Stddev	9.522	160.12	31.775	8.841	15.640
%RSD	.3765280	.3359176	.3719269	.3635107	.3643132

#1	2532.959	47591.30	8509.414	2440.883	4303.000
#2	2535.736	47558.49	8548.178	2423.202	4300.929
#3	2518.031	47850.78	8572.407	2432.049	4274.935

Sample Name: CCB03 Acquired: 11/21/2025 15:42:44 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	-.002540	-.001079	-.000648	-.001824	-.000146	.0080827	-.001522
Stddev	.000602	.004246	.000873	.004023	.000683	.0016656	.000358
%RSD	23.71883	393.6391	134.6035	220.5586	468.0819	20.60695	23.50226

#1	-.002851	.003823	.000279	-.002495	.000542	.0062153	-.001224
#2	-.002923	-.003442	-.001454	-.005470	-.000824	.0086175	-.001918
#3	-.001845	-.003617	-.000770	.002492	-.000155	.0094151	-.001423

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000767	.0000896	-.012194	-.000678	.0002528	.0000602	-.010771
Stddev	.0000462	.0000975	.006434	.000260	.0002000	.0004093	.002412
%RSD	60.19846	108.7905	52.76121	38.34841	79.12828	679.5538	22.39301

#1	.0000283	-.000006	-.019624	-.000732	.0001497	.0005169	-.012674
#2	.0001203	.000087	-.008460	-.000395	.0001254	-.000273	-.011581
#3	.0000814	.000189	-.008499	-.000906	.0004833	-.000063	-.008058

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000776	.0053205	-.000028	-.000200	.0740749	.0013710	.0006171
Stddev	.0000452	.0338675	.000148	.000419	.0046999	.0013976	.0003392
%RSD	58.24660	636.5527	520.6414	209.0002	6.344831	101.9391	54.96635

#1	.0000278	-.033689	.000032	.000130	.0714656	.0001251	.0003057
#2	.0000891	.022438	-.000197	-.000059	.0712585	.0011057	.0005670
#3	.0001160	.027212	.000080	-.000671	.0795006	.0028823	.0009785

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0413854	.0035013	.0001913	.0009195	.0009664	-.030255	.0000658
Stddev	.0549218	.0006935	.0001917	.0012643	.0003364	.009434	.0002422
%RSD	132.7081	19.80801	100.1813	137.4915	34.80642	31.18180	368.1449

#1	.0083889	.0041572	.0000246	-.000149	.0005898	-.020687	-.000197
#2	.1047859	.0035713	.0004007	.000593	.0012369	-.039550	.000279
#3	.0109814	.0027754	.0001487	.002315	.0010725	-.030529	.000116

Sample Name: CCB03 Acquired: 11/21/2025 15:42:44 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0075317	.0018418	.0000526
Stddev	.0048447	.0005983	.0000900
%RSD	64.32435	32.48311	171.0680

#1	.0073189	.0017454	-.000023
#2	.0124792	.0012976	.000028
#3	.0027969	.0024824	.000152

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2605.798	49146.09	8610.335	2476.279	4668.365
Stddev	7.466	168.70	48.062	2.400	9.380
%RSD	.2865283	.3432600	.5581932	.0969058	.2009335

#1	2604.210	49256.81	8569.007	2473.985	4672.740
#2	2613.931	49229.53	8663.077	2478.772	4674.759
#3	2599.254	48951.93	8598.921	2476.078	4657.597

Sample Name: Q3687-01 Acquired: 11/21/2025 15:47:05 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067321	.0087897	.1230544	-.002749	.0011768	11.34388
Stddev	.0030964	.0030174	.0028033	.005756	.0002010	.02189
%RSD	45.99426	34.32831	2.278088	209.3447	17.07556	.1929318
#1	.0100210	.0071362	.1256010	.000856	.0013348	11.36755
#2	.0038731	.0122724	.1235117	-.009387	.0009507	11.33973
#3	.0063022	.0069606	.1200506	.000283	.0012450	11.32437
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1251479	.0004662	.0015064	71.44773	.0401883	.0274387
Stddev	.0016792	.0000136	.0001455	.15204	.0002935	.0001162
%RSD	1.341773	2.925300	9.658899	.2128043	.7302170	.4235794
#1	.1269856	.0004721	.0013410	71.57773	.0398976	.0275061
#2	.1247646	.0004760	.0015638	71.48493	.0404844	.0275055
#3	.1236935	.0004506	.0016146	71.28054	.0401829	.0273045
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1038095	21.31779	1.761936	19.24775	.0764717	-.000939
Stddev	.0008065	.16448	.003852	.01135	.0003749	.000505
%RSD	.7768691	.7715809	.2186195	.0589669	.4902556	53.81018
#1	.1041463	21.41017	1.765302	19.26082	.0761548	-.000368
#2	.1028892	21.41532	1.762770	19.24206	.0763746	-.001330
#3	.1043930	21.12788	1.757735	19.24038	.0768855	-.001119
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	84.08087	.0311687	.4712949	9.181903	.1296163	.3819259
Stddev	.56510	.0020968	.0006145	.070742	.0007876	.0025001
%RSD	.6720926	6.727327	.1303801	.7704517	.6075976	.6545897
#1	84.31027	.0287475	.4719858	9.174736	.1297589	.3802731
#2	84.49521	.0323748	.4708094	9.255956	.1303229	.3807025
#3	83.43715	.0323838	.4710897	9.115017	.1287673	.3848020

Sample Name: Q3687-01 Acquired: 11/21/2025 15:47:05 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0467065	.3974105	F 32.04234	.1240179	F 34.14341	-.003519
Stddev	.0009300	.0021959	.28041	.0005018	.11206	.001263
%RSD	1.991191	.5525565	.8751249	.4046497	.3282092	35.89370

#1	.0459774	.3948855	32.11935	.1243407	34.03471	-.004360
#2	.0477539	.3988731	32.27620	.1234398	34.13695	-.002067
#3	.0463882	.3984731	31.73147	.1242733	34.25856	-.004131

Elem	Sr4077
Units	ppm
Avg	.3561073
Stddev	.0005955
%RSD	.1672205

#1	.3567598
#2	.3559688
#3	.3555932

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2580.229	49648.08	8775.962	2453.498	4423.804
Stddev	8.173	102.15	30.901	2.175	11.633
%RSD	.3167415	.2057449	.3521130	.0886597	.2629636

#1	2581.863	49663.13	8781.677	2451.053	4424.474
#2	2587.461	49539.24	8803.607	2455.219	4435.087
#3	2571.363	49741.87	8742.602	2454.222	4411.850

Sample Name: Q3687-01DUP Acquired: 11/21/2025 15:51:14 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056633	.0002263	.1240754	-.001203	.0007686	11.26786
Stddev	.0030407	.0028354	.0016027	.001960	.0009348	.01527
%RSD	53.69125	1252.920	1.291733	162.8580	121.6123	.1355213
#1	.0054203	.0031214	.1223978	-.002924	-.000098	11.25044
#2	.0088182	.0001029	.1242374	-.001616	.001759	11.27421
#3	.0027514	-.002545	.1255910	.000930	.000644	11.27893
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1228647	.0004761	.0011967	70.92988	.0399401	.0276716
Stddev	.0007176	.0000434	.0000691	.12306	.0005467	.0003091
%RSD	.5840935	9.114634	5.773765	.1734924	1.368749	1.116890
#1	.1235907	.0005245	.0012258	71.03245	.0393218	.0278296
#2	.1228477	.0004633	.0012464	70.79343	.0401392	.0273155
#3	.1221557	.0004406	.0011178	70.96375	.0403594	.0278698
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1017063	21.87127	1.739163	19.13372	.0757825	-.000862
Stddev	.0005489	.19766	.008131	.04269	.0004920	.000222
%RSD	.5397367	.9037461	.4675139	.2231013	.6492713	25.73486
#1	.1015034	21.73707	1.743918	19.17170	.0752337	-.000910
#2	.1012877	21.77850	1.729775	19.08752	.0759296	-.001055
#3	.1023278	22.09826	1.743797	19.14195	.0761842	-.000620
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	86.34922	.0256310	.4536476	9.278828	.1307773	.3906185
Stddev	.61746	.0009742	.0012052	.079945	.0004063	.0015395
%RSD	.7150707	3.801055	.2656636	.8615817	.3106604	.3941290
#1	85.85516	.0261652	.4536886	9.189400	.1312366	.3921330
#2	86.15108	.0245065	.4524224	9.303715	.1306305	.3890551
#3	87.04143	.0262214	.4548317	9.343369	.1304649	.3906674

Sample Name: Q3687-01DUP Acquired: 11/21/2025 15:51:14 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0118521	.3925185	F 32.91396	.1251310	F 34.47013	-.003942
Stddev	.0004876	.0006850	.21204	.0009298	.25168	.001007
%RSD	4.113619	.1745193	.6442130	.7430493	.7301539	25.55477

#1	.0123936	.3918119	32.73791	.1241074	34.43542	-.003319
#2	.0114481	.3931796	32.85463	.1253626	34.23760	-.005104
#3	.0117145	.3925639	33.14935	.1259232	34.73736	-.003403

Elem	Sr4077
Units	ppm
Avg	.3533846
Stddev	.0005564
%RSD	.1574579

#1	.3533319
#2	.3528563
#3	.3539654

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2562.345	48353.47	8868.013	2425.649	4373.599
Stddev	3.930	145.04	36.363	5.016	6.769
%RSD	.1533579	.2999587	.4100455	.2068068	.1547676

#1	2558.450	48518.19	8847.199	2424.482	4375.263
#2	2566.308	48244.87	8846.839	2421.319	4379.380
#3	2562.277	48297.36	8910.001	2431.146	4366.153

Sample Name: Q3687-01LX5 Acquired: 11/21/2025 15:55:24 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001996	-.002143	.0240275	-.006424	-.000462	2.369898	.0244886
Stddev	.004877	.004420	.0012446	.004282	.000997	.015141	.0014007
%RSD	244.3577	206.2333	5.179844	66.65142	215.9215	.6388781	5.719747
#1	.003314	.002949	.0251572	-.009027	-.000066	2.381580	.0258122
#2	-.003027	-.004985	.0226933	-.008764	-.001596	2.375323	.0246317
#3	-.006274	-.004395	.0242319	-.001482	.000277	2.352793	.0230219
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001641	.0003202	14.89724	.0076320	.0057047	.0215732	4.312964
Stddev	.0000627	.0001140	.06795	.0002314	.0000211	.0002302	.031563
%RSD	38.19559	35.59619	.4561136	3.032249	.3701711	1.067190	.7318182
#1	.0001012	.0002158	14.96876	.0073650	.0057290	.0218153	4.339434
#2	.0002266	.0003029	14.88942	.0077740	.0056908	.0213570	4.278033
#3	.0001646	.0004418	14.83354	.0077571	.0056942	.0215473	4.321426
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3683237	4.005731	.0156042	-.000531	15.85959	.0053567	.0951550
Stddev	.0039813	.054674	.0001561	.000517	.13219	.0028351	.0006067
%RSD	1.080928	1.364885	1.000234	97.51466	.8334925	52.92569	.6375685
#1	.3727738	3.975497	.0155850	-.000222	15.92074	.0044630	.0950079
#2	.3670979	4.068844	.0154587	-.000242	15.70790	.0030762	.0946353
#3	.3650995	3.972851	.0157690	-.001128	15.95013	.0085309	.0958216
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.740181	.0265384	.0754939	.0064809	.0836721	6.317517	.0258758
Stddev	.015971	.0013840	.0002531	.0011344	.0003644	.032589	.0001441
%RSD	.9177647	5.215193	.3352019	17.50366	.4355356	.5158463	.5570016
#1	1.727282	.0281173	.0752068	.0063682	.0836877	6.318827	.0257546
#2	1.735217	.0259637	.0755902	.0054071	.0833001	6.284293	.0260352
#3	1.758045	.0255344	.0756846	.0076675	.0840284	6.349430	.0258378

Sample Name: Q3687-01LX5 Acquired: 11/21/2025 15:55:24 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.917104	.0015048	.0748330
Stddev	.022324	.0013561	.0008370
%RSD	.3227295	90.12044	1.118454

#1	6.908109	.0021018	.0757993
#2	6.900680	.0024601	.0743626
#3	6.942521	-.000047	.0743370

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2663.052	51116.79	8719.109	2557.826	4706.871
Stddev	5.507	59.94	67.994	13.978	6.883
%RSD	.2067884	.1172636	.7798223	.5464960	.1462364

#1	2662.014	51153.29	8672.870	2548.695	4708.354
#2	2669.004	51149.47	8687.278	2573.918	4712.891
#3	2658.138	51047.61	8797.180	2550.865	4699.367

Sample Name: Q3687-01MS Acquired: 11/21/2025 15:59:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7752842	1.823307	1.013041	1.894139	.7218040	13.51936
Stddev	.0057859	.056227	.007782	.014726	.0021025	.05743
%RSD	.7462932	3.083772	.7681365	.7774646	.2912883	.4247643
#1	.7692564	1.759091	1.007176	1.891505	.7195898	13.58567
#2	.7758028	1.847130	1.010078	1.880907	.7237734	13.48575
#3	.7807933	1.863701	1.021869	1.910004	.7220488	13.48667
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3149530	.1906378	.1853829	70.74674	.4255195	.2144205
Stddev	.0016747	.0007828	.0004827	.10525	.0013524	.0010366
%RSD	.5317336	.4106398	.2603997	.1487703	.3178240	.4834443
#1	.3132510	.1915399	.1854563	70.84995	.4260367	.2141477
#2	.3165990	.1902367	.1848677	70.63957	.4239848	.2135475
#3	.3150090	.1901367	.1858248	70.75069	.4265370	.2155662
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3788203	23.51043	1.949924	20.47954	.5433101	.0281188
Stddev	.0009250	.17900	.007185	.03537	.0011107	.0004847
%RSD	.2441695	.7613734	.3684621	.1727195	.2044317	1.723747
#1	.3779523	23.30626	1.941769	20.51841	.5432891	.0286084
#2	.3787153	23.58462	1.955321	20.47098	.5422101	.0276392
#3	.3797932	23.64041	1.952682	20.44923	.5444312	.0281088
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	90.68202	.3142888	.6216563	18.76003	.3949049	.7753049
Stddev	.64072	.0026421	.0008400	.09638	.0010588	.0035982
%RSD	.7065548	.8406698	.1351256	.5137588	.2681108	.4641030
#1	89.98573	.3163531	.6226192	18.65515	.3957571	.7728650
#2	91.24675	.3113112	.6212763	18.78022	.3937197	.7736124
#3	90.81357	.3152021	.6210734	18.84472	.3952381	.7794373

Sample Name: Q3687-01MS Acquired: 11/21/2025 15:59:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6006693	.5788126	F 32.90644	.7277898	F 33.24581	.1995545
Stddev	.0033332	.0024314	.11895	.0008512	.20412	.0005749
%RSD	.5549156	.4200585	.3614698	.1169523	.6139667	.2881037

#1	.5981346	.5773061	32.76977	.7287536	33.01772	.2001582
#2	.5994284	.5816176	32.96299	.7271410	33.30842	.1994919
#3	.6044450	.5775143	32.98656	.7274749	33.41129	.1990135

Elem	Sr4077
Units	ppm
Avg	.5486383
Stddev	.0020392
%RSD	.3716878

#1	.5472651
#2	.5509815
#3	.5476684

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2586.080	49096.66	8677.866	2495.487	4398.600
Stddev	6.218	97.77	32.969	17.248	2.095
%RSD	.2404342	.1991416	.3799197	.6911797	.0476246

#1	2586.964	49148.87	8640.418	2508.352	4397.716
#2	2591.808	49157.24	8702.520	2502.223	4400.992
#3	2579.467	48983.86	8690.661	2475.888	4397.093

Sample Name: Q3687-01MSD Acquired: 11/21/2025 16:03:40 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8187451	1.925570	1.067341	2.007303	.7497819	14.04450
Stddev	.0010176	.103675	.006982	.013309	.0033640	.05706
%RSD	.1242865	5.384102	.6541355	.6630355	.4486573	.4063156
#1	.8197604	1.816207	1.064381	1.995080	.7512942	14.10992
#2	.8177252	1.938081	1.062328	2.005347	.7459272	14.01858
#3	.8187498	2.022421	1.075316	2.021482	.7521243	14.00499
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3245824	.1969033	.1947973	74.21695	.4391237	.2250314
Stddev	.0044417	.0001906	.0009358	.33589	.0005539	.0004410
%RSD	1.368423	.0967840	.4803913	.4525829	.1261391	.1959842
#1	.3285797	.1970033	.1939503	74.58995	.4389075	.2249280
#2	.3253668	.1970231	.1946398	74.12254	.4397531	.2246513
#3	.3198008	.1966836	.1958019	73.93837	.4387104	.2255150
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3943470	24.58851	2.015539	21.51024	.5642053	.0552014
Stddev	.0006937	.14871	.024066	.03618	.0012308	.0005616
%RSD	.1759024	.6047848	1.194043	.1681994	.2181546	1.017347
#1	.3935804	24.71416	2.040144	21.46854	.5640323	.0546353
#2	.3945293	24.62704	2.014423	21.53328	.5630701	.0557584
#3	.3949314	24.42433	1.992050	21.52890	.5655135	.0552104
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	91.88870	.3277459	.6531238	19.45622	.4100990	.8263874
Stddev	1.23686	.0017311	.0031925	.22246	.0004525	.0045466
%RSD	1.346045	.5281918	.4888082	1.143386	.1103395	.5501828
#1	92.96120	.3280649	.6510134	19.60438	.4096222	.8227604
#2	92.16923	.3258775	.6567966	19.56386	.4101525	.8249138
#3	90.53567	.3292954	.6515613	19.20041	.4105224	.8314881

Sample Name: Q3687-01MSD Acquired: 11/21/2025 16:03:40 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6105587	.5974364	F 34.53091	.7552483	F 35.29344	.2009609
Stddev	.0019166	.0106432	.07599	.0030618	.28838	.0026612
%RSD	.3139029	1.781478	.2200712	.4054064	.8170857	1.324236
#1	.6085093	.6095823	34.52949	.7517732	35.00178	.2035668
#2	.6108600	.5929868	34.60761	.7564220	35.30012	.2010683
#3	.6123068	.5897401	34.45564	.7575496	35.57842	.1982476
Elem	Sr4077					
Units	ppm					
Avg	.5695502					
Stddev	.0072059					
%RSD	1.265196					
#1	.5765293					
#2	.5699842					
#3	.5621371					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2572.032	49249.30	8778.053	2483.184	4379.696	
Stddev	5.567	71.70	17.282	6.026	10.524	
%RSD	.2164363	.1455851	.1968823	.2426648	.2402975	
#1	2576.296	49240.39	8760.084	2489.801	4387.918	
#2	2574.065	49182.47	8779.521	2481.740	4383.336	
#3	2565.734	49325.04	8794.555	2478.012	4367.836	

Sample Name: Q3687-01A Acquired: 11/21/2025 16:07:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8279551	2.018746	1.086832	2.060710	.8023564	13.20966
Stddev	.0058717	.033496	.008454	.001593	.0077005	.09149
%RSD	.7091768	1.659256	.7779016	.0772924	.9597417	.6925934
#1	.8281501	2.057265	1.082970	2.058893	.7967957	13.31527
#2	.8219884	2.002524	1.080999	2.061865	.7991278	13.15444
#3	.8337269	1.996450	1.096528	2.061370	.8111457	13.15927
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3246860	.1977599	.1984790	71.91705	.4444643	.2279686
Stddev	.0025289	.0008044	.0006798	.35252	.0015562	.0013199
%RSD	.7788845	.4067686	.3425167	.4901702	.3501247	.5789945
#1	.3272880	.1981004	.1980182	72.30676	.4454854	.2266151
#2	.3245330	.1983380	.1981590	71.82399	.4452343	.2280386
#3	.3222371	.1968412	.1992598	71.62041	.4426733	.2292521
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3996224	24.64364	1.948948	21.06438	.5724697	.0561578
Stddev	.0023968	.11409	.009557	.10567	.0027641	.0017495
%RSD	.5997740	.4629753	.4903516	.5016416	.4828388	3.115346
#1	.3971216	24.67861	1.948577	21.18145	.5702458	.0568424
#2	.3998459	24.73616	1.958685	21.03563	.5715988	.0574616
#3	.4018996	24.51616	1.939583	20.97606	.5755643	.0541695
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	90.68902	.3337678	.6494821	19.41815	.4111684	.8116634
Stddev	.46262	.0070256	.0045552	.04051	.0029886	.0027218
%RSD	.5101214	2.104948	.7013572	.2086218	.7268470	.3353306
#1	90.89891	.3414804	.6496569	19.43958	.4120525	.8101797
#2	91.00949	.3277330	.6539474	19.44345	.4136151	.8100058
#3	90.15866	.3320899	.6448421	19.37143	.4078375	.8148046

Sample Name: Q3687-01A Acquired: 11/21/2025 16:07:39 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7051905	.5859984	F 33.07948	.7595831	F 34.23619	.2043451
Stddev	.0032649	.0030073	.13722	.0043745	.15830	.0025917
%RSD	.4629827	.5131974	.4148230	.5759095	.4623732	1.268296
#1	.7028751	.5854262	33.20990	.7566412	34.22791	.2059543
#2	.7037717	.5892508	33.09218	.7574982	34.08219	.2057257
#3	.7089248	.5833183	32.93635	.7646101	34.39846	.2013554
Elem	Sr4077					
Units	ppm					
Avg	.5594826					
Stddev	.0029010					
%RSD	.5185075					
#1	.5618721					
#2	.5603209					
#3	.5562548					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2560.674	48713.84	8772.862	2435.777	4355.292	
Stddev	11.574	146.67	29.114	12.517	17.777	
%RSD	.4519956	.3010890	.3318597	.5138677	.4081679	
#1	2562.709	48635.39	8751.088	2424.227	4363.286	
#2	2571.096	48623.08	8761.568	2434.027	4367.669	
#3	2548.217	48883.06	8805.931	2449.076	4334.922	

Sample Name: Q3690-01 Acquired: 11/21/2025 16:11:40 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000832	-.005446	.0030473	-.002502	-.000762	.0902281	.0019815
Stddev	.001798	.002032	.0004593	.001329	.001752	.0112980	.0009756
%RSD	215.9934	37.30445	15.07136	53.11440	229.8688	12.52159	49.23255
#1	-.001099	-.006305	.0026863	-.001477	-.002274	.0823272	.0009359
#2	-.002482	-.003126	.0028914	-.002025	-.001171	.0851882	.0021415
#3	.001084	-.006907	.0035642	-.004003	.001158	.1031689	.0028672
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000015	.0000891	4.615008	.0284957	.0079027	.0053562	1.436381
Stddev	.000078	.0000415	.022966	.0003038	.0001240	.0002668	.010251
%RSD	504.3497	46.52370	.4976302	1.066244	1.568884	4.981552	.7136974
#1	.000045	.0000847	4.617129	.0281746	.0079090	.0050538	1.427682
#2	.000012	.0000500	4.591056	.0287787	.0077757	.0055586	1.447683
#3	-.000103	.0001326	4.636840	.0285337	.0080234	.0054561	1.433778
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0189531	1.844930	.0220700	-.000178	14.73565	.0019975	.0583378
Stddev	.0002369	.021063	.0005202	.000813	.11313	.0032029	.0006353
%RSD	1.249879	1.141682	2.357261	456.8178	.7676982	160.3439	1.088992
#1	.0188887	1.839697	.0225074	.000754	14.73517	-.000882	.0590445
#2	.0187550	1.826976	.0222078	-.000545	14.84901	.001428	.0578140
#3	.0192155	1.868116	.0214947	-.000742	14.62276	.005447	.0581549
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8717901	.0071423	.0004453	-.000420	.0024666	6.050608	.0008373
Stddev	.0030890	.0005932	.0000648	.000893	.0020363	.046167	.0004707
%RSD	.3543278	8.305145	14.55558	212.3854	82.55386	.7630115	56.21719
#1	.8695636	.0075047	.0004821	-.001437	.0029958	6.021231	.0003234
#2	.8704902	.0074644	.0003705	-.000061	.0041860	6.103821	.0009409
#3	.8753167	.0064577	.0004833	.000237	.0002180	6.026773	.0012476

Sample Name: Q3690-01 Acquired: 11/21/2025 16:11:40 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.183313	-.008386	.0245501
Stddev	.022413	.001619	.0002364
%RSD	.3624752	19.31224	.9629008

#1	6.162291	-.008685	.0248099
#2	6.180752	-.009834	.0244926
#3	6.206897	-.006637	.0243476

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2653.773	50394.63	8878.612	2526.323	4807.854
Stddev	9.784	118.16	56.774	15.151	21.383
%RSD	.3686973	.2344620	.6394462	.5997185	.4447566

#1	2663.286	50276.43	8860.167	2510.824	4826.845
#2	2654.295	50394.71	8942.315	2541.100	4812.025
#3	2643.738	50512.75	8833.354	2527.044	4784.693

Sample Name: Q3690-02 Acquired: 11/21/2025 16:15:55 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003749	-.005744	-.000122	-.003375	-.001711	.0596294	.0013425
Stddev	.004229	.003568	.000960	.004318	.000391	.0024026	.0006382
%RSD	112.8179	62.10876	784.1311	127.9126	22.84953	4.029179	47.54263
#1	-.001940	-.009451	.000114	-.006746	-.001480	.0618331	.0011645
#2	-.000725	-.005449	-.001179	-.004871	-.001490	.0570680	.0020508
#3	-.008582	-.002333	.000698	.001491	-.002162	.0599871	.0008121
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000032	-.000019	3.529760	.0009485	.0057198	.0049348	.2023497
Stddev	.000135	.000054	.007373	.0002126	.0001998	.0005563	.0071796
%RSD	425.9968	279.4491	.2088833	22.41364	3.492562	11.27345	3.548117
#1	-.000169	-.000017	3.522730	.0007363	.0059317	.0043785	.2105605
#2	-.000026	.000034	3.529116	.0009476	.0056928	.0054912	.1992362
#3	.000100	-.000074	3.537434	.0011615	.0055349	.0049348	.1972523
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0151704	1.414735	.0070499	-.000369	10.78363	.0020868	.0183549
Stddev	.0007506	.026434	.0002729	.000199	.15888	.0026969	.0004287
%RSD	4.947610	1.868454	3.871711	53.93970	1.473339	129.2393	2.335874
#1	.0150609	1.388317	.0071466	-.000526	10.94634	-.000819	.0184985
#2	.0144805	1.441185	.0067417	-.000435	10.77567	.004509	.0186935
#3	.0159696	1.414704	.0072613	-.000145	10.62888	.002571	.0178728
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5373027	.0040803	.0000144	.0000776	.0010805	4.385490	.0014706
Stddev	.0471601	.0005505	.0003810	.0009060	.0002394	.039935	.0003933
%RSD	8.777196	13.49219	2642.339	1167.087	22.16052	.9106177	26.74795
#1	.5315639	.0035438	.0004500	.0011163	.0008960	4.429026	.0010606
#2	.5870697	.0040532	-.000257	-.000550	.0013511	4.376884	.0015061
#3	.4932746	.0046438	-.000150	-.000333	.0009944	4.350559	.0018449

Sample Name: Q3690-02 Acquired: 11/21/2025 16:15:55 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.621702	-.008418	.0196305
Stddev	.034088	.001186	.0000441
%RSD	.7375596	14.08842	.2245489
#1	4.612222	-.008200	.0196805
#2	4.593357	-.007356	.0195972
#3	4.659526	-.009698	.0196138

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2726.468	52669.58	8830.037	2629.544	4980.212
Stddev	6.588	211.79	65.512	13.936	11.371
%RSD	.2416293	.4021199	.7419261	.5299879	.2283325
#1	2730.178	52550.66	8904.563	2632.824	4987.625
#2	2730.365	52543.96	8781.535	2614.260	4985.892
#3	2718.862	52914.10	8804.013	2641.547	4967.120

Sample Name: PB170683BL Acquired: 11/21/2025 16:20:12 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000634	-.004177	-.001317	-.005939	-.000274	.0193298
Stddev	.001158	.005661	.000927	.001168	.003732	.0086349
%RSD	182.7552	135.5299	70.38076	19.66599	1359.985	44.67166
#1	-.001940	-.009272	-.002107	-.007101	-.004360	.0292793
#2	.000269	.001917	-.000297	-.004765	.000580	.0137914
#3	-.000231	-.005176	-.001546	-.005951	.002957	.0149186
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002775	-.000018	.0001117	-.005200	-.000188	-.000105
Stddev	.000453	.000112	.0000305	.012565	.000022	.000357
%RSD	16.32903	610.4639	27.33549	241.6471	11.60054	339.7394
#1	-.002307	.000109	.0001457	.002243	-.000189	.000307
#2	-.002806	-.000062	.0000867	.001864	-.000210	-.000298
#3	-.003212	-.000102	.0001028	-.019706	-.000166	-.000324
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000446	-.005403	.0001308	-.012145	.0006820	.0002928
Stddev	.0000924	.005510	.0000768	.030840	.0002190	.0001530
%RSD	207.0014	101.9657	58.74196	253.9291	32.11231	52.27000
#1	.0001296	-.009429	.0001151	-.025665	.0009132	.0004041
#2	.0000579	-.007657	.0002142	-.033916	.0004777	.0003560
#3	-.000054	.000876	.0000629	.023146	.0006549	.0001183
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009496	.0030471	-.000305	-.027960	-.002417	-.000301
Stddev	.022346	.0013682	.000256	.052509	.001237	.000478
%RSD	235.3358	44.90234	84.06489	187.7969	51.17367	158.5568
#1	-.027781	.0019412	-.000264	-.076905	-.003224	.000194
#2	-.016119	.0026229	-.000071	.027504	-.000993	-.000338
#3	.015414	.0045771	-.000579	-.034481	-.003035	-.000760

Sample Name: PB170683BL Acquired: 11/21/2025 16:20:12 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000474	.0017333	-.028590	.0001186	F .0133920	.0029774
Stddev	.0007525	.0009954	.008634	.0004058	.0042211	.0009972
%RSD	1587.209	57.42745	30.19844	342.0803	31.51972	33.49186

#1	-.000513	.0018397	-.034227	-.000335	.0179705	.0039867
#2	.000903	.0006890	-.018651	.000244	.0096551	.0029527
#3	-.000247	.0026713	-.032894	.000447	.0125504	.0019928

Elem	Sr4077
Units	ppm
Avg	.0000266
Stddev	.0001280
%RSD	480.7390

#1	.0001696
#2	-.000012
#3	-.000078

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2639.264	50059.23	8635.526	2533.418	4762.527
Stddev	4.835	212.81	46.004	23.181	15.687
%RSD	.1832123	.4251191	.5327319	.9150215	.3293797

#1	2643.165	50299.05	8681.049	2536.609	4769.576
#2	2640.774	49985.70	8589.055	2554.838	4773.453
#3	2633.854	49892.93	8636.476	2508.806	4744.552

Sample Name: PB170683BS Acquired: 11/21/2025 16:24:32 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8171966	2.072841	.9934274	2.079593	.8293945	2.094836
Stddev	.0045882	.043525	.0067473	.003836	.0065599	.007142
%RSD	.5614575	2.099795	.6791910	.1844701	.7909240	.3409263
#1	.8121380	2.049367	.9877807	2.075168	.8262423	2.102881
#2	.8183625	2.123064	.9916019	2.081635	.8250056	2.089242
#3	.8210894	2.046091	1.000900	2.081976	.8369354	2.092386
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2086702	.2109028	.2020765	1.066063	.4176076	.2034578
Stddev	.0010365	.0002704	.0007326	.004395	.0021336	.0009153
%RSD	.4967208	.1282103	.3625462	.4122493	.5109016	.4498691
#1	.2089881	.2106059	.2015419	1.061645	.4166336	.2029876
#2	.2095104	.2111349	.2017761	1.070434	.4200543	.2028731
#3	.2075119	.2109676	.2029116	1.066109	.4161348	.2045126
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3191586	3.124217	.2123936	2.080611	.5124534	.0799785
Stddev	.0011560	.032647	.0026969	.018146	.0023861	.0005407
%RSD	.3621934	1.044967	1.269769	.8721435	.4656158	.6760441
#1	.3198053	3.139831	.2135880	2.101400	.5104116	.0806004
#2	.3178240	3.146126	.2142870	2.072479	.5118722	.0797152
#3	.3198466	3.086695	.2093057	2.067952	.5150764	.0796199
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.077266	.3143213	.2173876	10.11828	.3154546	.4199353
Stddev	.047806	.0038783	.0011631	.12715	.0016375	.0026034
%RSD	1.553536	1.233861	.5350521	1.256589	.5191014	.6199582
#1	3.075428	.3139414	.2165574	10.06492	.3148389	.4178164
#2	3.125965	.3183756	.2168885	10.26341	.3173107	.4191482
#3	3.030405	.3106470	.2187170	10.02651	.3142142	.4228415

Sample Name: PB170683BS Acquired: 11/21/2025 16:24:32 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7017594	.2060358	.8625901	F .6492469	F .0011192	.2160977
Stddev	.0024514	.0021531	.0159922	.0018063	.0056813	.0009713
%RSD	.3493267	1.044989	1.853973	.2782211	507.6364	.4494649

#1	.6989303	.2060452	.8545763	.6471841	.0017945	.2153946
#2	.7030911	.2081841	.8810047	.6505456	-.004870	.2172060
#3	.7032567	.2038780	.8521891	.6500109	.006433	.2156925

Elem	Sr4077
Units	ppm
Avg	.2084610
Stddev	.0013158
%RSD	.6311895

#1	.2089629
#2	.2094519
#3	.2069681

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2613.611	49227.18	8591.487	2503.155	4608.117
Stddev	8.229	320.19	20.580	12.563	14.663
%RSD	.3148500	.6504411	.2395375	.5018997	.3181886

#1	2618.686	49280.51	8601.277	2504.359	4621.173
#2	2618.029	48883.67	8567.840	2490.033	4610.923
#3	2604.116	49517.36	8605.345	2515.073	4592.254

Sample Name: CCV04 Acquired: 11/21/2025 16:28:38 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	4.817704	4.735718	4.793713	4.873323	4.888770	9.779324	9.879755
Stddev	.028611	.102720	.018777	.030737	.013836	.032537	.056195
%RSD	.5938789	2.169046	.3916940	.6307259	.2830125	.3327072	.5687874
#1	4.797415	4.631658	4.777660	4.838145	4.882492	9.808021	9.861383
#2	4.805269	4.837043	4.789118	4.886833	4.879185	9.785976	9.942836
#3	4.850429	4.738454	4.814360	4.894991	4.904631	9.743976	9.835046
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2410916	2.399050	24.37997	.9704720	2.404636	1.221401	4.861121
Stddev	.0004530	.011573	.06802	.0015863	.012085	.006156	.027587
%RSD	.1878877	.4824002	.2789803	.1634588	.5025872	.5039727	.5674999
#1	.2413596	2.390019	24.41347	.9714522	2.395426	1.217194	4.892963
#2	.2413467	2.395035	24.42474	.9686419	2.400160	1.218542	4.845997
#3	.2405686	2.412095	24.30170	.9713221	2.418320	1.228466	4.844405
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.436296	24.17539	2.405180	1.204198	26.86940	2.436168	2.438776
Stddev	.002276	.06818	.010421	.000742	.13735	.014031	.006561
%RSD	.0934331	.2820238	.4332779	.0616468	.5111874	.5759251	.2690456
#1	2.438829	24.17058	2.395419	1.204199	27.01650	2.450938	2.445003
#2	2.435634	24.24585	2.403966	1.204939	26.74449	2.434548	2.439401
#3	2.434423	24.10975	2.416155	1.203455	26.84721	2.423018	2.431925
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.96560	4.827521	4.906663	4.805388	4.895151	4.831509	4.929773
Stddev	.08525	.015463	.014477	.021082	.010705	.002917	.022284
%RSD	.3557032	.3203044	.2950490	.4387104	.2186954	.0603801	.4520232
#1	24.06343	4.840862	4.896432	4.788015	4.906365	4.828456	4.906059
#2	23.90727	4.831126	4.900329	4.799307	4.894051	4.831804	4.932980
#3	23.92610	4.810574	4.923227	4.828842	4.885039	4.834268	4.950279

Sample Name: CCV04 Acquired: 11/21/2025 16:28:38 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.754529	4.837379	4.918836
Stddev	.034092	.020646	.046850
%RSD	.7170382	.4267940	.9524588

#1	4.717265	4.860202	4.945693
#2	4.784153	4.831934	4.946077
#3	4.762169	4.820002	4.864739

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2601.422	49941.85	8800.519	2495.006	4429.779
Stddev	10.067	49.10	40.432	3.975	13.698
%RSD	.3869825	.0983083	.4594315	.1593122	.3092347

#1	2599.564	49935.89	8792.788	2496.728	4431.725
#2	2612.289	49896.01	8764.510	2497.829	4442.400
#3	2592.414	49993.66	8844.258	2490.460	4415.211

Sample Name: CCB04 Acquired: 11/21/2025 16:32:48 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	-.003618	-.000690	-.003238	-.004856	-.000773	.0057016	-.002238
Stddev	.005064	.001564	.001048	.003105	.002042	.0072113	.001849
%RSD	139.9503	226.6395	32.35285	63.95281	264.0996	126.4772	82.61177

#1	.000265	-.002262	-.004196	-.001270	.000640	.0140077	-.004293
#2	-.009346	.000867	-.003400	-.006671	.000155	.0010394	-.000708
#3	-.001774	-.000675	-.002119	-.006626	-.003115	.0020578	-.001714

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000601	.0000786	-.010464	-.000074	-.000059	-.000073	-.008743
Stddev	.0000547	.0000555	.009068	.000110	.000164	.000399	.007235
%RSD	90.98426	70.64900	86.66079	149.1831	277.4512	544.9153	82.74556

#1	.0000281	.0000905	-.019631	.000048	-.000176	-.000148	-.004046
#2	.0001232	.0001272	-.001498	-.000105	.000129	-.000430	-.017074
#3	.0000289	.0000181	-.010262	-.000165	-.000130	.000358	-.005109

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000260	-.005994	.0002666	.0003385	-.065874	.0003517	-.000226
Stddev	.000799	.017659	.0003666	.0003045	.014749	.0012404	.000414
%RSD	307.4779	294.6027	137.5066	89.94527	22.39014	352.6772	182.8809

#1	.000350	.013358	.0006899	.0006106	-.051920	.0001695	-.000367
#2	-.001164	-.021234	.0000589	.0003952	-.064396	-.000788	.000239
#3	.000035	-.010107	.0000510	.0000097	-.081307	.001673	-.000552

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.043649	.0034651	-.000167	-.000769	.0021180	-.027917	-.000100
Stddev	.034483	.0005772	.000184	.000712	.0002488	.008616	.000276
%RSD	79.00155	16.65798	110.1216	92.56875	11.74449	30.86384	275.1816

#1	-.065699	.0033878	.000013	-.001367	.0022953	-.036004	-.000408
#2	-.061336	.0029304	-.000160	.000018	.0022251	-.028892	-.000019
#3	-.003911	.0040770	-.000355	-.000958	.0018337	-.018854	.000126

Sample Name: CCB04 Acquired: 11/21/2025 16:32:48 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.007984	-.003203	.0000281
Stddev	.003323	.000959	.0000419
%RSD	41.62392	29.93782	149.4386

#1	-.011527	-.002476	.0000022
#2	-.004935	-.004290	.0000765
#3	-.007491	-.002844	.0000056

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2611.573	49073.56	8753.461	2453.939	4680.590
Stddev	4.328	118.67	64.051	3.824	9.650
%RSD	.1657260	.2418166	.7317248	.1558240	.2061810

#1	2614.683	49207.83	8742.888	2455.296	4672.250
#2	2613.407	49030.10	8695.355	2449.622	4691.161
#3	2606.630	48982.75	8822.141	2456.900	4678.360

Sample Name: LR-1 Acquired: 11/21/2025 16:36:54 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006498	.0189502	.0258322	-.020933	.0172831	.3499540	.0020211
Stddev	.004469	.0130763	.0068610	.003707	.0023353	.0176477	.0016977
%RSD	68.77313	69.00354	26.56011	17.70849	13.51200	5.042850	83.99861
#1	-.005931	.0039736	.0304645	-.021077	.0189554	.3302417	.0003571
#2	-.011224	.0281015	.0290820	-.017157	.0146150	.3642832	.0019556
#3	-.002340	.0247753	.0179500	-.024566	.0182789	.3553370	.0037506
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005862	.0017112	2115.045	.0574716	.0025037	.0079359	.8071126
Stddev	.0000623	.0001327	11.723	.0003902	.0002261	.0011468	.0113373
%RSD	10.63579	7.753241	.5542567	.6788549	9.032011	14.45063	1.404670
#1	.0005143	.0018627	2118.231	.0571333	.0024638	.0087994	.8165577
#2	.0006200	.0016158	2124.845	.0573831	.0023002	.0066347	.7945398
#3	.0006245	.0016552	2102.059	.0578984	.0027472	.0083736	.8102402
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0201657	2366.134	.0421878	.0059779	2356.020	.0085614	.0569450
Stddev	.0002277	4.031	.0009852	.0007866	12.763	.0038646	.0003743
%RSD	1.128906	.1703508	2.335234	13.15800	.5417340	45.14031	.6573537
#1	.0204109	2370.774	.0418460	.0050711	2345.729	.0067817	.0565265
#2	.0199610	2364.135	.0414191	.0064759	2352.030	.0129952	.0570606
#3	.0201251	2363.494	.0432984	.0063867	2370.302	.0059071	.0572478
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9938669	.0125192	.0146509	-.006823	-.084724	-.062861	.0017058
Stddev	.0235340	.0006775	.0010810	.001445	.002179	.012213	.0003283
%RSD	2.367921	5.411456	7.378619	21.17186	2.572403	19.42853	19.24915
#1	1.007454	.0130805	.0151010	-.006183	-.087237	-.063770	.0016054
#2	1.007455	.0127103	.0154342	-.005809	-.083356	-.050219	.0020726
#3	.966692	.0117667	.0134176	-.008477	-.083579	-.074594	.0014394

Sample Name: LR-1 Acquired: 11/21/2025 16:36:54 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2237356	-.332067	.0589853
Stddev	.0016066	.003789	.0003999
%RSD	.7180701	1.141072	.6779864

#1	.2235979	-.334130	.0593642
#2	.2222023	-.334376	.0585673
#3	.2254066	-.327694	.0590244

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1855.170	37006.66	7737.346	1794.275	2787.941
Stddev	5.413	48.24	6.318	14.385	9.783
%RSD	.2918001	.1303581	.0816584	.8017268	.3509021

#1	1859.089	37028.85	7743.443	1796.293	2794.347
#2	1857.429	37039.81	7737.766	1807.545	2792.794
#3	1848.993	36951.32	7730.828	1778.988	2776.680

Sample Name: LR-2 Acquired: 11/21/2025 16:49:56 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1077029	-.035077	.1708887	.0141779	-.083139	1831.133	.0233757
Stddev	.0067636	.019465	.0041426	.0089916	.008965	9.821	.0005385
%RSD	6.279829	55.49222	2.424172	63.41962	10.78275	.5363562	2.303791
#1	.1098659	-.025826	.1705075	.0169133	-.076498	1825.063	.0235497
#2	.1131204	-.021964	.1669499	.0041363	-.093336	1842.464	.0238057
#3	.1001225	-.057443	.1752088	.0214841	-.079583	1825.873	.0227717
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0226899	.1320948	8.019412	-.228739	.0783182	.0523961	2450.757
Stddev	.0000284	.0021639	.085131	.000504	.0003934	.0107282	6.515
%RSD	.1252135	1.638151	1.061556	.2201584	.5022733	20.47509	.2658551
#1	.0227220	.1308070	7.987560	-.228643	.0783494	.0405346	2457.127
#2	.0226679	.1308843	8.115875	-.228290	.0779101	.0552330	2444.106
#3	.0226799	.1345931	7.954800	-.229284	.0786950	.0614207	2451.039
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.204285	1.391489	.0634633	^ *****	3.717314	.0482526	.1338004
Stddev	.000948	.025950	.0027722	-----	.008273	.0006070	.0013769
%RSD	.4638937	1.864882	4.368237	-----	.2225644	1.258010	1.029090
#1	-.203197	1.361875	.0639664	^ -----	3.722316	.0482074	.1348108
#2	-.204927	1.410251	.0604739	^ -----	3.707764	.0476695	.1343584
#3	-.204731	1.402342	.0659495	^ -----	3.721861	.0488811	.1322321
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1814.907	^ *****	-.018237	.0395658	.0053025	.4045902	.0140090
Stddev	9.156	-----	.001063	.0023456	.0009328	.0072819	.0006659
%RSD	.5045150	-----	5.829098	5.928292	17.59234	1.799834	4.753429
#1	1824.063	^ -----	-.017373	.0370919	.0057470	.4013308	.0139209
#2	1805.750	^ -----	-.019424	.0398480	.0059299	.3995074	.0147146
#3	1814.908	^ -----	-.017914	.0417575	.0042305	.4129326	.0133916

Sample Name: LR-2 Acquired: 11/21/2025 16:49:56 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-388333	.2401050	-2.34898
Stddev	.006720	.0016683	.00622
%RSD	1.730389	.6948315	.2648022

#1	-.380630	.2420315	-2.35508
#2	-.391376	.2391404	-2.34265
#3	-.392993	.2391433	-2.34922

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2277.345	42342.10	8393.210	2122.853	3142.046
Stddev	10.117	32.29	25.701	4.036	10.543
%RSD	.4442300	.0762626	.3062116	.1901126	.3355410

#1	2283.907	42322.62	8406.920	2118.265	3144.880
#2	2282.434	42324.30	8363.561	2125.854	3150.883
#3	2265.695	42379.37	8409.148	2124.439	3130.376

Sample Name: LR-3 Acquired: 11/21/2025 17:16:04 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1125431	.0185813	227.6798	-.008983	.0537511	.0973080	-.002707
Stddev	.0040857	.0055724	.5188	.002111	.0075503	.0036614	.000391
%RSD	3.630308	29.98911	.2278681	23.50071	14.04677	3.762727	14.42566
#1	.1149330	.0148399	227.3845	-.010862	.0603683	.1010520	-.002299
#2	.1078255	.0249855	227.3760	-.009387	.0455266	.0937352	-.003078
#3	.1148707	.0159185	228.2788	-.006699	.0553585	.0971369	-.002744
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003373	-.001159	.2214364	24.68506	.0058907	49.79958	.2572145
Stddev	.000055	.000085	.0060149	.09354	.0002503	.17108	.0031357
%RSD	1.635188	7.368730	2.716320	.3789498	4.249525	.3435342	1.219109
#1	-.003356	-.001064	.2274388	24.61653	.0060857	49.78616	.2606598
#2	-.003328	-.001228	.2214614	24.79163	.0056084	49.63560	.2545274
#3	-.003434	-.001186	.2154091	24.64703	.0059779	49.97697	.2564563
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.43870	-.201651	24.49365	.0030864	.0370784	-.034785	27.63131
Stddev	.33689	.007098	.05812	.0000618	.0304927	.002912	.07804
%RSD	.6679294	3.519834	.2372876	2.003528	82.23860	8.372517	.2824284
#1	50.73072	-.204641	24.45882	.0030538	.0118659	-.037616	27.60254
#2	50.51526	-.206764	24.46137	.0031577	.0283995	-.034943	27.71965
#3	50.07011	-.193547	24.56074	.0030478	.0709697	-.031797	27.57173
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.047045	-.000536	-.009878	-.003869	-.042806	-.150884	-.009026
Stddev	.010323	.000542	.000089	.001057	.001993	.003932	.000488
%RSD	21.94372	101.0914	.9056517	27.31942	4.656407	2.605667	5.409029
#1	-.050785	-.001035	-.009814	-.002650	-.041205	-.146376	-.008756
#2	-.035373	-.000614	-.009839	-.004435	-.045039	-.152667	-.008733
#3	-.054976	.000041	-.009980	-.004523	-.042174	-.153607	-.009590

Sample Name: LR-3 Acquired: 11/21/2025 17:16:04 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0307758	-.004280	.0005634
Stddev	.0020999	.000523	.0000499
%RSD	6.823113	12.22209	8.853089

#1	.0301056	-.003744	.0005623
#2	.0331290	-.004307	.0005141
#3	.0290929	-.004789	.0006138

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2450.221	49983.48	8895.935	2424.000	4594.915
Stddev	4.839	73.95	33.813	13.611	4.570
%RSD	.1974836	.1479564	.3800950	.5615192	.0994608

#1	2448.287	50061.06	8858.435	2439.488	4598.327
#2	2455.727	49975.61	8905.271	2413.941	4596.695
#3	2446.648	49913.78	8924.100	2418.572	4589.723

Sample Name: Q3678-02 Acquired: 11/21/2025 17:20:34 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007460	-.003738	.0026729	-.001460	-.001325	.2828597	.0582941
Stddev	.0021670	.002962	.0002657	.000740	.002037	.0004591	.0006755
%RSD	290.4685	79.25124	9.942102	50.70058	153.7496	.1623030	1.158735
#1	.0012628	-.000338	.0029521	-.001983	-.003676	.2824749	.0588685
#2	-.001633	-.005764	.0026434	-.001784	-.000115	.2833679	.0575499
#3	.002608	-.005112	.0024230	-.000613	-.000182	.2827363	.0584639
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000379	.0000734	7.609488	.0025360	.0003212	.0324269	.5471317
Stddev	.0000617	.0000984	.013158	.0002939	.0001908	.0006876	.0114570
%RSD	162.9267	134.0628	.1729109	11.58743	59.39184	2.120394	2.094004
#1	-.000033	.0000412	7.594475	.0026905	.0001730	.0323983	.5595067
#2	.000074	.0001839	7.614971	.0027205	.0002543	.0317540	.5368937
#3	.000073	-.000005	7.619017	.0021972	.0005365	.0331283	.5449946
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0705409	.3187101	.0019121	.0000766	299.1801	.0000522	.0407278
Stddev	.0010688	.0127697	.0007332	.0003196	2.1658	.0020700	.0006329
%RSD	1.515150	4.006684	38.34528	417.2243	.7239025	3969.005	1.553977
#1	.0707364	.3309252	.0010733	-.000270	301.5520	-.001326	.0414548
#2	.0693878	.3197552	.0024311	.000360	297.3077	.002433	.0402993
#3	.0714984	.3054500	.0022320	.000139	298.6805	-.000951	.0404294
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.004613	.0034983	.0004007	.0017894	.0027953	.5358348	.0006942
Stddev	.027139	.0011723	.0001680	.0002105	.0003515	.0085654	.0000891
%RSD	1.353817	33.51016	41.91688	11.76460	12.57356	1.598514	12.83204
#1	1.976824	.0037732	.0005888	.0017242	.0024614	.5385844	.0007672
#2	2.031051	.0045087	.0003478	.0016193	.0031620	.5262323	.0007206
#3	2.005964	.0022130	.0002656	.0020249	.0027625	.5426878	.0005950

Sample Name: Q3678-02 Acquired: 11/21/2025 17:20:34 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.006515	-.009976	.0132512
Stddev	.007882	.000417	.0001338
%RSD	.3928354	4.180523	1.009802

#1	2.009442	-.010443	.0133741
#2	1.997588	-.009638	.0131086
#3	2.012515	-.009849	.0132710

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2564.595	48764.61	8836.130	2460.440	4354.377
Stddev	6.870	109.64	40.643	13.312	17.973
%RSD	.2678841	.2248449	.4599616	.5410363	.4127472

#1	2566.071	48673.47	8835.812	2448.742	4362.399
#2	2570.607	48734.06	8795.647	2457.652	4366.942
#3	2557.107	48886.28	8876.931	2474.925	4333.791

Sample Name: Q3697-01 Acquired: 11/21/2025 17:25:00 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000538	-.004377	.0003632	.0020304	-.000260	.0359096	.2680135
Stddev	.002121	.001874	.0007603	.0024459	.002267	.0050137	.0018079
%RSD	394.1056	42.80958	209.3324	120.4596	871.0214	13.96190	.6745425
#1	.000693	-.006368	-.000506	.0005023	.002330	.0361777	.2699889
#2	-.002987	-.002648	.000904	.0007376	-.001882	.0307673	.2664413
#3	.000679	-.004116	.000692	.0048514	-.001229	.0407839	.2676102
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000099	.0142994	124.0776	.0005132	.0027398	.0040352	.0041799
Stddev	.000009	.0000830	.2679	.0004392	.0000843	.0001512	.0023093
%RSD	9.237702	.5803461	.2158816	85.59000	3.077448	3.747660	55.24736
#1	-.000108	.0143946	124.3867	.0008272	.0028034	.0039029	.0032182
#2	-.000090	.0142418	123.9307	.0007010	.0026442	.0040026	.0025069
#3	-.000100	.0142619	123.9153	.0000113	.0027719	.0042000	.0068147
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4866413	7.565636	.0071561	-.000272	296.1267	.0005868	.9540126
Stddev	.0016165	.015664	.0003201	.000031	2.4141	.0012355	.0020803
%RSD	.3321659	.2070377	4.473062	11.31694	.8152109	210.5338	.2180610
#1	.4850355	7.582487	.0073103	-.000239	298.8796	-.000769	.9551731
#2	.4866201	7.562901	.0073699	-.000279	294.3708	.001649	.9552538
#3	.4882682	7.551519	.0067881	-.000299	295.1298	.000880	.9516109
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.76146	.0892824	.0026774	-.005024	-.002874	6.020054	.0028077
Stddev	.09806	.0012267	.0003811	.001071	.001284	.003583	.0006482
%RSD	.6643039	1.373908	14.23461	21.31738	44.67250	.0595145	23.08510
#1	14.87265	.0899445	.0025222	-.006144	-.002575	6.016252	.0033372
#2	14.68732	.0900358	.0023984	-.004011	-.001766	6.020544	.0030010
#3	14.72441	.0878670	.0031116	-.004916	-.004281	6.023367	.0020849

Sample Name: Q3697-01 Acquired: 11/21/2025 17:25:00 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.706234	-.017988	.6852657
Stddev	.011282	.001245	.0028100
%RSD	.3043931	6.922287	.4100580

#1	3.694978	-.019318	.6880856
#2	3.706181	-.016849	.6824657
#3	3.717541	-.017797	.6852458

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2511.597	48419.23	8836.296	2424.597	4217.141
Stddev	10.084	204.23	10.846	12.432	17.208
%RSD	.4015071	.4217857	.1227490	.5127612	.4080580

#1	2517.513	48208.47	8833.270	2413.694	4226.218
#2	2517.325	48432.99	8827.284	2421.961	4227.910
#3	2499.953	48616.22	8848.334	2438.136	4197.294

Sample Name: Q3697-02 Acquired: 11/21/2025 17:29:24 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003839	-.003253	-.000322	-.001224	.0007111	.0189389	.1590754
Stddev	.001736	.002408	.000229	.001274	.0013950	.0047648	.0008742
%RSD	45.22058	74.01382	71.14968	104.0357	196.1717	25.15877	.5495393
#1	-.002448	-.005245	-.000571	-.000453	.0022331	.0214954	.1595397
#2	-.005785	-.000577	-.000277	-.002694	-.000507	.0134415	.1580670
#3	-.003285	-.003937	-.000119	-.000525	.000407	.0218799	.1596194
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000037	.0000373	.1197997	.0018224	-.000258	.0002289	.0052878
Stddev	.000095	.0000545	.0108928	.0002870	.000139	.0002303	.0034864
%RSD	258.1316	146.1164	9.092546	15.74531	53.68898	100.6264	65.93319
#1	.000070	-.000026	.1221265	.0021366	-.000141	.0004890	.0013463
#2	-.000115	.000070	.1079314	.0017565	-.000411	.0000508	.0079681
#3	-.000066	.000068	.1293411	.0015742	-.000222	.0001469	.0065489
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0078150	.0191189	.0022065	-.000289	324.6114	.0012296	.1075351
Stddev	.0003413	.0221417	.0004801	.000742	3.3350	.0008509	.0003394
%RSD	4.367006	115.8103	21.75838	256.5948	1.027379	69.20351	.3155830
#1	.0075407	-.003588	.0027449	-.000386	327.6286	.0003341	.1074948
#2	.0081972	.040648	.0020514	-.000978	325.1751	.0020275	.1072177
#3	.0077071	.020297	.0018230	.000496	321.0305	.0013272	.1078928
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1814294	.0400878	.0003606	.0008032	.0009020	-.007708	.0008212
Stddev	.0490226	.0003050	.0004158	.0001933	.0003167	.007488	.0002473
%RSD	27.02019	.7608987	115.3074	24.06369	35.11073	97.13798	30.11308
#1	.2356442	.0400027	-.000106	.0006000	.0008960	-.016354	.0006103
#2	.1684211	.0404264	.000690	.0008248	.0012216	-.003356	.0010933
#3	.1402230	.0398343	.000498	.0009848	.0005883	-.003415	.0007599

Sample Name: Q3697-02 Acquired: 11/21/2025 17:29:24 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2219120	-.008151	.0031743
Stddev	.0055093	.000564	.0000720
%RSD	2.482661	6.914511	2.268681

#1	.2220537	-.007503	.0032497
#2	.2163333	-.008428	.0031670
#3	.2273492	-.008523	.0031063

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2572.207	49421.13	8875.791	2456.541	4372.021
Stddev	19.470	102.91	41.926	17.109	22.222
%RSD	.7569557	.2082373	.4723677	.6964532	.5082877

#1	2581.031	49307.36	8916.395	2445.198	4385.224
#2	2585.703	49507.74	8878.322	2476.220	4384.474
#3	2549.887	49448.29	8832.657	2448.206	4346.364

Sample Name: Q3697-03 Acquired: 11/21/2025 17:33:51 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003690	-.004309	.0028562	-.003933	.0012264	.1269953	.1188560
Stddev	.001676	.000288	.0010568	.002602	.0011226	.0089562	.0010665
%RSD	45.42726	6.693857	37.00242	66.14395	91.53346	7.052389	.8973387
#1	-.001966	-.004235	.0032391	-.001213	.0012264	.1279539	.1199415
#2	-.005314	-.004627	.0016612	-.004191	.0001038	.1175983	.1188171
#3	-.003791	-.004065	.0036681	-.006397	.0023490	.1354336	.1178095
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000058	.0016809	9.081674	.0018216	.0001751	.0390869	.1642704
Stddev	.000018	.0000158	.033542	.0003619	.0001838	.0004868	.0041694
%RSD	30.89247	.9402832	.3693331	19.86497	104.9637	1.245509	2.538113
#1	-.000050	.0016768	9.078101	.0014080	.0000879	.0394790	.1690817
#2	-.000045	.0016984	9.116859	.0019769	.0000511	.0385420	.1620151
#3	-.000078	.0016676	9.050061	.0020799	.0003863	.0392398	.1617146
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0468349	1.227807	.0024017	-.000264	234.0641	.0007050	2.753204
Stddev	.0007032	.017302	.0003602	.000504	3.3617	.0027338	.006305
%RSD	1.501542	1.409215	14.99970	191.0812	1.436224	387.7612	.2290096
#1	.0469114	1.215174	.0026913	.000113	237.1932	.0010336	2.750507
#2	.0474967	1.220720	.0025154	-.000837	234.4889	-.002178	2.748696
#3	.0460965	1.247528	.0019983	-.000068	230.5102	.003260	2.760409
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4266965	.0470362	.0044810	.0001893	.0017601	.2720089	.0247259
Stddev	.0343704	.0009783	.0006389	.0005189	.0011625	.0045057	.0003269
%RSD	8.054992	2.079882	14.25820	274.1072	66.04505	1.656448	1.322084
#1	.4374198	.0471970	.0049453	.0002202	.0007449	.2719188	.0247799
#2	.4544268	.0479241	.0047453	-.000344	.0015073	.2675490	.0243754
#3	.3882428	.0459874	.0037523	.000692	.0030282	.2765590	.0250224

Sample Name: Q3697-03 Acquired: 11/21/2025 17:33:51 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6310797	.0429509	.0174447
Stddev	.0037820	.0012581	.0000305
%RSD	.5992948	2.929094	.1747559

#1	.6273290	.0416559	.0174453
#2	.6348923	.0441684	.0174748
#3	.6310178	.0430284	.0174139

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2561.954	48523.44	8983.781	2424.190	4386.543
Stddev	17.891	48.25	16.191	2.470	35.733
%RSD	.6983320	.0994319	.1802197	.1018965	.8145977

#1	2571.879	48549.47	9000.284	2426.162	4412.279
#2	2572.683	48467.76	8983.135	2424.989	4401.604
#3	2541.301	48553.08	8967.922	2421.420	4345.745

Sample Name: Q3697-03DUP Acquired: 11/21/2025 17:38:10 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005029	-.002170	.0026871	-.002324	-.000528	.1278529	.1203223
Stddev	.003051	.001117	.0012979	.002180	.000790	.0035672	.0006433
%RSD	60.67505	51.47262	48.30202	93.80896	149.4775	2.790066	.5346603
#1	-.003242	-.002254	.0032606	-.003779	-.000113	.1307932	.1208566
#2	-.008552	-.001014	.0012012	-.003375	-.001439	.1238846	.1196082
#3	-.003292	-.003243	.0035994	.000183	-.000033	.1288810	.1205021
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000068	.0016980	9.212074	.0016283	.0001420	.0395243	.1721286
Stddev	.000032	.0000369	.078087	.0002571	.0000936	.0003319	.0047396
%RSD	46.52396	2.173715	.8476624	15.79165	65.90757	.8396296	2.753500
#1	-.000095	.0016687	9.179346	.0014308	.0001990	.0399009	.1700303
#2	-.000076	.0016858	9.155677	.0019190	.0000340	.0393971	.1688004
#3	-.000033	.0017395	9.301200	.0015350	.0001929	.0392748	.1775551
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0462073	1.258457	.0025371	-.000088	237.7648	.0013364	2.799307
Stddev	.0004088	.020755	.0000988	.000338	1.1952	.0011939	.008225
%RSD	.8847975	1.649221	3.895704	382.7262	.5026957	89.33838	.2938223
#1	.0459674	1.282401	.0026279	-.000123	236.8367	.0002470	2.789823
#2	.0459751	1.247383	.0025517	-.000408	239.1135	.0011494	2.804489
#3	.0466794	1.245589	.0024318	.000266	237.3442	.0026128	2.803609
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3919150	.0483638	.0051460	.0012878	.0013849	.2751477	.0258132
Stddev	.0115658	.0010204	.0000975	.0003538	.0011623	.0058106	.0003949
%RSD	2.951086	2.109828	1.895127	27.47088	83.92626	2.111792	1.529815
#1	.3940528	.0471865	.0052360	.0016618	.0002188	.2784532	.0254511
#2	.4022628	.0489932	.0051596	.0009585	.0013926	.2684385	.0262342
#3	.3794296	.0489117	.0050424	.0012429	.0025434	.2785515	.0257544

Sample Name: Q3697-03DUP Acquired: 11/21/2025 17:38:10 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6451571	.0430186	.0176412
Stddev	.0020110	.0014797	.0001931
%RSD	.3117089	3.439653	1.094734
#1	.6429008	.0442788	.0174474
#2	.6458096	.0413893	.0176424
#3	.6467608	.0433876	.0178337

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2533.646	47828.28	8885.662	2403.804	4323.019
Stddev	6.287	291.90	39.387	10.088	10.579
%RSD	.2481599	.6103156	.4432602	.4196830	.2447074
#1	2536.121	47509.01	8902.257	2392.217	4330.860
#2	2538.319	48081.49	8914.035	2410.638	4327.210
#3	2526.497	47894.33	8840.693	2408.556	4310.987

Sample Name: Q3697-03LX5 Acquired: 11/21/2025 17:42:36 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002905	-.005820	.0001486	-.002451	-.001448	.0312880	.0213043
Stddev	.000922	.001693	.0015691	.003995	.002509	.0053327	.0003425
%RSD	31.74683	29.07886	1055.857	162.9587	173.3156	17.04377	1.607690
#1	-.003068	-.006579	.0015222	-.007036	-.003251	.0360849	.0215292
#2	-.003734	-.003881	-.001561	-.000604	-.002510	.0255460	.0214735
#3	-.001912	-.007001	.000485	.000285	.001418	.0322330	.0209101
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000636	.0003886	1.826029	-.000006	.0000388	.0087056	.0368052
Stddev	.0000182	.0000550	.006897	.000428	.0000356	.0002800	.0052792
%RSD	28.56836	14.15205	.3777140	7327.458	91.83952	3.216342	14.34349
#1	.0000481	.0004324	1.819805	.000086	.0000024	.0089423	.0310243
#2	.0000590	.0004065	1.833444	.000369	.0000736	.0087779	.0413706
#3	.0000836	.0003269	1.824839	-.000472	.0000403	.0083965	.0380208
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0152349	.2767563	.0007244	.0001236	45.86828	.0005959	.5649190
Stddev	.0004844	.0285905	.0002661	.0001931	.26426	.0026548	.0010566
%RSD	3.179556	10.33058	36.74027	156.2025	.5761179	445.4929	.1870305
#1	.0148894	.2587031	.0008107	-.000099	45.62832	-.002470	.5640658
#2	.0157886	.2618459	.0009367	.000250	45.82502	.002146	.5661008
#3	.0150267	.3097199	.0004258	.000220	46.15150	.002111	.5645904
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2052349	.0071342	.0007132	-.000726	.0020193	.0228355	.0050631
Stddev	.0210602	.0008614	.0001698	.001046	.0017408	.0152947	.0007282
%RSD	10.26151	12.07473	23.80048	144.1524	86.20864	66.97774	14.38334
#1	.1814969	.0063405	.0008514	.000482	.0001248	.0317061	.0052187
#2	.2216771	.0080503	.0005237	-.001305	.0035483	.0051748	.0057009
#3	.2125307	.0070119	.0007646	-.001353	.0023848	.0316256	.0042696

Sample Name: Q3697-03LX5 Acquired: 11/21/2025 17:42:36 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1306271	.0137353	.0035216
Stddev	.0056495	.0012356	.0000813
%RSD	4.324936	8.995655	2.308497

#1	.1361771	.0147143	.0034829
#2	.1248830	.0141446	.0034668
#3	.1308212	.0123470	.0036150

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2559.962	48100.01	8908.048	2416.765	4476.419
Stddev	4.027	84.16	79.771	12.278	7.747
%RSD	.1572956	.1749676	.8954933	.5080495	.1730611

#1	2560.678	48183.07	8997.477	2429.205	4473.302
#2	2563.583	48102.18	8882.447	2404.655	4485.239
#3	2555.625	48014.79	8844.221	2416.435	4470.715

Sample Name: Q3697-03MS Acquired: 11/21/2025 17:46:53 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7835885	1.884039	.9289641	1.957086	.7894764	2.061532	.3075623
Stddev	.0067683	.070459	.0051459	.023111	.0076288	.011462	.0021802
%RSD	.8637523	3.739803	.5539340	1.180888	.9663063	.5560080	.7088670
#1	.7758578	1.805789	.9231682	1.933237	.7834295	2.072290	.3053576
#2	.7884474	1.903873	.9307285	1.958642	.7869525	2.049476	.3097172
#3	.7864601	1.942456	.9329956	1.979380	.7980473	2.062831	.3076121
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1885140	.1903158	9.480370	.4044966	.1928309	.3203754	3.131841
Stddev	.0002236	.0018937	.033546	.0016960	.0016105	.0020879	.030350
%RSD	.1186149	.9950513	.3538419	.4192901	.8352046	.6517185	.9690727
#1	.1885561	.1882918	9.451420	.4025880	.1910515	.3185003	3.096798
#2	.1882723	.1906109	9.472559	.4058310	.1932526	.3200004	3.149674
#3	.1887135	.1920446	9.517133	.4050708	.1941886	.3226254	3.149052
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2362406	3.064046	.4857191	.0714329	219.7959	.3006884	2.652715
Stddev	.0017759	.044370	.0048237	.0003855	1.9734	.0034669	.019548
%RSD	.7517107	1.448088	.9930986	.5396786	.8978293	1.152970	.7369214
#1	.2344112	3.013207	.4808685	.0715632	217.6735	.3036357	2.644556
#2	.2379576	3.083973	.4857735	.0709992	221.5753	.2968687	2.675021
#3	.2363530	3.094960	.4905154	.0717364	220.1388	.3015609	2.638567
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.08787	.3137827	.4286645	.6936444	.1979863	1.079726	.6491959
Stddev	.11838	.0025759	.0036038	.0074294	.0005942	.016481	.0070084
%RSD	1.173511	.8209048	.8407119	1.071064	.3001269	1.526450	1.079557
#1	9.96826	.3140782	.4250769	.6867320	.1985794	1.060755	.6426446
#2	10.20499	.3110718	.4286322	.6927008	.1979884	1.090521	.6483573
#3	10.09036	.3161981	.4322843	.7015005	.1973910	1.087901	.6565860

Sample Name: Q3697-03MS Acquired: 11/21/2025 17:46:53 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5670846	.2422267	.2095242
Stddev	.0087590	.0034455	.0006358
%RSD	1.544566	1.422441	.3034459

#1	.5576393	.2392472	.2087925
#2	.5686753	.2414331	.2099417
#3	.5749393	.2459998	.2098385

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2508.306	48197.90	8474.491	2433.963	4272.501
Stddev	11.867	237.50	11.554	18.922	19.698
%RSD	.4731176	.4927551	.1363354	.7774260	.4610304

#1	2520.607	48466.84	8477.040	2447.348	4294.039
#2	2507.383	48016.97	8484.558	2412.314	4268.065
#3	2496.927	48109.89	8461.876	2442.227	4255.400

Sample Name: CCV05 Acquired: 11/21/2025 17:50:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	4.883207	4.812182	4.830806	4.943399	4.946277	9.711698	9.610675
Stddev	.024529	.029676	.030995	.029632	.016893	.009427	.060269
%RSD	.5023095	.6166951	.6416092	.5994163	.3415336	.0970735	.6271069
#1	4.861393	4.778662	4.816940	4.909906	4.933010	9.701437	9.578052
#2	4.878468	4.835105	4.809166	4.954084	4.940527	9.713680	9.680223
#3	4.909759	4.822780	4.866314	4.966205	4.965295	9.719977	9.573749
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2439910	2.401476	24.06000	.9739531	2.407493	1.231148	4.861767
Stddev	.0007038	.013701	.01681	.0019652	.011987	.008213	.035980
%RSD	.2884674	.5705147	.0698494	.2017739	.4979021	.6671389	.7400674
#1	.2439907	2.392971	24.04085	.9716915	2.400979	1.226250	4.828259
#2	.2446951	2.394175	24.07228	.9752447	2.400172	1.226563	4.857249
#3	.2432874	2.417281	24.06687	.9749230	2.421326	1.240630	4.899793
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.403155	24.00013	2.409663	1.224290	26.27084	2.406025	2.419508
Stddev	.017889	.15145	.011499	.002963	.17481	.006838	.007996
%RSD	.7444173	.6310219	.4772191	.2420312	.6654188	.2842092	.3304997
#1	2.384045	23.84728	2.403256	1.222113	26.07131	2.404563	2.410893
#2	2.419503	24.15013	2.402795	1.227664	26.34417	2.413476	2.420938
#3	2.405915	24.00298	2.422938	1.223091	26.39704	2.400036	2.426693
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.89108	4.871367	4.936997	4.843351	4.823605	4.811030	5.057741
Stddev	.13139	.016570	.020770	.013861	.020229	.044602	.008902
%RSD	.5499686	.3401489	.4207037	.2861820	.4193648	.9270742	.1760057
#1	23.75861	4.875037	4.923829	4.833037	4.801323	4.761922	5.048144
#2	24.02137	4.885795	4.926221	4.837910	4.840814	4.822146	5.059352
#3	23.89326	4.853270	4.960940	4.859107	4.828678	4.849023	5.065728

Sample Name: CCV05 Acquired: 11/21/2025 17:50:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.816152	4.716061	4.844090
Stddev	.026226	.016561	.053761
%RSD	.5445462	.3511539	1.109828

#1	4.791176	4.699670	4.829039
#2	4.843471	4.732787	4.903773
#3	4.813807	4.715724	4.799459

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2561.096	48763.96	8681.948	2464.210	4362.868
Stddev	11.161	140.58	45.747	5.448	18.728
%RSD	.4357716	.2882898	.5269252	.2210828	.4292617

#1	2563.815	48765.96	8667.409	2469.410	4364.112
#2	2570.646	48622.39	8645.237	2464.676	4380.943
#3	2548.828	48903.53	8733.198	2458.544	4343.548

Sample Name: CCB05 Acquired: 11/21/2025 17:55:08 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	-.002168	-.000994	-.001151	-.001263	-.000259	.0108609	-.001947
Stddev	.003836	.001876	.001315	.000670	.001785	.0049671	.000840
%RSD	176.9508	188.7480	114.2811	53.06113	689.0927	45.73340	43.12806

#1	-.003011	-.003119	-.002565	-.002033	-.001739	.0070802	-.001143
#2	-.005512	.000432	.000035	-.000937	.001723	.0164864	-.001880
#3	.002020	-.000295	-.000923	-.000817	-.000761	.0090162	-.002819

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000427	.0001715	-.011678	.0001317	-.000139	.0001475	-.011797
Stddev	.0000137	.0001057	.008231	.0002959	.000091	.0002349	.006075
%RSD	32.21000	61.62870	70.48790	224.6611	65.72429	159.3016	51.49404

#1	.0000372	.0000923	-.010853	-.000088	-.000102	-.000123	-.011256
#2	.0000583	.0002916	-.020291	.000015	-.000072	.000271	-.006010
#3	.0000325	.0001307	-.003890	.000468	-.000243	.000295	-.018123

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000421	-.001204	.0004033	.0001963	.0808129	.0010779	-.000089
Stddev	.000430	.023099	.0003229	.0004642	.0177061	.0022309	.000462
%RSD	102.0612	1917.912	80.07860	236.5310	21.90995	206.9787	519.3828

#1	-.000375	-.008408	.0006194	-.000249	.0696885	.0018548	.000346
#2	-.000017	-.019843	.0005583	.000160	.0715194	-.001438	-.000040
#3	-.000873	.024638	.0000321	.000677	.1012307	.002816	-.000573

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0588654	.0028532	.0000512	.0001777	.0017183	-.044650	.0002281
Stddev	.0436437	.0012392	.0004739	.0008393	.0020613	.007835	.0001285
%RSD	74.14152	43.43211	925.5690	472.3165	119.9599	17.54744	56.33489

#1	.0162502	.0016331	-.000385	-.000723	.0040256	-.052018	.0000947
#2	.0568764	.0028157	.000556	.000938	.0000583	-.045514	.0002386
#3	.1034696	.0041107	-.000017	.000317	.0010711	-.036420	.0003510

Sample Name: CCB05 Acquired: 11/21/2025 17:55:08 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005237	-.000077	.0000724
Stddev	.004706	.001678	.0000420
%RSD	89.85865	2188.372	57.99297

#1	-.003258	-.000840	.0000243
#2	-.001844	.001847	.0001018
#3	-.010609	-.001237	.0000911

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2625.055	49750.14	8733.939	2496.335	4741.321
Stddev	5.369	140.44	52.022	9.940	8.245
%RSD	.2045391	.2822936	.5956317	.3981779	.1738919

#1	2623.553	49642.43	8720.320	2487.787	4739.185
#2	2631.016	49908.98	8690.082	2507.242	4750.423
#3	2620.597	49699.00	8791.416	2493.975	4734.354

Sample Name: Q3697-03MSD Acquired: 11/21/2025 17:59:28 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8078168	1.852650	.9523060	2.046338	.8074052	2.086108	.3456594
Stddev	.0024813	.075246	.0040218	.012915	.0013616	.009148	.0013072
%RSD	.3071632	4.061557	.4223168	.6311133	.1686343	.4385135	.3781819
#1	.8106489	1.766487	.9506967	2.034032	.8058768	2.096668	.3471658
#2	.8067765	1.905429	.9493380	2.045197	.8084884	2.080610	.3448230
#3	.8060250	1.886033	.9568832	2.059785	.8078504	2.081047	.3449895
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1880897	.1970417	13.28718	.4034889	.1969758	.3425569	3.190951
Stddev	.0008116	.0007465	.01850	.0011388	.0007870	.0002900	.008498
%RSD	.4314785	.3788456	.1391996	.2822460	.3995460	.0846625	.2663003
#1	.1889137	.1963756	13.28253	.4039630	.1965063	.3422239	3.191056
#2	.1872912	.1969009	13.27145	.4043142	.1965367	.3427545	3.199395
#3	.1880641	.1978486	13.30755	.4021897	.1978844	.3426922	3.182401
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2428385	3.572271	.4915361	.0738106	312.0655	.2988118	3.901453
Stddev	.0009117	.024834	.0014818	.0003846	3.6122	.0042058	.009879
%RSD	.3754280	.6951814	.3014612	.5210475	1.157527	1.407506	.2532238
#1	.2438887	3.585934	.4902930	.0738478	315.9087	.2993853	3.902989
#2	.2423766	3.543606	.4911396	.0741752	311.5477	.2943487	3.910474
#3	.2422502	3.587273	.4931759	.0734087	308.7401	.3027014	3.890895
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.59215	.3364784	.4317140	.7001553	.1906740	1.246669	.6751961
Stddev	.04850	.0009911	.0020918	.0015539	.0010343	.003959	.0020295
%RSD	.4578431	.2945543	.4845412	.2219390	.5424379	.3175991	.3005819
#1	10.61897	.3370608	.4302817	.7003143	.1918193	1.243328	.6730490
#2	10.62131	.3353341	.4307457	.6985280	.1903946	1.245636	.6754566
#3	10.53616	.3370404	.4341145	.7016237	.1898082	1.251042	.6770829

Sample Name: Q3697-03MSD Acquired: 11/21/2025 17:59:28 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8531879	.2528721	.2096922
Stddev	.0084620	.0013333	.0009800
%RSD	.9918091	.5272568	.4673368
#1	.8457363	.2541988	.2108036
#2	.8623873	.2528851	.2089522
#3	.8514400	.2515323	.2093208

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2506.739	47502.55	8789.446	2384.031	4219.230
Stddev	4.012	173.59	51.906	15.957	12.452
%RSD	.1600330	.3654272	.5905530	.6693212	.2951188
#1	2506.696	47338.60	8733.701	2367.818	4225.193
#2	2510.772	47484.67	8836.388	2384.555	4227.578
#3	2502.749	47684.39	8798.249	2399.719	4204.918

Sample Name: Q3697-03A Acquired: 11/21/2025 18:03:42 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7687505	1.666629	.9100736	1.950055	.7841184	2.030836	.3061670
Stddev	.0131572	.115953	.0080364	.023788	.0058827	.006889	.0013011
%RSD	1.711510	6.957356	.8830504	1.219888	.7502328	.3392379	.4249744
#1	.7635130	1.692256	.9094622	1.953295	.7819917	2.036481	.3071304
#2	.7590186	1.540006	.9023604	1.924812	.7795948	2.032868	.3046869
#3	.7837199	1.767624	.9183982	1.972057	.7907687	2.023160	.3066837
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1817343	.1878271	10.09427	.3897257	.1892697	.3178357	3.059753
Stddev	.0007709	.0016734	.00621	.0043548	.0017007	.0028051	.012412
%RSD	.4242204	.8909355	.0614945	1.117400	.8985528	.8825612	.4056662
#1	.1824896	.1877545	10.08813	.3905594	.1888461	.3170826	3.047783
#2	.1817648	.1861911	10.09414	.3936035	.1878209	.3154840	3.072565
#3	.1809486	.1895356	10.10054	.3850144	.1911422	.3209404	3.058912
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2352497	3.132817	.4721957	.0711950	234.1009	.2946219	2.876535
Stddev	.0010006	.023743	.0052252	.0006945	1.8504	.0048899	.017130
%RSD	.4253202	.7578845	1.106575	.9754863	.7904157	1.659708	.5955125
#1	.2353793	3.105410	.4709169	.0708144	235.4122	.2934715	2.871778
#2	.2341906	3.147141	.4677286	.0719966	234.9062	.2999844	2.895541
#3	.2361791	3.145900	.4779416	.0707740	231.9844	.2904099	2.862286
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.10026	.3115596	.4224794	.6761900	.1919431	1.130676	.6246466
Stddev	.03166	.0008660	.0044920	.0083747	.0003985	.002551	.0115230
%RSD	.3134349	.2779424	1.063251	1.238505	.2076094	.2255904	1.844722
#1	10.06407	.3120717	.4221451	.6744162	.1921195	1.128195	.6188856
#2	10.12283	.3120474	.4181640	.6688443	.1922229	1.133291	.6171402
#3	10.11387	.3105598	.4271293	.6853094	.1914868	1.130542	.6379140

Sample Name: Q3697-03A Acquired: 11/21/2025 18:03:42 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6143665	.2356068	.2045191
Stddev	.0179574	.0000278	.0012904
%RSD	2.922913	.0117820	.6309404

#1	.6089157	.2355938	.2046541
#2	.5997660	.2355879	.2031666
#3	.6344177	.2356387	.2057367

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2564.433	49111.89	8879.212	2429.856	4378.962
Stddev	12.101	242.00	30.561	14.763	29.181
%RSD	.4718854	.4927473	.3441827	.6075673	.6663997

#1	2562.975	48948.84	8844.355	2427.524	4380.859
#2	2577.197	48996.88	8901.405	2416.397	4407.148
#3	2553.126	49389.95	8891.876	2445.646	4348.878

Sample Name: PB170645TB Acquired: 11/21/2025 18:07:53 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019805	.0025186	.0013404	-.004148	.0006205	.0153079	-.001373
Stddev	.0006471	.0037053	.0028076	.006833	.0005373	.0063815	.000383
%RSD	32.67521	147.1182	209.4556	164.7042	86.59291	41.68735	27.87459
#1	.0025288	-.000283	.0043226	-.006835	.0008922	.0226056	-.000935
#2	.0012667	.006720	.0009506	.003619	.0009678	.0125432	-.001640
#3	.0021461	.001119	-.001252	-.009229	.0000016	.0107750	-.001544
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000835	.0003939	.0406966	.0044926	.0001615	.0005498	.0277401
Stddev	.0000202	.0000605	.0065454	.0004480	.0001018	.0004014	.0068111
%RSD	24.23394	15.36207	16.08342	9.971585	63.02383	73.00333	24.55325
#1	.0000639	.0004553	.0482307	.0050044	.0002493	.0000924	.0249025
#2	.0000823	.0003343	.0374494	.0043015	.0001854	.0007139	.0228066
#3	.0001044	.0003923	.0364097	.0041718	.0000499	.0008431	.0355113
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004844	.6708511	.0035277	.0011583	280.7812	.0004261	.0056200
Stddev	.0001382	.0058711	.0002060	.0005485	2.6986	.0025072	.0002426
%RSD	28.52200	.8751651	5.839855	47.35408	.9610874	588.3797	4.316356
#1	.0006348	.6699757	.0033873	.0017800	279.2030	.0033203	.0056439
#2	.0004555	.6654669	.0037642	.0009522	279.2434	-.000960	.0058498
#3	.0003630	.6771107	.0034317	.0007427	283.8971	-.001081	.0053664
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1482660	-.002184	.0008630	.0000134	.0009065	-.047497	-.000011
Stddev	.0581717	.000276	.0003663	.0011430	.0009445	.016546	.000225
%RSD	39.23469	12.63799	42.44990	8526.209	104.1970	34.83539	2010.896
#1	.1267476	-.001867	.0012844	.0013331	.0007437	-.028826	-.000029
#2	.1039192	-.002364	.0006831	-.000630	.0000539	-.060340	-.000227
#3	.2141311	-.002323	.0006213	-.000663	.0019218	-.053325	.000222

Sample Name: PB170645TB Acquired: 11/21/2025 18:07:53 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0009606	.0050962	.0000877
Stddev	.0019073	.0023133	.0000760
%RSD	198.5535	45.39270	86.63214

#1	.0018036	.0027219	.0001196
#2	.0023011	.0073432	.0000010
#3	-.001223	.0052235	.0001426

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2579.881	48999.30	8658.385	2469.480	4287.686
Stddev	7.350	151.80	44.029	7.060	10.987
%RSD	.2849058	.3097987	.5085157	.2858831	.2562346

#1	2581.840	48838.73	8650.407	2467.086	4294.967
#2	2586.053	49140.46	8705.858	2477.426	4293.042
#3	2571.750	49018.70	8618.890	2463.929	4275.048

Sample Name: PB170679BL Acquired: 11/21/2025 18:12:21 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003499	-.002305	-.001177	-.001707	-.002002	.0077082	-.004519
Stddev	.004659	.001127	.000635	.001572	.001956	.0042672	.000853
%RSD	133.1723	48.87573	53.96635	92.11387	97.74173	55.36001	18.86848
#1	-.001692	-.002728	-.000680	-.003496	-.001782	.0031342	-.004756
#2	-.000014	-.001029	-.000958	-.000547	-.000164	.0084081	-.005228
#3	-.008790	-.003160	-.001893	-.001077	-.004058	.0115821	-.003573
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000030	.0000645	-.005561	-.000126	-.000236	.0002135	-.005943
Stddev	.000042	.0000638	.006914	.000521	.000051	.0005417	.006347
%RSD	140.0879	98.79822	124.3279	414.2330	21.42177	253.7669	106.8024
#1	-.000041	.0001236	-.004136	-.000687	-.000213	-.000412	-.009116
#2	.000016	.0000732	.000529	.000344	-.000294	.000515	-.010077
#3	-.000065	-.000003	-.013077	-.000035	-.000201	.000537	.001365
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002280	.0071101	.0006699	.0000453	.0971557	-.000231	.0007654
Stddev	.0008013	.0168782	.0000839	.0007701	.0156261	.002930	.0003145
%RSD	351.4426	237.3818	12.52223	1700.068	16.08361	1266.446	41.08719
#1	.0002898	.0036175	.0006699	-.000227	.0936159	-.003405	.0010189
#2	-.000602	-.007748	.0005860	-.000552	.1142481	.000339	.0004135
#3	.000997	.025461	.0007537	.000914	.0836032	.002371	.0008638
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1203851	-.001782	-.000601	-.000211	.0005833	-.032995	.0003078
Stddev	.0374709	.000384	.000323	.000830	.0004970	.005285	.0005322
%RSD	31.12590	21.54549	53.79967	393.4998	85.20269	16.01881	172.8774
#1	.1414692	-.002156	-.000479	.000738	.0011243	-.026894	.0002088
#2	.0771220	-.001388	-.000356	-.000797	.0001469	-.035903	.0008826
#3	.1425640	-.001802	-.000967	-.000573	.0004787	-.036187	-.000168

Sample Name: PB170679BL Acquired: 11/21/2025 18:12:21 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	F -.013039	.0000839	.0000434
Stddev	.001292	.0011209	.0000692
%RSD	9.909589	1336.078	159.3115

#1	-.014491	.0013781	-.000019
#2	-.012611	-.000572	.000118
#3	-.012016	-.000554	.000031

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2690.771	51558.44	8991.902	2602.492	4864.313
Stddev	10.418	216.55	77.081	12.999	16.828
%RSD	.3871770	.4200130	.8572216	.4994947	.3459517

#1	2698.225	51763.27	8961.974	2594.361	4870.948
#2	2695.223	51331.81	9079.458	2595.630	4876.812
#3	2678.867	51580.23	8934.273	2617.484	4845.179

Sample Name: PB170679BS Acquired: 11/21/2025 18:16:40 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8195880	2.048973	.9946967	2.114912	.8232240	2.063041
Stddev	.0118737	.036199	.0066486	.022689	.0039385	.007254
%RSD	1.448739	1.766706	.6684035	1.072790	.4784205	.3516007
#1	.8139243	2.074633	.9942602	2.122097	.8207878	2.061471
#2	.8116065	2.007567	.9882771	2.089501	.8211163	2.056701
#3	.8332331	2.064719	1.001553	2.133138	.8277678	2.070951
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2049493	.2052738	.2009941	1.053982	.4127795	.2021388
Stddev	.0022707	.0011439	.0008344	.004411	.0015367	.0018268
%RSD	1.107921	.5572565	.4151422	.4185331	.3722909	.9037262
#1	.2064698	.2065142	.2008322	1.052283	.4141772	.2020115
#2	.2060389	.2050469	.2002525	1.050672	.4130273	.2003789
#3	.2023392	.2042604	.2018976	1.058990	.4111339	.2040258
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3202764	3.164649	.2100806	2.042258	.5097581	.0798574
Stddev	.0022449	.034838	.0004643	.013201	.0039776	.0003808
%RSD	.7009156	1.100836	.2210118	.6464064	.7802973	.4768541
#1	.3207378	3.129277	.2095604	2.036695	.5096576	.0796396
#2	.3178367	3.198926	.2102282	2.057331	.5058318	.0796354
#3	.3222548	3.165744	.2104531	2.032749	.5137851	.0802971
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.078039	.3099084	.2153417	10.24371	.3073370	.4104038
Stddev	.050658	.0015689	.0009017	.14339	.0021122	.0029777
%RSD	1.645800	.5062332	.4187284	1.399813	.6872571	.7255584
#1	3.048415	.3093313	.2160711	10.08577	.3096834	.4110011
#2	3.136533	.3116841	.2156203	10.36572	.3067401	.4071727
#3	3.049170	.3087098	.2143336	10.27965	.3055875	.4130375

Sample Name: PB170679BS Acquired: 11/21/2025 18:16:40 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6828920	.2020533	.8423310	F .6420395	F -.009097	.2105204
Stddev	.0050931	.0004356	.0081575	.0042931	.006618	.0024533
%RSD	.7458184	.2155772	.9684469	.6686686	72.74679	1.165331
#1	.6811725	.2015779	.8465354	.6426648	-.004111	.2129521
#2	.6788813	.2024332	.8329289	.6374680	-.016605	.2080461
#3	.6886224	.2021489	.8475286	.6459857	-.006576	.2105629
Elem	Sr4077					
Units	ppm					
Avg	.2070466					
Stddev	.0008089					
%RSD	.3907006					
#1	.2072438					
#2	.2077386					
#3	.2061573					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2684.570	50890.21	9099.781	2568.789	4748.045	
Stddev	8.660	150.28	50.939	11.797	15.462	
%RSD	.3225859	.2953095	.5597785	.4592397	.3256510	
#1	2679.533	50969.90	9048.249	2581.919	4738.178	
#2	2694.570	50716.87	9100.990	2559.082	4765.865	
#3	2679.608	50983.87	9150.105	2565.367	4740.092	

Sample Name: Q3699-01 Acquired: 11/21/2025 18:20:46 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2792692	-.004101	.1428541	.0053827	-.006296	191.9740	.3276728
Stddev	.0043308	.005420	.0014134	.0013168	.004112	.0963	.0009681
%RSD	1.550767	132.1610	.9894012	24.46385	65.31796	.0501407	.2954633
#1	.2785215	.000907	.1438882	.0039108	-.002686	192.0070	.3265635
#2	.2753609	-.003354	.1434304	.0064490	-.005429	192.0494	.3283477
#3	.2839252	-.009855	.1412436	.0057883	-.010773	191.8656	.3281072
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0080610	.0070495	19.92357	.2818857	.0593738	.1917744	237.7845
Stddev	.0000347	.0001622	.03379	.0007494	.0001143	.0011107	1.0035
%RSD	.4310366	2.301108	.1696138	.2658466	.1925549	.5791552	.4220225
#1	.0080215	.0072331	19.89620	.2815161	.0593994	.1920038	236.8340
#2	.0080870	.0069255	19.91317	.2827481	.0594732	.1905669	237.6856
#3	.0080745	.0069900	19.96134	.2813929	.0592489	.1927524	238.8337
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.041728	14.40711	.1185731	-.008923	3.322228	.4975290	.2796351
Stddev	.004484	.06870	.0005458	.000441	.034173	.0015952	.0020110
%RSD	.4303938	.4768539	.4602829	4.944033	1.028611	.3206171	.7191411
#1	1.038307	14.33934	.1182691	-.009358	3.293881	.4962253	.2814895
#2	1.040073	14.40528	.1192031	-.008476	3.312628	.4993077	.2774976
#3	1.046804	14.47671	.1182469	-.008935	3.360174	.4970541	.2799181
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.772934	.1676779	.0127019	.0332904	1.929853	4.623971	.3237325
Stddev	.036706	.0020629	.0001838	.0005954	.006729	.032910	.0011735
%RSD	.4722293	1.230249	1.447239	1.788439	.3486835	.7117295	.3624922
#1	7.753501	.1660768	.0125091	.0339104	1.922144	4.591945	.3226024
#2	7.815271	.1700058	.0128753	.0327232	1.934549	4.622270	.3236502
#3	7.750029	.1669512	.0127213	.0332375	1.932866	4.657699	.3249450

Sample Name: Q3699-01 Acquired: 11/21/2025 18:20:46 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.871625	.0639926	-.122980
Stddev	.007722	.0017392	.000603
%RSD	.4125989	2.717878	.4900083

#1	1.864005	.0619922	-.122601
#2	1.871424	.0648388	-.122664
#3	1.879446	.0651469	-.123675

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2832.719	54010.67	9894.262	2714.075	4463.941
Stddev	9.975	137.46	22.614	5.720	17.329
%RSD	.3521455	.2545080	.2285553	.2107610	.3882011

#1	2838.484	54019.06	9871.285	2709.122	4476.045
#2	2838.473	54143.74	9916.494	2720.336	4471.690
#3	2821.201	53869.20	9895.006	2712.767	4444.090

Sample Name: Q3699-03 Acquired: 11/21/2025 18:24:55 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0872552	-.003803	.5792824	-.001750	-.009579	184.6809	.6805119
Stddev	.0015687	.004041	.0034448	.001157	.001460	.6343	.0037926
%RSD	1.797847	106.2543	.5946644	66.10761	15.23700	.3434363	.5573208
#1	.0873277	-.001629	.5776917	-.002111	-.008402	185.0598	.6827258
#2	.0856515	-.001315	.5769204	-.002684	-.009123	183.9487	.6761326
#3	.0887864	-.008467	.5832351	-.000456	-.011212	185.0343	.6826772
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0075093	.0098817	67.51561	.2555367	.0956623	.3529946	247.5767
Stddev	.0000512	.0002161	.26275	.0007181	.0004413	.0005455	1.0795
%RSD	.6818375	2.186575	.3891638	.2810355	.4613065	.1545292	.4360354
#1	.0074611	.0099120	67.67875	.2547255	.0957737	.3530426	247.1451
#2	.0075038	.0100810	67.21251	.2560912	.0951760	.3524267	246.7798
#3	.0075631	.0096520	67.65556	.2557935	.0960372	.3535144	248.8053
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.756974	39.51799	.2048735	-.010441	4.937904	.4583780	.9793872
Stddev	.025620	.14272	.0004402	.000658	.035520	.0008828	.0045301
%RSD	.6819430	.3611431	.2148900	6.298641	.7193247	.1925876	.4625474
#1	3.776901	39.64665	.2043963	-.010786	4.931648	.4587329	.9841262
#2	3.728074	39.36448	.2052639	-.010854	4.905928	.4590282	.9789355
#3	3.765948	39.54285	.2049602	-.009683	4.976136	.4573731	.9750998
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.24692	.2159351	.0048264	.0512338	2.584539	8.841570	.6732475
Stddev	.05928	.0022357	.0003186	.0015049	.010572	.061492	.0023586
%RSD	.4475348	1.035357	6.600410	2.937347	.4090435	.6954838	.3503246
#1	13.18251	.2147083	.0046893	.0496053	2.588035	8.773036	.6757706
#2	13.25904	.2145813	.0051906	.0525732	2.572662	8.859758	.6710982
#3	13.29920	.2185156	.0045993	.0515229	2.592921	8.891917	.6728738

Sample Name: Q3699-03 Acquired: 11/21/2025 18:24:55 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.832263	.1672436	.0975789
Stddev	.008307	.0001743	.0010843
%RSD	.4533739	.1042199	1.111187

#1	1.841756	.1671189	.0988295
#2	1.826327	.1671690	.0969022
#3	1.828707	.1674427	.0970050

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2843.842	54304.46	10053.41	2695.899	4323.294
Stddev	8.555	120.35	26.54	8.783	15.353
%RSD	.3008300	.2216221	.2640111	.3257899	.3551223

#1	2843.198	54441.56	10023.75	2685.937	4323.575
#2	2852.701	54216.22	10061.58	2699.235	4338.505
#3	2835.627	54255.60	10074.91	2702.526	4307.803

Sample Name: Q3699-03DUP Acquired: 11/21/2025 18:28:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0894280	-.000631	.5735024	-.001884	-.008508	181.4338	.6726276
Stddev	.0065878	.006490	.0051360	.006531	.002131	.8142	.0021210
%RSD	7.366551	1028.738	.8955479	346.7374	25.04165	.4487859	.3153356
#1	.0871575	-.001816	.5756298	-.008634	-.007793	182.0272	.6714173
#2	.0842758	.006370	.5676445	.004403	-.006826	181.7688	.6750767
#3	.0968507	-.006447	.5772329	-.001420	-.010904	180.5055	.6713887
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074531	.0092361	66.36467	.2523127	.0937550	.3448892	246.2544
Stddev	.0001788	.0000867	.27139	.0018299	.0005356	.0022666	1.7995
%RSD	2.398270	.9381527	.4089330	.7252657	.5712564	.6571866	.7307518
#1	.0072953	.0091386	66.51095	.2513002	.0935804	.3435674	245.3342
#2	.0076472	.0093044	66.53153	.2512128	.0933285	.3435939	245.1010
#3	.0074167	.0092653	66.05152	.2544251	.0943561	.3475064	248.3279
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.690615	38.80827	.2001285	-.009602	4.723354	.4537020	.9536013
Stddev	.015828	.12654	.0015735	.000766	.037617	.0041829	.0021714
%RSD	.4288719	.3260637	.7862505	7.981428	.7963947	.9219406	.2277073
#1	3.693762	38.79658	.2007897	-.010357	4.700138	.4585214	.9512240
#2	3.704633	38.94025	.1983323	-.009626	4.703169	.4510167	.9540998
#3	3.673450	38.68798	.2012635	-.008824	4.766755	.4515678	.9554802
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.14015	.2288305	.0050881	.0461296	2.561860	9.216527	.6624023
Stddev	.07858	.0128364	.0002764	.0010318	.010989	.048900	.0063763
%RSD	.5980507	5.609559	5.432834	2.236659	.4289424	.5305695	.9626023
#1	13.10700	.2250697	.0053962	.0450100	2.569617	9.171527	.6624698
#2	13.08357	.2182946	.0050065	.0463367	2.566677	9.209488	.6559925
#3	13.22988	.2431272	.0048617	.0470421	2.549285	9.268565	.6687445

Sample Name: Q3699-03DUP Acquired: 11/21/2025 18:28:59 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.714316	.1650035	.0946268
Stddev	.007337	.0010727	.0029604
%RSD	.4279954	.6500962	3.128452

#1	1.716216	.1641223	.0956836
#2	1.706215	.1661979	.0969136
#3	1.720516	.1646904	.0912830

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2870.837	54724.72	10209.89	2716.963	4379.570
Stddev	13.244	339.98	62.52	19.115	16.991
%RSD	.4613419	.6212595	.6123066	.7035378	.3879520

#1	2875.415	55018.23	10215.12	2726.238	4384.390
#2	2881.185	54803.74	10144.93	2729.672	4393.630
#3	2855.911	54352.18	10269.63	2694.981	4360.690

Sample Name: Q3699-03LX5 Acquired: 11/21/2025 18:33:03 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0151063	.0020436	.1084249	-.002647	-.001550	37.39010	.1368823
Stddev	.0031992	.0052946	.0011516	.003252	.000980	.15393	.0006040
%RSD	21.17800	259.0811	1.062120	122.8243	63.20949	.4116914	.4412599
#1	.0146990	-.003584	.1072973	-.004877	-.001872	37.43352	.1368755
#2	.0121302	.002790	.1095991	-.004149	-.000450	37.51766	.1374897
#3	.0184897	.006926	.1083783	.001084	-.002328	37.21913	.1362818
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016527	.0012640	13.99259	.0514986	.0177975	.0762636	48.85391
Stddev	.0000979	.0000991	.01707	.0004106	.0001455	.0002012	.09787
%RSD	5.922191	7.839745	.1219648	.7973243	.8178398	.2637578	.2003293
#1	.0015580	.0013095	13.97748	.0516951	.0176676	.0761908	48.94786
#2	.0016465	.0011503	14.01110	.0517741	.0177700	.0761091	48.86133
#3	.0017535	.0013321	13.98920	.0510267	.0179548	.0764911	48.75254
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7859684	8.079852	.0378566	-.002056	.8367059	.0930743	.1921738
Stddev	.0022730	.041747	.0005220	.000363	.0167013	.0033082	.0004208
%RSD	.2891974	.5166745	1.378801	17.64255	1.996073	3.554366	.2189460
#1	.7884973	8.082436	.0379519	-.001908	.8186690	.0968826	.1923999
#2	.7853123	8.120247	.0372936	-.002469	.8398136	.0909117	.1924333
#3	.7840956	8.036874	.0383244	-.001790	.8516350	.0914286	.1916884
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.427548	.0365064	.0005264	.0079658	.5341525	1.672098	.1243129
Stddev	.024117	.0012500	.0003908	.0011068	.0048507	.034154	.0018432
%RSD	.9934797	3.424057	74.23897	13.89445	.9081086	2.042599	1.482716
#1	2.400933	.0352956	.0009405	.0080872	.5312880	1.664809	.1236827
#2	2.433756	.0377922	.0004745	.0068033	.5314164	1.709308	.1228674
#3	2.447954	.0364313	.0001642	.0090069	.5397531	1.642176	.1263885

Sample Name: Q3699-03LX5 Acquired: 11/21/2025 18:33:03 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3032492	.0299225	.0227048
Stddev	.0050723	.0006481	.0000412
%RSD	1.672648	2.166001	.1814567

#1	.3016551	.0303814	.0227377
#2	.2991654	.0291811	.0226586
#3	.3089270	.0302051	.0227182

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2788.936	53934.89	9382.213	2669.513	4786.950
Stddev	14.352	117.95	16.850	14.499	27.444
%RSD	.5145919	.2186883	.1795972	.5431474	.5733181

#1	2783.328	53853.02	9362.976	2652.780	4785.380
#2	2805.245	54070.09	9389.308	2678.377	4815.146
#3	2778.235	53881.57	9394.356	2677.380	4760.324

Sample Name: Q3699-03MS Acquired: 11/21/2025 18:37:16 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8086829	1.849588	1.497217	1.791046	.3655603	182.8743	.7878925
Stddev	.0071471	.020234	.009688	.018114	.0051161	.3127	.0060344
%RSD	.8838012	1.093998	.6470607	1.011353	1.399534	.1710125	.7658933
#1	.8014668	1.835131	1.488532	1.770588	.3657871	182.9582	.7870907
#2	.8088229	1.840920	1.495454	1.797507	.3603345	183.1366	.7942877
#3	.8157591	1.872712	1.507666	1.805044	.3705593	182.5282	.7822990
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1830488	.2044892	118.3937	.6912669	.3029582	.5773021	277.7731
Stddev	.0008553	.0013986	.5197	.0014191	.0018504	.0045195	1.0726
%RSD	.4672660	.6839687	.4389470	.2052818	.6107800	.7828589	.3861343
#1	.1823342	.2036830	118.1051	.6913243	.3014167	.5745818	278.5665
#2	.1839965	.2036804	118.9937	.6926564	.3024476	.5748053	278.2000
#3	.1828155	.2061042	118.0825	.6898201	.3050103	.5825191	276.5528
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.113853	60.05591	.7314687	.0586612	7.741187	.7319054	1.053399
Stddev	.030251	.21813	.0038892	.0000335	.036229	.0075575	.002455
%RSD	.7353494	.3632150	.5317034	.0571786	.4680043	1.032573	.2330948
#1	4.096960	59.84728	.7290007	.0586945	7.770988	.7281582	1.050813
#2	4.148777	60.28244	.7294532	.0586274	7.751713	.7406043	1.053684
#3	4.095820	60.03802	.7359520	.0586618	7.700860	.7269538	1.055699
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.27109	.4606405	.3682801	.7128897	2.665464	7.970999	1.361840
Stddev	.10975	.0047695	.0025355	.0036025	.010347	.038392	.006245
%RSD	.5414028	1.035415	.6884817	.5053397	.3881943	.4816397	.4585883
#1	20.26025	.4649941	.3654338	.7107873	2.660294	8.010966	1.357732
#2	20.38586	.4555426	.3702971	.7108323	2.677378	7.934406	1.358761
#3	20.16717	.4613849	.3691095	.7170494	2.658721	7.967626	1.369027

Sample Name: Q3699-03MS Acquired: 11/21/2025 18:37:16 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.827867	.3459567	.4318535
Stddev	.010733	.0013763	.0037747
%RSD	.5871601	.3978142	.8740584

#1	1.815496	.3454551	.4309566
#2	1.833421	.3475134	.4359959
#3	1.834685	.3449016	.4286081

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2761.279	53223.90	9845.294	2670.384	4185.334
Stddev	9.784	50.06	54.770	1.878	20.447
%RSD	.3543285	.0940467	.5563077	.0703251	.4885394

#1	2765.478	53223.12	9896.874	2671.397	4193.569
#2	2768.263	53174.23	9787.812	2668.217	4200.380
#3	2750.097	53274.33	9851.197	2671.539	4162.054

Sample Name: CCV06 Acquired: 11/21/2025 18:41:17 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	4.842515	4.839183	4.784790	4.926538	4.930835	9.687150	9.753301
Stddev	.009729	.104533	.017203	.015836	.017154	.011384	.098096
%RSD	.2009014	2.160127	.3595297	.3214464	.3478848	.1175210	1.005773
#1	4.832532	4.744395	4.773624	4.924097	4.926325	9.696814	9.709944
#2	4.843045	4.951296	4.776146	4.912064	4.916387	9.690035	9.865605
#3	4.851967	4.821858	4.804601	4.943453	4.949793	9.674601	9.684355
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2355002	2.381855	24.05997	.9663392	2.390980	1.224023	4.947292
Stddev	.0008300	.007543	.08175	.0017375	.007363	.004907	.043469
%RSD	.3524558	.3167063	.3397825	.1798040	.3079653	.4009202	.8786466
#1	.2363518	2.377384	24.07477	.9675193	2.387334	1.222950	4.903237
#2	.2354553	2.377616	24.13331	.9643440	2.386150	1.219740	4.948490
#3	.2346936	2.390564	23.97183	.9671545	2.399455	1.229378	4.990150
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.404818	23.74044	2.394954	1.206671	27.04419	2.414785	2.423084
Stddev	.002447	.10270	.004591	.002277	.01148	.006689	.002250
%RSD	.1017692	.4326026	.1916763	.1886878	.0424555	.2770042	.0928634
#1	2.402193	23.70358	2.391718	1.208856	27.03398	2.414622	2.425681
#2	2.407036	23.66125	2.392937	1.206846	27.04198	2.408178	2.421858
#3	2.405226	23.85649	2.400208	1.204312	27.05662	2.421553	2.421713
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.16883	4.744418	4.910197	4.786957	4.852682	4.902299	4.869062
Stddev	.01756	.009279	.018259	.008321	.008066	.005781	.009589
%RSD	.0726587	.1955817	.3718492	.1738216	.1662145	.1179323	.1969384
#1	24.18389	4.754949	4.902766	4.791654	4.860816	4.908974	4.858131
#2	24.17305	4.737439	4.896825	4.777350	4.852543	4.898871	4.876054
#3	24.14954	4.740868	4.930999	4.791868	4.844686	4.899053	4.873002

Sample Name: CCV06 Acquired: 11/21/2025 18:41:17 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.788893	4.746179	4.863028
Stddev	.021745	.007458	.054985
%RSD	.4540782	.1571447	1.130672

#1	4.780021	4.754452	4.926298
#2	4.813671	4.744117	4.835977
#3	4.772986	4.739969	4.826809

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2634.205	50531.81	9146.108	2514.994	4492.751
Stddev	11.522	78.90	31.970	11.549	9.581
%RSD	.4374020	.1561462	.3495441	.4592113	.2132500

#1	2636.802	50460.28	9110.880	2501.659	4494.919
#2	2644.207	50518.70	9154.168	2521.743	4501.063
#3	2621.606	50616.44	9173.276	2521.582	4482.273

Sample Name: CCB06 Acquired: 11/21/2025 18:45:29 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	-.001064	-.002903	.0018540	-.003001	.0003274	.0085309	-.004250
Stddev	.006340	.002530	.0007504	.005553	.0023462	.0077181	.001359
%RSD	595.5450	87.17529	40.47540	185.0267	716.6533	90.47199	31.98755
#1	.005957	-.001969	.0009885	-.006879	-.000509	.0087557	-.005320
#2	-.006369	-.000972	.0022505	.003360	.002977	.0007028	-.004709
#3	-.002782	-.005767	.0023229	-.005484	-.001486	.0161341	-.002720
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001173	.0000944	-.002071	-.000143	.0000494	-.000158	-.009114
Stddev	.0000136	.0000841	.003135	.000468	.0000523	.000497	.006286
%RSD	11.59709	89.08486	151.3541	327.8738	105.9905	314.9029	68.97313
#1	.0001143	.0000084	.000403	-.000074	.0000522	-.000543	-.016350
#2	.0001322	.0001764	-.001020	-.000642	.0001003	-.000333	-.004998
#3	.0001055	.0000983	-.005597	.000287	-.000004	.000403	-.005994
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000042	-.003604	.0002870	-.000483	-.064356	.0031415	.0001200
Stddev	.000434	.007854	.0000871	.000410	.015480	.0017319	.0001404
%RSD	1044.019	217.8958	30.35637	84.84703	24.05394	55.13023	117.0246
#1	-.000381	-.000244	.0002385	-.000011	-.063706	.0018220	.0000913
#2	-.000190	-.012580	.0003876	-.000743	-.080151	.0024999	.0002725
#3	.000447	.002010	.0002349	-.000695	-.049211	.0051027	-.000004
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.020440	.0035641	-.000076	.0006112	.0006464	-.029493	.0003997
Stddev	.029611	.0004177	.000267	.0006881	.0027137	.000654	.0001979
%RSD	144.8663	11.71997	349.4788	112.5732	419.8131	2.218393	49.51039
#1	-.024907	.0034681	-.000120	.0002907	-.001690	-.030194	.0001835
#2	.011150	.0032027	-.000319	.0014011	.003623	-.029385	.0005720
#3	-.047564	.0040214	.000210	.0001419	.000006	-.028899	.0004436

Sample Name: CCB06 Acquired: 11/21/2025 18:45:29 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	F -.014886	-.004448	.0000804
Stddev	.002914	.000452	.0000826
%RSD	19.57870	10.17093	102.6590

#1	-.012308	-.003951	-.000013
#2	-.018048	-.004837	.000111
#3	-.014301	-.004555	.000143

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2699.191	52037.91	9193.898	2562.052	4901.363
Stddev	4.256	187.99	11.865	13.687	3.894
%RSD	.1576584	.3612526	.1290565	.5342304	.0794504

#1	2703.008	52007.97	9186.099	2551.208	4905.859
#2	2699.963	52239.06	9188.041	2577.431	4899.190
#3	2694.603	51866.68	9207.552	2557.517	4899.040

Sample Name: Q3699-03MSD Acquired: 11/21/2025 18:49:49 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8122328	1.856906	1.519706	1.817819	.3684000	185.1041	.7974649
Stddev	.0043200	.011481	.007295	.011828	.0034646	.2902	.0040696
%RSD	.5318650	.6182941	.4800140	.6506464	.9404354	.1567739	.5103124

#1	.8074288	1.854484	1.514065	1.821608	.3718142	185.2030	.8005949
#2	.8157982	1.846830	1.517110	1.804561	.3648872	185.3319	.7989354
#3	.8134713	1.869405	1.527944	1.827288	.3684985	184.7773	.7928645

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1813592	.2066997	120.2020	.7022964	.3049403	.5753835	284.8097
Stddev	.0006218	.0012999	.3318	.0038859	.0013371	.0035946	1.4216
%RSD	.3428542	.6289016	.2760739	.5533142	.4384880	.6247276	.4991475

#1	.1820626	.2057371	120.4905	.7045455	.3037257	.5719524	285.5249
#2	.1811321	.2061836	120.2762	.7045344	.3047220	.5750763	285.7317
#3	.1808828	.2081785	119.8393	.6978094	.3063731	.5791219	283.1725

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.140667	61.00137	.7381625	.0594770	8.012592	.7440326	1.058007
Stddev	.009540	.13790	.0035065	.0008825	.060862	.0037881	.002642
%RSD	.2303925	.2260566	.4750251	1.483708	.7595769	.5091319	.2497082

#1	4.151019	60.85273	.7345130	.0602184	8.026705	.7483372	1.060768
#2	4.138754	61.12514	.7384687	.0597116	8.065157	.7425530	1.057751
#3	4.132229	61.02624	.7415059	.0585009	7.945913	.7412077	1.055503

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.91705	.4871637	.3757151	.7032417	2.699004	8.519873	1.351269
Stddev	.17428	.0031776	.0021279	.0052481	.010867	.032411	.008687
%RSD	.8331799	.6522708	.5663494	.7462764	.4026417	.3804202	.6428757

#1	20.99530	.4908204	.3742565	.6976765	2.693503	8.544739	1.344011
#2	21.03848	.4855980	.3747320	.7039473	2.711522	8.531662	1.348900
#3	20.71736	.4850728	.3781567	.7081013	2.691987	8.483217	1.360894

Sample Name: Q3699-03MSD Acquired: 11/21/2025 18:49:49 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.595291	.3513026	.4343535
Stddev	.010648	.0018111	.0018876
%RSD	.6674779	.5155338	.4345750

#1	1.585449	.3533185	.4362904
#2	1.593831	.3507763	.4342507
#3	1.606594	.3498129	.4325195

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2761.710	53168.15	10041.15	2626.587	4194.555
Stddev	10.319	183.28	7.62	12.086	17.673
%RSD	.3736576	.3447177	.0758776	.4601564	.4213216

#1	2771.437	53147.22	10032.63	2614.891	4209.856
#2	2762.808	52996.22	10047.30	2625.841	4198.597
#3	2750.886	53360.99	10043.53	2639.029	4175.212

Sample Name: Q3699-03A Acquired: 11/21/2025 18:53:50 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7861329	1.790226	1.475512	1.771062	.7162907	179.0226
Stddev	.0073566	.016960	.003276	.010989	.0049878	.2408
%RSD	.9357914	.9473522	.2220498	.6204562	.6963331	.1345083
#1	.7924073	1.806085	1.473663	1.775084	.7172448	178.7767
#2	.7780366	1.792248	1.473579	1.758629	.7108948	179.0331
#3	.7879547	1.772346	1.479295	1.779472	.7207325	179.2580
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8211439	.1746649	.1964323	65.35820	.5918680	.2819615
Stddev	.0023462	.0002198	.0006261	.07028	.0009236	.0013032
%RSD	.2857250	.1258372	.3187199	.1075274	.1560526	.4621924
#1	.8228522	.1744144	.1964174	65.39321	.5921138	.2819383
#2	.8184687	.1747550	.1958138	65.27729	.5908464	.2806701
#3	.8221106	.1748254	.1970657	65.40410	.5926439	.2832762
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5967521	239.1699	3.749443	39.57799	.6683468	.0569983
Stddev	.0049550	.9591	.013354	.09040	.0030993	.0015311
%RSD	.8303340	.4010067	.3561609	.2284032	.4637224	2.686248
#1	.5940477	240.2741	3.762813	39.47744	.6674258	.0578132
#2	.5937378	238.6910	3.736105	39.65255	.6658124	.0552321
#3	.6024709	238.5445	3.749412	39.60398	.6718022	.0579496
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.973006	.7017129	1.101564	21.45771	.4556937	.3740750
Stddev	.032757	.0062372	.003247	.10213	.0042271	.0013794
%RSD	.4697738	.8888472	.2947186	.4759524	.9276288	.3687586
#1	7.005590	.6985884	1.098084	21.56915	.4605272	.3737021
#2	6.940078	.6976556	1.102097	21.36858	.4538659	.3729204
#3	6.973349	.7088948	1.104510	21.43541	.4526880	.3756025

Sample Name: Q3699-03A Acquired: 11/21/2025 18:53:50 Type: Unk

Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000

User: Jaswal Custom ID1: Custom ID2: Custom ID3:

Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7211669	2.697911	F 11.01657	1.256151	1.669382	.3362439
Stddev	.0022379	.001527	.12835	.004186	.010708	.0022599
%RSD	.3103146	.0565959	1.165092	.3332727	.6414258	.6721097

#1	.7198463	2.699579	10.92083	1.252967	1.667139	.3385145
#2	.7199036	2.696582	10.96646	1.254593	1.659974	.3339948
#3	.7237508	2.697572	11.16242	1.260893	1.681034	.3362224

Elem	Sr4077
Units	ppm
Avg	.2670785
Stddev	.0011551
%RSD	.4324901

#1	.2679070
#2	.2657590
#3	.2675694

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	ln2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2856.667	55182.05	10166.37	2739.759	4356.868
Stddev	13.985	90.20	13.41	8.040	15.865
%RSD	.4895701	.1634581	.1319281	.2934731	.3641414

#1	2865.152	55099.39	10161.96	2732.175	4368.414
#2	2864.325	55278.26	10181.43	2748.189	4363.412
#3	2840.526	55168.49	10155.71	2738.913	4338.777

Sample Name: PB170685BL Acquired: 11/21/2025 18:57:51 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000751	-.003187	.0003550	-.002632	-.001948	.0091260	-.004071
Stddev	.004435	.001991	.0009165	.003463	.001377	.0081920	.000592
%RSD	590.6505	62.46827	258.1967	131.5909	70.67534	89.76661	14.54408
#1	-.004091	-.004015	.0006614	-.004804	-.002070	.0028141	-.004318
#2	.004282	-.000915	-.000675	.001362	-.000514	.0061803	-.003395
#3	-.002444	-.004629	.001079	-.004452	-.003260	.0183835	-.004500
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000418	.0000855	-.015433	.0000718	-.000129	.0001554	-.009713
Stddev	.0000416	.0000373	.005824	.0002350	.000221	.0000393	.002482
%RSD	99.48564	43.70002	37.73979	327.3023	171.8174	25.29940	25.54948
#1	.0000039	.0000950	-.017334	-.000066	.000122	.0002004	-.006947
#2	.0000862	.0000443	-.020069	.000343	-.000298	.0001277	-.011745
#3	.0000352	.0001171	-.008896	-.000061	-.000210	.0001381	-.010447
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001415	.0194921	.0004694	.0002276	-.116997	.0001408	-.000202
Stddev	.0001081	.0218452	.0004445	.0004055	.007131	.0008129	.000188
%RSD	76.36111	112.0722	94.68604	178.1984	6.094767	577.2286	93.17749
#1	.0002006	.0076523	.0007908	.0000799	-.112354	.0004916	-.000059
#2	.0002072	.0061226	.0006553	-.000083	-.125207	.0007194	-.000415
#3	.0000168	.0447012	-.000038	.000686	-.113429	-.000789	-.000132
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.090103	-.001438	-.000261	-.000615	.0023788	-.036038	-.000119
Stddev	.050723	.000618	.000322	.000982	.0005682	.009068	.000493
%RSD	56.29486	42.99212	123.3018	159.6858	23.88772	25.16214	415.5917
#1	-.117871	-.002005	.000100	-.001011	.0023842	-.032687	.000444
#2	-.031558	-.001530	-.000364	.000503	.0029444	-.029122	-.000322
#3	-.120879	-.000779	-.000518	-.001337	.0018079	-.046305	-.000477

Sample Name: PB170685BL Acquired: 11/21/2025 18:57:51 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	F -.014017	-.003101	.0000190
Stddev	.003368	.000955	.0000554
%RSD	24.02718	30.78159	292.2755

#1	-.010876	-.003819	.0000544
#2	-.017573	-.003466	.0000474
#3	-.013601	-.002018	-.000045

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2693.864	50887.43	9148.796	2552.049	4837.291
Stddev	9.878	137.39	41.678	22.019	19.370
%RSD	.3666762	.2699813	.4555553	.8627849	.4004323

#1	2692.536	50821.48	9121.567	2526.935	4835.577
#2	2704.338	50795.45	9196.776	2568.038	4857.461
#3	2684.717	51045.36	9128.046	2561.175	4818.835

Sample Name: PB170685BS Acquired: 11/21/2025 19:02:11 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7803665	1.942257	.9484860	2.002375	.8177278	1.984789
Stddev	.0024656	.034126	.0057187	.004563	.0025922	.011379
%RSD	.3159536	1.757010	.6029289	.2279004	.3169990	.5733312
#1	.7804203	1.980708	.9472812	2.007271	.8179274	1.991115
#2	.7778745	1.930497	.9434656	2.001613	.8150416	1.971652
#3	.7828048	1.915567	.9547111	1.998240	.8202144	1.991599
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1955608	.1972271	.1917803	.9987954	.3948368	.1940303
Stddev	.0018368	.0009536	.0008425	.0112509	.0018095	.0011786
%RSD	.9392542	.4835016	.4393092	1.126450	.4582888	.6074208
#1	.1976020	.1982124	.1918730	1.011572	.3936372	.1941161
#2	.1950393	.1963088	.1908952	.994443	.3969182	.1928111
#3	.1940412	.1971601	.1925726	.990371	.3939551	.1951636
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3084427	2.938999	.2002610	1.974727	.4875641	.0754728
Stddev	.0011779	.024704	.0014039	.052191	.0018029	.0004583
%RSD	.3818748	.8405709	.7010203	2.642965	.3697759	.6071685
#1	.3093478	2.928832	.2018821	1.933864	.4889040	.0757874
#2	.3071110	2.967165	.1994486	1.956797	.4855143	.0749470
#3	.3088693	2.921000	.1994524	2.033520	.4882740	.0756838
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.669101	.3028467	.2053868	9.391715	.2977738	.4123121
Stddev	.034842	.0015434	.0007398	.086517	.0032965	.0011806
%RSD	1.305391	.5096208	.3602131	.9212057	1.107043	.2863255
#1	2.643097	.3015257	.2046948	9.340678	.3000241	.4130215
#2	2.708689	.3024711	.2061666	9.491609	.2939899	.4109493
#3	2.655517	.3045432	.2052990	9.342859	.2993073	.4129655

Sample Name: PB170685BS Acquired: 11/21/2025 19:02:11 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6746057	.1995323	.8144452	F .6076341	F -.015571	.1979874
Stddev	.0034266	.0002877	.0074496	.0003870	.004524	.0010357
%RSD	.5079484	.1441920	.9146877	.0636954	29.05354	.5231031

#1	.6784616	.1998332	.8062623	.6080653	-.010462	.1979537
#2	.6719091	.1992599	.8162392	.6075200	-.019068	.1990395
#3	.6734463	.1995038	.8208340	.6073169	-.017184	.1969689

Elem	Sr4077
Units	ppm
Avg	.1976990
Stddev	.0009335
%RSD	.4721963

#1	.1987691
#2	.1972765
#3	.1970515

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2710.073	52451.31	9096.298	2621.258	4832.936
Stddev	7.700	238.93	46.403	17.498	20.437
%RSD	.2841403	.4555340	.5101307	.6675483	.4228723

#1	2709.917	52562.23	9050.018	2628.247	4825.058
#2	2717.850	52177.07	9142.824	2601.345	4856.140
#3	2702.452	52614.62	9096.053	2634.181	4817.611

Sample Name: Q3700-04 Acquired: 11/21/2025 19:06:16 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002963	-.009159	.0016522	-.001696	-.001462	.1009120	.0207583
Stddev	.002611	.003190	.0006557	.001559	.000624	.0121869	.0004997
%RSD	88.13860	34.82908	39.68390	91.90076	42.65269	12.07674	2.407233
#1	-.005971	-.006260	.0008951	-.001792	-.001996	.1140947	.0202035
#2	-.001629	-.008640	.0020311	-.003204	-.001613	.0985850	.0211729
#3	-.001287	-.012576	.0020305	-.000092	-.000777	.0900564	.0208986
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000057	.0000199	28.11571	.0024260	.0005942	.1349843	.5262009
Stddev	.000062	.0000709	.19697	.0008663	.0000419	.0003850	.0070530
%RSD	109.9789	356.6936	.7005595	35.70820	7.055800	.2852423	1.340369
#1	-.000110	.0000590	27.97932	.0029539	.0006188	.1349655	.5292977
#2	.000012	.0000625	28.02629	.0028979	.0006179	.1346091	.5311757
#3	-.000072	-.000062	28.34153	.0014262	.0005458	.1353785	.5181292
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0606491	6.800299	.0029923	.0001503	60.99705	.0027211	.4127999
Stddev	.0002600	.014557	.0002766	.0005946	.73189	.0014814	.0077533
%RSD	.4286052	.2140663	9.244595	395.5204	1.199886	54.44061	1.878232
#1	.0603815	6.786129	.0031090	-.000229	61.78914	.0018020	.4217524
#2	.0606652	6.799554	.0031915	.000836	60.34584	.0044300	.4082647
#3	.0609006	6.815214	.0026765	-.000155	60.85615	.0019313	.4083825
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.30071	.0204038	.0009988	-.001111	.0016587	2.469780	.1759428
Stddev	.27934	.0011969	.0002615	.001074	.0011393	.042674	.0011965
%RSD	1.023189	5.866141	26.18272	96.63895	68.68378	1.727859	.6800624
#1	27.61942	.0217829	.0012204	.000128	.0010776	2.518772	.1747314
#2	27.09833	.0196363	.0007103	-.001698	.0029714	2.449855	.1759733
#3	27.18440	.0197922	.0010658	-.001764	.0009271	2.440713	.1771239

Sample Name: Q3700-04 Acquired: 11/21/2025 19:06:16 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.559378	-.011126	.0912315
Stddev	.032044	.000873	.0009525
%RSD	.5764011	7.849305	1.044058

#1	5.522895	-.011039	.0908413
#2	5.572270	-.010300	.0905360
#3	5.582967	-.012040	.0923171

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2612.321	49791.74	9200.356	2486.944	4592.261
Stddev	9.371	826.95	2.952	49.148	12.562
%RSD	.3587149	1.660825	.0320886	1.976231	.2735409

#1	2613.471	48919.79	9203.580	2437.064	4594.648
#2	2621.064	49890.62	9199.701	2488.443	4603.458
#3	2602.428	50564.81	9197.786	2535.325	4578.677

Sample Name: Q3700-04DUP Acquired: 11/21/2025 19:10:32 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004022	-.003936	.0015811	-.000815	-.000978	.1022951	.0209401
Stddev	.002569	.002901	.0020068	.006053	.000725	.0114344	.0012121
%RSD	63.86449	73.68648	126.9238	742.7842	74.15620	11.17784	5.788637
#1	-.001389	-.001118	-.000630	.005865	-.000150	.0891848	.0219251
#2	-.006521	-.006912	.002087	-.002376	-.001283	.1102051	.0195864
#3	-.004157	-.003779	.003286	-.005934	-.001500	.1074953	.0213087
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000063	.0000402	28.32751	.0023493	.0006203	.1344927	.5171581
Stddev	.000018	.0001043	.08748	.0001539	.0000734	.0002910	.0102092
%RSD	28.55566	259.6693	.3088260	6.549571	11.83414	.2163526	1.974099
#1	-.000071	-.000002	28.42112	.0022260	.0005485	.1344582	.5271219
#2	-.000042	.000159	28.31360	.0023003	.0006952	.1342206	.5176323
#3	-.000075	-.000036	28.24782	.0025217	.0006171	.1347994	.5067200
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0615868	6.880065	.0036212	-.000161	61.73661	.0015385	.4070567
Stddev	.0003032	.033185	.0002390	.000688	.19520	.0022712	.0018395
%RSD	.4922738	.4823343	6.599578	427.7964	.3161841	147.6275	.4519070
#1	.0615836	6.898108	.0038920	.000445	61.89545	-.001081	.4064815
#2	.0618915	6.900320	.0034400	-.000018	61.51869	.002737	.4055736
#3	.0612852	6.841768	.0035315	-.000908	61.79569	.002959	.4091151
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.34912	.0204949	.0007671	-.001207	.0030165	2.475905	.1732980
Stddev	.16453	.0000559	.0001807	.000606	.0026309	.017171	.0002822
%RSD	.6015894	.2727396	23.55241	50.19376	87.21701	.6935272	.1628444
#1	27.38518	.0205474	.0006847	-.000862	.0010542	2.469248	.1735451
#2	27.16956	.0205013	.0009742	-.000852	.0019893	2.463058	.1733585
#3	27.49264	.0204361	.0006423	-.001906	.0060062	2.495407	.1729905

Sample Name: Q3700-04DUP Acquired: 11/21/2025 19:10:32 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.503441	-.011425	.0918867
Stddev	.011137	.001232	.0003133
%RSD	.2023672	10.78127	.3409944

#1	5.502194	-.012633	.0922429
#2	5.492979	-.010171	.0917634
#3	5.515149	-.011469	.0916538

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2641.575	50389.93	9234.818	2509.786	4654.116
Stddev	7.590	204.27	46.078	10.371	9.148
%RSD	.2873235	.4053780	.4989602	.4132408	.1965571

#1	2643.046	50161.87	9194.483	2503.793	4652.048
#2	2648.322	50556.09	9224.937	2521.762	4664.121
#3	2633.358	50451.83	9285.036	2503.804	4646.179

Sample Name: Q3700-04LX5 Acquired: 11/21/2025 19:14:46 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002867	-.000833	-.002134	-.003345	-.000747	.0226291	-.001363
Stddev	.002989	.001890	.000686	.004173	.001337	.0048937	.000512
%RSD	104.2666	226.7867	32.15811	124.7484	179.0345	21.62554	37.57081
#1	-.006128	-.002095	-.002782	-.004653	.000739	.0281620	-.000792
#2	-.002215	-.001744	-.001415	.001325	-.001127	.0188684	-.001519
#3	-.000257	.001339	-.002205	-.006708	-.001853	.0208569	-.001780
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000594	.0000312	5.559087	.0000895	.0002005	.0281287	.0944395
Stddev	.0000102	.0000925	.018975	.0004335	.0003409	.0005969	.0091889
%RSD	17.09345	296.4900	.3413383	484.4922	170.0646	2.122072	9.729981
#1	.0000674	-.000076	5.537831	-.000402	.0005830	.0278091	.1043506
#2	.0000480	.000081	5.574317	.000254	-.000071	.0288173	.0927651
#3	.0000628	.000088	5.565115	.000417	.000089	.0277597	.0862030
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0120946	1.354560	.0006875	-.000319	11.35967	-.000432	.0811064
Stddev	.0000294	.001582	.0001455	.000518	.17573	.001066	.0015600
%RSD	.2433418	.1167849	21.15693	162.4461	1.546929	246.7880	1.923440
#1	.0120663	1.355231	.0005956	-.000863	11.55918	.000795	.0828520
#2	.0121250	1.355696	.0008552	-.000262	11.29195	-.000962	.0798483
#3	.0120925	1.352753	.0006117	.000169	11.22788	-.001128	.0806190
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.229708	.0017873	-.000159	-.000888	.0018038	.4611600	.0348417
Stddev	.103105	.0003215	.000200	.000404	.0010876	.0213040	.0007661
%RSD	1.971532	17.98566	125.6192	45.56414	60.29741	4.619662	2.198747
#1	5.344402	.0021140	-.000182	-.000695	.0028685	.4753030	.0343836
#2	5.144708	.0014714	-.000347	-.000616	.0018482	.4715198	.0357261
#3	5.200015	.0017766	.000051	-.001353	.0006946	.4366574	.0344155

Sample Name: Q3700-04LX5 Acquired: 11/21/2025 19:14:46 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.104891	-.006045	.0181892
Stddev	.019919	.000846	.0000300
%RSD	1.802825	13.99194	.1650997

#1	1.081948	-.005071	.0181546
#2	1.114957	-.006474	.0182082
#3	1.117769	-.006591	.0182049

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2672.458	50689.46	9387.313	2503.253	4771.761
Stddev	13.501	884.63	8.883	45.004	30.178
%RSD	.5051782	1.745198	.0946253	1.797815	.6324306

#1	2687.764	49668.61	9385.282	2452.930	4804.227
#2	2662.243	51168.77	9379.621	2539.641	4744.566
#3	2667.367	51231.01	9397.035	2517.187	4766.488

Sample Name: Q3700-05 Acquired: 11/21/2025 19:19:05 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7862848	1.802926	.9069086	1.979656	.7997244	1.976298	.1985821
Stddev	.0047912	.049120	.0021789	.005911	.0032073	.014015	.0014588
%RSD	.6093493	2.724447	.2402596	.2986025	.4010550	.7091701	.7346127
#1	.7899817	1.846904	.9053348	1.973006	.7960776	1.963597	.2002202
#2	.7808719	1.811956	.9059955	1.984314	.8021070	1.973962	.1981028
#3	.7880009	1.749918	.9093955	1.981648	.8009886	1.991334	.1974231
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1797956	.1844499	26.02950	.3946278	.1890221	.4000326	3.422303
Stddev	.0003755	.0002333	.04856	.0012637	.0000935	.0017657	.009435
%RSD	.2088522	.1264957	.1865481	.3202120	.0494914	.4413881	.2756916
#1	.1796135	.1846962	26.06093	.3954565	.1889323	.3991183	3.415835
#2	.1802274	.1844214	26.05399	.3952534	.1890151	.3989116	3.433129
#3	.1795458	.1842321	25.97357	.3931734	.1891190	.4020680	3.417945
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2677447	8.372271	.4673764	.0713245	59.84465	.2933519	.5731103
Stddev	.0014550	.023107	.0004673	.0006815	.33909	.0023351	.0015957
%RSD	.5434321	.2759952	.0999846	.9555153	.5666204	.7960201	.2784276
#1	.2692872	8.358423	.4673533	.0708397	60.23397	.2913346	.5734293
#2	.2675499	8.398946	.4669211	.0710301	59.68617	.2959100	.5745224
#3	.2663968	8.359443	.4678548	.0721038	59.61382	.2928111	.5713792
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	35.54516	.2757609	.4265915	.6644653	.1914829	3.231057	.7493430
Stddev	.09118	.0010104	.0012511	.0008201	.0017605	.012311	.0009292
%RSD	.2565241	.3663976	.2932663	.1234225	.9193841	.3810156	.1240012
#1	35.64951	.2761872	.4255315	.6639879	.1920517	3.235073	.7487428
#2	35.50513	.2764882	.4262716	.6639958	.1928887	3.217240	.7504133
#3	35.48084	.2746072	.4279714	.6654123	.1895084	3.240858	.7488730

Sample Name: Q3700-05 Acquired: 11/21/2025 19:19:05 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.361640	.1800042	.2683604
Stddev	.024647	.0006392	.0013934
%RSD	.4596874	.3551127	.5192081

#1	5.343642	.1801355	.2695318
#2	5.389731	.1793096	.2687300
#3	5.351546	.1805676	.2668196

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2625.209	50612.50	9370.332	2486.863	4608.189
Stddev	5.299	75.14	45.737	10.453	5.215
%RSD	.2018445	.1484676	.4881094	.4203174	.1131689

#1	2630.381	50580.35	9368.639	2490.453	4612.464
#2	2625.455	50558.78	9325.464	2475.088	4609.724
#3	2619.791	50698.37	9416.892	2495.047	4602.379

Sample Name: Q3700-06 Acquired: 11/21/2025 19:23:09 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7659399	1.792457	.8801075	1.917838	.7806336	1.978501	.1983004
Stddev	.0074257	.058137	.0025373	.016286	.0030247	.003383	.0009825
%RSD	.9694890	3.243405	.2882919	.8491792	.3874630	.1709820	.4954475
#1	.7638534	1.739247	.8785756	1.914951	.7801329	1.981008	.1994317
#2	.7597807	1.783616	.8787106	1.903188	.7778906	1.974654	.1976612
#3	.7741857	1.854508	.8830362	1.935374	.7838774	1.979843	.1978084
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1770562	.1786432	26.87197	.3835923	.1840848	.3993182	3.345412
Stddev	.0004673	.0007611	.07911	.0008173	.0011560	.0021393	.043916
%RSD	.2639064	.4260204	.2944077	.2130733	.6279955	.5357369	1.312733
#1	.1767606	.1782720	26.96234	.3827305	.1834927	.3985868	3.383882
#2	.1768131	.1781390	26.83837	.3843564	.1833447	.3976405	3.354790
#3	.1775949	.1795187	26.81521	.3836900	.1854169	.4017272	3.297565
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2428113	8.419532	.4552462	.0690491	60.74271	.2902093	.5799272
Stddev	.0004416	.038379	.0023144	.0002424	.44568	.0016295	.0009340
%RSD	.1818617	.4558309	.5083833	.3510036	.7337099	.5615004	.1610524
#1	.2424711	8.375478	.4545974	.0689134	61.19374	.2887395	.5796119
#2	.2426524	8.445724	.4533255	.0693289	60.73180	.2899269	.5791916
#3	.2433103	8.437394	.4578158	.0689049	60.30259	.2919616	.5809780
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	34.99878	.2741109	.4209802	.6518155	.1935268	3.152984	.7385195
Stddev	.20356	.0015378	.0030237	.0036146	.0004048	.015579	.0040517
%RSD	.5816192	.5610315	.7182448	.5545425	.2091924	.4940894	.5486266
#1	35.21067	.2742059	.4192888	.6509043	.1932368	3.163647	.7358151
#2	34.98093	.2725278	.4191806	.6487436	.1939894	3.160198	.7365654
#3	34.80473	.2755991	.4244710	.6557985	.1933544	3.135106	.7431779

Sample Name: Q3700-06 Acquired: 11/21/2025 19:23:09 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.252663	.1795131	.2716701
Stddev	.060856	.0021017	.0012065
%RSD	1.158570	1.170784	.4440852

#1	5.230778	.1818519	.2729717
#2	5.205776	.1789045	.2705893
#3	5.321435	.1777828	.2714492

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2649.370	51613.42	9305.020	2538.490	4662.381
Stddev	8.233	101.94	18.855	3.292	13.153
%RSD	.3107503	.1975029	.2026374	.1296990	.2820994

#1	2655.442	51520.95	9311.566	2534.690	4670.113
#2	2652.669	51596.59	9319.730	2540.301	4669.837
#3	2639.999	51722.73	9283.764	2540.480	4647.195

Sample Name: Q3700-04A Acquired: 11/21/2025 19:27:13 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7862588	1.848360	.9123198	1.978225	.8035173	2.025040	.2158489
Stddev	.0115358	.025516	.0042576	.008959	.0025660	.014653	.0023811
%RSD	1.467180	1.380461	.4666767	.4528613	.3193516	.7236010	1.103148
#1	.7745437	1.833138	.9094641	1.969209	.8057336	2.023705	.2149633
#2	.7866262	1.834124	.9102821	1.978340	.8007060	2.011100	.2140374
#3	.7976066	1.877817	.9172133	1.987125	.8041122	2.040315	.2185459
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1834756	.1840487	28.45649	.3925354	.1894591	.4224489	3.504834
Stddev	.0014684	.0008065	.25645	.0022719	.0005265	.0026851	.024880
%RSD	.8002978	.4382018	.9011990	.5787813	.2778927	.6355958	.7098837
#1	.1820583	.1837863	28.27671	.3915024	.1891975	.4228773	3.478457
#2	.1833785	.1834061	28.34261	.3909634	.1891147	.4195753	3.508164
#3	.1849902	.1849537	28.75016	.3951402	.1900652	.4248940	3.527882
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2540941	8.538488	.4699549	.0691743	64.12414	.2947575	.6040226
Stddev	.0020429	.125605	.0029125	.0006608	.43830	.0037856	.0022435
%RSD	.8039860	1.471050	.6197347	.9552310	.6835210	1.284322	.3714316
#1	.2525343	8.400978	.4686971	.0687957	63.99216	.2903871	.6018693
#2	.2533413	8.567308	.4678828	.0699373	63.76699	.2970174	.6038517
#3	.2564065	8.647180	.4732849	.0687899	64.61326	.2968681	.6063466
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.48562	.2866553	.4288822	.6768251	.1954540	3.312627	.7755722
Stddev	.26001	.0020506	.0026012	.0047270	.0023448	.007590	.0049158
%RSD	.7126495	.7153624	.6065123	.6984110	1.199664	.2291087	.6338239
#1	36.39796	.2843088	.4283024	.6747795	.1931826	3.304633	.7745957
#2	36.28077	.2875537	.4266197	.6734655	.1953137	3.319735	.7712180
#3	36.77814	.2881034	.4317243	.6822305	.1978658	3.313512	.7809030

Sample Name: Q3700-04A Acquired: 11/21/2025 19:27:13 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.423431	.1895656	.2831068
Stddev	.037421	.0016323	.0021109
%RSD	.6899846	.8610731	.7456288
#1	5.389877	.1887317	.2813559
#2	5.416630	.1885187	.2825136
#3	5.463786	.1914464	.2854508

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2613.105	50102.82	9165.010	2508.472	4576.902
Stddev	8.458	230.06	63.175	6.866	14.243
%RSD	.3236579	.4591750	.6893084	.2737060	.3111931
#1	2611.538	50169.01	9221.703	2502.527	4578.691
#2	2622.236	50292.53	9176.421	2515.987	4590.167
#3	2605.540	49846.92	9096.907	2506.901	4561.850

Sample Name: CCV07 Acquired: 11/21/2025 19:31:18 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	4.866434	4.774550	4.774531	4.946590	4.947435	9.722371	9.808997
Stddev	.009400	.069964	.021381	.013573	.018924	.047375	.054438
%RSD	.1931595	1.465355	.4478155	.2743985	.3825053	.4872739	.5549762

#1	4.871215	4.784797	4.753286	4.949760	4.954283	9.688469	9.746315
#2	4.855605	4.838825	4.774259	4.931712	4.926040	9.776502	9.844423
#3	4.872483	4.700027	4.796046	4.958298	4.961982	9.702141	9.836254

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2349532	2.370058	24.07532	.9564864	2.384050	1.224824	4.951611
Stddev	.0010591	.010627	.13078	.0003480	.010141	.005586	.032184
%RSD	.4507860	.4483837	.5432222	.0363887	.4253498	.4560609	.6499720

#1	.2360058	2.359594	24.08724	.9566305	2.374951	1.224421	4.919777
#2	.2349661	2.369740	24.19974	.9560894	2.382217	1.219450	4.984134
#3	.2338876	2.380841	23.93899	.9567392	2.394982	1.230600	4.950921

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.418453	23.85059	2.384759	1.205343	25.62000	2.423960	2.432677
Stddev	.015706	.21078	.011147	.001415	.27993	.006435	.006378
%RSD	.6494407	.8837334	.4674415	.1174310	1.092619	.2654760	.2621713

#1	2.412955	23.97634	2.374942	1.205558	25.29704	2.417888	2.432332
#2	2.436169	23.96816	2.382456	1.203832	25.79287	2.430705	2.439221
#3	2.406234	23.60725	2.396877	1.206638	25.77010	2.423286	2.426479

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.26237	4.735831	4.904600	4.775994	4.880573	4.877667	4.909538
Stddev	.19754	.024279	.020419	.010911	.036401	.030668	.012349
%RSD	.8141965	.5126682	.4163286	.2284630	.7458414	.6287358	.2515275

#1	24.03443	4.751446	4.913730	4.763582	4.853782	4.842271	4.900363
#2	24.36896	4.748188	4.881208	4.780325	4.922017	4.896286	4.904673
#3	24.38374	4.707859	4.918861	4.784075	4.865919	4.894443	4.923579

Sample Name: CCV07 Acquired: 11/21/2025 19:31:18 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.786041	4.793899	4.911505
Stddev	.008651	.038650	.007756
%RSD	.1807633	.8062239	.1579059

#1	4.776103	4.759677	4.908748
#2	4.790134	4.835818	4.920262
#3	4.791887	4.786203	4.905504

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2644.646	50953.23	9174.902	2539.914	4514.452
Stddev	13.672	67.71	54.952	12.506	10.933
%RSD	.5169555	.1328957	.5989433	.4923978	.2421672

#1	2637.546	50883.45	9129.329	2539.675	4515.966
#2	2660.407	51018.67	9159.451	2527.529	4524.549
#3	2635.985	50957.56	9235.925	2552.539	4502.842

Sample Name: CCB07 Acquired: 11/21/2025 19:35:30 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal 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	-.001435	-.004477	.0007377	-.002091	.0012834	.0167815	-.005115
Stddev	.002627	.005467	.0008967	.003700	.0005045	.0109249	.000871
%RSD	183.0311	122.1030	121.5569	176.8987	39.30892	65.10093	17.03220
#1	-.002774	-.002807	.0017510	-.002720	.0010605	.0045586	-.004761
#2	.001591	-.000040	.0000469	.001882	.0009288	.0255955	-.006107
#3	-.003123	-.010584	.0004151	-.005436	.0018610	.0201906	-.004476
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001354	.0000679	-.011346	.0002175	.0000895	.0002619	-.010446
Stddev	.0000589	.0001170	.009948	.0005088	.0002115	.0005669	.002586
%RSD	43.51694	172.3734	87.68272	233.9345	236.4647	216.4131	24.75141
#1	.0001210	.0002030	-.022732	-.000193	-.000067	.0008858	-.007461
#2	.0000851	-.000000	-.004337	.000787	.000330	-.000222	-.011923
#3	.0002003	.000001	-.006968	.000058	.000005	.000122	-.011954
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000206	-.012556	.0007706	.0003319	-.067221	.0005172	-.000047
Stddev	.000713	.030243	.0007684	.0002414	.015462	.0018138	.000387
%RSD	345.8901	240.8630	99.71267	72.72053	23.00209	350.6984	830.7909
#1	-.000009	.021006	.0016519	.0006058	-.081045	.0022333	.000390
#2	-.000996	-.020983	.0002411	.0002396	-.070095	.0006988	-.000348
#3	.000387	-.037691	.0004188	.0001504	-.050523	-.001381	-.000182
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001203	.0020538	-.000196	-.000106	.0005241	-.023005	.0000736
Stddev	.043890	.0008106	.000180	.000451	.0014298	.003498	.0002508
%RSD	3648.693	39.46899	91.89047	425.6604	272.8080	15.20682	340.6645
#1	-.010529	.0023917	-.000259	-.000117	-.001126	-.026814	-.000203
#2	-.039680	.0011289	.000007	.000350	.001293	-.022262	.000136
#3	.046600	.0026408	-.000335	-.000551	.001405	-.019937	.000287

Sample Name: CCB07 Acquired: 11/21/2025 19:35:30 Type: Unk
Method: 6010-200.7 NEW(v377) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005207	-.003499	.0000794
Stddev	.002163	.001268	.0000753
%RSD	41.53252	36.24634	94.91158

#1	-.007676	-.002075	-.000006
#2	-.004299	-.003917	.000110
#3	-.003647	-.004506	.000134

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2714.631	52052.07	9271.385	2588.509	4903.998
Stddev	5.387	244.15	34.189	14.061	11.138
%RSD	.1984287	.4690406	.3687611	.5432053	.2271310

#1	2716.903	51827.16	9251.326	2573.894	4906.967
#2	2718.509	52311.73	9310.862	2601.941	4913.351
#3	2708.480	52017.34	9251.968	2589.693	4891.676

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 #1 2. N/A

Start Digest Date: 11/20/2025 Time : 10:35 Temp : 96 °C

End Digest Date: 11/20/2025 Time : 13:37 Temp : 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: S/K

Supervisor Signature: S/K

Temp : 1. 96°C 2. N/A

Standardized Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6209
LFS-2	0.25	M6201
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	M6187
1:1 HCL	5.00	MP87148
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
11/20/25 14:37	S/K met dig	S/K (metals lab)
	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
PB170663BL	PBW663	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	20
PB170663BS	LCS663	<2	50	25	Colorless	Colorless	Clear	Clear	M6209,M6201	21
Q3687-01MS	N43502MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6209,M6201	24
Q3687-01MSD	N43502MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6209,M6201	25
Q3687-01DUP	N43502DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	23
Q3687-01	N43502	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	22
Q3690-01	RW8-SP100-20251118	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	26
Q3690-02	RW8-SP303-20251118	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	27

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB170663

Worklist ID : 193253

Department : Digestion

Date : 11-20-2025 09:57:04

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3687-01	N43502	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	D41	11/19/2025	6010D
Q3690-01	RW8-SP100-20251118	Water	Metals Group4	1:1 HNO3 to pH < 2	TETR06	A11	11/18/2025	6010D
Q3690-02	RW8-SP303-20251118	Water	Metals Group4	1:1 HNO3 to pH < 2	TETR06	A11	11/18/2025	6010D

Date/Time 11/20/2025 10:10

Raw Sample Received by: SP9metdig

Raw Sample Relinquished by: CPCSml

Date/Time 11/20/2025 11:10

Raw Sample Received by: CPCSml

Raw Sample Relinquished by: SP9metdig

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB138017

Review By	jaswal	Review On	11/25/2025 10:38:12 AM
Supervise By	Sagar	Supervise On	11/26/2025 12:17:04 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/21/25 12:13		Jaswal	OK
2	S1	S1	CAL2	11/21/25 12:17		Jaswal	OK
3	S2	S2	CAL3	11/21/25 12:22		Jaswal	OK
4	S3	S3	CAL4	11/21/25 12:26		Jaswal	OK
5	S4	S4	CAL5	11/21/25 12:30		Jaswal	OK
6	S5	S5	CAL6	11/21/25 12:34		Jaswal	OK
7	ICV01	ICV01	ICV	11/21/25 13:00		Jaswal	OK
8	LLICV01	LLICV01	LLICV	11/21/25 13:09		Jaswal	OK
9	ICB01	ICB01	ICB	11/21/25 13:13		Jaswal	OK
10	CRI01	CRI01	CRDL	11/21/25 13:17		Jaswal	OK
11	ICSA01	ICSA01	ICSA	11/21/25 13:22		Jaswal	OK
12	ICSAB01	ICSAB01	ICSAB	11/21/25 13:26		Jaswal	OK
13	ICSADL	ICSADL	ICSA	11/21/25 13:30		Jaswal	OK
14	ICSABDL	ICSABDL	ICSAB	11/21/25 13:34		Jaswal	OK
15	CCV01	CCV01	CCV	11/21/25 13:44		Jaswal	OK
16	CCB01	CCB01	CCB	11/21/25 13:48		Jaswal	OK
17	PB170660BL	PB170660BL	MB	11/21/25 13:52		Jaswal	OK
18	PB170660BS	PB170660BS	LCS	11/21/25 13:57		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB138017

Review By	jaswal	Review On	11/25/2025 10:38:12 AM
Supervise By	Sagar	Supervise On	11/26/2025 12:17:04 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

19	PB170663BL	PB170663BL	MB	11/21/25 14:01		Jaswal	OK
20	PB170663BS	PB170663BS	LCS	11/21/25 14:05		Jaswal	OK
21	Q3677-01	COMP-1	SAM	11/21/25 14:09		Jaswal	OK
22	Q3678-01	COMPOSITE-STONE	SAM	11/21/25 14:14		Jaswal	OK
23	Q3681-01	ETGI-354	SAM	11/21/25 14:18		Jaswal	OK
24	Q3681-01DUP	ETGI-354DUP	DUP	11/21/25 14:22		Jaswal	OK
25	Q3681-01L	ETGI-354L	SD	11/21/25 14:26		Jaswal	OK
26	Q3681-01MS	ETGI-354MS	MS	11/21/25 14:30		Jaswal	OK
27	CCV02	CCV02	CCV	11/21/25 14:48		Jaswal	OK
28	CCB02	CCB02	CCB	11/21/25 14:52		Jaswal	OK
29	Q3681-01MSD	ETGI-354MSD	MSD	11/21/25 14:56		Jaswal	OK
30	Q3681-01A	ETGI-354A	PS	11/21/25 15:01	0.1ML EACH M6008,M6017-10ML SAMPLE	Jaswal	OK
31	Q3686-01	FAIRLAWN-GRAVEL	SAM	11/21/25 15:05		Jaswal	OK
32	Q3676-01	OUTFALL-DSN-001	SAM	11/21/25 15:09		Jaswal	OK
33	Q3676-01DUP	OUTFALL-DSN-001D	DUP	11/21/25 15:13		Jaswal	OK
34	Q3676-01L	OUTFALL-DSN-001L	SD	11/21/25 15:17		Jaswal	OK
35	Q3676-01MS	OUTFALL-DSN-001M	MS	11/21/25 15:21		Jaswal	OK
36	Q3676-01MSD	OUTFALL-DSN-001M	MSD	11/21/25 15:25		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB138017

Review By	jaswal	Review On	11/25/2025 10:38:12 AM
Supervise By	Sagar	Supervise On	11/26/2025 12:17:04 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

37	Q3676-01A	OUTFALL-DSN-001A	PS	11/21/25 15:30	0.1ML EACH M6008,M6017-10ML SAMPLE	Jaswal	OK
38	Q3676-04	OUTFALL-DSN-002	SAM	11/21/25 15:34		Jaswal	OK
39	CCV03	CCV03	CCV	11/21/25 15:38		Jaswal	OK
40	CCB03	CCB03	CCB	11/21/25 15:42		Jaswal	OK
41	Q3687-01	N43502	SAM	11/21/25 15:47		Jaswal	OK
42	Q3687-01DUP	N43502DUP	DUP	11/21/25 15:51		Jaswal	OK
43	Q3687-01L	N43502L	SD	11/21/25 15:55		Jaswal	OK
44	Q3687-01MS	N43502MS	MS	11/21/25 15:59		Jaswal	OK
45	Q3687-01MSD	N43502MSD	MSD	11/21/25 16:03		Jaswal	OK
46	Q3687-01A	N43502A	PS	11/21/25 16:07	0.1ML EACH M6008,M6017-10ML SAMPLE	Jaswal	OK
47	Q3690-01	RW8-SP100-2025111	SAM	11/21/25 16:11		Jaswal	OK
48	Q3690-02	RW8-SP303-2025111	SAM	11/21/25 16:15		Jaswal	OK
49	PB170683BL	PB170683BL	MB	11/21/25 16:20		Jaswal	OK
50	PB170683BS	PB170683BS	LCS	11/21/25 16:24		Jaswal	OK
51	CCV04	CCV04	CCV	11/21/25 16:28		Jaswal	OK
52	CCB04	CCB04	CCB	11/21/25 16:32		Jaswal	OK
53	LR-1	LR-1	HIGH STD	11/21/25 16:36		Jaswal	OK
54	LR-2	LR-2	HIGH STD	11/21/25 16:49		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB138017

Review By	jaswal	Review On	11/25/2025 10:38:12 AM
Supervise By	Sagar	Supervise On	11/26/2025 12:17:04 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

55	LR-3	LR-3	HIGH STD	11/21/25 17:16		Jaswal	OK
56	Q3678-02	COMPOSITE-STONE	SAM	11/21/25 17:20		Jaswal	OK
57	Q3697-01	MOO-25-0331	SAM	11/21/25 17:25		Jaswal	OK
58	Q3697-02	MOO-25-0332	SAM	11/21/25 17:29		Jaswal	OK
59	Q3697-03	MOO-25-0333	SAM	11/21/25 17:33		Jaswal	OK
60	Q3697-03DUP	MOO-25-0333DUP	DUP	11/21/25 17:38		Jaswal	OK
61	Q3697-03L	MOO-25-0333L	SD	11/21/25 17:42		Jaswal	OK
62	Q3697-03MS	MOO-25-0333MS	MS	11/21/25 17:46		Jaswal	OK
63	CCV05	CCV05	CCV	11/21/25 17:50		Jaswal	OK
64	CCB05	CCB05	CCB	11/21/25 17:55		Jaswal	OK
65	Q3697-03MSD	MOO-25-0333MSD	MSD	11/21/25 17:59		Jaswal	OK
66	Q3697-03A	MOO-25-0333A	PS	11/21/25 18:03	0.1ML EACH M6008,M6017-10ML SAMPLE	Jaswal	OK
67	PB170645TB	PB170645TB	MB	11/21/25 18:07		Jaswal	OK
68	PB170679BL	PB170679BL	MB	11/21/25 18:12		Jaswal	OK
69	PB170679BS	PB170679BS	LCS	11/21/25 18:16		Jaswal	OK
70	Q3699-01	TR-04-112025	SAM	11/21/25 18:20		Jaswal	OK
71	Q3699-03	TR-06-112025	SAM	11/21/25 18:24		Jaswal	OK
72	Q3699-03DUP	TR-06-112025DUP	DUP	11/21/25 18:28		Jaswal	OK
73	Q3699-03L	TR-06-112025L	SD	11/21/25 18:33		Jaswal	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB138017

Review By	jaswal	Review On	11/25/2025 10:38:12 AM
Supervise By	Sagar	Supervise On	11/26/2025 12:17:04 PM

STD. NAME	STD REF.#
ICAL Standard	MP87637,MP87643,MP87641,MP87640,MP87639,MP87638
ICV Standard	MP87644,MP87643
CCV Standard	MP87647
ICSA Standard	MP87645,MP87646
CRI Standard	MP87643
LCS Standard	
Chk Standard	MP87668,MP87648,MP87651,MP87649,MP87650

74	Q3699-03MS	TR-06-112025MS	MS	11/21/25 18:37		Jaswal	OK
75	CCV06	CCV06	CCV	11/21/25 18:41		Jaswal	OK
76	CCB06	CCB06	CCB	11/21/25 18:45		Jaswal	OK
77	Q3699-03MSD	TR-06-112025MSD	MSD	11/21/25 18:49		Jaswal	OK
78	Q3699-03A	TR-06-112025A	PS	11/21/25 18:53	0.1ML EACH M6008,M6017-10ML SAMPLE	Jaswal	OK
79	PB170685BL	PB170685BL	MB	11/21/25 18:57		Jaswal	OK
80	PB170685BS	PB170685BS	LCS	11/21/25 19:02		Jaswal	OK
81	Q3700-04	EFF-WW	SAM	11/21/25 19:06		Jaswal	OK
82	Q3700-04DUP	EFF-WWDUP	DUP	11/21/25 19:10		Jaswal	OK
83	Q3700-04L	EFF-WWL	SD	11/21/25 19:14		Jaswal	OK
84	Q3700-05	EFF-WWMS	MS	11/21/25 19:19		Jaswal	OK
85	Q3700-06	EFF-WWMSD	MSD	11/21/25 19:23		Jaswal	OK
86	Q3700-04A	EFF-WWA	PS	11/21/25 19:27	0.1ML EACH M6008,M6017-10ML SAMPLE	Jaswal	OK
87	CCV07	CCV07	CCV	11/21/25 19:31		Jaswal	OK
88	CCB07	CCB07	CCB	11/21/25 19:35		Jaswal	OK

Prep Standard - Chemical Standard Summary

Order ID : Q3690
Test : Metals Group4
Prepbatch ID : PB170663,
Sequence ID/Qc Batch ID: LB138017, LB138017,

Standard ID :
 MP87148, MP87637, MP87638, MP87639, MP87640, MP87641, MP87642, MP87643, MP87644, MP87645, MP87646, MP87647, MP87648, MP87649, MP87650, MP87651, MP87668,

Chemical ID :
 M5467, M5658, M5697, M5748, M5798, M5799, M5800, M5801, M5814, M5820, M5962, M5969, M5971, M5979, M5985, M5998, M6021, M6023, M6026, M6027, M6028, M6030, M6032, M6058, M6077, M6086, M6128, M6137, M6140, M6142, M6144, M6145, M6151, M6159, M6160, M6163, M6164, M6165, M6171, M6174, M6176, M6177, M6178, M6179, M6182, M6184, M6187, M6200, M6201, M6209, 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	MP87148	09/09/2025	02/17/2026	Sagar Kanani	None	None	Sarabjit Jaswal
								09/10/2025

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)	MP87637	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
								10/28/2025

FROM 125.00000ml of M6200 + 2350.00000ml of W3112 + 25.00000ml of M6187 = 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)	MP87638	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 5.00000ml of M5467 + 5.00000ml of M5820 + 5.00000ml of M5969 + 5.00000ml of M5971 + 5.00000ml of M5998 + 5.00000ml of M6077 + 5.00000ml of M6160 + 5.00000ml of M6174 + 5.00000ml of M6176 + 455.00000ml of MP87637 = 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	MP87639	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 50.00000ml of MP87637 + 50.00000ml of MP87638 = 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	MP87640	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP	Sarabjit Jaswal

A)

FROM 25.00000ml of MP87638 + 75.00000ml of MP87637 = 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>
3913	ICP AES STD S2	MP87641	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP	Sarabjit Jaswal

A)

FROM 16.00000ml of MP87638 + 184.00000ml of MP87637 = Final Quantity: 200.000 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	MP87642	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6140 + 0.05000ml of M6159 + 0.06000ml of M6177 + 0.10000ml of M5697 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5969 + 0.10000ml of M5971 + 0.10000ml of M6128 + 0.10000ml of M6176 + 0.15000ml of M5800 + 0.20000ml of M5799 + 0.20000ml of M5979 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6027 + 0.20000ml of M6145 + 0.25000ml of M5467 + 0.25000ml of M6160 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M6086 + 1.00000ml of M6142 + 1.00000ml of M6144 + 1.00000ml of M6171 + 1.00000ml of M6178 + 2.00000ml of M6137 + 89.03000ml of MP87637 = 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	MP87643	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 2.00000ml of MP87642 + 98.00000ml of MP87637 = 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>
4163	NEW ICV-060925	MP87644	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 0.20000ml of M6058 + 0.40000ml of M6163 + 0.40000ml of M6164 + 0.40000ml of M6165 + 48.60000ml of MP87637 = Final Quantity: 50.000 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	MP87645	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 25.00000ml of M6182 + 225.00000ml of MP87637 = 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	MP87646	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 0.10000ml of M6077 + 10.00000ml of M6182 + 10.00000ml of M6184 + 79.90000ml of MP87637 = 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	MP87647	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 48.60000ml of MP87637 + 50.00000ml of MP87638 = Final Quantity: 2000.000 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>
903	ICP AES RINSE SOLN	MP87648	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 200.00000ml of M6187 + 9800.00000ml of W3112 = Final Quantity: 10000.000 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>
4226	LR-2	MP87649	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025

FROM 13.50000ml of M6140 + 9.00000ml of M6142 + 9.50000ml of M6159 + 18.00000ml of MP87637 = Final Quantity: 50.000 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>
4227	LR-3	MP87650	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 1.15000ml of M6026 + 1.25000ml of M5658 + 1.25000ml of M5748 + 1.50000ml of M6145 + 2.50000ml of M5697 + 2.50000ml of M6128 + 39.85000ml of MP87637 = Final Quantity: 50.000 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>
4225	LR-1	MP87651	10/17/2025	11/28/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 10/28/2025
FROM 11.50000ml of M6086 + 11.50000ml of M6144 + 11.50000ml of M6171 + 18.00000ml of MP87637 = Final Quantity: 50.000 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	MP87668	10/17/2025	11/27/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
FROM	1.00000ml of M6179 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6187 = Final Quantity: 2000.000 ml							

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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	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.	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.	/ 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

CHEMICAL RECEIPT LOG BOOK

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.	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 #
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

CHEMICAL RECEIPT LOG BOOK

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	06/06/2025 / Janvi	07/01/2024 / Jaswal	M5971

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGT11-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	08/05/2026	08/06/2025 / Janvi	02/22/2024 / Jaswal	M5979

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-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB727800	07/30/2026	07/30/2025 / Janvi	02/22/2024 / kareem	M5998

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57182 / Pb, 10000 PPM, 125 ml	110923	11/09/2026	12/05/2024 / janvi	08/05/2024 / Jaswal	M6026

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57028 / Ni, 1000 PPM, 125 ml	062024	06/20/2027	06/04/2025 / Janvi	08/05/2024 / Jaswal	M6027

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	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	V2-MEB746173	01/29/2026	01/29/2025 / JANVI	08/22/2024 / Jaswal	M6058

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Calcium, 500 ml, 10000 PPM	082324	08/23/2027	03/06/2025 / JANVI	10/14/2024 / jaswal	M6086

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.	58126 / Fe, 10000 PPM, 500 ml	011025	01/10/2028	06/25/2025 / Janvi	01/13/2025 / Jaswal	M6140

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

CHEMICAL RECEIPT LOG BOOK

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

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 #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	02/17/2026	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 #
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 #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	03/24/2025 / kareem	10/18/2024 / kareem	M6160

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-1-125ML / EPA CLP ICP Verification Standard1	V2-MEB744107	06/08/2026	06/09/2025 / jaswal	06/06/2025 / jaswal	M6163

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-2-125ML / EPA CLP ICP Verification Standard2	U2-MEB733713	06/08/2026	06/09/2025 / jaswal	06/09/2025 / jaswal	M6164

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-3-125ML / EPA CLP ICP Verification Standard3	V2-MEB749572	06/08/2026	06/09/2025 / jaswal	06/09/2025 / jaswal	M6165

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	011525	01/15/2028	07/15/2025 / Janvi	02/13/2025 / Janvi	M6171

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	V2-MEB742428	07/31/2026	07/31/2025 / Janvi	05/05/2025 / Janvi	M6174

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	092724	09/27/2027	08/06/2025 / Janvi	08/06/2025 / Janvi	M6176

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Lead (Pb) 1000PPM	031525	03/15/2028	08/06/2025 / Janvi	08/06/2025 / Janvi	M6177

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	080528	08/05/2028	08/06/2025 / Janvi	08/06/2025 / Janvi	M6178

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	08/05/2026	08/06/2025 / Janvi	06/02/2024 / Janvi	M6179

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	02/05/2026	08/06/2025 / Janvi	03/06/2024 / Janvi	M6182

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	02/05/2026	08/06/2025 / Janvi	03/06/2024 / Janvi	M6184

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	01/28/2026	08/29/2025 / Sagar	08/08/2025 / Sagar	M6187

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)	24D1562005	02/10/2026	09/11/2025 / Sagar	08/25/2025 / Sagar	M6200

CHEMICAL RECEIPT LOG BOOK

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	V2-MEB743480	10/15/2026	10/15/2025 / Janvi	07/20/2025 / janvi	M6201

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	V2-MEB752149	10/15/2026	10/15/2025 / Janvi	07/20/2025 / Janvi	M6209

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



M6032

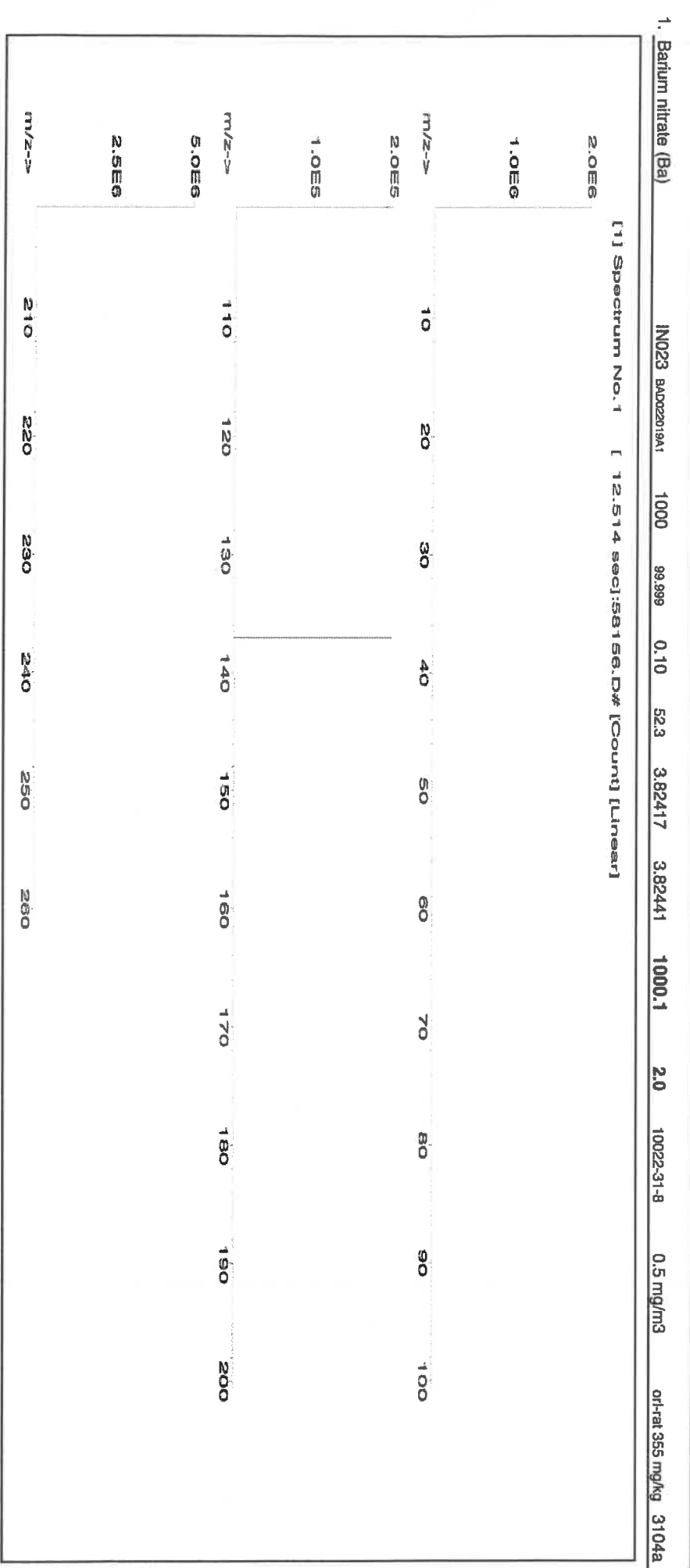


CERTIFIED WEIGHT REPORT:

Part Number: 57056
Lot Number: 010924
Description: Barium (Ba)
Solvent: Nitric Acid
Lot #
Expiration Date: 010927
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02
Balance Uncertainty: 5E-05
Flask Uncertainty: 0.058

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

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. Barium nitrate (Ba)	IN023	BA0022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	1000.1





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).



Certified Reference Material CRM



Rev'd 2/10/14/2021 M6085 / M6086 / M6087

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 082324
Description: Calcium (Ca)

Solvent: 24002546 Nitric Acid

Lot #

Giovanni Esposito
Formulated By: Giovanni Esposito
Reviewed By: Pedro L. Rentas

082324

Expiration Date: 082327
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

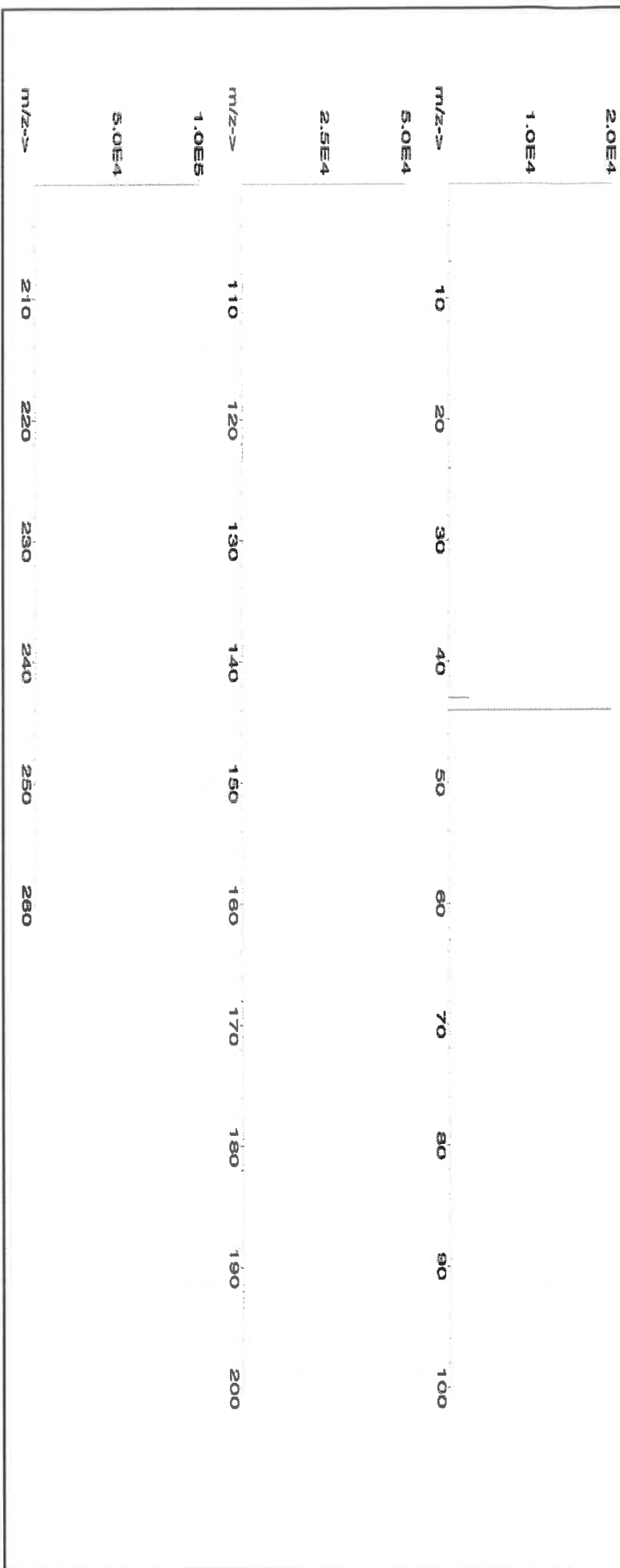
2% 80.0 (mL) Nitric Acid

Weight shown below was diluted to (mL): 4000.1 0.15 Balance 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. Calcium carbonate (Ca) IN014 CAD03202383 10000 99.999 0.10 39.9 100.2537 100.2656 10001.2 20.0 471-34-1 5 mg/m3 or-rat >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 (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	T	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	30	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	Su	<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:
Lot Number:
Description:

57048
070124
Cadmium (Cd)

Lot #
Solvent: 24002546 Nitric Acid

2% 40.0 (mL) Nitric Acid

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

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

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. Cadmium nitrate tetrahydrate (Cd)

IN024 CDM09221A1

1000

99.999

0.10

36.5

5.4797

5.4804

1000.1

2.0

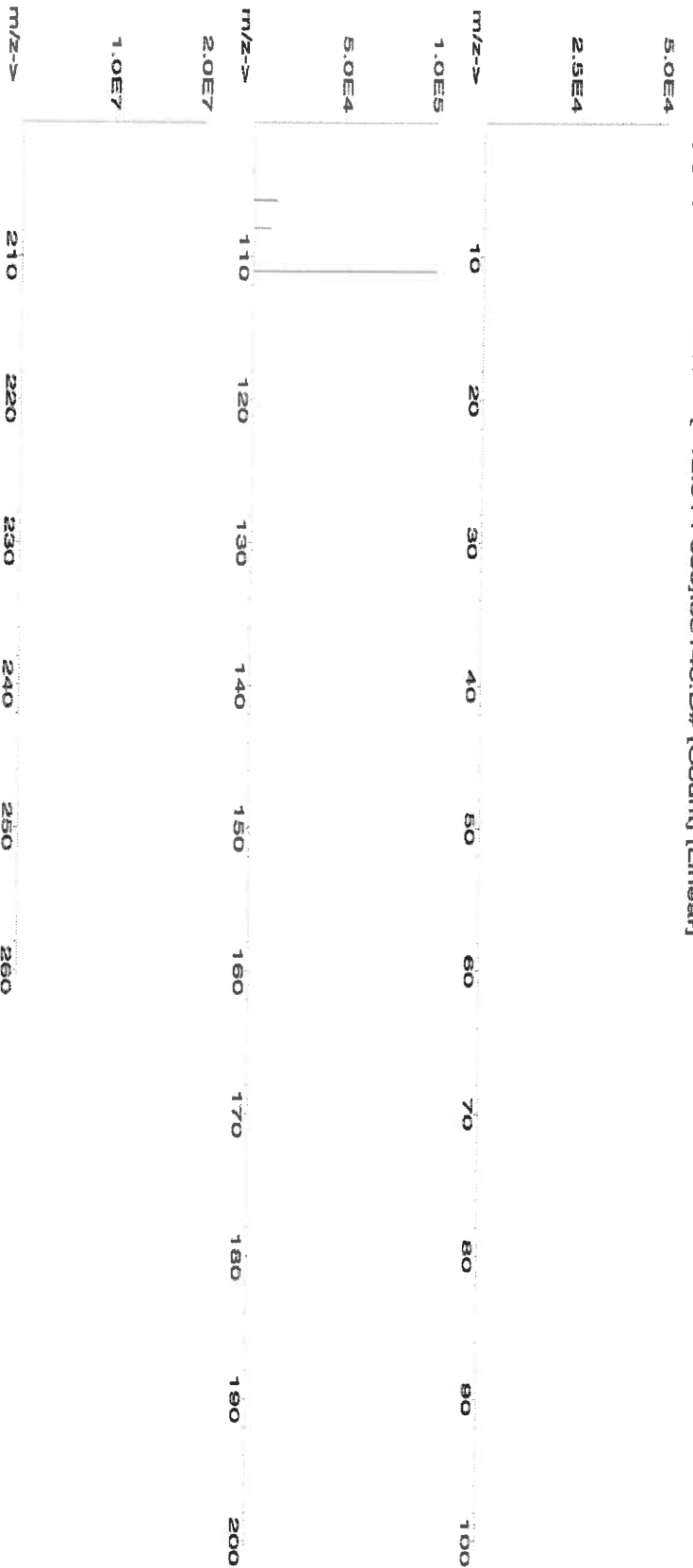
10022-68-1

0.01 mg/m3

or-rat 60.2mg/kg

3108

[1] 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).



MC026



CERTIFIED WEIGHT REPORT:

Part Number: **57182**
Lot Number: **110923**
Description: **Lead (Pb)**

Lot #
Solvent: **24002546 Nitric Acid**

Expiration Date: **110926**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **10000**
NIST Test Number: **6UTB**

2% **40.0** **Nitric Acid**
(mL)

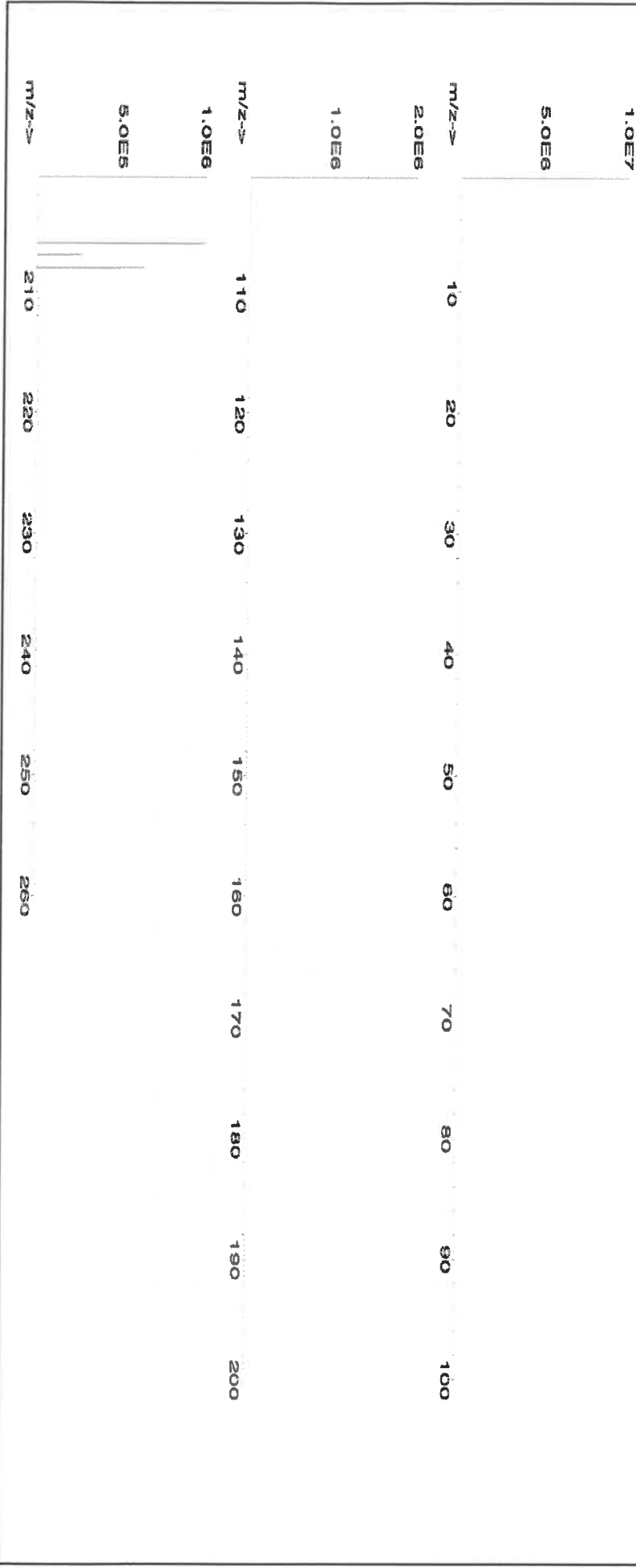
Weight shown below was diluted to (mL): **2000.02** **0.058** **Flask Uncertainty**

Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

Compound	SDS Information									
	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)

1. Lead(II) nitrate (Pb)	IN029	PED12016A1	10000	99.999	0.10	62.5	32.0006	32.0040	10001.1	20.0
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[1] Spectrum No.1 [17.284 sec]:58182.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	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	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

Physical Characterization:

(T)= Target analyte

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).



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 # 21110221
Solvent: Nitric Acid

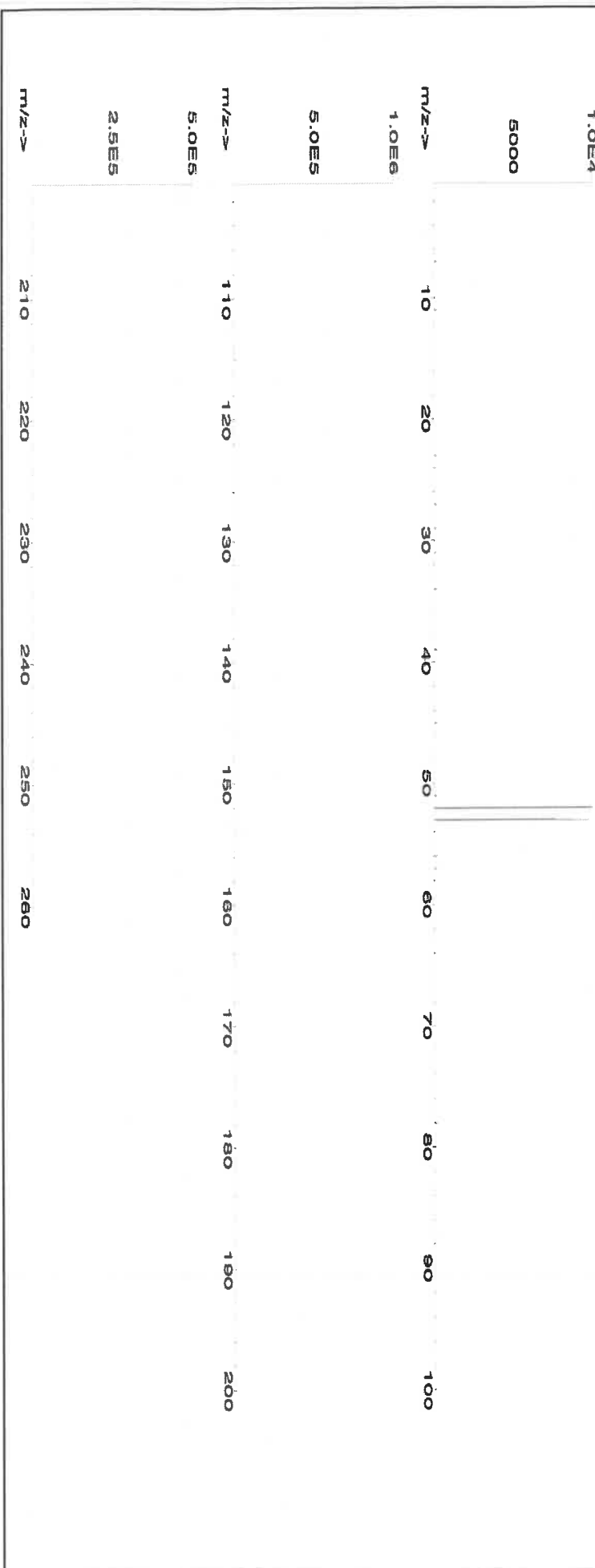
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

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
5E-05 Balance Uncertainty
0.058 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



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58029
102523
Copper (Cu)

Lot #
Solvent:

24002546
Nitric Acid

Expiration Date:

102526

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

2.0%

40.0

Nitric Acid

Formulated By:

Benson Chan

102523

Reviewed By:

Pedro L. Rentas

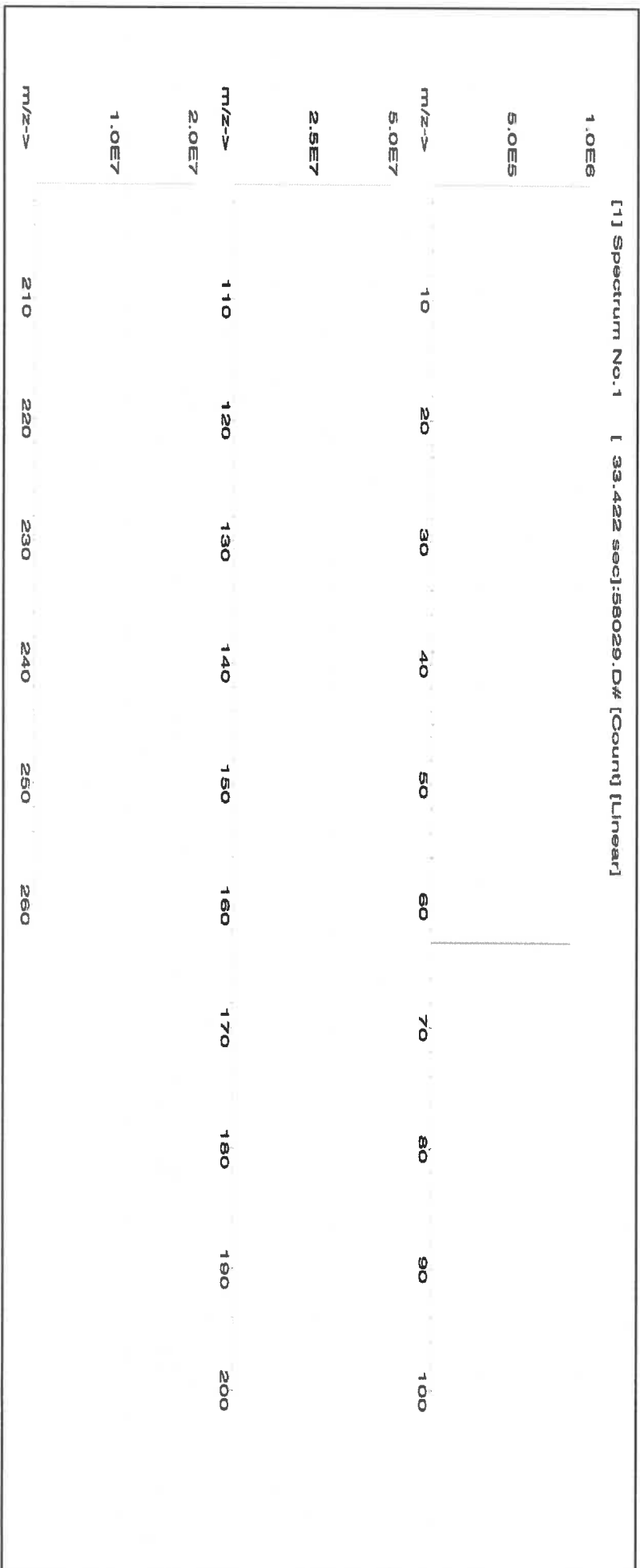
102523

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
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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]





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 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: **6UTB**

2.0%
40.0 (mL)
Nitric Acid

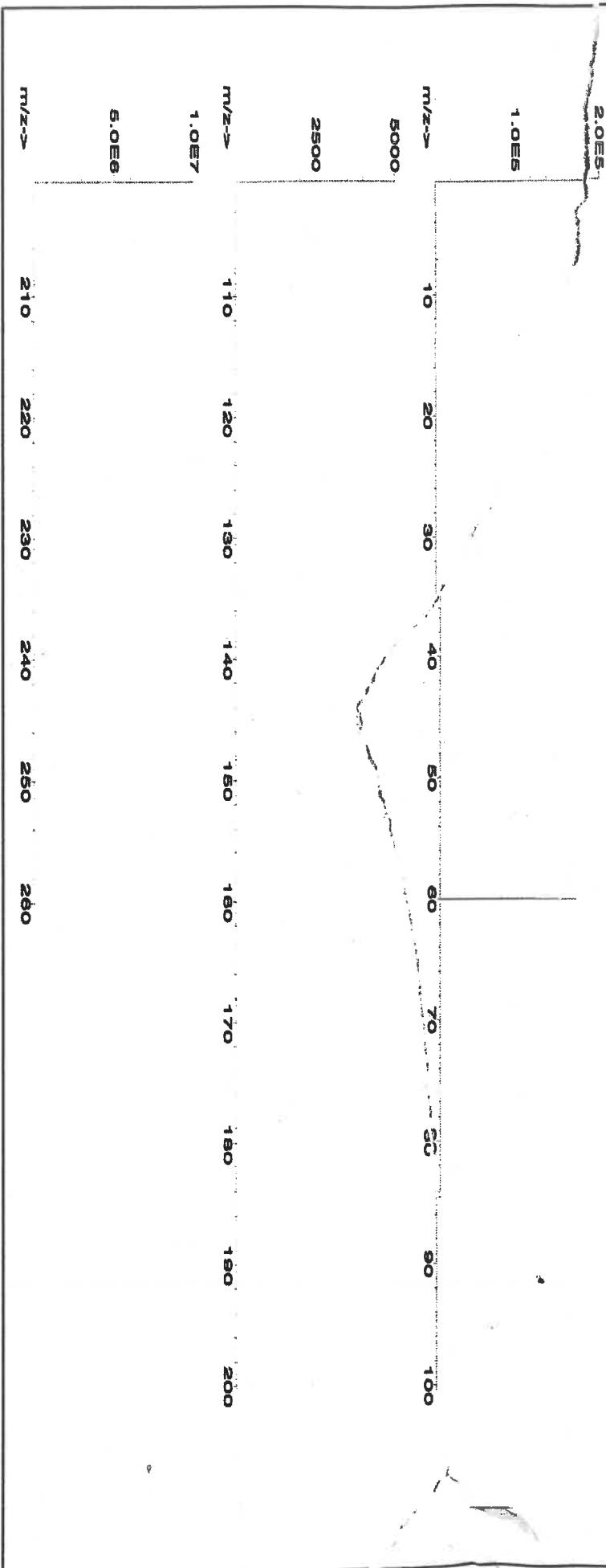
Volume shown below was diluted to (mL): **2000.02**
Balance Uncertainty: **5E-05**
Flask Uncertainty: **0.056**

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 (mL)	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
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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.
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- * 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

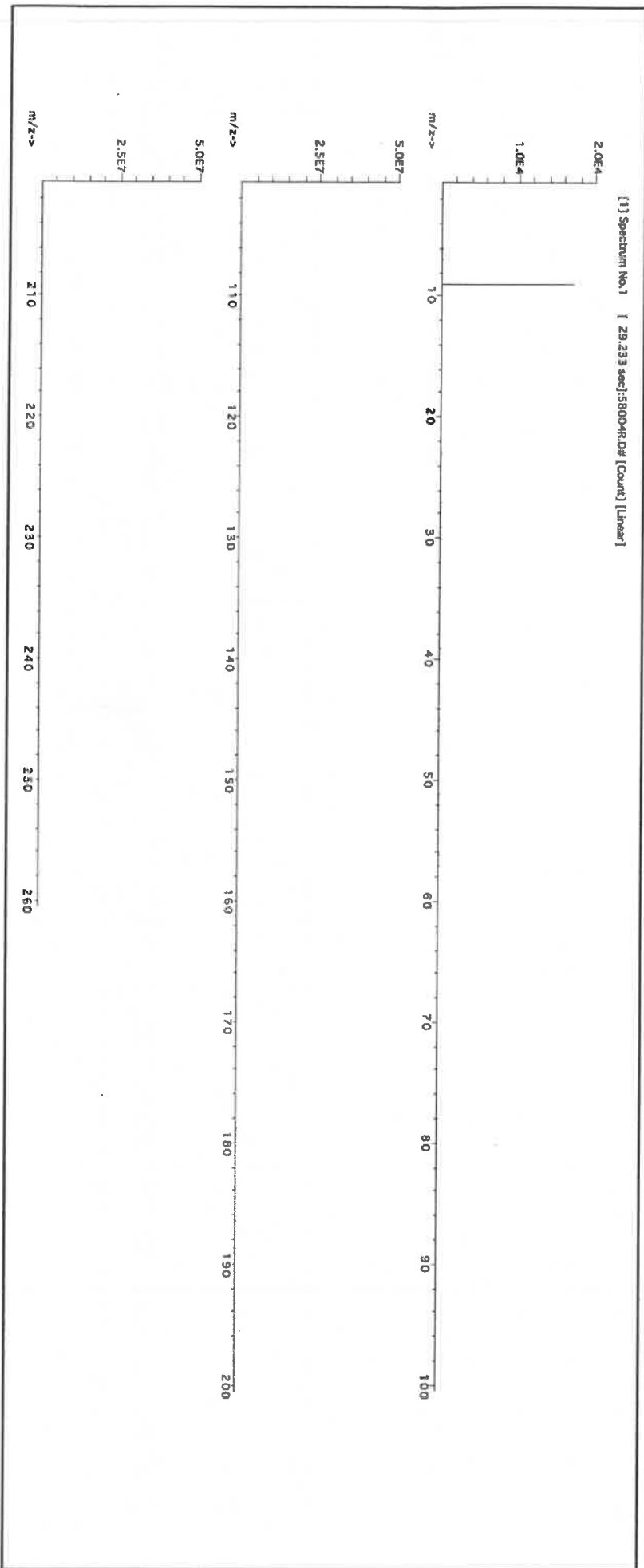
0.058 Flask Uncertainty

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
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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
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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	<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	<0.02	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	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.
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- * 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

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000

2% 10.0 Nitric Acid
6% 30.0 Hydrochloric acid
(mL)

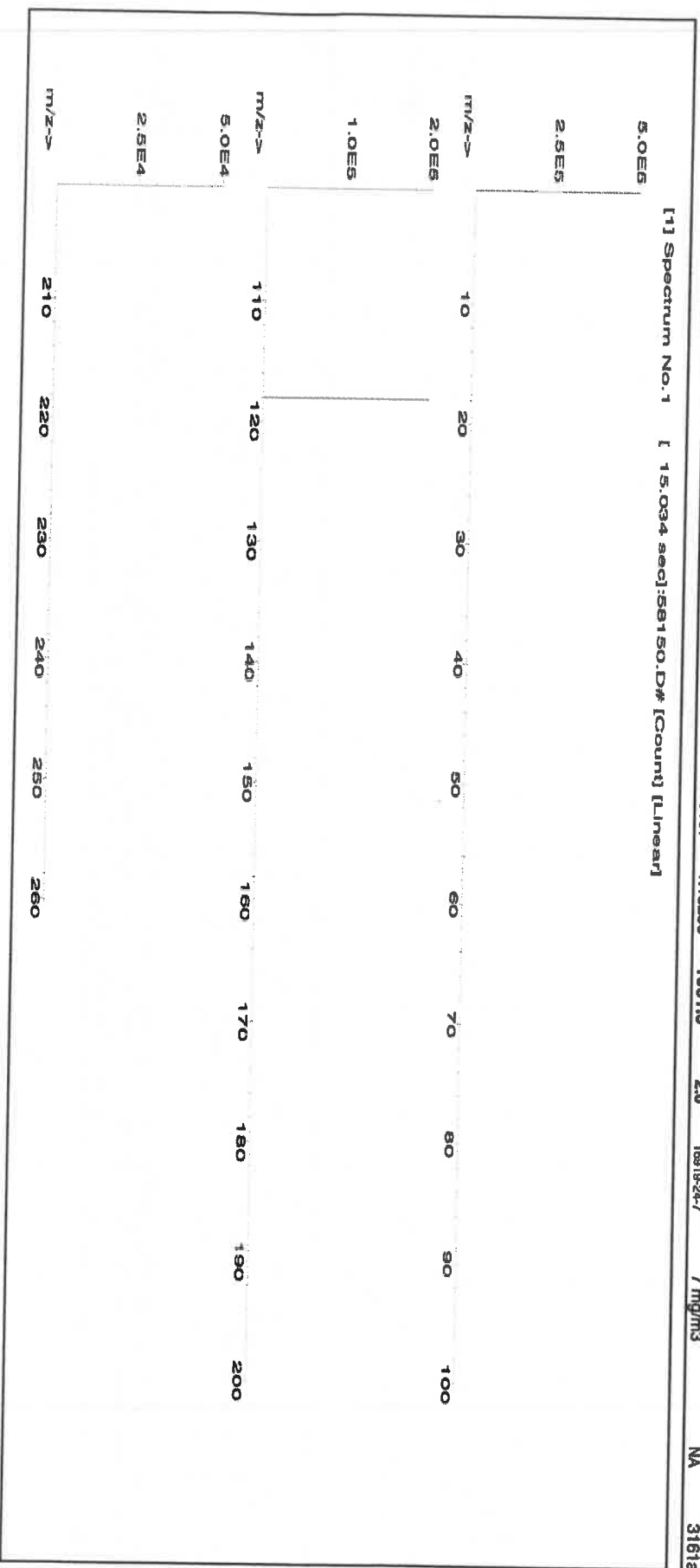
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

Formulated By: Benson Chan		071123
Reviewed By: Pedro L. Rientas		071123

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
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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

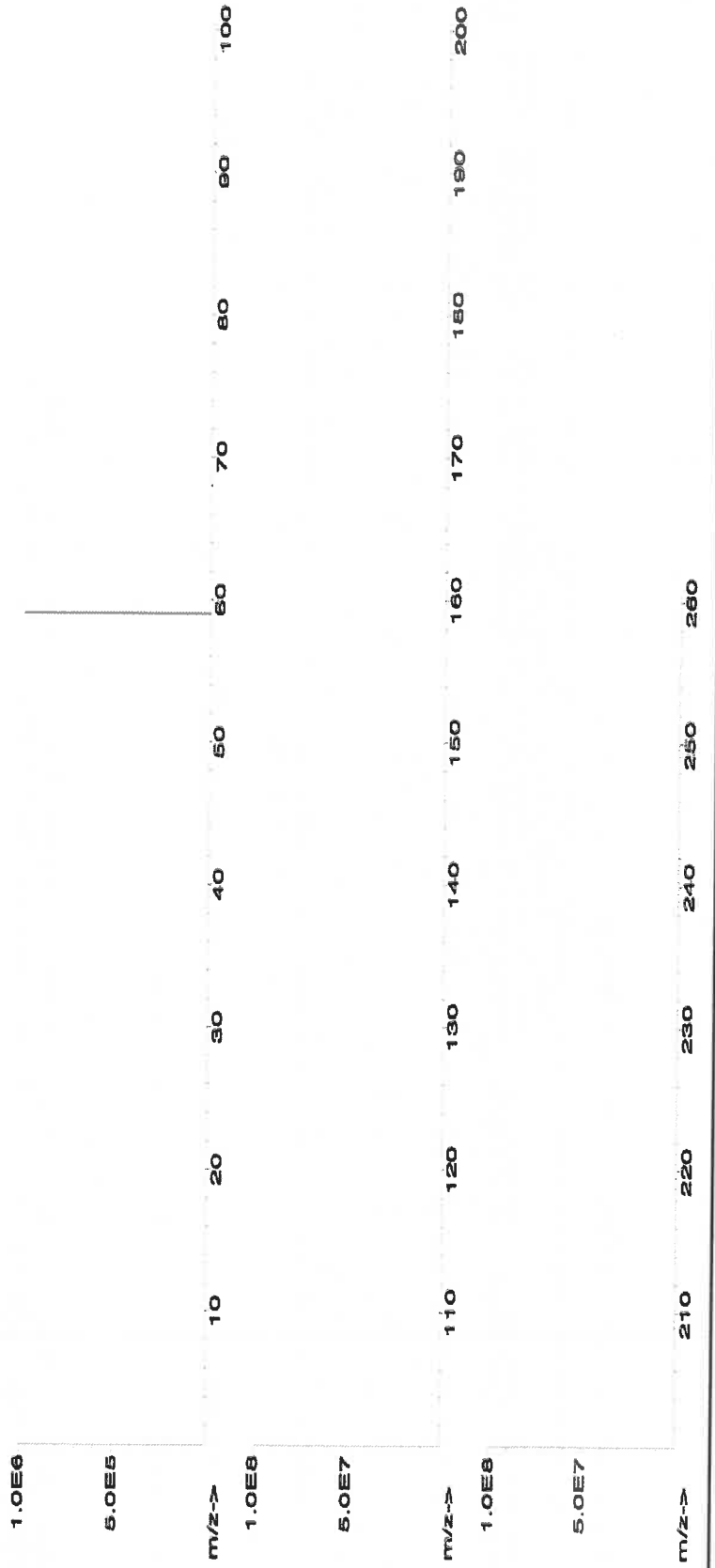
Formulated By: Lawrence Barry 091923
Reviewed By: Pedro L. Rentas 091923

SDS Information

Expanded Uncertainty +/- (µg/mL) 2.2
(Solvent Safety Info. On Attached pg.)
NIST CAS# OSHA PEL (TWA) LD50 SRM

1. Cobalt(II) nitrate hexahydrate (Co) 58127 050923 0.1000 200.0 0.084 1000 10000.0 1000.0 0.02 mg/m3 orl-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 ($\mu\text{g/mL}$)

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	<0.2	Er	<0.2	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	<0.02	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	<0.2	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Gé	<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. F.

- * 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

2.0%

80.0 (mL)

Nitric Acid

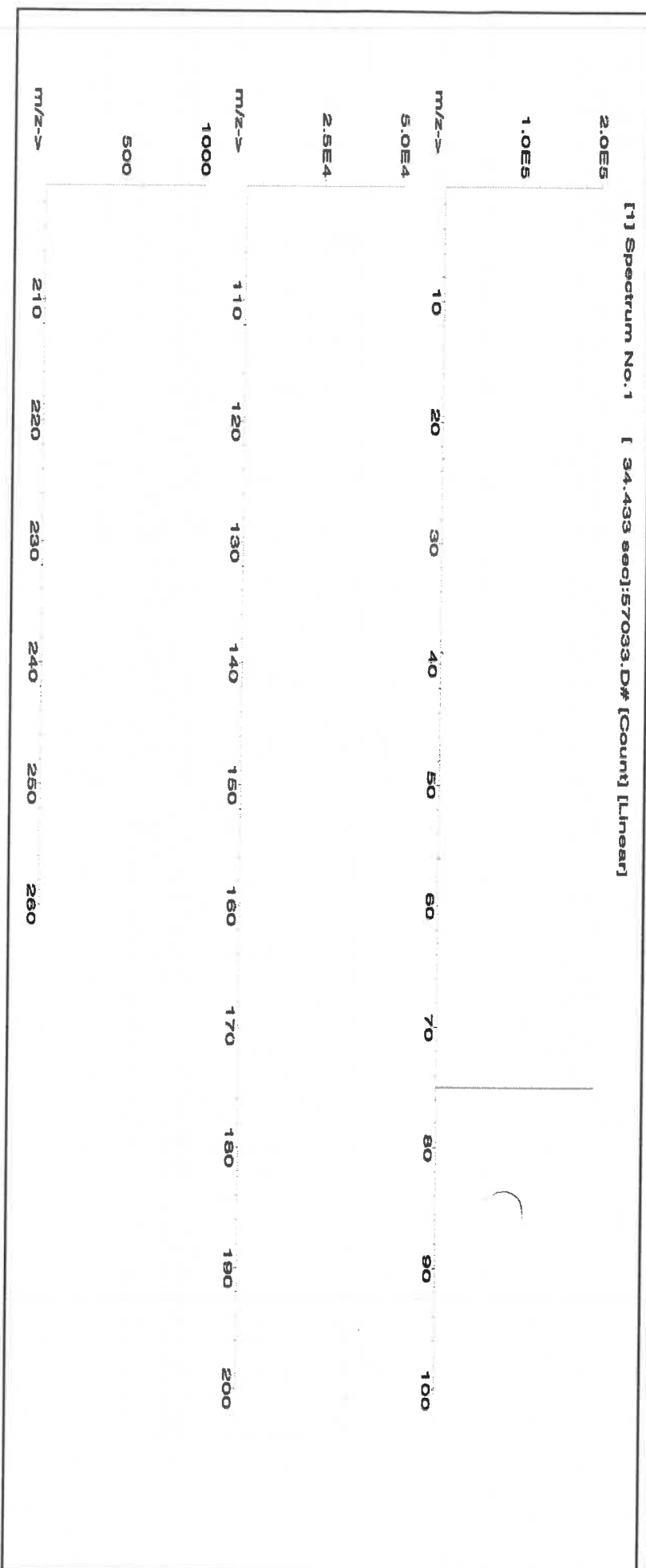
Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rendas	111323

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

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	Te	<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	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	Tl _h	<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	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: **57005**
Lot Number: **071123**
Description: **Boron (B)**

Solvent: MKB0857V Ammonium hydroxide

Lot #

AI: 021009124 M5814

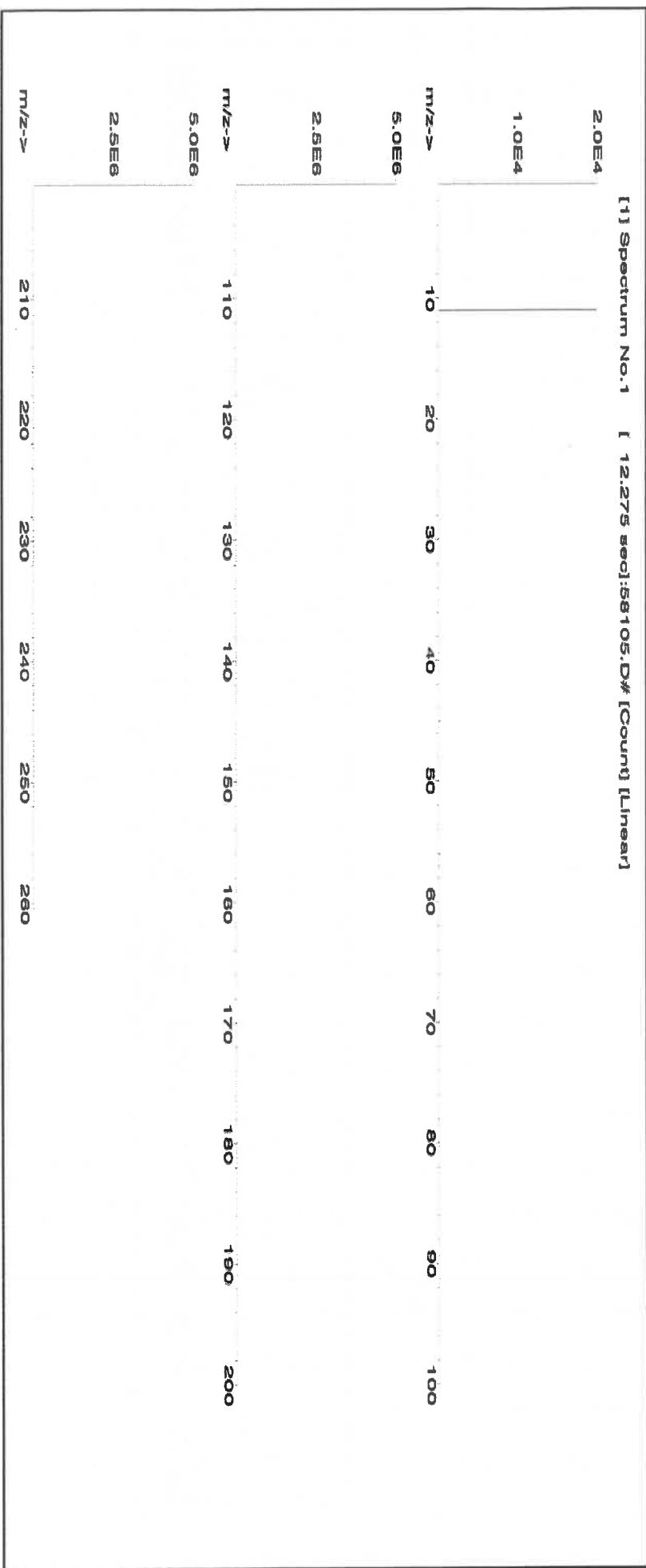
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2.0% 40.0 Ammonium hydroxide (mL)

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)
1. Boric acid (B)	IN018	BV082018A1	1000	99.999	0.10	17.3	11.55772	11.56201	1000.4
							2.0	10043-35-3	2 mg/m3
									ort-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
B	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.
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- * 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

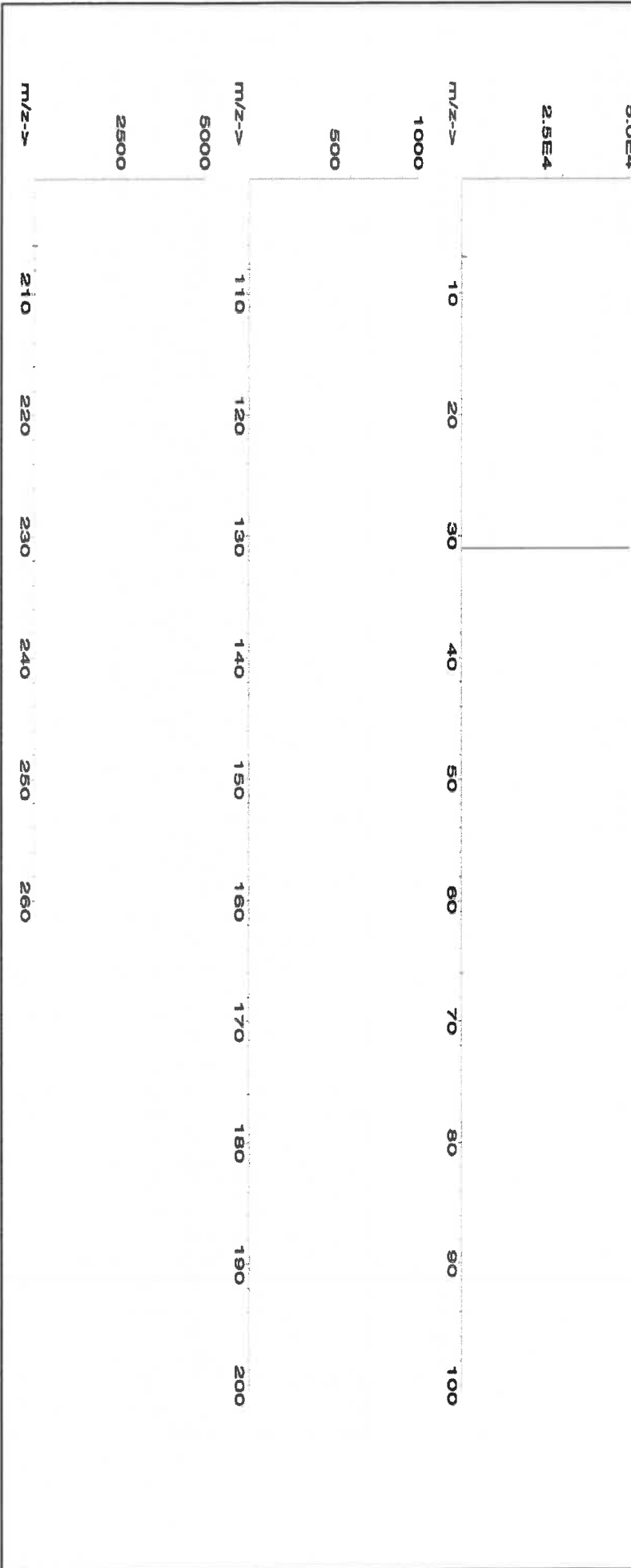
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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
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1. Ammonium dihydrogen phosphate (P) IN008 PVO62019A1 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.
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- * 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).

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CERTIFIED WEIGHT REPORT:

MS962 R10611424

Lot # 24002546 Solvent: Nitric Acid

Part Number: **57034**
Lot Number: **060624**
Description: **Selenium (Se)**

2.0% 40.0 (mL) Nitric Acid

Expiration Date: 060627
Recommended Storage: Ambient (20 °C)

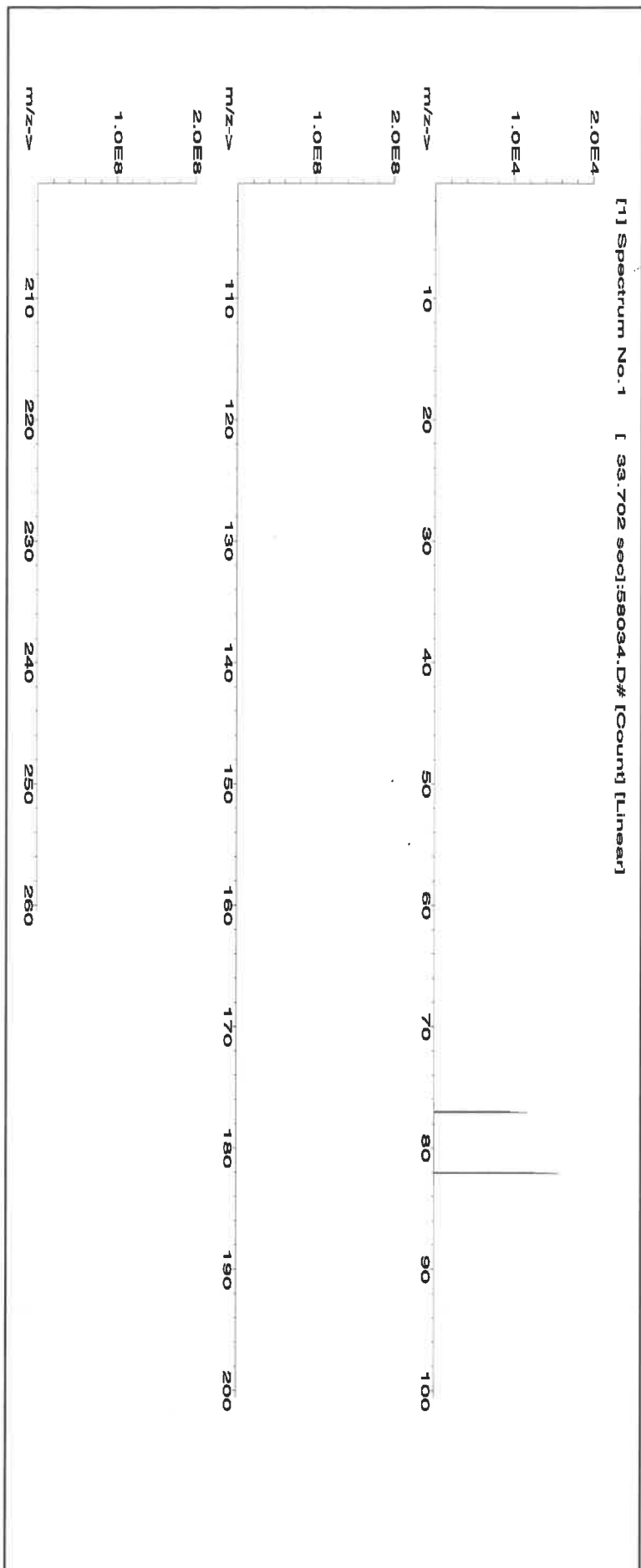
Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.07 SE-05 Balance Uncertainty 0.100 Flask Uncertainty

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rantas	060624

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. 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	31.49



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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	Ru	<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	Sr	<0.02	S	<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	Ta	<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		<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).



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CERTIFIED WEIGHT REPORT:

Part Number: **57016**
Lot Number: **122923**
Description: **Sulfur (S)**

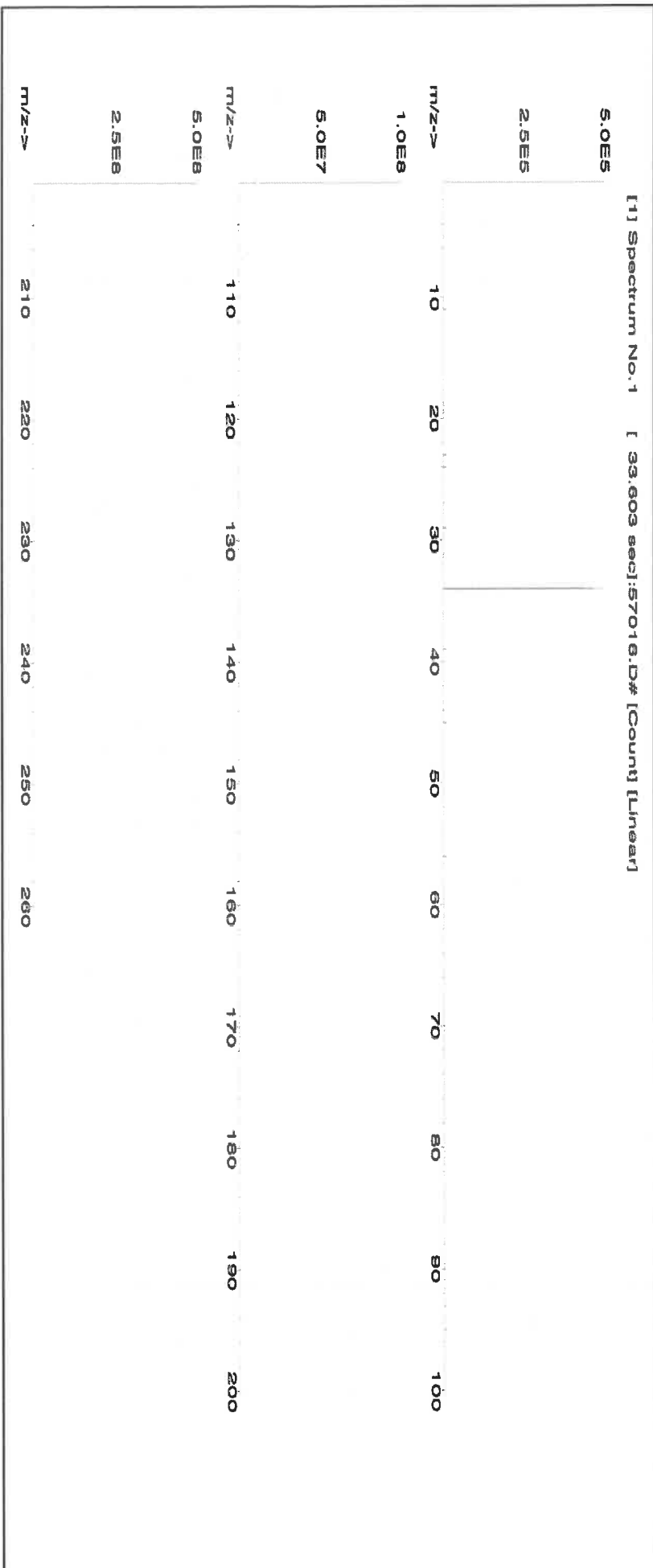
Lot #
Solvent: **122923** ASTM Type 1 Water

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		NIST SRM
									±	(µg/mL)	

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



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M5970 M5971 R1 710124



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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
SE-05 Balance Uncertainty: 0.016
Fisk Uncertainty:

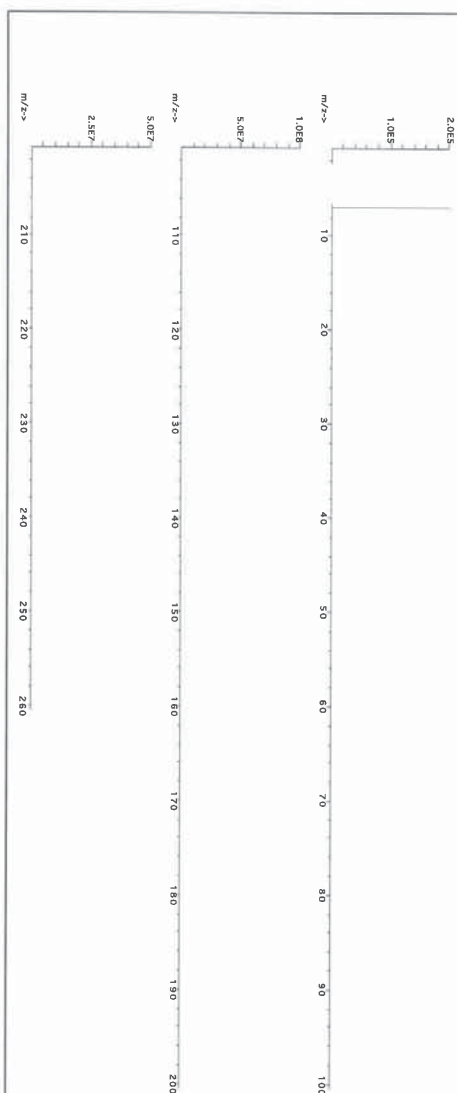
Lot # 24002546
Solvent: Nitric Acid

2.0% 5.0 (mL)
Nitric Acid

Microvite Capable	
Formulated By:	062124
Reviewed By: <i>[Signature]</i>	
Petro L. Parias	

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)
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004		1000	10000.4	1000.0
							2.0	7790.69-4	5 mg/mL
								5 mg/mL	0.1-1.1428 mg/kg
									NA

[1] Spectrum No. 1 [32.093 sec; 15000.0Hz Count [Lines]



Part # 57003 Lot # 062124

1 of 2

Printed: 6/24/2024, 11:20:08 PM

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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
Sb	<0.02	Ce	<0.2	Er	<0.02	In	<0.02	La	<0.02	Nb	<0.02	Rb	<0.02	Si	<0.2
As	<0.2	Ce	<0.02	Ba	<0.02	Ir	<0.02	Mg	<0.02	Os	<0.02	Rh	<0.02	Ag	<0.02
Ba	<0.02	Cr	<0.02	Gd	<0.02	Te	<0.2	Mn	<0.02	Pd	<0.02	Ru	<0.02	Nd	<0.2
Be	<0.01	Co	<0.02	Ga	<0.02	Ta	<0.02	Hg	<0.2	P	<0.02	Sr	<0.02	Sr	<0.02
Bi	<0.02	Cu	<0.02	Ge	<0.02	Tb	<0.02	Ko	<0.02	K	<0.2	Sn	<0.02	S	<0.02
B	<0.02	Ca	<0.02	Au	<0.02	Th	<0.02	Nd	<0.02	La	<0.2	Sc	<0.02	Ta	<0.02
(T) = Target analyte															
Br	<0.02	Cl	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Cd	<0.02	Co	<0.02	Ce	<0.02	V	<0.02	Cr	<0.02	Cr	<0.02	Zr	<0.02	U	<0.02
Ce	<0.02	Cr	<0.02	Er	<0.02	Te	<0.02	Fe	<0.02	Fe	<0.02	Yb	<0.02	V	<0.02
Cl	<0.02	Cr	<0.02	Gd	<0.02	Ta	<0.02	Hg	<0.02	Pd	<0.02	Ru	<0.02	Nd	<0.02
Co	<0.02	Cu	<0.02	Ge	<0.02	Tb	<0.02	Ko	<0.02	K	<0.02	Sn	<0.02	S	<0.02
Cu	<0.02	Dy	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Dy	<0.02	Er	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Er	<0.02	Ba	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Ga	<0.02	Ge	<0.02	Au	<0.02	Th	<0.02	Nd	<0.02	La	<0.02	Sc	<0.02	Tb	<0.02
Ge	<0.02	Au	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Hf	<0.02	Th	<0.02	Ce	<0.02	V	<0.02	Cr	<0.02	Cr	<0.02	Zr	<0.02	U	<0.02
In	<0.02	Te	<0.02	Gd	<0.02	Ta	<0.02	Ko	<0.02	K	<0.02	Sn	<0.02	S	<0.02
Ir	<0.02	Ta	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
La	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Li	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Mg	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Mn	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Nb	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Ni	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Os	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Pd	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
P	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Pr	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Rb	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Sr	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Se	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Si	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Sn	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Sr	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
S	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Ta	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Tb	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Te	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Ti	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Tl	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Tm	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
U	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
V	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
W	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Xe	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02
Y	<0.02	Th	<0.02	Ba	<0.02	Ir	<0.02	Mn	<0.02	P	<0.02	Sr	<0.02	Ta	<0.02
Zn	<0.02	Th	<0.02	Gd	<0.02	Te	<0.02	Hg	<0.02	K	<0.02	Sn	<0.02	Tl	<0.02
Zr	<0.02	Th	<0.02	Ag	<0.02	U	<0.02	Mo	<0.02	Fe	<0.02	Y	<0.02	W	<0.02

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



Redefine your results. Redefine your industry.

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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).

1.0 ACCREDITATION / REGISTRATION

2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution

Catalog Number: CGT1

Lot Number: T2-T1719972

Matrix: 2% (v/v) HNO₃

Value / Analyte(s): tr. HF

Starting Material: 1 000 µg/mL ea.

Starting Material: 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:

$X_{CRM/RM} = (k_p) / (k_{p,m})$

k_p = mean of Assay Method A with

$U_{CRM/RM}$ = the standard uncertainty of characterization Method A

$k = \text{coverage factor} = 2$

$U_{CRM/RM} = [(U_{CRM/RM}^2) / (U_{CRM/RM}^2)]^{1/2}$ where $U_{CRM/RM}$ are the errors from each characterization method

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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 UHPA-filtered Clean Room. An UHPA-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
M 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	<	0.000986		
O B	<	0.008929	M Ge	<	0.002146	M Os	<	0.000269	O Sr	<	0.000986		
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	<	0.001341		
M Co	<	0.000268	M K	<	0.001172	M Rb	<	0.000268	M Tl	<	0.000268		
M Cr	<	0.000752	O Li	<	0.000268	M Re	<	0.000268	M Tm	<	0.000268		
M Cs	<	0.000268	M Lu	<	0.000268	M Rh	<	0.000268	M U	<	0.000268		
O Cu	<	0.010890	O Mg	<	0.005445	I S	<	0.006976	M Y	<	0.002146		
M Dy	<	0.000268	M Mn	<	0.003267	M Sb	<	0.004900	M Yb	<	0.000536		
M Er	<	0.000268	M Mo	<	0.000774	O Sc	<	0.004900	M Yb	<	0.000536		

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

- 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: 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 forming the hydrated oxide in all dilute acids except HF. Stable with most inorganic anions with a tendency to hydrolyze forming the hydrous 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 1% HNO3 / 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); K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in P10 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 crystaline 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,
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	14N17N2, 36Ar12C, 48Ca, 196X=2
ICP-OES 334.941 nm	0.0038 / 0.00028 µg/mL	1	Ru]]
ICP-OES 336.121 nm	0.0053 / 0.00034 µg/mL	1	Ce, Ar, Ni, Nb, Ta, Cr, U 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"

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY
Inorganic Ventures, 300 Technology Drive, Chesapeake, VA 24073, USA; Telephone: 800.868.6786; 540.565.3030; Fax: 540.565.3012; info@inorganicventures.com
- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

Thomas Kozlikowski
Manager, Quality Control

80978

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul Gaines

Certificate of Analysis

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 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, $X_{\text{CRM/RM}}$, 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	<	0.000760	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
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:

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

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

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)

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

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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



Certificate of Analysis

R: 08/22/24 M6058, M6059

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-MEB746172
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: 1.032 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).

<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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 12, 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

- **August 12, 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



300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

Certificate of Analysis

M6074
M6075
M6076
M6077

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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:
Lot Number:
Description:

58025
101124
Manganese (Mn)

Lot #
Solvent: Nitric Acid

24002546
80.0
Nitric Acid

R-71113128
MN6928

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Renteria
	101124

Expiration Date: 101127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.2
5E-05 Balance Uncertainty
0.10 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. Manganese(II) nitrate hydrate (Mn) IN031 MNM02020A1 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	1.0E6	5.0E7	1.0E6	5.0E7
m/z->	m/z->	m/z->	m/z->	m/z->	m/z->
10	20	30	40	50	60
70	80	90	100		
110	120	130	140	150	160
170	180	190	200		
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

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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:

58126
011025
Iron (Fe)

R-1113125
M6140

Lot #
Solvent: 24012496 Nitric Acid

Expiration Date:

011028

2% 40.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

10000

NIST Test Number:

6U7B

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.07

0.100 Flask Uncertainty

Formulated By:	Benson Chan	011025
Reviewed By:	Pedro L. Renteria	011025

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)

LDSO

NIST

SFM

SDS Information

(Solvent Safety Info. On Attached pg.)

1 mg/m³

or-rel 3250mg/kg 3126A

1. Iron(III) nitrate nonahydrate (Fe)

IN028 FED082023A1

10000

99.999

0.10

13.0

153.8534

#####

10000.2

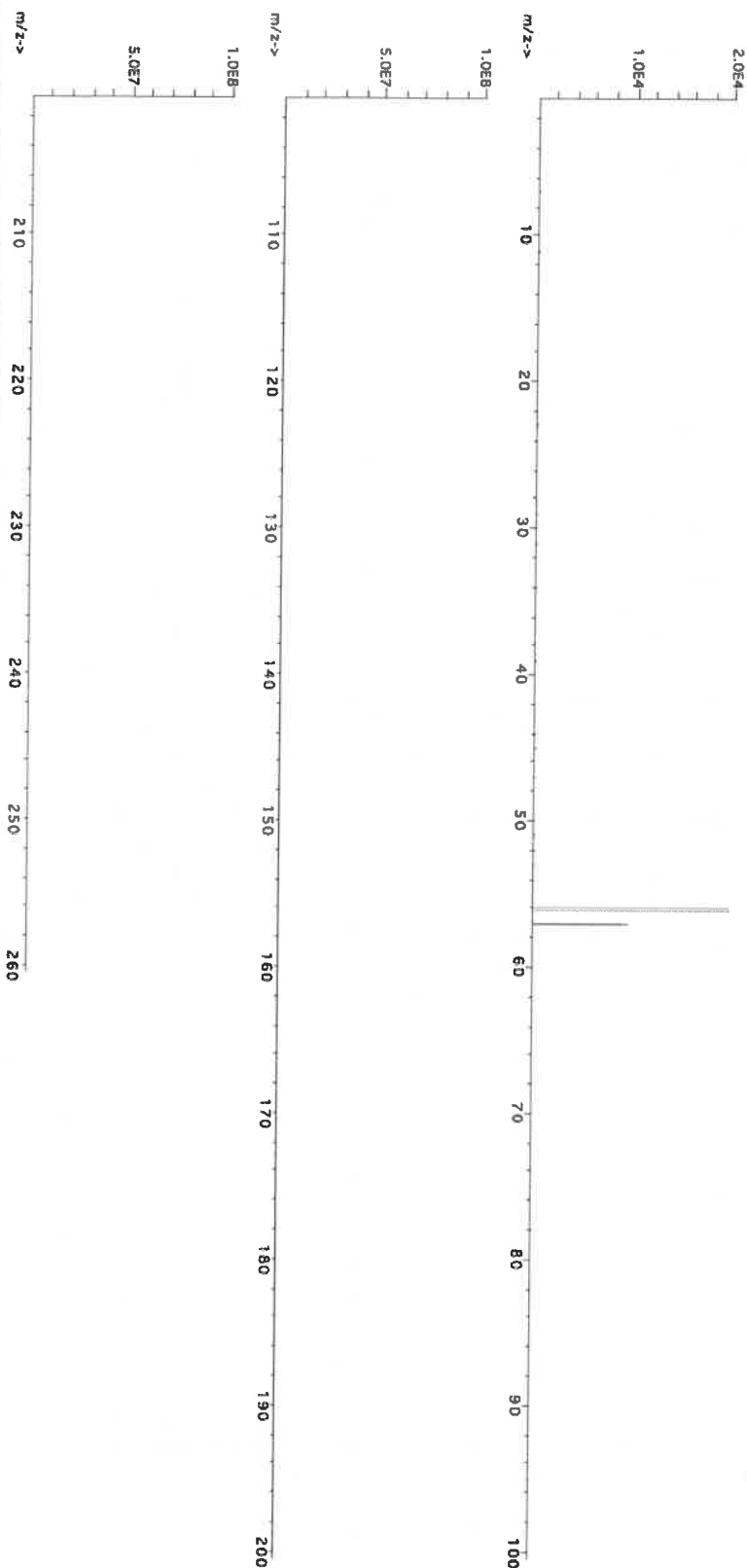
20.0

7782-61-8

1 mg/m³

or-rel 3250mg/kg 3126A

[1] Spectrum No.1 [30.763 sec]58126.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
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<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
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	T	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<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
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02
														Tb	<0.02
														Te	<0.02
														Tl	<0.02
														Th	<0.02
														Tm	<0.02
														Sn	<0.02
														Ti	<0.02
														U	<0.02
														V	<0.02
														Yb	<0.02
														Y	<0.02
														Zn	<0.02
														Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

[Signature]

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:
Lot Number:
Description:

57119
103024
Potassium (K)

R-21113125

Lot #
Solvent: 24002546
Nitric Acid

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

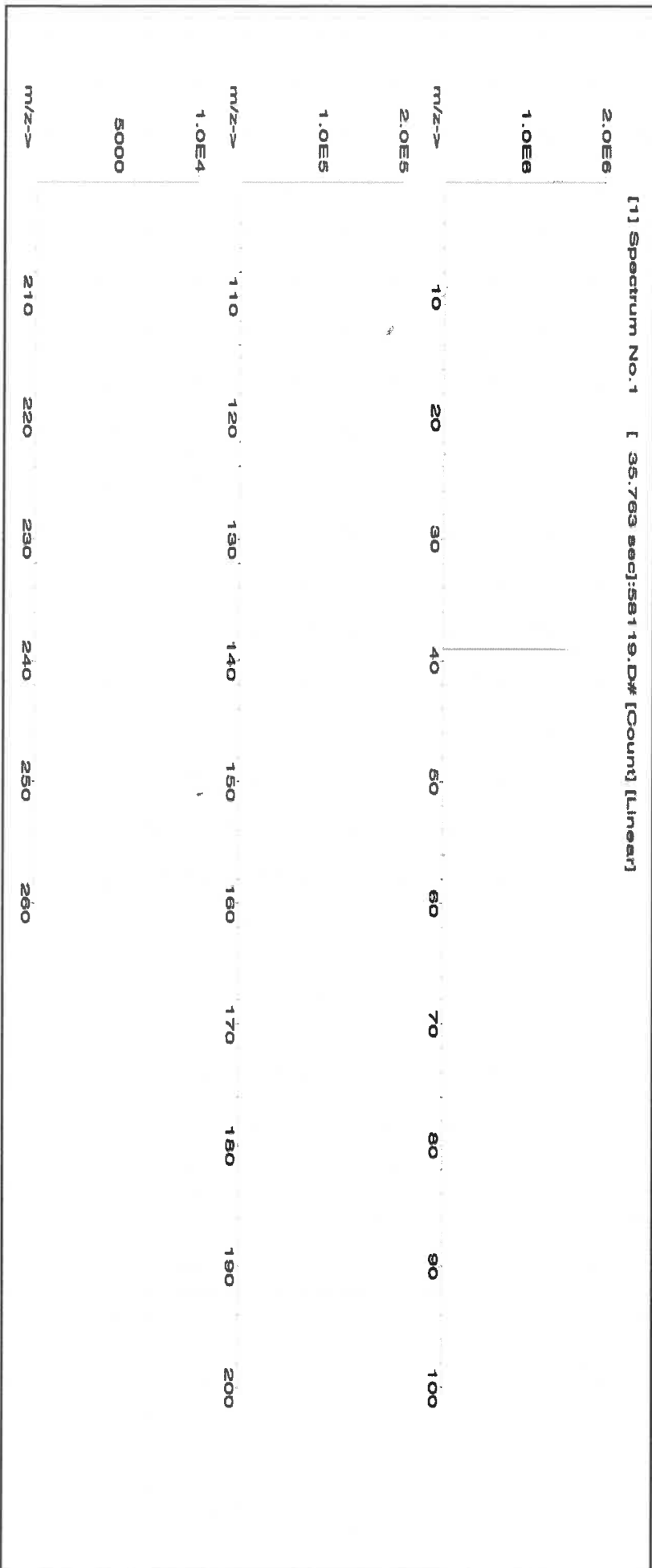
<i>Giovanni Caporaso</i>	
Formulated By:	Giovanni Caporaso
Reviewed By:	Pedro L. Renteria
	103024

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
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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** 5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): **4000.2** 0.10 Flask Uncertainty

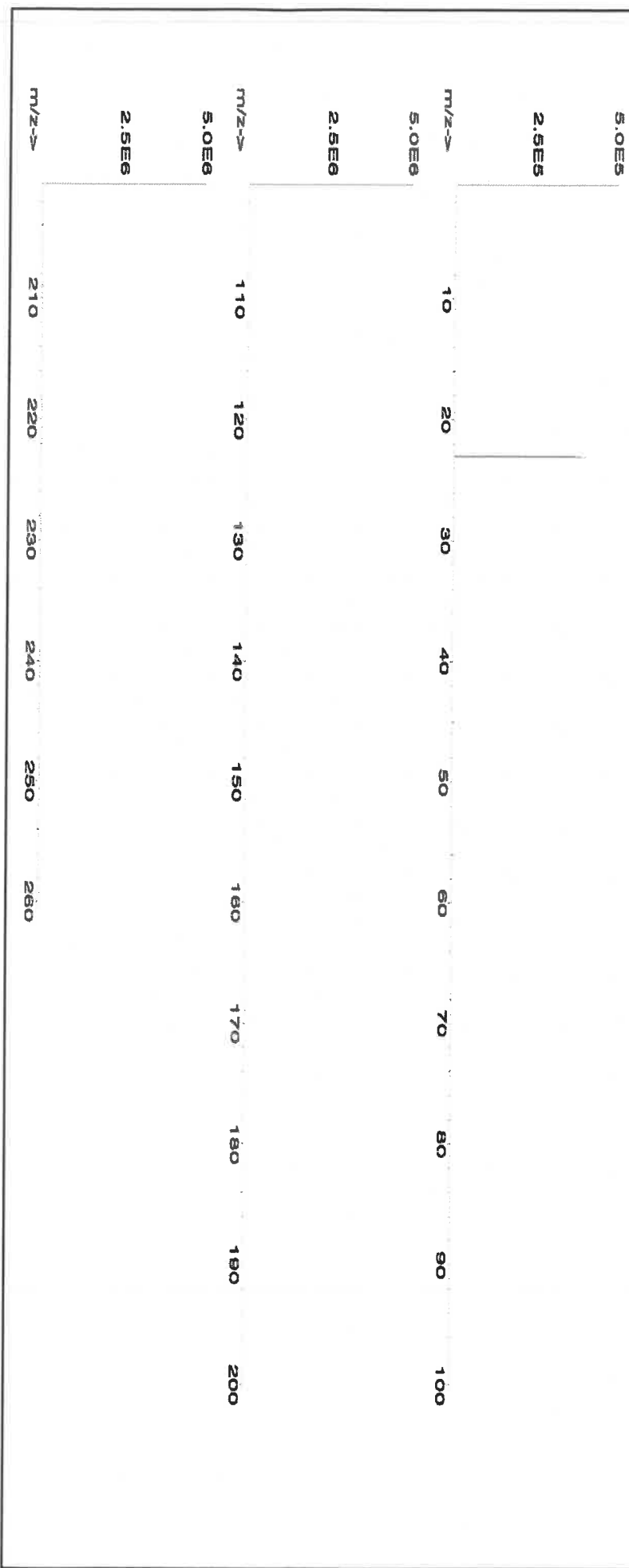
Formulated By:	Benson Chan	072424
Reviewed By:	Pedro L. Renteria	072424

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	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	<0.02	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	<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).



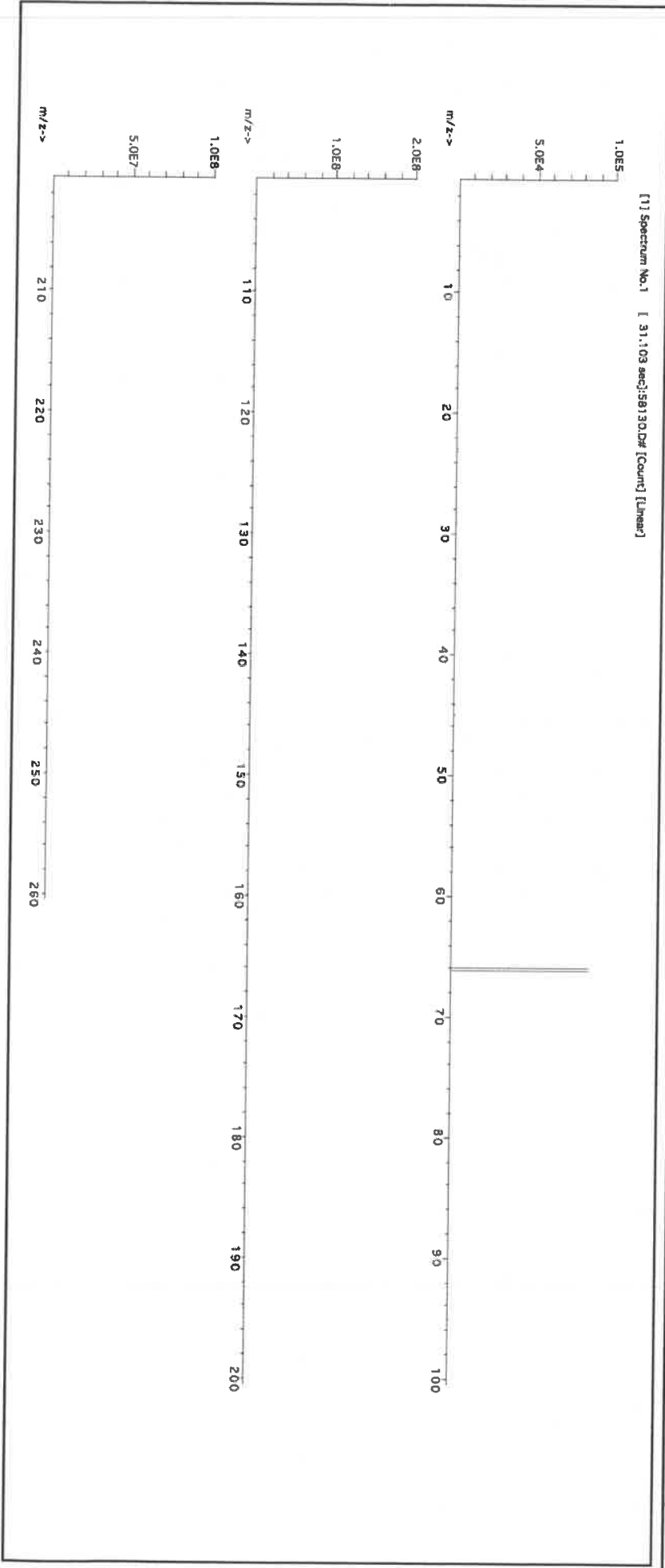
CERTIFIED WEIGHT REPORT:

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.
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- * 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).

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™**

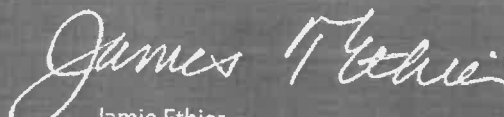


Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
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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

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:	QCP-CICV-1		
Lot Number:	V2-MEB744107		
Matrix:	7% (v/v) HNO ₃		
Value / Analyte(s):	2 500 µg/mL ea:		
	Calcium,	Potassium,	
	Magnesium,	Sodium,	
	1 000 µg/mL ea:		
	Aluminum,	Barium,	
	500 µg/mL ea:		
	Iron,		
	250 µg/mL ea:		
	Nickel,	Vanadium,	
	Zinc,	Cobalt,	
	Manganese,		
	125 µg/mL ea:		
	Silver,	Copper,	
	100 µg/mL ea:		
	Chromium,		
	25 µg/mL ea:		
	Beryllium		

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 000 ± 4 µg/mL	Barium, Ba	1 000 ± 6 µg/mL
Beryllium, Be	24.98 ± 0.12 µg/mL	Calcium, Ca	2 500 ± 8 µg/mL
Chromium, Cr	99.9 ± 0.6 µg/mL	Cobalt, Co	250.2 ± 1.2 µg/mL
Copper, Cu	125.0 ± 0.5 µg/mL	Iron, Fe	500.0 ± 2.2 µg/mL
Magnesium, Mg	2 500 ± 11 µg/mL	Manganese, Mn	249.9 ± 1.1 µg/mL
Nickel, Ni	250.0 ± 1.2 µg/mL	Potassium, K	2 500 ± 11 µg/mL
Silver, Ag	125.0 ± 0.6 µg/mL	Sodium, Na	2 500 ± 11 µg/mL
Vanadium, V	250.0 ± 1.1 µg/mL	Zinc, Zn	249.9 ± 1.1 µg/mL

Density: 1.081 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
Cu	ICP Assay	3114	120618
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	200413
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	ICP 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 (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

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; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 22, 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

- **May 22, 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:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



300 Technology Drive
Christiansburg, VA 24073 USA
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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: QCP-CICV-2
Lot Number: U2-MEB733713
Matrix: 3% (w/v) Tartaric acid
1% (v/v) HNO₃
Value / Analyte(s): 500 µg/mL ea:
Antimony

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	500.0 ± 2.8 µg/mL		

Density: 1.017 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Sb	ICP Assay	3102a	140911

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)

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

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 01, 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

- June 01, 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



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: QCP-CICV-3
Lot Number: V2-MEB749572
Matrix: 7% (v/v) HNO₃
Value / Analyte(s):
500 µg/mL ea:
Arsenic, Lead,
Selenium, Thallium,
250 µg/mL ea:
Cadmium

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	500.0 ± 3.1 µg/mL	Cadmium, Cd	250.1 ± 1.1 µg/mL
Lead, Pb	500.0 ± 2.3 µg/mL	Selenium, Se	500.0 ± 3.2 µg/mL
Thallium, Tl	500.0 ± 3.0 µg/mL		

Density: 1.040 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
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:

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

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

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), <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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 02, 2025

- 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 02, 2030**

- 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:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://AbsoluteStandards.com>

CERTIFIED WEIGHT REPORT:

Part Number: 58112 **Lot #** M 6171
Lot Number: 011525 **Solvent:** 24012496 Nitric Acid
Description: Magnesium (Mg)
Expiration Date: 011528 2% 40.0 Nitric Acid
Recommended Storage: Ambient (20 °C) (mL)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6U7B 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 2000.07 0.100 Flask Uncertainty

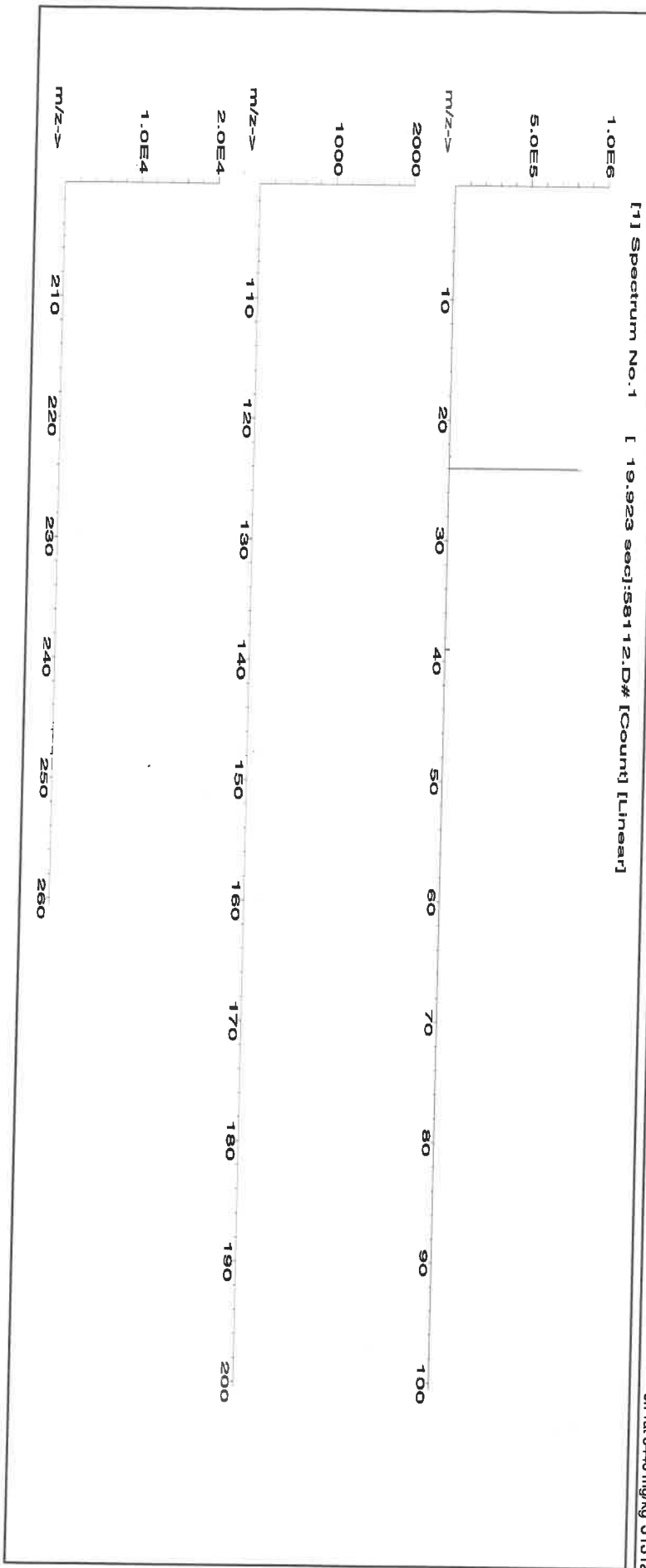
Formulated By:	Benson Chan	011525
Reviewed By:	Pedro L. Rentas	011525

Compound

1. Magnesium nitrate hexahydrate (Mg) IN030 MGD05023A1 10000 99.999 0.10 8.51 234.9183 234.9195 10000.1 20.0 13446-18-9 NA off-ret 5440 mg/kg 3131a

SDS Information

Expanded Uncertainty (Solvent Safety Info. On Attached pg.)
CAS# OSHA PEL (TWA) LD50 NIST SRM





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	T	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	Ku	<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

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Christiansburg, VA 24073 USA
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M6174
R → S1/S124

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:	V2-MEB742428	
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	50.03 ± 0.30 µg/mL	Calcium, Ca	5 000 ± 16 µg/mL
Chromium, Cr	200.0 ± 1.1 µg/mL	Cobalt, Co	500.0 ± 2.3 µg/mL
Copper, Cu	250.0 ± 1.1 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 22 µg/mL	Manganese, Mn	499.9 ± 2.2 µg/mL
Nickel, Ni	500.1 ± 2.3 µg/mL	Potassium, K	5 000 ± 22 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 22 µg/mL
Vanadium, V	500.0 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.117 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
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	120618
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	200413
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	ICP 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

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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.

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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

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;

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 22, 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

- **March 22, 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:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

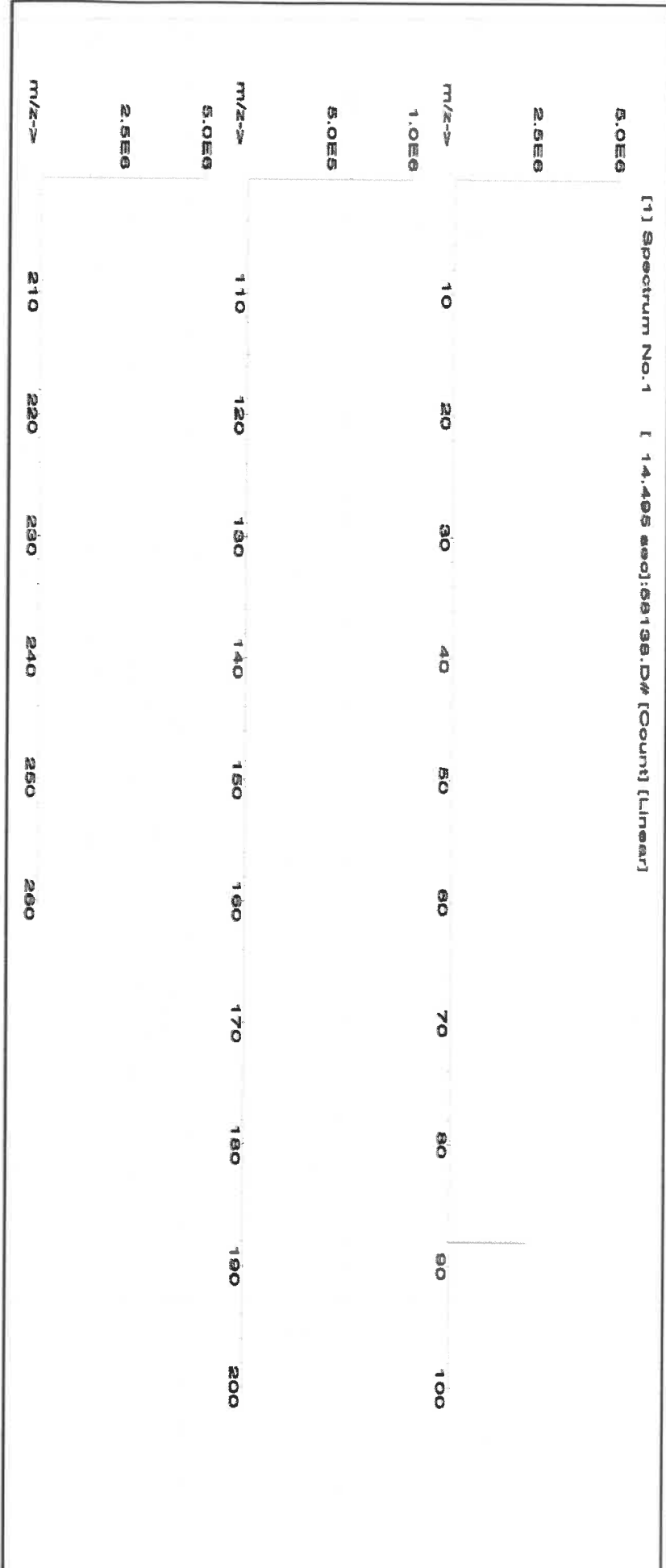
Part Number: 57038 **Lot #** 24002546 **Nitric Acid**
Lot Number: 092724
Description: Strontium (Sr)
Expiration Date: 092727 **2%** **40.0 (mL)** **Nitric Acid**
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 8UTB
Weight shown below was diluted to (mL): 2000.07 **0.100 Flask Uncertainty**

Formulated By: Benson Chan **092724**
Reviewed By: Pedro L. Rentas **092724**

SDS Information

Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Uncertainty	(Solvent Safety Info. On Attached pg.)	NIST
	RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)		

1. Strontium nitrate (Sr) IN017 SR2022018A1 1000 99.997 0.10 41.2 4.85470 4.85481 1000.0 2.0 10042-76-9 NA or-rel >2000mg/kg 3153a





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	T	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



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57042
080525
Molybdenum (Mo)

US#
MKP08697V
080525
Solvent
Ammonium hydroxide
ASTM Type 1 Water

Expiration Date:

080528

Recommended Storage:

Ambient (15 - 30 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

1999.41

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

R → 8/6/25
M6177

10.0
Ammonium hydroxide

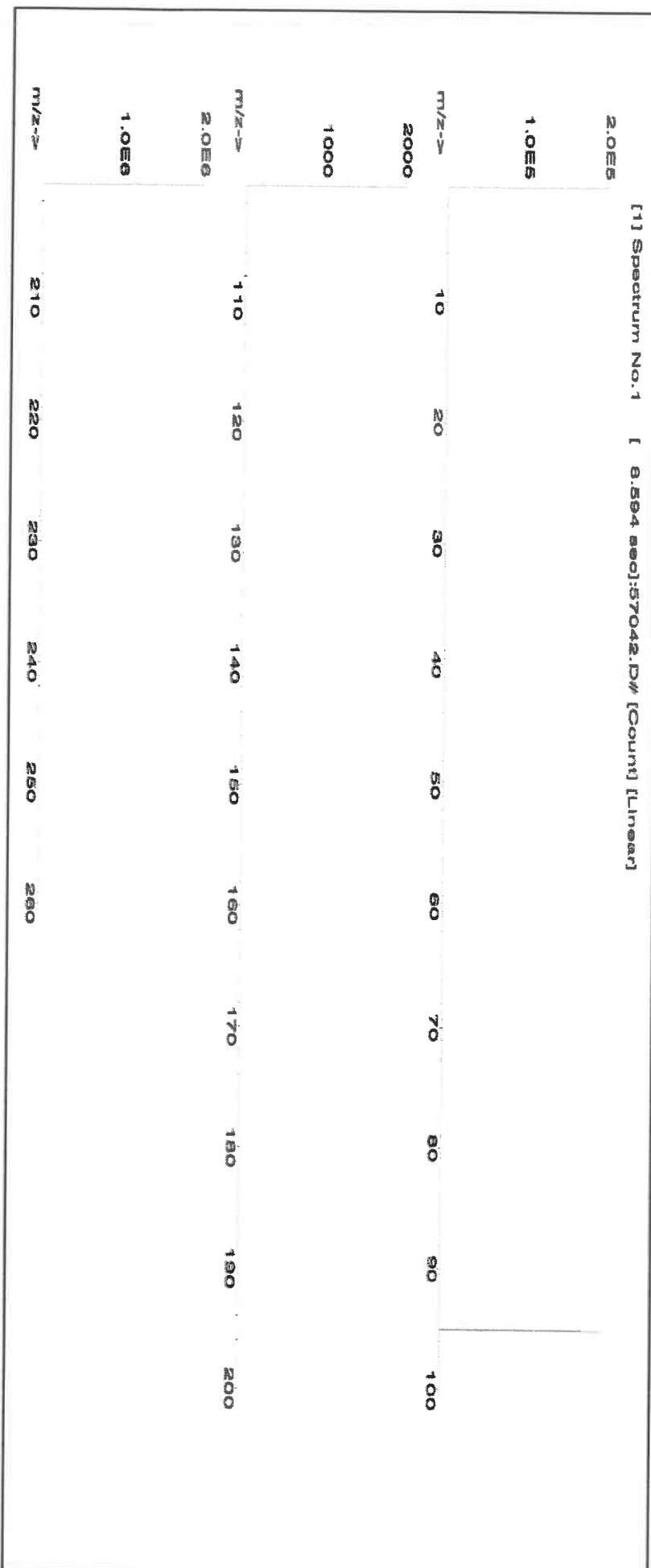
Formulated By:	Benson Chan	080525
Reviewed By:	Pedro L. Renteria	080525

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. Ammonium molybdate (Mo) 58142 112322 0.1000 200.0 0.084 1000 10001.4 1000.5 2.2 13106-76-8 5 mg(Mo)/mL 0.1-0.3 333 mg/kg 3134

[1] Spectrum No. 1 [8.594 sec]:57042.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
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<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
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	T	Pt	<0.02	Sm	<0.02	S	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Te	<0.02
														Tb	<0.02
														Ti	<0.02
														Th	<0.02
														Tm	<0.02
														Sn	<0.02
														Tl	<0.02
														U	<0.02
														V	<0.02
														Yb	<0.02
														Y	<0.02
														Zn	<0.02
														Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

[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 by an ISO17025 certified organization with weights traceable through NIST to the SI kilogram (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).
- Rev 1.0, 2/25/2025



Certified Reference Material CRM



ANAB ISO 17034 Accredited
AFR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57082
031525
Lead (Pb)

Lot #

Nitric Acid

Expiration Date:

031528

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL):

2000.07

0.10 Flask Uncertainty

Solvent: 24014457
2%
40.0 (mL)
Nitric Acid

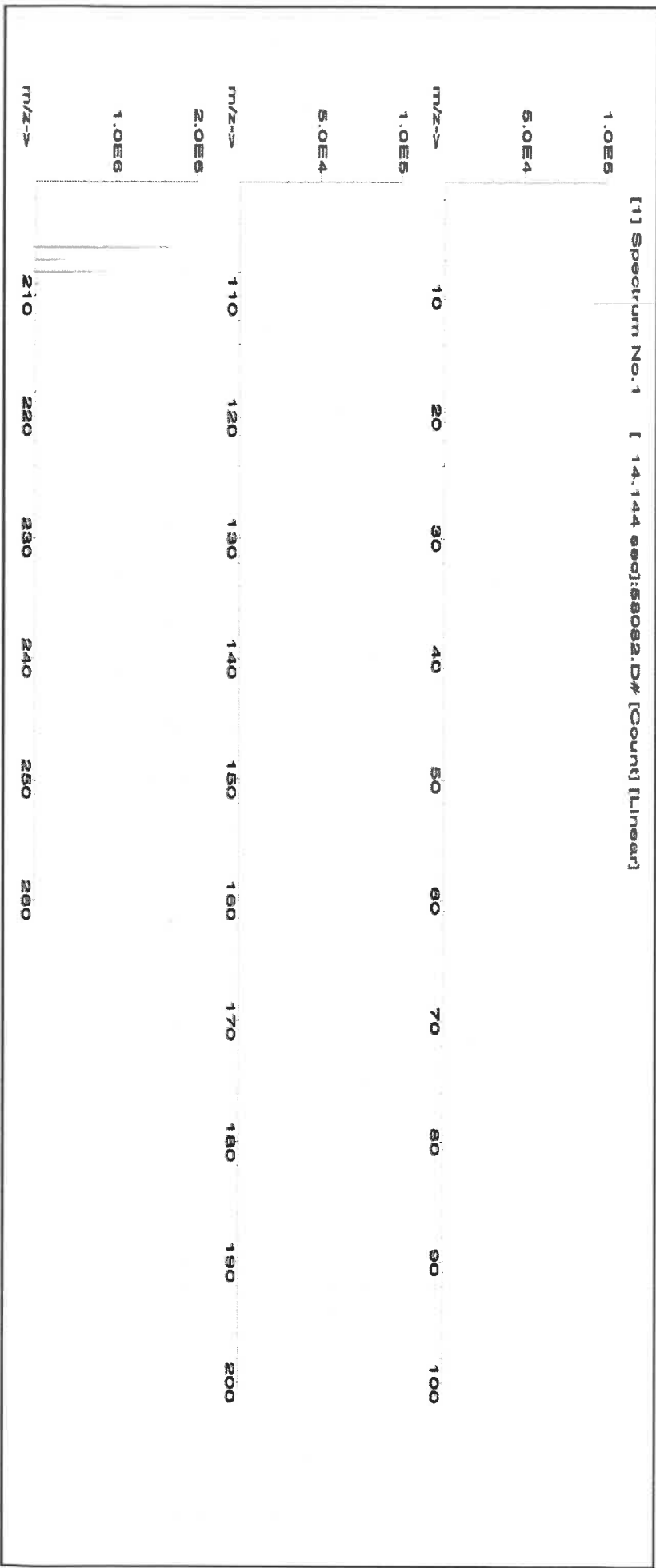
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Renteria</i>
	Pedro L. Renteria
	031525

SDS Information

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. **Lead(II) nitrate (Pb)** IN029 PBD122016A1 1000 99.999 0.10 62.5 3.20015 3.20067 1000.2 2.0 10099-74-8 0.05 mg/m3 Intra-rat 93 mg/kg 3128

[1] Spectrum No. 1 [14.144 sec]:58082.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	Tc	<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	Se	<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).

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F: 540-585-3012
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M6179
R → 612/24

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, $X_{CRM/RM}$, 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:

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

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

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

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

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 <	0.004600	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). <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





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.



M6182

(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.



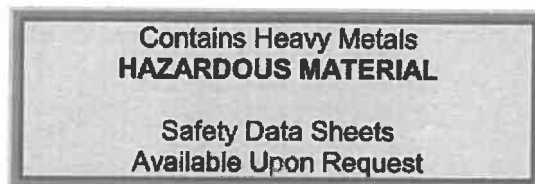
Instructions for QATS Reference Material: ICP-AES ICS

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.



M6184

(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.

Nitric Acid 69%
CMOS

avantor™



M6187

R.D :- 08/08/25

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
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	< 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



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 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™



M6200
R.O → 08/25/25

Material No.: 9530-33
Batch No.: 24D1562005
Manufactured Date: 2024-03-18
Retest Date: 2029-03-17
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.192
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	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	2.2 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	31.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	0.2 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	< 0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	3 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis



Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.2 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	0.2 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 1.0 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	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.0 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.4 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis



Material No.: 9530-33
Batch No.: 24D1562005

Test	Specification	Result
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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 Croak
Director Quality Operations, Bioscience Production

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: V2-MEB743480

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

R-7/20/28

M6201

M6202

M6203

M6204

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.5 µg/mL	Molybdenum, Mo	40.05 ± 0.22 µg/mL
Silica, SiO ₂	200.3 ± 1.4 µg/mL	Tin, Sn	70.1 ± 0.4 µg/mL
Titanium, Ti	20.03 ± 0.12 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
Sb	ICP Assay	3102a	140911
SiO ₂	Calculated		See Sec. 4.2
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 ($\mu\text{g/mL}$)

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

May 07, 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

- May 07, 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:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Thomas Kozikowski
Stock VS Manager



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

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: W2-MEB752149
Matrix: 5% (v/v) HNO₃

R → 7/20/28

M6209
M6210
M6211
M6212

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,	Aluminum,
Cerium,	Selenium,
Thallium,	
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,	Boron,
Vanadium,	
20 µg/mL ea:	
Zinc,	Strontium,
Barium,	Beryllium,
Cadmium,	Cobalt,
Manganese,	Lithium,
7.5 µg/mL ea:	
Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.2 ± 0.7 µg/mL	Arsenic, As	80.1 ± 0.5 µg/mL
Barium, Ba	20.02 ± 0.12 µg/mL	Beryllium, Be	20.02 ± 0.11 µg/mL
Boron, B	30.02 ± 0.15 µg/mL	Cadmium, Cd	20.04 ± 0.09 µg/mL
Calcium, Ca	100.1 ± 0.3 µg/mL	Cerium, Ce	200.2 ± 1.0 µg/mL
Chromium, Cr	40.02 ± 0.26 µg/mL	Cobalt, Co	20.03 ± 0.09 µg/mL
Copper, Cu	30.03 ± 0.13 µg/mL	Iron, Fe	300.3 ± 1.3 µg/mL
Lead, Pb	100.1 ± 0.5 µg/mL	Lithium, Li	20.03 ± 0.09 µg/mL
Magnesium, Mg	200.2 ± 0.9 µg/mL	Manganese, Mn	19.99 ± 0.09 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.05 ± 0.22 µg/mL
Phosphorus, P	600.5 ± 2.9 µg/mL	Potassium, K	1 001 ± 4 µg/mL
Selenium, Se	200.2 ± 1.1 µg/mL	Silver, Ag	7.52 ± 0.03 µg/mL
Sodium, Na	300.3 ± 1.3 µg/mL	Strontium, Sr	20.02 ± 0.10 µg/mL
Thallium, Tl	200.2 ± 1.0 µg/mL	Vanadium, V	30.02 ± 0.13 µg/mL
Zinc, Zn	20.05 ± 0.09 µg/mL		

Density: 1.037 g/mL (measured at 20 ± 5 °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
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
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	160830
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	120618
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	14Q110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	200413
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	ICP 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:

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

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

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)

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 (PCRMTM) see the Limited License to Use PCRMTM 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 PCRMTM 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° - 25° C to minimize the effects of transpiration. Use at 20° ± 5° 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; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 08, 2025

- 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

- April 08, 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:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Certified Reference Material CRM

M6027



CERTIFIED WEIGHT REPORT:

Part Number: **57028**
Lot Number: **062024**
Description: **Nickel (NI)**

Lot # **24002546**
Solvent: **Nitric Acid**

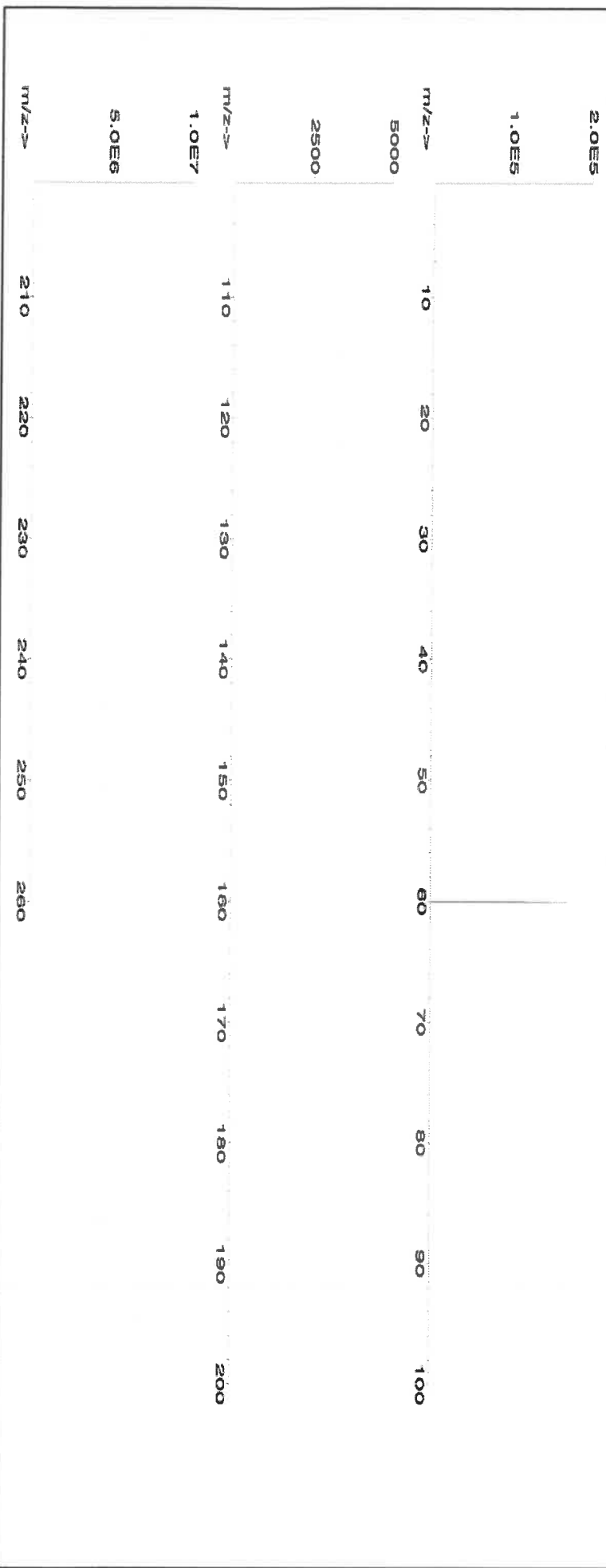
Formulated By:	Benson Chan
062024	
Reviewed By:	Pedro L. Rentes
062024	

Expiration Date: **062027**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**
Volume shown below was diluted to (mL): **2000.07**
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pippet (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 orl-rat 1620 mg/kg 3136

[1] Spectrum No.1 [9.136 sec]:58028.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	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	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 Reference Material CRM

M6030



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://absolutestandards.com>

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

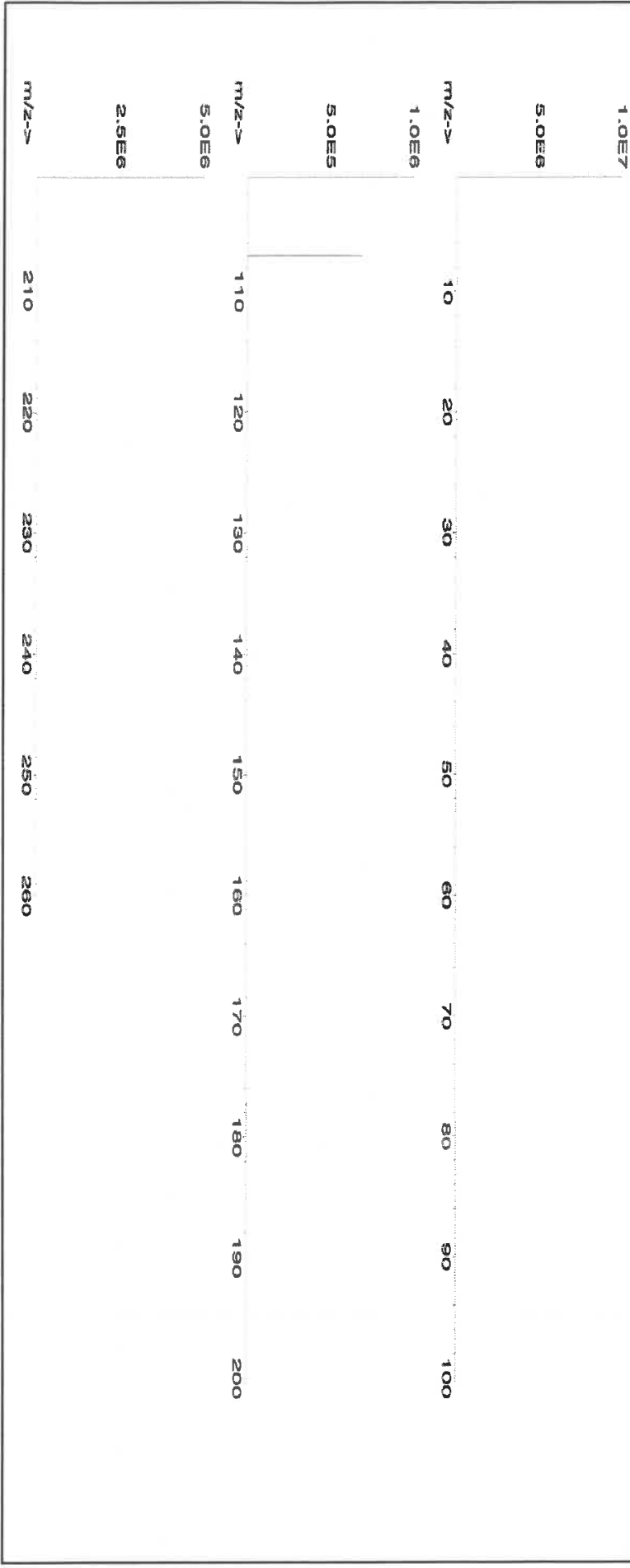
2% 80.0 (mL) Nitric Acid

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	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty		CAS#	SDS Information		NIST SRM
										+/- (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).



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)

NG160

Lot # 24002546
Solvent: Nitric Acid

Expiration Date: 071727

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.26

5E-05 Balance Uncertainty

0.058 Flask Uncertainty

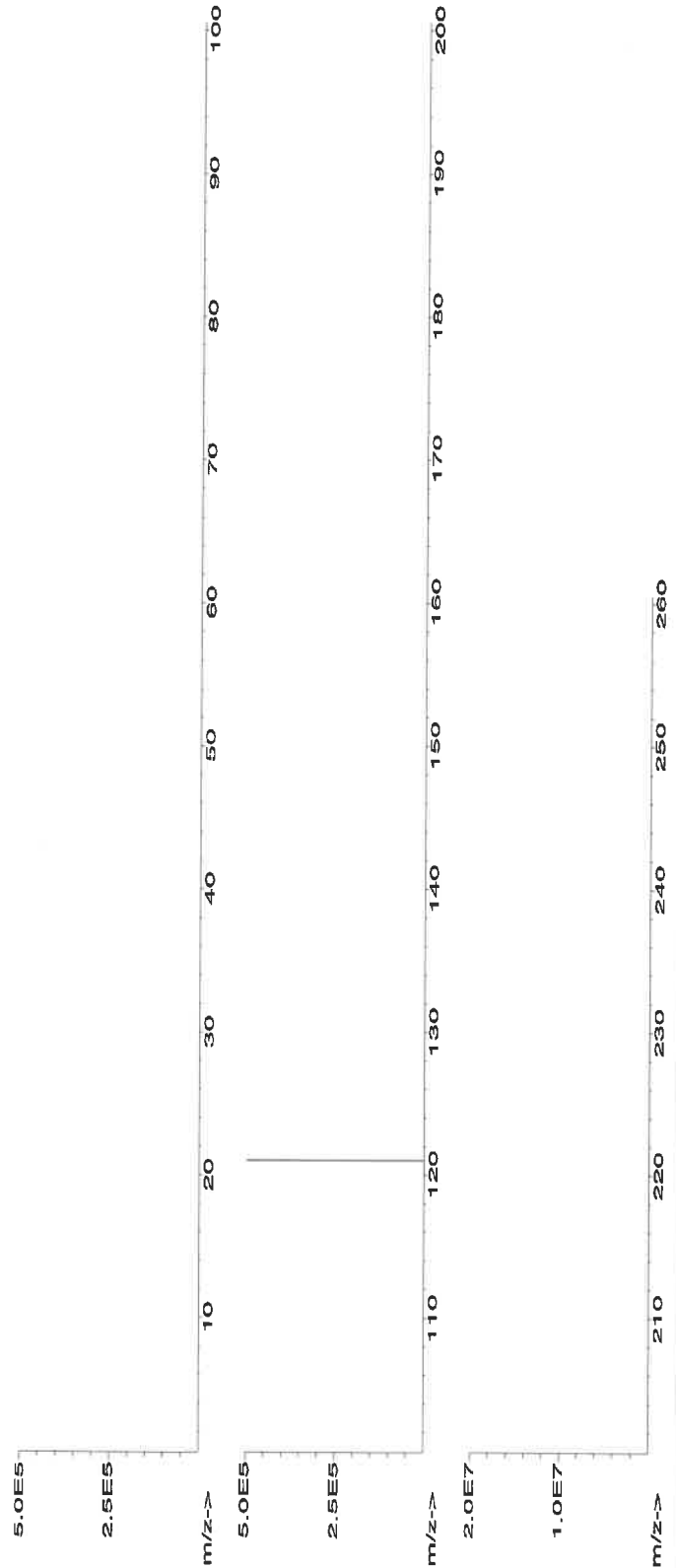
<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito 071724
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas 071724

SDS Information

Expanded	Uncertainty	(Solvent Safety Info, On Attached pg.)	NIST
Conc. (µg/mL)	+/- (µg/mL)	CAS#	OSHA PEL (TWA)
Final	Initial		

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	or-rat 7000 mg/kg	3102a
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[1] Spectrum No.1 [17.964 sec]:58051.D# [Count] [Linear]





CERTIFIED WEIGHT REPORT:

Part Number: 57081
Lot Number: 062724
Description: Thallium (TI)

Solvent: 24002546 Nitric Acid
Lot #

Expiration Date:

062727

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): 2000.1

0.10 Flask Uncertainty

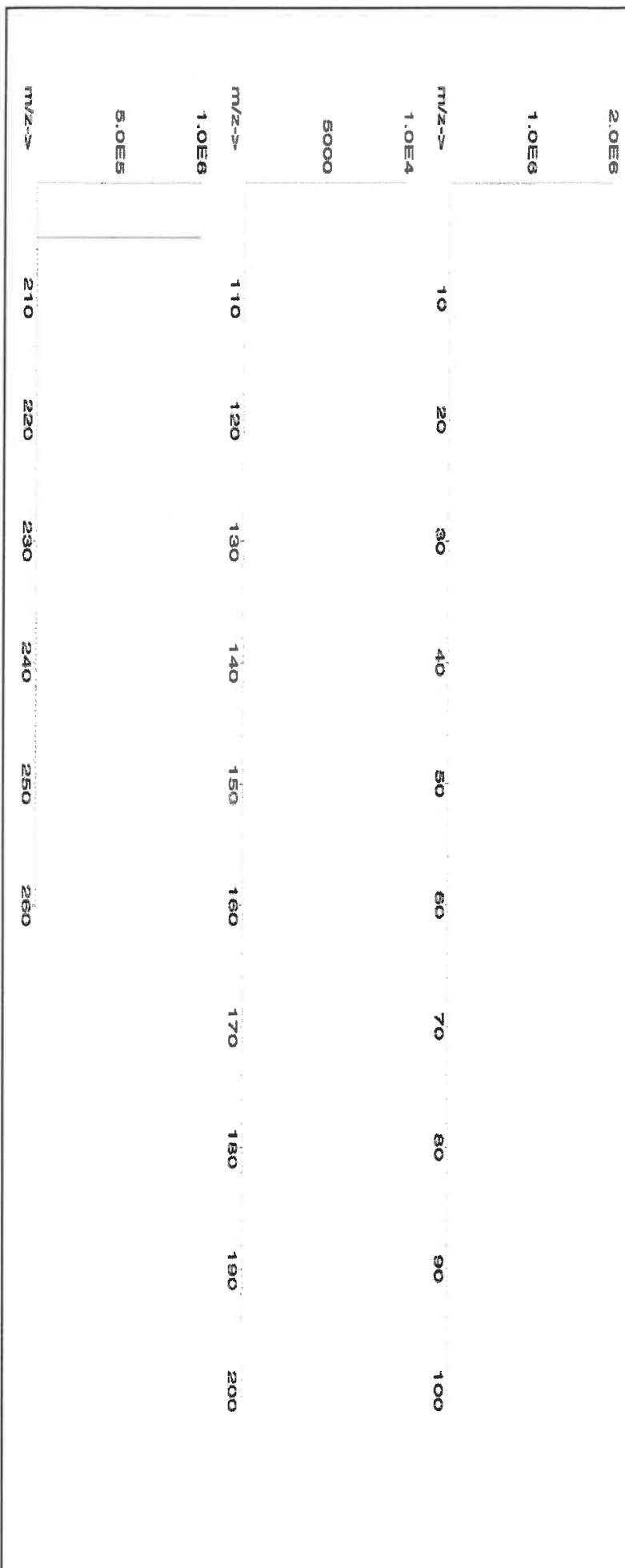
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Renteria</i>
	Pedro L. Renteria
	062724

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
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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



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://absolutestandards.com

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
Reviewed By:	Pedro L. Rantas
	062424

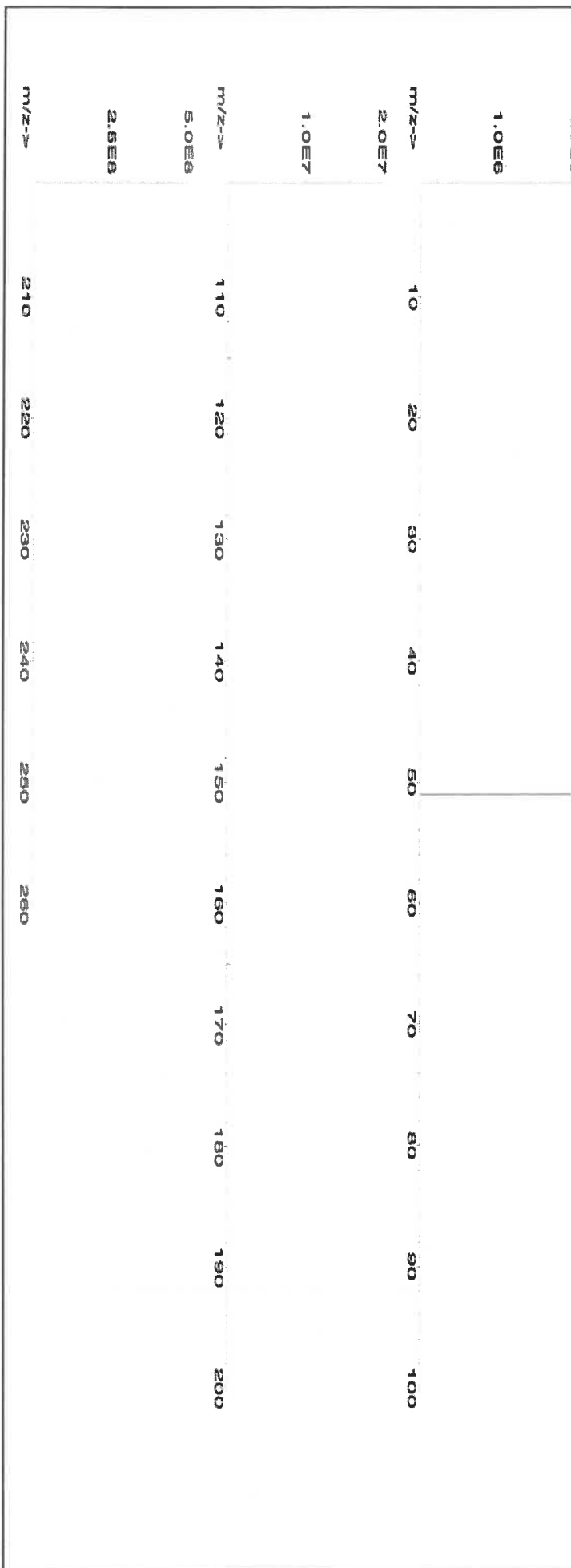
Expiration Date: 062427
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

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 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. 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			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
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CHEMTECH CHAIN OF CUSTODY RECORD		284 Sheffield Street, Mountainside, NJ 07092 (908) 789-8900 Fax: (908) 78-8922 www.chemtech.net		Chemtech Project Number: Q 3690																					
				COC Number:																					
CLIENT INFORMATION		PROJECT INFORMATION		BILLING INFORMATION																					
COMPANY: Tetra Tech		PROJECT NAME: NWIRP Bethpage		BILL TO: PO#																					
ADDRESS: 4433 Corporation Ln, Suite 300		PROJECT #: 112G08005-WE13 LOCATION: RW8		ADDRESS:																					
CITY: Virginia Beach STATE: VA ZIP: 23462		PROJECT MANAGER: Ernie Wu		CITY: STATE: ZIP:																					
ATTENTION: Ernie Wu		E-MAIL: ernie.wu@tetratech.com		ATTENTION: PHONE:																					
PHONE: 757-466-4901 FAX: 757-461-4148		PHONE: 757-466-4901 FAX: 757-461-4148																							
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;"> <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></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		1,4-Dioxane SW846 8270	1	2	3	4	5	6	7	8	9										
1,4-Dioxane SW846 8270	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-SP100-20251118	GW		11/18/25 13:05	4																				
2.	RW8-SP303-20251118	GW		11/18/25 13:13	4																				
3.																									
4.																									
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									

SPECIFICATIONS										COMMENTS	
										<-- Specify Preservatives	
										A-HCl B-HNO3	
										C-H2SO4 D-NaOH	
										E-ICE F-Other	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY									
RELINQUISHED BY SAMPLER		DATE/TIME		RECEIVED BY		Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp <u>2.3°C</u> MeOH extraction requires an additional 4oz. Jar for percent solid ☐ Ice in Cooler?: <u>y</u>			
1. <u>[Signature]</u>		11/19/25/1360		1. <u>[Signature]</u>		Comments: SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight CHEMTECH: ☐ Picked Up ☐ Overnight Shipment Complete ☐ YES ☐ NO			
RELINQUISHED BY		DATE/TIME		RECEIVED BY					
2. <u>Fed Ex</u>		11-20-25 0952		2. <u>[Signature]</u>					
RELINQUISHED BY		DATE/TIME		RECEIVED FOR LAB BY		Page _____ of _____			
3. _____				3. _____					

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

Laboratory Certification

Certified By	License No.
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255425
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	TX-C25-00189
Virginia	460312