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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 : Q2604

ATTENTION : Ernie Wu

Laboratory Certification ID # 20012

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Cover Page

Order ID : Q2604

Project ID : NWIRP Bethpage 112G08005-WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number	Client Sample Number
Q2604-01	RW8-SP100-20250711
Q2604-02	RW8-SP303-20250711

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

Signature : APPROVED
By Nimisha Pandya, QA/QC Supervisor at 1:42 pm, Jul 25, 2025

Date: 7/21/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Tetra Tech NUS, Inc.
Project Name: NWIRP Bethpage 112G08005-WE13
Project Manager : Ernie Wu
Order ID # Q2604
Test Name: Metals Group4

A. Number of Samples and Date of Receipt:
2 Water samples were received on 07/15/2025.

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

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

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met criteria for all compounds.
The Duplicate analysis met criteria for all compounds.
The Matrix Spike analysis met criteria for all compounds.
The Matrix Spike Duplicate (RW8-SP100-20250711MSD) analysis met criteria for all compounds except for Iron due to Chemical Interference during digestion Process.
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 

Alliance TECHNICAL GROUP
284 Sheffield Street, Mountainside NJ 07092
Tel. 908-789-8900 Fax: 908-789-8922

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

ALLIANCE 284 Sheffield Street, Mountainside New Jersey 07092
NEW JERSEY LAB ID#: 20012: NEW YORK LAB ID#: 11376

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q2604 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.			
	The Matrix Spike analysis met criteria for all compounds. The Matrix Spike Duplicate (RW8-SP100-20250711MSD) analysis met criteria for all compounds except for Iron due to Chemical Interference during digestion Process.			
7.	Sample Duplicate Analysis Met QC Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
8.	Digestion Holding Time Met			✓
	If not met, list number of days exceeded for each sample:			
9.	Analysis Holding Time Met			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			

ADDITIONAL COMMENTS:

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

QA REVIEW

REVIEWED
By Sohil Jodhani, QA/QC Director at 10:24 am, Jul 25, 2025

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q2604

	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 Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

QA Review Signature: SOHIL JODHANI **Date:** 07/21/2025

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LAB CHRONICLE

OrderID:	Q2604	**OrderDate:**	7/15/2025 10:29:00 AM
Client:	Tetra Tech NUS, Inc.	**Project:**	NWIRP Bethpage 112G08005-WE13
Contact:	Ernie Wu	**Location:**	O11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2604-01	**RW8-SP100-20250711**	**Water**			**07/11/25**			**07/15/25**
			Metals Group4	6010D		07/16/25	07/17/25	
Q2604-02	**RW8-SP303-20250711**	**Water**			**07/11/25**			**07/15/25**
			Metals Group4	6010D		07/16/25	07/17/25	

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Hit Summary Sheet
SW-846

SDG No.: Q2604 **Order ID:** Q2604

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-SP100-20250711									
Q2604-01	RW8-SP100-20250711	Water	Iron	770		11.7	40.0	50.0	ug/L
Client ID : RW8-SP303-20250711									
Q2604-02	RW8-SP303-20250711	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:	07/11/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	07/15/25
Client Sample ID:	RW8-SP100-20250711	SDG No.:	Q2604
Lab Sample ID:	Q2604-01	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	770	N	1	11.7	40.0	50.0	ug/L	07/16/25 10:05	07/17/25 18:07	6010D	SW3010

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

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

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

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	07/11/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	07/15/25
Client Sample ID:	RW8-SP303-20250711	SDG No.:	Q2604
Lab Sample ID:	Q2604-02	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	N	1	11.7	40.0	50.0	ug/L	07/16/25 10:05	07/17/25 17:30	6010D	SW3010

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

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

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

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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	4310	4000	108	90 - 110	P	07/17/2025	13:30	LB136533

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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	110	100	110	80 - 120	P	07/17/2025	13:37	LB136533

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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	5040	5000	101	90 - 110	P	07/17/2025	14:20	LB136533
CCV02	Iron	5080	5000	102	90 - 110	P	07/17/2025	14:58	LB136533
CCV03	Iron	5030	5000	101	90 - 110	P	07/17/2025	15:50	LB136533
CCV04	Iron	5040	5000	101	90 - 110	P	07/17/2025	16:42	LB136533
CCV05	Iron	4970	5000	99	90 - 110	P	07/17/2025	17:58	LB136533
CCV06	Iron	4770	5000	95	90 - 110	P	07/17/2025	19:24	LB136533
CCV07	Iron	4890	5000	98	90 - 110	P	07/17/2025	20:16	LB136533

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Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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	103	100	103	65 - 135	P	07/17/2025	13:46	LB136533

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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	07/17/2025	13:41	LB136533

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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	07/17/2025	14:25	LB136533
CCB02	Iron	23.4	+/-50	U	80.0	100	P	07/17/2025	15:02	LB136533
CCB03	Iron	23.4	+/-50	U	80.0	100	P	07/17/2025	15:56	LB136533
CCB04	Iron	23.4	+/-50	U	80.0	100	P	07/17/2025	16:46	LB136533
CCB05	Iron	23.4	+/-50	U	80.0	100	P	07/17/2025	18:02	LB136533
CCB06	Iron	23.4	+/-50	U	80.0	100	P	07/17/2025	19:28	LB136533
CCB07	Iron	23.4	+/-50	U	80.0	100	P	07/17/2025	20:20	LB136533

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168883BL		**WATER**		**Batch Number:**		**PB168883**		**Prep Date:**	**07/16/2025**	
	Iron	18.0	<25	U	37.5	50.0	P	07/17/2025	17:22	LB136533

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Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

Contract: TETR06 **Lab Code:** ACE

ICS Source: EPA **Instrument ID:** P4

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	98300	101000	97	85600	116500	07/17/2025	13:51	LB136533
ICSAB01	Iron	97600	99300	98	84400	114500	07/17/2025	13:56	LB136533

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q2604

contract: TETR06 **lab code:** ACE

matrix: Water **sample id:** Q2604-01 **client id:** RW8-SP100-20250711MS

Percent Solids for Sample: NA **Spiked ID:** Q2604-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	ug/L	87 - 115	2260		770		1500	99		P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q2604

contract: TETR06 **lab code:** ACE

matrix: Water **sample id:** Q2604-01 **client id:** RW8-SP100-20250711MSD

Percent Solids for Sample: NA **Spiked ID:** Q2604-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	ug/L	87 - 115	2540		770		1500	118	N	P

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Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

Contract: TETR06 **Lab Code:** ACE

Matrix: Water **Level:** LOW **Client ID:** RW8-SP100-20250711A

Sample ID: Q2604-01 **Spiked ID:** Q2604-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	ug/L	87 - 115	2170		770		1500	93		P

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2604

Contract: TETR06 **Lab Code:** ACE

Matrix: Water **Sample ID:** Q2604-01 **Client ID:** RW8-SP100-20250711DUP

Percent Solids for Sample: NA **Duplicate ID** Q2604-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	770		736		5		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q2604

Contract: TETR06 **Lab Code:** ACE

Matrix: Water **Sample ID:** Q2604-01MS **Client ID:** RW8-SP100-20250711MSD

Percent Solids for Sample: NA **Duplicate ID** Q2604-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	2260		2540		12		P

"A control limit of ±20% RPD for each matrix applies for sample values greater than 10 times Detection Limit"

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

Contract: TETR06 **Lab Code:** ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168883BS							
Iron	ug/L	1500	1460		97	87 - 115	P

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Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

RW8-SP100-20250711L

Lab Name: Alliance **Contract:** TETR06

Lab Code: ACE **Lb No.:** lb136533 **Lab Sample ID :** Q2604-01L **SDG No.:** Q2604

Matrix (soil/water): Water **Level (low/med):** LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Iron	770		762		1		P

METAL PREPARATION & INSTRUMENT DATA

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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: Na	Ni	Pb	Sb	Se
Iron	240.488	0.0000000	-0.0017000	0.0000000	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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

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

Metals
- 13 -
SAMPLE PREPARATION SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q2604

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:	**PB168883**						
PB168883BL	PB168883BL	MB	WATER	07/16/2025	50.0	25.0	
PB168883BS	PB168883BS	LCS	WATER	07/16/2025	50.0	25.0	
Q2604-01	RW8-SP100-20250711	SAM	WATER	07/16/2025	50.0	25.0	
Q2604-01DUP	RW8-SP100-20250711DUP	DUP	WATER	07/16/2025	50.0	25.0	
Q2604-01MS	RW8-SP100-20250711MS	MS	WATER	07/16/2025	50.0	25.0	
Q2604-01MSD	RW8-SP100-20250711MSD	MSD	WATER	07/16/2025	50.0	25.0	
Q2604-02	RW8-SP303-20250711	SAM	WATER	07/16/2025	50.0	25.0	

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

metals
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ANALYSIS RUN LOG

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

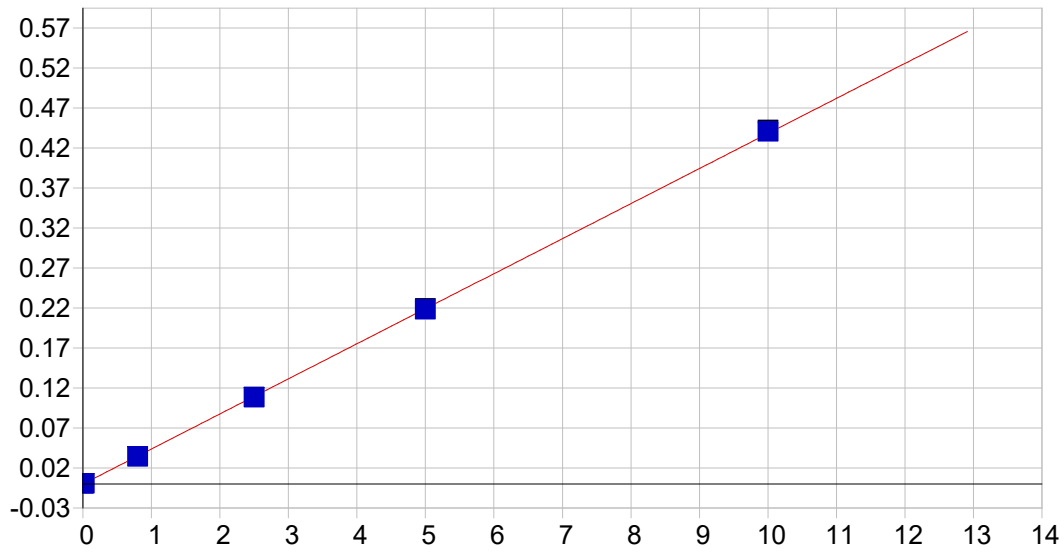
Lab code: ACE **Sdg no.:** Q2604

Instrument id number: **Method:** **Run number:** LB136533

Start date: 07/17/2025 **End date:** 07/17/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1305	Fe
S1	S1	1	1309	Fe
S2	S2	1	1313	Fe
S3	S3	1	1318	Fe
S4	S4	1	1322	Fe
S5	S5	1	1326	Fe
ICV01	ICV01	1	1330	Fe
LLICV01	LLICV01	1	1337	Fe
ICB01	ICB01	1	1341	Fe
CRI01	CRI01	1	1346	Fe
ICSA01	ICSA01	1	1351	Fe
ICSAB01	ICSAB01	1	1356	Fe
CCV01	CCV01	1	1420	Fe
CCB01	CCB01	1	1425	Fe
CCV02	CCV02	1	1458	Fe
CCB02	CCB02	1	1502	Fe
CCV03	CCV03	1	1550	Fe
CCB03	CCB03	1	1556	Fe
CCV04	CCV04	1	1642	Fe
CCB04	CCB04	1	1646	Fe
PB168883BL	PB168883BL	1	1722	Fe
PB168883BS	PB168883BS	1	1726	Fe
Q2604-02	RW8-SP303-20250711	1	1730	Fe
CCV05	CCV05	1	1758	Fe
CCB05	CCB05	1	1802	Fe
Q2604-01	RW8-SP100-20250711	1	1807	Fe
Q2604-01DUP	RW8-SP100-20250711DUP	1	1811	Fe
Q2604-01L	RW8-SP100-20250711L	5	1815	Fe
Q2604-01MS	RW8-SP100-20250711MS	1	1820	Fe
Q2604-01MSD	RW8-SP100-20250711MSD	1	1824	Fe
Q2604-01A	RW8-SP100-20250711A	1	1828	Fe
CCV06	CCV06	1	1924	Fe
CCB06	CCB06	1	1928	Fe
CCV07	CCV07	1	2016	Fe
CCB07	CCB07	1	2020	Fe

METAL
RAW DATA

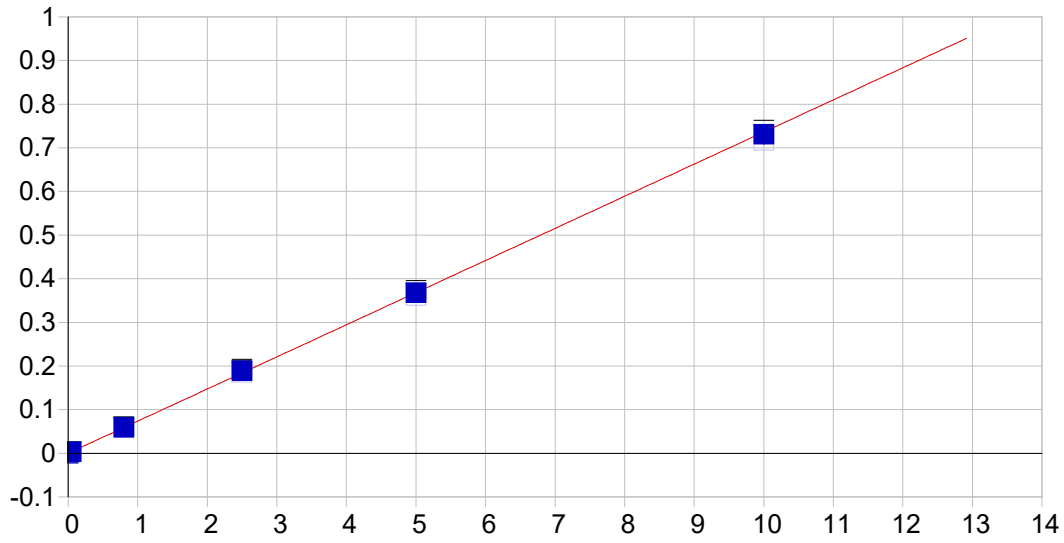


As 189.042 {479}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.043828	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.002702		
Predicted MQL:	0.009007		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00001	.000	1
S1	.02000	.02088	.001	4.40	.00090	.000	1
S3	2.5000	2.4734	-.027	-1.06	.10828	.000	1
S4	5.0000	4.9806	-.019	-.388	.21805	.001	1
S5	10.000	10.063	.063	.627	.44055	.001	1
S2	.80000	.78242	-.018	-2.20	.03425	.000	1

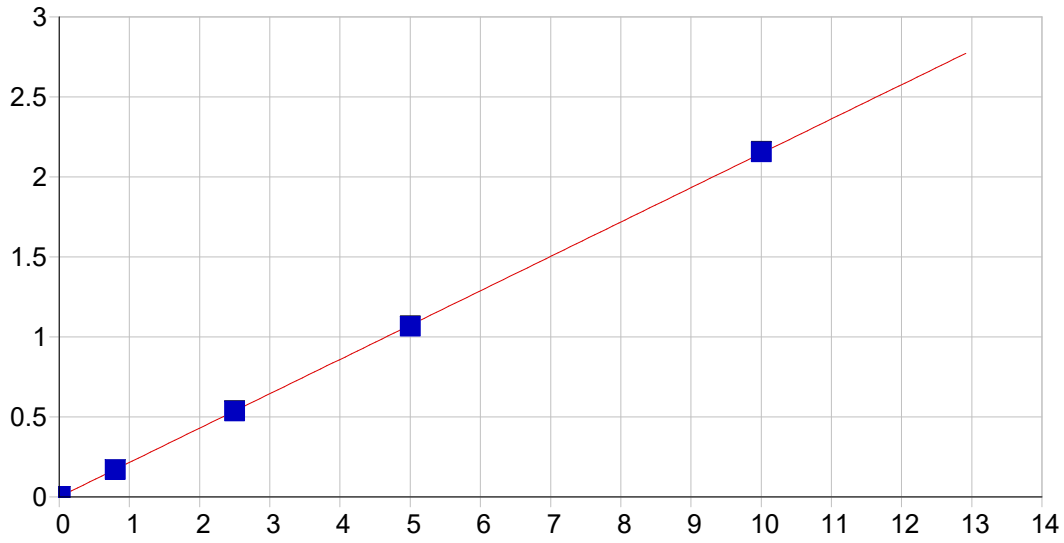


Tl 190.856 {477}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000060	Re-Slope:	1.000000
A1 (Gain):	0.073617	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999933	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	0.001981		
Predicted MQL:	0.006603		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00006	.000	1
S1	.04000	.04107	.001	2.67	.00289	.000	1
S3	2.5000	2.5664	.066	2.66	.18561	.004	1
S4	5.0000	5.0011	.001	.022	.36146	.005	1
S5	10.000	9.9259	-.074	-.741	.71724	.009	1
S2	.80000	.80556	.006	.695	.05828	.001	1

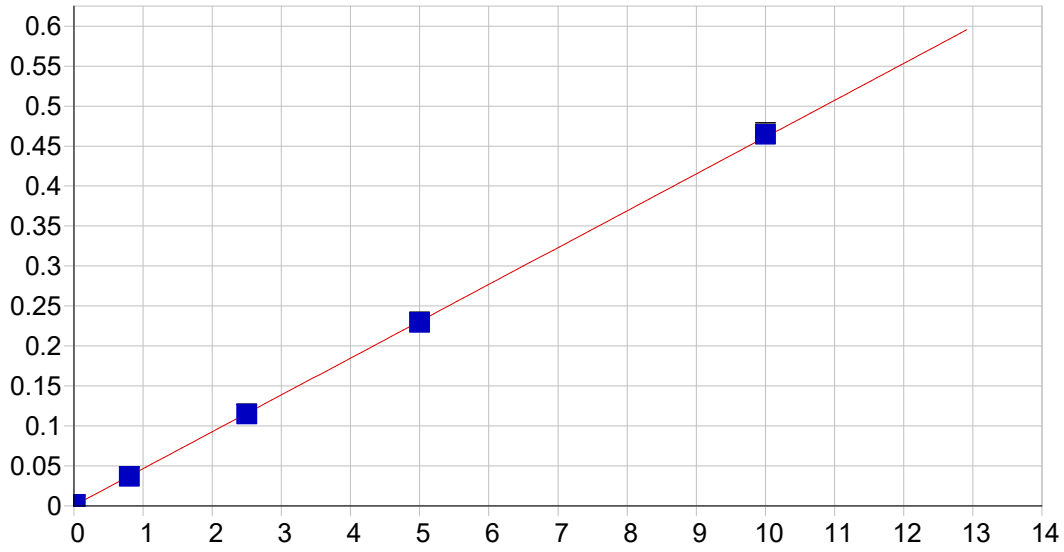


Pb 220.353 {453}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000518	Re-Slope:	1.000000
A1 (Gain):	0.214653	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.001402		
Predicted MQL:	0.004674		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00052	.000	1
S1	.01200	.01089	-.001	-9.26	.00281	.000	1
S3	2.5000	2.4974	-.003	-.106	.53603	.001	1
S4	5.0000	4.9683	-.032	-.633	1.0659	.002	1
S5	10.000	10.045	.045	.448	2.1545	.003	1
S2	.80000	.79057	-.009	-1.18	.17004	.001	1

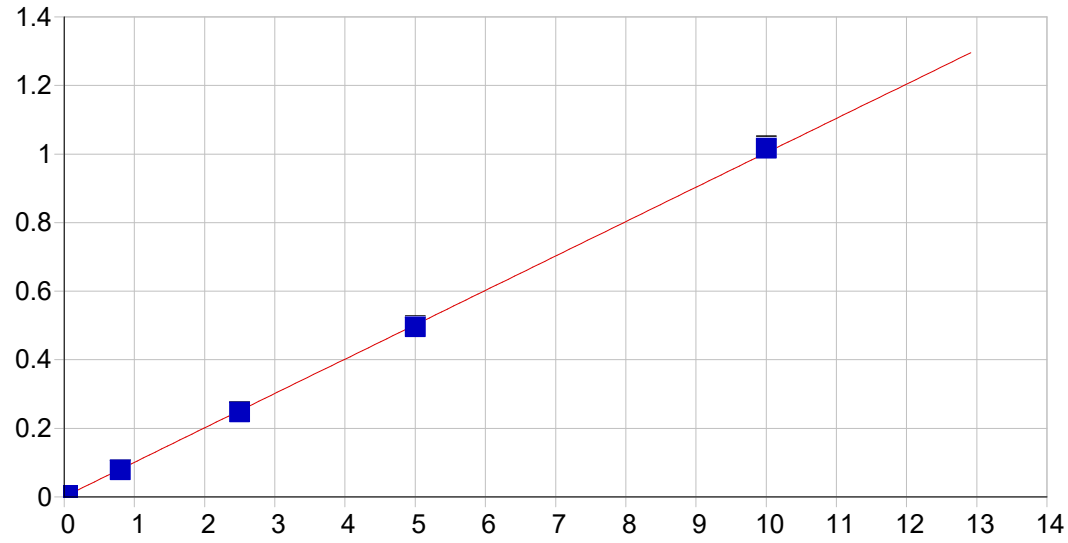


Se 196.090 {472}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000618	Re-Slope:	1.000000
A1 (Gain):	0.046056	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.004223		
Predicted MQL:	0.014078		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00062	.000	1
S1	.02000	.01860	-.001	-7.02	.00147	.000	1
S3	2.5000	2.4761	-.024	-.957	.11460	.000	1
S4	5.0000	4.9661	-.034	-.678	.22923	.001	1
S5	10.000	10.076	.076	.759	.46445	.002	1
S2	.80000	.78328	-.017	-2.09	.03668	.000	1

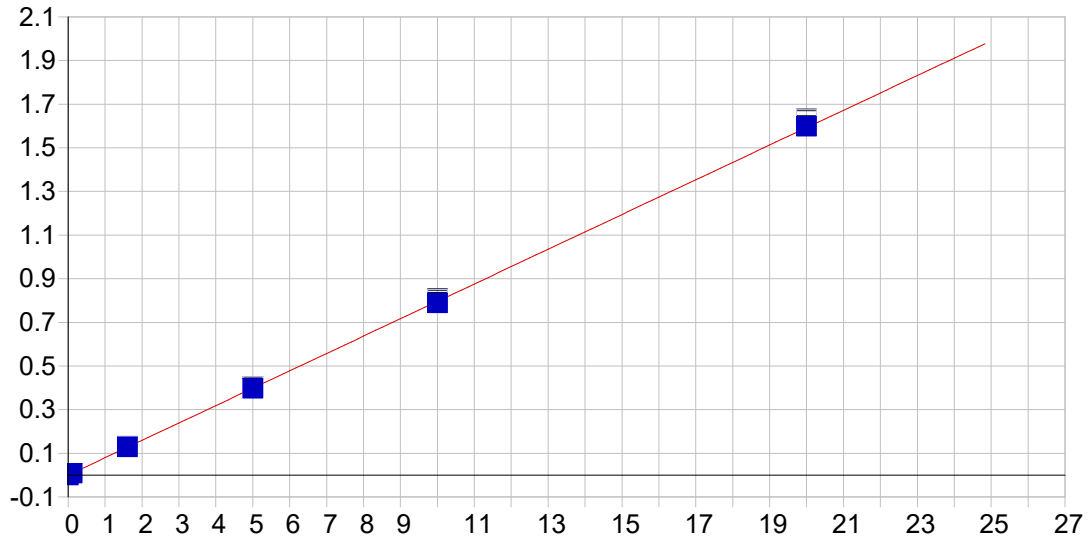


Sb 206.833 {463}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000709	Re-Slope:	1.000000
A1 (Gain):	0.100276	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999892	Status:	OK.
Std Error of Est:	0.000055		
Predicted MDL:	0.001998		
Predicted MQL:	0.006659		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00071	.000	1
S1	.05000	.04921	-.001	-1.58	.00565	.000	1
S3	2.5000	2.4550	-.045	-1.80	.24757	.001	1
S4	5.0000	4.9363	-.064	-1.27	.49707	.002	1
S5	10.000	10.132	.132	1.32	1.0194	.004	1
S2	.80000	.77766	-.022	-2.79	.07891	.000	1

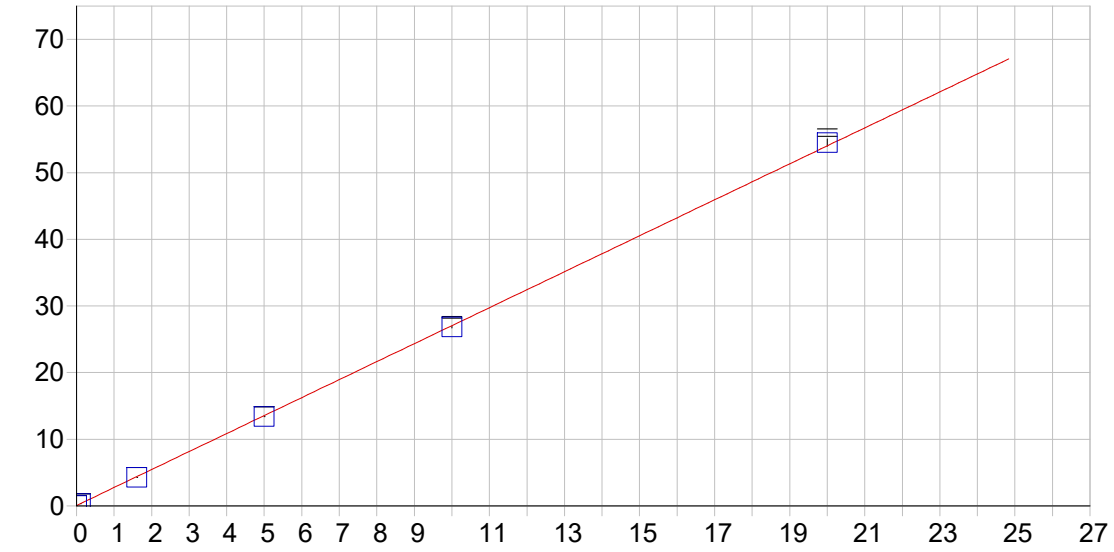


Al 396.152 { 85}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000106	Re-Slope:	1.000000
A1 (Gain):	0.079613	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999972	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.012251		
Predicted MQL:	0.040836		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00011	.000	1
S1	.10000	.10988	.010	9.88	.00947	.000	1
S3	5.0000	4.9950	-.005	-.100	.40550	.001	1
S4	10.000	9.9117	-.088	-.883	.80465	.003	1
S5	20.000	20.068	.068	.339	1.6287	.004	1
S2	1.6000	1.6151	.015	.941	.13116	.000	1

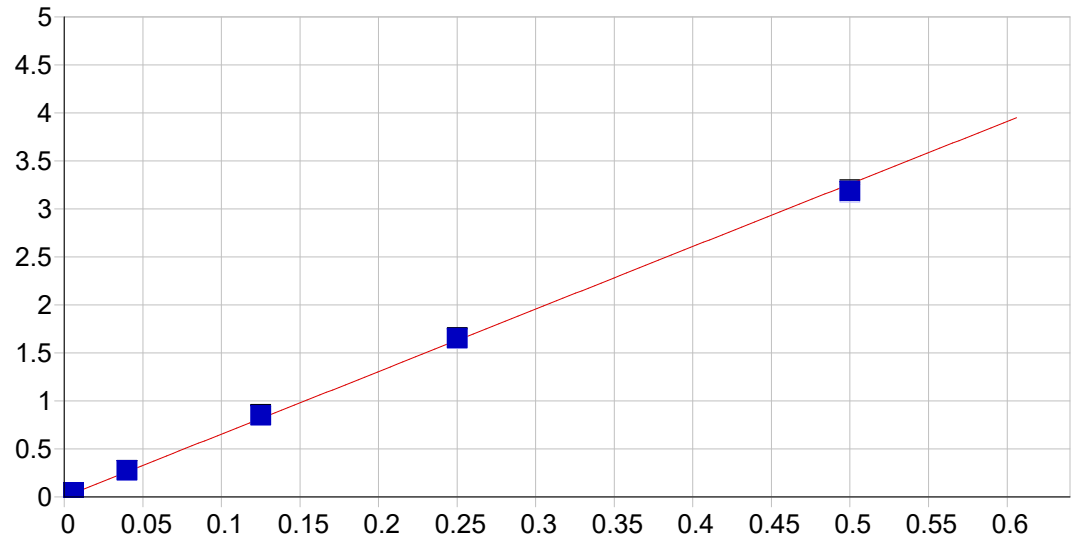


Ba 493.409 { 68}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.065088	Re-Slope:	1.000000
A1 (Gain):	2.698016	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999943	Status:	OK.
Std Error of Est:	0.002130		
Predicted MDL:	0.000851		
Predicted MQL:	0.002836		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.06509	.000	1
S1	.10000	.10185	.002	1.85	.33987	.001	1
S3	5.0000	4.9368	-.063	-1.26	13.385	.006	1
S4	10.000	9.9168	-.083	-.832	26.821	.106	1
S5	20.000	20.184	.184	.918	54.521	.562	1
S2	1.6000	1.5610	-.039	-2.44	4.2767	.014	1

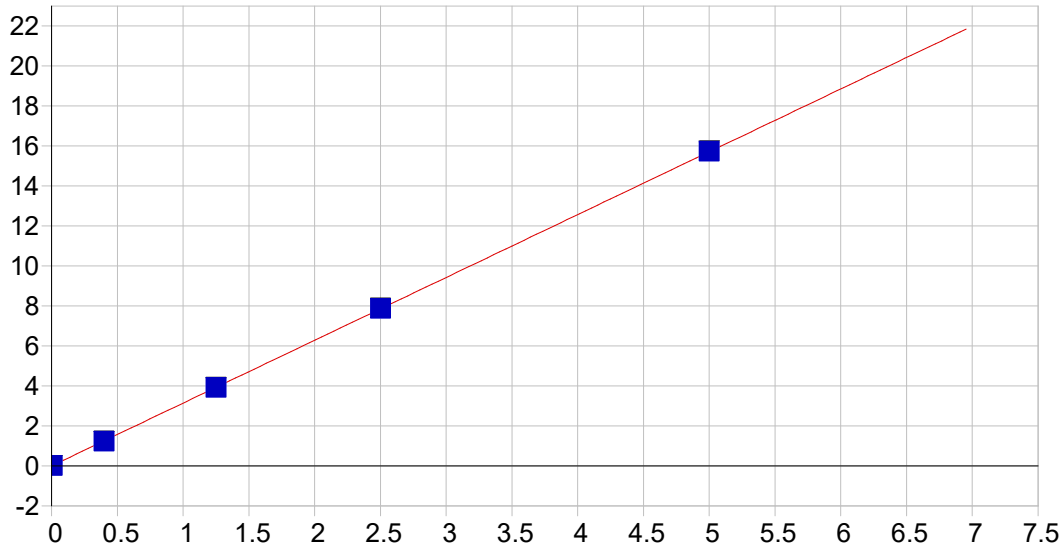


Be 234.861 {144}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002014	Re-Slope:	1.000000
A1 (Gain):	6.515656	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999604	Status:	OK.
Std Error of Est:	0.000525		
Predicted MDL:	0.000080		
Predicted MQL:	0.000265		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00201	.000	1
S1	.00600	.00678	.001	12.9	.04587	.001	1
S3	.12500	.13011	.005	4.09	.84612	.009	1
S4	.25000	.25363	.004	1.45	1.6473	.005	1
S5	.50000	.48852	-.011	-2.30	3.1704	.016	1
S2	.04000	.04198	.002	4.94	.27435	.001	1

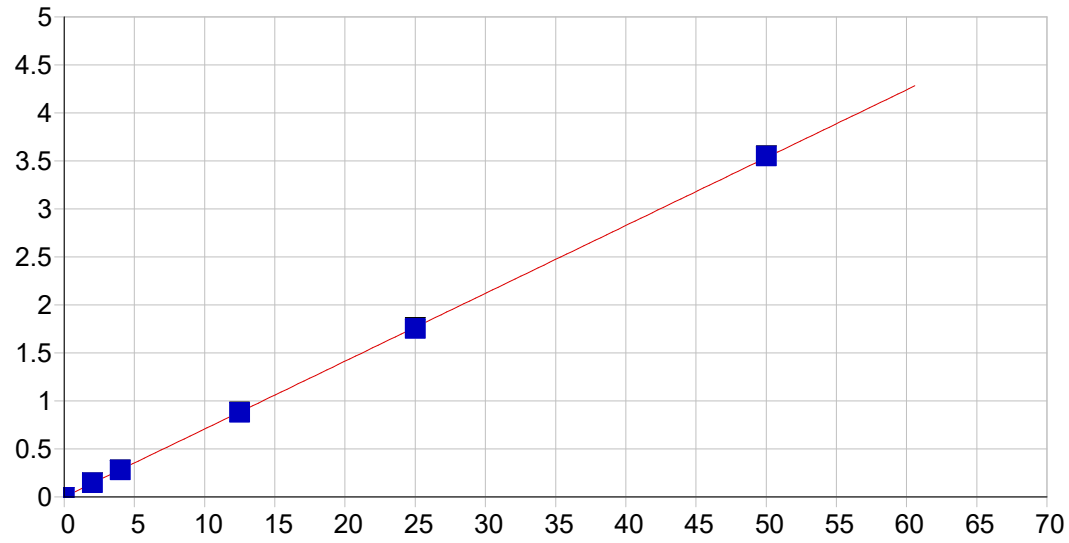


Cd 226.502 {449}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000645	Re-Slope:	1.000000
A1 (Gain):	3.142462	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000138		
Predicted MDL:	0.000081		
Predicted MQL:	0.000270		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00064	.000	1
S1	.00600	.00603	.000	.428	.01836	.000	1
S3	1.2500	1.2478	-.002	-.180	3.9231	.009	1
S4	2.5000	2.5040	.004	.160	7.8736	.015	1
S5	5.0000	5.0070	.007	.140	15.745	.027	1
S2	.40000	.39121	-.009	-2.20	1.2296	.002	1

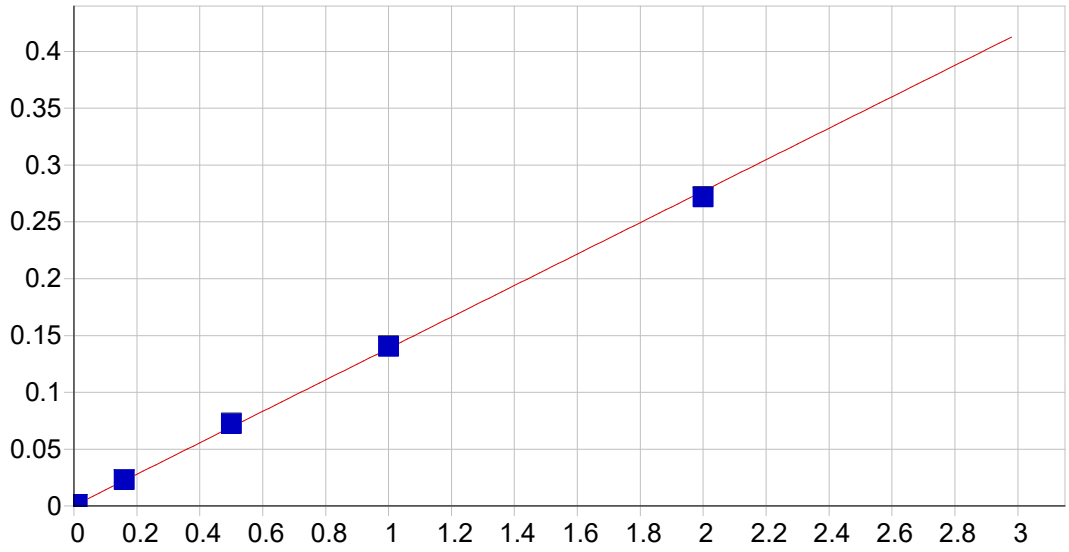


Ca 373.690 { 90}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000717	Re-Slope:	1.000000
A1 (Gain):	0.070654	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999971	Status:	OK.
Std Error of Est:	0.000284		
Predicted MDL:	0.011292		
Predicted MQL:	0.037641		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00072	.000	1
S2	4.0000	3.9348	-.065	-1.63	.27873	.001	1
S3	12.500	12.448	-.052	-.419	.88020	.002	1
S4	25.000	24.817	-.183	-.733	1.7541	.008	1
S5	50.000	50.245	.245	.489	3.5507	.003	1
S1	2.0000	2.0561	.056	2.80	.14599	.000	1

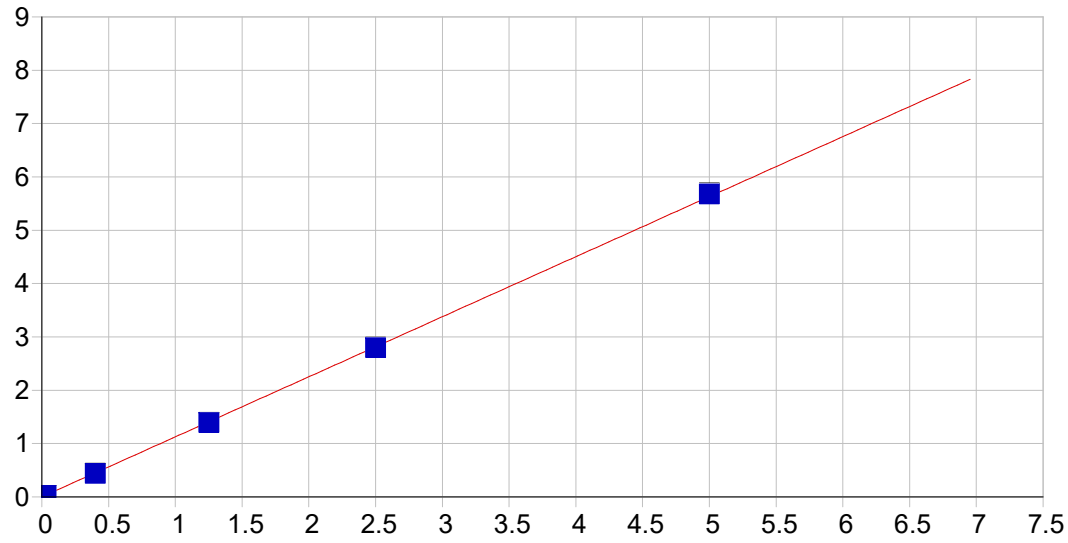


Cr 267.716 {126}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000189	Re-Slope:	1.000000
A1 (Gain):	0.138440	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999728	Status:	OK.
Std Error of Est:	0.000024		
Predicted MDL:	0.000523		
Predicted MQL:	0.001742		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00019	.000	1
S1	.01000	.01061	.001	6.05	.00166	.000	1
S3	.50000	.52166	.022	4.33	.07244	.000	1
S4	1.0000	1.0118	.012	1.18	.14031	.000	1
S5	2.0000	1.9613	-.039	-1.93	.27183	.001	1
S2	.16000	.16466	.005	2.91	.02299	.000	1

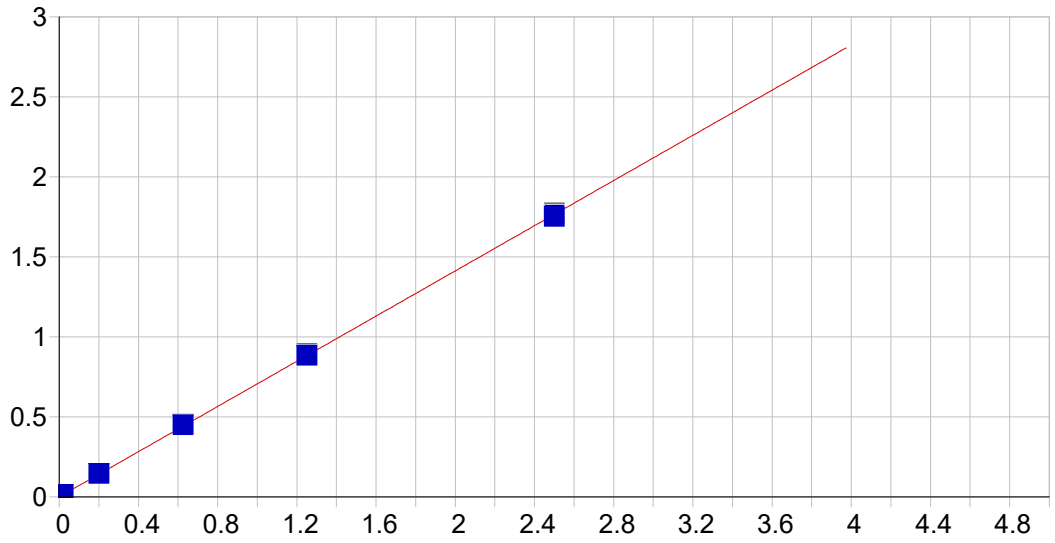


Co 228.616 {448}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000228	Re-Slope:	1.000000
A1 (Gain):	1.125930	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	0.000222		
Predicted MDL:	0.000204		
Predicted MQL:	0.000681		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00023	.000	1
S1	.03000	.03023	.000	.782	.03413	.000	1
S3	1.2500	1.2352	-.015	-1.19	1.3933	.002	1
S4	2.5000	2.4835	-.017	-.661	2.8012	.006	1
S5	5.0000	5.0409	.041	.819	5.6855	.014	1
S2	.40000	.39018	-.010	-2.46	.44031	.001	1

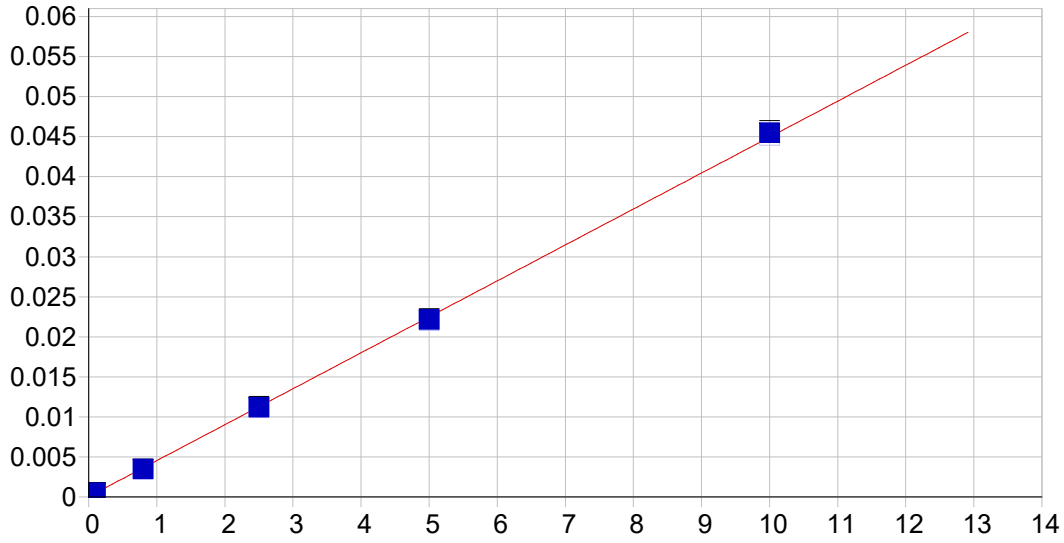


Cu 224.700 {450}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000598	Re-Slope:	1.000000
A1 (Gain):	0.706062	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999929	Status:	OK.
Std Error of Est:	0.000099		
Predicted MDL:	0.000431		
Predicted MQL:	0.001436		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00060	.000	1
S1	.02000	.02213	.002	10.6	.01638	.000	1
S3	.62500	.63509	.010	1.61	.45269	.001	1
S4	1.2500	1.2516	.002	.125	.89164	.003	1
S5	2.5000	2.4812	-.019	-.754	1.7672	.007	1
S2	.20000	.20506	.005	2.53	.14656	.000	1

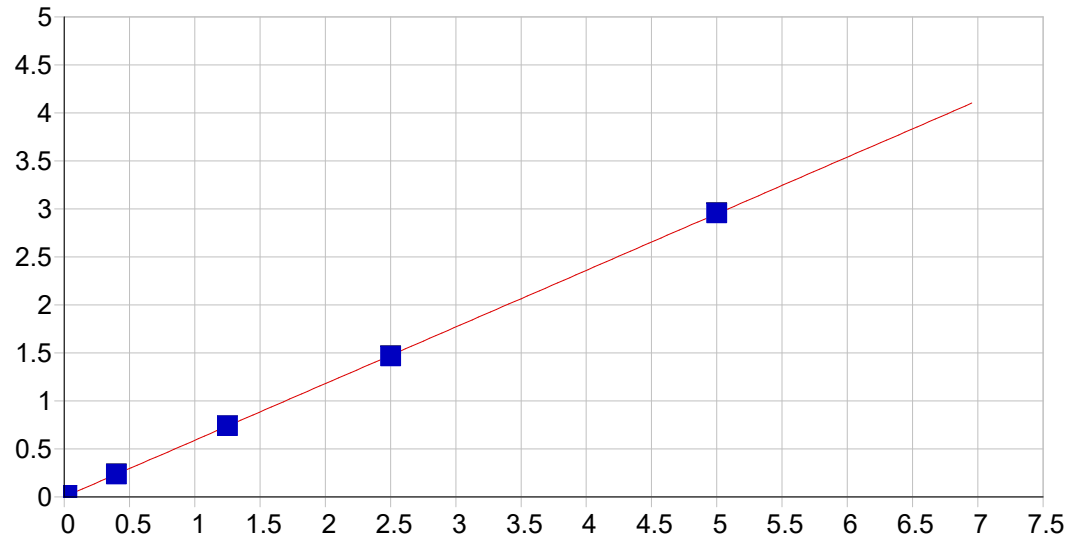


Fe 240.488 {140}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.004490	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999870	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.006090		
Predicted MQL:	0.020300		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00004	.000	1
S1	.10000	.10337	.003	3.37	.00050	.000	1
S3	2.5000	2.4851	-.015	-.594	.01110	.000	1
S4	5.0000	4.9256	-.074	-1.49	.02197	.000	1
S5	10.000	10.124	.124	1.24	.04512	.000	1
S2	.80000	.76153	-.038	-4.81	.00343	.000	1

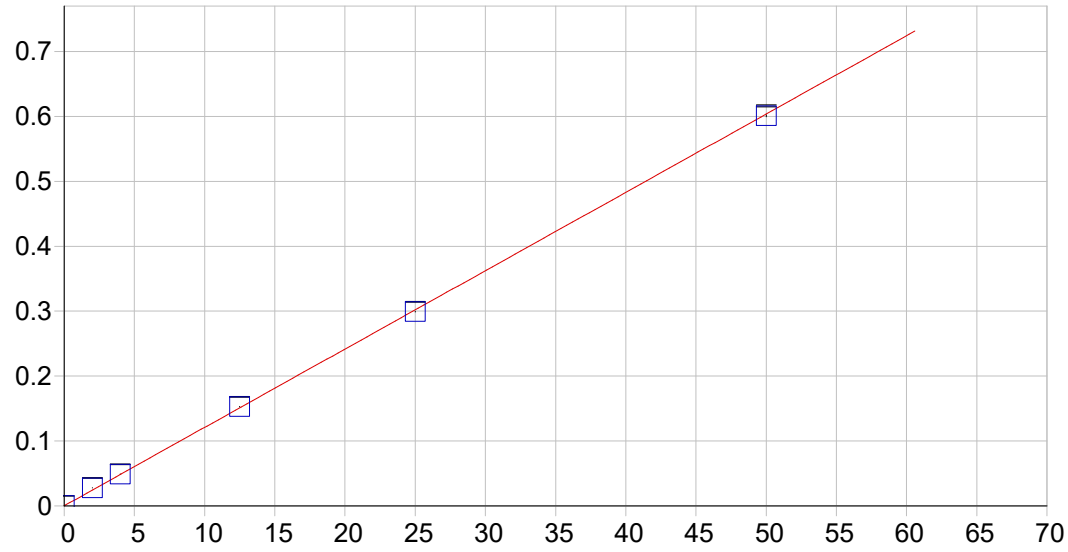


Mn 257.610 {131}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000266	Re-Slope:	1.000000
A1 (Gain):	0.589850	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000053		
Predicted MDL:	0.000531		
Predicted MQL:	0.001770		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00026	.000	1
S1	.02000	.02155	.002	7.77	.01298	.001	1
S3	1.2500	1.2524	.002	.189	.73912	.001	1
S4	2.5000	2.4833	-.017	-.666	1.4654	.003	1
S5	5.0000	5.0134	.013	.267	2.9580	.003	1
S2	.40000	.39938	-.001	-.156	.23589	.001	1

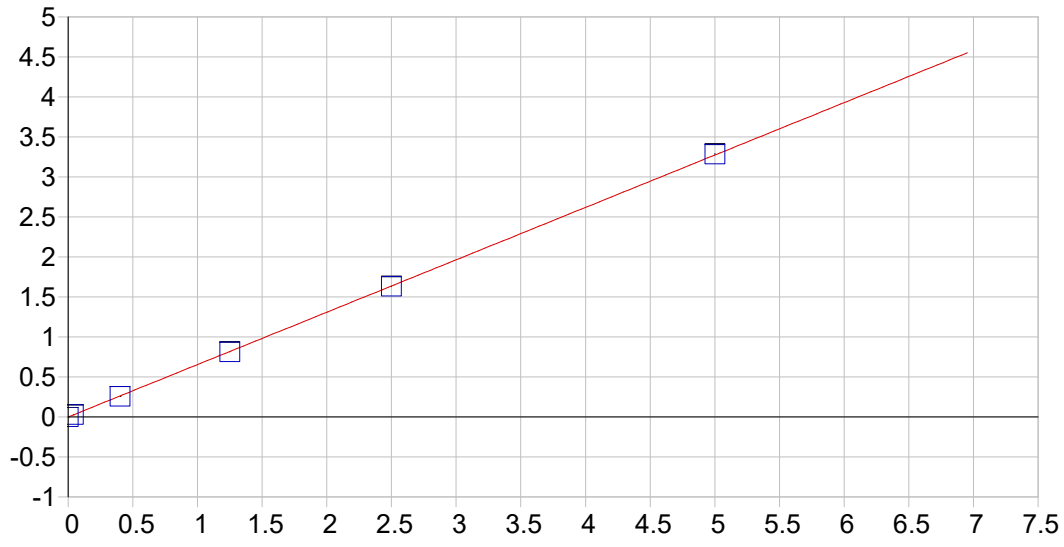


Mg 279.079 {121}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000289	Re-Slope:	1.000000
A1 (Gain):	0.012068	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999770	Status:	OK.
Std Error of Est:	0.000137		
Predicted MDL:	0.029726		
Predicted MQL:	0.099086		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00029	-.000	.000	.00029	.000	1
S2	4.0000	4.0392	.039	.980	.04903	.000	1
S3	12.500	12.641	.141	1.13	.15283	.000	1
S4	25.000	24.781	-.219	-.875	.29934	.001	1
S5	50.000	49.763	-.237	-.474	.60080	.001	1
S1	2.0000	2.2756	.276	13.8	.02775	.000	1

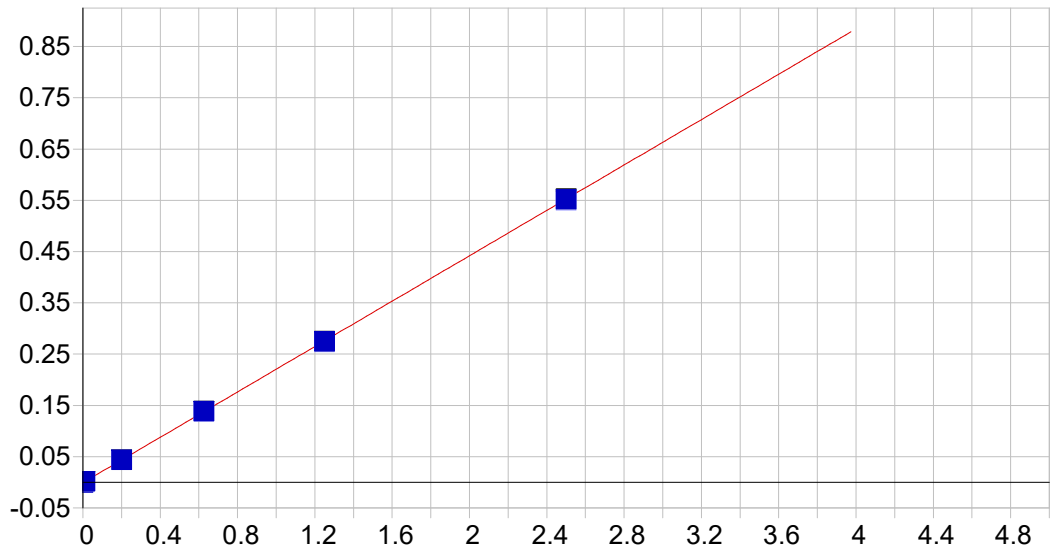


Ni 231.604 {446}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000659	Re-Slope:	1.000000
A1 (Gain):	0.654771	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000092		
Predicted MDL:	0.000374		
Predicted MQL:	0.001247		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00066	.000	1
S1	.04000	.04143	.001	3.58	.02647	.000	1
S3	1.2500	1.2441	-.006	-.469	.81397	.001	1
S4	2.5000	2.4933	-.007	-.269	1.6319	.003	1
S5	5.0000	5.0192	.019	.384	3.2858	.006	1
S2	.40000	.39195	-.008	-2.01	.25598	.001	1

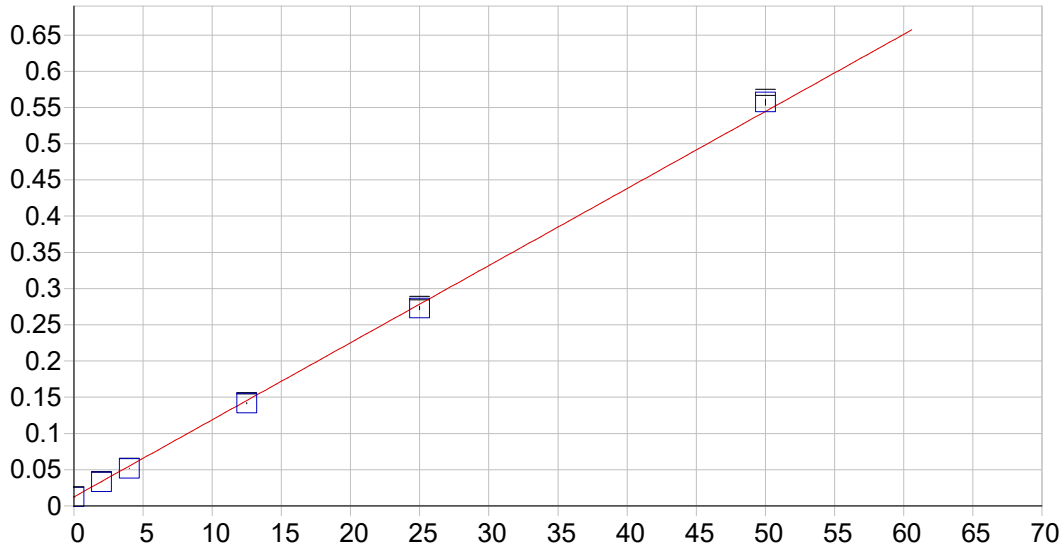


Ag 328.068 {103}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000859	Re-Slope:	1.000000
A1 (Gain):	0.221345	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.000574		
Predicted MQL:	0.001913		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00086	.000	1
S1	.01000	.01100	.001	10.0	.00156	.000	1
S3	.62500	.62978	.005	.764	.13787	.000	1
S4	1.2500	1.2452	-.005	-.383	.27342	.001	1
S5	2.5000	2.4975	-.002	-.099	.54927	.001	1
S2	.20000	.20149	.001	.744	.04352	.000	1

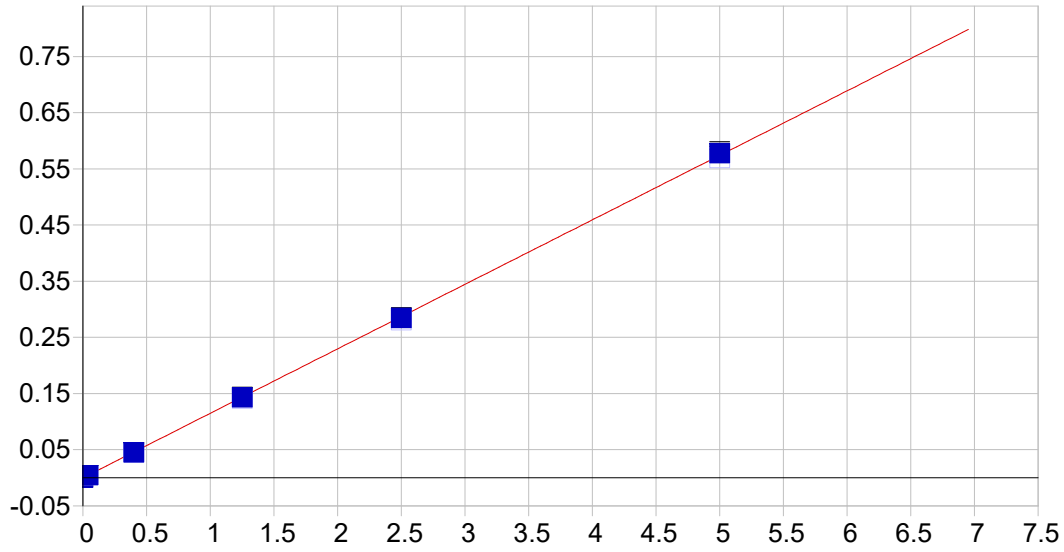


Na 589.592 { 57}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.012484	Re-Slope:	1.000000
A1 (Gain):	0.010640	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999610	Status:	OK.
Std Error of Est:	0.000157		
Predicted MDL:	0.016743		
Predicted MQL:	0.055811		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00025	.000	.000	.01249	.000	1
S2	4.0000	3.7021	-.298	-7.45	.05188	.000	1
S3	12.500	12.148	-.352	-2.81	.14175	.001	1
S4	25.000	24.491	-.509	-2.04	.27308	.002	1
S5	50.000	51.208	1.21	2.42	.55736	.004	1
S1	2.0000	1.9500	-.050	-2.50	.03323	.000	1

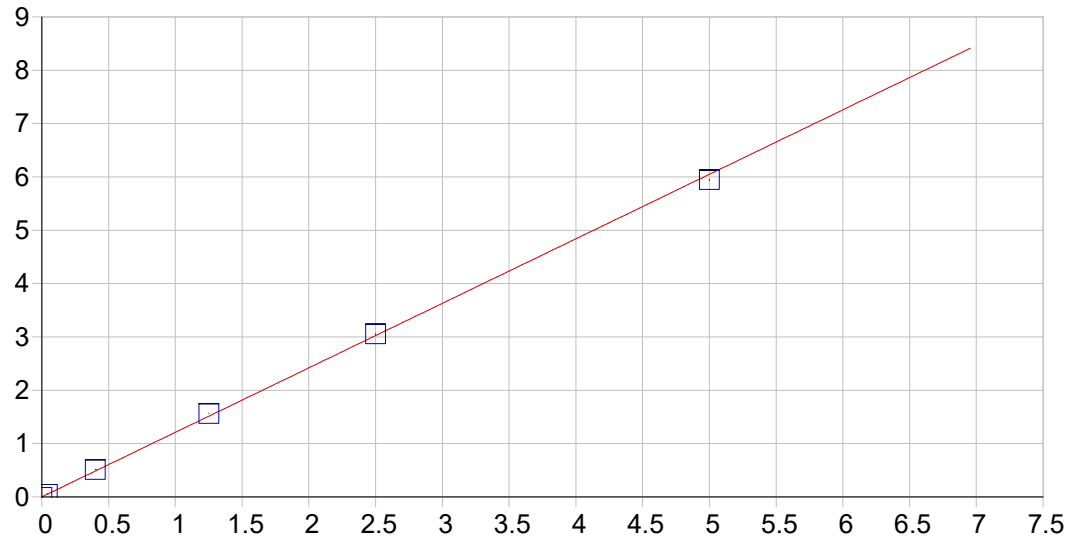


V 292.402 {115}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000034	Re-Slope:	1.000000
A1 (Gain):	0.114833	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999969	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.003442		
Predicted MQL:	0.011473		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00003	.000	1
S1	.04000	.03979	-.000	-.524	.00443	.000	1
S3	1.2500	1.2468	-.003	-.256	.14111	.001	1
S4	2.5000	2.4785	-.021	-.858	.28047	.000	1
S5	5.0000	5.0324	.032	.648	.56955	.003	1
S2	.40000	.39246	-.008	-1.89	.04443	.000	1

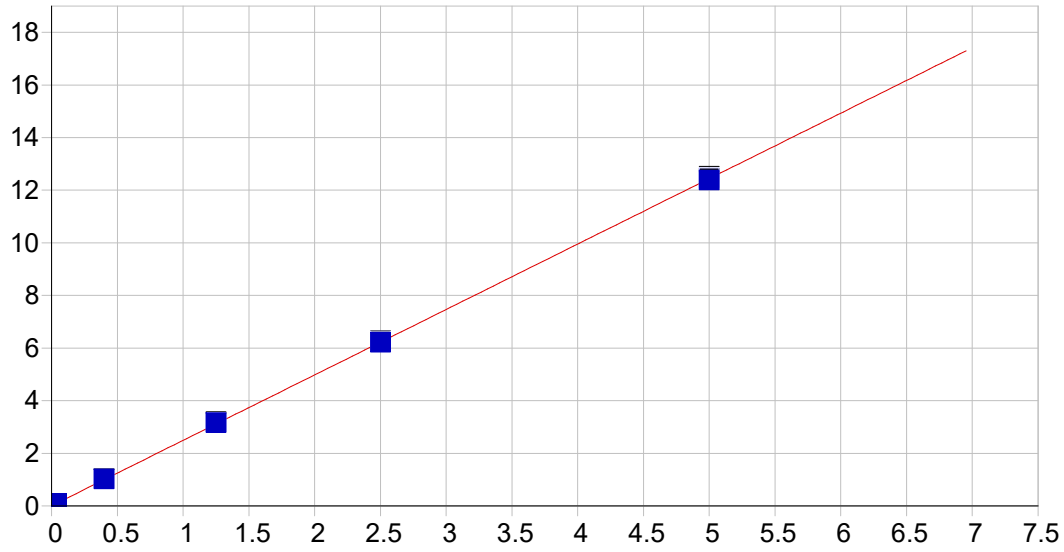


Zn 206.200 {464}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001259	Re-Slope:	1.000000
A1 (Gain):	1.209460	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999766	Status:	OK.
Std Error of Est:	0.000614		
Predicted MDL:	0.000151		
Predicted MQL:	0.000502		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00125	.000	1
S1	.04000	.04405	.004	10.1	.05454	.000	1
S3	1.2500	1.2912	.041	3.30	1.5630	.004	1
S4	2.5000	2.5219	.022	.876	3.0514	.006	1
S5	5.0000	4.9142	-.086	-1.72	5.9448	.010	1
S2	.40000	.41858	.019	4.65	.50752	.000	1

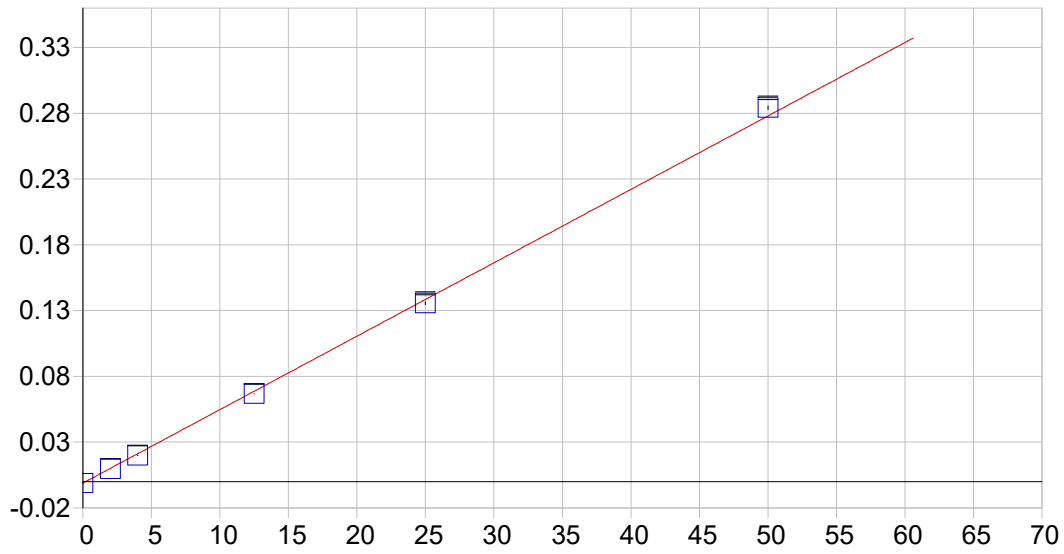


Zn 213.856 {158}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003747	Re-Slope:	1.000000
A1 (Gain):	2.487584	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999964	Status:	OK.
Std Error of Est:	0.000499		
Predicted MDL:	0.000241		
Predicted MQL:	0.000805		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00374	.001	1
S1	.04000	.04244	.002	6.10	.11002	.000	1
S3	1.2500	1.2680	.018	1.44	3.1797	.015	1
S4	2.5000	2.4970	-.003	-.120	6.2585	.015	1
S5	5.0000	4.9752	-.025	-.496	12.466	.060	1
S2	.40000	.40735	.007	1.84	1.0240	.004	1

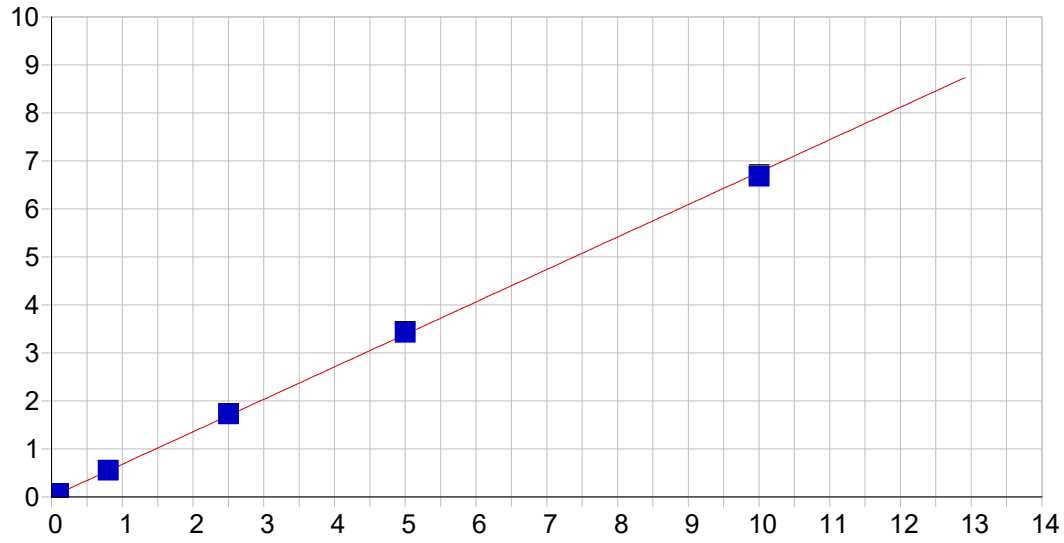


K 766.490 { 44}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001137	Re-Slope:	1.000000
A1 (Gain):	0.005583	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999689	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.036858		
Predicted MQL:	0.122861		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00021	.000	.000	-.00114	.000	1
S2	4.0000	3.7775	-.223	-5.56	.01995	.000	1
S3	12.500	12.157	-.343	-2.74	.06674	.000	1
S4	25.000	24.498	-.502	-2.01	.13564	.001	1
S5	50.000	51.118	1.12	2.24	.28426	.001	1
S1	2.0000	1.9495	-.051	-2.53	.00975	.000	1

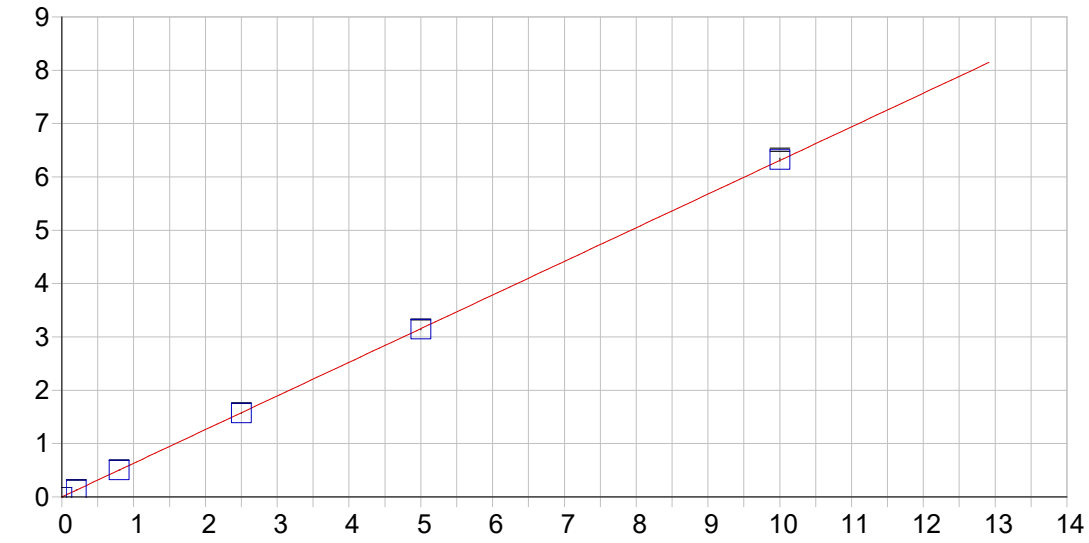


B 249.678 {135}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004617	Re-Slope:	1.000000
A1 (Gain):	0.676119	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999903	Status:	OK.
Std Error of Est:	0.000492		
Predicted MDL:	0.000918		
Predicted MQL:	0.003060		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00461	.000	1
S1	.10000	.10554	.006	5.54	.07558	.000	1
S3	2.5000	2.5463	.046	1.85	1.7201	.011	1
S4	5.0000	5.0609	.061	1.22	3.4142	.018	1
S5	10.000	9.8775	-.123	-1.23	6.6586	.029	1
S2	.80000	.80976	.010	1.22	.55016	.001	1

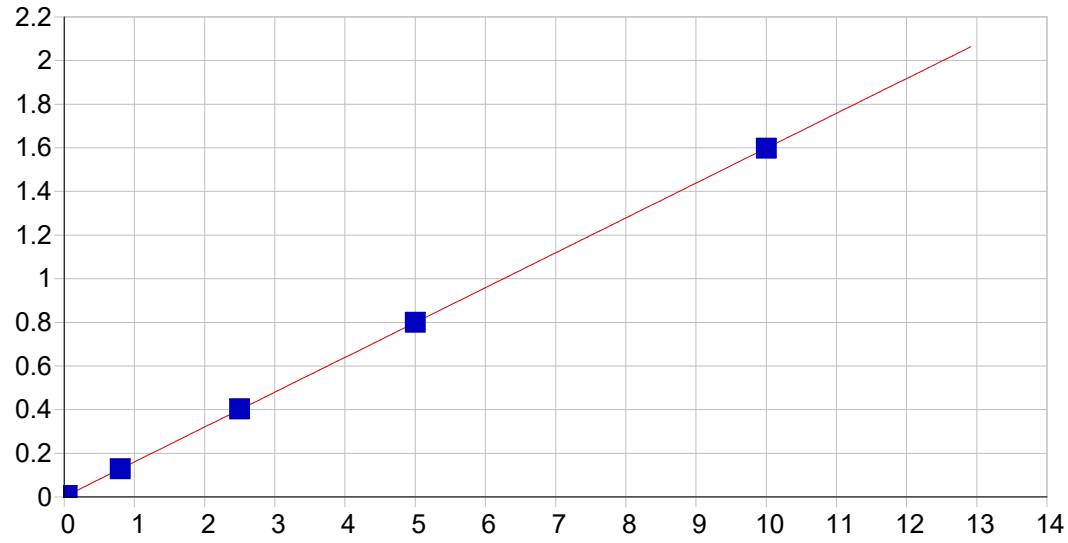


Mo 202.030 {467}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000244	Re-Slope:	1.000000
A1 (Gain):	0.630820	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000271		
Predicted MDL:	0.000294		
Predicted MQL:	0.000980		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00024	.000	1
S1	.20000	.20916	.009	4.58	.13219	.000	1
S3	2.5000	2.4900	-.010	-.400	1.5710	.004	1
S4	5.0000	4.9794	-.021	-.413	3.1413	.011	1
S5	10.000	10.024	.024	.244	6.3238	.028	1
S2	.80000	.79707	-.003	-.367	.50305	.001	1

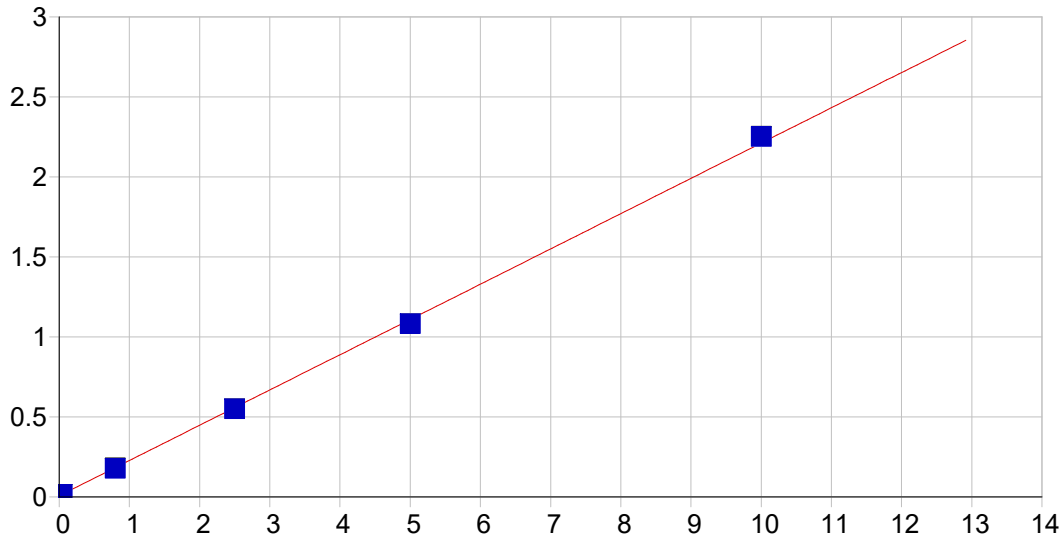


Sn 189.989 {478}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000674	Re-Slope:	1.000000
A1 (Gain):	0.159725	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.000684		
Predicted MQL:	0.002279		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00067	.000	1
S1	.04000	.04096	.001	2.40	.00721	.000	1
S3	2.5000	2.5134	.013	.538	.40173	.001	1
S4	5.0000	4.9981	-.002	-.037	.79819	.001	1
S5	10.000	9.9937	-.006	-.063	1.5953	.002	1
S2	.80000	.79374	-.006	-.782	.12732	.000	1

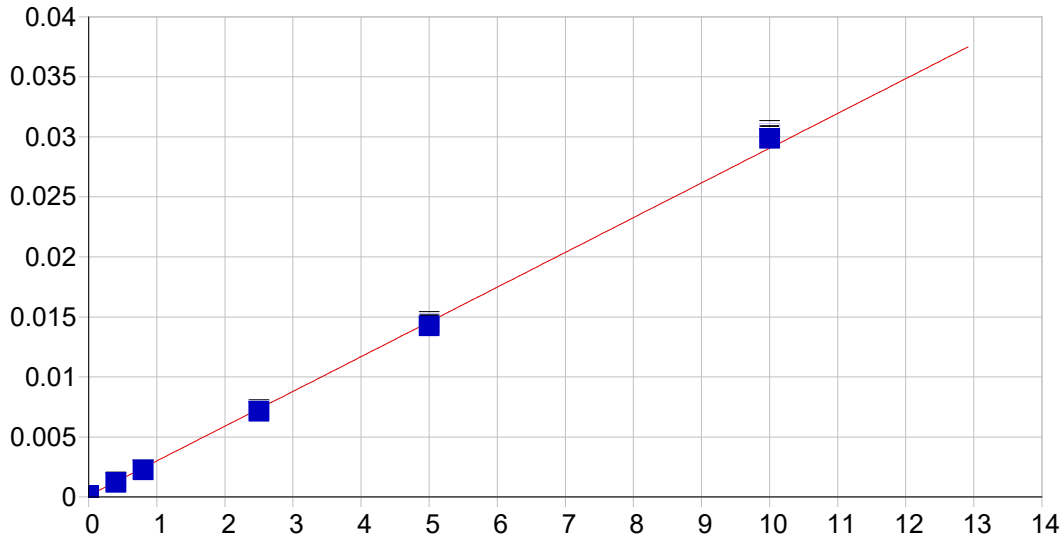


Ti 336.121 {100}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006882	Re-Slope:	1.000000
A1 (Gain):	0.220440	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999794	Status:	OK.
Std Error of Est:	0.000148		
Predicted MDL:	0.002214		
Predicted MQL:	0.007381		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00688	.000	1
S1	.04000	.04147	.001	3.66	.01602	.000	1
S3	2.5000	2.4622	-.038	-1.51	.54944	.001	1
S4	5.0000	4.8757	-.124	-2.49	1.0813	.002	1
S5	10.000	10.182	.182	1.82	2.2505	.002	1
S2	.80000	.77898	-.021	-2.63	.17854	.001	1

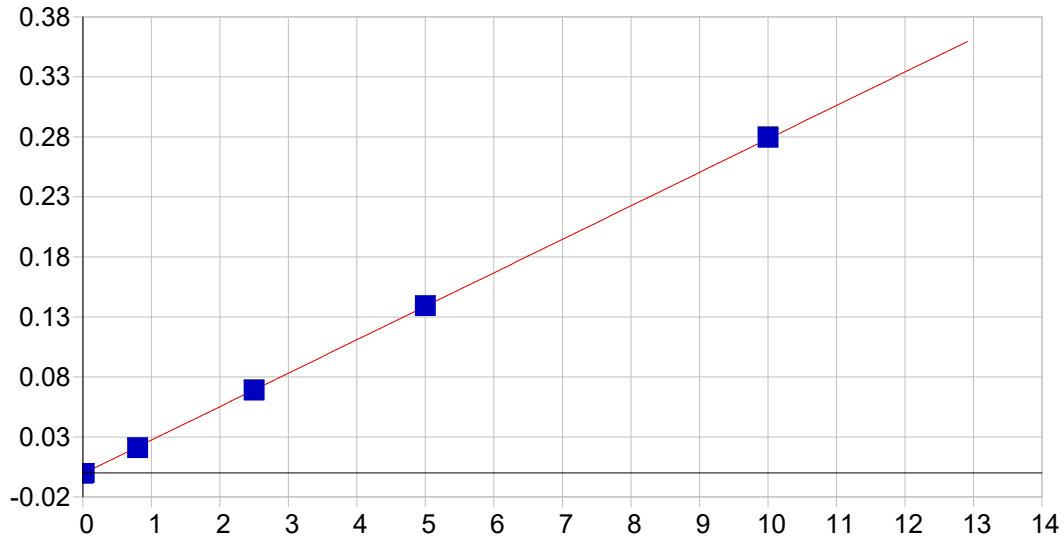


Si 288.158 {117}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000100	Re-Slope:	1.000000
A1 (Gain):	0.002896	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999522	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.014953		
Predicted MQL:	0.049844		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00006	.000	.000	.00010	.000	1
S1	.40000	.38069	-.019	-4.83	.00120	.000	1
S3	2.5000	2.4232	-.077	-3.07	.00723	.000	1
S4	5.0000	4.8815	-.119	-2.37	.01446	.000	1
S5	10.000	10.276	.276	2.76	.03030	.000	1
S2	.80000	.73877	-.061	-7.65	.00227	.000	1

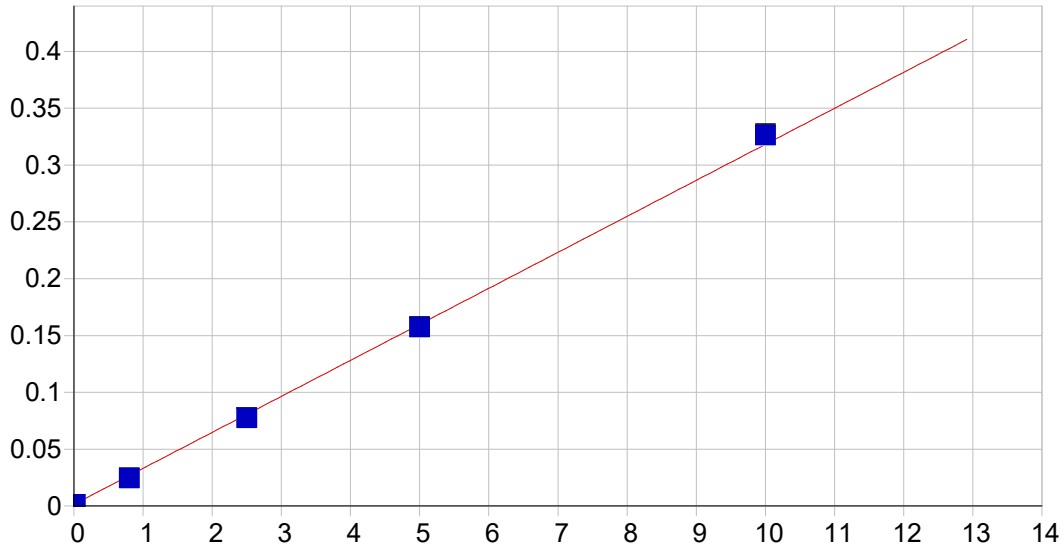


P 177.495 {490}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000549	Re-Slope:	1.000000
A1 (Gain):	0.027885	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.002794		
Predicted MQL:	0.009314		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00055	.000	1
S1	.02000	.01874	-.001	-6.31	-.00003	.000	1
S3	2.5000	2.4888	-.011	-.449	.06884	.000	1
S4	5.0000	5.0081	.008	.161	.13908	.000	1
S5	10.000	10.039	.039	.390	.27935	.000	1
S2	.80000	.76541	-.035	-4.32	.02079	.000	1

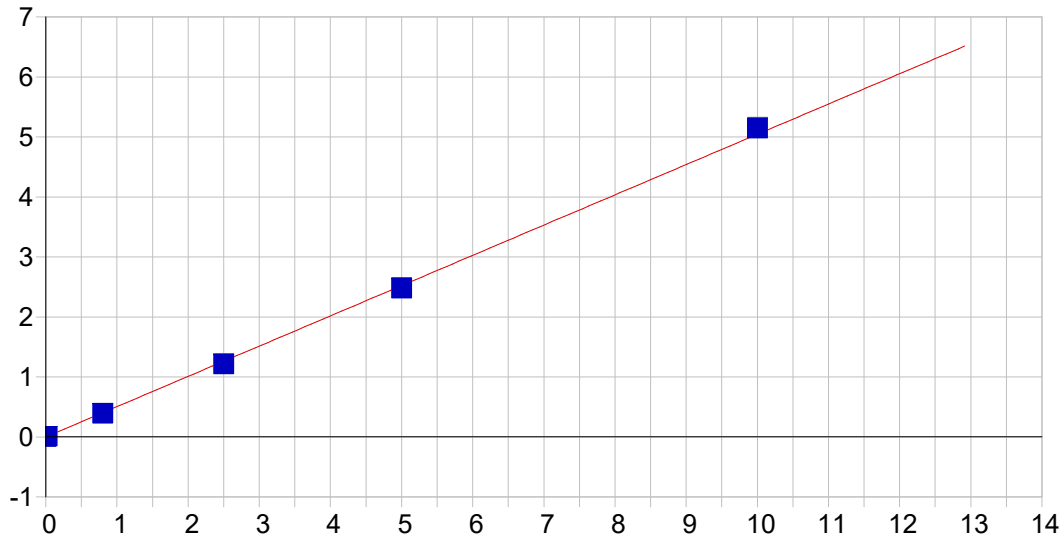


S 182.034 {485}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001403	Re-Slope:	1.000000
A1 (Gain):	0.031686	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999301	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	0.003049		
Predicted MQL:	0.010163		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00140	.000	1
S1	.02000	.00858	-.011	-57.1	.00165	.000	1
S3	2.5000	2.4015	-.098	-3.94	.07729	.000	1
S4	5.0000	4.9221	-.078	-1.56	.15695	.000	1
S5	10.000	10.262	.262	2.62	.32575	.001	1
S2	.80000	.72513	-.075	-9.36	.02431	.000	1

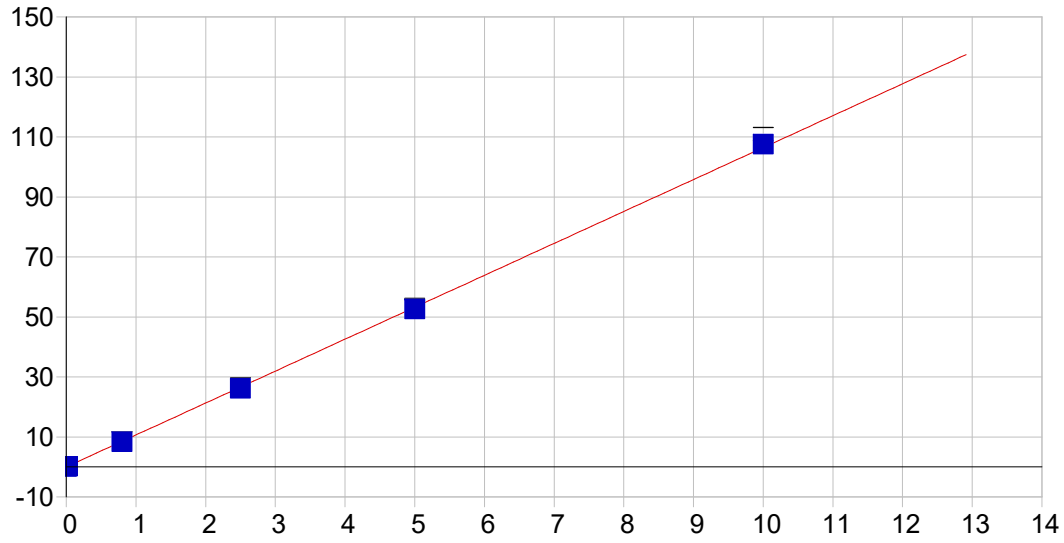


Li 670.784 { 50}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000393	Re-Slope:	1.000000
A1 (Gain):	0.504381	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999730	Status:	OK.
Std Error of Est:	0.000275		
Predicted MDL:	0.003764		
Predicted MQL:	0.012547		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00039	.002	1
S5	10.000	10.201	.201	2.01	5.1475	.012	1
S4	5.0000	4.9084	-.092	-1.83	2.4765	.005	1
S3	2.5000	2.4106	-.089	-3.57	1.2161	.006	1
S1	.02000	.02250	.002	12.5	.01111	.002	1
S2	.80000	.77711	-.023	-2.86	.39177	.002	1

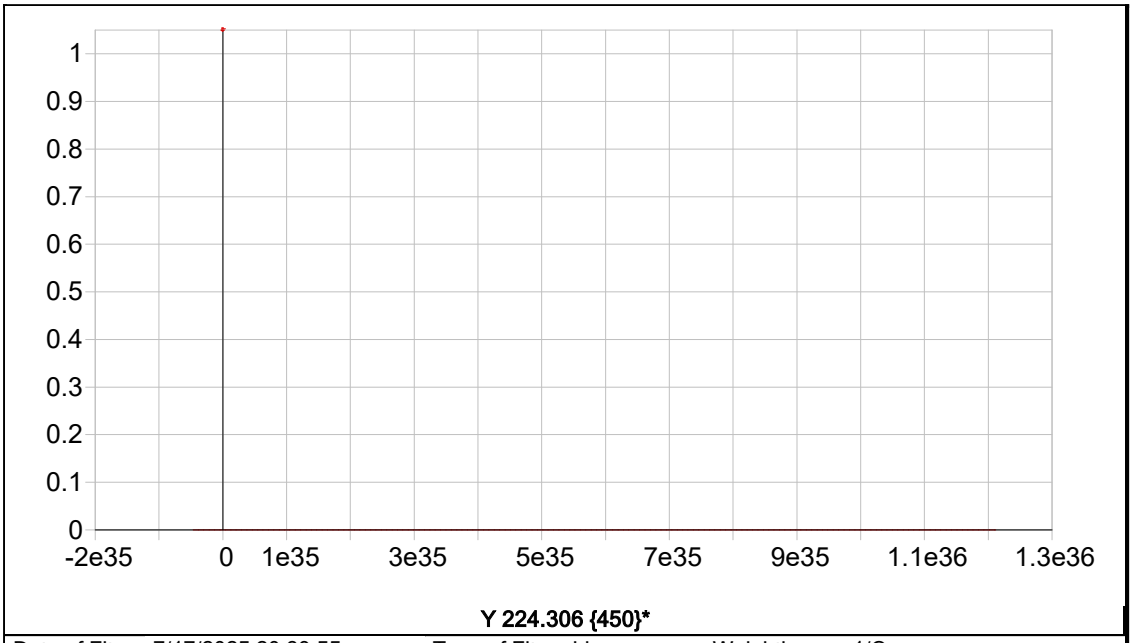


Sr 407.771 { 83}

Date of Fit:	7/17/2025 20:39:55	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000307	Re-Slope:	1.000000
A1 (Gain):	10.642502	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999928	Status:	OK.
Std Error of Est:	0.002996		
Predicted MDL:	0.000096		
Predicted MQL:	0.000319		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00031	.001	1
S1	.02000	.02031	.000	1.53	.21744	.001	1
S3	2.5000	2.4629	-.037	-1.48	26.237	.207	1
S4	5.0000	4.9395	-.060	-1.21	52.620	.293	1
S5	10.000	10.109	.109	1.09	107.69	2.19	1
S2	.80000	.78832	-.012	-1.46	8.3982	.018	1

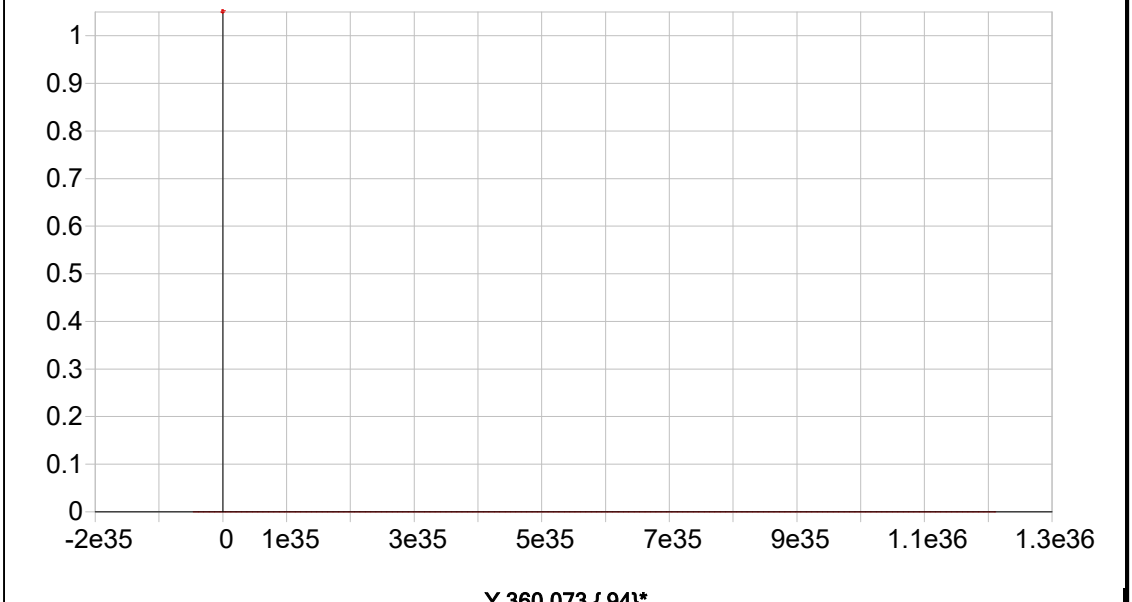


Y 224.306 {450}*

Date of Fit:	7/17/2025 20:39:55	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



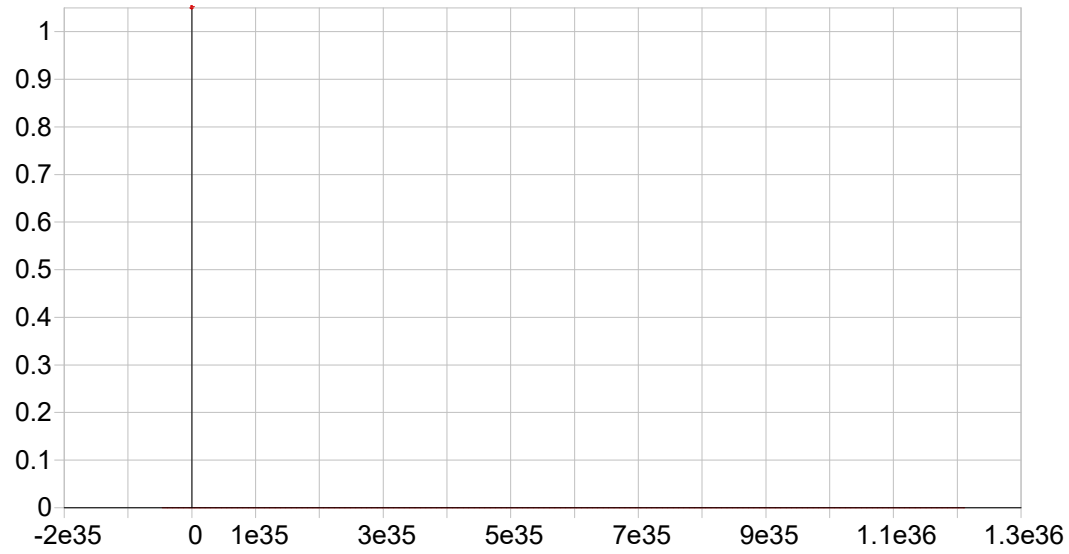
Y 360.073 { 94}*

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					

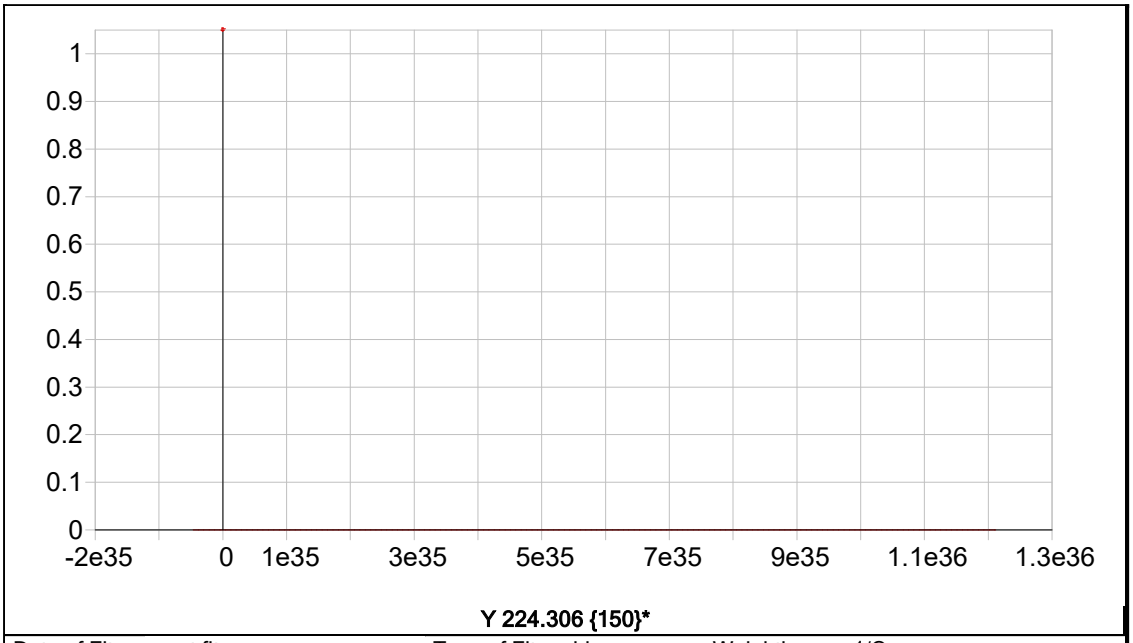
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 371.030 { 91}*

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

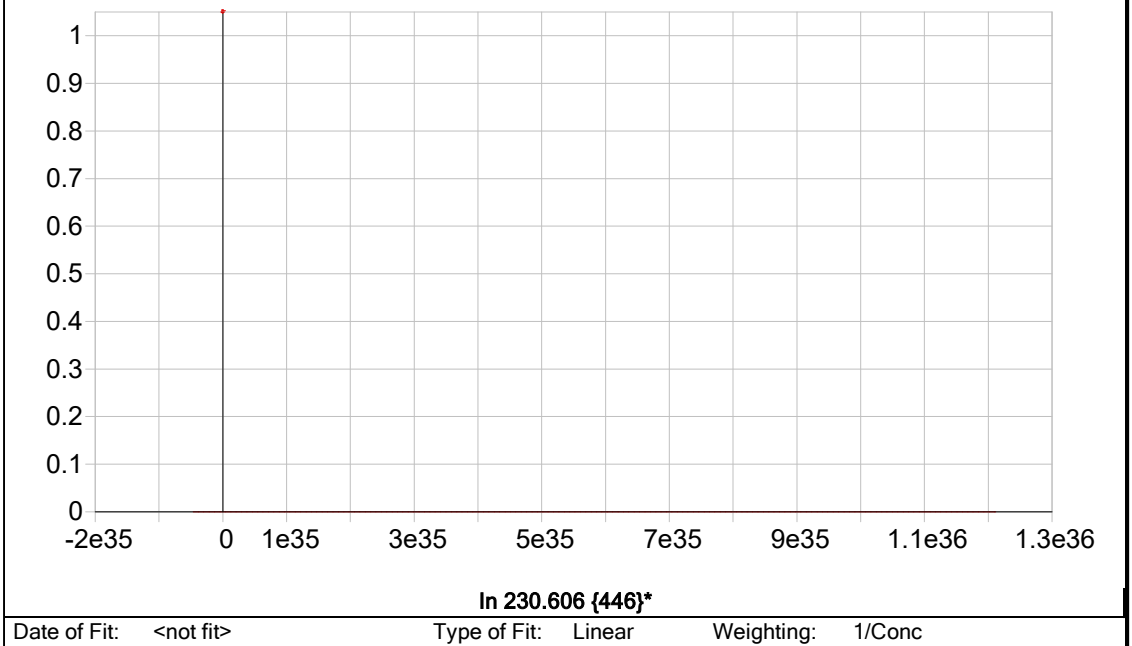


Y 224.306 {150}*

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



In 230.606 {446}*

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**

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S0 Acquired: 7/17/2025 13:05:14 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**-.00001**	**.00006**	**.00052**	**.00062**	**.00071**	**.00011**	**.06509**	**.00201**
Stddev	.00004	.00009	.00013	.00008	.00008	.00034	.00017	.00003
%RSD	626.82	144.39	25.226	12.522	10.842	318.29	.25576	1.5053
#1	-.00001	.00003	.00058	.00063	.00079	.00007	.06521	.00204
#2	.00003	.00016	.00061	.00069	.00070	.00046	.06517	.00198
#3	-.00005	-.00001	.00037	.00054	.00064	-.00021	.06490	.00199

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	**-.00064**	**.00072**	**.00019**	**.00023**	**.00060**	**.00004**	**.00026**	**.00029**
Stddev	.00015	.00017	.00003	.00015	.00013	.00001	.00004	.00027
%RSD	23.414	23.315	16.786	66.216	22.533	27.643	15.943	92.970
#1	-.00081	.00073	.00016	.00008	.00050	.00003	.00028	.00023
#2	-.00062	.00087	.00018	.00038	.00075	.00005	.00022	.00005
#3	-.00051	.00054	.00022	.00022	.00054	.00004	.00029	.00057

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	**-.00066**	**-.00086**	**.01249**	**.00003**	**.00374**	**-.00114**	**.00461**	**.00024**
Stddev	.00016	.00005	.00026	.00015	.00063	.00019	.00033	.00010
%RSD	24.571	6.1476	2.0724	436.12	16.919	16.867	7.0676	43.215
#1	-.00058	-.00082	.01266	.00007	.00335	-.00116	.00433	.00022
#2	-.00055	-.00084	.01261	-.00013	.00447	-.00093	.00497	.00015
#3	-.00085	-.00092	.01219	.00016	.00340	-.00131	.00453	.00035

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	**.00067**	**.00688**	**.00010**	**-.00055**	**.00140**	**-.00039**	**.00031**
Stddev	.00012	.00034	.00001	.00006	.00009	.00218	.00091
%RSD	17.207	4.9005	12.724	11.469	6.6429	552.98	292.15
#1	.00075	.00652	.00009	-.00054	.00148	-.00251	-.00073
#2	.00073	.00693	.00009	-.00049	.00143	.00184	.00089
#3	.00054	.00719	.00011	-.00062	.00130	-.00051	.00078

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S0 Acquired: 7/17/2025 13:05:14 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**5474.9**	**85439.**	**8237.0**	**4827.3**	**6572.1**
Stddev	14.1	490.	60.6	21.6	22.2
%RSD	.25748	.57403	.73569	.44803	.33810
#1	5483.0	85894.	8184.2	4824.9	6575.8
#2	5483.0	85504.	8303.1	4850.0	6592.2
#3	5458.6	84920.	8223.6	4806.9	6548.3

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S1 Acquired: 7/17/2025 13:09:39 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**.00090**	**.00289**	**.00281**	**.00147**	**.00565**	**.00947**	**.33987**	**.04587**
Stddev	.00007	.00007	.00021	.00009	.00007	.00037	.00139	.00059
%RSD	8.1978	2.4344	7.6264	5.7863	1.3249	3.9219	.40778	1.2833
#1	.00082	.00296	.00257	.00157	.00561	.00972	.33865	.04548
#2	.00096	.00282	.00299	.00144	.00561	.00966	.34138	.04655
#3	.00093	.00291	.00286	.00141	.00574	.00904	.33958	.04558

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	**.01836**	**.14599**	**.00166**	**.03413**	**.01638**	**.00050**	**.01298**	**.02775**
Stddev	.00017	.00024	.00006	.00021	.00015	.00000	.00054	.00027
%RSD	.93998	.16282	3.5144	.61076	.93459	.80348	4.1222	.96512
#1	.01855	.14623	.00160	.03395	.01654	.00050	.01281	.02752
#2	.01831	.14598	.00166	.03408	.01635	.00050	.01358	.02804
#3	.01822	.14575	.00172	.03436	.01624	.00050	.01256	.02769

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	**.02647**	**.00156**	**.03323**	**.00443**	**.11002**	**.00975**	**.07558**	**.13219**
Stddev	.00024	.00009	.00029	.00024	.00030	.00007	.00044	.00024
%RSD	.89854	5.8695	.88418	5.4238	.27685	.70405	.57699	.17807
#1	.02670	.00162	.03345	.00417	.11036	.00983	.07517	.13194
#2	.02622	.00159	.03335	.00463	.10991	.00971	.07604	.13241
#3	.02649	.00145	.03290	.00450	.10978	.00970	.07552	.13220

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	**.00721**	**.01602**	**.00120**	**-.00003**	**.00165**	**.01111**	**.21744**
Stddev	.00008	.00031	.00002	.00008	.00007	.00241	.00062
%RSD	1.0737	1.9243	1.4378	291.69	4.5319	21.642	.28413
#1	.00730	.01637	.00122	.00004	.00173	.00835	.21724
#2	.00715	.01587	.00119	-.00011	.00162	.01275	.21814
#3	.00719	.01581	.00121	-.00000	.00159	.01224	.21695

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S1 Acquired: 7/17/2025 13:09:39 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**5512.8**	**83937.**	**8128.5**	**4729.5**	**6593.1**
Stddev	8.7	531.	43.9	5.8	18.5
%RSD	.15837	.63282	.53964	.12318	.27986
#1	5511.8	83616.	8129.9	4723.4	6579.4
#2	5522.0	83645.	8084.0	4730.1	6614.1
#3	5504.6	84550.	8171.7	4735.0	6585.8

Sample Name: S2 Acquired: 7/17/2025 13:13:59 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**.03425**	**.05828**	**.17004**	**.03668**	**.07891**	**.13116**	**4.2767**	**.27435**
Stddev	.00004	.00102	.00060	.00021	.00013	.00037	.0139	.00058
%RSD	.11295	1.7458	.35048	.56989	.16869	.28077	.32605	.21001
#1	.03422	.05945	.16994	.03653	.07898	.13090	4.2687	.27473
#2	.03424	.05782	.16950	.03658	.07899	.13158	4.2687	.27462
#3	.03429	.05758	.17068	.03691	.07875	.13099	4.2929	.27368

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	**1.2296**	**.27873**	**.02299**	**.44031**	**.14656**	**.00343**	**.23589**	**.04903**
Stddev	.0020	.00096	.00020	.00089	.00034	.00002	.00080	.00048
%RSD	.16219	.34425	.88400	.20150	.23305	.51998	.33960	.97850
#1	1.2289	.27835	.02306	.44045	.14646	.00342	.23529	.04877
#2	1.2280	.27801	.02315	.43935	.14628	.00342	.23557	.04874
#3	1.2318	.27982	.02276	.44111	.14694	.00345	.23680	.04959

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	**.25598**	**.04352**	**.05188**	**.04443**	**1.0240**	**.01995**	**.55016**	**.50305**
Stddev	.00059	.00007	.00032	.00023	.0038	.00023	.00123	.00066
%RSD	.23032	.15428	.62452	.52571	.37226	1.1329	.22360	.13103
#1	.25563	.04360	.05151	.04445	1.0206	.01975	.55150	.50312
#2	.25565	.04347	.05199	.04419	1.0232	.01991	.54909	.50235
#3	.25666	.04350	.05212	.04465	1.0281	.02020	.54989	.50367

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	**.12732**	**.17854**	**.00227**	**.02079**	**.02431**	**.39177**	**8.3982**
Stddev	.00014	.00060	.00001	.00021	.00011	.00204	.0185
%RSD	.11192	.33424	.22360	.99570	.43956	.52055	.22027
#1	.12737	.17817	.00227	.02073	.02435	.38942	8.3941
#2	.12716	.17822	.00228	.02062	.02419	.39309	8.3821
#3	.12744	.17923	.00228	.02102	.02439	.39279	8.4184

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S2 Acquired: 7/17/2025 13:13:59 Type: Cal
Method: 6010-200.7 NEW(v42) 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	5472.8	84696.	8127.5	4721.9	6462.4
Stddev	7.7	126.	33.0	26.9	8.7
%RSD	.14018	.14881	.40583	.56947	.13432
#1	5473.1	84635.	8111.9	4748.8	6459.0
#2	5480.3	84613.	8105.2	4721.7	6472.2
#3	5465.0	84841.	8165.4	4695.1	6455.8

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S3 Acquired: 7/17/2025 13:18:04 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**.10828**	**.18561**	**.53603**	**.11460**	**.24757**	**.40550**	**13.385**	**.84612**
Stddev	.00024	.00360	.00105	.00032	.00104	.00072	.006	.00901
%RSD	.21839	1.9422	.19666	.28070	.42092	.17827	.04467	1.0643
#1	.10818	.18355	.53649	.11424	.24680	.40600	13.378	.85145
#2	.10812	.18977	.53482	.11484	.24715	.40581	13.389	.83572
#3	.10855	.18351	.53678	.11473	.24876	.40467	13.387	.85118

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	**3.9231**	**.88020**	**.07244**	**1.3933**	**.45269**	**.01110**	**.73912**	**.15283**
Stddev	.0094	.00208	.00039	.0018	.00103	.00010	.00108	.00047
%RSD	.23842	.23680	.54228	.13162	.22792	.86397	.14608	.30792
#1	3.9128	.87789	.07286	1.3917	.45198	.01110	.73931	.15254
#2	3.9255	.88074	.07208	1.3929	.45223	.01120	.73795	.15258
#3	3.9310	.88195	.07237	1.3953	.45388	.01101	.74009	.15338

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	**.81397**	**.13787**	**.14175**	**.14111**	**3.1797**	**.06674**	**1.7201**	**1.5710**
Stddev	.00138	.00027	.00094	.00072	.0152	.00018	.0105	.0044
%RSD	.16957	.19943	.66110	.51025	.47766	.26253	.61193	.28089
#1	.81281	.13761	.14171	.14056	3.1700	.06681	1.7194	1.5672
#2	.81360	.13816	.14270	.14086	3.1718	.06686	1.7100	1.5699
#3	.81550	.13783	.14083	.14193	3.1972	.06654	1.7310	1.5758

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	**.40173**	**.54944**	**.00723**	**.06884**	**.07729**	**1.2161**	**26.237**
Stddev	.00108	.00116	.00005	.00023	.00025	.0055	.207
%RSD	.26901	.21052	.72709	.34129	.32691	.45497	.78974
#1	.40050	.55063	.00717	.06858	.07702	1.2154	26.324
#2	.40255	.54937	.00727	.06889	.07752	1.2220	26.001
#3	.40213	.54832	.00724	.06905	.07733	1.2110	26.387

Sample Name: S3 Acquired: 7/17/2025 13:18:04 Type: Cal
Method: 6010-200.7 NEW(v42) 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	5391.7	82861.	8073.6	4584.3	6228.2
Stddev	12.3	306.	35.6	19.5	9.9
%RSD	.22728	.36897	.44118	.42632	.15913
#1	5395.2	82649.	8053.1	4606.7	6234.2
#2	5401.8	82722.	8114.7	4570.8	6233.6
#3	5378.1	83211.	8053.0	4575.4	6216.8

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S4 Acquired: 7/17/2025 13:22:09 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**.21805**	**.36146**	**1.0659**	**.22923**	**.49707**	**.80465**	**26.821**	**1.6473**
Stddev	.00098	.00498	.0015	.00066	.00222	.00277	.106	.0054
%RSD	.44817	1.3777	.14519	.28631	.44617	.34431	.39405	.32637
#1	.21692	.35666	1.0661	.22878	.49478	.80770	26.708	1.6527
#2	.21852	.36113	1.0642	.22892	.49721	.80397	26.837	1.6471
#3	.21869	.36660	1.0673	.22998	.49921	.80229	26.918	1.6419

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	**7.8736**	**1.7541**	**.14031**	**2.8012**	**.89164**	**.02197**	**1.4654**	**.29934**
Stddev	.0155	.0078	.00043	.0064	.00279	.00012	.0033	.00052
%RSD	.19632	.44483	.30904	.22761	.31328	.55182	.22272	.17447
#1	7.8735	1.7626	.13993	2.8003	.88877	.02193	1.4691	.29928
#2	7.8582	1.7473	.14022	2.7954	.89181	.02187	1.4642	.29988
#3	7.8891	1.7525	.14078	2.8080	.89435	.02210	1.4629	.29884

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	**1.6319**	**.27342**	**.27308**	**.28047**	**6.2585**	**.13564**	**3.4142**	**3.1413**
Stddev	.0033	.00054	.00248	.00038	.0151	.00109	.0184	.0113
%RSD	.20444	.19696	.90789	.13601	.24143	.80202	.53748	.35917
#1	1.6322	.27384	.27046	.28018	6.2437	.13498	3.4279	3.1289
#2	1.6284	.27281	.27339	.28031	6.2579	.13503	3.4214	3.1443
#3	1.6350	.27361	.27539	.28090	6.2739	.13689	3.3934	3.1508

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	**.79819**	**1.0813**	**.01446**	**.13908**	**.15695**	**2.4765**	**52.620**
Stddev	.00132	.0017	.00015	.00026	.00032	.0053	.293
%RSD	.16533	.15665	1.0678	.18409	.20079	.21370	.55744
#1	.79796	1.0814	.01428	.13928	.15706	2.4708	52.947
#2	.79699	1.0795	.01450	.13879	.15660	2.4776	52.379
#3	.79960	1.0829	.01458	.13917	.15720	2.4812	52.535

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S4 Acquired: 7/17/2025 13:22:09 Type: Cal
Method: 6010-200.7 NEW(v42) 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	5354.1	83976.	8161.4	4562.0	6091.5
Stddev	12.2	323.	82.2	16.9	12.2
%RSD	.22735	.38487	1.0070	.37131	.20042
#1	5366.0	83604.	8076.7	4543.6	6091.7
#2	5354.6	84190.	8166.6	4577.0	6103.7
#3	5341.7	84133.	8240.9	4565.4	6079.3

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: S5 Acquired: 7/17/2025 13:26:21 Type: Cal
Method: 6010-200.7 NEW(v42) 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	**.44055**	**.71724**	**2.1545**	**.46445**	**1.0194**	**1.6287**	**54.521**	**3.1704**
Stddev	.00149	.00928	.0032	.00200	.0042	.0042	.562	.0159
%RSD	.33894	1.2936	.14787	.43096	.41359	.25722	1.0307	.50113
#1	.44022	.72204	2.1510	.46486	1.0188	1.6275	53.897	3.1794
#2	.43925	.70655	2.1552	.46228	1.0155	1.6333	54.676	3.1797
#3	.44218	.72315	2.1572	.46622	1.0239	1.6252	54.989	3.1521

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	**15.745**	**3.5507**	**.27183**	**5.6855**	**1.7672**	**.04512**	**2.9580**	**.60080**
Stddev	.027	.0033	.00054	.0144	.0066	.00028	.0030	.00140
%RSD	.16942	.09230	.19745	.25266	.37522	.62862	.10269	.23230
#1	15.717	3.5522	.27243	5.6766	1.7631	.04502	2.9615	.60164
#2	15.747	3.5529	.27141	5.6778	1.7636	.04490	2.9567	.59919
#3	15.770	3.5469	.27163	5.7021	1.7748	.04544	2.9558	.60158

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	**3.2858**	**.54927**	**.55736**	**.56955**	**12.466**	**.28426**	**6.6586**	**6.3238**
Stddev	.0063	.00103	.00411	.00267	.060	.00134	.0292	.0281
%RSD	.19095	.18776	.73685	.46922	.48345	.47072	.43906	.44366
#1	3.2824	.54944	.55809	.57190	12.475	.28321	6.6705	6.3165
#2	3.2819	.54817	.55294	.56664	12.403	.28381	6.6800	6.3002
#3	3.2930	.55021	.56106	.57009	12.522	.28577	6.6253	6.3548

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	**1.5953**	**2.2505**	**.03030**	**.27935**	**.32575**	**5.1475**	**107.69**
Stddev	.0016	.0023	.00024	.00048	.00102	.0120	2.19
%RSD	.10291	.10215	.78338	.17247	.31197	.23382	2.0292
#1	1.5935	2.2512	.03026	.27909	.32555	5.1596	105.67
#2	1.5956	2.2524	.03008	.27905	.32485	5.1473	107.38
#3	1.5968	2.2480	.03055	.27990	.32685	5.1356	110.01

Sample Name: S5 Acquired: 7/17/2025 13:26:21 Type: Cal
Method: 6010-200.7 NEW(v42) 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	5190.9	83253.	8237.5	4371.0	5817.4
Stddev	21.1	343.	21.8	24.0	16.2
%RSD	.40726	.41154	.26468	.54969	.27919
#1	5201.6	83211.	8220.8	4373.4	5828.6
#2	5204.5	83615.	8229.5	4393.7	5824.8
#3	5166.5	82933.	8262.1	4345.8	5798.7

Sample Name: ICV01 Acquired: 7/17/2025 13:30:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**3.982428**	**3.759010**	**3.889112**	**4.022321**	**4.222178**	**8.025030**
Stddev	.005920	.044678	.010265	.010723	.005441	.042233
%RSD	.1486543	1.188566	.2639329	.2665997	.1288740	.5262605
#1	3.975709	3.782005	3.877983	4.009942	4.217310	8.041161
#2	3.984698	3.787506	3.891147	4.028243	4.221172	7.977109
#3	3.986877	3.707517	3.898207	4.028777	4.228052	8.056819

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.276738**	**.2018729**	**1.975449**	**20.25463**	**.8650662**	**2.019605**
Stddev	.053557	.0010478	.003252	.17072	.0034248	.003736
%RSD	.6470786	.5190634	.1646323	.8428446	.3959013	.1849931
#1	8.317665	.2006758	1.972136	20.06494	.8627569	2.016056
#2	8.296425	.2026237	1.975573	20.30304	.8634406	2.019256
#3	8.216124	.2023192	1.978637	20.39591	.8690011	2.023504

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.036289**	**4.308268**	**2.029542**	**19.85413**	**2.059569**	**1.065642**
Stddev	.001319	.057293	.006372	.02881	.004427	.002540
%RSD	.1272699	1.329837	.3139605	.1451240	.2149518	.2383958
#1	1.035242	4.333874	2.022957	19.85342	2.055576	1.065217
#2	1.035855	4.242638	2.029993	19.82568	2.058803	1.063342
#3	1.037771	4.348293	2.035677	19.88329	2.064330	1.068369

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**19.44991**	**2.029357**	**2.044843**	**20.13821**	F **.0156351**	F **.0115267**
Stddev	.17703	.004810	.006507	.12642	.0005027	.0001864
%RSD	.9101699	.2370350	.3181941	.6277390	3.215166	1.616814
#1	19.53968	2.030461	2.040815	20.12977	.0150681	.0115736
#2	19.24598	2.024090	2.052350	20.01622	.0158111	.0113213
#3	19.56406	2.033519	2.041365	20.26863	.0160261	.0116851

Sample Name: ICV01 Acquired: 7/17/2025 13:30:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	F .0036721	F .0043289	F -.047984	F .0055525	F -.014700	F .0024372
Stddev	.0004718	.0006429	.009032	.0007243	.001278	.0048973
%RSD	12.84892	14.85157	18.82295	13.04511	8.696970	200.9419
#1	.0040366	.0038329	-.057771	.0047742	-.013725	.0044976
#2	.0038406	.0040986	-.046212	.0056763	-.014227	.0059676
#3	.0031392	.0050553	-.039970	.0062069	-.016147	-.003154

Elem	Sr4077
Units	ppm
Avg	F -.003638
Stddev	.000061
%RSD	1.682353
#1	-.003708
#2	-.003604
#3	-.003600

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5276.537	84016.89	8253.799	4438.903	6117.618
Stddev	17.191	277.41	77.469	14.540	14.690
%RSD	.3257972	.3301878	.9385851	.3275695	.2401208
#1	5280.657	84250.89	8335.342	4452.785	6125.506
#2	5291.293	84089.33	8181.176	4423.783	6126.678
#3	5257.661	83710.44	8244.879	4440.141	6100.669

Sample Name: LLICV01 Acquired: 7/17/2025 13:37:17 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0233318**	**.0412924**	**.0097032**	**.0193530**	**.0518769**	**.1038487**
Stddev	.0004869	.0016134	.0000814	.0015717	.0016169	.0015432
%RSD	2.086785	3.907297	.8393411	8.121084	3.116827	1.485962
#1	.0238916	.0423014	.0097884	.0192230	.0526056	.1029304
#2	.0230965	.0421441	.0096261	.0178503	.0500239	.1029854
#3	.0230072	.0394316	.0096951	.0209855	.0530012	.1056303

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1039542**	**.0062642**	**.0059498**	**2.144913**	**.0093999**	**.0305242**
Stddev	.0007025	.0000351	.0000279	.002000	.0003746	.0000552
%RSD	.6757701	.5609238	.4686099	.0932553	3.985306	.1807228
#1	.1037896	.0062898	.0059815	2.143378	.0097426	.0304680
#2	.1047244	.0062786	.0059387	2.147175	.0094573	.0305782
#3	.1033486	.0062241	.0059292	2.144185	.0089999	.0305263

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0218091**	**.1100971**	**.0221772**	**2.151952**	**.0417073**	**.0109796**
Stddev	.0004534	.0064844	.0002558	.010019	.0006586	.0002409
%RSD	2.078758	5.889693	1.153356	.4655995	1.579208	2.194214
#1	.0216496	.1069639	.0219586	2.162659	.0411799	.0109634
#2	.0223206	.1057744	.0224585	2.142802	.0414965	.0107472
#3	.0214569	.1175531	.0221145	2.150396	.0424455	.0112283

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.892571**	**.0373510**	**.0436040**	**2.048612**	**.1168567**	**.2123177**
Stddev	.018626	.0005233	.0003981	.019752	.0005867	.0006599
%RSD	.9841423	1.401127	.9130281	.9641706	.5021019	.3107865
#1	1.908522	.0374075	.0440348	2.042484	.1164370	.2119166
#2	1.872102	.0368016	.0432497	2.032651	.1175271	.2119572
#3	1.897088	.0378437	.0435276	2.070702	.1166059	.2130793

Sample Name: LLICV01 Acquired: 7/17/2025 13:37:17 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0401011	F .0483022	.3618367	.0214472	F -.008140	F .0261294
Stddev	.0006679	.0024139	.0108773	.0014458	.001597	.0021978
%RSD	1.665457	4.997549	3.006145	6.741254	19.61962	8.411025
#1	.0408618	.0494820	.3711660	.0213290	-.006335	.0256402
#2	.0398300	.0498994	.3498893	.0229484	-.009368	.0242175
#3	.0396113	.0455253	.3644549	.0200641	-.008719	.0285305

Elem	Sr4077
Units	ppm
Avg	.0212513
Stddev	.0000842
%RSD	.3960943
#1	.0211616
#2	.0213285
#3	.0212639

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5474.605	88338.23	8427.739	4598.888	6626.575
Stddev	11.860	280.90	61.005	7.284	9.705
%RSD	.2166306	.3179861	.7238655	.1583932	.1464617
#1	5477.950	88016.24	8428.612	4603.423	6635.767
#2	5484.433	88533.16	8366.301	4602.755	6627.532
#3	5461.432	88465.27	8488.303	4590.485	6616.427

Sample Name: ICB01 Acquired: 7/17/2025 13:41:33 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001223**	**-.000355**	**-.001065**	**.0014762**	**.0002956**	**.0030413**
Stddev	.001014	.002246	.000445	.0008160	.0000806	.0133058
%RSD	82.85685	631.8235	41.75369	55.27797	27.28422	437.5013
#1	-.002360	-.002908	-.001472	.0016792	.0002467	.0004351
#2	-.000895	.001319	-.000590	.0005779	.0002514	-.008769
#3	-.000415	.000522	-.001131	.0021716	.0003886	.017457

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001813**	**-.000083**	**-.000001**	**.0003119**	**-.000360**	**.0000991**
Stddev	.001228	.000116	.000055	.0058549	.000570	.0001802
%RSD	67.69985	140.1836	5944.705	1877.381	158.3891	181.9391
#1	-.000714	-.000135	.000042	-.005860	-.000392	.0001476
#2	-.003138	.000050	-.000062	.005788	-.000912	.0002501
#3	-.001589	-.000164	.000018	.001007	.000225	-.000100

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000560**	**.0008537**	**.0000984**	**-.030526**	**.0002145**	**.0006848**
Stddev	.000144	.0021168	.0001894	.011712	.0000651	.0003564
%RSD	25.73072	247.9476	192.4031	38.36546	30.34697	52.04872
#1	-.000695	.0026551	.0003142	-.026901	.0001750	.0004610
#2	-.000575	-.001478	-.000041	-.021056	.0002896	.0010959
#3	-.000408	.001384	.000022	-.043622	.0001789	.0004976

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.338142**	**-.002087**	**-.000331**	**.0199203**	**.0066941**	**.0002072**
Stddev	.013911	.002359	.000159	.0092673	.0005682	.0001793
%RSD	4.113832	113.0265	48.01451	46.52158	8.488304	86.51807
#1	-.341445	-.001139	-.000148	.0300009	.0073489	.0003588
#2	-.350104	-.000350	-.000435	.0179895	.0064016	.0000094
#3	-.322877	-.004772	-.000409	.0117706	.0063317	.0002534

Sample Name: ICB01 Acquired: 7/17/2025 13:41:33 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000438	.0104001	-.003279	.0003721	F -.031053	.0023082
Stddev	.0003262	.0003697	.009442	.0033172	.000229	.0042008
%RSD	744.2959	3.554334	287.9962	891.6131	.7371406	181.9953
#1	-.000332	.0099870	-.005436	.0040930	-.030936	.0052049
#2	.000245	.0106996	-.011456	-.002276	-.030906	.0042293
#3	.000219	.0105136	.007056	-.000701	-.031317	-.002510

Elem	Sr4077
Units	ppm
Avg	-.000007
Stddev	.000047
%RSD	679.7438
#1	-.000009
#2	-.000052
#3	.000041

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5417.990	88698.05	8493.265	4594.631	6625.766
Stddev	5.692	172.84	75.039	20.949	14.238
%RSD	.1050613	.1948626	.8835103	.4559434	.2148869
#1	5411.815	88694.88	8409.644	4571.363	6613.782
#2	5419.129	88526.82	8554.734	4611.994	6622.010
#3	5423.027	88872.46	8515.418	4600.535	6641.505

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CRI01 Acquired: 7/17/2025 13:46:28 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0189492**	**.0411911**	**.0110999**	**.0187207**	**.0512800**	**.1145389**
Stddev	.0032661	.0023548	.0010911	.0039186	.0021879	.0083135
%RSD	17.23609	5.716764	9.829510	20.93166	4.266577	7.258188
#1	.0157246	.0435054	.0100696	.0168690	.0511360	.1063056
#2	.0222553	.0412703	.0122430	.0232220	.0491676	.1229302
#3	.0188678	.0387978	.0109871	.0160712	.0535363	.1143808

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1031455**	**.0060505**	**.0059439**	**2.135623**	**.0090630**	**.0306468**
Stddev	.0008997	.0000555	.0000682	.009568	.0001761	.0001032
%RSD	.8722421	.9178978	1.146581	.4480003	1.943495	.3368045
#1	.1023216	.0059888	.0059263	2.138214	.0091273	.0305537
#2	.1041054	.0060662	.0060191	2.143628	.0091979	.0306289
#3	.1030096	.0060964	.0058862	2.125026	.0088637	.0307578

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0216259**	**.1032450**	**.0220513**	**2.110819**	**.0410264**	**.0107736**
Stddev	.0003554	.0013948	.0006804	.005384	.0003733	.0001534
%RSD	1.643431	1.350979	3.085764	.2550784	.9098335	1.424021
#1	.0212542	.1016857	.0218943	2.104617	.0406063	.0106455
#2	.0219625	.1036753	.0227965	2.113551	.0413199	.0107317
#3	.0216609	.1043739	.0214630	2.114291	.0411531	.0109436

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.844893**	**.0370735**	**.0425557**	**2.052058**	**.1103406**	**.2120429**
Stddev	.024817	.0028621	.0004038	.038316	.0007405	.0001756
%RSD	1.345161	7.719998	.9488152	1.867206	.6711393	.0828363
#1	1.869456	.0389253	.0428836	2.008392	.1096510	.2118462
#2	1.819830	.0337770	.0426788	2.080061	.1111232	.2121841
#3	1.845392	.0385180	.0421047	2.067722	.1102474	.2120983

Sample Name: CRI01 Acquired: 7/17/2025 13:46:28 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0393820	.0497864	.3582958	.0192501	F -.011191	F .0288416
Stddev	.0006695	.0011258	.0062079	.0014990	.000908	.0025196
%RSD	1.700040	2.261199	1.732607	7.787222	8.110775	8.735922
#1	.0391336	.0494190	.3633564	.0201369	-.010172	.0310335
#2	.0388721	.0510500	.3601622	.0175193	-.011913	.0294025
#3	.0401402	.0488903	.3513689	.0200940	-.011488	.0260889

Elem	Sr4077
Units	ppm
Avg	.0213526
Stddev	.0000642
%RSD	.3008608
#1	.0213169
#2	.0213141
#3	.0214268

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5363.418	89788.51	8553.948	4616.167	6448.495
Stddev	5.613	161.09	62.803	6.053	10.553
%RSD	.1046600	.1794149	.7341970	.1311303	.1636526
#1	5369.392	89858.87	8613.763	4610.247	6455.245
#2	5362.609	89604.20	8488.533	4622.345	6453.906
#3	5358.253	89902.44	8559.548	4615.910	6436.334

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: ICSA01 Acquired: 7/17/2025 13:51:42 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0097688**	**.0095927**	**-.004863**	**.0103496**	**-.003295**	**253.5776**
Stddev	.0034153	.0025939	.001337	.0042109	.000783	5.3811
%RSD	34.96179	27.04087	27.48284	40.68671	23.77709	2.122057
#1	.0119292	.0070277	-.004647	.0083513	-.002815	247.8114
#2	.0115459	.0122146	-.006295	.0075099	-.002871	258.4655
#3	.0058313	.0095358	-.003648	.0151876	-.004199	254.4560

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0017746**	**.0004591**	**-.001315**	**244.0744**	**.0513988**	**.0023106**
Stddev	.0010834	.0000996	.000086	.7177	.0002178	.0001527
%RSD	61.04948	21.69766	6.575360	.2940339	.4237622	6.609172
#1	.0008791	.0005518	-.001399	243.3662	.0511577	.0024847
#2	.0014658	.0004715	-.001226	244.8011	.0514573	.0021993
#3	.0029788	.0003538	-.001321	244.0559	.0515813	.0022478

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0065222**	**98.25468**	**.0084818**	**249.4304**	**.0030475**	**.0027145**
Stddev	.0002054	.39565	.0003391	.3419	.0001457	.0003895
%RSD	3.148957	.4026766	3.997946	.1370844	4.779993	14.34785
#1	.0066769	98.54487	.0080909	249.1741	.0028804	.0029663
#2	.0066005	97.80400	.0086575	249.8187	.0031144	.0022659
#3	.0062892	98.41516	.0086969	249.2985	.0031477	.0029113

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0230132**	**.0005131**	**.0018686**	**.0681168**	**.0238318**	**.0005155**
Stddev	.0072082	.0031797	.0000825	.0275804	.0048673	.0000742
%RSD	31.32188	619.6650	4.414737	40.48990	20.42334	14.38638
#1	.0312466	-.001617	.0019520	.0622238	.0262594	.0005730
#2	.0178398	.004168	.0017870	.0981674	.0182282	.0005418
#3	.0199532	-.001012	.0018670	.0439591	.0270078	.0004318

Sample Name: ICSA01 Acquired: 7/17/2025 13:51:42 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002027**	**.0045307**	**.0187158**	**.0056808**	F **-.038470**	F **.0588462**
Stddev	.000273	.0010693	.0097722	.0031210	.004202	.0008673
%RSD	13.45312	23.60091	52.21352	54.93931	10.92220	1.473772
#1	-.001901	.0049196	.0074373	.0090077	-.036761	.0589700
#2	-.002339	.0033214	.0246587	.0028177	-.043257	.0596448
#3	-.001839	.0053511	.0240515	.0052168	-.035392	.0579236

Elem	Sr4077
Units	ppm
Avg	**.0085953**
Stddev	.0006283
%RSD	7.310091
#1	.0082027
#2	.0093200
#3	.0082631

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4927.366**	**80808.00**	**8393.604**	**4172.868**	**5455.462**
Stddev	8.570	163.47	63.314	5.745	14.553
%RSD	.1739345	.2022955	.7543155	.1376750	.2667607
#1	4922.892	80984.58	8454.294	4178.923	5465.690
#2	4937.248	80777.48	8327.957	4167.494	5461.895
#3	4921.959	80661.93	8398.559	4172.188	5438.801

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: ICSAB01 Acquired: 7/17/2025 13:56:59 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.1094404**	**.1026995**	**.0410818**	**.0577949**	**.6204009**	**251.4521**
Stddev	.0010101	.0044998	.0012092	.0032237	.0016546	5.0559
%RSD	.9229926	4.381532	2.943333	5.577809	.2666952	2.010699
#1	.1105503	.0977069	.0423742	.0544233	.6186556	253.1199
#2	.1085750	.1064422	.0408931	.0581144	.6206006	245.7730
#3	.1091958	.1039495	.0399781	.0608469	.6219466	255.4635

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5195272**	**.4861632**	**.9760823**	**244.8156**	**.5118203**	**.5021326**
Stddev	.0010460	.0040466	.0017697	.6900	.0010733	.0002933
%RSD	.2013327	.8323637	.1813040	.2818607	.2096926	.0584043
#1	.5207111	.4871012	.9740420	245.2450	.5130565	.5023032
#2	.5191423	.4817299	.9772003	244.0197	.5111256	.5023005
#3	.5187282	.4896584	.9770046	245.1822	.5112790	.5017939

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4925950**	**97.59312**	**.5075430**	**249.2251**	**.9884359**	**.2180528**
Stddev	.0010140	.66050	.0012458	.4868	.0014014	.0004664
%RSD	.2058488	.6767883	.2454624	.1953298	.1417841	.2138755
#1	.4919734	97.80444	.5070604	249.6594	.9870805	.2179837
#2	.4920464	98.12210	.5066106	249.3170	.9883479	.2185499
#3	.4937651	96.85282	.5089579	248.6989	.9898793	.2176249

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0376086**	**.4769222**	**1.060106**	**.0558164**	**.9788038**	**1.014958**
Stddev	.0105361	.0037382	.001377	.0384408	.0019567	.002854
%RSD	28.01498	.7838114	.1298766	68.86995	.1999061	.2811828
#1	.0481564	.4727112	1.058762	.0857739	.9779971	1.013601
#2	.0375852	.4798490	1.061513	.0692033	.9773795	1.013036
#3	.0270843	.4782064	1.060043	.0124722	.9810349	1.018238

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: ICSAB01 Acquired: 7/17/2025 13:56:59 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.9944091**	**.9714193**	**.9468986**	F **.0118804**	F **-.031893**	F **1.168117**
Stddev	.0007749	.0033424	.0052907	.0015111	.003392	.003079
%RSD	.0779251	.3440744	.5587401	12.71911	10.63419	.2635738
#1	.9935146	.9693835	.9511199	.0133788	-.030920	1.171510
#2	.9948382	.9752768	.9486125	.0119055	-.035664	1.167339
#3	.9948744	.9695977	.9409634	.0103569	-.029094	1.165501

Elem	Sr4077
Units	ppm
Avg	**1.074983**
Stddev	.002462
%RSD	.2290273
#1	1.076188
#2	1.072150
#3	1.076610

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4914.723**	**80627.55**	**8298.157**	**4134.534**	**5445.406**
Stddev	5.227	27.10	47.924	8.815	4.606
%RSD	.1063545	.0336155	.5775265	.2132137	.0845831
#1	4910.101	80628.41	8296.208	4142.695	5440.850
#2	4920.396	80600.02	8347.027	4125.185	5445.308
#3	4913.673	80654.21	8251.238	4135.724	5450.060

Sample Name: ICSADLX20 Acquired: 7/17/2025 14:01:09 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.003276**	**-.000286**	**-.003061**	**-.000066**	**-.002076**	**12.49118**	**-.001980**
Stddev	.000461	.001782	.002252	.003018	.000090	.05323	.001513
%RSD	14.07341	623.9458	73.58150	4539.517	4.351619	.4261683	76.40638
#1	-.003140	.000018	-.003485	-.000516	-.002032	12.46611	-.002476
#2	-.003790	.001325	-.000627	.003151	-.002016	12.45511	-.003183
#3	-.002899	-.002201	-.005071	-.002834	-.002180	12.55232	-.000281

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000239**	**-.000087**	**12.82095**	**.0025789**	**.0000741**	**.0002593**	**4.821810**
Stddev	.0000510	.000021	.07712	.0003805	.0001647	.0001982	.028503
%RSD	212.8204	24.10101	.6015409	14.75521	222.4165	76.45001	.5911256
#1	-.000002	-.000063	12.76481	.0029584	-.000116	.0003833	4.853364
#2	-.000009	-.000101	12.78916	.0021973	.000166	.0003638	4.797929
#3	.000083	-.000096	12.90889	.0025811	.000173	.0000307	4.814137

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006933**	**12.57563**	**.0005422**	**.0009499**	**-.316069**	**-.003798**	**.0003623**
Stddev	.0002793	.13797	.0002248	.0003367	.015343	.001055	.0000768
%RSD	40.29229	1.097141	41.45367	35.44438	4.854330	27.77374	21.19870
#1	.0003944	12.45689	.0005808	.0013386	-.314972	-.003739	.0004351
#2	.0009478	12.54301	.0007452	.0007484	-.331931	-.002774	.0002820
#3	.0007377	12.72699	.0003007	.0007627	-.301304	-.004881	.0003699

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013310**	**.0020073**	**.0003509**	**-.000203**	**.0109562**	**-.006922**	**.0020940**
Stddev	.0194657	.0001894	.0001122	.000531	.0017332	.006461	.0014492
%RSD	1462.446	9.434502	31.96937	262.1763	15.81968	93.33580	69.20905
#1	-.003884	.0021388	.0003209	.000349	.0089822	-.008446	.0021571
#2	-.014996	.0020930	.0004750	-.000712	.0116576	.000165	.0006142
#3	.022873	.0017903	.0002567	-.000245	.0122288	-.012484	.0035106

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: ICSADLX20 Acquired: 7/17/2025 14:01:09 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.032796	.0011974	.0006685
Stddev	.001269	.0014405	.0000759
%RSD	3.868886	120.2980	11.34971
#1	-.032594	.0022771	.0005931
#2	-.031640	-.000438	.0006675
#3	-.034154	.001753	.0007449

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5380.000	88945.90	8518.318	4557.052	6479.368
Stddev	12.685	236.60	99.383	25.641	16.530
%RSD	.2357875	.2659998	1.166698	.5626703	.2551169
#1	5393.520	88975.69	8597.864	4528.008	6494.511
#2	5378.122	89166.19	8550.179	4576.552	6481.859
#3	5368.358	88695.82	8406.912	4566.597	6461.734

Sample Name: ICSABDLX20 Acquired: 7/17/2025 14:05:26 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0041105**	**.0061110**	**.0007428**	**.0003292**	**.0288318**	**12.37382**	**.0248949**
Stddev	.0018521	.0016178	.0006692	.0022252	.0010475	.01066	.0005573
%RSD	45.05671	26.47348	90.08945	675.9137	3.633181	.0861472	2.238453
#1	.0024382	.0063640	.0010486	.0021659	.0277244	12.36506	.0255351
#2	.0061011	.0043815	.0012046	-.002145	.0289643	12.38569	.0245190
#3	.0037922	.0075873	-.000025	.000967	.0298068	12.37069	.0246304

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0245227**	**.0472412**	**12.72218**	**.0257894**	**.0242654**	**.0259574**	**4.813797**
Stddev	.0001173	.0001580	.05096	.0003819	.0001184	.0002018	.030530
%RSD	.4784597	.3345342	.4005703	1.480867	.4879094	.7775952	.6342083
#1	.0245424	.0473193	12.70314	.0261187	.0241332	.0257788	4.829236
#2	.0243967	.0470594	12.68348	.0253707	.0243617	.0259172	4.833523
#3	.0246289	.0473451	12.77992	.0258786	.0243013	.0261764	4.778631

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0260921**	**12.47415**	**.0486696**	**.0108911**	**-.370343**	**.0216944**	**.0524745**
Stddev	.0003227	.02565	.0005178	.0005190	.001696	.0012519	.0000458
%RSD	1.236669	.2055858	1.063871	4.765421	.4580374	5.770355	.0873138
#1	.0262013	12.45589	.0488305	.0114033	-.372294	.0220141	.0524621
#2	.0257290	12.50347	.0480904	.0103655	-.369512	.0227555	.0524361
#3	.0263460	12.46309	.0490878	.0109044	-.369222	.0203137	.0525252

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.004420**	**.0505095**	**.0516900**	**.0481093**	**.0572976**	**.0448742**	**.0029924**
Stddev	.003829	.0002946	.0002674	.0003141	.0011496	.0026308	.0021017
%RSD	86.62578	.5832897	.5173558	.6528854	2.006294	5.862663	70.23292
#1	-.007712	.0503947	.0517562	.0484638	.0576825	.0477216	.0054028
#2	-.000218	.0502895	.0513957	.0478655	.0582054	.0443674	.0020314
#3	-.005330	.0508442	.0519181	.0479986	.0560050	.0425337	.0015431

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: ICSABDLX20 Acquired: 7/17/2025 14:05:26 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.034112	.0557269	.0538177
Stddev	.001811	.0025445	.0002531
%RSD	5.309206	4.566050	.4703365
#1	-.032823	.0583542	.0538344
#2	-.036183	.0555523	.0535567
#3	-.033330	.0532741	.0540621

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5354.506	87918.26	8474.915	4501.102	6473.511
Stddev	17.677	393.13	30.056	9.610	19.950
%RSD	.3301278	.4471506	.3546503	.2135049	.3081758
#1	5365.741	87761.24	8477.248	4491.907	6485.527
#2	5363.646	87627.90	8503.737	4500.320	6484.525
#3	5334.130	88365.62	8443.761	4511.079	6450.483

Sample Name: CCV01 Acquired: 7/17/2025 14:20:47 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.143306**	**5.008334**	**4.942209**	**5.191795**	**5.213152**	**10.08750**	**10.44375**
Stddev	.019037	.119866	.023893	.003043	.008530	.07427	.18425
%RSD	.3701268	2.393328	.4834551	.0586171	.1636251	.7362198	1.764204
#1	5.130237	5.146101	4.928885	5.195230	5.205098	10.04597	10.35596
#2	5.134533	4.950984	4.927949	5.189434	5.222089	10.04328	10.31980
#3	5.165147	4.927916	4.969794	5.190722	5.212269	10.17324	10.65547

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2410163**	**2.478408**	**26.11207**	**.9479562**	**2.501235**	**1.284238**	**5.042390**
Stddev	.0020452	.007736	.18715	.0021946	.007648	.003475	.024054
%RSD	.8485686	.3121489	.7167328	.2315127	.3057882	.2705584	.4770358
#1	.2390080	2.477527	26.09048	.9471001	2.498539	1.282054	5.065744
#2	.2409446	2.471150	25.93664	.9463188	2.495299	1.282416	5.017692
#3	.2430964	2.486547	26.30908	.9504499	2.509866	1.288245	5.043734

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.569899**	**24.47431**	**2.516293**	**1.266331**	**23.62657**	**2.503334**	**2.554982**
Stddev	.015829	.25445	.009418	.002923	.04112	.016826	.008639
%RSD	.6159285	1.039671	.3742945	.2308548	.1740433	.6721520	.3381234
#1	2.564539	24.33732	2.512496	1.269181	23.64121	2.498457	2.564824
#2	2.557446	24.31771	2.509366	1.266474	23.58013	2.489486	2.548651
#3	2.587712	24.76791	2.527018	1.263340	23.65836	2.522060	2.551472

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.64066**	**5.105856**	**5.184169**	**4.966228**	**4.995643**	**4.826289**	**4.863050**
Stddev	.14208	.028827	.005517	.011992	.043930	.015214	.014773
%RSD	.5541017	.5645905	.1064153	.2414663	.8793758	.3152274	.3037710
#1	25.72108	5.080920	5.185091	4.962577	4.977980	4.829895	4.862439
#2	25.47662	5.099227	5.178249	4.956486	4.963293	4.809596	4.848592
#3	25.72429	5.137420	5.189166	4.979621	5.045656	4.839376	4.878118

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV01 Acquired: 7/17/2025 14:20:47 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.973394**	**5.063061**	**5.260958**
Stddev	.002744	.057108	.106770
%RSD	.0551674	1.127932	2.029470
#1	4.972779	5.039272	5.236266
#2	4.976393	5.021693	5.168697
#3	4.971010	5.128218	5.377910

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5179.167**	**87468.23**	**8447.577**	**4405.850**	**6002.780**
Stddev	14.750	251.32	29.512	28.669	19.219
%RSD	.2847867	.2873290	.3493525	.6507072	.3201668
#1	5190.936	87306.75	8480.916	4376.792	6015.664
#2	5183.945	87340.16	8437.016	4406.645	6011.985
#3	5162.621	87757.79	8424.799	4434.114	5980.690

Sample Name: CCB01 Acquired: 7/17/2025 14:25:07 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001101**	**.0002972**	**-.001435**	**-.001609**	**-.001594**	**-.004553**
Stddev	.000999	.0020824	.000703	.001519	.002051	.005962
%RSD	90.79164	700.5979	48.99374	94.40630	128.6663	130.9470
#1	-.000651	.0009748	-.002227	-.000046	-.003956	-.010817
#2	-.002246	-.002040	-.001189	-.003080	-.000560	.001053
#3	-.000406	.001956	-.000887	-.001702	-.000266	-.003896

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002773**	**-.000089**	**.0000493**	**.0092692**	**-.000169**	**-.000055**
Stddev	.000412	.000063	.0000642	.0078441	.000299	.000112
%RSD	14.84570	70.52455	130.2078	84.62555	177.2900	202.0257
#1	-.002715	-.000124	.0001112	.0020045	-.000072	.000018
#2	-.003211	-.000127	-.000017	.0082168	-.000504	-.000184
#3	-.002394	-.000017	.000054	.0175865	.000070	-.000000

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000318**	**.0022374**	**-.000110**	**-.031503**	**.0003007**	**.0001824**
Stddev	.000151	.0036672	.000282	.012898	.0002677	.0004229
%RSD	47.37713	163.9043	257.2286	40.94284	89.05308	231.7566
#1	-.000215	-.000722	.000095	-.037168	.0000748	.0002456
#2	-.000491	.001095	-.000431	-.040600	.0002308	-.000268
#3	-.000249	.006340	.000007	-.016742	.0005964	.000570

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.437089**	**-.002637**	**-.000103**	**.0684925**	**.0085290**	**.0007203**
Stddev	.023900	.001672	.000127	.0243494	.0008149	.0002295
%RSD	5.467907	63.42351	123.8715	35.55054	9.554457	31.85712
#1	-.423259	-.004388	.000026	.0506661	.0093353	.0008592
#2	-.423323	-.002464	-.000106	.0585759	.0077057	.0008464
#3	-.464686	-.001057	-.000228	.0962354	.0085459	.0004554

Sample Name: CCB01 Acquired: 7/17/2025 14:25:07 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000997	.0115200	.0020751	.0020383	F -.035165	-.002642
Stddev	.0005568	.0016100	.0053387	.0014536	.001266	.002761
%RSD	558.2084	13.97553	257.2711	71.31223	3.598820	104.5150
#1	-.000063	.0109486	-.003979	.0035500	-.036613	-.000160
#2	.000720	.0133377	.006107	.0006509	-.034611	-.005616
#3	-.000358	.0102736	.004098	.0019139	-.034270	-.002149

Elem	Sr4077
Units	ppm
Avg	.0000895
Stddev	.0000398
%RSD	44.46711
#1	.0000742
#2	.0000595
#3	.0001346

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5438.365	89109.32	8628.341	4546.828	6718.425
Stddev	18.555	161.27	45.287	9.966	30.412
%RSD	.3411883	.1809830	.5248654	.2191796	.4526676
#1	5417.118	89288.59	8619.297	4552.218	6683.420
#2	5451.377	89063.32	8677.468	4535.328	6738.350
#3	5446.601	88976.04	8588.259	4552.938	6733.506

Sample Name: Q2606-01 Acquired: 7/17/2025 14:32:24 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.003503**	**-.005623**	**-.001563**	**.0003643**	**.0013529**	**.4163402**
Stddev	.001844	.001775	.000991	.0028096	.0009816	.0122331
%RSD	52.63520	31.55963	63.39311	771.1866	72.55532	2.938246
#1	-.004144	-.003680	-.001824	-.000714	.0008574	.4084054
#2	-.001424	-.007158	-.000468	.003553	.0024834	.4304282
#3	-.004940	-.006031	-.002397	-.001747	.0007178	.4101868

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1455369**	**-.000271**	**-.000050**	**109.7589**	**.0031179**	**.0016575**
Stddev	.0004813	.000053	.000034	.9650	.0002448	.0000910
%RSD	.3307287	19.60152	68.97338	.8792398	7.852268	5.487545
#1	.1460338	-.000221	-.000011	110.7588	.0033254	.0016187
#2	.1455043	-.000265	-.000076	109.6850	.0028479	.0015923
#3	.1450728	-.000327	-.000062	108.8330	.0031803	.0017614

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002398**	**.0142259**	**.0056241**	**32.45348**	**.0127413**	**-.000041**
Stddev	.0004472	.0101862	.0003883	.29696	.0000542	.000074
%RSD	186.5175	71.60332	6.904848	.9150414	.4252922	183.2480
#1	.0005471	.0257733	.0059645	32.73983	.0127005	-.000072
#2	-.000273	.0103894	.0057066	32.47369	.0128028	-.000094
#3	.000445	.0065150	.0052011	32.14693	.0127206	.000044

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**362.7543**	**.0018276**	**.0659282**	**22.45818**	**.3589018**	**.0116214**
Stddev	2.8497	.0026805	.0001658	.17564	.0055340	.0000413
%RSD	.7855767	146.6639	.2514967	.7820868	1.541916	.3550673
#1	359.4923	.0047109	.0657381	22.32595	.3634387	.0115800
#2	364.0110	.0013606	.0660036	22.39110	.3605303	.0116218
#3	364.7597	-.000589	.0660429	22.65747	.3527362	.0116625

Sample Name: Q2606-01 Acquired: 7/17/2025 14:32:24 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.004239	.0085449	12.04620	.0654145	F 37.10071	.0199479
Stddev	.000976	.0006504	.02831	.0009821	.04642	.0015254
%RSD	23.02811	7.611231	.2350261	1.501337	.1251177	7.646984
#1	-.003603	.0079029	12.05334	.0665255	37.04879	.0198136
#2	-.003752	.0092033	12.01500	.0650557	37.13821	.0184941
#3	-.005363	.0085285	12.07026	.0646623	37.11513	.0215360

Elem	Sr4077
Units	ppm
Avg	1.147512
Stddev	.002232
%RSD	.1945468
#1	1.150049
#2	1.145845
#3	1.146643

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4865.242	82400.11	8404.397	4128.596	5538.689
Stddev	3.455	305.99	112.652	2.826	9.650
%RSD	.0710155	.3713421	1.340397	.0684389	.1742225
#1	4867.603	82049.95	8299.686	4131.737	5548.488
#2	4866.848	82616.02	8389.916	4126.261	5538.381
#3	4861.277	82534.37	8523.590	4127.791	5529.196

Sample Name: Q2600-02 Acquired: 7/17/2025 14:36:47 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0067985**	**-.004003**	**.1069061**	**.0024816**	**.0049740**	**.1272954**	**.6478059**
Stddev	.0008509	.001699	.0002303	.0011249	.0002024	.0109630	.0016017
%RSD	12.51626	42.44656	.2154043	45.33103	4.070228	8.612272	.2472456
#1	.0073990	-.002583	.1066967	.0037526	.0049221	.1397499	.6460496
#2	.0058248	-.003540	.1068689	.0020784	.0048026	.1191054	.6481822
#3	.0071717	-.005885	.1071527	.0016138	.0051974	.1230310	.6491860

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000266**	**-.000040**	**117.0497**	**.0000017**	**.0041141**	**.0030169**	**9.455366**
Stddev	.000022	.000045	.5184	.0004417	.0000772	.0002090	.112391
%RSD	8.226170	111.3624	.4429121	26829.90	1.876313	6.927349	1.188649
#1	-.000241	-.000008	116.7646	-.000166	.0040337	.0029065	9.325971
#2	-.000277	-.000092	116.7365	-.000332	.0041209	.0028862	9.511430
#3	-.000280	-.000021	117.6482	.000503	.0041877	.0032579	9.528696

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.338693**	**2.151519**	**.0115939**	**.0008031**	**337.1423**	**-.003499**	**.4877826**
Stddev	.001578	.015058	.0003322	.0004212	5.1929	.002897	.0028623
%RSD	.1178632	.6998750	2.865429	52.44967	1.540259	82.78792	.5868021
#1	1.337370	2.136119	.0115476	.0003186	331.9979	-.000399	.4857937
#2	1.338268	2.166210	.0119468	.0010827	342.3823	-.006137	.4910631
#3	1.340439	2.152227	.0112873	.0010078	337.0467	-.003960	.4864911

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.811123**	**.0363123**	**.0017285**	**-.004835**	**.0099079**	**.7679331**	**.0302089**
Stddev	.044974	.0003780	.0003221	.000272	.0044472	.0174223	.0007393
%RSD	2.483223	1.040907	18.63447	5.618898	44.88547	2.268730	2.447215
#1	1.774493	.0359983	.0015826	-.005020	.0064782	.7516160	.0299282
#2	1.797559	.0367318	.0020978	-.004962	.0083129	.7862824	.0296511
#3	1.861318	.0362069	.0015053	-.004523	.0149327	.7659009	.0310474

Sample Name: Q2600-02 Acquired: 7/17/2025 14:36:47 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.5241136	.0117077	.3325591
Stddev	.0026144	.0024766	.0008825
%RSD	.4988170	21.15355	.2653547
#1	.5231650	.0122428	.3316891
#2	.5221060	.0138731	.3325348
#3	.5270699	.0090074	.3334535

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4979.533	84069.48	8256.717	4198.944	5682.606
Stddev	9.869	692.85	15.364	25.646	11.101
%RSD	.1982005	.8241359	.1860828	.6107705	.1953518
#1	4990.884	84858.05	8239.253	4220.890	5685.407
#2	4974.733	83558.35	8268.156	4170.752	5692.038
#3	4972.981	83792.03	8262.740	4205.189	5670.372

Sample Name: Q2600-06 Acquired: 7/17/2025 14:41:11 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0080183**	**-.003558**	**.2782996**	**.0036087**	**.0054602**	**.1280618**	**.4176404**
Stddev	.0015287	.002007	.0009786	.0017234	.0010554	.0112555	.0019385
%RSD	19.06481	56.40852	.3516302	47.75614	19.32864	8.789146	.4641552
#1	.0062655	-.003423	.2780187	.0016517	.0052395	.1151479	.4154839
#2	.0087145	-.001622	.2793879	.0048995	.0066085	.1332494	.4181990
#3	.0090750	-.005630	.2774921	.0042750	.0045327	.1357879	.4192383

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000165**	**.0012045**	**52.64911**	**.0017809**	**.0081355**	**.0026165**	**16.92009**
Stddev	.000047	.0000580	.20947	.0003777	.0001157	.0003833	.14067
%RSD	28.65558	4.813146	.3978591	21.21130	1.421891	14.65103	.8314066
#1	-.000172	.0012633	52.47015	.0021951	.0080181	.0022322	16.91932
#2	-.000115	.0012028	52.87951	.0016920	.0081389	.0029989	17.06115
#3	-.000209	.0011473	52.59768	.0014555	.0082494	.0026183	16.77980

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7408927**	**1.555016**	**.0273450**	**.0010991**	**333.1463**	**-.003264**	**1.060735**
Stddev	.0022951	.009436	.0001616	.0000870	3.7156	.001619	.001929
%RSD	.3097734	.6067988	.5907844	7.916848	1.115299	49.58806	.1818475
#1	.7382600	1.564797	.0275257	.0011183	333.0638	-.001396	1.059601
#2	.7424719	1.545968	.0272144	.0010041	336.9025	-.004140	1.062962
#3	.7419464	1.554285	.0272949	.0011749	329.4727	-.004256	1.059641

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.622690**	**.0266214**	**.0007327**	**-.004529**	**.0099976**	**.6771471**	**.0158154**
Stddev	.027874	.0009944	.0001467	.000354	.0017536	.0112619	.0034418
%RSD	1.717746	3.735509	20.02524	7.808126	17.54061	1.663135	21.76231
#1	1.623080	.0261823	.0005636	-.004419	.0098410	.6875253	.0118604
#2	1.650367	.0277598	.0008082	-.004244	.0118243	.6651720	.0174544
#3	1.594624	.0259220	.0008263	-.004925	.0083275	.6787439	.0181313

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2600-06 Acquired: 7/17/2025 14:41:11 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.4534891	.0095009	.1337187
Stddev	.0044252	.0010049	.0002673
%RSD	.9758010	10.57716	.1999168
#1	.4536216	.0106203	.1334178
#2	.4489992	.0086766	.1338098
#3	.4578465	.0092058	.1339287

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5101.101	85572.26	8727.090	4304.552	5849.959
Stddev	9.295	403.21	44.643	25.328	13.709
%RSD	.1822077	.4711981	.5115446	.5884105	.2343478
#1	5098.977	85592.63	8761.980	4295.198	5849.917
#2	5111.274	85159.25	8742.509	4285.232	5863.690
#3	5093.052	85964.91	8676.782	4333.228	5836.271

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2600-10 Acquired: 7/17/2025 14:45:33 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.003454**	**-.004934**	**.4292368**	**.0006095**	**.0023704**	**.1467064**	**.2837892**
Stddev	.004648	.000480	.0008063	.0045859	.0013726	.0061976	.0010471
%RSD	134.5804	9.724916	.1878463	752.3890	57.90694	4.224496	.3689671
#1	-.000184	-.005301	.4283644	.0039016	.0011900	.1435292	.2844468
#2	-.001403	-.005111	.4299546	.0025554	.0038767	.1538483	.2825817
#3	-.008774	-.004391	.4293913	-.004629	.0020446	.1427417	.2843390

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000168**	**.0042222**	**23.15560**	**.0020416**	**.0055219**	**.0129029**	**3.484306**
Stddev	.000084	.0000413	.02256	.0000510	.0000512	.0001136	.051283
%RSD	50.29449	.9777821	.0974300	2.497297	.9264566	.8803015	1.471838
#1	-.000131	.0041747	23.16689	.0020196	.0055354	.0129002	3.515696
#2	-.000108	.0042422	23.12963	.0020052	.0055649	.0127906	3.512097
#3	-.000265	.0042496	23.17029	.0020998	.0054653	.0130177	3.425126

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6444785**	**2.058383**	**.0119626**	**.0005019**	**349.7596**	**-.003800**	**2.990895**
Stddev	.0031004	.020864	.0002303	.0002328	5.4866	.001738	.004267
%RSD	.4810770	1.013591	1.925574	46.38737	1.568682	45.74421	.1426626
#1	.6455562	2.066741	.0121230	.0002816	345.5178	-.005788	2.988660
#2	.6409830	2.034636	.0120661	.0004786	355.9558	-.002561	2.988211
#3	.6468963	2.073772	.0116986	.0007455	347.8052	-.003053	2.995816

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7679229**	**.0118545**	**-.000271**	**-.003698**	**.0123087**	**.3558698**	**.0230625**
Stddev	.0273896	.0005409	.000067	.000209	.0003252	.0179186	.0012598
%RSD	3.566718	4.562910	24.64676	5.647205	2.641721	5.035163	5.462589
#1	.7951488	.0122742	-.000235	-.003868	.0126094	.3567194	.0217690
#2	.7682474	.0120452	-.000348	-.003761	.0123531	.3733485	.0242857
#3	.7403724	.0112441	-.000230	-.003465	.0119637	.3375415	.0231329

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2600-10 Acquired: 7/17/2025 14:45:33 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.6454954	.0022310	.0529430
Stddev	.0009525	.0010537	.0000852
%RSD	.1475598	47.23009	.1609519
#1	.6447256	.0017858	.0529251
#2	.6465606	.0034342	.0530358
#3	.6452000	.0014730	.0528683

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5168.186	85594.63	8943.317	4308.558	5935.537
Stddev	3.226	154.62	124.767	17.244	14.526
%RSD	.0624202	.1806385	1.395092	.4002309	.2447365
#1	5171.845	85595.84	8971.451	4327.706	5949.350
#2	5165.750	85439.41	9051.615	4303.715	5936.871
#3	5166.964	85748.64	8806.885	4294.254	5920.390

Sample Name: Q2611-01 Acquired: 7/17/2025 14:49:56 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0733029**	**.0006434**	**.7486596**	**.0118588**	**-.009168**	**94.26990**	**1.590388**
Stddev	.0032198	.0009976	.0042076	.0049303	.002467	.02219	.002909
%RSD	4.392428	155.0457	.5620230	41.57529	26.91022	.0235425	.1829335
#1	.0726203	-.000428	.7534940	.0140098	-.012011	94.29383	1.589510
#2	.0768093	.000813	.7466616	.0062184	-.007905	94.24999	1.593636
#3	.0704792	.001545	.7458233	.0153482	-.007588	94.26588	1.588019

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0061486**	**.0028796**	**101.9841**	**.1951435**	**.1079784**	**.3736532**	**203.7857**
Stddev	.0000902	.0000482	.3203	.0009520	.0006474	.0007975	.3425
%RSD	1.467314	1.673629	.3140258	.4878390	.5995762	.2134443	.1680643
#1	.0061440	.0028779	102.1728	.1949432	.1086401	.3734134	204.1394
#2	.0060608	.0029287	101.6143	.1943076	.1079486	.3745431	203.4556
#3	.0062410	.0028323	102.1652	.1961797	.1073463	.3730031	203.7621

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.288434**	**29.06728**	**.2068529**	**.0066405**	**12.90898**	**.3410617**	**.8795793**
Stddev	.008095	.06808	.0006066	.0002938	.08948	.0011991	.0023837
%RSD	.1530678	.2342228	.2932526	4.424994	.6931503	.3515836	.2710092
#1	5.294866	29.14523	.2071774	.0065052	12.82215	.3423915	.8787899
#2	5.279345	29.03709	.2072283	.0069776	12.90390	.3400627	.8776904
#3	5.291092	29.01951	.2061531	.0064387	13.00090	.3407309	.8822576

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.085982**	**.0043912**	**.0037021**	**.0538942**	**1.945080**	**2.176809**	**8.398981**
Stddev	.014363	.0039623	.0002835	.0007863	.002757	.006833	.036918
%RSD	.1776257	90.23368	7.658358	1.458968	.1417631	.3138856	.4395499
#1	8.101679	.0082082	.0038093	.0547796	1.948249	2.173844	8.436888
#2	8.073498	.0046673	.0039163	.0532775	1.943761	2.171959	8.396918
#3	8.082770	.0002980	.0033806	.0536253	1.943229	2.184623	8.363139

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2611-01 Acquired: 7/17/2025 14:49:56 Type: Unk
Method: 6010-200.7 NEW(v42) 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	3.825351	.2149643	.2399958
Stddev	.015801	.0013988	.0005744
%RSD	.4130496	.6507154	.2393536
#1	3.843383	.2164356	.2393941
#2	3.818744	.2136515	.2405384
#3	3.813927	.2148059	.2400548

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6046.417	102306.7	10501.73	5114.261	5811.654
Stddev	14.093	302.5	32.15	9.833	23.595
%RSD	.2330854	.2957137	.3061268	.1922685	.4059967
#1	6034.672	102275.8	10500.90	5110.813	5784.560
#2	6062.044	102623.5	10534.28	5106.615	5827.683
#3	6042.533	102020.8	10470.00	5125.353	5822.720

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2622-01 Acquired: 7/17/2025 14:54:00 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0474270**	**-.004804**	**3.337175**	**.0082942**	**.0086325**	**99.69212**
Stddev	.0015395	.000712	.005890	.0018245	.0014209	.37137
%RSD	3.245989	14.82964	.1764971	21.99694	16.46027	.3725129
#1	.0492046	-.005243	3.340701	.0078107	.0071444	99.78234
#2	.0465211	-.005186	3.340449	.0067602	.0087781	100.0101
#3	.0465554	-.003982	3.330376	.0103117	.0099751	99.2840

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6777919**	**.0117220**	**.0062056**	**71.89185**	**.3068113**	**.1327051**
Stddev	.0006754	.0000901	.0000611	.13504	.0009270	.0000193
%RSD	.0996453	.7685170	.9851668	.1878373	.3021322	.0145811
#1	.6774072	.0118014	.0062361	72.00282	.3067768	.1327272
#2	.6785717	.0116241	.0062454	71.93125	.3059020	.1326912
#3	.6773967	.0117405	.0061352	71.74150	.3077550	.1326969

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2493019**	**139.5833**	**2.806917**	**82.42554**	**.2166154**	**.0038916**
Stddev	.0007346	.9679	.006415	.40226	.0006100	.0007469
%RSD	.2946806	.6934034	.2285561	.4880335	.2816143	19.19272
#1	.2495090	139.3940	2.813437	82.77389	.2169343	.0035098
#2	.2499108	138.7241	2.806703	82.51745	.2170000	.0034128
#3	.2484860	140.6319	2.800612	81.98527	.2159120	.0047522

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.333125**	**.3792596**	**1.216472**	**13.24229**	**.0214649**	**.0084093**
Stddev	.027400	.0034214	.000987	.11900	.0045422	.0004236
%RSD	.8220475	.9021272	.0811664	.8986642	21.16115	5.037222
#1	3.321037	.3823085	1.216692	13.19563	.0215657	.0079682
#2	3.313849	.3799111	1.215393	13.15369	.0168731	.0084468
#3	3.364491	.3755593	1.217330	13.37755	.0259559	.0088130

Sample Name: Q2622-01 Acquired: 7/17/2025 14:54:00 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0435116	1.736879	2.901612	F 21.37172	7.327392	.1448511
Stddev	.0006469	.008284	.020606	.02569	.038455	.0014368
%RSD	1.486747	.4769714	.7101415	.1201857	.5248121	.9918844
#1	.0431827	1.742160	2.881597	21.34269	7.288505	.1463393
#2	.0442569	1.741147	2.900479	21.38094	7.328270	.1447419
#3	.0430953	1.727331	2.922761	21.39152	7.365400	.1434720

Elem	Sr4077
Units	ppm
Avg	.1378132
Stddev	.0011526
%RSD	.8363746
#1	.1382117
#2	.1387138
#3	.1365142

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6332.994	105619.7	10833.76	5311.464	5834.935
Stddev	23.727	555.5	82.85	30.067	19.876
%RSD	.3746508	.5259501	.7647474	.5660825	.3406365
#1	6317.666	106225.4	10867.96	5345.767	5818.068
#2	6320.993	105499.8	10739.28	5289.672	5829.890
#3	6360.324	105134.0	10894.03	5298.953	5856.847

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV02 Acquired: 7/17/2025 14:58:02 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**5.114447**	**5.028033**	**4.872001**	**5.185559**	**5.212571**	**10.05685**	**10.57531**
Stddev	.015825	.121086	.036243	.023234	.010803	.00813	.18521
%RSD	.3094081	2.408224	.7439075	.4480442	.2072409	.0808827	1.751318
#1	5.131911	5.149764	4.913173	5.211651	5.222010	10.05076	10.58818
#2	5.101058	4.907602	4.844916	5.167109	5.214915	10.06609	10.75375
#3	5.110374	5.026735	4.857914	5.177917	5.200789	10.05371	10.38401

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2438318**	**2.437385**	**26.27241**	**.9472949**	**2.479536**	**1.274937**	**5.076160**
Stddev	.0013750	.014224	.15431	.0051833	.007507	.003405	.042319
%RSD	.5639317	.5835917	.5873453	.5471707	.3027735	.2670927	.8336804
#1	.2423446	2.451854	26.34233	.9504423	2.487230	1.278624	5.124120
#2	.2440938	2.423418	26.37939	.9413124	2.472231	1.271910	5.060290
#3	.2450570	2.436882	26.09552	.9501300	2.479147	1.274276	5.044070

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.574303**	**24.30881**	**2.488747**	**1.290527**	**22.87298**	**2.477764**	**2.590504**
Stddev	.007978	.07194	.008640	.003201	.16831	.009009	.011494
%RSD	.3098961	.2959314	.3471577	.2480444	.7358360	.3636077	.4436892
#1	2.577883	24.24969	2.497378	1.294190	23.02981	2.488159	2.577462
#2	2.579863	24.38890	2.480098	1.288266	22.69517	2.472206	2.594893
#3	2.565162	24.28784	2.488766	1.289125	22.89397	2.472928	2.599157

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.99860**	**5.214517**	**5.168206**	**4.888631**	**4.949532**	**4.813270**	**4.804761**
Stddev	.22836	.028668	.009025	.039992	.018726	.038588	.041994
%RSD	.8783606	.5497717	.1746210	.8180609	.3783471	.8017064	.8740132
#1	26.26172	5.185755	5.162125	4.933141	4.971126	4.852280	4.847444
#2	25.88199	5.243090	5.163917	4.855723	4.939701	4.775118	4.763491
#3	25.85208	5.214707	5.178575	4.877028	4.937768	4.812414	4.803348

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV02 Acquired: 7/17/2025 14:58:02 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.918676**	**5.008604**	**5.386780**
Stddev	.052002	.018306	.103044
%RSD	1.057229	.3654942	1.912900
#1	4.973840	5.020713	5.458472
#2	4.870555	4.987545	5.433172
#3	4.911634	5.017553	5.268695

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5155.912**	**85780.46**	**8337.390**	**4323.434**	**5992.196**
Stddev	2.338	208.62	64.987	29.373	10.764
%RSD	.0453544	.2432033	.7794664	.6793909	.1796386
#1	5157.311	85602.99	8393.891	4351.142	5981.495
#2	5157.212	85728.13	8266.372	4292.640	6003.023
#3	5153.212	86010.27	8351.907	4326.520	5992.069

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCB02 Acquired: 7/17/2025 15:02:14 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000858**	**-.000591**	**-.001809**	**-.000237**	**-.000908**	**-.001128**
Stddev	.002761	.001059	.000286	.000408	.000650	.008326
%RSD	321.9894	179.2362	15.79951	171.8291	71.58261	737.9839
#1	.001380	-.000827	-.002037	-.000668	-.001502	-.010124
#2	-.000009	-.001513	-.001489	.000143	-.000213	.000432
#3	-.003944	.000566	-.001902	-.000187	-.001009	.006307

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.004243**	**-.000099**	**.0000024**	**.0059718**	**-.000337**	**.0000374**
Stddev	.000747	.000042	.0000492	.0064493	.000208	.0001364
%RSD	17.59394	42.40506	2019.104	107.9958	61.80665	364.3885
#1	-.004045	-.000148	-.000005	.0002870	-.000565	.0000023
#2	-.003615	-.000080	.000055	.0129803	-.000288	-.000078
#3	-.005069	-.000070	-.000042	.0046483	-.000157	.000188

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000104**	**-.000390**	**-.000132**	**-.025753**	**.0001872**	**.0009021**
Stddev	.000219	.003508	.000309	.017951	.0002695	.0006574
%RSD	210.6320	900.5026	233.9007	69.70498	144.0025	72.87564
#1	-.000357	-.004071	-.000303	-.030669	.0004362	.0012157
#2	.000024	.002914	-.000319	-.040733	.0002242	.0013440
#3	.000021	-.000012	.000225	-.005856	-.000099	.0001466

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.253049**	**-.001068**	**-.000147**	**.0966507**	**.0057590**	**.0008904**
Stddev	.013423	.001577	.000127	.0059386	.0005215	.0001353
%RSD	5.304314	147.6812	86.77793	6.144362	9.056012	15.19120
#1	-.262717	-.002826	-.000011	.1007528	.0058018	.0009974
#2	-.237724	-.000600	-.000165	.0898409	.0052174	.0007384
#3	-.258707	.000222	-.000263	.0993585	.0062578	.0009354

Sample Name: CCB02 Acquired: 7/17/2025 15:02:14 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000073	.0151079	.0496644	.0015236	F -.032538	-.003399
Stddev	.000195	.0018594	.0531182	.0007052	.000880	.002693
%RSD	266.1839	12.30750	106.9544	46.28098	2.703357	79.23787
#1	.000027	.0131135	.0134786	.0007599	-.033412	-.005840
#2	-.000298	.0167937	.1106465	.0016611	-.032549	-.000510
#3	.000051	.0154165	.0248681	.0021500	-.031653	-.003846

Elem	Sr4077
Units	ppm
Avg	.0000852
Stddev	.0000357
%RSD	41.85985
#1	.0000443
#2	.0001015
#3	.0001098

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5372.489	88788.44	8386.837	4429.980	6719.208
Stddev	13.318	168.42	66.488	17.278	22.008
%RSD	.2478833	.1896897	.7927633	.3900163	.3275376
#1	5378.510	88981.86	8324.417	4431.978	6740.711
#2	5381.732	88674.19	8379.338	4411.790	6720.185
#3	5357.224	88709.27	8456.757	4446.172	6696.728

Sample Name: Q2592-02 Acquired: 7/17/2025 15:07:55 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.005813**	**-.003541**	**.0043055**	**.0027115**	**-.000030**	**.0998584**	**.1416334**
Stddev	.000826	.000624	.0004286	.0034891	.002244	.0096876	.0003937
%RSD	14.21458	17.63063	9.954971	128.6769	7405.171	9.701339	.2779368
#1	-.005029	-.004261	.0045072	-.001313	.001855	.0888506	.1419758
#2	-.006676	-.003222	.0038132	.004887	-.002513	.1070859	.1417213
#3	-.005733	-.003141	.0045961	.004561	.000567	.1036387	.1412033

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000230**	**.0020382**	**72.58829**	**.0001506**	**.0048562**	**.0398175**	**.0323611**
Stddev	.000027	.0001345	.13434	.0002283	.0001332	.0002375	.0071670
%RSD	11.58298	6.598748	.1850733	151.6377	2.742465	.5963425	22.14697
#1	-.000260	.0021401	72.68336	-.000094	.0049725	.0399946	.0395693
#2	-.000209	.0020887	72.64691	.000358	.0048853	.0395477	.0252361
#3	-.000220	.0018857	72.43460	.000187	.0047109	.0399102	.0322778

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3917584**	**19.61335**	**.0082914**	**.0007321**	**317.0479**	**-.004005**	**1.417445**
Stddev	.0008650	.05960	.0000774	.0002963	2.1350	.001272	.003096
%RSD	.2208044	.3038792	.9332434	40.47451	.6733937	31.74461	.2184279
#1	.3910126	19.68157	.0083630	.0003905	315.6078	-.003922	1.415818
#2	.3927067	19.58712	.0083020	.0009206	319.5008	-.002778	1.421015
#3	.3915558	19.57137	.0082093	.0008851	316.0351	-.005317	1.415502

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6669007**	**.0299427**	**.0004056**	**-.004426**	**.0124650**	**1.852516**	**.0570199**
Stddev	.0202233	.0005296	.0003235	.000487	.0011159	.021589	.0034505
%RSD	3.032432	1.768654	79.76732	11.01198	8.952182	1.165372	6.051408
#1	.6480222	.0294165	.0000395	-.004983	.0114541	1.874120	.0561248
#2	.6882431	.0299360	.0006533	-.004214	.0136624	1.830943	.0541051
#3	.6644368	.0304756	.0005240	-.004080	.0122785	1.852486	.0608298

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2592-02 Acquired: 7/17/2025 15:07:55 Type: Unk
Method: 6010-200.7 NEW(v42) 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	6.307479	.0100585	.1932721
Stddev	.000512	.0025744	.0002696
%RSD	.0081105	25.59391	.1395122
#1	6.308066	.0113073	.1932557
#2	6.307126	.0117703	.1935496
#3	6.307245	.0070979	.1930110

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4965.826	84532.57	8241.257	4123.115	5711.569
Stddev	10.604	146.78	23.350	17.709	8.487
%RSD	.2135476	.1736341	.2833317	.4295025	.1485858
#1	4959.341	84426.24	8215.309	4109.003	5704.056
#2	4978.064	84471.45	8260.576	4117.355	5720.774
#3	4960.074	84700.04	8247.885	4142.987	5709.877

Sample Name: Q2614-06 Acquired: 7/17/2025 15:12:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.003081**	**-.004096**	**.0020794**	**.0025791**	**-.000405**	**.1071784**	**.1553727**
Stddev	.001432	.001587	.0020200	.0007196	.002024	.0054566	.0001395
%RSD	46.46713	38.75041	97.14042	27.90005	500.2716	5.091107	.0897915
#1	-.001451	-.005869	.0042334	.0030044	.001932	.1134732	.1555328
#2	-.004133	-.002807	.0017773	.0029847	-.001534	.1037948	.1553077
#3	-.003661	-.003612	.0002276	.0017483	-.001611	.1042672	.1552774

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000296**	**.0002214**	**48.74616**	**-.000077**	**.0005801**	**.0108468**	**.1153094**
Stddev	.000029	.0000787	.12771	.000350	.0001892	.0002418	.0024691
%RSD	9.914796	35.55741	.2619948	452.9926	32.62114	2.229580	2.141237
#1	-.000275	.0003034	48.67209	.000247	.0004473	.0108734	.1129855
#2	-.000330	.0001465	48.67275	-.000449	.0004962	.0105928	.1179016
#3	-.000285	.0002143	48.89362	-.000031	.0007967	.0110743	.1150410

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5474385**	**2.689558**	**.0012274**	**.0008243**	**287.1110**	**-.002012**	**.1880130**
Stddev	.0008571	.015279	.0000489	.0001044	2.5784	.002650	.0011352
%RSD	.1565648	.5680738	3.982976	12.66881	.8980592	131.7320	.6037912
#1	.5484165	2.697200	.0011893	.0009250	290.0130	.001041	.1891619
#2	.5468180	2.699507	.0012825	.0007165	285.0838	-.003355	.1879852
#3	.5470810	2.671966	.0012105	.0008316	286.2361	-.003721	.1868921

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.314050**	**.0353902**	**.0007252**	**-.004385**	**.0137609**	**.6366596**	**.3719331**
Stddev	.018528	.0009607	.0002561	.000433	.0006584	.0037046	.0024746
%RSD	1.409982	2.714716	35.30911	9.881117	4.784519	.5818722	.6653422
#1	1.296305	.0346099	.0010111	-.004885	.0133089	.6362488	.3729839
#2	1.333272	.0350973	.0005169	-.004162	.0134575	.6405524	.3691065
#3	1.312573	.0364632	.0006477	-.004109	.0145163	.6331776	.3737089

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-06 Acquired: 7/17/2025 15:12:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.5173461	.0038070	.2518866
Stddev	.0032755	.0038583	.0002083
%RSD	.6331361	101.3474	.0827100
#1	.5156063	.0059007	.2521014
#2	.5153076	-.000646	.2516854
#3	.5211244	.006166	.2518730

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5032.703	86157.05	8543.222	4228.954	5813.632
Stddev	9.458	232.35	56.802	11.122	7.304
%RSD	.1879267	.2696828	.6648788	.2630078	.1256291
#1	5029.538	86111.08	8551.417	4222.268	5810.696
#2	5043.337	85951.12	8595.481	4222.800	5821.946
#3	5025.233	86408.95	8482.767	4241.793	5808.253

Sample Name: Q2612-01 Acquired: 7/17/2025 15:16:42 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.1041664**	**.0037766**	**.4579143**	**.0181233**	**.0111553**	**132.0663**	**.7388516**
Stddev	.0021249	.0012976	.0032388	.0036056	.0015327	.1396	.0019293
%RSD	2.039942	34.35965	.7072852	19.89483	13.73957	.1056774	.2611144
#1	.1024950	.0037181	.4609178	.0207185	.0119402	132.2273	.7410098
#2	.1065578	.0025092	.4583422	.0196451	.0093891	131.9930	.7372942
#3	.1034463	.0051024	.4544828	.0140063	.0121366	131.9788	.7382508

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0086383**	**.0001484**	**34.50495**	**.1894975**	**.1491373**	**.3462546**	**277.6668**
Stddev	.0000742	.0001275	.10933	.0009840	.0004818	.0013660	1.8762
%RSD	.8592380	85.89025	.3168400	.5192575	.3230529	.3945128	.6757004
#1	.0087120	.0002674	34.63016	.1887360	.1493115	.3471060	275.7609
#2	.0085636	.0001641	34.45635	.1906085	.1495078	.3469788	277.7278
#3	.0086392	.0000139	34.42836	.1891480	.1485926	.3446789	279.5118

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.649851**	**46.45185**	**.2593744**	**.0074435**	**11.36744**	**.3345518**	**.7242512**
Stddev	.018108	.19023	.0004773	.0005723	.09228	.0019074	.0015503
%RSD	.2723107	.4095259	.1840379	7.689113	.8117983	.5701246	.2140513
#1	6.664590	46.54895	.2598265	.0069548	11.27034	.3361710	.7228250
#2	6.655327	46.57393	.2588753	.0073025	11.37800	.3324492	.7259012
#3	6.629637	46.23266	.2594214	.0080731	11.45399	.3350351	.7240274

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.02889**	**.0041342**	**.0056585**	**.3840165**	**3.022215**	**2.043393**	**6.360451**
Stddev	.11330	.0093699	.0001088	.0025674	.000230	.014203	.015695
%RSD	.7539066	226.6429	1.923002	.6685701	.0076144	.6950604	.2467648
#1	14.98131	-.005131	.0056538	.3861745	3.022372	2.038344	6.378490
#2	14.94713	.003927	.0055520	.3846978	3.022322	2.032404	6.352938
#3	15.15822	.013606	.0057695	.3811771	3.021951	2.059430	6.349924

Sample Name: Q2612-01 Acquired: 7/17/2025 15:16:42 Type: Unk
Method: 6010-200.7 NEW(v42) 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	1.327315	.3370326	-.038115
Stddev	.003288	.0039161	.002245
%RSD	.2476826	1.161928	5.889499
#1	1.329706	.3329665	-.035599
#2	1.323566	.3373521	-.038834
#3	1.328674	.3407791	-.039912

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5907.232	101093.6	10053.88	5014.709	5703.677
Stddev	10.565	566.1	48.50	14.956	11.069
%RSD	.1788511	.5599785	.4823754	.2982434	.1940621
#1	5910.734	101743.5	10036.26	5030.950	5701.096
#2	5895.361	100830.1	10016.66	5011.674	5694.127
#3	5915.602	100707.3	10108.73	5001.503	5715.808

Sample Name: Q2614-01 Acquired: 7/17/2025 15:20:46 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0861103**	**.0024670**	**1.729214**	**.0132227**	**.0035311**	**79.82431**	**1.612553**
Stddev	.0017998	.0006935	.009703	.0028908	.0007509	.04679	.003398
%RSD	2.090141	28.10953	.5611380	21.86278	21.26602	.0586201	.2106917
#1	.0862724	.0032303	1.737569	.0161708	.0042345	79.80251	1.614664
#2	.0842350	.0022950	1.718571	.0131045	.0036184	79.87803	1.608634
#3	.0878237	.0018758	1.731501	.0103927	.0027403	79.79240	1.614361

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044924**	**.0113569**	**212.7945**	**.2934755**	**.1219046**	**1.320694**	**216.4401**
Stddev	.0000945	.0001548	.9027	.0010542	.0003840	.004905	1.7431
%RSD	2.103956	1.362895	.4242319	.3592228	.3149910	.3714016	.8053725
#1	.0045437	.0113235	212.4539	.2927074	.1221901	1.323301	217.2127
#2	.0043834	.0112215	212.1116	.2946774	.1214680	1.315036	217.6635
#3	.0045502	.0115256	213.8180	.2930416	.1220556	1.323745	214.4442

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.632906**	**42.51726**	**.2945621**	**.0124679**	**5.764476**	**.3075101**	**3.236093**
Stddev	.004965	.08146	.0007804	.0006128	.073656	.0008969	.010946
%RSD	.0748563	.1915916	.2649275	4.914658	1.277760	.2916669	.3382450
#1	6.627873	42.44592	.2953637	.0131608	5.809052	.3070958	3.235472
#2	6.633044	42.60602	.2938049	.0119976	5.804918	.3085392	3.247336
#3	6.637800	42.49983	.2945176	.0122451	5.679459	.3068952	3.225471

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.88209**	**.2505523**	**.0166503**	**.1195805**	**3.174109**	**4.250686**	**17.58973**
Stddev	.03983	.0048938	.0002942	.0007953	.004765	.065642	.03247
%RSD	.3660043	1.953197	1.766664	.6650776	.1501295	1.544279	.1845770
#1	10.88589	.2529769	.0168108	.1200521	3.173753	4.283238	17.57140
#2	10.91988	.2537604	.0168293	.1200271	3.179042	4.293691	17.57058
#3	10.84049	.2449196	.0163108	.1186622	3.169532	4.175129	17.62722

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-01 Acquired: 7/17/2025 15:20:46 Type: Unk
Method: 6010-200.7 NEW(v42) 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	18.98174	.2058533	.7251207
Stddev	.07550	.0020755	.0034883
%RSD	.3977555	1.008221	.4810599
#1	19.06507	.2057707	.7256611
#2	18.91788	.2079688	.7213937
#3	18.96228	.2038203	.7283072

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5701.700	96945.21	9886.578	4739.896	5706.089
Stddev	20.025	497.41	51.531	8.370	23.667
%RSD	.3512069	.5130798	.5212260	.1765847	.4147619
#1	5681.376	96997.27	9939.140	4740.438	5681.422
#2	5721.411	96423.82	9884.453	4731.268	5728.610
#3	5702.314	97414.54	9836.142	4747.982	5708.235

Sample Name: Q2608-01 Acquired: 7/17/2025 15:24:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.1187337	-.006542	.0021843	-.001282	.0011827	.3657214
Stddev	.0022204	.000730	.0014277	.003560	.0014416	.0188956
%RSD	1.870068	11.15235	65.36117	277.7215	121.8956	5.166660
#1	.1171850	-.006462	.0016057	-.004597	.0000951	.3439671
#2	.1177384	-.005856	.0011368	-.001730	.0028178	.3751474
#3	.1212776	-.007308	.0038105	.002481	.0006351	.3780497

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.665995	-.000281	-.000166	236.8432	.0018449	.0016613
Stddev	.004805	.000051	.000125	.2594	.0005416	.0002280
%RSD	.1029802	18.26886	75.44766	.1095355	29.35500	13.72503
#1	4.664914	-.000294	-.000125	237.0726	.0024695	.0014022
#2	4.671248	-.000325	-.000067	236.8954	.0015061	.0018314
#3	4.661822	-.000225	-.000307	236.5617	.0015591	.0017503

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034881	4.671771	2.099034	62.76302	.0074385	.0004894
Stddev	.0000402	.022996	.001494	.23202	.0004200	.0004889
%RSD	1.152973	.4922421	.0711747	.3696780	5.646422	99.88044
#1	.0034423	4.655342	2.097357	62.73222	.0076102	.0010532
#2	.0035043	4.661919	2.099523	63.00890	.0077455	.0001823
#3	.0035177	4.698052	2.100222	62.54794	.0069599	.0002329

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	459.3537	.0012380	.0696669	45.11741	1.167689	.0145003
Stddev	5.4678	.0008007	.0003778	.10801	.004467	.0001155
%RSD	1.190315	64.67631	.5422361	.2393952	.3825212	.7962098
#1	453.9321	.0006123	.0692378	44.99361	1.163260	.0146196
#2	459.2623	.0009613	.0699493	45.19239	1.172192	.0144922
#3	464.8665	.0021403	.0698137	45.16622	1.167615	.0143891

Sample Name: Q2608-01 Acquired: 7/17/2025 15:24:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.004169	.0126832	F 27.04961	1.379145	F 44.53765	.1426894
Stddev	.000679	.0005011	.05530	.003536	.17414	.0016603
%RSD	16.27664	3.950966	.2044316	.2564160	.3909853	1.163577
#1	-.004584	.0122276	26.98654	1.375786	44.56060	.1408758
#2	-.004537	.0132199	27.07255	1.378815	44.69918	.1441345
#3	-.003386	.0126020	27.08976	1.382835	44.35318	.1430578

Elem	Sr4077
Units	ppm
Avg	1.896829
Stddev	.001859
%RSD	.0979906
#1	1.896729
#2	1.898737
#3	1.895023

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4721.214	80874.82	8286.842	3955.690	5350.574
Stddev	4.669	374.71	16.628	29.486	7.632
%RSD	.0989002	.4633199	.2006593	.7453981	.1426348
#1	4726.488	81302.73	8305.534	3989.407	5354.765
#2	4717.607	80605.37	8273.695	3934.736	5341.765
#3	4719.547	80716.38	8281.295	3942.926	5355.193

Sample Name: Q2585-04 Acquired: 7/17/2025 15:29:09 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.003299**	**-.004294**	**.0034703**	**.0036355**	**-.000222**	**.1688241**	**.0173051**
Stddev	.000186	.000910	.0003703	.0003873	.002107	.0104873	.0007557
%RSD	5.647876	21.19082	10.66992	10.65439	950.0046	6.211983	4.366699
#1	-.003369	-.005332	.0034306	.0040822	-.002652	.1808291	.0171692
#2	-.003088	-.003630	.0031215	.0033933	.001085	.1614453	.0181195
#3	-.003440	-.003921	.0038589	.0034310	.000902	.1641979	.0166266

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000218**	**.0001014**	**31.42793**	**.0005880**	**-.000078**	**.2382506**	**.7794338**
Stddev	.000011	.0000589	.08610	.0001749	.000103	.0001629	.0065915
%RSD	5.016259	58.06181	.2739668	29.74134	132.1410	.0683800	.8456736
#1	-.000205	.0000344	31.44783	.0003875	.000018	.2381808	.7767120
#2	-.000224	.0001250	31.33362	.0006670	-.000187	.2384368	.7746391
#3	-.000224	.0001448	31.50234	.0007093	-.000065	.2381342	.7869503

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0773728**	**7.164475**	**.0017208**	**.0007471**	**65.18949**	**-.002692**	**.3683972**
Stddev	.0003812	.057303	.0001934	.0000753	.16807	.002742	.0003878
%RSD	.4926332	.7998155	11.24153	10.07834	.2578137	101.8546	.1052551
#1	.0774013	7.099560	.0016955	.0008087	65.08885	-.001871	.3680886
#2	.0769782	7.208029	.0019256	.0007693	65.38352	-.000454	.3688325
#3	.0777390	7.185835	.0015412	.0006632	65.09612	-.005751	.3682706

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.934159**	**.0214570**	**.0012647**	**-.004361**	**.0152201**	**3.620172**	**1.746828**
Stddev	.025822	.0006177	.0000235	.000300	.0005755	.010924	.005363
%RSD	.2599351	2.878716	1.857798	6.880344	3.780969	.3017625	.3069937
#1	9.910984	.0220563	.0012918	-.004680	.0148281	3.608976	1.752089
#2	9.929499	.0208225	.0012503	-.004320	.0149515	3.630802	1.747026
#3	9.961994	.0214923	.0012520	-.004084	.0158808	3.620736	1.741369

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2585-04 Acquired: 7/17/2025 15:29:09 Type: Unk
Method: 6010-200.7 NEW(v42) 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	7.384344	.0004348	.1048838
Stddev	.043127	.0028393	.0002721
%RSD	.5840334	652.9603	.2594277
#1	7.433989	.0012654	.1049645
#2	7.356131	.0027662	.1045805
#3	7.362913	-.002727	.1051064

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5122.364	85577.51	8516.350	4191.202	6191.338
Stddev	3.868	379.54	17.377	22.675	3.424
%RSD	.0755119	.4435081	.2040450	.5410121	.0553109
#1	5125.101	85982.65	8528.495	4217.324	6188.676
#2	5124.053	85230.21	8524.110	4179.682	6190.136
#3	5117.939	85519.68	8496.445	4176.599	6195.201

Sample Name: Q2606-01DUP Acquired: 7/17/2025 15:33:23 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.003717**	**-.003336**	**-.002072**	**.0017101**	**.0011512**	**.3104442**
Stddev	.001629	.003626	.000883	.0032110	.0006044	.0205095
%RSD	43.81585	108.6900	42.62372	187.7698	52.49877	6.606491
#1	-.003101	-.001125	-.001658	.0049840	.0007921	.2954384
#2	-.005564	-.001363	-.001471	.0015803	.0018489	.3338140
#3	-.002487	-.007522	-.003085	-.001434	.0008125	.3020802

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1422331**	**-.000226**	**-.000040**	**109.8202**	**.0022674**	**.0016377**
Stddev	.0013580	.000048	.000026	.3562	.0003210	.0000902
%RSD	.9547990	21.35672	65.93673	.3243315	14.15865	5.510993
#1	.1414300	-.000172	-.000070	109.4463	.0026379	.0016725
#2	.1414683	-.000265	-.000029	109.8590	.0020917	.0015352
#3	.1438011	-.000242	-.000021	110.1555	.0020725	.0017054

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000112**	**.0346084**	**.0053936**	**32.06164**	**.0123793**	**.0005216**
Stddev	.000361	.0037918	.0004722	.08829	.0001864	.0000538
%RSD	322.6433	10.95635	8.754994	.2753788	1.505932	10.31474
#1	.000242	.0388992	.0051986	32.05019	.0125193	.0005837
#2	-.000097	.0317080	.0050502	31.97964	.0121677	.0004908
#3	-.000480	.0332181	.0059321	32.15510	.0124510	.0004902

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**347.1671**	**-.000012**	**.0644439**	**21.95801**	**.3563153**	**.0117050**
Stddev	6.6413	.001660	.0009132	.37582	.0020866	.0000917
%RSD	1.913002	13663.41	1.417041	1.711558	.5856154	.7831292
#1	339.5782	.001761	.0634260	21.57078	.3571348	.0117890
#2	351.9174	-.000267	.0651912	22.32128	.3539433	.0117188
#3	350.0056	-.001530	.0647145	21.98198	.3578678	.0116072

Sample Name: Q2606-01DUP Acquired: 7/17/2025 15:33:23 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.004407	.0104859	11.57358	.0636372	F 36.03736	.0211894
Stddev	.000290	.0004334	.15495	.0016767	.22738	.0025407
%RSD	6.586458	4.133133	1.338823	2.634747	.6309594	11.99063
#1	-.004104	.0101898	11.42696	.0653570	35.85036	.0222768
#2	-.004435	.0109833	11.73570	.0635472	36.29047	.0230054
#3	-.004683	.0102846	11.55809	.0620073	35.97126	.0182859

Elem	Sr4077
Units	ppm
Avg	1.150986
Stddev	.001033
%RSD	.0897862
#1	1.150084
#2	1.152114
#3	1.150760

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4900.948	83395.48	8270.642	4105.168	5619.477
Stddev	6.482	1236.07	39.783	46.029	14.596
%RSD	.1322550	1.482180	.4810119	1.121255	.2597313
#1	4894.038	84756.35	8303.109	4158.291	5610.642
#2	4901.912	82342.36	8282.554	4080.074	5611.466
#3	4906.893	83087.73	8226.265	4077.139	5636.324

Sample Name: Q2606-01LX5 Acquired: 7/17/2025 15:37:44 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.002128**	**.0006552**	**-.002691**	**-.000250**	**-.001625**	**.0741533**	**.0272022**
Stddev	.001306	.0010237	.001140	.003564	.001497	.0046081	.0012955
%RSD	61.34637	156.2501	42.35915	1425.945	92.08996	6.214254	4.762664
#1	-.003445	.0004535	-.002522	.002916	-.002646	.0752341	.0285536
#2	-.002107	-.000253	-.003906	-.004111	-.002324	.0691009	.0259708
#3	-.000834	.001765	-.001645	.000445	.000093	.0781249	.0270821

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000087**	**-.000045**	**23.71908**	**.0001961**	**.0001985**	**-.000316**	**.0024176**
Stddev	.000024	.000049	.16915	.0002754	.0002368	.000327	.0028178
%RSD	27.49077	109.7935	.7131242	140.4248	119.3087	103.6746	116.5516
#1	-.000109	-.000012	23.89836	.0001337	.0002451	-.000275	-.000465
#2	-.000062	-.000021	23.56232	-.000043	-.000058	-.000661	.005166
#3	-.000091	-.000102	23.69657	.000497	.000409	-.000011	.002552

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011611**	**6.878910**	**.0027384**	**.0011587**	**61.26426**	**-.000129**	**.0131463**
Stddev	.0002688	.043746	.0004195	.0005233	.16822	.002656	.0000853
%RSD	23.14717	.6359377	15.31941	45.16094	.2745793	2060.320	.6486488
#1	.0009180	6.912536	.0027505	.0015696	61.12647	-.000932	.0132108
#2	.0014497	6.894740	.0023130	.0005696	61.45172	.002836	.0131785
#3	.0011155	6.829452	.0031517	.0013368	61.21459	-.002291	.0130497

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.580396**	**.0827674**	**.0024699**	**.0002872**	**.0144160**	**2.349040**	**.0104909**
Stddev	.051979	.0006772	.0002839	.0005193	.0022120	.014737	.0016513
%RSD	1.134808	.8181819	11.49364	180.8106	15.34384	.6273732	15.74025
#1	4.602373	.0834363	.0021507	-.000276	.0169379	2.347949	.0088743
#2	4.617776	.0827835	.0026940	.000747	.0135054	2.364292	.0121748
#3	4.521039	.0820822	.0025652	.000390	.0128047	2.334878	.0104237

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2606-01LX5 Acquired: 7/17/2025 15:37:44 Type: Unk
Method: 6010-200.7 NEW(v42) 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	7.230779	.0012980	.2433403
Stddev	.073305	.0010153	.0016161
%RSD	1.013798	78.22131	.6641101
#1	7.314652	.0019917	.2450739
#2	7.198723	.0017697	.2430717
#3	7.178961	.0001326	.2418754

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5136.048	86112.26	8202.623	4256.163	6088.459
Stddev	13.263	120.11	40.209	11.494	10.899
%RSD	.2582374	.1394807	.4901953	.2700460	.1790145
#1	5122.518	86076.66	8156.215	4264.922	6076.371
#2	5149.027	86013.98	8227.055	4260.418	6091.472
#3	5136.601	86246.15	8224.598	4243.148	6097.536

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2606-01MS Acquired: 7/17/2025 15:42:02 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8217122**	**1.870102**	**.9147352**	**2.042397**	**.8488802**	**2.305365**
Stddev	.0017957	.039532	.0011263	.011100	.0030504	.012095
%RSD	.2185251	2.113875	.1231241	.5434911	.3593459	.5246352
#1	.8196767	1.907827	.9144148	2.053954	.8516615	2.318539
#2	.8223880	1.828983	.9159869	2.031818	.8456178	2.302795
#3	.8230719	1.873496	.9138038	2.041418	.8493612	2.294762

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3477321**	**.1840838**	**.1910561**	**110.9892**	**.3606330**	**.1993508**
Stddev	.0010069	.0014034	.0003157	.1538	.0025808	.0003379
%RSD	.2895673	.7623448	.1652172	.1385516	.7156291	.1694903
#1	.3479608	.1826932	.1908946	111.1113	.3592942	.1992349
#2	.3486050	.1840586	.1914198	111.0398	.3589967	.1997314
#3	.3466305	.1854996	.1908537	110.8165	.3636081	.1990861

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2954825**	**2.964503**	**.2072546**	**33.89574**	**.5057056**	**.0765805**
Stddev	.0006526	.005587	.0008383	.21552	.0005939	.0003212
%RSD	.2208620	.1884574	.4044544	.6358218	.1174476	.4193885
#1	.2960376	2.960796	.2072589	34.09395	.5051737	.0762330
#2	.2956462	2.961784	.2080907	33.66632	.5063465	.0768664
#3	.2947636	2.970929	.2064142	33.92693	.5055966	.0766421

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**348.6673**	**.2973274**	**.2840869**	**32.19467**	**.6364677**	**.4424868**
Stddev	2.3313	.0019289	.0016512	.07864	.0039377	.0012358
%RSD	.6686451	.6487513	.5812360	.2442533	.6186823	.2792753
#1	351.3583	.2995513	.2847357	32.28415	.6333790	.4437943
#2	347.3873	.2963210	.2822098	32.13655	.6351223	.4413381
#3	347.2564	.2961098	.2853152	32.16332	.6409018	.4423281

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2606-01MS Acquired: 7/17/2025 15:42:02 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.6898676	.2029582	12.35157	6.177689	F 36.49660	.2212666
Stddev	.0004027	.0006342	.09145	.016470	.11378	.0060706
%RSD	.0583765	.3124623	.7403819	.2665997	.3117609	2.743565
#1	.6899249	.2022517	12.44590	6.164045	36.57679	.2210124
#2	.6902386	.2031446	12.26330	6.195984	36.36638	.2153270
#3	.6894393	.2034782	12.34550	6.173038	36.54664	.2274602

Elem	Sr4077
Units	ppm
Avg	1.364283
Stddev	.002753
%RSD	.2017841
#1	1.365962
#2	1.365780
#3	1.361105

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4846.763	83092.28	8155.468	4062.819	5532.497
Stddev	18.704	477.67	37.900	18.938	15.615
%RSD	.3859085	.5748643	.4647248	.4661324	.2822371
#1	4826.825	83003.68	8172.326	4050.096	5521.013
#2	4849.542	83608.05	8182.014	4084.584	5526.201
#3	4863.922	82665.12	8112.063	4053.779	5550.277

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2606-01MSD Acquired: 7/17/2025 15:46:08 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8068001**	**1.844138**	**.8977606**	**2.018734**	**.8347533**	**2.248973**
Stddev	.0021561	.013034	.0013362	.008097	.0039204	.004514
%RSD	.2672443	.7067702	.1488380	.4010936	.4696543	.2007112
#1	.8054680	1.830617	.8992514	2.009510	.8366227	2.249873
#2	.8092877	1.845175	.8973595	2.024668	.8302480	2.244077
#3	.8056447	1.856623	.8966708	2.022024	.8373890	2.252970

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3374058**	**.1781919**	**.1877485**	**106.5767**	**.3537915**	**.1955123**
Stddev	.0007707	.0011248	.0001062	.3120	.0023179	.0004594
%RSD	.2284294	.6312052	.0565787	.2927148	.6551668	.2349584
#1	.3382606	.1774101	.1876837	106.8993	.3531826	.1956840
#2	.3371928	.1794810	.1876908	106.5540	.3563531	.1949918
#3	.3367639	.1776847	.1878711	106.2767	.3518388	.1958611

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2890668**	**2.946089**	**.2030329**	**32.56203**	**.4953206**	**.0749636**
Stddev	.0003599	.031950	.0009830	.16518	.0010241	.0003203
%RSD	.1245061	1.084485	.4841719	.5072684	.2067460	.4272020
#1	.2886750	2.975451	.2029609	32.60348	.4948654	.0753134
#2	.2891427	2.912063	.2040500	32.38007	.4946031	.0746848
#3	.2893828	2.950754	.2020879	32.70253	.4964934	.0748925

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**333.7379**	**.2914938**	**.2764178**	**31.55016**	**.6075943**	**.4369223**
Stddev	5.7132	.0010468	.0004495	.13583	.0017696	.0000502
%RSD	1.711896	.3591085	.1626149	.4305193	.2912439	.0114827
#1	339.2943	.2926902	.2766621	31.70681	.6091338	.4369249
#2	327.8797	.2907464	.2758990	31.47847	.6056610	.4368709
#3	334.0396	.2910448	.2766922	31.46518	.6079881	.4369712

Sample Name: Q2606-01MSD Acquired: 7/17/2025 15:46:08 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.6788049	.2022817	12.00882	6.032963	F 34.76876	.2133374
Stddev	.0015653	.0025288	.06492	.013423	.07285	.0016330
%RSD	.2306009	1.250159	.5406125	.2224972	.2095188	.7654707
#1	.6775322	.2050445	12.06258	6.018241	34.70871	.2116840
#2	.6805528	.2017189	11.93670	6.036127	34.74778	.2133788
#3	.6783299	.2000816	12.02719	6.044522	34.84980	.2149493

Elem	Sr4077
Units	ppm
Avg	1.308446
Stddev	.004798
%RSD	.3667167
#1	1.312321
#2	1.309939
#3	1.303079

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4885.902	82898.12	8260.683	4066.132	5583.455
Stddev	3.797	337.10	8.156	28.687	3.457
%RSD	.0777050	.4066434	.0987352	.7055051	.0619122
#1	4889.776	82611.14	8251.689	4043.473	5584.149
#2	4882.188	83269.35	8262.760	4098.387	5586.513
#3	4885.741	82813.86	8267.600	4056.536	5579.704

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV03 Acquired: 7/17/2025 15:50:13 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**5.096795**	**5.135008**	**4.873552**	**5.156212**	**5.203268**	**10.06865**	**10.52412**
Stddev	.018779	.124146	.004072	.019290	.028223	.03430	.20172
%RSD	.3684499	2.417642	.0835449	.3741135	.5424060	.3406558	1.916695
#1	5.086550	5.226331	4.878236	5.160467	5.182798	10.09054	10.74203
#2	5.085367	5.185041	4.870859	5.135150	5.191543	10.02912	10.34393
#3	5.118469	4.993653	4.871561	5.173020	5.235464	10.08630	10.48639

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2418835**	**2.438429**	**26.39556**	**.9402416**	**2.479683**	**1.271193**	**5.028662**
Stddev	.0044202	.003192	.15363	.0047375	.005639	.004278	.057459
%RSD	1.827407	.1309199	.5820479	.5038559	.2274197	.3365552	1.142622
#1	.2469173	2.439807	26.53588	.9436227	2.479109	1.267856	4.968710
#2	.2386357	2.434779	26.23140	.9422752	2.474352	1.269707	5.083251
#3	.2400976	2.440701	26.41940	.9348268	2.485587	1.276016	5.034024

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.590024**	**24.28646**	**2.493581**	**1.273519**	**22.92100**	**2.489368**	**2.574040**
Stddev	.016230	.29161	.006934	.005147	.28644	.010554	.005370
%RSD	.6266392	1.200694	.2780807	.4041670	1.249692	.4239752	.2086375
#1	2.603404	24.54912	2.491661	1.273244	22.63939	2.501211	2.579739
#2	2.571970	23.97267	2.487810	1.278798	23.21204	2.485936	2.573308
#3	2.594698	24.33760	2.501273	1.268514	22.91157	2.480957	2.569073

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.88697**	**5.172115**	**5.195197**	**4.900634**	**4.965927**	**4.741709**	**4.927482**
Stddev	.31637	.074347	.018554	.011163	.022494	.038379	.009723
%RSD	1.222125	1.437464	.3571419	.2277821	.4529676	.8093901	.1973265
#1	25.62225	5.257303	5.186120	4.913227	4.988824	4.697529	4.936284
#2	26.23735	5.120312	5.182928	4.891957	4.943858	4.760794	4.917045
#3	25.80130	5.138730	5.216542	4.896718	4.965100	4.766804	4.929119

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV03 Acquired: 7/17/2025 15:50:13 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.928736**	**5.010876**	**5.365335**
Stddev	.013942	.008502	.107051
%RSD	.2828660	.1696728	1.995234
#1	4.944411	5.019279	5.455727
#2	4.924077	5.002278	5.247120
#3	4.917721	5.011070	5.393159

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5117.593**	**85034.54**	**8166.182**	**4272.035**	**5948.298**
Stddev	21.831	537.73	115.607	11.563	17.835
%RSD	.4265821	.6323666	1.415682	.2706713	.2998284
#1	5131.814	85048.94	8033.709	4281.821	5955.262
#2	5128.507	84489.76	8246.676	4259.275	5961.601
#3	5092.457	85564.93	8218.160	4275.008	5928.033

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCB03 Acquired: 7/17/2025 15:56:02 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001801**	**.0004195**	**-.001852**	**-.001539**	**-.000052**	**-.000000**
Stddev	.000468	.0017739	.000170	.002997	.001023	.004240
%RSD	25.99260	422.8355	9.175722	194.6887	1982.533	1175633.
#1	-.001447	.0017011	-.001949	-.004800	.001065	.004080
#2	-.001624	-.001605	-.001952	-.000910	-.000942	-.004383
#3	-.002331	.001163	-.001656	.001093	-.000278	.000301

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003559**	**-.000083**	**.0000357**	**.0383470**	**-.000534**	**-.000006**
Stddev	.000507	.000049	.0000382	.0041345	.000402	.000129
%RSD	14.24466	59.36112	106.9892	10.78181	75.33377	2114.736
#1	-.003017	-.000026	-.000007	.0430049	-.000070	-.000149
#2	-.003637	-.000108	.000067	.0369249	-.000744	.000100
#3	-.004022	-.000115	.000047	.0351113	-.000788	.000031

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000412**	**.0002232**	**.0002552**	**-.022654**	**.0002953**	**.0010922**
Stddev	.000093	.0043963	.0001782	.034211	.0002009	.0001169
%RSD	22.52344	1969.784	69.83163	151.0204	68.04203	10.70119
#1	-.000488	.0051546	.0000616	.013200	.0005263	.0009808
#2	-.000308	-.001199	.0002915	-.026218	.0001991	.0012139
#3	-.000440	-.003286	.0004125	-.054943	.0001606	.0010819

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.083058**	**-.004014**	**-.000130**	**.1409582**	**.0033342**	**.0004794**
Stddev	.012463	.001741	.000080	.0297643	.0003069	.0001281
%RSD	15.00463	43.38415	61.30370	21.11568	9.204321	26.71387
#1	-.068914	-.005183	-.000223	.1291625	.0030132	.0005723
#2	-.087837	-.004847	-.000082	.1748124	.0033647	.0003333
#3	-.092425	-.002013	-.000087	.1188996	.0036247	.0005324

Sample Name: CCB03 Acquired: 7/17/2025 15:56:02 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016067	.0141509	-.001589	.0014370	F -.031243	-.003033
Stddev	.0004440	.0028784	.006538	.0021340	.000862	.001802
%RSD	27.63667	20.34070	411.5359	148.5023	2.760089	59.41357
#1	.0015276	.0174744	-.004570	.0008619	-.030324	-.003322
#2	.0012076	.0124568	-.006104	.0037996	-.031369	-.001104
#3	.0020850	.0125215	.005908	-.000350	-.032035	-.004674

Elem	Sr4077
Units	ppm
Avg	-.000052
Stddev	.000057
%RSD	108.9490
#1	-.000116
#2	-.000035
#3	-.000006

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5287.072	86926.45	8166.481	4350.006	6590.541
Stddev	17.474	207.24	37.554	11.344	18.607
%RSD	.3304982	.2384091	.4598596	.2607824	.2823248
#1	5272.317	87165.74	8179.136	4344.646	6573.503
#2	5306.368	86808.81	8196.073	4342.335	6610.396
#3	5282.531	86804.81	8124.234	4363.037	6587.724

Sample Name: Q2606-01A Acquired: 7/17/2025 16:00:22 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8487185**	**1.886354**	**.9358504**	**2.108429**	**.8770983**	**2.359181**
Stddev	.0020446	.016946	.0014672	.004594	.0021355	.013529
%RSD	.2409025	.8983246	.1567775	.2179074	.2434778	.5734445
#1	.8510429	1.868306	.9365127	2.103274	.8747094	2.359671
#2	.8471983	1.901925	.9341688	2.109921	.8777629	2.345414
#3	.8479143	1.888831	.9368697	2.112092	.8788225	2.372458

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3526122**	**.1866353**	**.1959232**	**109.0690**	**.3735216**	**.2050620**
Stddev	.0004172	.0006649	.0005290	.0894	.0012364	.0003742
%RSD	.1183257	.3562715	.2700204	.0819768	.3310196	.1824889
#1	.3530940	.1859331	.1958049	109.0799	.3734789	.2054302
#2	.3523750	.1872553	.1954633	108.9747	.3747788	.2046820
#3	.3523676	.1867174	.1965014	109.1525	.3723070	.2050736

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3043856**	**3.126863**	**.2147969**	**33.26806**	**.5195430**	**.0758856**
Stddev	.0001831	.008785	.0006299	.03954	.0008058	.0004560
%RSD	.0601560	.2809367	.2932317	.1188651	.1551047	.6008378
#1	.3044206	3.128366	.2143013	33.23119	.5196083	.0756110
#2	.3041876	3.134799	.2145836	33.30982	.5187065	.0764119
#3	.3045487	3.117424	.2155057	33.26317	.5203141	.0756339

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**341.1549**	**.3052959**	**.2896268**	**32.37700**	**.6302333**	**.4578701**
Stddev	3.6505	.0009766	.0011086	.05119	.0015449	.0001710
%RSD	1.070038	.3199044	.3827588	.1581198	.2451354	.0373377
#1	343.9585	.3043060	.2891360	32.39097	.6315658	.4577304
#2	342.4791	.3062588	.2908960	32.41976	.6305942	.4580607
#3	337.0271	.3053228	.2888483	32.32027	.6285398	.4578192

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2606-01A Acquired: 7/17/2025 16:00:22 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.7063546	.2091041	12.28718	6.269808	F 35.33740	.2262490
Stddev	.0017331	.0012644	.02332	.018458	.04906	.0011696
%RSD	.2453661	.6046950	.1898290	.2943871	.1388409	.5169529
#1	.7067325	.2089076	12.29586	6.290928	35.38779	.2257835
#2	.7044637	.2079494	12.30493	6.261727	35.28978	.2253838
#3	.7078676	.2104553	12.26077	6.256770	35.33464	.2275797

Elem	Sr4077
Units	ppm
Avg	1.344035
Stddev	.001623
%RSD	.1207806
#1	1.345280
#2	1.342199
#3	1.344625

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4842.463	82978.57	8255.909	4062.932	5552.854
Stddev	4.472	378.20	19.938	20.167	8.965
%RSD	.0923591	.4557771	.2415027	.4963768	.1614486
#1	4842.182	82665.01	8236.189	4042.404	5551.999
#2	4847.070	82872.10	8255.479	4063.675	5562.216
#3	4838.138	83398.59	8276.058	4082.718	5544.347

Sample Name: PB168881BL Acquired: 7/17/2025 16:04:28 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.000940**	**-.000089**	**-.001919**	**-.002049**	**-.001072**	**-.007137**
Stddev	.001692	.000493	.000513	.002082	.001879	.005324
%RSD	179.9288	552.2236	26.72640	101.5857	175.2122	74.59344
#1	-.000013	.000464	-.002475	-.001025	-.002090	-.012553
#2	.000085	-.000482	-.001815	-.000679	-.002222	-.001910
#3	-.002893	-.000250	-.001466	-.004445	.001096	-.006948

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003470**	**-.000062**	**.0000125**	**.0619720**	**-.000922**	**.0000106**
Stddev	.001076	.000019	.0000139	.0056567	.000127	.0000123
%RSD	31.02150	31.23228	110.5768	9.127772	13.82379	116.5808
#1	-.003664	-.000041	.0000284	.0679757	-.000934	-.000002
#2	-.002309	-.000065	.0000068	.0567421	-.001043	.000023
#3	-.004436	-.000079	.0000025	.0611982	-.000789	.000011

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000415**	**-.001472**	**.0003323**	**-.031709**	**.0004534**	**.0010557**
Stddev	.000106	.003938	.0002437	.007455	.0000992	.0000829
%RSD	25.42174	267.5771	73.34573	23.51090	21.87837	7.849423
#1	-.000344	-.005722	.0000523	-.033002	.0003475	.0011047
#2	-.000537	.002051	.0004967	-.038432	.0005442	.0009600
#3	-.000366	-.000743	.0004478	-.023692	.0004684	.0011024

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.040712**	**-.003246**	**-.000208**	**.1375481**	**.0014503**	**.0001876**
Stddev	.001773	.001852	.000159	.0094714	.0004214	.0002836
%RSD	4.355461	57.04906	76.34329	6.885910	29.05723	151.2053
#1	-.041715	-.003906	-.000063	.1399275	.0010180	.0005149
#2	-.041756	-.001155	-.000184	.1456029	.0014729	.0000152
#3	-.038664	-.004677	-.000378	.1271138	.0018599	.0000326

Sample Name: PB168881BL Acquired: 7/17/2025 16:04:28 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0024731	.0154502	-.004216	.0005261	F -.025846	-.001673
Stddev	.0001971	.0013816	.008478	.0008603	.003628	.001923
%RSD	7.968422	8.942285	201.0890	163.5167	14.03830	114.9424
#1	.0026985	.0140505	.003264	.0003837	-.023992	-.003891
#2	.0023334	.0168129	-.002487	-.000254	-.030027	-.000660
#3	.0023874	.0154871	-.013425	.001449	-.023519	-.000469

Elem	Sr4077
Units	ppm
Avg	-.000025
Stddev	.000084
%RSD	339.5901
#1	-.000005
#2	.000048
#3	-.000117

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5196.984	89624.76	7978.818	4413.501	6399.518
Stddev	7.330	234.00	28.796	5.997	11.568
%RSD	.1410401	.2610830	.3609088	.1358860	.1807667
#1	5196.724	89409.03	7993.711	4414.940	6392.892
#2	5189.787	89873.51	7997.117	4418.649	6412.875
#3	5204.440	89591.73	7945.625	4406.916	6392.785

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168881BS Acquired: 7/17/2025 16:08:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8118528**	**2.027064**	**.9628973**	**2.076209**	**.8540056**	**2.070158**
Stddev	.0023020	.074732	.0023899	.008966	.0034354	.005622
%RSD	.2835454	3.686704	.2481978	.4318369	.4022633	.2715971
#1	.8125640	1.953097	.9609060	2.065985	.8521127	2.068885
#2	.8092791	2.102538	.9622384	2.079906	.8519330	2.065282
#3	.8137152	2.025558	.9655475	2.082735	.8579710	2.076309

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2127631**	**.2048841**	**.1920959**	**1.177944**	**.3747394**	**.2005345**
Stddev	.0011241	.0014333	.0000355	.006697	.0024850	.0003254
%RSD	.5283393	.6995839	.0185034	.5685659	.6631344	.1622550
#1	.2140382	.2050064	.1921299	1.180320	.3775501	.2001964
#2	.2119152	.2033935	.1920990	1.183129	.3728336	.2005614
#3	.2123358	.2062523	.1920590	1.170382	.3738346	.2008455

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3209223**	**2.860055**	**.2150943**	**1.963689**	**.5042208**	**.0775025**
Stddev	.0007349	.014499	.0007572	.033773	.0003646	.0003359
%RSD	.2289958	.5069619	.3520129	1.719876	.0723009	.4334364
#1	.3201851	2.876742	.2154168	1.963853	.5040137	.0778723
#2	.3209269	2.852891	.2142293	1.929835	.5040069	.0774189
#3	.3216549	2.850532	.2156368	1.997380	.5046417	.0772163

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.430961**	**.3005317**	**.2149979**	**10.08119**	**.3266729**	**.4271119**
Stddev	.007428	.0036998	.0005466	.04975	.0006071	.0012196
%RSD	.3055462	1.231087	.2542525	.4935323	.1858313	.2855512
#1	2.439525	.3003439	.2149614	10.07554	.3262280	.4258034
#2	2.426276	.2969294	.2144704	10.13353	.3264262	.4273151
#3	2.427082	.3043219	.2155618	10.03450	.3273645	.4282171

Sample Name: PB168881BS Acquired: 7/17/2025 16:08:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.6878227**	**.2097598**	**.7918588**	**5.732682**	F **-.028719**	**.2113220**
Stddev	.0017458	.0026235	.0102059	.014665	.002653	.0017910
%RSD	.2538100	1.250697	1.288855	.2558140	9.238341	.8475369
#1	.6860514	.2100439	.7936242	5.718480	-.026004	.2094929
#2	.6878749	.2070058	.8010669	5.731796	-.028847	.2130724
#3	.6895418	.2122296	.7808854	5.747770	-.031306	.2114009

Elem	Sr4077
Units	ppm
Avg	**.2168217**
Stddev	.0003332
%RSD	.1536641
#1	.2170153
#2	.2164370
#3	.2170128

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5223.364**	**88713.53**	**7995.579**	**4398.149**	**6367.972**
Stddev	8.784	174.62	58.320	14.335	12.701
%RSD	.1681604	.1968396	.7293983	.3259294	.1994475
#1	5221.903	88831.04	8031.423	4413.885	6359.428
#2	5232.786	88796.68	8027.028	4385.834	6382.566
#3	5215.402	88512.87	7928.285	4394.728	6361.921

Sample Name: Q2614-06DUP Acquired: 7/17/2025 16:12:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.001579**	**-.002508**	**.0023620**	**.0021541**	**-.000328**	**.1158906**	**.1589114**
Stddev	.000946	.001433	.0005269	.0022227	.001303	.0052328	.0008170
%RSD	59.87003	57.10678	22.30668	103.1887	397.3498	4.515283	.5141383
#1	-.002638	-.001715	.0019769	.0025195	-.001811	.1111936	.1595115
#2	-.001281	-.001648	.0021466	-.000229	.000634	.1149472	.1592417
#3	-.000819	-.004162	.0029624	.004171	.000194	.1215309	.1579809

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000315**	**.0002481**	**49.91588**	**.0000414**	**.0005436**	**.0113308**	**.1224148**
Stddev	.000034	.0000318	.16050	.0002661	.0000596	.0000881	.0030541
%RSD	10.79645	12.82385	.3215340	642.4287	10.95832	.7775776	2.494896
#1	-.000310	.0002212	49.84499	-.000266	.0005158	.0112642	.1250276
#2	-.000350	.0002399	50.09961	.000195	.0005030	.0112975	.1190572
#3	-.000283	.0002832	49.80303	.000196	.0006120	.0114307	.1231596

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5577936**	**2.745744**	**.0010326**	**.0007048**	**287.2117**	**-.002031**	**.1913229**
Stddev	.0007091	.018490	.0001407	.0005974	1.8244	.002604	.0010295
%RSD	.1271171	.6734065	13.62728	84.76064	.6351936	128.1899	.5380968
#1	.5585733	2.766809	.0010240	.0008659	285.3566	-.004777	.1903931
#2	.5576203	2.732199	.0011775	.0012051	289.0036	-.001719	.1911464
#3	.5571873	2.738223	.0008964	.0000434	287.2751	.000403	.1924293

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.321743**	**.0368788**	**.0008906**	**-.004290**	**.0143057**	**.6444364**	**.3823433**
Stddev	.040786	.0002656	.0002474	.000725	.0001974	.0077516	.0006972
%RSD	3.085777	.7201792	27.77514	16.90267	1.380187	1.202853	.1823618
#1	1.275020	.0367640	.0009867	-.005106	.0141245	.6378006	.3824014
#2	1.339983	.0371825	.0006096	-.004045	.0142763	.6529564	.3830097
#3	1.350225	.0366899	.0010755	-.003719	.0145161	.6425520	.3816189

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-06DUP Acquired: 7/17/2025 16:12:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.5133153	.0047494	.2573994
Stddev	.0043558	.0014547	.0000757
%RSD	.8485694	30.62888	.0294193
#1	.5082862	.0050855	.2573845
#2	.5158955	.0031560	.2574815
#3	.5157643	.0060066	.2573323

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5011.230	85517.81	8292.238	4178.752	5785.651
Stddev	9.314	603.99	15.542	16.044	8.285
%RSD	.1858660	.7062772	.1874326	.3839337	.1432059
#1	5004.375	85729.84	8281.319	4185.524	5779.640
#2	5021.834	85987.21	8285.361	4160.433	5795.102
#3	5007.480	84836.40	8310.032	4190.299	5782.210

Sample Name: Q2614-06LX5 Acquired: 7/17/2025 16:17:13 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.001557**	**-.001730**	**-.000777**	**-.005059**	**-.002872**	**.0251941**	**.0301063**
Stddev	.002365	.000833	.001002	.001588	.001823	.0052531	.0003419
%RSD	151.8911	48.14132	129.0578	31.38672	63.49021	20.85047	1.135635
#1	-.004277	-.000944	.000090	-.003299	-.004913	.0193052	.0303926
#2	.000013	-.001643	-.000545	-.006383	-.001404	.0268795	.0301987
#3	-.000407	-.002603	-.001874	-.005495	-.002299	.0293976	.0297277

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000155**	**.0000990**	**10.65326**	**-.000482**	**.0001448**	**.0019394**	**.0228141**
Stddev	.000071	.0000532	.03923	.000160	.0000932	.0004565	.0026068
%RSD	45.82055	53.78903	.3682724	33.15028	64.38895	23.53625	11.42635
#1	-.000199	.0000478	10.66870	-.000605	.0001939	.0024510	.0199818
#2	-.000193	.0000950	10.68243	-.000541	.0002031	.0015737	.0251128
#3	-.000073	.0001541	10.60866	-.000301	.0000373	.0017936	.0233478

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1168029**	**.5550529**	**.0004755**	**.0007506**	**51.04677**	**-.001499**	**.0383529**
Stddev	.0000312	.0177408	.0002785	.0001487	.57747	.000703	.0005080
%RSD	.0267189	3.196233	58.55884	19.80631	1.131256	46.88945	1.324591
#1	.1167683	.5400785	.0007965	.0009151	51.59706	-.002032	.0385670
#2	.1168289	.5504339	.0002990	.0007109	51.09777	-.001763	.0387188
#3	.1168115	.5746463	.0003310	.0006259	50.44550	-.000702	.0377729

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3843736**	**.0079310**	**.0004447**	**.0009060**	**.0169655**	**.1291781**	**.0762724**
Stddev	.0396211	.0004246	.0001833	.0005532	.0012450	.0094104	.0006835
%RSD	10.30796	5.353870	41.21515	61.05790	7.338295	7.284803	.8961795
#1	.4279878	.0080510	.0005556	.0004160	.0171851	.1312365	.0767604
#2	.3506008	.0082826	.0005454	.0015058	.0180861	.1373889	.0754911
#3	.3745323	.0074592	.0002331	.0007961	.0156253	.1189089	.0765655

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-06LX5 Acquired: 7/17/2025 16:17:13 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0809428	.0002470	.0543370
Stddev	.0013877	.0039218	.0001387
%RSD	1.714429	1587.968	.2552193
#1	.0801538	-.001235	.0544922
#2	.0825452	-.002718	.0542933
#3	.0801295	.004694	.0542254

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5074.393	86946.35	8238.887	4275.237	6015.572
Stddev	6.177	213.91	50.800	10.598	2.969
%RSD	.1217351	.2460218	.6165913	.2479035	.0493497
#1	5070.439	86699.36	8289.724	4277.433	6012.480
#2	5081.511	87068.20	8238.813	4284.565	6015.834
#3	5071.228	87071.49	8188.123	4263.712	6018.400

Sample Name: Q2614-06MS Acquired: 7/17/2025 16:21:31 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8188416**	**1.828163**	**.9242572**	**2.072733**	**.8425872**	**2.115713**	**.3992978**
Stddev	.0019712	.036389	.0030239	.005927	.0025687	.018829	.0005630
%RSD	.2407316	1.990448	.3271752	.2859416	.3048647	.8899380	.1409944
#1	.8167861	1.861470	.9228610	2.066046	.8418444	2.107144	.3989793
#2	.8190227	1.833694	.9221836	2.077337	.8404717	2.137302	.3999478
#3	.8207160	1.789326	.9277270	2.074817	.8454455	2.102693	.3989662

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1819005**	**.1928457**	**61.17222**	**.3604271**	**.1998396**	**.3119106**	**3.139811**
Stddev	.0004148	.0000482	.09284	.0031360	.0002278	.0003804	.044033
%RSD	.2280302	.0249941	.1517655	.8700809	.1139733	.1219614	1.402403
#1	.1823287	.1928377	61.14593	.3570135	.2000982	.3116138	3.091349
#2	.1818722	.1928020	61.27537	.3610872	.1997519	.3117786	3.150720
#3	.1815006	.1928974	61.09537	.3631804	.1996687	.3123394	3.177364

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8777669**	**5.171009**	**.4990681**	**.0755347**	**356.9981**	**.2946707**	**.4478756**
Stddev	.0012006	.010736	.0006956	.0001877	7.5738	.0045031	.0011104
%RSD	.1367749	.2076142	.1393708	.2484982	2.121515	1.528195	.2479277
#1	.8766316	5.179705	.4996291	.0755482	348.2825	.2965422	.4488255
#2	.8776457	5.159010	.4982898	.0753406	361.9809	.2979364	.4481465
#3	.8790235	5.174313	.4992855	.0757153	360.7309	.2895336	.4466548

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.21848**	**.3140816**	**.4338925**	**.6851978**	**.2075509**	**1.649861**	**6.498607**
Stddev	.19858	.0031209	.0010815	.0017656	.0022695	.014276	.008073
%RSD	1.625274	.9936756	.2492456	.2576711	1.093485	.8652728	.1242279
#1	11.99858	.3176812	.4327192	.6866348	.2054174	1.635265	6.502274
#2	12.27214	.3124325	.4341092	.6832269	.2072999	1.650524	6.489351
#3	12.38472	.3121312	.4348493	.6857318	.2099356	1.663793	6.504196

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-06MS Acquired: 7/17/2025 16:21:31 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.6447661	.2058917	.5174034
Stddev	.0027229	.0021696	.0016945
%RSD	.4223016	1.053739	.3275085
#1	.6453308	.2066776	.5154468
#2	.6471624	.2034387	.5183655
#3	.6418052	.2075588	.5183979

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4937.959	84542.95	8358.568	4156.063	5652.191
Stddev	4.388	965.08	12.892	6.271	1.971
%RSD	.0888634	1.141529	.1542347	.1508874	.0348748
#1	4942.990	85423.73	8345.635	4152.961	5654.156
#2	4934.924	84693.79	8358.651	4151.947	5652.204
#3	4935.963	83511.33	8371.418	4163.280	5650.213

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-06MSD Acquired: 7/17/2025 16:25:39 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8089937**	**1.818693**	**.9031425**	**2.043356**	**.8355520**	**2.082437**	**.3852495**
Stddev	.0016608	.024173	.0038798	.005723	.0027568	.005243	.0003316
%RSD	.2052888	1.329121	.4295891	.2800758	.3299358	.2517636	.0860795
#1	.8075361	1.834714	.9056428	2.038302	.8323705	2.085703	.3855232
#2	.8086432	1.830477	.8986730	2.042196	.8372339	2.085218	.3848807
#3	.8108017	1.790888	.9051119	2.049571	.8370517	2.076389	.3853446

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1804551**	**.1889213**	**57.30179**	**.3558339**	**.1963312**	**.3053435**	**3.078384**
Stddev	.0009549	.0004796	.11751	.0021414	.0002522	.0003634	.004069
%RSD	.5291423	.2538708	.2050744	.6017869	.1284698	.1190064	.1321800
#1	.1815551	.1893365	57.34491	.3579868	.1965660	.3050799	3.073706
#2	.1799700	.1883963	57.16881	.3537043	.1960646	.3057580	3.081106
#3	.1798401	.1890311	57.39165	.3558107	.1963632	.3051926	3.080339

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8343695**	**4.956111**	**.4894891**	**.0741999**	**329.8022**	**.2944122**	**.4313906**
Stddev	.0053937	.045990	.0008881	.0007663	1.4882	.0041762	.0012562
%RSD	.6464398	.9279363	.1814289	1.032703	.4512314	1.418473	.2912059
#1	.8350336	4.983882	.4898713	.0749932	331.5175	.2978439	.4324489
#2	.8286745	4.903026	.4884739	.0741427	328.8559	.2956301	.4300023
#3	.8394004	4.981425	.4901221	.0734639	329.0331	.2897624	.4317207

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.90655**	**.3080070**	**.4342350**	**.6774623**	**.2062489**	**1.578437**	**6.267699**
Stddev	.07408	.0013031	.0009413	.0001447	.0003570	.007521	.009083
%RSD	.6221665	.4230699	.2167640	.0213629	.1730962	.4765129	.1449234
#1	11.98067	.3085467	.4338748	.6773457	.2066565	1.574436	6.273691
#2	11.83251	.3065208	.4335271	.6774169	.2060989	1.573762	6.257248
#3	11.90647	.3089535	.4353032	.6776242	.2059914	1.587114	6.272159

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-06MSD Acquired: 7/17/2025 16:25:39 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.5827757	.2011013	.4946444
Stddev	.0063332	.0010204	.0004398
%RSD	1.086723	.5074079	.0889178
#1	.5833903	.2001341	.4951387
#2	.5887792	.2010023	.4942963
#3	.5761577	.2021676	.4944982

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5009.276	85327.51	8342.709	4159.104	5766.103
Stddev	3.563	500.79	40.418	11.493	7.571
%RSD	.0711267	.5869083	.4844649	.2763226	.1313008
#1	5010.505	84761.82	8296.085	4150.267	5763.205
#2	5012.061	85714.25	8364.232	4172.096	5774.695
#3	5005.261	85506.45	8367.810	4154.948	5760.410

Sample Name: Q2614-06A Acquired: 7/17/2025 16:29:47 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8225881**	**1.866347**	**.9234162**	**2.079453**	**.8518723**	**2.106697**	**.3648297**
Stddev	.0035394	.037940	.0014049	.004521	.0022750	.011837	.0014218
%RSD	.4302796	2.032847	.1521446	.2173932	.2670557	.5618718	.3897236
#1	.8260545	1.879091	.9220365	2.080956	.8542266	2.118645	.3664695
#2	.8227297	1.896274	.9233671	2.074372	.8496860	2.106471	.3639398
#3	.8189799	1.823676	.9248450	2.083031	.8517044	2.094975	.3640798

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1846061**	**.1922632**	**49.57916**	**.3641761**	**.1999849**	**.3104450**	**3.102867**
Stddev	.0004618	.0004574	.05433	.0021500	.0002828	.0002589	.013395
%RSD	.2501646	.2379249	.1095830	.5903782	.1413935	.0834012	.4317110
#1	.1848606	.1918303	49.60229	.3637247	.1998451	.3104752	3.099102
#2	.1848847	.1927418	49.51709	.3665159	.1997993	.3101722	3.117742
#3	.1840730	.1922174	49.61810	.3622876	.2003103	.3106874	3.091756

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7533541**	**4.532170**	**.4988103**	**.0752824**	**281.6283**	**.3006509**	**.4046264**
Stddev	.0005858	.002820	.0003832	.0000853	.3705	.0020090	.0006172
%RSD	.0777564	.0622307	.0768308	.1133533	.1315482	.6682074	.1525293
#1	.7540252	4.534629	.4984635	.0753614	282.0516	.2998992	.4039138
#2	.7530920	4.529091	.4987457	.0752938	281.3633	.3029273	.4049830
#3	.7529451	4.532789	.4992217	.0751919	281.4700	.2991262	.4049825

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.83379**	**.3097375**	**.4455662**	**.6946254**	**.2086843**	**1.492429**	**6.268068**
Stddev	.02886	.0002063	.0008473	.0020194	.0019498	.024652	.010744
%RSD	.2438789	.0666151	.1901587	.2907235	.9343464	1.651805	.1714047
#1	11.80175	.3098277	.4464956	.6941655	.2087031	1.475081	6.265930
#2	11.85774	.3095014	.4448368	.6928755	.2067252	1.520648	6.279720
#3	11.84189	.3098834	.4453663	.6968351	.2106247	1.481557	6.258554

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-06A Acquired: 7/17/2025 16:29:47 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.5020811	.2069087	.4620495
Stddev	.0028703	.0011571	.0007267
%RSD	.5716736	.5592272	.1572743
#1	.5053617	.2062586	.4628758
#2	.5000325	.2082446	.4615101
#3	.5008491	.2062229	.4617626

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5048.082	86113.14	8344.002	4217.518	5827.885
Stddev	23.811	76.14	22.118	9.767	23.854
%RSD	.4716749	.0884219	.2650817	.2315783	.4093046
#1	5026.033	86182.73	8325.217	4216.261	5807.617
#2	5044.882	86031.81	8368.380	4227.853	5821.868
#3	5073.330	86124.88	8338.410	4208.441	5854.172

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168888BL Acquired: 7/17/2025 16:33:55 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.000491**	**.0008566**	**-.001778**	**-.001379**	**-.001094**	**.0047426**
Stddev	.001338	.0009216	.000878	.002470	.001419	.0098391
%RSD	272.2948	107.5876	49.34658	179.0997	129.6890	207.4614
#1	-.002011	.0018793	-.002653	-.001135	.000110	.0016673
#2	.000031	.0000903	-.001785	-.003961	-.000734	-.003191
#3	.000506	.0006003	-.000897	.000960	-.002658	.015752

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.004331**	**-.000069**	**.0000375**	**.0630553**	**-.000137**	**.0000407**
Stddev	.001003	.000037	.0000489	.0068582	.000231	.0001584
%RSD	23.15221	53.59732	130.3622	10.87641	168.8067	389.1488
#1	-.003183	-.000060	.0000133	.0554125	-.000298	-.000141
#2	-.005036	-.000110	.0000055	.0686725	-.000242	.000111
#3	-.004775	-.000038	.0000939	.0650810	.000128	.000152

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000391**	**-.001421**	**-.000046**	**-.003702**	**.0002993**	**.0009261**
Stddev	.000291	.004052	.000628	.019365	.0001157	.0003098
%RSD	74.44936	285.0492	1354.186	523.1130	38.67614	33.44469
#1	-.000064	-.001490	.000236	.018031	.0001698	.0012196
#2	-.000487	-.005438	.000391	-.019127	.0003353	.0006023
#3	-.000623	.002664	-.000766	-.010009	.0003927	.0009565

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1925287**	**-.003488**	**.0000984**	**.1752411**	**-.001339**	**.0003646**
Stddev	.0341988	.003432	.0000551	.0080981	.000151	.0002625
%RSD	17.76294	98.37652	56.02070	4.621132	11.29465	71.98373
#1	.2283456	.000311	.0001129	.1726573	-.001485	.0000827
#2	.1890225	-.004414	.0001449	.1843159	-.001348	.0006019
#3	.1602182	-.006362	.0000375	.1687502	-.001183	.0004093

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168888BL Acquired: 7/17/2025 16:33:55 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0024690**	**.0152037**	**.0023867**	**-.000273**	F **-.031445**	**-.001842**
Stddev	.0007615	.0006288	.0029718	.001460	.001988	.002083
%RSD	30.84358	4.135860	124.5131	534.0183	6.321735	113.0401
#1	.0017653	.0155043	.0020849	.000410	-.033699	-.003399
#2	.0032775	.0144810	.0054979	.000720	-.029945	-.002652
#3	.0023641	.0156258	-.000423	-.001950	-.030690	.000523

Elem	Sr4077
Units	ppm
Avg	**.0000076**
Stddev	.0000338
%RSD	446.3591
#1	.0000383
#2	-.000029
#3	.000013

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5307.800**	**88352.42**	**8169.991**	**4378.940**	**6618.700**
Stddev	11.106	209.45	109.474	15.165	15.149
%RSD	.2092477	.2370614	1.339957	.3463233	.2288829
#1	5306.465	88299.84	8075.101	4366.537	6620.084
#2	5319.513	88583.15	8145.106	4395.847	6633.109
#3	5297.420	88174.27	8289.766	4374.438	6602.906

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168888BS Acquired: 7/17/2025 16:38:15 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8130767**	**1.938651**	**.9625782**	**2.082472**	**.8393491**	**2.043012**
Stddev	.0019672	.022476	.0023835	.002501	.0023187	.010175
%RSD	.2419427	1.159386	.2476143	.1200884	.2762478	.4980370
#1	.8109406	1.961098	.9652454	2.083541	.8367802	2.047148
#2	.8148139	1.938708	.9606568	2.084261	.8399800	2.050468
#3	.8134755	1.916145	.9618323	2.079615	.8412870	2.031420

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2107854**	**.1933347**	**.1936425**	**1.154428**	**.3692368**	**.2008314**
Stddev	.0018196	.0019475	.0004296	.013542	.0011520	.0004268
%RSD	.8632664	1.007323	.2218600	1.173088	.3119898	.2125092
#1	.2100382	.1943275	.1937910	1.142800	.3692360	.2012510
#2	.2128597	.1945858	.1931583	1.169297	.3680852	.2008454
#3	.2094582	.1910909	.1939781	1.151187	.3703891	.2003978

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3211233**	**2.980406**	**.2134042**	**1.960608**	**.5070249**	**.0767026**
Stddev	.0006391	.018151	.0011094	.018226	.0007804	.0001934
%RSD	.1990341	.6090161	.5198616	.9295875	.1539171	.2521653
#1	.3213111	2.969972	.2141807	1.942278	.5072177	.0767073
#2	.3204113	2.969880	.2138984	1.978727	.5061662	.0765069
#3	.3216475	3.001365	.2121336	1.960819	.5076908	.0768937

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.549276**	**.2989573**	**.2138508**	**10.29193**	**.3100773**	**.4179048**
Stddev	.020167	.0020033	.0002506	.09148	.0033900	.0007969
%RSD	.7910887	.6701107	.1171693	.8888427	1.093275	.1906820
#1	2.567655	.3008797	.2136633	10.18704	.3121441	.4178886
#2	2.527703	.2991105	.2141354	10.33356	.3119229	.4171161
#3	2.552471	.2968818	.2137539	10.35520	.3061650	.4187096

Sample Name: PB168888BS Acquired: 7/17/2025 16:38:15 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.6779591**	**.2078707**	**.8076252**	**5.777137**	F **-.033011**	**.2034180**
Stddev	.0028995	.0017754	.0084642	.015055	.001877	.0015168
%RSD	.4276820	.8540786	1.048030	.2605900	5.687256	.7456729
#1	.6802944	.2064063	.8013726	5.787133	-.035165	.2020902
#2	.6747137	.2098453	.8042462	5.759822	-.031723	.2050711
#3	.6788691	.2073605	.8172569	5.784456	-.032145	.2030928

Elem	Sr4077
Units	ppm
Avg	**.2127119**
Stddev	.0009358
%RSD	.4399525
#1	.2120801
#2	.2137870
#3	.2122686

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5193.567**	**89868.40**	**8467.204**	**4415.797**	**6294.595**
Stddev	9.196	192.83	67.709	9.221	10.225
%RSD	.1770708	.2145734	.7996582	.2088163	.1624343
#1	5199.624	89809.12	8427.153	4413.238	6297.034
#2	5198.092	90083.92	8429.079	4426.027	6303.379
#3	5182.985	89712.17	8545.379	4408.126	6283.371

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV04 Acquired: 7/17/2025 16:42:16 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**5.098741**	**5.010192**	**4.854151**	**5.170354**	**5.222136**	**9.946854**	**10.43477**
Stddev	.008284	.015173	.007324	.018762	.016479	.009928	.09456
%RSD	.1624753	.3028523	.1508913	.3628710	.3155605	.0998143	.9061745
#1	5.090191	5.027605	4.851095	5.156563	5.210525	9.957464	10.50052
#2	5.099300	4.999807	4.848848	5.162780	5.214886	9.937788	10.47738
#3	5.106732	5.003164	4.862508	5.191719	5.240997	9.945309	10.32640

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2307374**	**2.430751**	**25.91593**	**.9228037**	**2.470103**	**1.272099**	**5.037358**
Stddev	.0011366	.003997	.04051	.0057544	.005478	.003396	.017929
%RSD	.4925783	.1644327	.1563237	.6235743	.2217636	.2669684	.3559108
#1	.2319834	2.429383	25.96271	.9289907	2.467445	1.270367	5.035271
#2	.2297575	2.427618	25.89278	.9218089	2.466462	1.269918	5.020564
#3	.2304712	2.435252	25.89231	.9176117	2.476403	1.276012	5.056238

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.553274**	**23.86656**	**2.488046**	**1.254848**	**23.50683**	**2.470740**	**2.552825**
Stddev	.007047	.10109	.004972	.002565	.10220	.009586	.002925
%RSD	.2759816	.4235831	.1998554	.2043978	.4347884	.3879877	.1145732
#1	2.557826	23.95161	2.487361	1.255198	23.60149	2.481010	2.551363
#2	2.545158	23.75479	2.483451	1.252125	23.52054	2.462028	2.556193
#3	2.556840	23.89327	2.493326	1.257219	23.39847	2.469183	2.550920

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.92869**	**4.965403**	**5.186133**	**4.876623**	**4.944607**	**4.744151**	**4.878310**
Stddev	.02573	.023885	.011247	.008759	.012771	.018271	.010613
%RSD	.0992229	.4810195	.2168628	.1796049	.2582887	.3851226	.2175483
#1	25.90535	4.968385	5.177602	4.883556	4.954308	4.759227	4.886294
#2	25.95628	4.940168	5.181918	4.866780	4.930137	4.723832	4.866267
#3	25.92445	4.987657	5.198878	4.879535	4.949375	4.749394	4.882368

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV04 Acquired: 7/17/2025 16:42:16 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.917705**	**4.999379**	**5.249576**
Stddev	.005905	.003108	.002872
%RSD	.1200704	.0621664	.0547121
#1	4.912419	5.000949	5.247020
#2	4.924078	4.995800	5.252684
#3	4.916617	5.001390	5.249023

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5091.437**	**86336.27**	**8444.506**	**4258.028**	**5922.150**
Stddev	15.360	299.03	20.723	17.375	15.441
%RSD	.3016864	.3463583	.2454058	.4080529	.2607246
#1	5100.476	86118.13	8423.698	4269.702	5927.451
#2	5100.134	86213.52	8444.674	4238.060	5934.242
#3	5073.702	86677.14	8465.144	4266.322	5904.757

Sample Name: CCB04 Acquired: 7/17/2025 16:46:27 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.000887**	**-.001091**	**-.001221**	**-.002324**	**-.001325**	**.0022222**
Stddev	.001479	.001137	.000869	.002472	.000590	.0046994
%RSD	166.7608	104.1624	71.13693	106.3690	44.55582	211.4725
#1	.000771	-.002359	-.002213	-.005010	-.001895	-.003092
#2	-.002069	-.000164	-.000595	-.001815	-.000717	.005828
#3	-.001363	-.000750	-.000855	-.000146	-.001362	.003931

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.005523**	**-.000097**	**.0000603**	**.0444561**	**-.000314**	**.0000548**
Stddev	.000954	.000069	.0000352	.0044928	.000110	.0001310
%RSD	17.27675	70.56519	58.34196	10.10607	35.11450	239.3523
#1	-.006601	-.000172	.0000235	.0480029	-.000431	-.000096
#2	-.005183	-.000037	.0000935	.0459614	-.000211	.000137
#3	-.004785	-.000083	.0000639	.0394039	-.000300	.000123

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000240**	**.0039342**	**.0001790**	**-.027333**	**.0004158**	**.0011116**
Stddev	.000193	.0031079	.0003684	.021362	.0002738	.0001696
%RSD	80.27768	78.99833	205.8230	78.15526	65.83806	15.25483
#1	-.000032	.0061219	.0005031	-.028143	.0004987	.0009751
#2	-.000277	.0003767	.0002556	-.048279	.0006385	.0013014
#3	-.000412	.0053040	-.000222	-.005577	.0001102	.0010582

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.326096**	**-.003463**	**.0000539**	**.0970016**	**.0035046**	**.0009420**
Stddev	.002011	.001278	.0000839	.0254296	.0003146	.0003045
%RSD	.6166489	36.90980	155.7841	26.21561	8.975899	32.32159
#1	-.325807	-.004883	-.000038	.1230623	.0031430	.0012743
#2	-.328236	-.002405	.000127	.0722541	.0036550	.0008752
#3	-.324245	-.003102	.000072	.0956885	.0037156	.0006764

Sample Name: CCB04 Acquired: 7/17/2025 16:46:27 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0013009	.0153794	-.002143	.0022319	F -.032858	-.000938
Stddev	.0000511	.0015589	.001949	.0011440	.000799	.002198
%RSD	3.930219	10.13623	90.92072	51.25786	2.431191	234.2429
#1	.0013166	.0170215	.000089	.0009249	-.032344	-.003323
#2	.0012438	.0151968	-.003012	.0030518	-.032453	.001007
#3	.0013424	.0139198	-.003506	.0027189	-.033779	-.000499

Elem	Sr4077
Units	ppm
Avg	.0001049
Stddev	.0000712
%RSD	67.93452
#1	.0001439
#2	.0001480
#3	.0000226

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5254.222	88969.03	8341.791	4417.158	6516.727
Stddev	17.599	164.26	50.055	26.918	20.273
%RSD	.3349556	.1846216	.6000550	.6093905	.3110890
#1	5271.091	89134.78	8399.581	4397.699	6532.581
#2	5255.602	88806.30	8313.780	4405.898	6523.717
#3	5235.974	88966.02	8312.011	4447.877	6493.885

Sample Name: PB168847TB Acquired: 7/17/2025 16:50:46 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.002677**	**-.003692**	**-.001798**	**.0035584**	**-.000558**	**.0018234**	**-.007120**
Stddev	.001899	.000953	.000689	.0030886	.001040	.0050907	.000654
%RSD	70.93196	25.81588	38.34841	86.79689	186.3411	279.1887	9.178239
#1	-.004838	-.004688	-.002084	.0070629	-.001712	.0067141	-.007841
#2	-.001916	-.002789	-.002298	.0012332	.000305	.0022021	-.006567
#3	-.001277	-.003599	-.001011	.0023791	-.000267	-.003446	-.006952

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000262**	**-.000073**	**.0047827**	**-.000210**	**-.000371**	**-.000594**	**-.001791**
Stddev	.000043	.000034	.0021883	.000320	.000135	.000404	.002394
%RSD	16.23820	46.57951	45.75420	152.6021	36.43797	68.11355	133.6634
#1	-.000282	-.000085	.0022564	.000135	-.000373	-.001043	-.003329
#2	-.000213	-.000035	.0060879	-.000498	-.000235	-.000258	-.003012
#3	-.000291	-.000100	.0060040	-.000267	-.000505	-.000480	.000967

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010433**	**-.028524**	**.0008543**	**.0005163**	**462.6419**	**-.003034**	**.0023797**
Stddev	.0004996	.007432	.0001277	.0000644	3.5254	.002358	.0000915
%RSD	47.88652	26.05362	14.94916	12.48052	.7620082	77.72142	3.843361
#1	.0013437	-.036722	.0009850	.0005145	466.2638	-.003783	.0024588
#2	.0004666	-.022228	.0007298	.0004528	459.2217	-.000392	.0024009
#3	.0013195	-.026624	.0008481	.0005816	462.4402	-.004926	.0022795

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1428931**	**.0000713**	**.0008991**	**-.002241**	**.0152401**	**.0106850**	**.0170682**
Stddev	.0200663	.0001640	.0001702	.000507	.0019273	.0068808	.0022668
%RSD	14.04287	229.8693	18.93305	22.61420	12.64620	64.39652	13.28108
#1	.1432154	.0002607	.0010652	-.001658	.0130518	.0168077	.0151281
#2	.1627964	-.000024	.0007250	-.002497	.0166847	.0032385	.0165165
#3	.1226676	-.000023	.0009070	-.002570	.0159839	.0120090	.0195599

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168847TB Acquired: 7/17/2025 16:50:46 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.015109	-.002100	.0000254
Stddev	.000970	.004991	.0000438
%RSD	6.423299	237.6027	172.7534
#1	-.016208	-.007836	.0000397
#2	-.014748	.000277	-.000024
#3	-.014370	.001257	.000060

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4937.879	83688.63	8441.168	4108.671	5707.341
Stddev	6.330	57.45	59.510	14.492	17.565
%RSD	.1281868	.0686494	.7049982	.3527067	.3077628
#1	4941.933	83746.56	8418.765	4112.876	5718.012
#2	4941.118	83631.67	8396.111	4120.595	5716.943
#3	4930.585	83687.66	8508.628	4092.542	5687.068

Sample Name: Q2605-01 Acquired: 7/17/2025 16:55:15 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.001013**	**-.003170**	**.0007665**	**.0014062**	**.0025616**	**.6027968**	**.2837845**
Stddev	.001829	.001823	.0015015	.0030714	.0006238	.0158708	.0007728
%RSD	180.4583	57.50155	195.8998	218.4136	24.35129	2.632859	.2723224
#1	-.001038	-.004860	-.000240	-.001507	.0018481	.6073978	.2829194
#2	.000828	-.001238	.002492	.004615	.0028328	.5851339	.2844066
#3	-.002829	-.003412	.000047	.001111	.0030038	.6158588	.2840274

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000253**	**.0010710**	**45.97562**	**.0013724**	**.0008113**	**.0068438**	**1.522906**
Stddev	.000033	.0000170	.22574	.0000634	.0000542	.0001784	.008942
%RSD	13.17089	1.586334	.4910101	4.620418	6.677402	2.606242	.5871437
#1	-.000284	.0010639	45.74347	.0013242	.0007688	.0066458	1.532899
#2	-.000218	.0010904	46.19436	.0013487	.0008723	.0068935	1.515661
#3	-.000258	.0010587	45.98904	.0014442	.0007928	.0069920	1.520157

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2205850**	**2.131006**	**.0025423**	**.0007919**	**337.5389**	**-.003822**	**16.39394**
Stddev	.0009993	.009014	.0001347	.0000909	5.2205	.001514	.08726
%RSD	.4530230	.4229690	5.299081	11.47509	1.546642	39.61172	.5322632
#1	.2197928	2.121416	.0023927	.0008567	334.2207	-.002236	16.49311
#2	.2217077	2.132299	.0025801	.0006880	334.8396	-.005252	16.35979
#3	.2202544	2.139303	.0026541	.0008310	343.5565	-.003978	16.32892

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5172572**	**.0147886**	**-.004309**	**-.004473**	**.0149035**	**.9183700**	**.0229166**
Stddev	.0222178	.0011691	.000056	.000880	.0008593	.0014972	.0020398
%RSD	4.295304	7.905290	1.299978	19.67511	5.766051	.1630264	8.901042
#1	.5040861	.0145292	-.004246	-.005451	.0153393	.9189625	.0251102
#2	.5047765	.0160656	-.004354	-.004221	.0154577	.9166672	.0225628
#3	.5429089	.0137710	-.004327	-.003746	.0139136	.9194802	.0210768

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2605-01 Acquired: 7/17/2025 16:55:15 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.8334098	.0039825	.2174090
Stddev	.0024216	.0018956	.0006008
%RSD	.2905680	47.59690	.2763202
#1	.8333432	.0048537	.2167823
#2	.8310222	.0052858	.2179799
#3	.8358640	.0018080	.2174648

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5010.526	85036.89	8406.107	4157.850	5755.676
Stddev	4.988	297.30	45.208	11.965	6.019
%RSD	.0995594	.3496104	.5378044	.2877585	.1045836
#1	5007.626	84891.98	8443.448	4152.734	5757.235
#2	5016.286	85378.86	8355.845	4171.522	5760.764
#3	5007.667	84839.83	8419.028	4149.293	5749.031

Sample Name: Q2605-02 Acquired: 7/17/2025 16:59:44 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0005906**	**-.003621**	**-.000725**	**.0022545**	**-.003281**	**.3873891**
Stddev	.0014942	.001367	.000863	.0023076	.001162	.0082448
%RSD	252.9908	37.75363	118.9512	102.3565	35.41168	2.128296
#1	.0018525	-.004111	.000051	.0025334	-.003127	.3955693
#2	-.001059	-.004676	-.000572	.0044101	-.002204	.3875168
#3	.000979	-.002077	-.001654	-.000180	-.004513	.3790812

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5018224**	**-.000231**	**.0006268**	**47.37925**	**.0013616**	**.0011956**
Stddev	.0004938	.000020	.0001051	.31830	.0003125	.0000209
%RSD	.0983945	8.512264	16.76067	.6718050	22.94819	1.746184
#1	.5018848	-.000254	.0007440	47.72400	.0010233	.0011724
#2	.5022820	-.000221	.0005409	47.31722	.0016393	.0012130
#3	.5013004	-.000219	.0005956	47.09654	.0014224	.0012014

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0087853**	**1.459478**	**.1925591**	**2.182487**	**.0032789**	**.0009612**
Stddev	.0006219	.003145	.0008172	.011146	.0000380	.0003095
%RSD	7.079350	.2154605	.4244021	.5106864	1.159413	32.20093
#1	.0092758	1.460963	.1933045	2.195300	.0032471	.0010759
#2	.0080858	1.461606	.1926877	2.175031	.0032687	.0011969
#3	.0089943	1.455866	.1916853	2.177131	.0033210	.0006107

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**378.6444**	**-.002575**	F **21.64609**	**.4950136**	**.0153635**	**-.006185**
Stddev	2.1946	.000963	.14263	.0031717	.0008983	.000072
%RSD	.5795831	37.41026	.6589132	.6407276	5.847183	1.157438
#1	380.4088	-.003024	21.72261	.4943096	.0163576	-.006252
#2	379.3374	-.001469	21.73413	.4984782	.0146098	-.006194
#3	376.1870	-.003231	21.48153	.4922531	.0151231	-.006110

Sample Name: Q2605-02 Acquired: 7/17/2025 16:59:44 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.003561**	**.0144367**	**.6767697**	**.0283461**	**.4780319**	**.0042202**
Stddev	.000380	.0003836	.0040701	.0029053	.0022919	.0025496
%RSD	10.68103	2.656778	.6014057	10.24935	.4794514	60.41412
#1	-.003957	.0145117	.6740919	.0249927	.4757287	.0029290
#2	-.003525	.0140213	.6814534	.0301045	.4780545	.0025745
#3	-.003199	.0147773	.6747637	.0299412	.4803124	.0071571

Elem	Sr4077
Units	ppm
Avg	**.2311315**
Stddev	.0001913
%RSD	.0827730
#1	.2311379
#2	.2313196
#3	.2309371

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5010.754**	**86146.62**	**8747.630**	**4139.665**	**5812.281**
Stddev	2.258	491.27	92.004	9.124	4.951
%RSD	.0450714	.5702706	1.051756	.2203944	.0851902
#1	5012.178	85684.16	8651.237	4149.234	5817.079
#2	5011.933	86093.36	8757.149	4138.697	5807.189
#3	5008.150	86662.36	8834.505	4131.064	5812.575

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2605-03 Acquired: 7/17/2025 17:04:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0032066**	**-.004305**	**-.003540**	**.0031118**	**-.004087**	**.3426619**
Stddev	.0011441	.000123	.000909	.0026460	.001892	.0016669
%RSD	35.67887	2.855945	25.68091	85.03044	46.29813	.4864499
#1	.0040352	-.004372	-.002550	.0027093	-.004250	.3441731
#2	.0019012	-.004163	-.003734	.0059359	-.005892	.3408740
#3	.0036834	-.004381	-.004336	.0006901	-.002118	.3429388

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4099710**	**-.000316**	**.0004484**	**45.11463**	**.0009518**	**.0017001**
Stddev	.0018561	.000076	.0001229	.18687	.0002521	.0001545
%RSD	.4527432	24.04448	27.39732	.4142063	26.48315	9.088789
#1	.4096188	-.000265	.0004463	45.27470	.0011199	.0018782
#2	.4083162	-.000280	.0003266	44.90928	.0006620	.0016011
#3	.4119779	-.000404	.0005723	45.15989	.0010735	.0016212

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0069458**	**1.175959**	**.1893805**	**2.004142**	**.0028265**	**.0007617**
Stddev	.0003132	.003985	.0004796	.024449	.0002158	.0000397
%RSD	4.509242	.3388324	.2532735	1.219902	7.636734	5.214620
#1	.0070102	1.178254	.1898553	1.975976	.0026639	.0007852
#2	.0066054	1.171358	.1893901	2.016564	.0030714	.0007840
#3	.0072218	1.178264	.1888961	2.019885	.0027441	.0007158

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**316.8808**	**-.002308**	F **21.44738**	**.4525388**	**.0119617**	**-.006152**
Stddev	2.5259	.001831	.06730	.0304436	.0000683	.000106
%RSD	.7971177	79.32534	.3137865	6.727301	.5705345	1.718340
#1	318.8346	-.004004	21.46653	.4865360	.0120345	-.006260
#2	314.0285	-.002554	21.50303	.4432836	.0119513	-.006049
#3	317.7793	-.000367	21.37258	.4277968	.0118992	-.006147

Sample Name: Q2605-03 Acquired: 7/17/2025 17:04:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.003274	.0149667	.6193152	.0246015	.4203931	.0036875
Stddev	.000139	.0004827	.0161639	.0013315	.0052395	.0012542
%RSD	4.239783	3.225028	2.609955	5.412284	1.246342	34.01201
#1	-.003407	.0147350	.6368604	.0239483	.4148285	.0023949
#2	-.003284	.0146436	.6160557	.0237228	.4211188	.0048993
#3	-.003130	.0155216	.6050295	.0261335	.4252319	.0037682

Elem	Sr4077
Units	ppm
Avg	.2188771
Stddev	.0007388
%RSD	.3375452
#1	.2186698
#2	.2182641
#3	.2196974

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5066.082	87876.22	8761.178	4216.560	5886.168
Stddev	4.600	260.32	36.580	15.637	3.747
%RSD	.0907993	.2962401	.4175271	.3708448	.0636565
#1	5062.127	87723.54	8720.405	4213.560	5886.317
#2	5071.130	88176.80	8791.120	4233.479	5889.839
#3	5064.990	87728.31	8772.009	4202.640	5882.349

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2605-04 Acquired: 7/17/2025 17:08:52 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0014685**	**-.003434**	**-.001299**	**.0030341**	**-.000532**	**.3470244**
Stddev	.0029935	.001949	.001191	.0011723	.001433	.0067406
%RSD	203.8495	56.74180	91.68622	38.63715	269.2165	1.942392
#1	-.001763	-.004093	-.002377	.0021898	-.002071	.3397015
#2	.002021	-.004968	-.000021	.0043725	-.000289	.3484019
#3	.004147	-.001242	-.001500	.0025398	.000763	.3529698

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3413105**	**-.000281**	**.0006331**	**39.80789**	**.0010732**	**.0006341**
Stddev	.0004578	.000030	.0000645	.02860	.0003834	.0001847
%RSD	.1341366	10.59511	10.18597	.0718392	35.72592	29.12946
#1	.3412682	-.000301	.0006132	39.77551	.0006662	.0004312
#2	.3408753	-.000295	.0007052	39.81847	.0011258	.0006788
#3	.3417880	-.000247	.0005809	39.82970	.0014275	.0007924

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0062973**	**.8427673**	**.1434777**	**1.778114**	**.0025115**	**.0011277**
Stddev	.0003358	.0038720	.0005301	.029576	.0003714	.0003191
%RSD	5.332817	.4594414	.3694707	1.663349	14.78679	28.29895
#1	.0066670	.8471974	.1437236	1.752601	.0026588	.0014813
#2	.0060113	.8400294	.1438402	1.810532	.0027865	.0010406
#3	.0062135	.8410750	.1428693	1.771209	.0020890	.0008611

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**307.7519**	**.0005105**	F **18.89321**	**.3595216**	**.0098692**	**-.005465**
Stddev	1.1168	.0026885	.12551	.0159848	.0009563	.000127
%RSD	.3629041	526.6661	.6643251	4.446130	9.689940	2.316669
#1	308.6009	-.000484	18.97920	.3439473	.0096247	-.005441
#2	308.1681	-.001539	18.95125	.3758875	.0109241	-.005602
#3	306.4867	.003555	18.74919	.3587299	.0090589	-.005352

Sample Name: Q2605-04 Acquired: 7/17/2025 17:08:52 Type: Unk
Method: 6010-200.7 NEW(v42) 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	-.004031	.0155692	.5681334	.0231302	.3824034	.0054726
Stddev	.000999	.0014191	.0179310	.0022809	.0025843	.0018894
%RSD	24.78147	9.114489	3.156119	9.860920	.6757941	34.52538
#1	-.002945	.0164840	.5788261	.0256013	.3853858	.0067646
#2	-.004237	.0162892	.5474323	.0226838	.3808254	.0033041
#3	-.004911	.0139345	.5781418	.0211056	.3809991	.0063491

Elem	Sr4077
Units	ppm
Avg	.1942425
Stddev	.0006777
%RSD	.3488725
#1	.1942362
#2	.1935680
#3	.1949233

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4983.110	86639.15	8670.208	4203.807	5773.111
Stddev	12.981	308.38	26.893	19.454	11.634
%RSD	.2604901	.3559314	.3101794	.4627686	.2015136
#1	4968.757	86504.44	8701.091	4191.900	5759.800
#2	4986.549	86421.06	8651.956	4193.265	5781.332
#3	4994.026	86991.97	8657.576	4226.257	5778.200

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-02 Acquired: 7/17/2025 17:13:26 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.004151**	**-.003178**	**.0488038**	**.0017790**	**-.001435**	**.1919903**	**.2779776**
Stddev	.002712	.001234	.0002235	.0032906	.000415	.0080136	.0007797
%RSD	65.33724	38.81789	.4580176	184.9656	28.91311	4.173941	.2804857
#1	-.006789	-.004436	.0490475	.0055711	-.001363	.2012102	.2776656
#2	-.004293	-.003128	.0486084	-.000325	-.001881	.1880606	.2788650
#3	-.001371	-.001970	.0487554	.000091	-.001060	.1867001	.2774022

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000187**	**.0009616**	**5.772660**	**.0031568**	**.0042270**	**.2688033**	**4.053417**
Stddev	.000049	.0000722	.009180	.0002729	.0000312	.0007658	.038861
%RSD	26.35899	7.513896	.1590256	8.645815	.7379497	.2848991	.9587138
#1	-.000230	.0010449	5.771539	.0029879	.0042215	.2685990	4.053192
#2	-.000197	.0009169	5.782349	.0030107	.0042606	.2681604	4.092390
#3	-.000133	.0009229	5.764092	.0034717	.0041990	.2696506	4.014670

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1867908**	**.9040120**	**.0181000**	**.0013677**	**312.0421**	**-.002291**	**.2701646**
Stddev	.0005178	.0083129	.0000508	.0003772	.7732	.001529	.0001387
%RSD	.2772052	.9195504	.2805819	27.57790	.2477787	66.73514	.0513254
#1	.1862240	.8954545	.0181339	.0014514	311.4098	-.003598	.2702401
#2	.1872390	.9045249	.0180416	.0009557	312.9041	-.002665	.2702490
#3	.1869094	.9120565	.0181244	.0016960	311.8125	-.000610	.2700045

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7395454**	**.0394869**	**.0007871**	**.0325749**	**.0183298**	**.7462935**	**.0219407**
Stddev	.0169354	.0005552	.0003154	.0004214	.0011062	.0104934	.0008367
%RSD	2.289969	1.406071	40.06819	1.293514	6.034797	1.406067	3.813625
#1	.7280396	.0390493	.0005225	.0320902	.0188101	.7360848	.0227929
#2	.7589921	.0393000	.0011361	.0328539	.0191146	.7570501	.0219089
#3	.7316045	.0401115	.0007027	.0327806	.0170646	.7457458	.0211204

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-02 Acquired: 7/17/2025 17:13:26 Type: Unk
Method: 6010-200.7 NEW(v42) 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	1.744519	.0007549	.0254657
Stddev	.005269	.0019637	.0000976
%RSD	.3020530	260.1308	.3830980
#1	1.749781	.0014810	.0253571
#2	1.739242	.0022521	.0255460
#3	1.744534	-.001468	.0254938

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5028.335	87731.92	8649.577	4248.674	5890.751
Stddev	2.596	265.36	28.826	8.471	8.566
%RSD	.0516246	.3024705	.3332614	.1993683	.1454188
#1	5026.377	87577.59	8632.318	4249.787	5880.882
#2	5027.348	87579.85	8682.854	4239.702	5895.117
#3	5031.279	88038.34	8633.558	4256.533	5896.255

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-06 Acquired: 7/17/2025 17:17:50 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0075230**	**-.001840**	**.2149652**	**.0021336**	**.0005295**	**.1950136**	**.1364587**
Stddev	.0011668	.001034	.0018858	.0038488	.0013291	.0158302	.0014232
%RSD	15.51033	56.19336	.8772792	180.3893	251.0050	8.117501	1.042915
#1	.0074639	-.002912	.2171376	-.000005	.0014266	.1928799	.1380662
#2	.0087183	-.001759	.2137497	.006577	-.000997	.1803584	.1353594
#3	.0063869	-.000849	.2140082	-.000170	.001159	.2118024	.1359504

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000106**	**.0010551**	**2.600220**	**.0016253**	**.0050921**	**.0173851**	**27.62003**
Stddev	.000130	.0000531	.020179	.0000845	.0000770	.0000882	.08303
%RSD	122.0497	5.032244	.7760377	5.199382	1.511177	.5073710	.3006020
#1	-.000014	.0010963	2.618034	.0016585	.0051787	.0174866	27.62883
#2	-.000050	.0010737	2.578306	.0016881	.0050661	.0173273	27.53295
#3	-.000255	.0009951	2.604318	.0015292	.0050316	.0173412	27.69830

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1825118**	**.3349664**	**.0435541**	**.0021878**	**342.1911**	**-.001806**	**.3365365**
Stddev	.0011458	.0239724	.0004978	.0004180	3.5016	.001356	.0008237
%RSD	.6278043	7.156666	1.143042	19.10699	1.023299	75.12322	.2447489
#1	.1836735	.3231473	.0440926	.0023387	339.0543	-.000742	.3367087
#2	.1813826	.3191985	.0434589	.0025093	341.5500	-.001341	.3356403
#3	.1824794	.3625533	.0431107	.0017152	345.9690	-.003333	.3372605

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7164349**	**.0375688**	**.0015313**	**-.002841**	**.0163578**	**1.246093**	**.0342448**
Stddev	.0332375	.0000135	.0001945	.000450	.0025630	.006275	.0014070
%RSD	4.639286	.0360134	12.70184	15.83531	15.66812	.5035456	4.108625
#1	.6931686	.0375541	.0015633	-.003152	.0137936	1.251103	.0326864
#2	.7016343	.0375718	.0013228	-.002325	.0189195	1.239055	.0354219
#3	.7545017	.0375807	.0017079	-.003045	.0163603	1.248121	.0346260

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-06 Acquired: 7/17/2025 17:17:50 Type: Unk
Method: 6010-200.7 NEW(v42) 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	3.775664	.0068424	-.019131
Stddev	.004094	.0010439	.000167
%RSD	.1084404	15.25668	.8714288
#1	3.779997	.0080022	-.019048
#2	3.771859	.0065466	-.019022
#3	3.775135	.0059782	-.019323

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5038.880	85835.15	8634.930	4162.047	5875.356
Stddev	19.137	94.78	40.191	23.163	12.638
%RSD	.3797915	.1104165	.4654450	.5565290	.2151063
#1	5052.509	85880.18	8591.202	4151.352	5871.523
#2	5047.129	85899.01	8670.256	4188.626	5889.467
#3	5017.002	85726.25	8643.330	4146.165	5865.079

Sample Name: PB168883BL Acquired: 7/17/2025 17:22:12 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.000110**	**.0004483**	**-.001971**	**-.000699**	**-.002022**	**-.004454**
Stddev	.002825	.0000282	.001586	.003797	.000364	.005001
%RSD	2570.746	6.279504	80.49989	543.3883	17.98961	112.2947
#1	-.003370	.0004486	-.000140	.000754	-.001906	-.006439
#2	.001621	.0004200	-.002942	.002158	-.002430	-.008157
#3	.001419	.0004763	-.002830	-.005008	-.001731	.001235

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.005126**	**-.000105**	**.0000295**	**.0632953**	**-.000975**	**.0000359**
Stddev	.001048	.000029	.0000855	.0072325	.000291	.0001700
%RSD	20.43689	27.26187	290.2136	11.42653	29.78626	472.8378
#1	-.003982	-.000087	-.000063	.0584308	-.001235	-.000012
#2	-.006038	-.000139	.000047	.0598487	-.001029	.000225
#3	-.005359	-.000091	.000105	.0716064	-.000662	-.000105

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000373**	**.0001848**	**.0000116**	**-.018434**	**.0002842**	**.0012743**
Stddev	.000206	.0017601	.0002289	.016234	.0000983	.0001474
%RSD	55.21819	952.3720	1973.609	88.06581	34.58109	11.56544
#1	-.000485	.0022051	-.000251	-.006509	.0002158	.0014012
#2	-.000498	-.001018	.000165	-.011871	.0002399	.0013091
#3	-.000135	-.000633	.000121	-.036922	.0003968	.0011127

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4361604**	**-.002593**	**-.000207**	**.2417425**	**-.002101**	**.0002809**
Stddev	.0601186	.000782	.000188	.0119807	.000500	.0001909
%RSD	13.78359	30.14779	90.72213	4.955978	23.80502	67.95939
#1	.4902266	-.003467	-.000125	.2372893	-.001940	.0001054
#2	.4468351	-.001959	-.000074	.2553121	-.002662	.0004842
#3	.3714195	-.002354	-.000421	.2326261	-.001702	.0002531

Sample Name: PB168883BL Acquired: 7/17/2025 17:22:12 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0024432	.0151992	-.003064	.0003227	F -.030974	.0003677
Stddev	.0002135	.0017076	.001345	.0016905	.000471	.0018639
%RSD	8.738942	11.23466	43.89383	523.8497	1.520139	506.8500
#1	.0026840	.0135512	-.003706	.0010033	-.030556	.0022377
#2	.0023687	.0169607	-.003967	-.001602	-.030883	-.001490
#3	.0022770	.0150857	-.001518	.001567	-.031484	.000356

Elem	Sr4077
Units	ppm
Avg	-.000008
Stddev	.000013
%RSD	159.3595
#1	.000005
#2	-.000022
#3	-.000008

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5285.217	90783.32	8319.334	4445.661	6563.551
Stddev	1.227	502.33	54.151	9.896	3.820
%RSD	.0232180	.5533333	.6509034	.2225993	.0582051
#1	5285.519	90216.30	8292.361	4437.782	6562.930
#2	5283.868	90960.93	8381.674	4456.768	6560.079
#3	5286.266	91172.71	8283.968	4442.433	6567.644

Sample Name: PB168883BS Acquired: 7/17/2025 17:26:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.7933481**	**1.932173**	**.9381784**	**2.024145**	**.8324221**	**2.008146**
Stddev	.0016314	.030271	.0043375	.002123	.0020621	.011817
%RSD	.2056365	1.566702	.4623285	.1048999	.2477164	.5884660
#1	.7915619	1.921009	.9350171	2.021815	.8311763	1.997552
#2	.7947595	1.909070	.9363947	2.024651	.8312878	2.020891
#3	.7937229	1.966441	.9431233	2.025970	.8348023	2.005995

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2080300**	**.1948036**	**.1872155**	**1.149131**	**.3674466**	**.1954804**
Stddev	.0011402	.0010913	.0004544	.019629	.0003476	.0002491
%RSD	.5481127	.5602016	.2427120	1.708149	.0945988	.1274071
#1	.2075098	.1938319	.1869388	1.140837	.3672070	.1954445
#2	.2093376	.1959843	.1869678	1.171546	.3678452	.1952512
#3	.2072427	.1945948	.1877399	1.135011	.3672875	.1957454

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3137091**	**2.915940**	**.2114611**	**1.931958**	**.4934623**	**.0767429**
Stddev	.0012052	.008700	.0017045	.023440	.0010707	.0002637
%RSD	.3841898	.2983606	.8060472	1.213281	.2169769	.3436750
#1	.3126210	2.925621	.2098203	1.905132	.4932813	.0765092
#2	.3135018	2.913424	.2113403	1.948487	.4924937	.0770289
#3	.3150045	2.908775	.2132228	1.942255	.4946120	.0766904

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.567384**	**.2965816**	**.2083504**	**10.21737**	**.3076779**	**.4183917**
Stddev	.014633	.0023253	.0006351	.02493	.0014519	.0003971
%RSD	.5699682	.7840384	.3048127	.2440142	.4718833	.0949208
#1	2.573941	.2940597	.2088088	10.24348	.3060318	.4180747
#2	2.550619	.2986408	.2076255	10.21482	.3082261	.4182631
#3	2.577592	.2970442	.2086170	10.19381	.3087759	.4188372

Sample Name: PB168883BS Acquired: 7/17/2025 17:26:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.6686905	.2083452	.8039758	5.567860	F -.034325	.1988152
Stddev	.0013446	.0013097	.0070944	.012899	.003224	.0051807
%RSD	.2010778	.6286031	.8824083	.2316762	9.391909	2.605788
#1	.6688867	.2084657	.7960047	5.553444	-.031315	.2029672
#2	.6672586	.2069795	.8095973	5.571824	-.033933	.1930096
#3	.6699262	.2095905	.8063254	5.578313	-.037727	.2004688

Elem	Sr4077
Units	ppm
Avg	.2107287
Stddev	.0004497
%RSD	.2133981
#1	.2104438
#2	.2112471
#3	.2104952

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5307.126	88722.35	8315.702	4415.262	6480.871
Stddev	8.601	132.36	16.438	13.143	13.957
%RSD	.1620736	.1491801	.1976742	.2976745	.2153631
#1	5304.881	88569.73	8334.575	4400.970	6476.062
#2	5316.627	88805.67	8304.516	4426.829	6496.598
#3	5299.870	88791.64	8308.014	4417.988	6469.955

Sample Name: Q2604-02 Acquired: 7/17/2025 17:30:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.005474**	**-.003032**	**-.001025**	**.0031966**	**-.001683**	**.0563755**	**.0002912**
Stddev	.000703	.000377	.000135	.0035250	.001299	.0039058	.0004408
%RSD	12.83984	12.44301	13.13617	110.2759	77.20576	6.928216	151.3730
#1	-.005442	-.002925	-.000869	.0060187	-.000358	.0548398	.0006258
#2	-.006193	-.002719	-.001104	.0043256	-.001736	.0608158	.0004563
#3	-.004788	-.003451	-.001101	-.000755	-.002955	.0534710	-.000208

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000261**	**-.000030**	**4.479775**	**-.000300**	**.0066787**	**.0040082**	**.2011608**
Stddev	.000054	.000038	.018449	.000196	.0001734	.0002703	.0083905
%RSD	20.65163	126.3045	.4118310	65.39680	2.595642	6.743954	4.171019
#1	-.000258	.000009	4.497348	-.000283	.0067808	.0037612	.1914759
#2	-.000209	-.000066	4.460559	-.000113	.0064786	.0042970	.2062315
#3	-.000317	-.000032	4.481418	-.000504	.0067768	.0039665	.2057750

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0214024**	**1.581070**	**.0092989**	**.0009759**	**14.23327**	**-.003353**	**.0371310**
Stddev	.0003815	.021076	.0003722	.0002528	.01415	.002670	.0002146
%RSD	1.782733	1.332991	4.002081	25.90204	.0993866	79.61908	.5778469
#1	.0217983	1.582881	.0096609	.0011994	14.24722	-.001379	.0371026
#2	.0210370	1.559147	.0093185	.0007016	14.23364	-.006390	.0373583
#3	.0213719	1.601181	.0089174	.0010269	14.21893	-.002289	.0369321

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.150755**	**.0067398**	**.0005801**	**-.003187**	**.0142175**	**5.791697**	**.0226378**
Stddev	.019656	.0004513	.0001793	.000888	.0010548	.007080	.0024311
%RSD	1.708079	6.696424	30.91579	27.85547	7.419344	.1222490	10.73906
#1	1.128897	.0070775	.0004439	-.003800	.0138233	5.783525	.0248625
#2	1.166977	.0069148	.0005131	-.002169	.0154127	5.796010	.0200428
#3	1.156392	.0062272	.0007833	-.003591	.0134165	5.795556	.0230083

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-02 Acquired: 7/17/2025 17:30:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.784275**	**-.004085**	**.0249216**
Stddev	.013468	.002931	.0000536
%RSD	.2815137	71.76213	.2148850
#1	4.775796	-.000892	.0249803
#2	4.777224	-.004707	.0249090
#3	4.799805	-.006655	.0248754

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5367.183**	**90361.20**	**8460.700**	**4421.995**	**6642.617**
Stddev	5.372	488.90	31.236	27.712	5.826
%RSD	.1000813	.5410554	.3691931	.6266868	.0877108
#1	5373.265	89857.99	8430.991	4390.173	6649.151
#2	5365.193	90834.42	8493.267	4440.817	6640.737
#3	5363.090	90391.18	8457.841	4434.995	6637.962

Sample Name: CCV05 Acquired: 7/17/2025 17:58:47 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**5.039543**	**5.053480**	**4.861307**	**5.124395**	**5.171328**	**10.16425**	**10.74865**
Stddev	.015118	.078503	.012781	.022170	.020256	.05487	.07797
%RSD	.2999814	1.553452	.2629064	.4326349	.3917036	.5398232	.7253955
#1	5.026132	4.997275	4.850361	5.110960	5.154317	10.12091	10.66131
#2	5.036570	5.143174	4.858209	5.112240	5.165931	10.14591	10.77340
#3	5.055926	5.019992	4.875353	5.149983	5.193736	10.22594	10.81124

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2460635**	**2.413323**	**26.94707**	**.9331925**	**2.456675**	**1.252745**	**4.969008**
Stddev	.0002247	.003480	.09084	.0225354	.006171	.004267	.113040
%RSD	.0913179	.1442130	.3371189	2.414869	.2511848	.3406046	2.274900
#1	.2458051	2.412144	26.86933	.9323387	2.452444	1.248604	4.942644
#2	.2461724	2.410586	26.92496	.9561426	2.453825	1.252504	5.092901
#3	.2462130	2.417240	27.04693	.9110961	2.463756	1.257128	4.871480

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.631917**	**24.67584**	**2.473911**	**1.281670**	**25.40871**	**2.513047**	**2.587927**
Stddev	.003674	.06494	.005697	.025106	.65078	.005296	.046602
%RSD	.1395992	.2631618	.2302836	1.958878	2.561258	.2107425	1.800737
#1	2.627804	24.61502	2.471171	1.282313	25.50699	2.507645	2.590749
#2	2.633071	24.66828	2.470101	1.306449	26.00477	2.518230	2.633054
#3	2.634875	24.74423	2.480460	1.256249	24.71438	2.513265	2.539978

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.48609**	**5.352270**	**5.119603**	**4.870670**	**5.026669**	**4.612751**	**5.069517**
Stddev	.61885	.021740	.015273	.009346	.003184	.102405	.005725
%RSD	2.428179	.4061736	.2983207	.1918921	.0633502	2.220051	.1129268
#1	25.42913	5.344811	5.105059	4.865273	5.029923	4.594527	5.074007
#2	26.13145	5.335242	5.118238	4.865275	5.026524	4.723045	5.071472
#3	24.89769	5.376757	5.135513	4.881463	5.023560	4.520681	5.063070

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV05 Acquired: 7/17/2025 17:58:47 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.934027**	**5.040946**	**5.430472**
Stddev	.021086	.006575	.072468
%RSD	.4273683	.1304331	1.334465
#1	4.909743	5.039883	5.357561
#2	4.947694	5.047988	5.431368
#3	4.944646	5.034968	5.502488

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5188.127**	**85055.18**	**7923.149**	**4195.504**	**6012.816**
Stddev	6.909	1916.32	23.400	71.587	13.089
%RSD	.1331769	2.253027	.2953327	1.706291	.2176909
#1	5187.721	85148.50	7948.906	4196.369	6003.492
#2	5195.230	83093.90	7917.343	4123.488	6027.780
#3	5181.429	86923.13	7903.199	4266.655	6007.175

Sample Name: CCB05 Acquired: 7/17/2025 18:02:58 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001318**	**-.000434**	**-.001778**	**-.002445**	**-.001729**	**.0030780**
Stddev	.000987	.001477	.001045	.001316	.000565	.0082638
%RSD	74.91054	340.6168	58.77594	53.80178	32.68795	268.4758
#1	-.000891	-.000532	-.001380	-.002493	-.001929	.0120909
#2	-.000615	.001090	-.002963	-.001106	-.002168	-.004143
#3	-.002446	-.001859	-.000990	-.003736	-.001091	.001286

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002867**	**-.000065**	**.0000958**	**.0649430**	**-.000734**	**.0001211**
Stddev	.000517	.000102	.0000410	.0052817	.000550	.0000678
%RSD	18.02472	157.9773	42.75489	8.132885	74.91623	56.03412
#1	-.002477	-.000093	.0000960	.0592608	-.001340	.0001529
#2	-.003453	.000049	.0001367	.0658655	-.000266	.0000432
#3	-.002670	-.000150	.0000548	.0697027	-.000597	.0001671

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000532**	**-.000946**	**.0003447**	**-.003199**	**.0002480**	**.0009021**
Stddev	.000222	.001483	.0005568	.034814	.0001875	.0004888
%RSD	41.76452	156.6836	161.5154	1088.263	75.59714	54.19015
#1	-.000704	-.002093	.0007316	-.008448	.0001011	.0007577
#2	-.000281	-.001475	-.000293	.033942	.0001837	.0005017
#3	-.000612	.000728	.000596	-.035091	.0004592	.0014469

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.290602**	**-.003500**	**.0002094**	**.1260111**	**.0060449**	**.0011436**
Stddev	.008998	.005270	.0002884	.0033464	.0002308	.0001255
%RSD	3.096351	150.5820	137.7381	2.655679	3.817532	10.96919
#1	-.294632	.000594	-.000123	.1241040	.0059263	.0012646
#2	-.280293	-.001647	.000387	.1298751	.0058976	.0010141
#3	-.296880	-.009447	.000365	.1240541	.0063108	.0011521

Sample Name: CCB05 Acquired: 7/17/2025 18:02:58 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025601	.0155439	.0085850	.0005822	F -.035562	.0008006
Stddev	.0003928	.0002550	.0068483	.0015498	.001166	.0022213
%RSD	15.34433	1.640271	79.77079	266.2123	3.279508	277.4507
#1	.0029955	.0152637	.0152787	.0005024	-.036599	.0011293
#2	.0024526	.0157622	.0015918	.0021703	-.034300	.0028393
#3	.0022322	.0156058	.0088846	-.000926	-.035789	-.001567

Elem	Sr4077
Units	ppm
Avg	.0001926
Stddev	.0000344
%RSD	17.87260
#1	.0002322
#2	.0001700
#3	.0001755

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5380.656	86122.54	8264.501	4363.739	6726.978
Stddev	13.258	173.64	95.231	14.970	17.797
%RSD	.2463985	.2016229	1.152285	.3430533	.2645638
#1	5395.963	85929.57	8266.765	4349.451	6747.510
#2	5373.214	86266.16	8358.579	4379.309	6715.965
#3	5372.791	86171.90	8168.158	4362.457	6717.459

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01 Acquired: 7/17/2025 18:07:17 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.002680**	**-.002136**	**.0000513**	**.0019456**	**.0001072**	**.0677660**	**-.001177**
Stddev	.001276	.001092	.0008396	.0018200	.0011933	.0085653	.000498
%RSD	47.62057	51.12542	1636.046	93.54178	1113.694	12.63946	42.28321
#1	-.002927	-.003354	.0000426	.0035164	.0011227	.0748835	-.001074
#2	-.001298	-.001245	.0008953	-.000049	.0004059	.0582600	-.000739
#3	-.003815	-.001809	-.000784	.002369	-.001207	.0701546	-.001719

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000226**	**-.000076**	**4.441747**	**-.000127**	**.0065179**	**.0713348**	**1.540197**
Stddev	.000014	.000014	.008243	.000249	.0003397	.0004606	.012654
%RSD	6.051571	18.74683	.1855843	196.5872	5.212205	.6456877	.8215810
#1	-.000239	-.000090	4.435221	-.000167	.0067822	.0718549	1.542672
#2	-.000227	-.000062	4.451011	-.000352	.0066367	.0711709	1.551432
#3	-.000212	-.000077	4.439010	.000140	.0061347	.0709785	1.526489

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0192631**	**1.592698**	**.0082624**	**.0007761**	**14.26146**	**-.000590**	**.0279396**
Stddev	.0005554	.021348	.0001438	.0000621	.12237	.001692	.0001074
%RSD	2.883233	1.340339	1.739789	8.000145	.8580537	286.9531	.3843896
#1	.0196576	1.616495	.0083951	.0008428	14.29810	.001341	.0280258
#2	.0186280	1.575233	.0082826	.0007200	14.36133	-.001298	.0278193
#3	.0195039	1.586365	.0081097	.0007656	14.12496	-.001812	.0279737

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.164350**	**.0096601**	**.0008588**	**-.002410**	**.0157725**	**5.834406**	**.0194052**
Stddev	.013110	.0004649	.0000932	.000145	.0027580	.045185	.0008624
%RSD	1.125968	4.812628	10.85298	6.027334	17.48632	.7744598	4.444143
#1	1.158098	.0094036	.0009022	-.002496	.0141157	5.849635	.0197881
#2	1.179416	.0093799	.0007518	-.002242	.0142455	5.870009	.0184177
#3	1.155535	.0101967	.0009224	-.002491	.0189563	5.783574	.0200100

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01 Acquired: 7/17/2025 18:07:17 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.968742**	**-.003853**	**.0229242**
Stddev	.023913	.001943	.0000865
%RSD	.4812734	50.42911	.3771030
#1	4.986891	-.005940	.0229529
#2	4.977688	-.002097	.0228270
#3	4.941645	-.003520	.0229926

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5378.814**	**89781.73**	**8498.546**	**4433.431**	**6599.997**
Stddev	9.788	228.03	54.536	6.324	2.051
%RSD	.1819740	.2539793	.6417040	.1426434	.0310722
#1	5388.998	89765.63	8534.305	4427.028	6602.313
#2	5369.478	89562.19	8525.557	4439.673	6598.411
#3	5377.965	90017.39	8435.777	4433.592	6599.267

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01DUP Acquired: 7/17/2025 18:11:33 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.004280**	**-.001474**	**.0002695**	**.0014042**	**-.002375**	**.0725605**	**.0010336**
Stddev	.002003	.002359	.0006375	.0042890	.000878	.0097329	.0010509
%RSD	46.80372	160.0833	236.5057	305.4445	36.95421	13.41344	101.6755
#1	-.004786	-.000396	.0009424	.0019268	-.001932	.0689107	.0015085
#2	-.002072	-.004179	-.000325	.0054079	-.003386	.0651801	.0017631
#3	-.005982	.000154	.000191	-.003122	-.001808	.0835907	-.000171

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000210**	**-.000102**	**4.455246**	**-.000427**	**.0064905**	**.0718557**	**1.472755**
Stddev	.000059	.000070	.013413	.000197	.0001000	.0001277	.008853
%RSD	27.98488	68.82504	.3010557	46.08200	1.541347	.1777727	.6011386
#1	-.000154	-.000047	4.442372	-.000648	.0064261	.0717847	1.464533
#2	-.000205	-.000079	4.454227	-.000363	.0066058	.0717792	1.471605
#3	-.000272	-.000181	4.469139	-.000271	.0064397	.0720032	1.482127

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0201363**	**1.590570**	**.0084432**	**.0007721**	**13.64624**	**-.003219**	**.0280547**
Stddev	.0004047	.006742	.0001069	.0002576	.09738	.002098	.0001758
%RSD	2.009854	.4239014	1.265574	33.35707	.7136237	65.18380	.6266990
#1	.0199215	1.586779	.0083866	.0008932	13.54725	-.003661	.0278632
#2	.0206031	1.598355	.0083766	.0009468	13.64953	-.005061	.0282088
#3	.0198842	1.586577	.0085665	.0004763	13.74193	-.000935	.0280922

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.116046**	**.0080871**	**.0005541**	**-.000321**	**.0154206**	**5.557390**	**.0195111**
Stddev	.015855	.0009342	.0000671	.000651	.0002444	.049463	.0011621
%RSD	1.420604	11.55135	12.10248	202.8879	1.584964	.8900445	5.956301
#1	1.129149	.0090908	.0006222	-.001055	.0155779	5.518679	.0197776
#2	1.098422	.0072431	.0004882	.000185	.0151390	5.540376	.0205168
#3	1.120566	.0079273	.0005519	-.000092	.0155448	5.613114	.0182388

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01DUP Acquired: 7/17/2025 18:11:33 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**5.049443**	**-.001073**	**.0230156**
Stddev	.028204	.002629	.0000463
%RSD	.5585508	245.0649	.2011870
#1	5.044843	.000975	.0230543
#2	5.023821	-.004037	.0230281
#3	5.079663	-.000155	.0229643

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5367.949**	**90139.40**	**8149.871**	**4434.449**	**6579.094**
Stddev	33.144	515.48	11.863	18.924	39.680
%RSD	.6174449	.5718732	.1455545	.4267484	.6031268
#1	5395.569	90663.50	8140.131	4434.595	6615.423
#2	5377.083	90121.72	8146.400	4453.300	6585.111
#3	5331.196	89632.98	8163.082	4415.453	6536.749

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01LX5 Acquired: 7/17/2025 18:15:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.001342**	**-.000384**	**-.001439**	**-.000706**	**-.000651**	**.0120981**	**-.003531**
Stddev	.000992	.002088	.000899	.000306	.000920	.0092305	.000241
%RSD	73.92855	543.4384	62.49870	43.31185	141.1571	76.29738	6.832967
#1	-.000205	-.000855	-.002372	-.000747	-.000384	.0216993	-.003439
#2	-.002033	.001899	-.001368	-.000989	.000105	.0032893	-.003805
#3	-.001788	-.002196	-.000577	-.000382	-.001675	.0113056	-.003350

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000164**	**-.000019**	**.9856617**	**-.000651**	**.0013419**	**.0146234**	**.3047845**
Stddev	.000046	.000034	.0131219	.000270	.0001925	.0002036	.0052961
%RSD	28.39504	181.9981	1.331278	41.52749	14.34347	1.392583	1.737666
#1	-.000216	-.000024	.9726142	-.000370	.0013275	.0148430	.2995891
#2	-.000126	.000018	.9855141	-.000909	.0015411	.0145864	.3101759
#3	-.000149	-.000050	.9988568	-.000674	.0011570	.0144408	.3045886

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039537**	**.3141917**	**.0019900**	**.0007079**	**2.218493**	**-.004202**	**.0056882**
Stddev	.0001934	.0220306	.0001638	.0002235	.006919	.002105	.0000754
%RSD	4.891648	7.011848	8.230791	31.57252	.3118776	50.10009	1.325122
#1	.0038266	.2894262	.0020102	.0005046	2.214082	-.002699	.0057641
#2	.0038582	.3215393	.0021427	.0009472	2.226467	-.003299	.0056873
#3	.0041762	.3316096	.0018170	.0006719	2.214930	-.006608	.0056133

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3213982**	**.0018161**	**.0001593**	**.0010776**	**.0151738**	**1.146844**	**.0027349**
Stddev	.0124910	.0003204	.0000070	.0002840	.0014229	.008280	.0017853
%RSD	3.886456	17.64211	4.410742	26.35674	9.377468	.7220179	65.27740
#1	.3109520	.0014562	.0001525	.0007539	.0153693	1.151016	.0032418
#2	.3180084	.0020703	.0001588	.0011940	.0136632	1.152207	.0042120
#3	.3352342	.0019217	.0001665	.0012849	.0164888	1.137307	.0007510

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01LX5 Acquired: 7/17/2025 18:15:48 Type: Unk
Method: 6010-200.7 NEW(v42) 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	1.025251	-.000699	.0048135
Stddev	.006347	.000569	.0000224
%RSD	.6190325	81.39534	.4651284
#1	1.032579	-.000346	.0048394
#2	1.021545	-.000396	.0048005
#3	1.021629	-.001355	.0048007

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5383.394	88989.77	7978.783	4440.967	6647.167
Stddev	17.729	198.44	46.379	16.025	21.581
%RSD	.3293331	.2229946	.5812776	.3608507	.3246639
#1	5388.019	89078.91	8024.494	4431.115	6657.876
#2	5398.352	88762.39	7931.764	4432.328	6661.298
#3	5363.810	89128.01	7980.091	4459.458	6622.325

Sample Name: Q2604-01MS Acquired: 7/17/2025 18:20:08 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8015160**	**1.922877**	**.9325639**	**1.995732**	**.8303274**	**2.114507**	**.2156537**
Stddev	.0037102	.043683	.0051555	.004631	.0007323	.012451	.0003692
%RSD	.4628970	2.271732	.5528286	.2320551	.0881936	.5888576	.1711987
#1	.7974343	1.913871	.9298676	1.990459	.8301342	2.110074	.2152347
#2	.8024296	1.970361	.9293157	1.997598	.8297111	2.104880	.2157956
#3	.8046840	1.884400	.9385084	1.999138	.8311370	2.128569	.2159310

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1893181**	**.1883153**	**5.640815**	**.3755805**	**.2053574**	**.3855816**	**4.515142**
Stddev	.0007648	.0008548	.023706	.0012830	.0008556	.0008021	.011212
%RSD	.4039534	.4539341	.4202621	.3415957	.4166380	.2080187	.2483091
#1	.1884997	.1879591	5.638274	.3770616	.2051741	.3848299	4.527252
#2	.1900146	.1876962	5.665689	.3748674	.2046083	.3854887	4.505123
#3	.1894400	.1892907	5.618481	.3748125	.2062898	.3864260	4.513050

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2326155**	**3.620254**	**.5061314**	**.0748589**	**17.74239**	**.3048964**	**.2445716**
Stddev	.0009692	.044529	.0026473	.0004381	.12439	.0021422	.0011332
%RSD	.4166480	1.230003	.5230533	.5852528	.7010766	.7025885	.4633273
#1	.2319779	3.581411	.5049186	.0746234	17.74690	.3062695	.2432827
#2	.2337308	3.668852	.5043078	.0745889	17.61581	.3059917	.2450204
#3	.2321378	3.610500	.5091679	.0753644	17.86446	.3024280	.2454115

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.20909**	**.2906021**	**.4440755**	**.6810665**	**.2116374**	**6.759680**	**5.652765**
Stddev	.06542	.0008945	.0002210	.0039277	.0013309	.022838	.013488
%RSD	.5836153	.3078082	.0497712	.5766916	.6288768	.3378526	.2386009
#1	11.22766	.2896596	.4439117	.6787914	.2102798	6.770676	5.644794
#2	11.13639	.2914392	.4443269	.6788064	.2116924	6.733424	5.645162
#3	11.26322	.2907076	.4439878	.6856018	.2129399	6.774940	5.668337

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01MS Acquired: 7/17/2025 18:20:08 Type: Unk
Method: 6010-200.7 NEW(v42) 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	5.226407	.2014750	.2347452
Stddev	.005806	.0023281	.0004032
%RSD	.1110874	1.155518	.1717405
#1	5.222085	.2034564	.2348475
#2	5.224130	.2020576	.2343008
#3	5.233006	.1989109	.2350874

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5258.727	89113.14	8298.466	4394.879	6378.272
Stddev	.931	208.70	32.137	3.780	13.565
%RSD	.0177107	.2341990	.3872665	.0860183	.2126705
#1	5259.609	89033.24	8327.489	4395.932	6380.131
#2	5258.820	89349.99	8263.928	4398.022	6390.812
#3	5257.753	88956.19	8303.979	4390.684	6363.874

Sample Name: Q2604-01MSD Acquired: 7/17/2025 18:24:06 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.7758884**	**1.814396**	**.9118530**	**1.935864**	**.8092611**	**2.054390**	**.2094242**
Stddev	.0032978	.010732	.0007990	.001899	.0028799	.015892	.0011537
%RSD	.4250366	.5914858	.0876231	.0981006	.3558654	.7735515	.5508863
#1	.7720812	1.810210	.9109581	1.935301	.8088780	2.071292	.2087369
#2	.7778572	1.826590	.9121062	1.934309	.8065919	2.039751	.2087796
#3	.7777268	1.806388	.9124947	1.937980	.8123133	2.052126	.2107562

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1844980**	**.1829982**	**5.475461**	**.3712516**	**.1996867**	**.3742479**	**5.081906**
Stddev	.0002721	.0003170	.007866	.0010923	.0002549	.0006917	.016285
%RSD	.1475097	.1732472	.1436519	.2942294	.1276403	.1848379	.3204495
#1	.1843894	.1826956	5.473309	.3719234	.1995406	.3738822	5.077586
#2	.1842969	.1829711	5.484178	.3718402	.1995385	.3738157	5.099915
#3	.1848077	.1833279	5.468895	.3699912	.1999810	.3750457	5.068216

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2437608**	**3.541566**	**.4925829**	**.0731484**	**17.43615**	**.2956176**	**.2404244**
Stddev	.0002349	.005470	.0007581	.0001796	.08634	.0035360	.0012095
%RSD	.0963702	.1544546	.1539139	.2454790	.4951984	1.196139	.5030708
#1	.2439445	3.535280	.4917323	.0733022	17.52356	.2981443	.2409153
#2	.2434961	3.544167	.4928286	.0729510	17.43396	.2971317	.2390466
#3	.2438418	3.545250	.4931877	.0731919	17.35092	.2915766	.2413112

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.05284**	**.2817392**	**.4352605**	**.6686010**	**.2064331**	**6.625768**	**5.472031**
Stddev	.06948	.0024771	.0003779	.0003485	.0008708	.034909	.007537
%RSD	.6286194	.8791998	.0868102	.0521198	.4218122	.5268710	.1377321
#1	11.11025	.2817188	.4348815	.6684325	.2057105	6.654580	5.466388
#2	11.07266	.2792725	.4352628	.6690017	.2061889	6.635777	5.480590
#3	10.97560	.2842265	.4356372	.6683688	.2073999	6.586948	5.469114

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01MSD Acquired: 7/17/2025 18:24:06 Type: Unk
Method: 6010-200.7 NEW(v42) 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	5.047449	.1942615	.2280918
Stddev	.002924	.0033616	.0003376
%RSD	.0579209	1.730431	.1480229
#1	5.046110	.1973680	.2282598
#2	5.050802	.1947238	.2283126
#3	5.045435	.1906927	.2277032

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5305.570	88491.27	8329.492	4416.328	6447.268
Stddev	21.362	80.28	34.788	11.358	23.627
%RSD	.4026393	.0907213	.4176465	.2571849	.3664583
#1	5328.129	88402.94	8355.161	4419.569	6472.508
#2	5302.933	88559.79	8343.416	4425.713	6443.615
#3	5285.650	88511.07	8289.899	4403.701	6425.681

Sample Name: Q2604-01A Acquired: 7/17/2025 18:28:02 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8108232**	**1.957703**	**.9445290**	**2.024641**	**.8460356**	**2.118837**	**.2160338**
Stddev	.0039200	.049130	.0070985	.010343	.0011936	.022926	.0002449
%RSD	.4834654	2.509553	.7515433	.5108421	.1410778	1.082020	.1133659
#1	.8113452	1.957683	.9430033	2.026518	.8457796	2.098317	.2158883
#2	.8066682	1.908583	.9383174	2.013489	.8473364	2.143582	.2163166
#3	.8144560	2.006842	.9522664	2.033918	.8449908	2.114611	.2158966

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1978204**	**.1902759**	**5.502255**	**.3759768**	**.2066790**	**.3848632**	**4.338141**
Stddev	.0016874	.0012404	.020929	.0024317	.0011221	.0010557	.060263
%RSD	.8529785	.6519105	.3803747	.6467804	.5429284	.2743137	1.389141
#1	.1996857	.1898885	5.480495	.3755224	.2059566	.3850091	4.270491
#2	.1973754	.1892754	5.522241	.3738044	.2061087	.3837421	4.357852
#3	.1964002	.1916638	5.504029	.3786038	.2079718	.3858384	4.386080

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2344987**	**3.556861**	**.5101318**	**.0754386**	**16.69445**	**.3026720**	**.2476280**
Stddev	.0009754	.012263	.0031082	.0003468	.20076	.0009449	.0002507
%RSD	.4159431	.3447791	.6092973	.4597164	1.202553	.3121683	.1012530
#1	.2334212	3.569740	.5086682	.0751187	16.46795	.3029412	.2475498
#2	.2347533	3.555521	.5080256	.0758072	16.76495	.3016218	.2479086
#3	.2353215	3.545323	.5137017	.0753899	16.85045	.3034531	.2474257

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.04511**	**.3038707**	**.4492908**	**.7023944**	**.2144234**	**6.367458**	**5.699815**
Stddev	.12181	.0014471	.0004774	.0023851	.0010965	.046705	.036068
%RSD	1.102815	.4762334	.1062656	.3395625	.5113747	.7334906	.6327981
#1	10.91811	.3055242	.4498401	.7018199	.2154061	6.316512	5.694048
#2	11.05627	.3028350	.4489755	.7003491	.2146235	6.408251	5.666978
#3	11.16095	.3032528	.4490568	.7050143	.2132406	6.377612	5.738420

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2604-01A Acquired: 7/17/2025 18:28:02 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**5.104426**	**.2024548**	**.2373186**
Stddev	.033919	.0022685	.0007979
%RSD	.6645094	1.120487	.3362123
#1	5.096751	.1999989	.2364121
#2	5.075001	.2044716	.2379145
#3	5.141525	.2028940	.2376292

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5288.722**	**89119.10**	**8030.489**	**4422.299**	**6389.588**
Stddev	16.766	419.24	34.198	9.332	37.531
%RSD	.3170086	.4704289	.4258561	.2110224	.5873785
#1	5288.348	89600.39	7999.405	4431.603	6402.252
#2	5305.671	88833.38	8024.941	4412.939	6419.149
#3	5272.146	88923.53	8067.123	4422.355	6347.363

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168882BL Acquired: 7/17/2025 18:31:59 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**-.002340**	**-.000757**	**-.003025**	**-.002210**	**-.001823**	**.0049401**
Stddev	.001622	.001258	.000785	.001005	.003153	.0089335
%RSD	69.31315	166.1655	25.94045	45.48455	172.9804	180.8353
#1	-.003488	-.002205	-.003782	-.001077	-.002855	.0050328
#2	-.000485	-.000128	-.003078	-.002995	.001717	.0138269
#3	-.003047	.000062	-.002215	-.002557	-.004330	-.004039

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003717**	**-.000093**	**-.000012**	**.0589050**	**-.000532**	**-.000220**
Stddev	.001442	.000073	.000053	.0136665	.000299	.000078
%RSD	38.80552	78.09676	448.4385	23.20081	56.23654	35.36202
#1	-.004131	-.000116	.000011	.0606797	-.000247	-.000167
#2	-.004906	-.000151	-.000072	.0715975	-.000506	-.000183
#3	-.002112	-.000012	.000026	.0444379	-.000844	-.000309

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000233**	**.0010078**	**.0003591**	**-.021376**	**-.000003**	**.0009675**
Stddev	.000154	.0021073	.0004529	.029139	.000106	.0000871
%RSD	65.91968	209.0897	126.1225	136.3132	3151.259	9.001819
#1	-.000074	.0016167	.0007586	-.015021	-.000117	.0010267
#2	-.000244	.0027436	-.000133	-.053168	.000014	.0008675
#3	-.000381	-.001337	.000452	.004060	.000093	.0010084

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.298740**	**-.002410**	**-.000058**	**.1190217**	**.0002667**	**.0002979**
Stddev	.018116	.002590	.000029	.0231163	.0004522	.0000156
%RSD	6.063979	107.4749	51.26597	19.42194	169.5366	5.222841
#1	-.319399	-.004976	-.000083	.0925188	.0006365	.0003041
#2	-.285566	-.002458	-.000025	.1350231	.0004010	.0002802
#3	-.291256	.000204	-.000064	.1295232	-.000237	.0003093

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168882BL Acquired: 7/17/2025 18:31:59 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0022281**	**.0149629**	**.0014187**	**.0020325**	F **-.031105**	**-.001282**
Stddev	.0003683	.0015271	.0121525	.0033645	.001437	.000860
%RSD	16.52900	10.20597	856.5981	165.5342	4.620419	67.06196
#1	.0020570	.0133333	-.011213	.0045708	-.030656	-.001421
#2	.0019765	.0151944	.002441	.0033106	-.032714	-.002065
#3	.0026508	.0163611	.013028	-.001784	-.029947	-.000362

Elem	Sr4077
Units	ppm
Avg	**-.000091**
Stddev	.000012
%RSD	12.95214
#1	-.000080
#2	-.000089
#3	-.000103

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5308.522**	**89089.24**	**7936.606**	**4418.045**	**6532.774**
Stddev	21.624	259.05	58.737	7.185	29.069
%RSD	.4073521	.2907772	.7400810	.1626225	.4449774
#1	5330.934	89327.13	7870.346	4426.340	6556.195
#2	5306.848	89127.33	7982.276	4413.790	6541.886
#3	5287.783	88813.25	7957.196	4414.004	6500.240

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: PB168882BS Acquired: 7/17/2025 18:54:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8049499**	**1.998684**	**.9644190**	**2.050858**	**.8453690**	**2.032201**
Stddev	.0016610	.028786	.0011796	.011613	.0035027	.001914
%RSD	.2063536	1.440250	.1223104	.5662410	.4143439	.0942044
#1	.8056436	1.972394	.9654212	2.040882	.8415654	2.030750
#2	.8030545	2.029444	.9631190	2.048085	.8460799	2.034371
#3	.8061517	1.994215	.9647166	2.063606	.8484618	2.031481

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2103705**	**.1968540**	**.1927443**	**1.140782**	**.3706364**	**.1998786**
Stddev	.0005773	.0007901	.0006718	.007180	.0005546	.0006182
%RSD	.2744312	.4013867	.3485497	.6293979	.1496472	.3093048
#1	.2099454	.1968316	.1924156	1.132492	.3703547	.1996538
#2	.2101384	.1960752	.1923001	1.145022	.3712754	.1994043
#3	.2110278	.1976550	.1935171	1.144832	.3702791	.2005778

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3177134**	**2.957431**	**.2136240**	**1.965200**	**.5044375**	**.0779458**
Stddev	.0009784	.015927	.0000080	.004039	.0013750	.0006180
%RSD	.3079451	.5385296	.0037576	.2055167	.2725864	.7928093
#1	.3166123	2.948588	.2136312	1.963327	.5038677	.0774159
#2	.3184828	2.975817	.2136154	1.962438	.5034390	.0777968
#3	.3180451	2.947887	.2136255	1.969835	.5060058	.0786246

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.975428**	**.2965440**	**.2132498**	**10.25017**	**.3127175**	**.4248734**
Stddev	.019714	.0024052	.0005699	.06996	.0015195	.0013943
%RSD	.6625472	.8110876	.2672325	.6825531	.4859041	.3281621
#1	2.968061	.2991228	.2133988	10.17232	.3137142	.4236674
#2	2.997764	.2961476	.2126203	10.30778	.3109686	.4245527
#3	2.960458	.2943616	.2137304	10.27042	.3134697	.4264001

Sample Name: PB168882BS Acquired: 7/17/2025 18:54:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.6919846**	**.2124124**	**.8207106**	**5.869468**	F **-.032454**	**.2030680**
Stddev	.0035271	.0010269	.0121009	.019208	.001115	.0024898
%RSD	.5097107	.4834370	1.474445	.3272577	3.434558	1.226086
#1	.6889008	.2112325	.8304476	5.847305	-.031770	.2010850
#2	.6912224	.2129002	.8071630	5.879795	-.033740	.2058622
#3	.6958304	.2131045	.8245211	5.881304	-.031852	.2022567

Elem	Sr4077
Units	ppm
Avg	**.2120836**
Stddev	.0003298
%RSD	.1555049
#1	.2119803
#2	.2118177
#3	.2124526

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5261.005**	**88533.75**	**8298.128**	**4412.726**	**6359.619**
Stddev	8.709	168.63	37.398	5.617	13.029
%RSD	.1655438	.1904695	.4506843	.1272810	.2048775
#1	5270.504	88726.11	8290.015	4418.479	6370.744
#2	5259.113	88463.72	8338.917	4412.443	6362.829
#3	5253.396	88411.41	8265.452	4407.257	6345.285

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-01 Acquired: 7/17/2025 19:06:37 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**3.490388**	**.2600752**	**17.87949**	**-.142604**	**.6727672**	**153.6913**
Stddev	.004180	.0044392	.06796	.004813	.0040173	.2180
%RSD	.1197655	1.706877	.3800831	3.375335	.5971320	.1418655
#1	3.485813	.2651337	17.85791	-.143730	.6693669	153.6014
#2	3.494009	.2568282	17.82493	-.146754	.6717347	153.9399
#3	3.491342	.2582638	17.95561	-.137327	.6772000	153.5326

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.426200**	**.0524192**	**.2326715**	**140.9354**	**2.324678**	**2.575509**
Stddev	.034168	.0005192	.0027693	.3277	.012970	.009069
%RSD	.4600973	.9904476	1.190197	.2325346	.5579386	.3521330
#1	7.453409	.0519756	.2294784	140.6372	2.324385	2.570916
#2	7.387853	.0529902	.2341192	141.2863	2.337792	2.569654
#3	7.437338	.0522919	.2344167	140.8828	2.311856	2.585955

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**62.68635**	F **2128.243**	**7.208466**	**68.77939**	**3.917723**	^ *****
Stddev	.16606	14.975	.013420	.30944	.013032	-----
%RSD	.2649127	.7036520	.1861749	.4498957	.3326482	-----
#1	62.66160	2133.117	7.195954	68.42383	3.911415	^ -----
#2	62.53406	2111.438	7.222639	68.92669	3.909044	^ -----
#3	62.86341	2140.174	7.206804	68.98766	3.932709	^ -----

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.96007**	**.5227944**	F **29.03394**	**58.72997**	^ *****	**20.51916**
Stddev	.12026	.0047240	.55507	.17986	-----	.04420
%RSD	.4460702	.9036067	1.911797	.3062565	-----	.2153913
#1	27.09482	.5282198	29.52865	58.93506	^ -----	20.51312
#2	26.92180	.5205717	29.13951	58.65579	^ -----	20.47829
#3	26.86361	.5195917	28.43367	58.59905	^ -----	20.56606

Sample Name: Q2609-01 Acquired: 7/17/2025 19:06:37 Type: Unk
Method: 6010-200.7 NEW(v42) 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	2.910162	5.814714	F 17.39562	6.141055	F 76.81717	.9478821
Stddev	.009992	.010546	.13725	.014963	.50389	.0069761
%RSD	.3433469	.1813655	.7889897	.2436562	.6559598	.7359641
#1	2.907243	5.805788	17.26895	6.139706	76.32959	.9499605
#2	2.901955	5.812003	17.37646	6.126812	76.78599	.9401030
#3	2.921288	5.826351	17.54144	6.156647	77.33592	.9535827

Elem	Sr4077
Units	ppm
Avg	F -1.06333
Stddev	.01517
%RSD	1.427004
#1	-1.06748
#2	-1.04652
#3	-1.07601

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5158.293	94876.26	9711.031	4302.452	4298.954
Stddev	9.973	225.95	38.502	5.406	10.633
%RSD	.1933399	.2381571	.3964725	.1256429	.2473307
#1	5155.372	94862.64	9745.248	4307.205	4302.082
#2	5169.401	94657.42	9669.341	4296.571	4307.672
#3	5150.107	95108.72	9718.504	4303.580	4287.109

Sample Name: Q2609-05 Acquired: 7/17/2025 19:11:14 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.137392**	**.3056652**	**22.18638**	**-.240156**	**.7253657**	**165.4512**
Stddev	.013039	.0054408	.09008	.012183	.0042299	.2768
%RSD	.3151422	1.779981	.4060337	5.072808	.5831468	.1672798
#1	4.136118	.3094903	22.15103	-.243807	.7207259	165.5229
#2	4.125037	.3080687	22.11933	-.226565	.7290072	165.1457
#3	4.151021	.2994366	22.28878	-.250095	.7263641	165.6852

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.346529**	**.0637009**	**.3412376**	**166.1566**	**2.684361**	**3.219272**
Stddev	.143477	.0011039	.0032426	.7718	.017549	.013951
%RSD	2.260718	1.732934	.9502378	.4644874	.6537588	.4333610
#1	6.376346	.0646399	.3404830	166.5897	2.674373	3.214004
#2	6.190486	.0624849	.3384389	165.2655	2.674085	3.208722
#3	6.472754	.0639780	.3447910	166.6146	2.704624	3.235090

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**71.20239**	F **2400.479**	**8.233544**	**80.95322**	**4.701528**	^ *****
Stddev	.20855	7.390	.030836	.25731	.019231	-----
%RSD	.2928961	.3078710	.3745221	.3178460	.4090357	-----
#1	71.17649	2396.289	8.251207	80.96791	4.696276	^ -----
#2	71.00799	2409.013	8.197937	80.68888	4.685468	^ -----
#3	71.42267	2396.136	8.251487	81.20287	4.722839	^ -----

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**32.47501**	**.5325221**	F **29.18539**	**73.80897**	^ *****	F **23.28233**
Stddev	.20554	.0051437	.20320	.44626	-----	.05925
%RSD	.6329059	.9659231	.6962391	.6046198	-----	.2545050
#1	32.28412	.5271139	29.25879	73.51236	^ -----	23.29339
#2	32.69258	.5373526	29.34169	74.32220	^ -----	23.21833
#3	32.44832	.5330999	28.95569	73.59236	^ -----	23.33528

Sample Name: Q2609-05 Acquired: 7/17/2025 19:11:14 Type: Unk
Method: 6010-200.7 NEW(v42) 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	3.509867	7.109258	F 34.06792	7.644916	F 117.2181	1.058881
Stddev	.009966	.006478	.25780	.015142	.3746	.002813
%RSD	.2839384	.0911176	.7567337	.1980714	.3196030	.2656245
#1	3.506333	7.104506	33.85961	7.640353	116.9025	1.060458
#2	3.502149	7.106630	34.35624	7.632580	117.1198	1.060552
#3	3.521118	7.116636	33.98790	7.661815	117.6322	1.055634

Elem	Sr4077
Units	ppm
Avg	F -1.25374
Stddev	.00942
%RSD	.7513770
#1	-1.24897
#2	-1.26459
#3	-1.24766

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5195.859	96513.46	9915.241	4318.882	4026.188
Stddev	21.989	230.88	82.038	19.015	20.914
%RSD	.4232040	.2392220	.8273887	.4402781	.5194394
#1	5184.096	96779.72	9878.392	4313.064	4020.150
#2	5221.228	96368.74	10009.24	4303.456	4049.457
#3	5182.253	96391.92	9858.09	4340.127	4008.959

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV06 Acquired: 7/17/2025 19:24:03 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.064131**	**4.893983**	**4.865075**	**5.118918**	**5.148702**	**9.937737**
Stddev	.001995	.031835	.002908	.008551	.004112	.018881
%RSD	.0393920	.6504827	.0597759	.1670432	.0798586	.1899962
#1	5.062762	4.898533	4.864584	5.125553	5.151496	9.917143
#2	5.066420	4.923298	4.868198	5.121933	5.143981	9.941835
#3	5.063212	4.860118	4.862444	5.109268	5.150630	9.954233

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.43742**	**.2481483**	**2.432629**	**26.25984**	**.9088350**	**2.463455**
Stddev	.27854	.0011288	.004810	.03529	.0022807	.003261
%RSD	2.668712	.4548685	.1977095	.1343708	.2509489	.1323729
#1	10.61982	.2478957	2.431267	26.22007	.9082444	2.462033
#2	10.11679	.2471673	2.437972	26.27207	.9069078	2.467186
#3	10.57564	.2493820	2.428647	26.28738	.9113530	2.461147

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.263287**	**4.767243**	**2.568734**	**23.86580**	**2.487696**	**1.247754**
Stddev	.000491	.035535	.011744	.12376	.002799	.006377
%RSD	.0388300	.7453926	.4571808	.5185722	.1125261	.5110685
#1	1.263086	4.727155	2.555219	23.73456	2.486912	1.244400
#2	1.263847	4.794867	2.576454	23.88245	2.490804	1.243754
#3	1.262930	4.779705	2.574529	23.98039	2.485372	1.255108

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.31814**	**2.440622**	**2.496464**	**24.65573**	**5.359392**	**5.111608**
Stddev	.33939	.010615	.011255	.08050	.025733	.001868
%RSD	1.289558	.4349296	.4508330	.3265011	.4801432	.0365407
#1	26.05366	2.431395	2.509414	24.56336	5.353945	5.109651
#2	26.19995	2.438249	2.490935	24.69292	5.336818	5.113372
#3	26.70082	2.452223	2.489043	24.71091	5.387412	5.111799

Sample Name: CCV06 Acquired: 7/17/2025 19:24:03 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.880543**	**4.886021**	F **4.488265**	**5.044803**	**4.950456**	**4.950629**
Stddev	.003514	.006320	.029438	.016536	.014544	.013052
%RSD	.0719962	.1293508	.6558984	.3277732	.2937991	.2636494
#1	4.882656	4.880339	4.454318	5.028154	4.944288	4.940595
#2	4.882486	4.892828	4.503699	5.061223	4.967068	4.965386
#3	4.876487	4.884896	4.506776	5.045033	4.940012	4.945908

Elem	Sr4077
Units	ppm
Avg	**5.321616**
Stddev	.037813
%RSD	.7105537
#1	5.280268
#2	5.354437
#3	5.330144

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5151.614**	**87031.54**	**7864.898**	**4288.087**	**5955.494**
Stddev	9.334	63.98	14.504	19.600	16.569
%RSD	.1811786	.0735121	.1844094	.4570821	.2782123
#1	5162.200	87069.71	7848.373	4268.494	5973.220
#2	5144.568	87067.23	7875.514	4288.072	5940.396
#3	5148.074	86957.67	7870.808	4307.694	5952.866

Sample Name: CCB06 Acquired: 7/17/2025 19:28:14 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001240**	**.0014278**	**-.002037**	**-.003794**	**-.002504**	**.0002789**
Stddev	.000728	.0004476	.000226	.004752	.000352	.0004322
%RSD	58.72573	31.34593	11.07223	125.2677	14.06819	154.9515
#1	-.001996	.0018945	-.001777	-.007323	-.002146	-.000214
#2	-.000543	.0013868	-.002167	.001610	-.002515	.000460
#3	-.001180	.0010022	-.002168	-.005669	-.002850	.000592

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003375**	**-.000081**	**.0000424**	**.0621903**	**-.000275**	**-.000054**
Stddev	.000928	.000032	.0000375	.0123951	.000238	.000145
%RSD	27.48982	38.71976	88.47527	19.93099	86.60082	266.4773
#1	-.003764	-.000048	.0000698	.0521381	-.000385	-.000172
#2	-.004045	-.000086	.0000579	.0583929	-.000438	.000107
#3	-.002316	-.000110	-.000000	.0760399	-.000002	-.000098

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000371**	**-.000475**	**.0002877**	**-.002284**	**.0003116**	**.0011438**
Stddev	.000354	.000735	.0000312	.023900	.0000536	.0002451
%RSD	95.32132	154.7094	10.85631	1046.625	17.18208	21.42922
#1	-.000553	-.000572	.0003238	.020484	.0003354	.0009080
#2	-.000598	-.001157	.0002697	-.000161	.0002503	.0013972
#3	.000037	.000304	.0002697	-.027174	.0003492	.0011263

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.300284**	**-.003367**	**.0000885**	**.2222212**	**.0047977**	**.0012119**
Stddev	.013578	.000641	.0001475	.0374207	.0002099	.0002457
%RSD	4.521616	19.04534	166.7148	16.83939	4.374182	20.27077
#1	-.313592	-.002627	.0001396	.1836410	.0049569	.0014177
#2	-.300808	-.003713	-.000078	.2246594	.0045599	.0012782
#3	-.286451	-.003762	.000204	.2583631	.0048762	.0009399

Sample Name: CCB06 Acquired: 7/17/2025 19:28:14 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018512	.0160796	-.005569	.0010677	F -.028162	-.002699
Stddev	.0005848	.0006972	.016999	.0004230	.002564	.002573
%RSD	31.59188	4.336128	305.2352	39.61579	9.103008	95.32009
#1	.0014335	.0157017	.008206	.0006428	-.029356	-.000377
#2	.0016004	.0168842	-.000346	.0014888	-.025219	-.005464
#3	.0025195	.0156528	-.024567	.0010715	-.029911	-.002256

Elem	Sr4077
Units	ppm
Avg	.0002524
Stddev	.0001062
%RSD	42.10296
#1	.0003146
#2	.0003128
#3	.0001297

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5384.406	90823.21	8281.501	4509.484	6644.869
Stddev	18.892	31.32	107.621	19.007	21.105
%RSD	.3508567	.0344804	1.299539	.4214937	.3176186
#1	5382.784	90799.31	8157.238	4525.673	6648.891
#2	5404.056	90811.67	8344.797	4514.223	6663.674
#3	5366.378	90858.66	8342.468	4488.555	6622.042

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-01DLX10 Acquired: 7/17/2025 19:34:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.3903816**	**.0392005**	**1.675255**	**.0057349**	**.0719661**	**17.31775**	**.8547062**
Stddev	.0030402	.0010849	.008937	.0021744	.0012047	.03066	.0008481
%RSD	.7787832	2.767584	.5334924	37.91615	1.673969	.1770689	.0992242
#1	.3910609	.0404475	1.669457	.0034834	.0730945	17.34598	.8537335
#2	.3870592	.0386802	1.670760	.0058981	.0721063	17.32215	.8550942
#3	.3930247	.0384737	1.685547	.0078231	.0706974	17.28512	.8552908

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0043553**	**.0036528**	**17.60677**	**.2824734**	**.2307978**	**7.835576**	**309.6922**
Stddev	.0001213	.0003177	.01935	.0014406	.0007009	.031230	2.4667
%RSD	2.784983	8.697730	.1098951	.5099885	.3036683	.3985726	.7964995
#1	.0044387	.0037753	17.59252	.2808645	.2304916	7.814151	308.0683
#2	.0042161	.0032921	17.59900	.2836437	.2303021	7.821167	312.5307
#3	.0044110	.0038911	17.62880	.2829120	.2315996	7.871410	308.4778

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9093922**	**8.806973**	**.3641197**	**.0061040**	**2.336546**	**.0578179**	**7.034446**
Stddev	.0006490	.055215	.0013822	.0008639	.034216	.0023006	.010419
%RSD	.0713616	.6269520	.3796095	14.15376	1.464391	3.979064	.1481111
#1	.9101005	8.864232	.3630068	.0051078	2.324209	.0604741	7.027576
#2	.9092497	8.802629	.3636852	.0065565	2.375220	.0564519	7.046434
#3	.9088263	8.754058	.3656669	.0066476	2.310209	.0565278	7.029329

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.362213**	**-.132030**	**2.446660**	**.2692306**	**.6923336**	**1.842591**	**.5199318**
Stddev	.060502	.017630	.012620	.0007869	.0026497	.009329	.0005499
%RSD	.9509637	13.35294	.5158185	.2922802	.3827228	.5062972	.1057684
#1	6.307119	-.141498	2.435598	.2692519	.6894359	1.844207	.5205029
#2	6.426962	-.111689	2.443975	.2684332	.6946331	1.851007	.5194058
#3	6.352558	-.142902	2.460407	.2700066	.6929317	1.832560	.5198867

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-01DLX10 Acquired: 7/17/2025 19:34:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	6.622069	.1270016	-.184058
Stddev	.033381	.0017047	.002350
%RSD	.5040873	1.342280	1.276779
#1	6.586024	.1261299	-.182661
#2	6.628267	.1289659	-.186771
#3	6.651917	.1259090	-.182743

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5320.881	90051.68	8475.218	4430.987	6125.211
Stddev	6.945	531.22	32.820	11.439	6.582
%RSD	.1305247	.5899004	.3872490	.2581663	.1074640
#1	5325.305	90483.50	8457.788	4442.993	6130.436
#2	5324.460	89458.49	8513.076	4420.214	6127.378
#3	5312.876	90213.04	8454.790	4429.755	6117.818

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-05DLX10 Acquired: 7/17/2025 19:38:21 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.4842684**	**.0479575**	**2.037889**	**.0134301**	**.0747946**	**19.27959**	**.7576911**
Stddev	.0014191	.0015485	.004305	.0045286	.0023984	.01945	.0013152
%RSD	.2930389	3.228876	.2112271	33.71979	3.206630	.1008776	.1735800
#1	.4836380	.0494281	2.032920	.0087630	.0753160	19.27860	.7588242
#2	.4858935	.0481029	2.040300	.0137212	.0768894	19.26065	.7580002
#3	.4832737	.0463414	2.040449	.0178062	.0721784	19.29951	.7562488

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0057634**	**.0046056**	**21.74778**	**.3438123**	**.2829447**	**9.290066**	**384.4663**
Stddev	.0003711	.0006703	.08335	.0072494	.0002503	.001772	6.0477
%RSD	6.439617	14.55429	.3832479	2.108544	.0884568	.0190730	1.573000
#1	.0058313	.0046893	21.83855	.3404968	.2829159	9.290026	382.6578
#2	.0053629	.0052301	21.73013	.3388135	.2827101	9.288315	379.5292
#3	.0060958	.0038973	21.67468	.3521266	.2832082	9.291858	391.2119

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.088966**	**10.81980**	**.4300041**	**.0074195**	**3.141261**	**.0618126**	**8.794486**
Stddev	.001407	.00344	.0010609	.0008032	.085017	.0044245	.116858
%RSD	.1292257	.0318117	.2467276	10.82575	2.706454	7.157932	1.328766
#1	1.089552	10.82079	.4298944	.0083272	3.104379	.0658041	8.694625
#2	1.089985	10.81597	.4290023	.0068009	3.080914	.0570551	8.765826
#3	1.087360	10.82263	.4311157	.0071303	3.238491	.0625784	8.923008

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.375081**	**-.100573**	**2.926425**	**.3202550**	**.8758365**	**3.840006**	**.6290483**
Stddev	.133033	.010389	.002461	.0000406	.0017957	.058976	.0060733
%RSD	1.588436	10.32978	.0841053	.0126916	.2050234	1.535822	.9654795
#1	8.290186	-.097373	2.924097	.3202985	.8738218	3.800950	.6242529
#2	8.306657	-.112185	2.929001	.3202180	.8772684	3.811221	.6270144
#3	8.528399	-.092160	2.926176	.3202483	.8764192	3.907846	.6358776

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2609-05DLX10 Acquired: 7/17/2025 19:38:21 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**10.07182**	**.1598272**	**-.242690**
Stddev	.03777	.0033074	.005800
%RSD	.3750129	2.069329	2.389803
#1	10.08583	.1615032	-.241088
#2	10.10059	.1560174	-.237860
#3	10.02905	.1619611	-.249123

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5286.334**	**88407.75**	**8507.348**	**4353.664**	**6013.303**
Stddev	9.150	1477.32	40.334	56.844	6.093
%RSD	.1730828	1.671029	.4741104	1.305650	.1013217
#1	5288.335	89353.98	8550.419	4405.273	6015.273
#2	5276.349	89163.84	8470.467	4362.981	6006.469
#3	5294.317	86705.42	8501.158	4292.737	6018.167

Sample Name: Q2614-01 Acquired: 7/17/2025 19:42:23 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0802262**	**.0049045**	**1.825424**	**.0082208**	**.0073708**	**84.71471**	**1.815245**
Stddev	.0014164	.0050381	.004304	.0058456	.0014133	.07630	.001161
%RSD	1.765563	102.7246	.2358000	71.10832	19.17390	.0900682	.0639793
#1	.0818275	-.000839	1.827677	.0130425	.0061848	84.76698	1.816112
#2	.0791369	.008576	1.820461	.0017191	.0089346	84.74999	1.815696
#3	.0797143	.006977	1.828135	.0099007	.0069931	84.62715	1.813925

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0049193**	**.0131042**	**217.5859**	**.2676760**	**.1014204**	**1.086186**	**200.9502**
Stddev	.0001535	.0000631	.8399	.0036652	.0001309	.001116	2.2052
%RSD	3.121240	.4813847	.3860021	1.369271	.1290546	.1026999	1.097406
#1	.0048002	.0130342	216.7429	.2661287	.1014941	1.085066	202.5054
#2	.0048652	.0131219	218.4226	.2650382	.1012693	1.086195	198.4265
#3	.0050926	.0131566	217.5922	.2718611	.1014978	1.087298	201.9189

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.210966**	**43.19753**	**.2834039**	**.0058232**	**5.784242**	**.3045523**	**3.286963**
Stddev	.010614	.05256	.0010649	.0002787	.070326	.0004425	.028877
%RSD	.1471966	.1216826	.3757583	4.786718	1.215828	.1452840	.8785180
#1	7.200882	43.22019	.2835607	.0060954	5.811192	.3049789	3.294280
#2	7.222041	43.13744	.2822692	.0055383	5.704426	.3045824	3.255132
#3	7.209974	43.23496	.2843817	.0058359	5.837107	.3040955	3.311477

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.26218**	**.1257586**	**.0179439**	**.0847033**	**2.723831**	**2.764669**	**17.90953**
Stddev	.11575	.0079680	.0001612	.0013673	.009216	.015352	.03443
%RSD	1.027776	6.335966	.8985672	1.614205	.3383300	.5553058	.1922628
#1	11.35437	.1339093	.0177697	.0833649	2.731790	2.777136	17.91944
#2	11.13228	.1179867	.0180879	.0846474	2.725969	2.747521	17.87123
#3	11.29987	.1253797	.0179740	.0860977	2.713735	2.769349	17.93793

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-01 Acquired: 7/17/2025 19:42:23 Type: Unk
Method: 6010-200.7 NEW(v42) 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	14.92744	.2095389	.8204922
Stddev	.04345	.0011718	.0030808
%RSD	.2910782	.5592392	.3754764
#1	14.96609	.2081988	.8196059
#2	14.88041	.2100467	.8239190
#3	14.93582	.2103711	.8179518

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5759.249	96620.20	9414.384	4779.393	5628.301
Stddev	5.307	889.26	56.250	48.033	8.873
%RSD	.0921493	.9203663	.5974889	1.004999	.1576557
#1	5765.050	96379.99	9479.206	4764.807	5632.525
#2	5758.059	97604.89	9378.410	4833.028	5634.273
#3	5754.638	95875.71	9385.537	4740.343	5618.105

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-01DUP Acquired: 7/17/2025 19:46:26 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0815732**	**.0063904**	**1.853893**	**.0153111**	**.0072207**	**85.12242**
Stddev	.0019317	.0007986	.007814	.0024461	.0013435	.52348
%RSD	2.368111	12.49624	.4214880	15.97627	18.60624	.6149775
#1	.0821736	.0071763	1.845442	.0125163	.0087410	84.53274
#2	.0794126	.0064151	1.855380	.0170629	.0061931	85.53232
#3	.0831335	.0055798	1.860856	.0163541	.0067280	85.30221

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.817787**	**.0050147**	**.0131334**	**219.0418**	**.2668203**	**.1028332**
Stddev	.013189	.0000470	.0000656	1.5737	.0003443	.0003789
%RSD	.7255751	.9365089	.4992250	.7184685	.1290410	.3685012
#1	1.803679	.0050582	.0132004	217.9848	.2666092	.1032513
#2	1.829810	.0050211	.0131304	220.8505	.2672177	.1027359
#3	1.819871	.0049649	.0130694	218.2902	.2666342	.1025124

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.104295**	**202.5228**	**7.244237**	**43.68297**	**.2886082**	**.0055734**
Stddev	.003653	.8702	.046848	.33643	.0007172	.0005351
%RSD	.3307899	.4296820	.6466885	.7701544	.2484997	9.600234
#1	1.100296	202.2767	7.196236	43.29947	.2877805	.0049601
#2	1.105134	201.8022	7.289839	43.92839	.2889976	.0058152
#3	1.107456	203.4896	7.246636	43.82104	.2890464	.0059449

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.870654**	**.3031713**	**3.319244**	**11.27411**	**.1056270**	**.0179916**
Stddev	.055417	.0050812	.007444	.02256	.0065594	.0002235
%RSD	.9439728	1.676032	.2242593	.2001219	6.209999	1.242281
#1	5.849532	.2973245	3.325098	11.26931	.1083982	.0182390
#2	5.828903	.3056699	3.321768	11.25434	.0981367	.0179313
#3	5.933526	.3065195	3.310867	11.29869	.1103460	.0178044

Sample Name: Q2614-01DUP Acquired: 7/17/2025 19:46:26 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.0867460	2.747787	2.735342	F 18.24039	15.12395	.2112041
Stddev	.0010664	.019529	.017705	.02225	.06385	.0043751
%RSD	1.229291	.7107310	.6472828	.1219874	.4221825	2.071503
#1	.0871237	2.725239	2.727227	18.21991	15.11719	.2062883
#2	.0875721	2.759381	2.723149	18.23720	15.06374	.2146709
#3	.0855422	2.758739	2.755650	18.26407	15.19090	.2126530

Elem	Sr4077
Units	ppm
Avg	.8181383
Stddev	.0067629
%RSD	.8266208
#1	.8118956
#2	.8253227
#3	.8171965

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5672.806	96762.80	9435.853	4745.912	5530.531
Stddev	13.435	333.83	52.872	10.018	12.990
%RSD	.2368382	.3450024	.5603257	.2110908	.2348768
#1	5688.155	96458.90	9447.297	4738.175	5544.866
#2	5667.085	97120.12	9378.197	4757.228	5519.541
#3	5663.177	96709.37	9482.066	4742.334	5527.185

Sample Name: Q2614-01LX5 Acquired: 7/17/2025 19:50:29 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.0121684**	**.0007129**	**.3320030**	**.0001889**	**-.000206**	**16.30687**	**.3333221**
Stddev	.0034082	.0009877	.0012027	.0016786	.001951	.03969	.0011740
%RSD	28.00875	138.5585	.3622461	888.5213	948.2652	.2434013	.3521986
#1	.0160582	.0001202	.3313714	.0017094	.001328	16.35270	.3346547
#2	.0097055	.0001653	.3333898	.0004697	-.002402	16.28405	.3328711
#3	.0107416	.0018531	.3312477	-.001612	.000457	16.28385	.3324405

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007851**	**.0014637**	**45.99912**	**.0528634**	**.0223350**	**.2876963**	**43.22289**
Stddev	.0000700	.0000644	.20791	.0004643	.0001495	.0000649	.05292
%RSD	8.911138	4.396705	.4519817	.8782977	.6692873	.0225687	.1224351
#1	.0007155	.0014418	46.23722	.0523278	.0224816	.2877536	43.26555
#2	.0008554	.0015362	45.85344	.0531090	.0221828	.2877095	43.16367
#3	.0007846	.0014132	45.90672	.0531532	.0223407	.2876258	43.23944

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.451581**	**9.177744**	**.0552168**	**.0022947**	**.6874860**	**.0625588**	**.6739963**
Stddev	.004940	.044431	.0000949	.0001400	.0033048	.0008895	.0021977
%RSD	.3402850	.4841220	.1718038	6.103182	.4807030	1.421828	.3260704
#1	1.457161	9.198792	.0551224	.0021431	.6878811	.0633206	.6715771
#2	1.449817	9.126700	.0552158	.0024193	.6905755	.0627746	.6758696
#3	1.447766	9.207741	.0553121	.0023217	.6840015	.0615813	.6745422

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.223362**	**.0330118**	**.0035646**	**.0217745**	**.6837521**	**.8192677**	**3.410897**
Stddev	.016122	.0009753	.0001705	.0005960	.0023309	.0091056	.007174
%RSD	.7251029	2.954321	4.781730	2.737156	.3408921	1.111432	.2103381
#1	2.212919	.0339597	.0037304	.0223822	.6862791	.8176415	3.413668
#2	2.241930	.0320113	.0033898	.0211909	.6816864	.8110848	3.416272
#3	2.215238	.0330644	.0035736	.0217505	.6832906	.8290769	3.402750

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-01LX5 Acquired: 7/17/2025 19:50:29 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**3.406188**	**.0375814**	**.1541324**
Stddev	.015878	.0008308	.0001086
%RSD	.4661608	2.210581	.0704381
#1	3.420969	.0366650	.1542059
#2	3.408193	.0382853	.1540077
#3	3.389403	.0377938	.1541837

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5514.160**	**92150.87**	**8507.794**	**4532.466**	**6412.285**
Stddev	10.280	420.00	67.641	11.953	7.502
%RSD	.1864310	.4557747	.7950440	.2637248	.1169959
#1	5502.295	91683.72	8430.126	4518.930	6405.227
#2	5519.757	92271.62	8539.489	4536.898	6420.164
#3	5520.426	92497.27	8553.767	4541.570	6411.466

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-01MS Acquired: 7/17/2025 19:54:36 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.8067325**	**1.868206**	**4.058004**	**1.804943**	**.4004586**	**102.7807**
Stddev	.0025885	.030013	.002953	.004722	.0025898	.0291
%RSD	.3208636	1.606495	.0727783	.2615990	.6467015	.0283512
#1	.8043606	1.879878	4.054757	1.805137	.3980651	102.7914
#2	.8063434	1.834111	4.058723	1.809565	.4001029	102.8029
#3	.8094936	1.890629	4.060531	1.800128	.4032079	102.7477

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.518719**	**.1791552**	**.2107582**	**234.8343**	**.5716106**	**.3328753**
Stddev	.001651	.0004367	.0005708	.5852	.0002438	.0003191
%RSD	.0655555	.2437543	.2708131	.2492008	.0426561	.0958721
#1	2.517339	.1789213	.2101901	234.3209	.5713658	.3326889
#2	2.520548	.1788852	.2107528	234.7105	.5716124	.3326932
#3	2.518271	.1796590	.2113316	235.4715	.5718535	.3332438

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.388668**	**236.4201**	**6.965519**	**69.40185**	**.8458379**	**.0727602**
Stddev	.003571	.6463	.007046	.22689	.0026621	.0008602
%RSD	.2571522	.2733842	.1011580	.3269150	.3147231	1.182233
#1	1.387959	236.3815	6.960455	69.31055	.8439441	.0736490
#2	1.385505	235.7940	6.962535	69.23483	.8446880	.0719318
#3	1.392541	237.0849	6.973566	69.66016	.8488816	.0726997

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.555407**	**.6669078**	**4.686893**	**22.29862**	**.7223983**	**.3776102**
Stddev	.028813	.0018072	.015916	.05960	.0039969	.0004832
%RSD	.3015376	.2709873	.3395821	.2672648	.5532848	.1279526
#1	9.547308	.6676558	4.700428	22.23522	.7186969	.3774956
#2	9.587402	.6682210	4.690892	22.35350	.7218614	.3771947
#3	9.531509	.6648467	4.669359	22.30714	.7266365	.3781404

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-01MS Acquired: 7/17/2025 19:54:36 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.7424262	3.609344	3.006583	F 23.88370	14.41272	.4270434
Stddev	.0015400	.000975	.023112	.03542	.03316	.0042623
%RSD	.2074245	.0270145	.7687267	.1482885	.2300470	.9981018
#1	.7409607	3.608615	3.003355	23.86145	14.39615	.4257325
#2	.7440312	3.608966	2.985254	23.92454	14.39111	.4235906
#3	.7422866	3.610452	3.031140	23.86512	14.45090	.4318073

Elem	Sr4077
Units	ppm
Avg	.9841113
Stddev	.0020778
%RSD	.2111360
#1	.9821190
#2	.9862652
#3	.9839495

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5670.049	96931.91	9206.775	4712.383	5515.931
Stddev	10.238	143.07	28.676	13.473	9.386
%RSD	.1805541	.1475969	.3114714	.2859090	.1701666
#1	5669.001	97096.88	9237.592	4698.856	5519.847
#2	5680.770	96841.83	9180.874	4712.490	5522.725
#3	5660.376	96857.03	9201.860	4725.802	5505.220

Sample Name: Q2614-01MSD Acquired: 7/17/2025 19:58:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.7215656**	**1.757583**	**2.497600**	**1.621940**	**.3583761**	**83.90242**
Stddev	.0031318	.029277	.003669	.001481	.0012162	.02173
%RSD	.4340319	1.665741	.1469070	.0913317	.3393651	.0258967
#1	.7221981	1.770334	2.495686	1.623038	.3572009	83.88020
#2	.7243329	1.778322	2.495283	1.622527	.3596296	83.92362
#3	.7181658	1.724093	2.501830	1.620255	.3582979	83.90344

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.712359**	**.1586948**	**.1958058**	**218.8556**	**.4891759**	**.2899647**
Stddev	.002426	.0011716	.0003728	.3042	.0020908	.0004570
%RSD	.1416946	.7382615	.1903697	.1390112	.4274213	.1575986
#1	1.714577	.1584494	.1954172	218.6284	.4911403	.2895163
#2	1.709768	.1599696	.1958398	218.7371	.4894092	.2899482
#3	1.712733	.1576653	.1961604	219.2012	.4869782	.2904298

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.114843**	**181.6250**	**5.866688**	**43.12238**	**.7382930**	**.0666502**
Stddev	.001918	1.0768	.011507	.07936	.0014168	.0004676
%RSD	.1720370	.5928731	.1961483	.1840456	.1918952	.7016003
#1	1.112732	181.7585	5.857328	43.13751	.7368500	.0662241
#2	1.115320	180.4877	5.863201	43.03654	.7383470	.0665759
#3	1.116478	182.6288	5.879536	43.19309	.7396820	.0671505

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.244916**	**.5147489**	**2.832791**	**21.02998**	**.2683360**	**.3447843**
Stddev	.051370	.0012719	.004268	.12758	.0044131	.0009852
%RSD	.7090507	.2470900	.1506788	.6066413	1.644615	.2857351
#1	7.232246	.5135370	2.837705	21.08381	.2710354	.3438049
#2	7.201066	.5146364	2.830011	20.88431	.2632432	.3457751
#3	7.301436	.5160733	2.830656	21.12182	.2707293	.3447730

Sample Name: Q2614-01MSD Acquired: 7/17/2025 19:58:32 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.6887301	2.936492	2.326781	F 21.36215	12.34254	.3742594
Stddev	.0007795	.002244	.025706	.05030	.03540	.0040151
%RSD	.1131740	.0764149	1.104772	.2354687	.2867817	1.072817
#1	.6889209	2.938320	2.321627	21.30687	12.34917	.3774935
#2	.6893965	2.937168	2.304042	21.40523	12.37415	.3697654
#3	.6878730	2.933988	2.354673	21.37435	12.30429	.3755193

Elem	Sr4077
Units	ppm
Avg	.9080903
Stddev	.0016246
%RSD	.1789064
#1	.9097166
#2	.9064673
#3	.9080871

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5931.146	102478.8	9812.751	5007.481	5592.877
Stddev	1.684	96.2	49.840	6.894	2.260
%RSD	.0283869	.0939055	.5079075	.1376793	.0404130
#1	5932.737	102409.6	9831.798	5000.845	5594.360
#2	5929.383	102438.1	9756.196	5014.608	5590.275
#3	5931.317	102588.7	9850.258	5006.991	5593.994

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: Q2614-01A Acquired: 7/17/2025 20:02:29 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**.7988443**	**1.830228**	**2.638450**	**1.841283**	**.7576885**	**79.59418**
Stddev	.0050174	.020759	.006124	.004935	.0033031	.11012
%RSD	.6280840	1.134250	.2321094	.2680431	.4359500	.1383482
#1	.8041848	1.853416	2.635732	1.846824	.7579521	79.51896
#2	.7981192	1.823896	2.634155	1.839667	.7608520	79.54301
#3	.7942289	1.813371	2.645463	1.837359	.7542615	79.72058

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.761140**	**.1731936**	**.2022038**	**209.8498**	**.5741254**	**.3213256**
Stddev	.003250	.0013898	.0007134	.2022	.0124294	.0009122
%RSD	.1845228	.8024368	.3528005	.0963432	2.164920	.2838868
#1	1.759395	.1739610	.2015526	209.9911	.5884456	.3216129
#2	1.764889	.1715894	.2020926	209.6182	.5661368	.3203044
#3	1.759136	.1740306	.2029663	209.9401	.5677937	.3220596

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.559602**	**210.2188**	**6.680701**	**43.46009**	**.7915414**	**.0781046**
Stddev	.004092	4.0349	.003058	.09378	.0014424	.0009548
%RSD	.2623985	1.919377	.0457722	.2157793	.1822206	1.222478
#1	1.555508	214.7645	6.679615	43.38626	.7899015	.0790947
#2	1.559605	208.8304	6.678335	43.42840	.7921094	.0780297
#3	1.563693	207.0614	6.684154	43.56560	.7926133	.0771895

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.029807**	**.5581298**	**3.372904**	**19.89569**	**.4552304**	**.3896007**
Stddev	.169365	.0029241	.064814	.37566	.0159253	.0014187
%RSD	2.109201	.5239158	1.921620	1.888160	3.498294	.3641505
#1	8.210955	.5561432	3.447742	20.30056	.4727976	.3911771
#2	8.003056	.5567586	3.336080	19.82807	.4511544	.3884265
#3	7.875410	.5614875	3.334890	19.55842	.4417393	.3891985

Sample Name: Q2614-01A Acquired: 7/17/2025 20:02:29 Type: Unk
Method: 6010-200.7 NEW(v42) 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	.8046791	3.287848	4.816574	F 23.90989	18.59516	.3789086
Stddev	.0032820	.008079	.089104	.08218	.04522	.0017398
%RSD	.4078616	.2457288	1.849947	.3437082	.2431789	.4591589
#1	.8059189	3.285420	4.906535	23.98145	18.63451	.3796175
#2	.8009579	3.281261	4.814835	23.92810	18.54576	.3801820
#3	.8071606	3.296863	4.728352	23.82014	18.60520	.3769263

Elem	Sr4077
Units	ppm
Avg	.8956540
Stddev	.0042248
%RSD	.4717048
#1	.8907899
#2	.8977621
#3	.8984100

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5713.567	95782.83	9498.022	4727.712	5709.809
Stddev	6.744	1684.18	48.245	73.691	3.985
%RSD	.1180270	1.758331	.5079526	1.558697	.0697895
#1	5712.577	93840.40	9510.460	4643.582	5711.519
#2	5707.373	96672.26	9538.831	4758.733	5712.653
#3	5720.751	96835.82	9444.776	4780.821	5705.255

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV07 Acquired: 7/17/2025 20:16:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.996888**	**4.740309**	**4.834061**	**5.042089**	**5.104145**	**9.930027**	**10.42018**
Stddev	.011118	.052674	.009996	.008151	.001103	.032544	.05524
%RSD	.2224977	1.111197	.2067825	.1616678	.0216006	.3277324	.5301609
#1	4.987699	4.764820	4.842194	5.032688	5.102872	9.966832	10.43067
#2	4.993720	4.679846	4.822901	5.047204	5.104775	9.905056	10.46943
#3	5.009247	4.776261	4.837087	5.046374	5.104788	9.918193	10.36044

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2423021**	**2.410692**	**26.03189**	**.9244644**	**2.447633**	**1.250057**	**4.893432**
Stddev	.0015146	.005379	.13400	.0037177	.004912	.002831	.023431
%RSD	.6250975	.2231326	.5147432	.4021482	.2006920	.2264694	.4788272
#1	.2440499	2.410715	26.16454	.9277484	2.447356	1.247950	4.867036
#2	.2414816	2.405301	25.89658	.9252167	2.442865	1.248945	4.901488
#3	.2413747	2.416059	26.03454	.9204280	2.452678	1.253275	4.911773

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.552347**	**23.98664**	**2.469390**	**1.248921**	**25.41556**	**2.450686**	**2.513540**
Stddev	.009433	.13584	.003620	.001836	.05349	.008138	.005811
%RSD	.3695850	.5663297	.1465772	.1470247	.2104691	.3320632	.2312010
#1	2.559328	24.11029	2.471055	1.247146	25.35500	2.456887	2.510334
#2	2.541616	23.84123	2.465238	1.250813	25.45634	2.441471	2.510037
#3	2.556099	24.00841	2.471878	1.248804	25.43535	2.453699	2.520248

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.91557**	**5.206416**	**5.085550**	**4.842493**	**4.897273**	**4.681972**	**4.984581**
Stddev	.04759	.023872	.007951	.011963	.021644	.017661	.009470
%RSD	.1910216	.4585083	.1563481	.2470369	.4419658	.3772140	.1899917
#1	24.87660	5.233334	5.082361	4.844186	4.906220	4.668638	4.986448
#2	24.96862	5.187816	5.079689	4.829774	4.872589	4.702001	4.974316
#3	24.90151	5.198097	5.094601	4.853519	4.913008	4.675275	4.992978

Reviewed By:jaswal
On:7/21/2025 4:45:05 AM
Inst Id :P4
LB :LB136533

Sample Name: CCV07 Acquired: 7/17/2025 20:16:18 Type: Unk
Method: 6010-200.7 NEW(v42) 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	**4.848374**	**4.905082**	**5.313662**
Stddev	.025204	.017856	.117830
%RSD	.5198447	.3640384	2.217490
#1	4.847151	4.904638	5.408119
#2	4.823803	4.887451	5.181626
#3	4.874167	4.923156	5.351240

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5221.092**	**86523.83**	**8079.179**	**4316.516**	**6047.589**
Stddev	7.484	332.29	55.857	5.112	8.240
%RSD	.1433453	.3840430	.6913736	.1184387	.1362464
#1	5226.196	86362.11	8015.551	4321.383	6048.067
#2	5224.579	86303.36	8101.842	4316.976	6055.580
#3	5212.500	86906.02	8120.142	4311.189	6039.121

Sample Name: CCB07 Acquired: 7/17/2025 20:20:28 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000626**	**.0005388**	**-.001897**	**.0008004**	**-.001200**	**.0011315**
Stddev	.001463	.0013372	.000490	.0033447	.002411	.0087083
%RSD	233.8241	248.1704	25.82401	417.8773	200.9856	769.6165
#1	-.000858	.0001976	-.002360	-.001068	-.000647	-.007833
#2	-.001959	-.000595	-.001384	-.001193	.000887	.001669
#3	.000940	.002014	-.001946	.004662	-.003839	.009559

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003664**	**-.000031**	**.0001326**	**.0639996**	**-.000347**	**-.000012**
Stddev	.000208	.000077	.0001144	.0077374	.000256	.000081
%RSD	5.678751	249.2939	86.26040	12.08977	73.73238	690.3029
#1	-.003892	-.000112	.0002213	.0713241	-.000253	.000070
#2	-.003618	.000040	.0001729	.0559066	-.000152	-.000013
#3	-.003484	-.000021	.0000035	.0647682	-.000637	-.000092

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000536**	**-.000084**	**.0002620**	**-.022620**	**.0005037**	**.0008241**
Stddev	.000420	.001629	.0001816	.015354	.0000955	.0001080
%RSD	78.40342	1949.651	69.31184	67.87853	18.96307	13.10282
#1	-.000065	-.001709	.0000598	-.014696	.0006098	.0006994
#2	-.000672	.001549	.0003152	-.040318	.0004771	.0008853
#3	-.000872	-.000090	.0004111	-.012847	.0004244	.0008875

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.485307**	**-.003008**	**.0001790**	**.1459905**	**.0090643**	**.0011193**
Stddev	.028601	.001688	.0000953	.0325867	.0005418	.0001687
%RSD	5.893419	56.13855	53.22203	22.32109	5.977447	15.07042
#1	-.457871	-.001241	.0001082	.1729574	.0096489	.0013077
#2	-.483102	-.003176	.0001415	.1552332	.0089651	.0010681
#3	-.514946	-.004605	.0002873	.1097809	.0085790	.0009822

Sample Name: CCB07 Acquired: 7/17/2025 20:20:28 Type: Unk
Method: 6010-200.7 NEW(v42) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0028146**	**.0168534**	**-.004426**	**.0003515**	F **-.029601**	**-.004873**
Stddev	.0001916	.0022827	.002672	.0011202	.001243	.000372
%RSD	6.806435	13.54448	60.37084	318.6543	4.197501	7.636782
#1	.0028489	.0193286	-.007495	.0016418	-.030424	-.004481
#2	.0029866	.0148311	-.002610	-.000372	-.030208	-.005222
#3	.0026081	.0164004	-.003174	-.000215	-.028172	-.004916

Elem	Sr4077
Units	ppm
Avg	**.0001870**
Stddev	.0000878
%RSD	46.95732
#1	.0001070
#2	.0001731
#3	.0002809

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5292.738**	**89966.42**	**7992.330**	**4443.637**	**6496.089**
Stddev	7.948	227.33	48.203	31.941	14.042
%RSD	.1501609	.2526882	.6031099	.7187920	.2161663
#1	5285.794	90034.43	8040.756	4476.802	6490.164
#2	5301.406	90152.00	7944.354	4441.028	6512.123
#3	5291.014	89712.85	7991.879	4413.081	6485.980

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB168883

SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pippete 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: 07/16/2025 **Time :** 10:05 **Temp :** 96 °C

End Digest Date: 07/16/2025 **Time :** 13:10 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SKS.

Supervisor Signature:

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6007
LFS-2	0.25	M6015
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

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

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK#1 CELL#50 96C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
07/16/25 14:10	SKS. met.dig	Metals Lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB168883

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB168883BL	PBW883	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	19
PB168883BS	LCS883	<2	50	25	Colorless	Colorless	Clear	Clear	M6007,M6015	20
Q2604-01MS	RW8-SP100-20250711MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6007,M6015	23
Q2604-01MSD	RW8-SP100-20250711MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6007,M6015	24
Q2604-01DUP	RW8-SP100-20250711DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	22
Q2604-01	RW8-SP100-20250711	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	21
Q2604-02	RW8-SP303-20250711	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	25
Q2608-01	A2028	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	26

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB168883 **WorkList ID :** 190766 **Department :** Digestion **Date :** 07-16-2025 09:28:11

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2604-01	RW8-SP100-20250711	Water	Metals Group4	1:1 HNO3 to pH < 2	TETR06	O11	07/11/2025	6010D
Q2604-02	RW8-SP303-20250711	Water	Metals Group4	1:1 HNO3 to pH < 2	TETR06	O11	07/11/2025	6010D
Q2608-01	A2028	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	D41	07/15/2025	6010D

Date/Time 07/16/25 09:45
Raw Sample Received by: SLS.mct.dlg
Raw Sample Relinquished by: CBS.mm

Date/Time 07/16/25 10:45
Raw Sample Received by: ~~SLS~~ CBS.mm
Raw Sample Relinquished by: SLS.mct.dlg

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB136533

Review By	Janvi	Review On	7/18/2025 11:48:20 AM
Supervise By	jaswal	Supervise On	7/21/2025 4:45:05 AM

STD. NAME	STD REF.#
ICAL Standard	MP86192,MP86193,MP86194,MP86195,MP86196,MP86212
ICV Standard	MP86213
CCV Standard	MP86216
ICSA Standard	MP86214,MP86215
CRI Standard	MP86212
LCS Standard	
Chk Standard	MP86217,MP86218

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	07/17/25 13:05		Jaswal	OK
2	S1	S1	CAL2	07/17/25 13:09		Jaswal	OK
3	S2	S2	CAL3	07/17/25 13:13		Jaswal	OK
4	S3	S3	CAL4	07/17/25 13:18		Jaswal	OK
5	S4	S4	CAL5	07/17/25 13:22		Jaswal	OK
6	S5	S5	CAL6	07/17/25 13:26		Jaswal	OK
7	ICV01	ICV01	ICV	07/17/25 13:30	Sb,Cr,Fe,Ag,Tl Fail For (95-105)	Jaswal	OK
8	LLICV01	LLICV01	LLICV	07/17/25 13:37		Jaswal	OK
9	ICB01	ICB01	ICB	07/17/25 13:41		Jaswal	OK
10	CRI01	CRI01	CRDL	07/17/25 13:46		Jaswal	OK
11	ICSA01	ICSA01	ICSA	07/17/25 13:51		Jaswal	OK
12	ICSAB01	ICSAB01	ICSAB	07/17/25 13:56		Jaswal	OK
13	ICSADL	ICSADL	ICSA	07/17/25 14:01		Jaswal	OK
14	ICSABDL	ICSABDL	ICSAB	07/17/25 14:05		Jaswal	OK
15	CCV01	CCV01	CCV	07/17/25 14:20		Jaswal	OK
16	CCB01	CCB01	CCB	07/17/25 14:25		Jaswal	OK
17	Q2606-01	402	SAM	07/17/25 14:32		Jaswal	OK
18	Q2600-02	TRENCH	SAM	07/17/25 14:36		Jaswal	OK

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Supervise By	jaswal	Supervise On	7/21/2025 4:45:05 AM

STD. NAME	STD REF.#
ICAL Standard	MP86192,MP86193,MP86194,MP86195,MP86196,MP86212
ICV Standard	MP86213
CCV Standard	MP86216
ICSA Standard	MP86214,MP86215
CRI Standard	MP86212
LCS Standard	
Chk Standard	MP86217,MP86218

19	Q2600-06	STOCK-PILE	SAM	07/17/25 14:41		Jaswal	OK
20	Q2600-10	END-OF-TRENCH	SAM	07/17/25 14:45		Jaswal	OK
21	Q2611-01	EO-02-071525	SAM	07/17/25 14:49		Jaswal	OK
22	Q2622-01	2819	SAM	07/17/25 14:54		Jaswal	OK
23	CCV02	CCV02	CCV	07/17/25 14:58		Jaswal	OK
24	CCB02	CCB02	CCB	07/17/25 15:02		Jaswal	OK
25	Q2592-02	WC-SOIL-20250711	SAM	07/17/25 15:07		Jaswal	OK
26	Q2614-06	HR-MCN-COMP-01	SAM	07/17/25 15:12		Jaswal	OK
27	Q2612-01	OR-02-071525	SAM	07/17/25 15:16		Jaswal	OK
28	Q2614-01RE	HR-MCN-COMP-01RI	SAM	07/17/25 15:20	Not Use	Jaswal	Not Ok
29	Q2608-01	A2028	SAM	07/17/25 15:24		Jaswal	OK
30	Q2585-04	EFF-WW	SAM	07/17/25 15:29		Jaswal	OK
31	Q2606-01DUP	402DUP	DUP	07/17/25 15:33		Jaswal	OK
32	Q2606-01L	402L	SD	07/17/25 15:37		Jaswal	OK
33	Q2606-01MS	402MS	MS	07/17/25 15:42		Jaswal	OK
34	Q2606-01MSD	402MSD	MSD	07/17/25 15:46		Jaswal	OK
35	CCV03	CCV03	CCV	07/17/25 15:50		Jaswal	OK
36	CCB03	CCB03	CCB	07/17/25 15:56		Jaswal	OK
37	Q2606-01A	402A	PS	07/17/25 16:00		Jaswal	OK
38	PB168881BL	PB168881BL	MB	07/17/25 16:04		Jaswal	OK

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Supervise By	jaswal	Supervise On	7/21/2025 4:45:05 AM

STD. NAME	STD REF.#
ICAL Standard	MP86192,MP86193,MP86194,MP86195,MP86196,MP86212
ICV Standard	MP86213
CCV Standard	MP86216
ICSA Standard	MP86214,MP86215
CRI Standard	MP86212
LCS Standard	
Chk Standard	MP86217,MP86218

39	PB168881BS	PB168881BS	LCS	07/17/25 16:08		Jaswal	OK
40	Q2614-06DUP	HR-MCN-COMP-01D	DUP	07/17/25 16:12		Jaswal	OK
41	Q2614-06L	HR-MCN-COMP-01L	SD	07/17/25 16:17		Jaswal	OK
42	Q2614-06MS	HR-MCN-COMP-01M	MS	07/17/25 16:21		Jaswal	OK
43	Q2614-06MSD	HR-MCN-COMP-01M	MSD	07/17/25 16:25		Jaswal	OK
44	Q2614-06A	HR-MCN-COMP-01A	PS	07/17/25 16:29	0.1ml of M6004,M6013 in 10ml sample.	Jaswal	OK
45	PB168888BL	PB168888BL	MB	07/17/25 16:33		Jaswal	OK
46	PB168888BS	PB168888BS	LCS	07/17/25 16:38		Jaswal	OK
47	CCV04	CCV04	CCV	07/17/25 16:42		Jaswal	OK
48	CCB04	CCB04	CCB	07/17/25 16:46		Jaswal	OK
49	PB168847TB	PB168847TB	MB	07/17/25 16:50		Jaswal	OK
50	Q2605-01	V908	SAM	07/17/25 16:55		Jaswal	OK
51	Q2605-02	VB16135	SAM	07/17/25 16:59		Jaswal	OK
52	Q2605-03	VB15061	SAM	07/17/25 17:04		Jaswal	OK
53	Q2605-04	V897	SAM	07/17/25 17:08		Jaswal	OK
54	Q2609-02	710-ABC	SAM	07/17/25 17:13		Jaswal	OK
55	Q2609-06	709-AB	SAM	07/17/25 17:17		Jaswal	OK
56	PB168883BL	PB168883BL	MB	07/17/25 17:22		Jaswal	OK
57	PB168883BS	PB168883BS	LCS	07/17/25 17:26		Jaswal	OK

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Supervise By	jaswal	Supervise On	7/21/2025 4:45:05 AM

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ICAL Standard	MP86192,MP86193,MP86194,MP86195,MP86196,MP86212
ICV Standard	MP86213
CCV Standard	MP86216
ICSA Standard	MP86214,MP86215
CRI Standard	MP86212
LCS Standard	
Chk Standard	MP86217,MP86218

58	Q2604-02	RW8-SP303-2025071	SAM	07/17/25 17:30		Jaswal	OK
59	CCV05	CCV05	CCV	07/17/25 17:58		Jaswal	OK
60	CCB05	CCB05	CCB	07/17/25 18:02		Jaswal	OK
61	Q2604-01	RW8-SP100-2025071	SAM	07/17/25 18:07		Jaswal	OK
62	Q2604-01DUP	RW8-SP100-2025071	DUP	07/17/25 18:11		Jaswal	OK
63	Q2604-01L	RW8-SP100-2025071	SD	07/17/25 18:15		Jaswal	OK
64	Q2604-01MS	RW8-SP100-2025071	MS	07/17/25 18:20		Jaswal	OK
65	Q2604-01MSD	RW8-SP100-2025071	MSD	07/17/25 18:24		Jaswal	OK
66	Q2604-01A	RW8-SP100-2025071	PS	07/17/25 18:28	0.1ml of M6004,M6013 in 10ml sample	Jaswal	OK
67	PB168882BL	PB168882BL	MB	07/17/25 18:31		Jaswal	OK
68	PB168882BS	PB168882BS	LCS	07/17/25 18:54		Jaswal	OK
69	Q2609-01	710-ABC	SAM	07/17/25 19:06	Fe,Zn High , Ag oversaturated	Jaswal	Dilution
70	Q2609-05	709-AB	SAM	07/17/25 19:11	Fe,Zn High , Ag oversaturated	Jaswal	Dilution
71	CCV06	CCV06	CCV	07/17/25 19:24		Jaswal	OK
72	CCB06	CCB06	CCB	07/17/25 19:28		Jaswal	OK
73	Q2609-01DL	710-ABCDL	SAM	07/17/25 19:34	10X For Fe,Ag,Zn	Jaswal	Confirms
74	Q2609-05DL	709-ABDL	SAM	07/17/25 19:38	10X For Fe,Ag,Zn	Jaswal	Confirms
75	Q2614-01	HR-MCN-COMP-01	SAM	07/17/25 19:42		Jaswal	OK
76	Q2614-01DUP	HR-MCN-COMP-01DU	DUP	07/17/25 19:46		Jaswal	OK

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Supervise By	jaswal	Supervise On	7/21/2025 4:45:05 AM

STD. NAME	STD REF.#
ICAL Standard	MP86192,MP86193,MP86194,MP86195,MP86196,MP86212
ICV Standard	MP86213
CCV Standard	MP86216
ICSA Standard	MP86214,MP86215
CRI Standard	MP86212
LCS Standard	
Chk Standard	MP86217,MP86218

77	Q2614-01L	HR-MCN-COMP-01L	SD	07/17/25 19:50		Jaswal	OK
78	Q2614-01MS	HR-MCN-COMP-01M	MS	07/17/25 19:54		Jaswal	OK
79	Q2614-01MSD	HR-MCN-COMP-01M	MSD	07/17/25 19:58		Jaswal	OK
80	Q2614-01A	HR-MCN-COMP-01A	PS	07/17/25 20:02		Jaswal	OK
81	CCV07	CCV07	CCV	07/17/25 20:16		Jaswal	OK
82	CCB07	CCB07	CCB	07/17/25 20:20		Jaswal	OK

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Prep Standard - Chemical Standard Summary

Order ID : Q2604

Test : Metals Group4

Prepbatch ID : PB168883,

Sequence ID/Qc Batch ID: LB136533,LB136533,

Standard ID :
MP85156,MP86192,MP86193,MP86194,MP86195,MP86196,MP86211,MP86212,MP86213,MP86214,MP86215,MP86216,MP86217,MP86218,

Chemical ID :
M5467,M5470,M5471,M5499,M5658,M5747,M5748,M5751,M5798,M5799,M5800,M5801,M5811,M5814,M5816,M5820,M5942,M5962,M5970,M5984,M5985,M5996,M5997,M6007,M6015,M6021,M6023,M6028,M6030,M6032,M6076,M6127,M6128,M6137,M6142,M6144,M6145,M6146,M6151,M6152,M6155,M6158,M6159,M6162,M6163,M6164,M6165,W3112,

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Metals STANDARD PREPARATION LOG

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

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP86192	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

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

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP86193	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 5.00000ml of M5467 + 5.00000ml of M5470 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5970 + 5.00000ml of M5996 + 5.00000ml of M5997 + 5.00000ml of M6076 + 5.00000ml of M6146 + 455.00000ml of MP86192 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP86194	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 50.00000ml of MP86192 + 50.00000ml of MP86193 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP86195	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 25.00000ml of MP86193 + 75.00000ml of MP86192 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP86196	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 16.00000ml of MP86193 + 184.00000ml of MP86192 = Final Quantity: 200.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP86211	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.05000ml of M6159 + 0.06000ml of M5747 + 0.10000ml of M5471 + 0.10000ml of M5751 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6145 + 0.25000ml of M5467 + 0.25000ml of M6146 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5499 + 1.00000ml of M5942 + 1.00000ml of M6127 + 1.00000ml of M6142 + 1.00000ml of M6144 + 2.00000ml of M5816 + 89.29000ml of MP86192 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP86212	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 2.00000ml of MP86211 + 98.00000ml of MP86192 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4163	NEW ICV-060925	MP86213	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 0.20000ml of M6163 + 0.20000ml of M6164 + 0.20000ml of M6165 + 49.40000ml of MP86192 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP86214	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 10.00000ml of M6152 + 80.00000ml of MP86192 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP86215	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 10.00000ml of M6152 + 10.00000ml of M6155 + 80.00000ml of MP86192 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP86216	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 50.00000ml of MP86192 + 50.00000ml of MP86193 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP86217	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 1.00000ml of M5984 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6162 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP86218	06/25/2025	07/18/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/03/2025

FROM 200.00000ml of M6162 + 9800.00000ml of W3112 = Final Quantity: 10000.000 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.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	04/14/2025 / jaswal	03/16/2023 / jaswal	M5470

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	04/17/2025 / Janvi	03/17/2023 / bin	M5499

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.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

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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.	/ 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.	58029 / Cu, 1000 PPM, 500 ml	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

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

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

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

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

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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.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

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.	57016 / S, 1000 PPM, 125 ml	122923	12/29/2026	05/20/2024 / Jaswal	02/09/2024 / jaswal	M5816

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

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

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

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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.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	07/01/2024 / Jaswal	07/01/2024 / Jaswal	M5970

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

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

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

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

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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	03/17/2028	06/19/2025 / MOHAN	05/14/2024 / Jaswal	M6015

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 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

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

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

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

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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	01/01/2026	01/01/2025 / kareem	09/19/2024 / kareem	M6076

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

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

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

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

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

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	06/30/2025	02/10/2025 / kareem	02/09/2024 / kareem	M6155

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-1-125ML / EPA CLP ICP Verification Standard1	V2-MEB744107	05/22/2029	06/09/2025 / jaswal	06/06/2025 / jaswal	M6163

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	06/01/2028	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	01/02/2030	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 #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

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M6032

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CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**010924**	**Solvent:**	24002546	Nitric Acid	
Description:	**Barium (Ba)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	010927				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

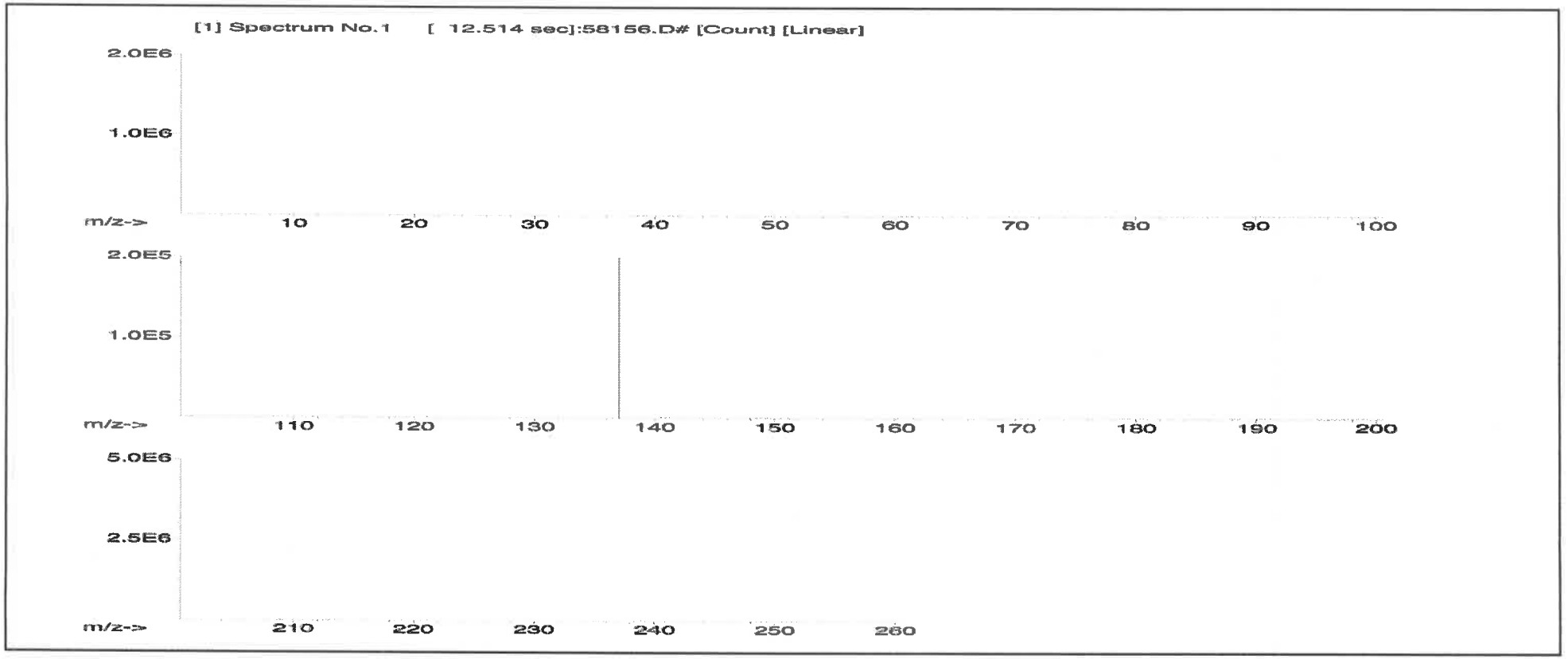
Giovanni Esposito

Formulated By:	Giovanni Esposito	010924

Pedro Rentas

Reviewed By:	Pedro L. Rentas	010924

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	**1000.1**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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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	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 certifed (+/-) 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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M6028

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CERTIFIED WEIGHT REPORT:

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

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 ± 0.100 Flask Uncertainty

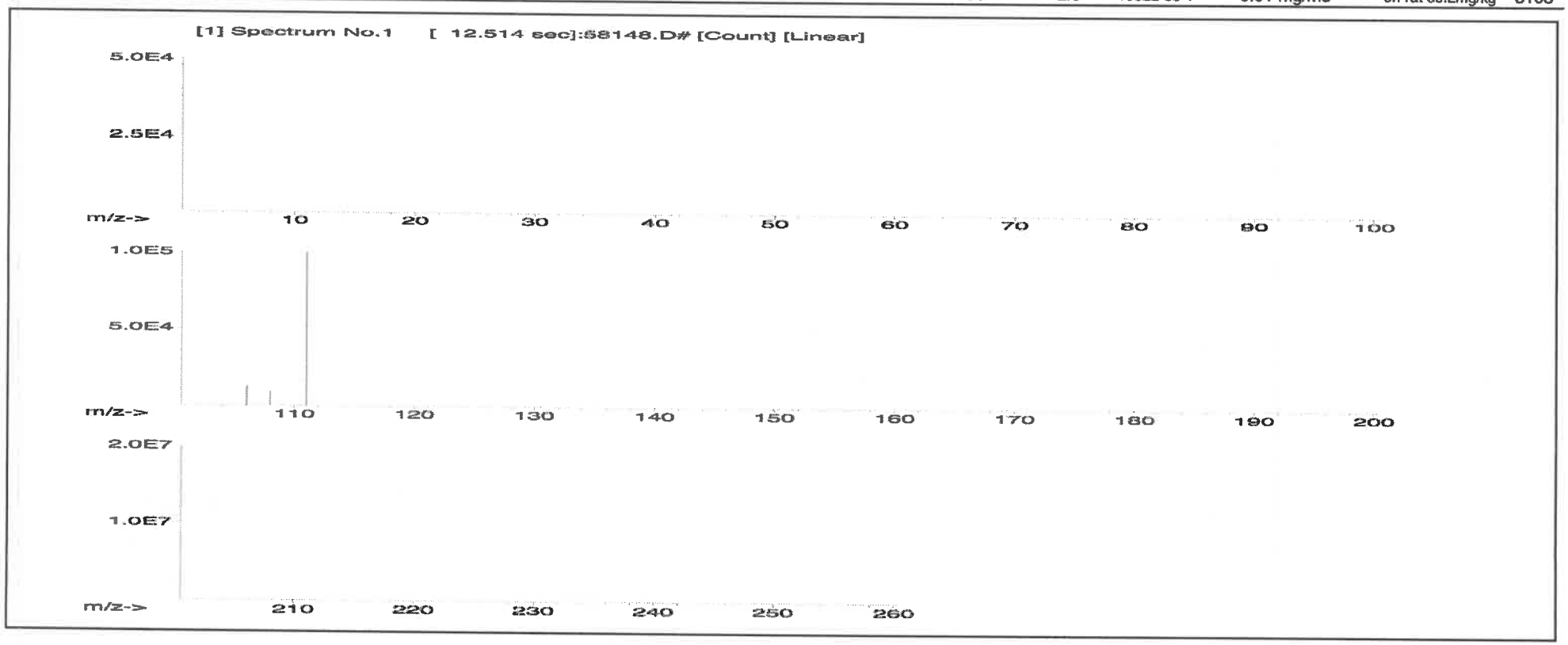
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Aleah O'Brady
Formulated By: Aleah O'Brady 070124

Pedro Rentas
Reviewed By: Pedro L. Rentas 070124

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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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	T	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	<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:

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 certifed (+/-) 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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R : 01/03/24. M5810, M5811

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CERTIFIED WEIGHT REPORT:

Part Number:	**58126**		**Lot #**	
Lot Number:	**051523**	**Solvent:**	21110221	Nitric Acid
Description:	**Iron (Fe)**	5.0%	250.0 (mL)	Nitric Acid
Expiration Date:	051526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	5000.1	0.12	Flask Uncertainty	

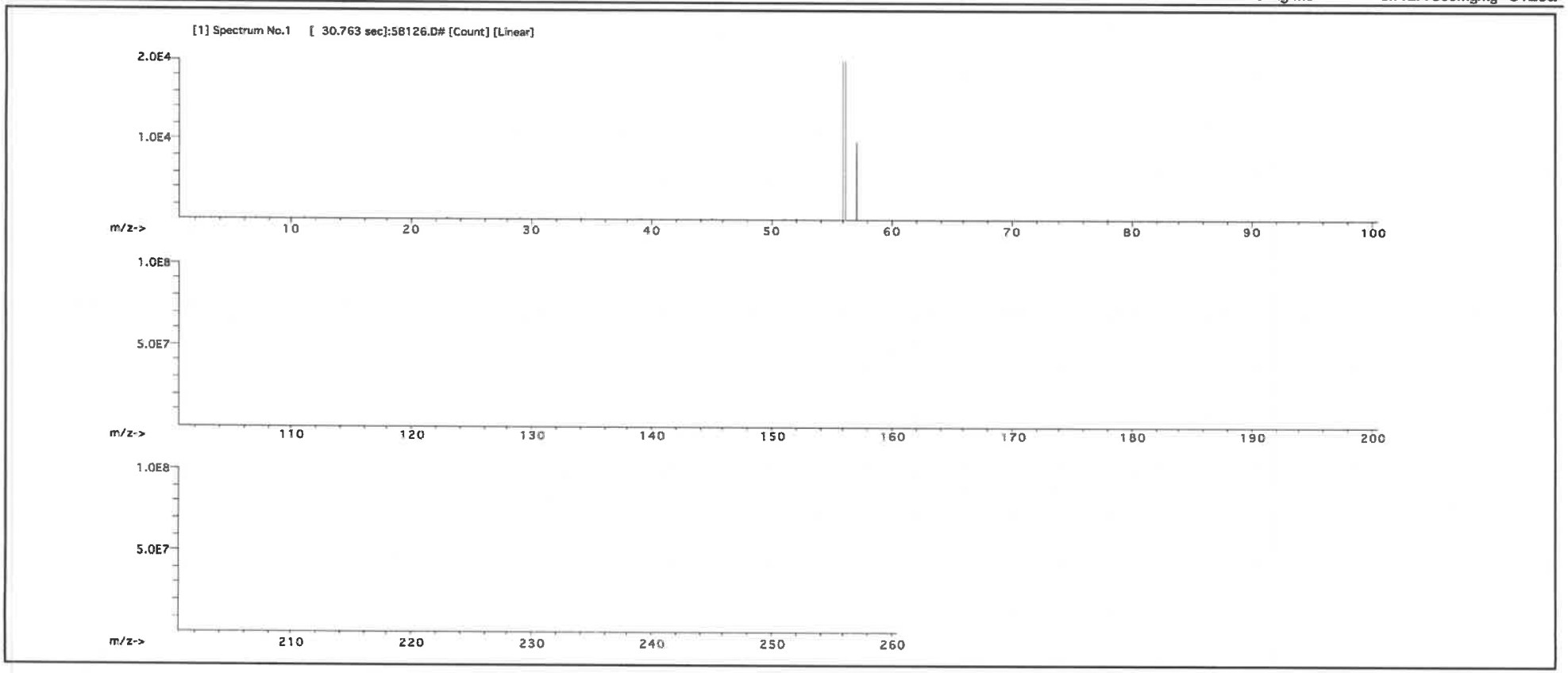
Giovanni Esposito

Formulated By:	Giovanni Esposito	051523

Pedro Rentas

Reviewed By:	Pedro L. Rentas	051523

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



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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	<0.10	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	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	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 certifed (+/-) 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).

INORGANIC VENTURES

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Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
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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).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

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

Assay Information:

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

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

11.2 Lot Expiration Date

- **August 30, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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RD:05/14/2024

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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).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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. 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

March 17, 2023

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

11.2 Lot Expiration Date

- March 17, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5467 R: 03/01/23 (LA)

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

CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

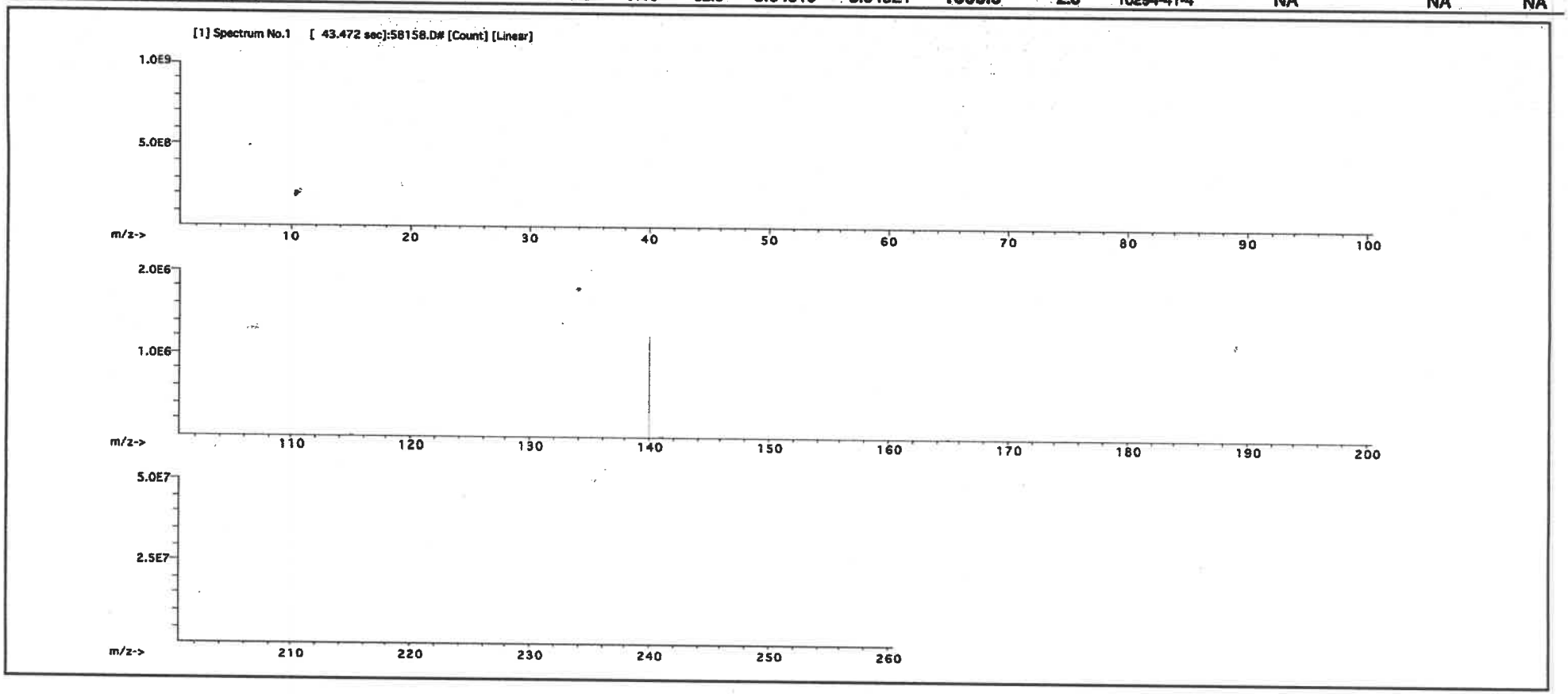
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	**1000.0**	**2.0**	10294-41-4	NA	NA	NA



2204-METALS

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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	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:

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 certifed (+/-) 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).

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

M5493 – M5308
Rad on 4/14/23
MG

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 2

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	≥ 99.0 %	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	≤ 0.005 %	0.003 %
Iodide (I)	≤ 0.002 %	< 0.002 %
Bromide (Br)	≤ 0.01 %	< 0.01 %
Chlorate and Nitrate (as NO_3)	≤ 0.003 %	< 0.001 %
ACS - Phosphate (PO_4)	≤ 5 ppm	< 5 ppm
Sulfate (SO_4)	≤ 0.004 %	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Calcium (Ca)	≤ 0.002 %	< 0.001 %
Magnesium (Mg)	≤ 0.001 %	< 0.001 %
Potassium (K)	≤ 0.005 %	0.001 %

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC

James T Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

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M5658 R ! 8/25/23

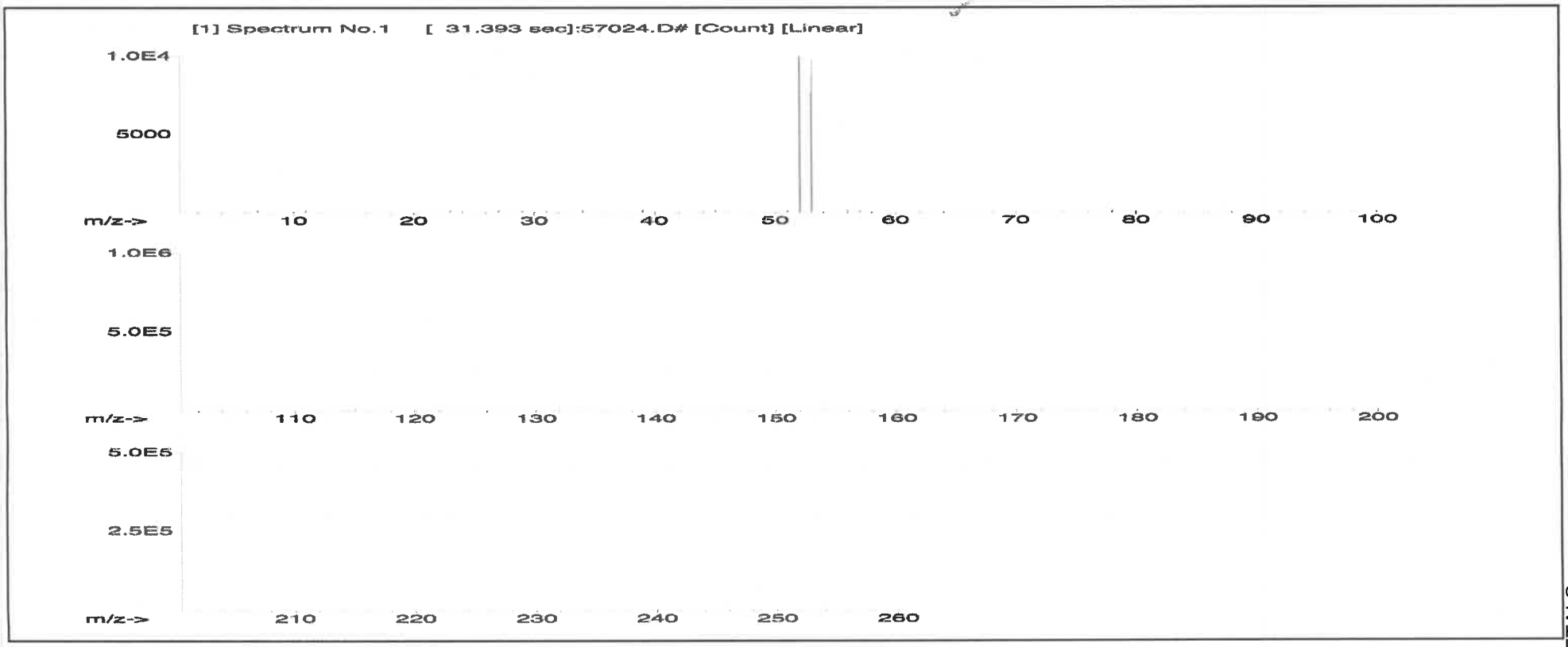
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) 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	orl-rat 3250 mg/kg	3112a



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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	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:

Certified by:

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

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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).

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

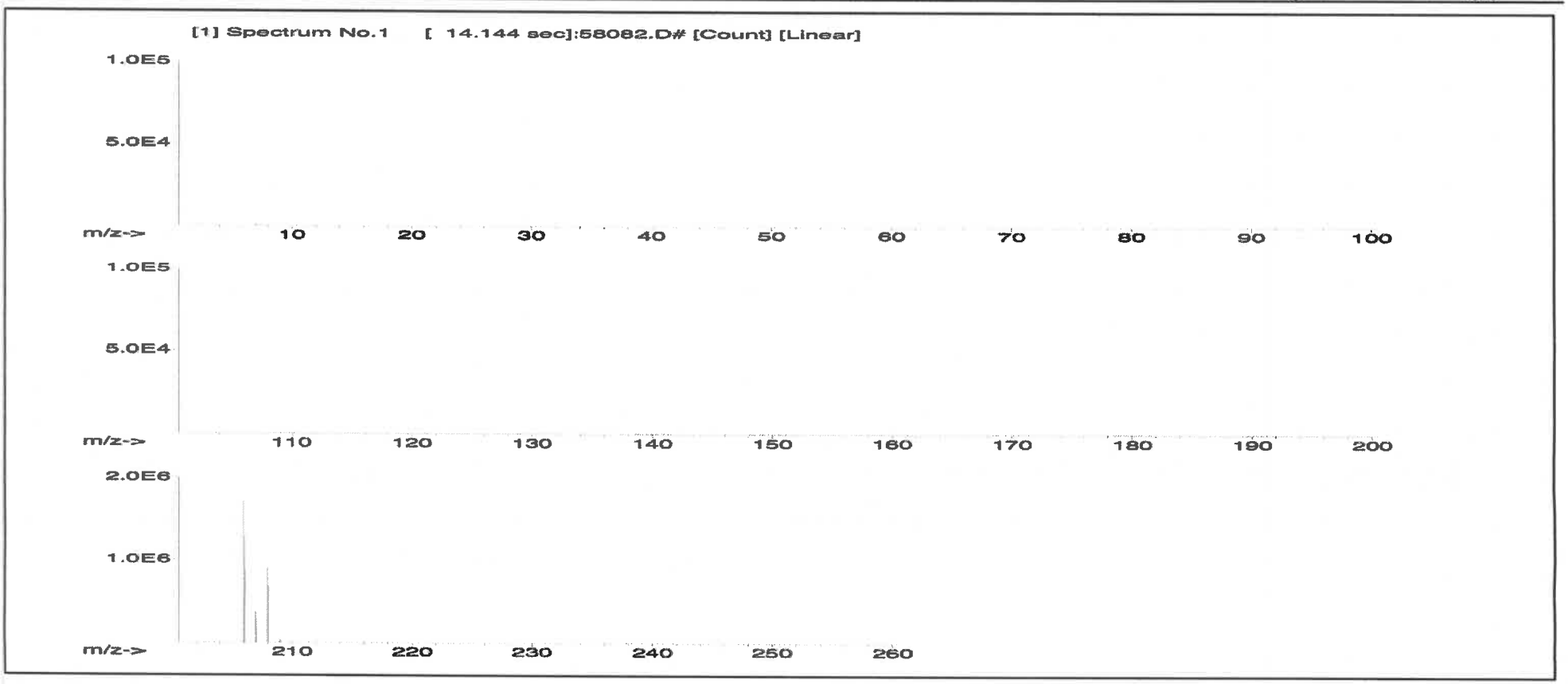
Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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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	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	T	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.

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R: 12/20/23 M5748

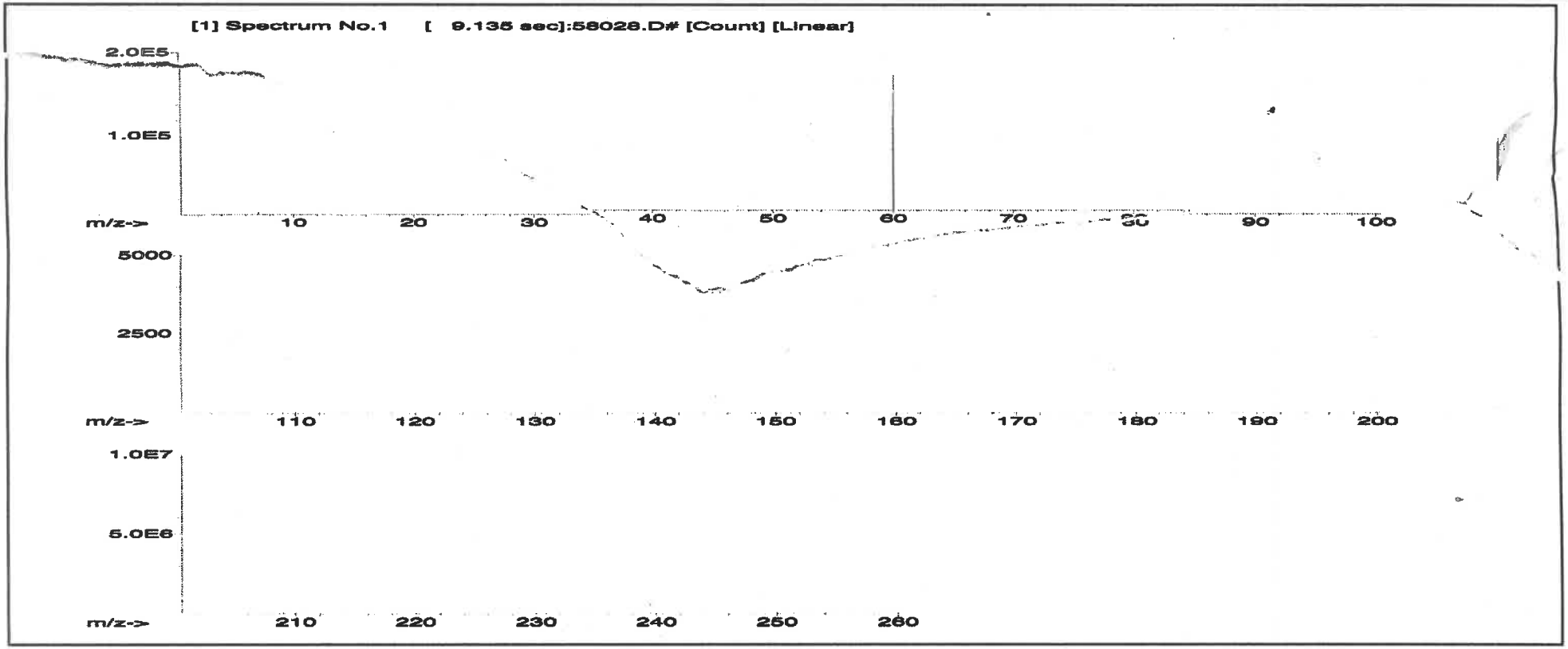
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) 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



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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	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:

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.
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R: 8/25/23 M5751

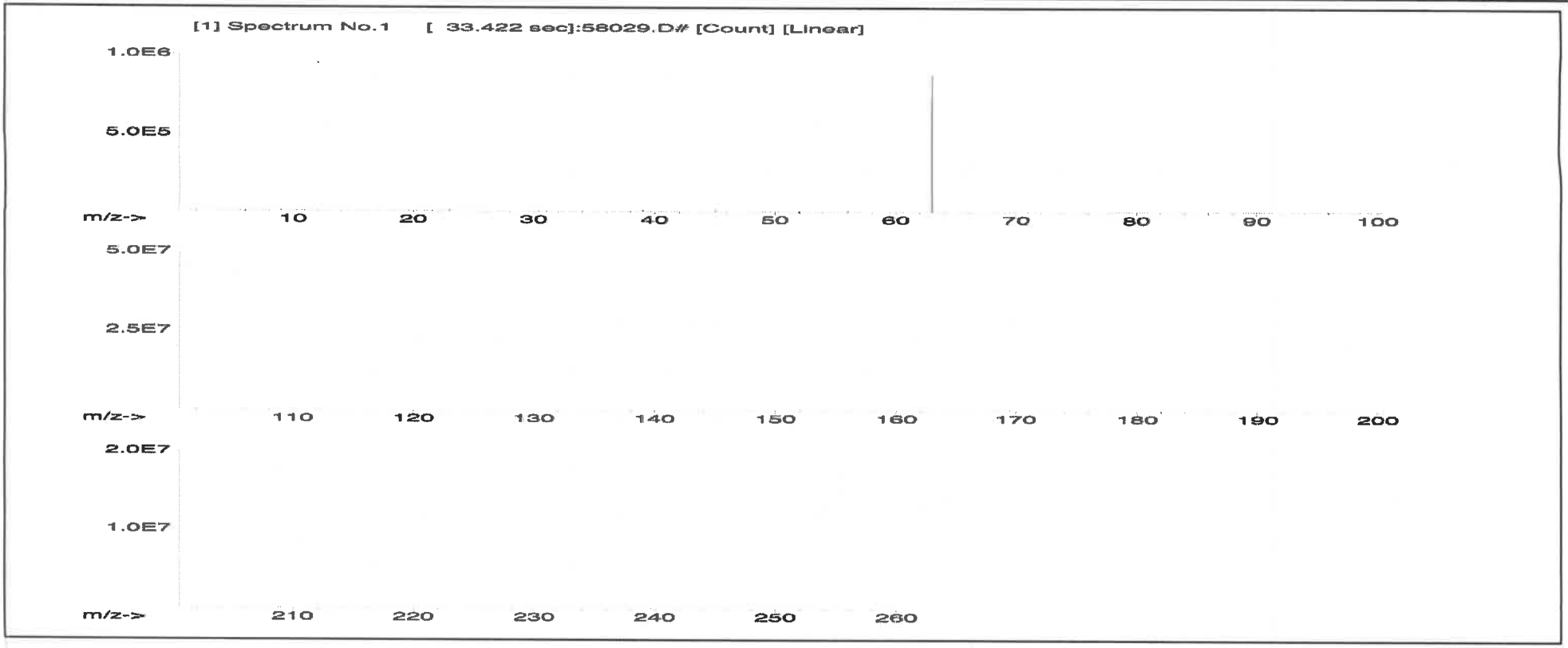
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CERTIFIED WEIGHT REPORT:

Part Number:	**58029**			**Lot #**	**Solvent:**	
Lot Number:	**071723**			21110221	Nitric Acid	
Description:	**Copper (Cu)**					
				2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071726					
Recommended Storage:	Ambient (20 °C)					
Nominal Concentration (µg/mL):	**1000**					
NIST Test Number:	6UTB	5E-05	Balance Uncertainty			
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty			

Formulated By:	Benson Chan 071723
Reviewed By:	Pedro L. Rentas 071723

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	022723	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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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	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	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:

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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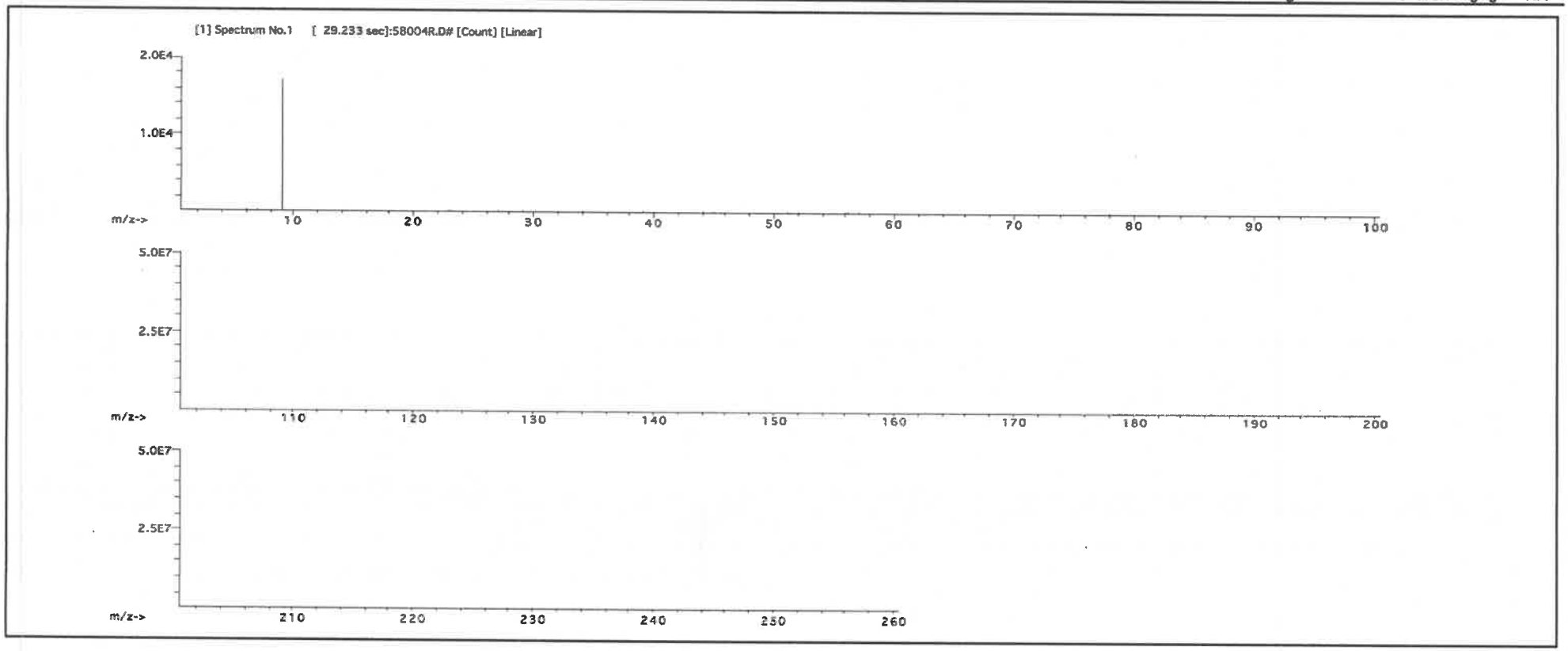
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**			
Lot Number:	**102523**	24002546	Nitric Acid	
Description:	**Beryllium (Be)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-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	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	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	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:

Certified by:

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

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

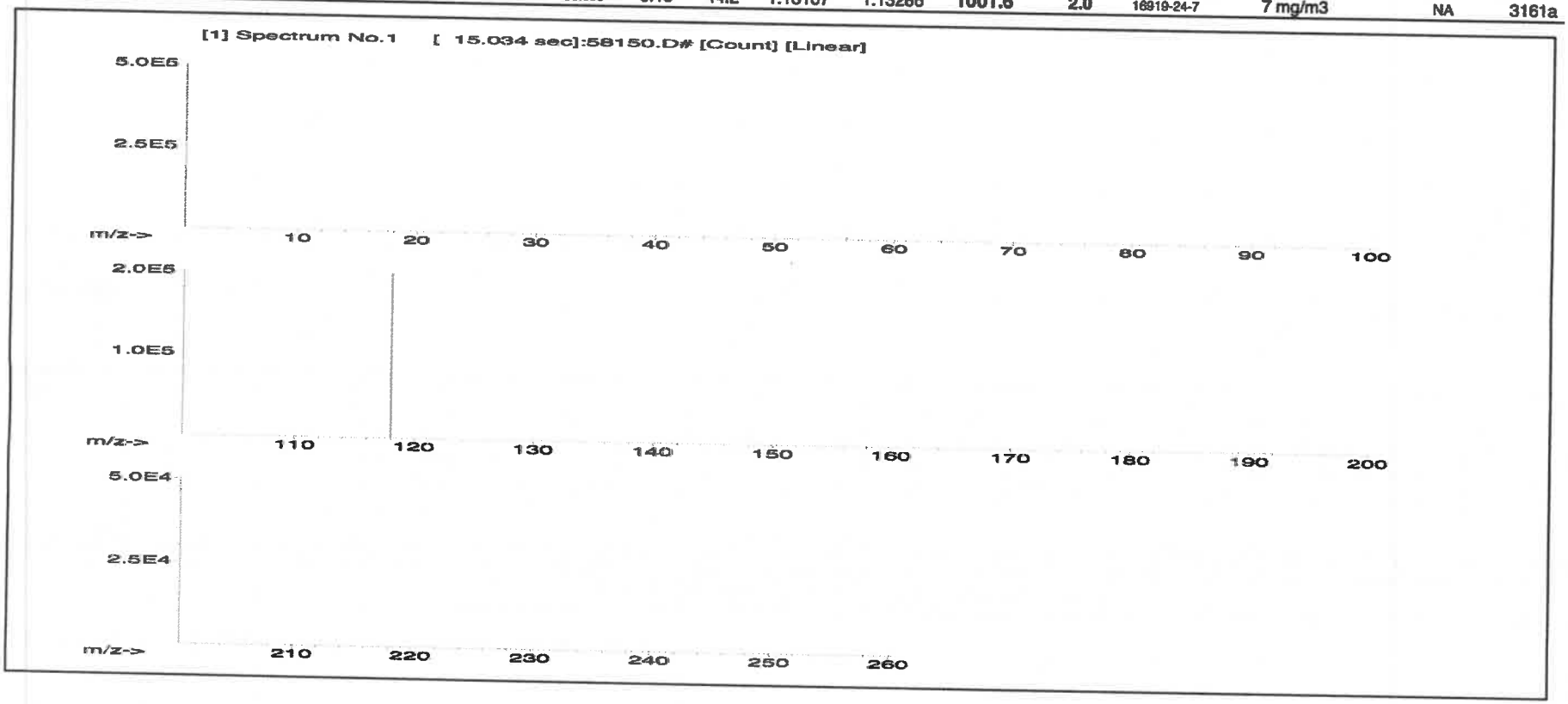
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



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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	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	<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	Sn	T	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:

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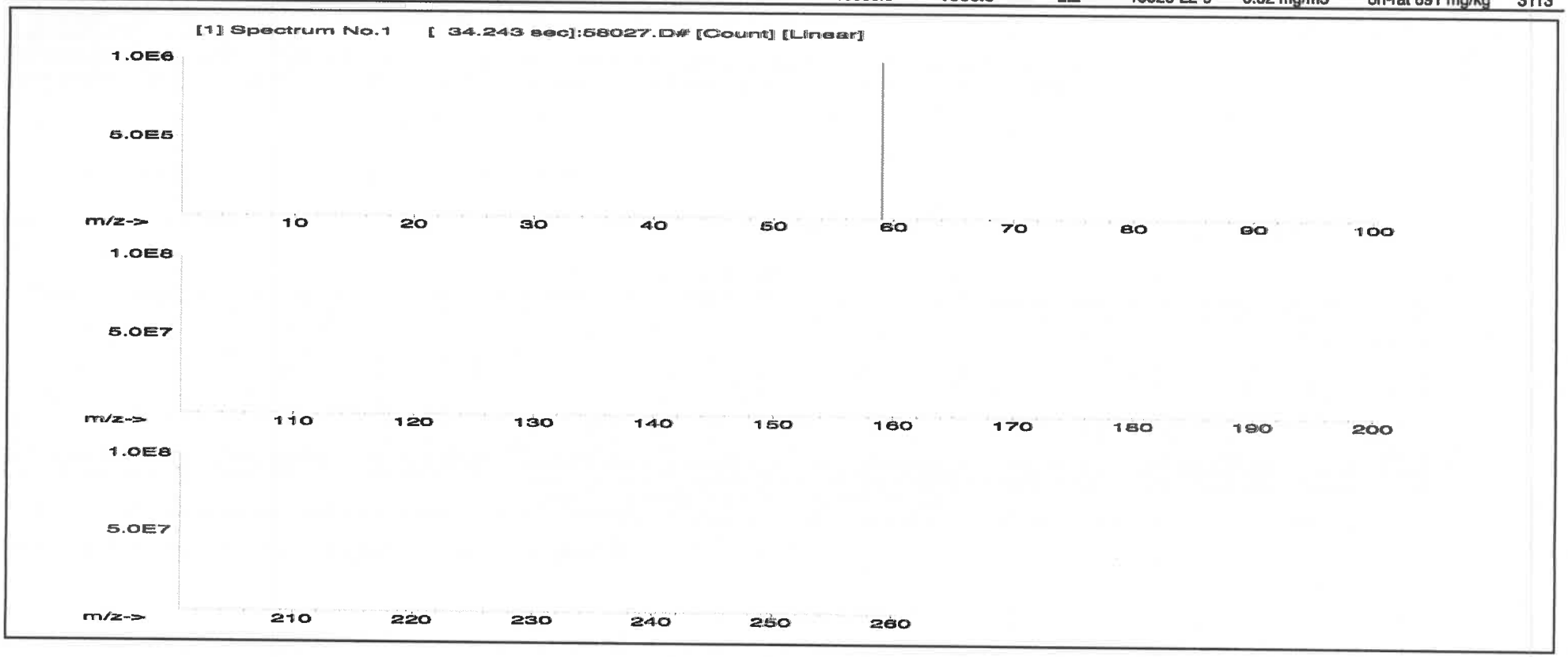
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By: Lawrence Barry 091923

Reviewed By: Pedro L. Rentas 091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	**2.2**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	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	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:

Certified by:

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

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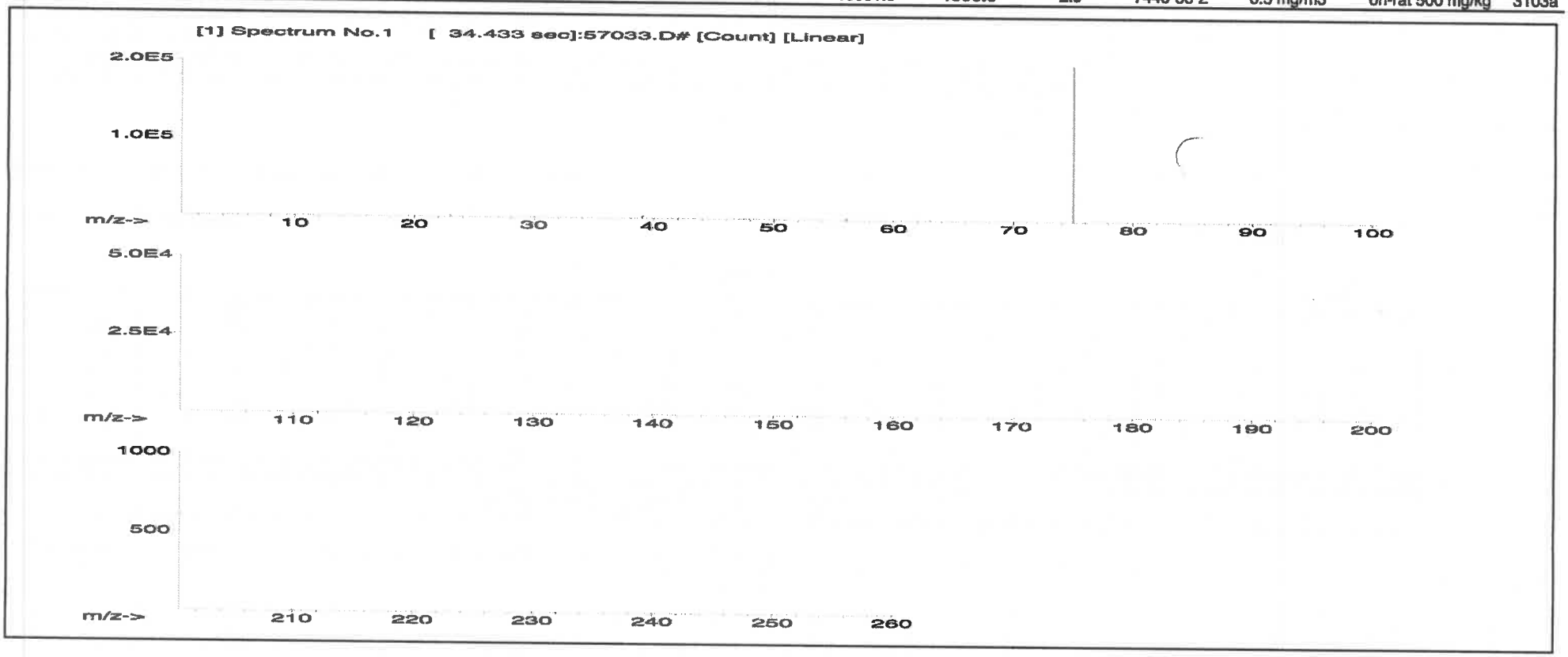
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CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**				
Lot Number:	**111323**	24002546	Nitric Acid		
Description:	**Arsenic (As)**				
		2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) 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	orl-rat 500 mg/kg	3103a



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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	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	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	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:

Certified by:

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

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CERTIFIED WEIGHT REPORT:

Part Number: 57005
Lot Number: 071123
Description: Boron (B)

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

Weight shown below was diluted to (mL): 1999.48 ± 0.058 Flask Uncertainty

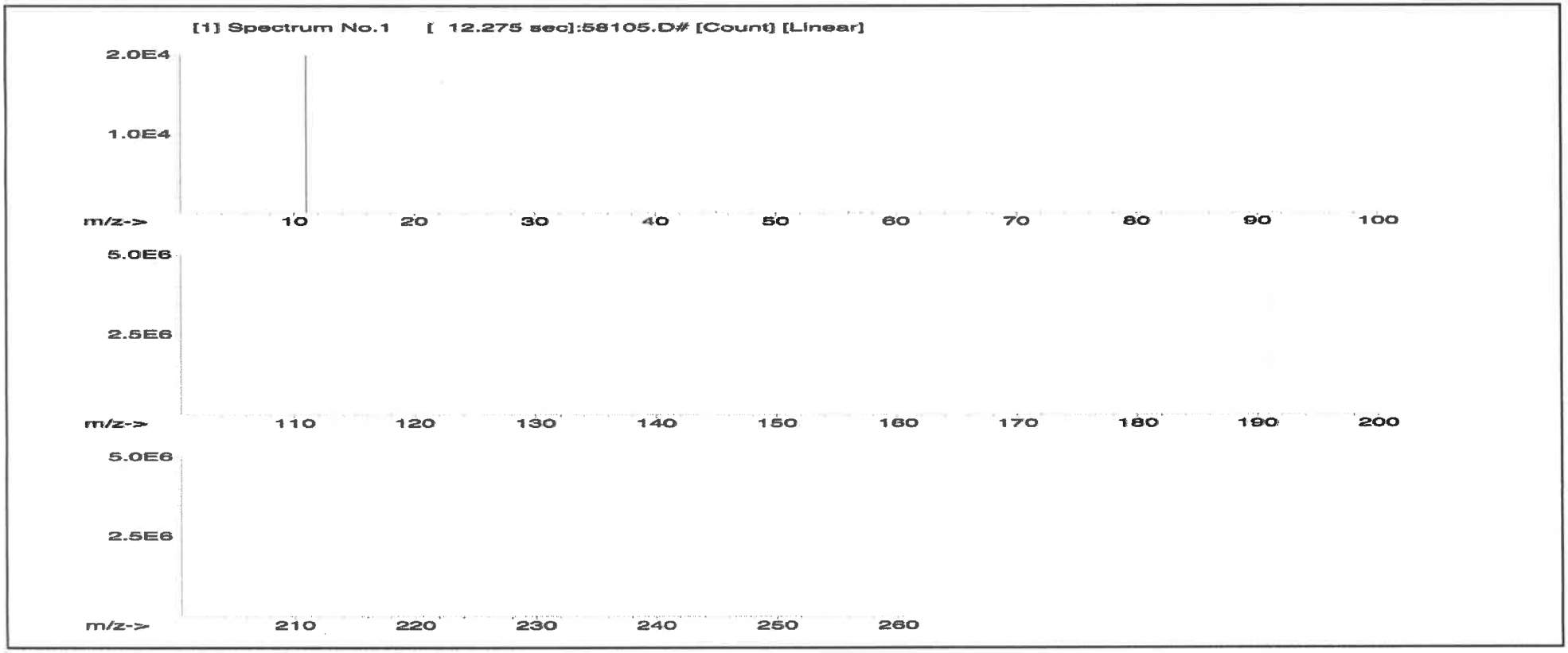
	Lot #			
Solvent:	MKBQ8597V	Ammonium hydroxide		
		2.0%	40.0 (mL)	Ammonium hydroxide

5E-05 Balance Uncertainty

Formulated By: Benson Chan 071123

Reviewed By: Pedro L. Rentas 071123

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	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:

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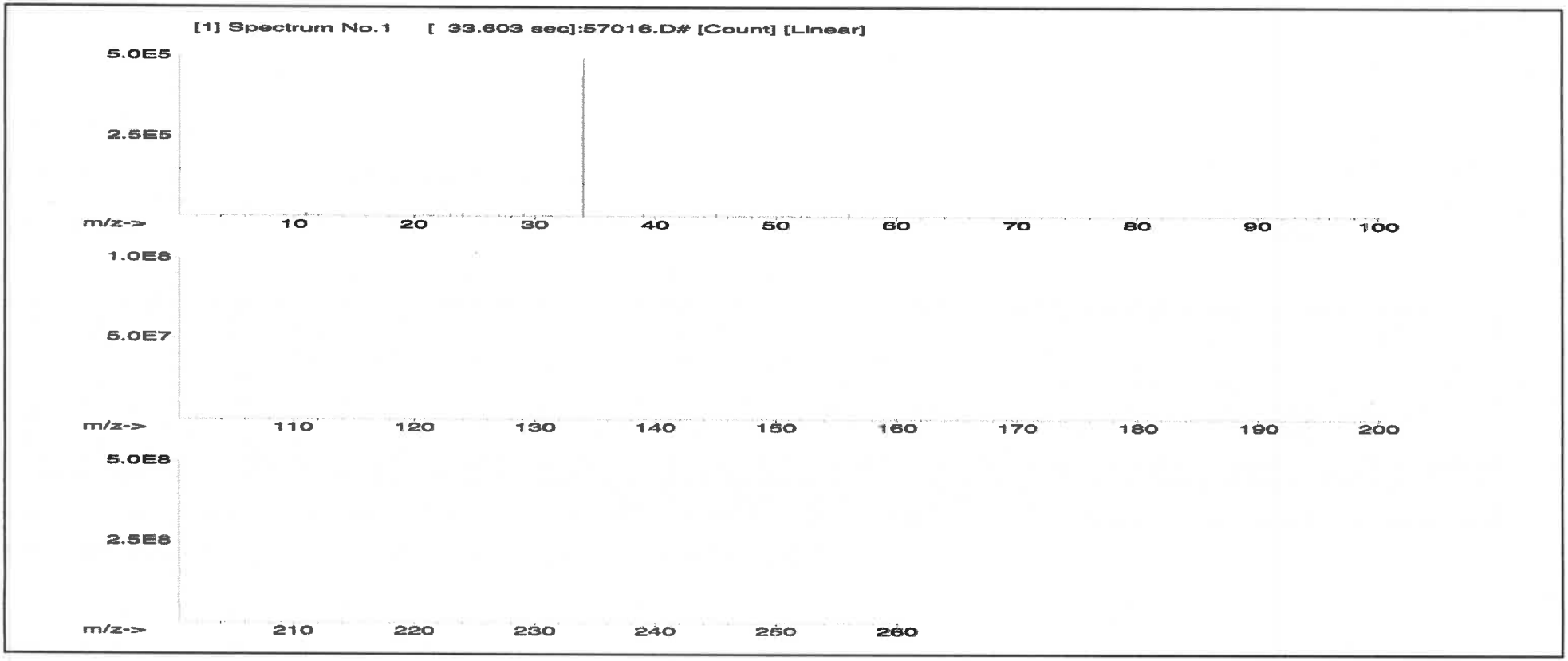
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CERTIFIED WEIGHT REPORT:

Part Number:	**57016**			
Lot Number:	**122923**	**Solvent:**	122923	ASTM Type 1 Water
Description:	**Sulfur (S)**			
Expiration Date:	122926			
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):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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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	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	T	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:

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Certified by:

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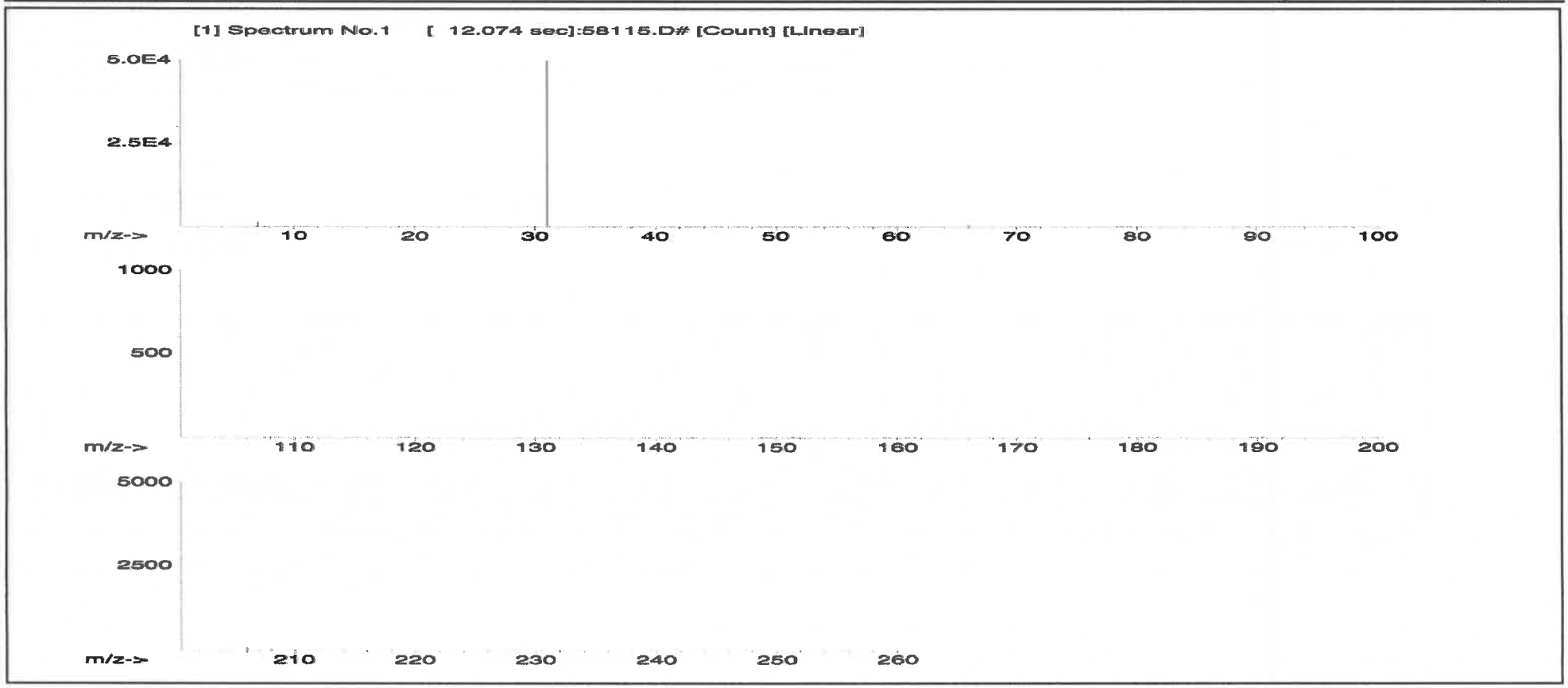
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CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Solvent:**	**Lot #** 24002546	Nitric Acid
Lot Number:	**091123**				
Description:	**Phosphorous (P)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	091126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091123
Reviewed By:	Pedro L. Rentas	091123

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/k	3186



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

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

Certified by:

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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO_3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- **June 17, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5962 R! 06/14/24.

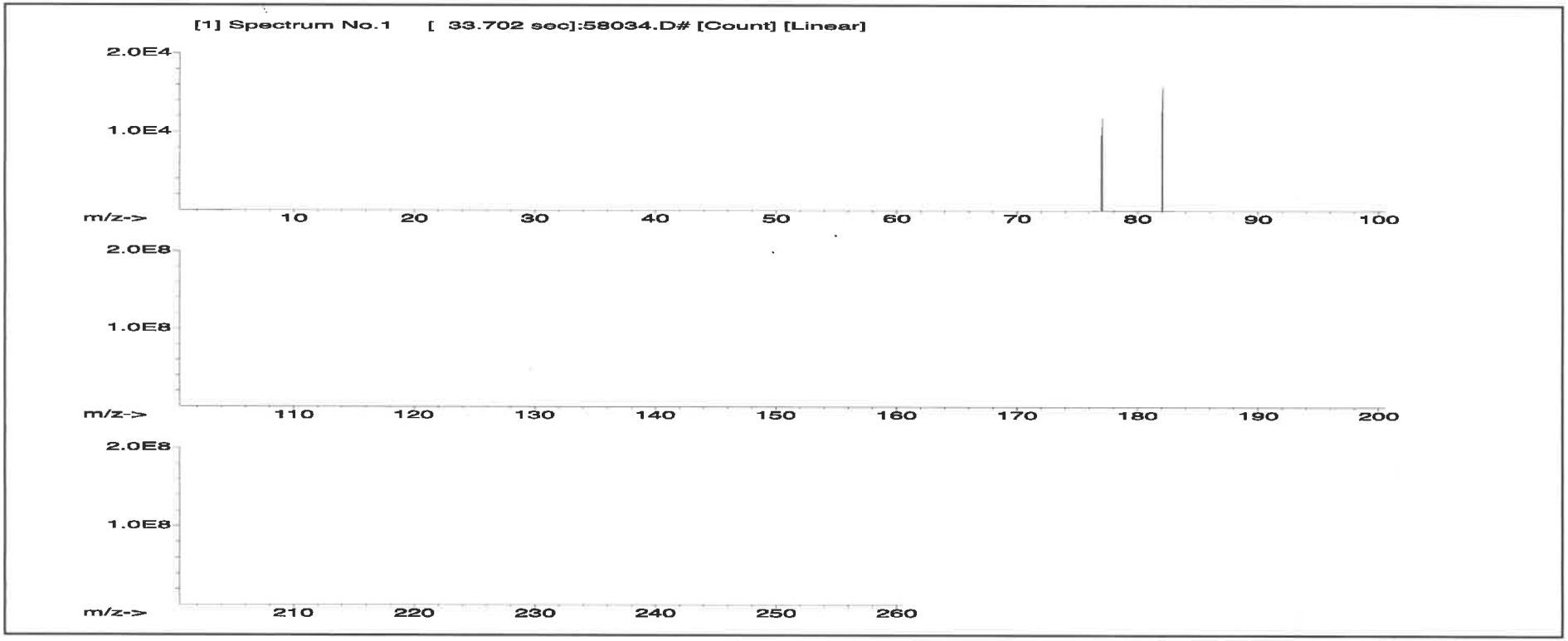
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
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	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



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ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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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	Pr	<0.02	Se	T	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 certifed (+/-) 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 Reference Material CRM

M5970, M5971 R: 7/01/24

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

CERTIFIED WEIGHT REPORT:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 062127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11

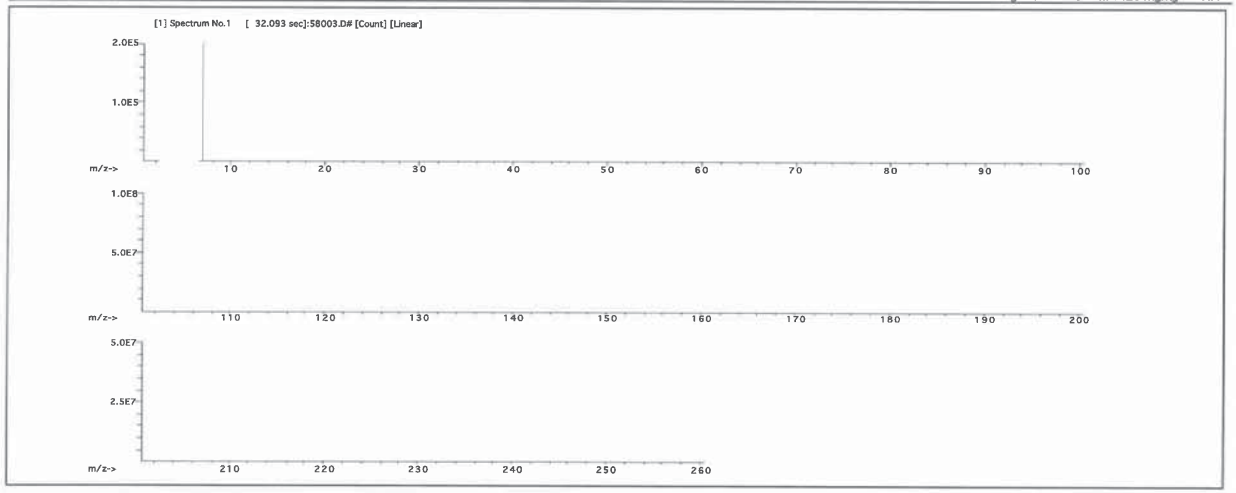
Lot #	Solvent:			
24002546	Nitric Acid			
2.0%	5.0 (mL)	Nitric Acid		

5E-05 Balance Uncertainty
0.016 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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Certified Reference Material CRM

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AR-1539 Certificate Number
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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	T	Ni	<0.02	Pr	<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	<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.
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* Standards are certifed (+/-) 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).

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
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MS984
R:6/14/24

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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. 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 Pt0 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

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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



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MS985
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).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 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

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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



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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).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea:
	Calcium, Potassium,
	Magnesium, Sodium,
	2 000 µg/mL ea:
	Aluminum, Barium,
	1 000 µg/mL ea:
	Iron,
	500 µg/mL ea:
	Nickel, Vanadium,
	Zinc, Cobalt,
	Manganese,
	250 µg/mL ea:
	Silver, Copper,
	200 µg/mL ea:
	Chromium,
	50 µg/mL ea:
	Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = (\Sigma((w_i)^2\,(u_{char\ i})^2))^{1/2}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

January 27, 2022

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

11.2 Lot Expiration Date

- January 27, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
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F: 540-585-3012
info@inorganicventures.com

R: 2/22/24
MS-997

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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i}^2)]^{1/2}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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. 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



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F: 540-585-3012
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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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. 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

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



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

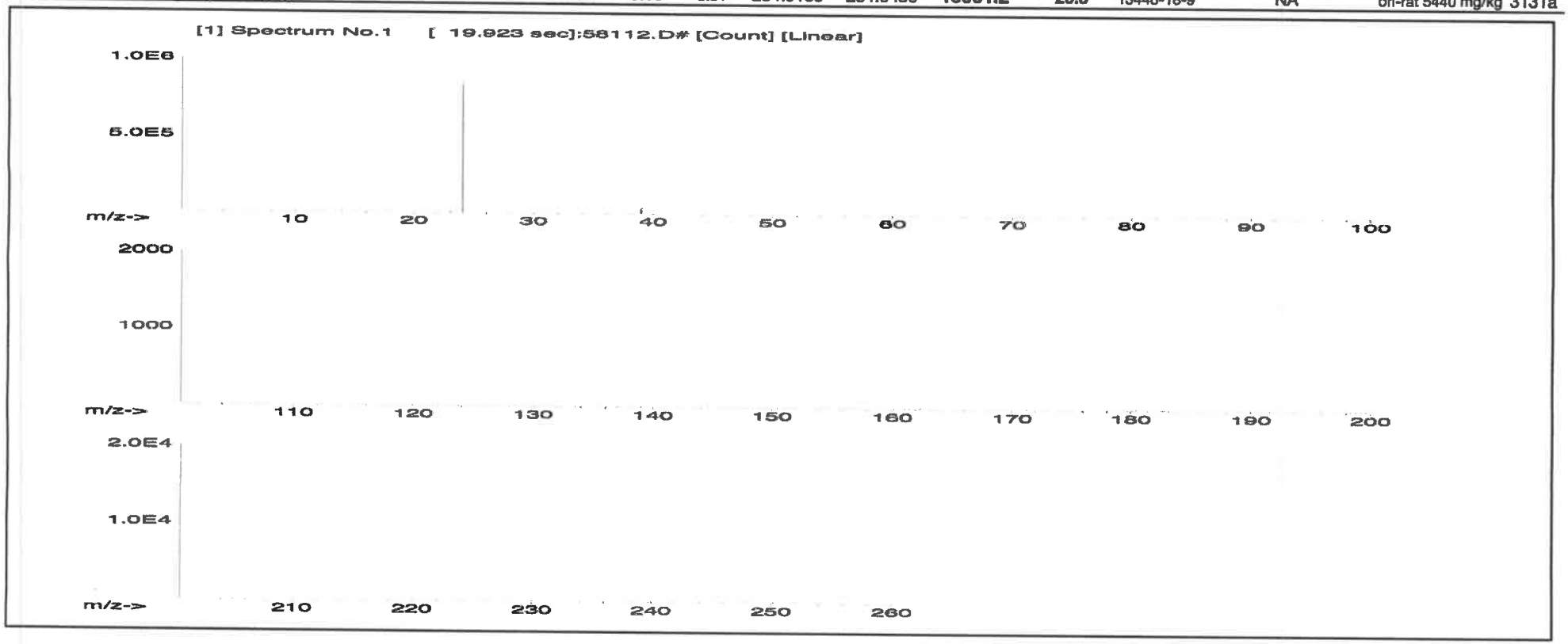
R -> 1/13/25
M 6127

			Lot #	
Part Number:	**58112**	**Solvent:**	24012496	Nitric Acid
Lot Number:	**112124**			
Description:	**Magnesium (Mg)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	112127			
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):	2000.07	0.100	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	112124
Reviewed By:	Pedro L. Rentas	112124

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9183	234.9459	**10001.2**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



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www.absolutestandards.com

Certified Reference Material CRM

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

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

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

Al	<0.02	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	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:

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 certifed (+/-) 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).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

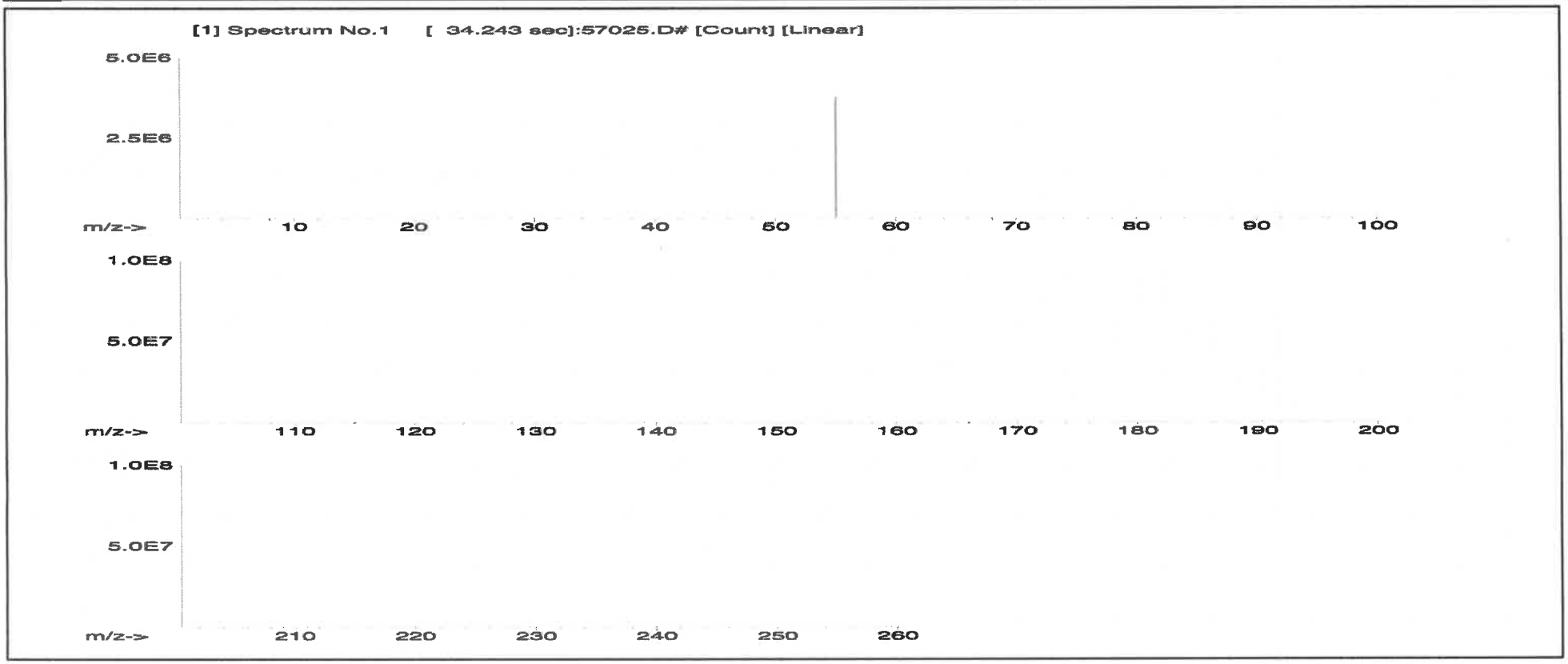
R->1/13/25
M6128

Part Number: 58025
Lot Number: 101124
Description: Manganese (Mn)
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 0.10 Flask Uncertainty

		Lot #	
Solvent:	24002546	Nitric Acid	
	2%	80.0 (mL)	Nitric Acid
		5E-05	Balance Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 101124
Pedro Rentas
Reviewed By: Pedro L. Rentas 101124

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese(II) nitrate hydrate (Mn)	IN031	MNM092020A1	1000	99.999	0.10	20.8	19.2322	19.2344	**1000.1**	**2.0**	15710-66-4	5 mg/m3	orl-rat >300mg/kg	3132



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

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

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	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 certifed (+/-) 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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Certificate of Analysis

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Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

M6137 R→10/3/24

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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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:

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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, amorphic (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

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CERTIFIED WEIGHT REPORT:

R-> 1/13/25

Part Number:	**57119**		**Lot #**		
Lot Number:	**103024**		**Solvent:**	24002546	Nitric Acid
Description:	**Potassium (K)**	M6141 M6142 M6143	2%	80.0 (mL)	Nitric Acid
Expiration Date:	103027				
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):	4000.1	0.15 Flask Uncertainty			

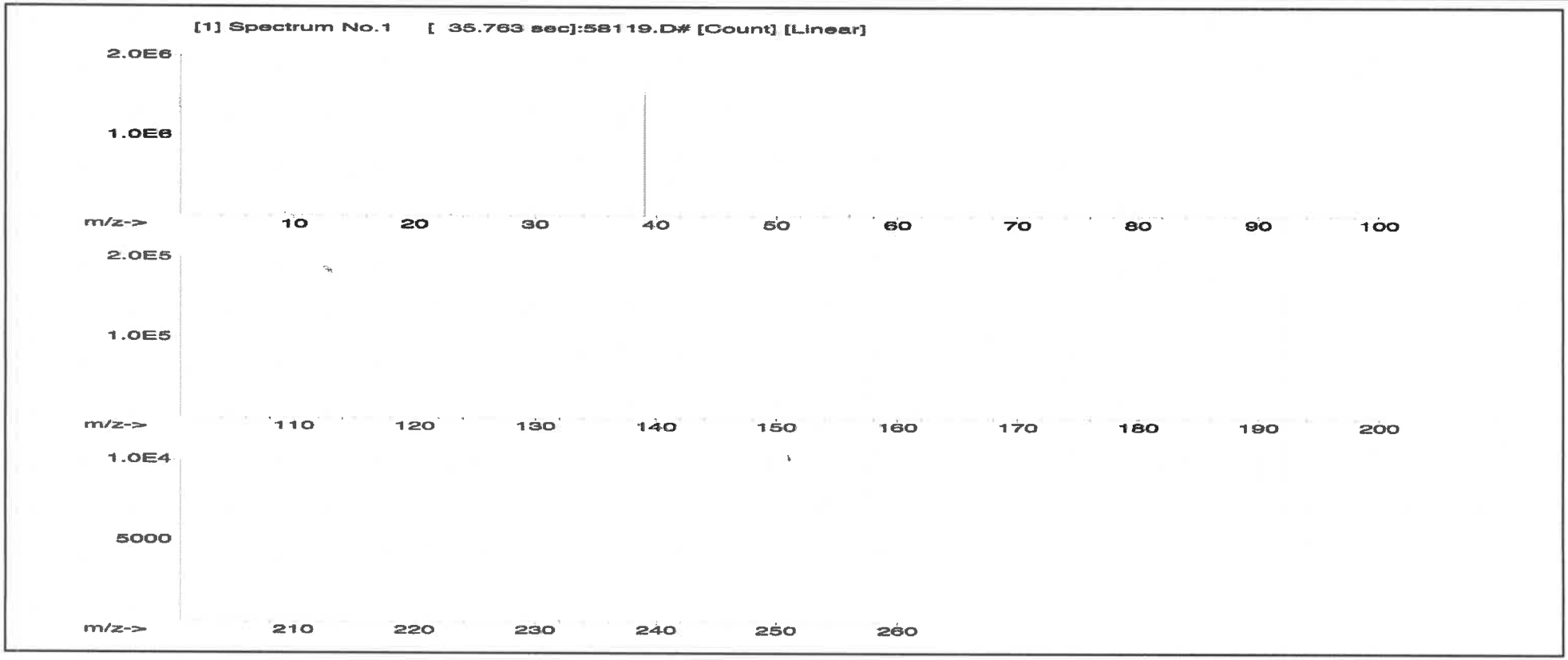
Giovanni Esposito

Formulated By:	Giovanni Esposito	103024

Pedro Rentas

Reviewed By:	Pedro L. Rentas	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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD062022A1	10000	99.999	0.10	37.7	106.1040	######	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3750 mg/kg	3141a



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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	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	T	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 certifed (+/-) 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:

R->1/13/25

Part Number: 58111
Lot Number: 072424
Description: Sodium (Na)

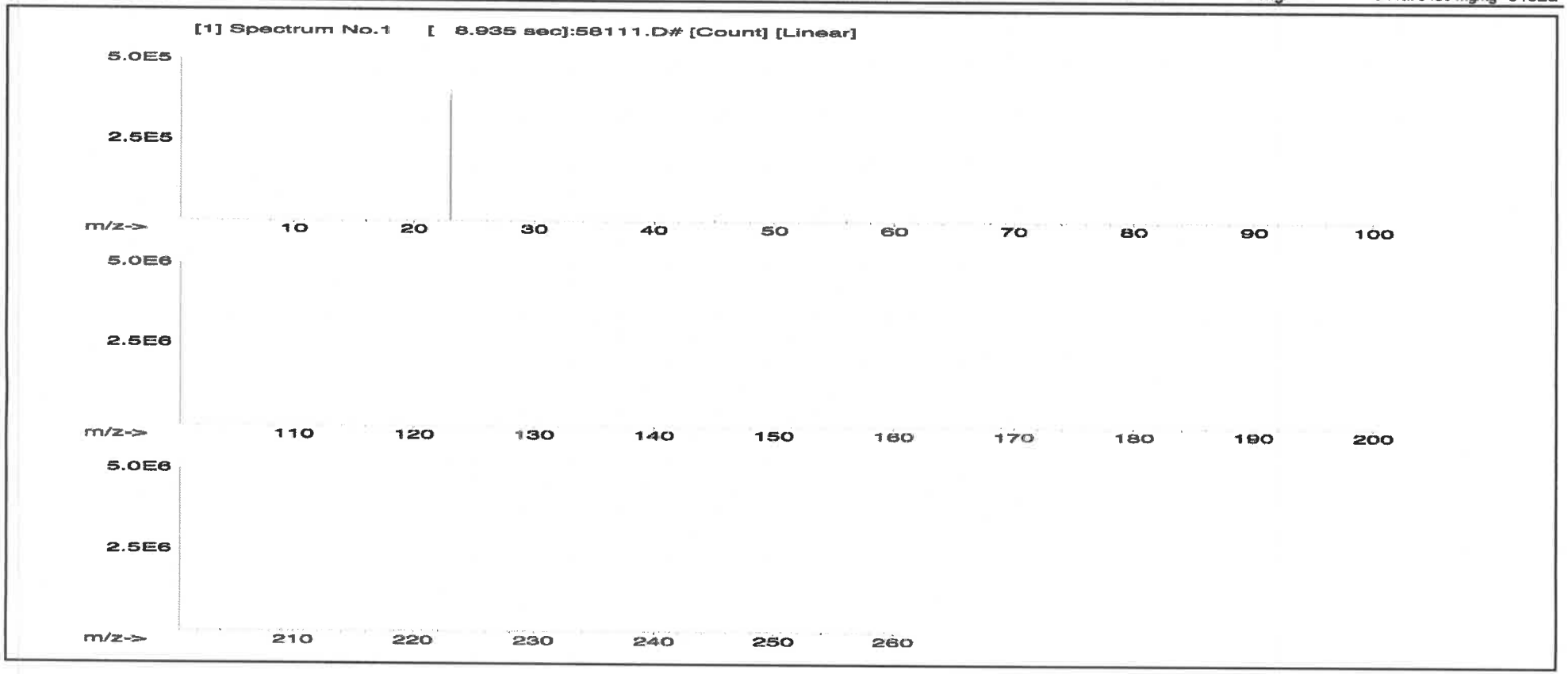
MG144

Expiration Date: 072427
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.2

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.10	Flask Uncertainty		

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

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	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



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AR-1539 Certificate Number
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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	Pr	<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	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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 certifed (+/-) 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: 58030
Lot Number: 121724
Description: Zinc (Zn)

R → 1/13/25

M6145

Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

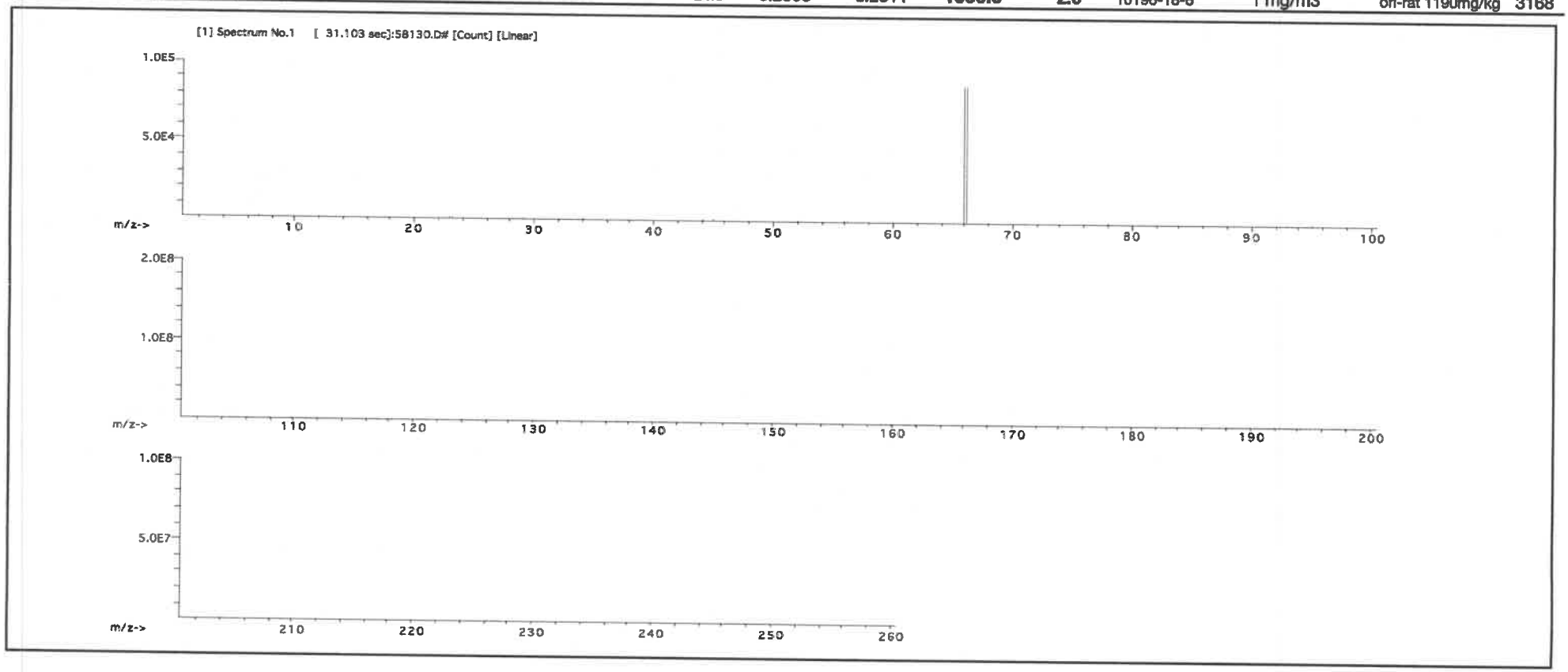
		Lot #	
Solvent:	24012496	Nitric Acid	
	2%	40.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 2000.1 0.10 Flask Uncertainty

Aleah O'Brady

Formulated By:	Aleah O'Brady	121724
Reviewed By:	Pedro L. Rentas	121724

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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	ori-rat 1190mg/kg	3168



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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	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	T
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:

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 certifed (+/-) 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).

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R-> 1/15/25

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™ | J.T.Baker®

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™ | J.T.Baker®

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

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

R-02102/2025

M-6158

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Biosciences Production

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

M-6162

R. Date :- 04/27/2025

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

avantor™ | J.T.Baker®

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 >>>

Nitric Acid 69%
CMOS

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Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

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Refine your results. Redefine your industry.

Certificate of Analysis

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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	QCP-CICV-1
Lot Number:	V2-MEB744107
Matrix:	7% (v/v) HNO3
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 ºC)

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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. 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

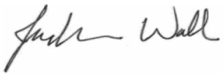
Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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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).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

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 ºC)

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:

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

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:
$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2
$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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. 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

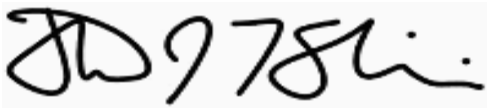
- Sealed TCT Bag Open Date: _____

- 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



INORGANIC VENTURES™
Refine your results. Redefine your industry.

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).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

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 ºC)

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.

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

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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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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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.

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

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- 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

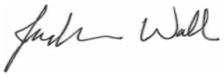
Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor



Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6030

R: 8/5/24

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

CERTIFIED WEIGHT REPORT:

Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

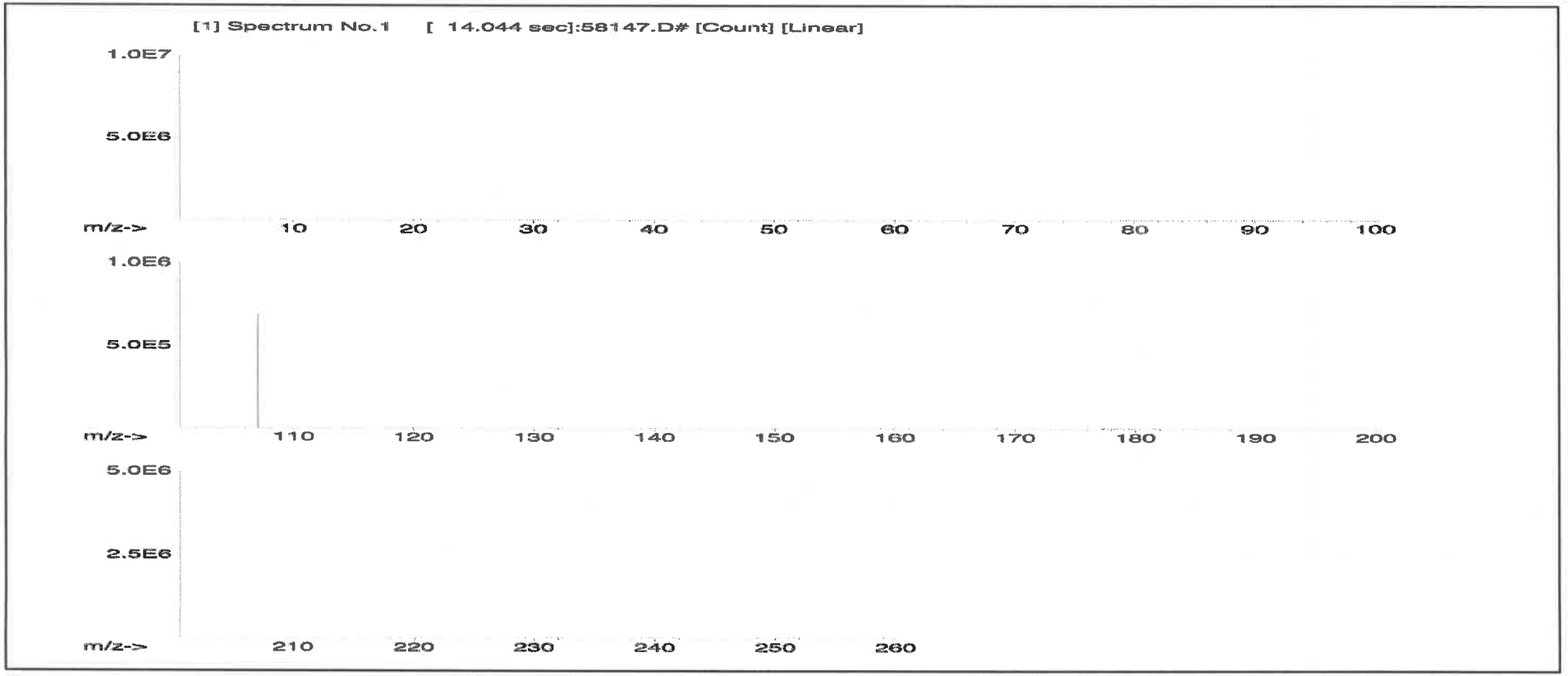
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

		Lot #	
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



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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	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:

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 certifed (+/-) 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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www.absolutestandards.com

Certified Reference Material CRM

R: 10/18/24

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

CERTIFIED WEIGHT REPORT:

MG146

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)
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 ± 0.058 Flask Uncertainty

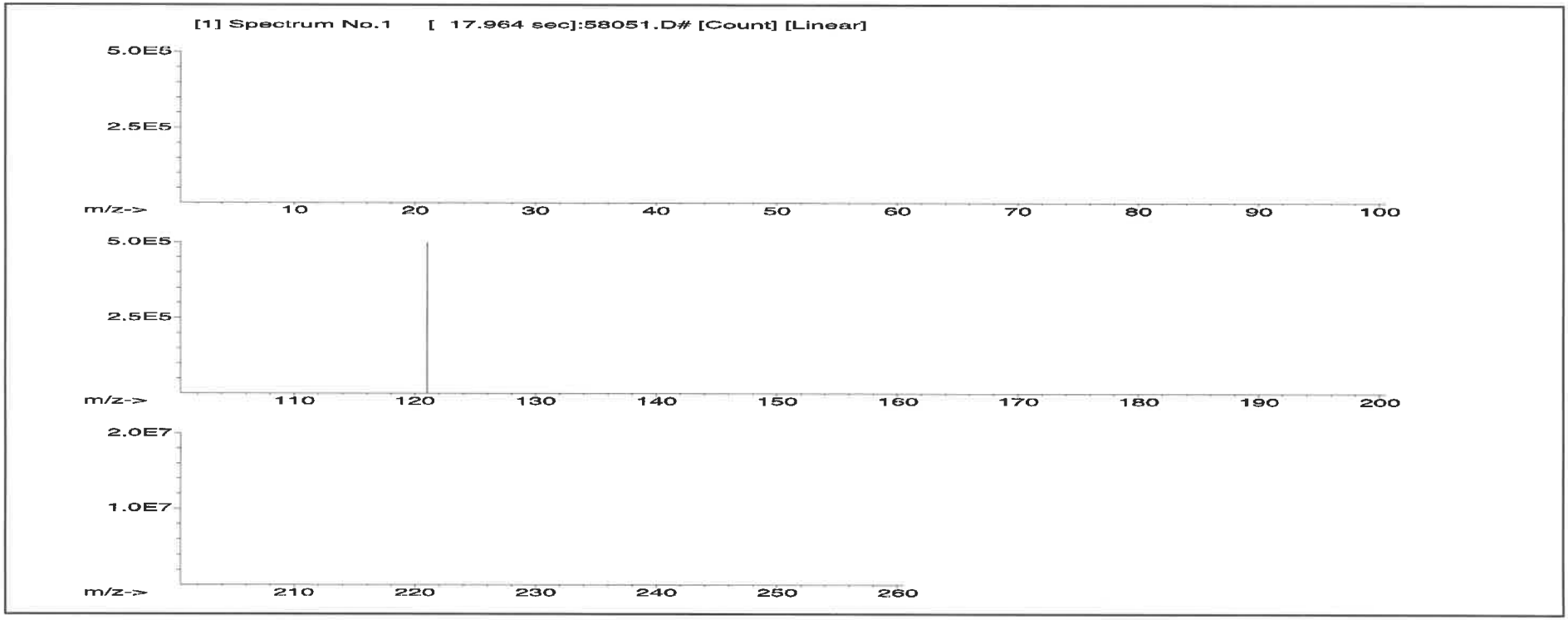
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	071724
Reviewed By:	Pedro L. Rentas	071724

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	060324	0.1000	200.0	0.084	1000	10001.4	**1000.0**	**2.2**	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



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Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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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	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	T	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 certifed (+/-) 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).

APTIM

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6152

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(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,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

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 HNO_3. 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 HNO_3. 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.

APTIM

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6155

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(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,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

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 HNO_3. 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 HNO_3. 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.

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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).

ACCREDITED Testing Laboratory Certificate 888.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_{6}^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

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

11.2 Lot Expiration Date

- **March 03, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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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).

ACCREDITED Testing Laboratory Certificate 885.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ 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 Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_{6}^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

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

11.2 Lot Expiration Date

- **March 03, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6023

R ! 8/5/24

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

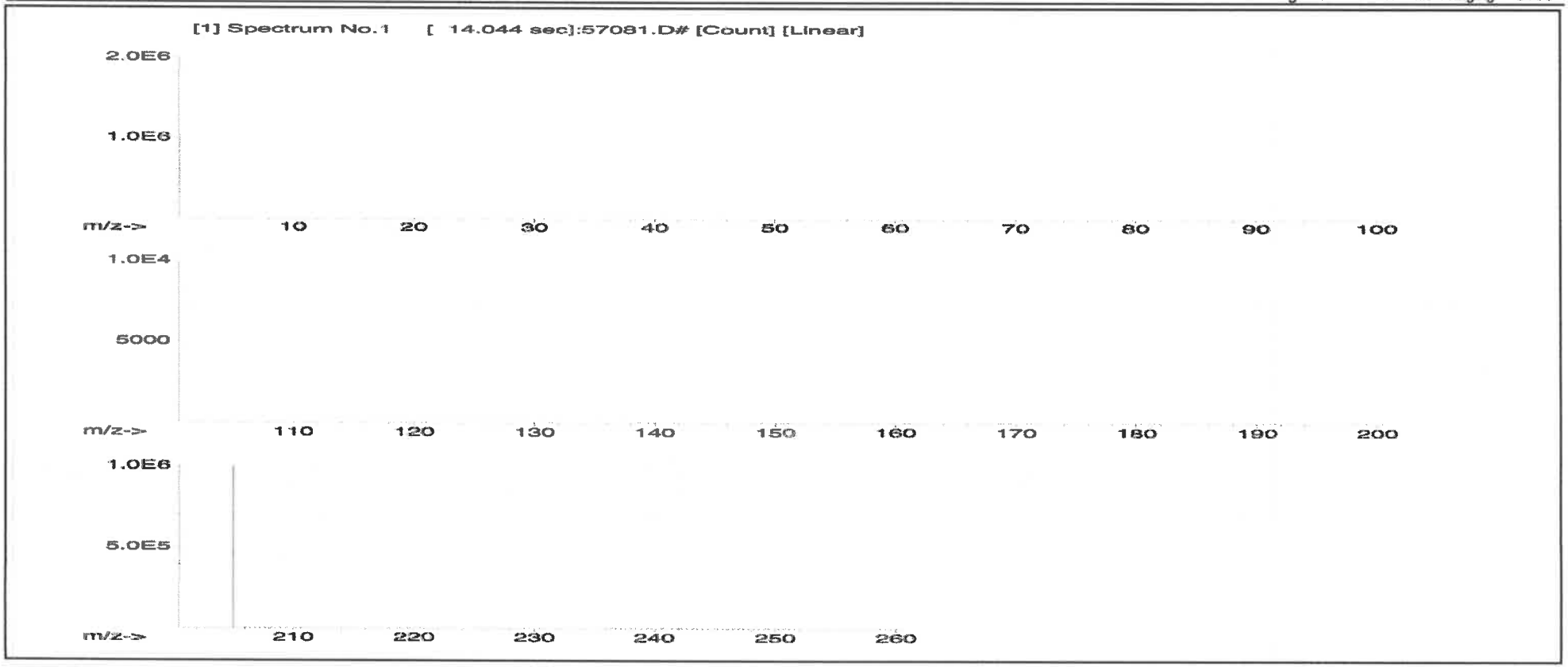
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**			**Lot #**	
Lot Number:	**062724**		**Solvent:**	24002546	Nitric Acid
Description:	**Thallium (Tl)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	062727				
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		

Aleah O'Brady

Formulated By:	Aleah O'Brady	062724
Reviewed By:	Pedro L. Rentas	062724

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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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	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	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	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 certifed (+/-) 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 Reference Material CRM

M6021

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AR-1539 Certificate Number
https://Absolutestandards.com

Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**	24002546	Nitric Acid	
Description:	**Vanadium (V)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

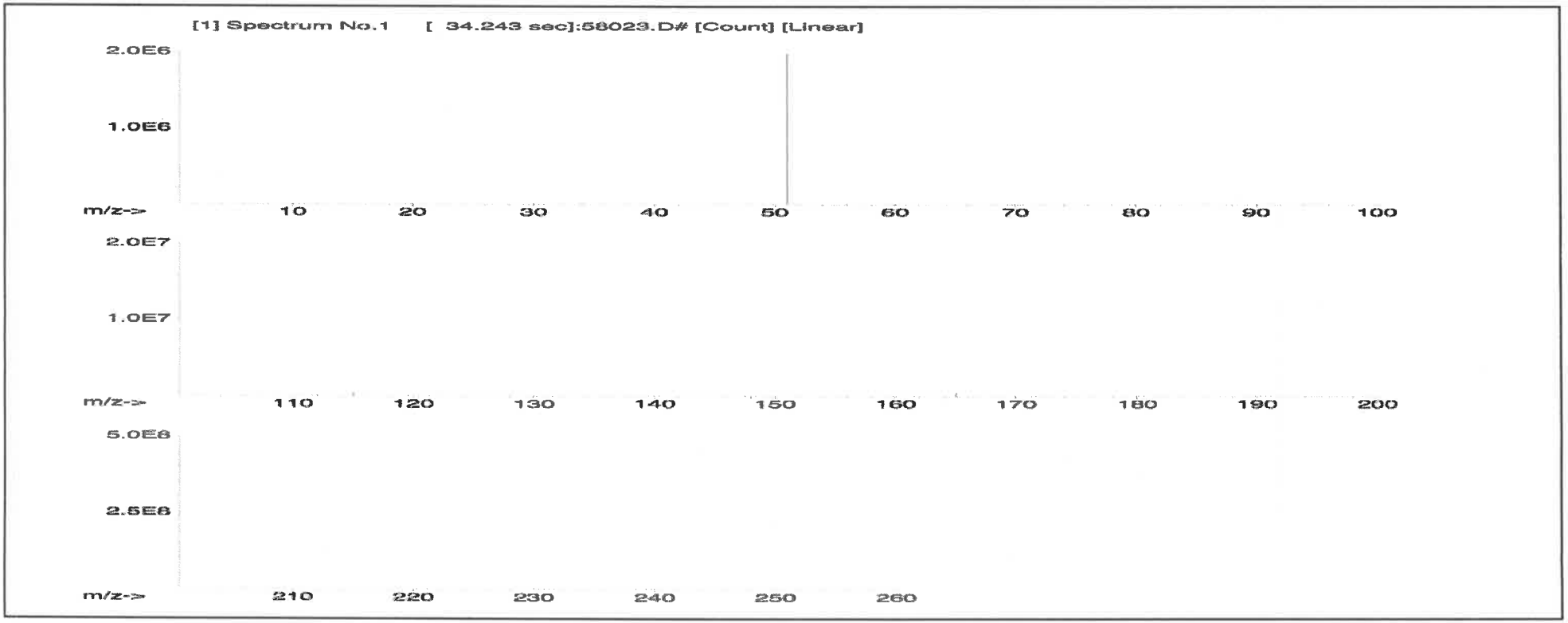
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) 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	orl-rat 58.1mg/kg	3165



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Certified Reference Material CRM

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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	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	T
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 certifed (+/-) 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

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 2604
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

FAX: 10 DAYS*
HARD COPY: 10 DAYS*
EDD 10 DAYS*
* TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ❑ RESEULTS ONLY
- ❑ RESULTS + QC
- ❑ New Jersey REDUCED
- ❑ New Jersey CLP
- ❑ EDD Format
- ❑ USEPA CLP
- ❑ New York State ASP "B"
- ❑ New York State ASP "A"
- ❑ Other

ANALYSIS

	1,4-Dioxane SW846 8270 SIM	Iron, Total	TSS	TDS					
	1	2	3	4	5	6	7	8	9
PRESERVATIVES		B							
	1	2	3	4	5	6	7	8	9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# of Bottles	COMMENTS
1.	RW8-SP100-20250711	GW		x	7/11/25	13:05	2	
2.	RW8-SP303-20250711	GW		x	7/11/25	13:13	4	
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

<-- Specify Preservatives
A-HCl B-HNO3
C-H2SO4 D-NaOH
E-ICE F-Other

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1.	7/14/25 1500	1.
RELINQUISHED BY	DATE/TIME	RECEIVED BY
2.	7/15/25 10:15	2.
RELINQUISHED BY	DATE/TIME	RECEIVED FOR LAB BY
3.		3.

Conditions of bottles or coolers at receipt: ❑ Compliant ❑ Non Compliant ❑ Cooler Temp 2.1°C
MeOH extraction requires an additional 4oz. Jar for percent solid ❑ Ice in Cooler?: yes
Comments:

Page ____ of ____

SHIPPED VIA: CLIENT: ❑ Hand Delivered ❑ Overnight
CHEMTECH: ❑ Picked Up ❑ Overnight

Shipment Complete ❑ YES ❑ NO

WHITE - CHEMTECH COPYFOR RETURN TO CLIENT **YELLOW** - CHEMTECH COPY **PINK** - SAMPLER COPY

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488