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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 : Q3086

ATTENTION : Ernie Wu

Laboratory Certification ID # 20012

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Cover Page

Order ID : Q3086

Project ID : NWIRP Bethpage 112G08005-WE13

Client : Tetra Tech NUS, Inc.

Lab Sample Number	Client Sample Number
Q3086-01	RW8-SP100-20250911
Q3086-02	RW8-SP303-20250911

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

Signature : _____

Date: 9/18/2025

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 # Q3086
Test Name: Metals Group4

A. Number of Samples and Date of Receipt:
2 Water samples were received on 09/12/2025.

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

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

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all compounds.
The Duplicate analysis met criteria for all compounds.
The Matrix Spike analysis met criteria for all compounds.
The Matrix Spike Duplicate analysis met criteria for all compounds.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

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

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

Signature_____

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

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

ORDER ID: Q3086 MATRIX: Water

METHOD: 6010D

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

ADDITIONAL COMMENTS:

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

_____ _____

QA REVIEW Date

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q3086

	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:** 09/18/2025

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LAB CHRONICLE

OrderID:	Q3086	**OrderDate:**	9/12/2025 10:59:00 AM
Client:	Tetra Tech NUS, Inc.	**Project:**	NWIRP Bethpage 112G08005-WE13
Contact:	Ernie Wu	**Location:**	D31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3086-01	**RW8-SP100-20250911**	**Water**			**09/11/25**			**09/12/25**
			Metals Group4	6010D		09/15/25	09/16/25	
Q3086-02	**RW8-SP303-20250911**	**Water**			**09/11/25**			**09/12/25**
			Metals Group4	6010D		09/15/25	09/16/25	

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Hit Summary Sheet
SW-846

SDG No.: Q3086 **Order ID:** Q3086

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-SP100-20250911									
Q3086-01	RW8-SP100-20250911	Water	Iron	662		11.7	40.0	50.0	ug/L
Client ID : RW8-SP303-20250911									
Q3086-02	RW8-SP303-20250911	Water	Iron	30.3	J	11.7	40.0	50.0	ug/L

SAMPLE DATA

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	09/11/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	09/12/25
Client Sample ID:	RW8-SP100-20250911	SDG No.:	Q3086
Lab Sample ID:	Q3086-01	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	662		1	11.7	40.0	50.0	ug/L	09/15/25 10:20	09/16/25 12:36	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:	09/11/25
Project:	NWIRP Bethpage 112G08005-WE13	Date Received:	09/12/25
Client Sample ID:	RW8-SP303-20250911	SDG No.:	Q3086
Lab Sample ID:	Q3086-02	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	30.3	J	1	11.7	40.0	50.0	ug/L	09/15/25 10:20	09/16/25 12:40	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.:** Q3086

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	4100	4000	103	90 - 110	P	09/16/2025	11:19	LB137209

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

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	97.4	100	97	80 - 120	P	09/16/2025	11:29	LB137209

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

Contract: TETR06 **Lab Code:** ACE

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Iron	5020	5000	100	90 - 110	P	09/16/2025	11:59	LB137209
CCV02	Iron	4880	5000	98	90 - 110	P	09/16/2025	13:39	LB137209
CCV03	Iron	4940	5000	99	90 - 110	P	09/16/2025	14:40	LB137209
CCV04	Iron	4850	5000	97	90 - 110	P	09/16/2025	15:32	LB137209
CCV05	Iron	5020	5000	100	90 - 110	P	09/16/2025	16:27	LB137209
CCV06	Iron	4950	5000	99	90 - 110	P	09/16/2025	16:48	LB137209

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Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

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	98.2	100	98	65 - 135	P	09/16/2025	11:38	LB137209

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

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	09/16/2025	11:33	LB137209

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

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	09/16/2025	12:05	LB137209
CCB02	Iron	23.4	+/-50	U	80.0	100	P	09/16/2025	13:43	LB137209
CCB03	Iron	23.4	+/-50	U	80.0	100	P	09/16/2025	14:47	LB137209
CCB04	Iron	23.4	+/-50	U	80.0	100	P	09/16/2025	15:36	LB137209
CCB05	Iron	23.4	+/-50	U	80.0	100	P	09/16/2025	16:31	LB137209
CCB06	Iron	23.4	+/-50	U	80.0	100	P	09/16/2025	16:53	LB137209

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB169686BL		**WATER**		**Batch Number:**		**PB169686**		**Prep Date:**	**09/15/2025**	
	Iron	11.7	<25	U	40.0	50.0	P	09/16/2025	12:23	LB137209

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Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

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	101000	101000	100	85600	116500	09/16/2025	11:42	LB137209
ICSAB01	Iron	99000	99300	100	84400	114500	09/16/2025	11:46	LB137209

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q3086

contract: TETR06 **lab code:** ACE

matrix: Water **sample id:** Q3086-02 **client id:** RW8-SP303-20250911MS

Percent Solids for Sample: NA **Spiked ID:** Q3086-02MS **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	1380		30.3	J	1500	90		P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Tetra Tech NUS, Inc. **level:** low **sdg no.:** Q3086

contract: TETR06 **lab code:** ACE

matrix: Water **sample id:** Q3086-02 **client id:** RW8-SP303-20250911MSD

Percent Solids for Sample: NA **Spiked ID:** Q3086-02MSD **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	1370		30.3	J	1500	90		P

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Metals
- 5b -

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

Contract: TETR06 **Lab Code:** ACE

Matrix: **Level:** LOW **Client ID:**

Sample ID: **Spiked ID:**

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

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Metals

- 6 -
DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q3086

Contract: TETR06 **Lab Code:** ACE

Matrix: Water **Sample ID:** Q3086-02 **Client ID:** RW8-SP303-20250911DUP

Percent Solids for Sample: NA **Duplicate ID** Q3086-02DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	30.3	J	32.3	J	6		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

- 6 -
DUPLICATE SAMPLE SUMMARY

Client: Tetra Tech NUS, Inc. **Level:** LOW **SDG No.:** Q3086

Contract: TETR06 **Lab Code:** ACE

Matrix: Water **Sample ID:** Q3086-02MS **Client ID:** RW8-SP303-20250911MSD

Percent Solids for Sample: NA **Duplicate ID** Q3086-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	ug/L	20	1380		1370		1		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.:** Q3086

Contract: TETR06 **Lab Code:** ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB169686BS							
Iron	ug/L	1500	1470		98	87 - 115	P

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Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

RW8-SP303-20250911L

Lab Name: Alliance **Contract:** TETR06

Lab Code: ACE **Lb No.:** lb137209 **Lab Sample ID :** Q3086-02L **SDG No.:** Q3086

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	30.3	J	250	U	100.0		P

METAL PREPARATION & INSTRUMENT DATA

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

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.:** Q3086

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.:** Q3086

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.:** Q3086

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.:** Q3086

Contract: TETR06 **Lab Code:** ACE

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

METAL PREPARATION & ANALYICAL SUMMARY

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Metals
- 13 -
SAMPLE PREPARATION SUMMARY

Client: Tetra Tech NUS, Inc. **SDG No.:** Q3086

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:	**PB169686**						
PB169686BL	PB169686BL	MB	WATER	09/15/2025	50.0	25.0	
PB169686BS	PB169686BS	LCS	WATER	09/15/2025	50.0	25.0	
Q3086-01	RW8-SP100-20250911	SAM	WATER	09/15/2025	50.0	25.0	
Q3086-02	RW8-SP303-20250911	SAM	WATER	09/15/2025	50.0	25.0	
Q3086-02DUP	RW8-SP303-20250911DUP	DUP	WATER	09/15/2025	50.0	25.0	
Q3086-02MS	RW8-SP303-20250911MS	MS	WATER	09/15/2025	50.0	25.0	
Q3086-02MSD	RW8-SP303-20250911MSD	MSD	WATER	09/15/2025	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

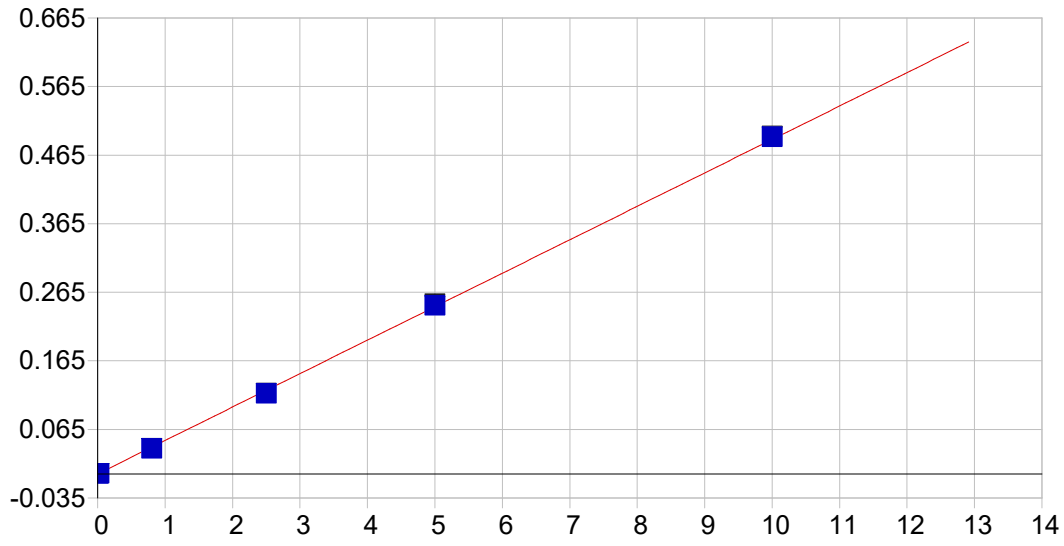
Lab code: ACE **Sdg no.:** Q3086

Instrument id number: **Method:** **Run number:** LB137209

Start date: 09/16/2025 **End date:** 09/16/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1053	Fe
S1	S1	1	1058	Fe
S2	S2	1	1102	Fe
S3	S3	1	1106	Fe
S4	S4	1	1110	Fe
S5	S5	1	1115	Fe
ICV01	ICV01	1	1119	Fe
LLICV01	LLICV01	1	1129	Fe
ICB01	ICB01	1	1133	Fe
CRI01	CRI01	1	1138	Fe
ICSA01	ICSA01	1	1142	Fe
ICSAB01	ICSAB01	1	1146	Fe
CCV01	CCV01	1	1159	Fe
CCB01	CCB01	1	1205	Fe
PB169686BL	PB169686BL	1	1223	Fe
PB169686BS	PB169686BS	1	1227	Fe
Q3086-01	RW8-SP100-20250911	1	1236	Fe
Q3086-02	RW8-SP303-20250911	1	1240	Fe
Q3086-02DUP	RW8-SP303-20250911DUP	1	1250	Fe
Q3086-02L	RW8-SP303-20250911L	5	1254	Fe
Q3086-02MS	RW8-SP303-20250911MS	1	1305	Fe
CCV02	CCV02	1	1339	Fe
CCB02	CCB02	1	1343	Fe
Q3086-02MSD	RW8-SP303-20250911MSD	1	1347	Fe
CCV03	CCV03	1	1440	Fe
CCB03	CCB03	1	1447	Fe
CCV04	CCV04	1	1532	Fe
CCB04	CCB04	1	1536	Fe
CCV05	CCV05	1	1627	Fe
CCB05	CCB05	1	1631	Fe
CCV06	CCV06	1	1648	Fe
CCB06	CCB06	1	1653	Fe

METAL
RAW DATA

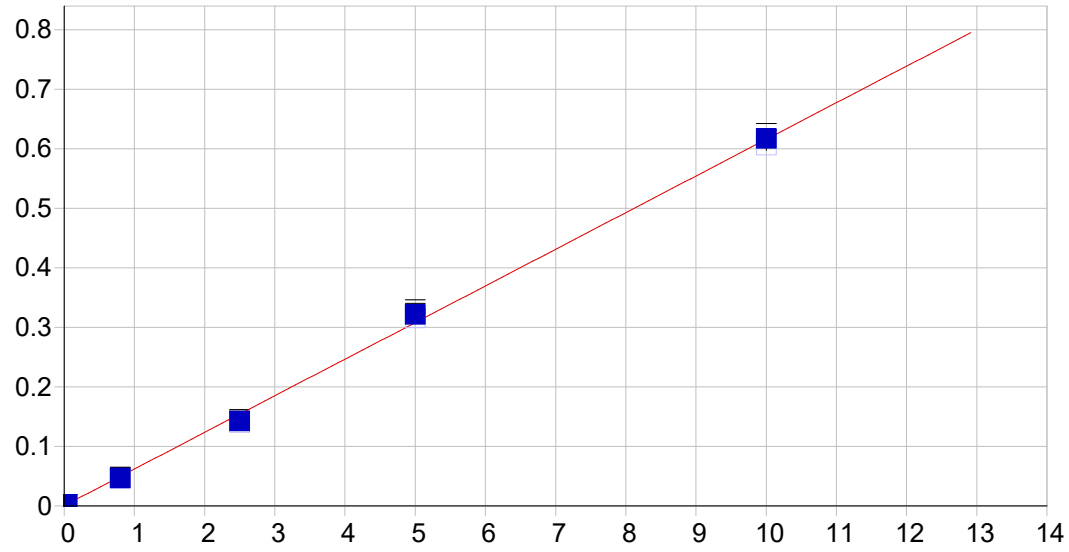


As 189.042 {479}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000084	Re-Slope:	1.000000
A1 (Gain):	0.048777	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999835	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.002268		
Predicted MQL:	0.007559		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00008	.000	1
S1	.02000	.01977	-.000	-1.14	.00104	.000	1
S3	2.5000	2.4109	-.089	-3.57	.11755	.000	1
S4	5.0000	5.0434	.043	.867	.24583	.002	1
S5	10.000	10.084	.084	.836	.49142	.001	1
S2	.80000	.76245	-.038	-4.69	.03723	.000	1

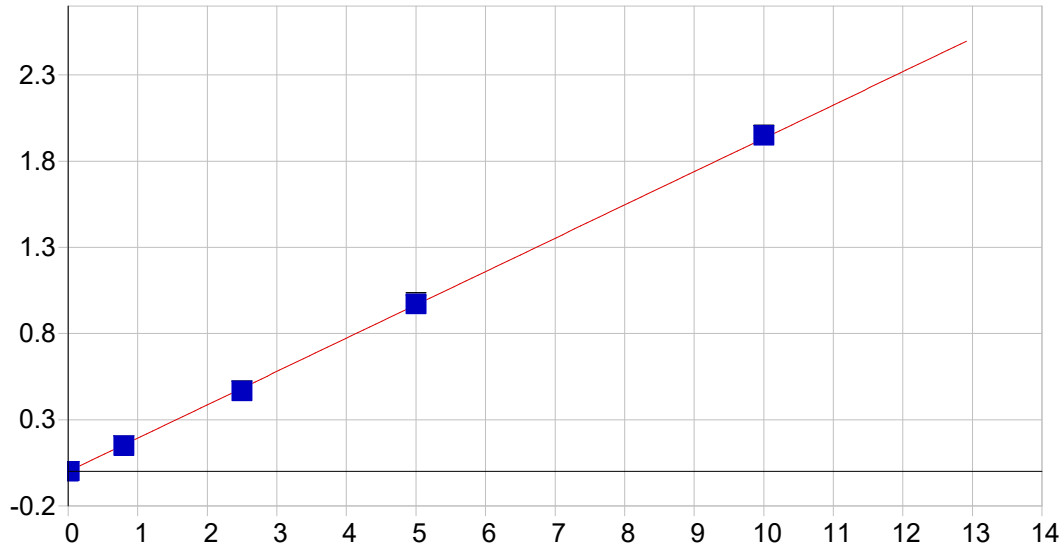


Tl 190.856 {477}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000405	Re-Slope:	1.000000
A1 (Gain):	0.061552	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999230	Status:	OK.
Std Error of Est:	0.000079		
Predicted MDL:	0.002538		
Predicted MQL:	0.008461		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00041	.000	1
S1	.04000	.04180	.002	4.49	.00282	.000	1
S3	2.5000	2.3094	-.191	-7.62	.13975	.003	1
S4	5.0000	5.2173	.217	4.35	.31593	.008	1
S5	10.000	10.022	.022	.218	.60604	.009	1
S2	.80000	.74983	-.050	-6.27	.04566	.002	1

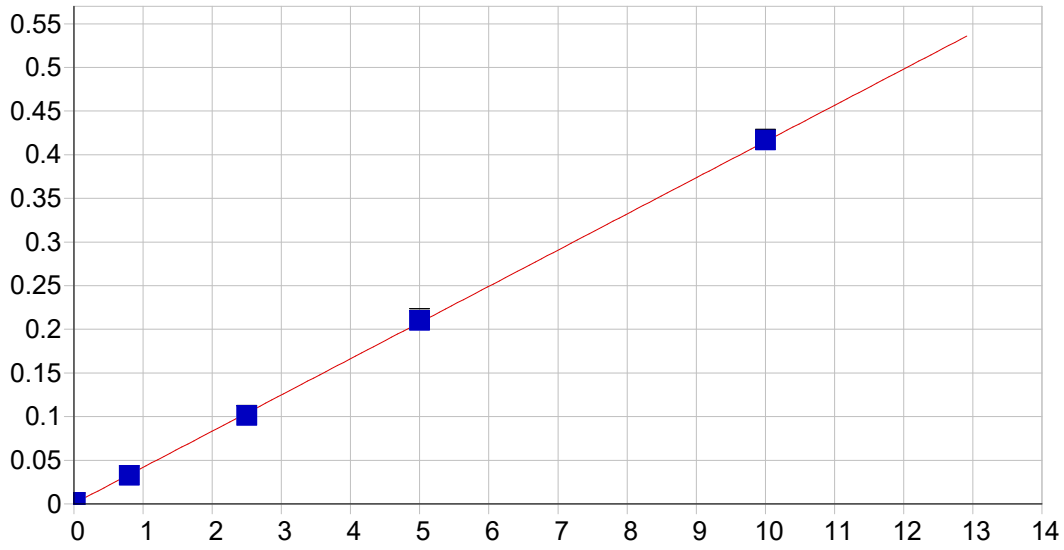


Pb 220.353 {453}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000188	Re-Slope:	1.000000
A1 (Gain):	0.193234	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999863	Status:	OK.
Std Error of Est:	0.000058		
Predicted MDL:	0.001342		
Predicted MQL:	0.004473		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00019	.000	1
S1	.01200	.01222	.000	1.83	.00250	.000	1
S3	2.5000	2.4154	-.085	-3.38	.46639	.001	1
S4	5.0000	5.0256	.026	.513	.97024	.008	1
S5	10.000	10.090	.090	.896	1.9477	.002	1
S2	.80000	.76916	-.031	-3.85	.14864	.000	1

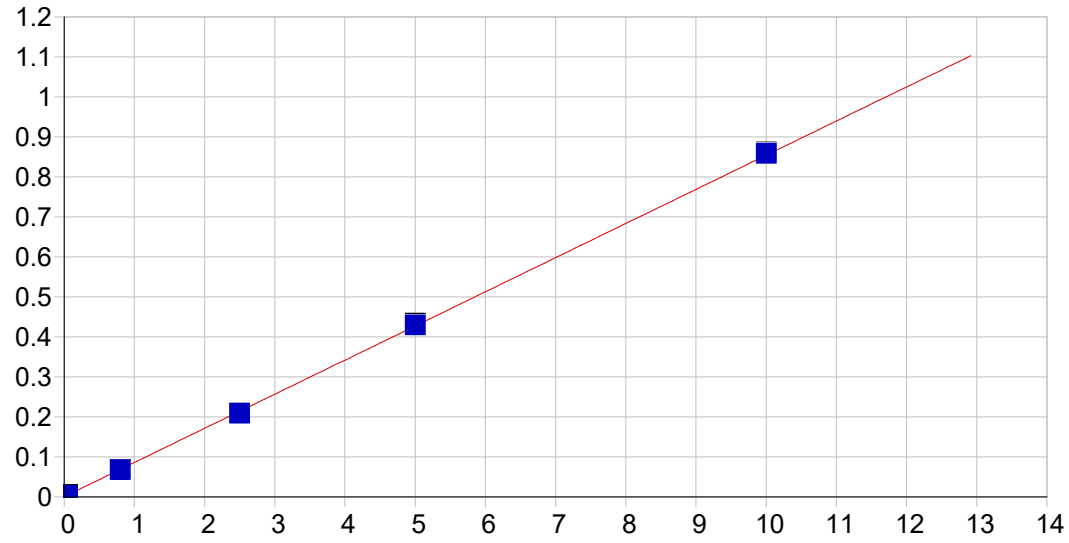


Se 196.090 {472}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000432	Re-Slope:	1.000000
A1 (Gain):	0.041466	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999887	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.003314		
Predicted MQL:	0.011048		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00043	.000	1
S1	.02000	.02236	.002	11.8	.00136	.000	1
S3	2.5000	2.4256	-.074	-2.98	.10098	.000	1
S4	5.0000	5.0591	.059	1.18	.21016	.002	1
S5	10.000	10.038	.038	.383	.41657	.001	1
S2	.80000	.77465	-.025	-3.17	.03254	.000	1

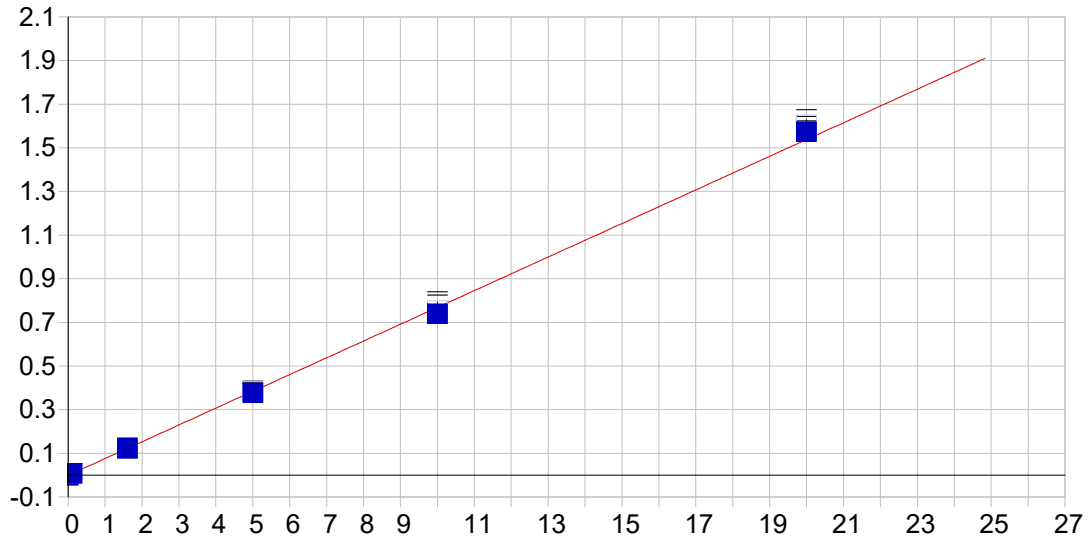


Sb 206.833 {463}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000694	Re-Slope:	1.000000
A1 (Gain):	0.085348	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000035		
Predicted MDL:	0.002065		
Predicted MQL:	0.006885		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00069	.000	1
S1	.05000	.05181	.002	3.61	.00512	.000	1
S3	2.5000	2.4373	-.063	-2.51	.20929	.000	1
S4	5.0000	5.0259	.026	.517	.43080	.004	1
S5	10.000	10.050	.050	.499	.86075	.002	1
S2	.80000	.78519	-.015	-1.85	.06789	.000	1

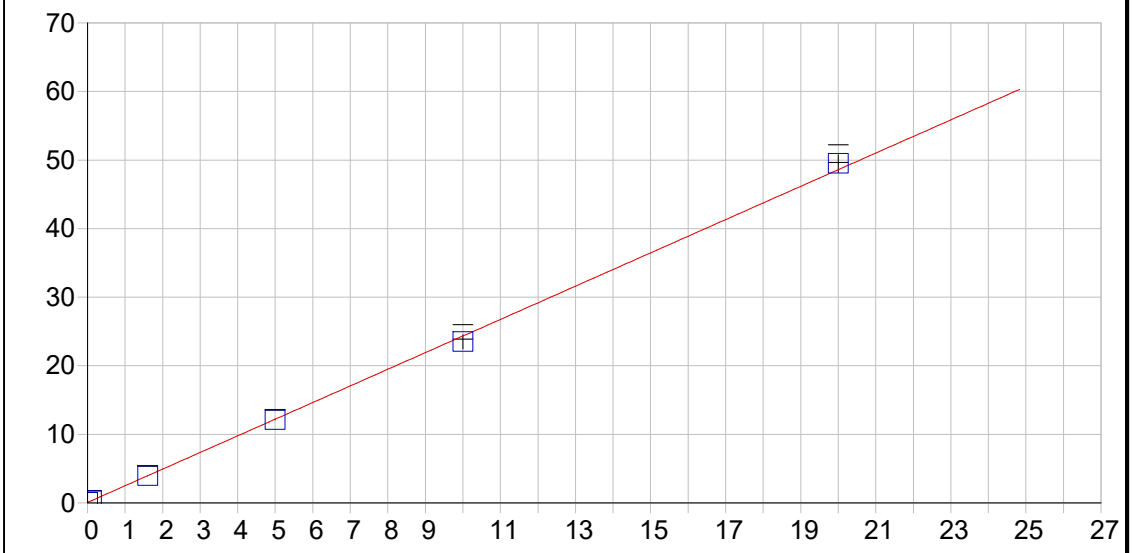


Al 396.152 { 85}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001048	Re-Slope:	1.000000
A1 (Gain):	0.076948	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999626	Status:	OK.
Std Error of Est:	0.000159		
Predicted MDL:	0.012038		
Predicted MQL:	0.040127		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00105	.000	1
S1	.10000	.11137	.011	11.4	.00812	.001	1
S3	5.0000	4.9051	-.095	-1.90	.38385	.001	1
S4	10.000	9.6178	-.382	-3.82	.75395	.041	1
S5	20.000	20.465	.465	2.33	1.6036	.025	1
S2	1.6000	1.5997	-.000	-.021	.12443	.001	1

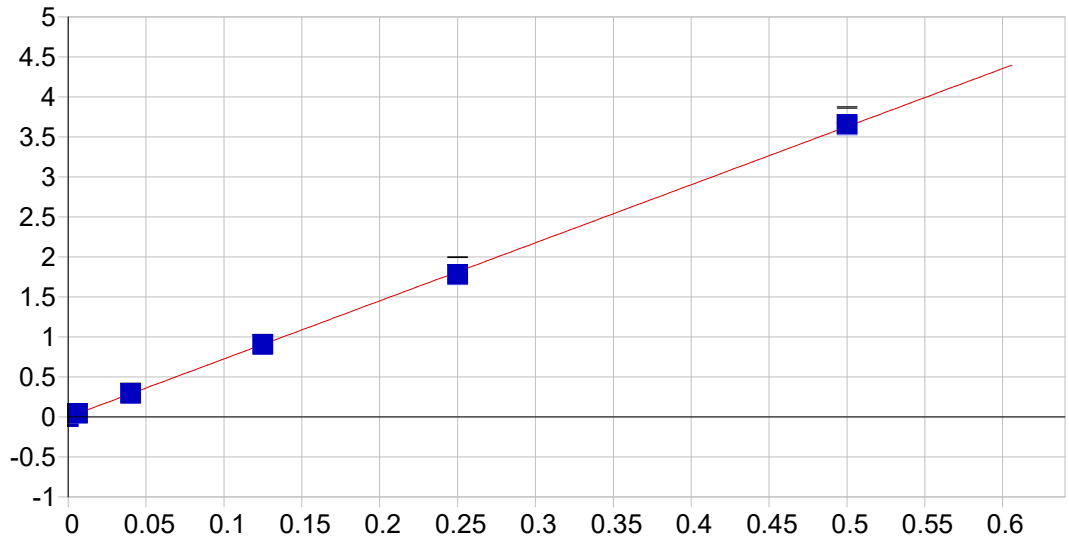


Ba 493.409 { 68}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.082748	Re-Slope:	1.000000
A1 (Gain):	2.425397	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999734	Status:	OK.
Std Error of Est:	0.004150		
Predicted MDL:	0.001020		
Predicted MQL:	0.003401		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.08274	.001	1
S1	.10000	.10586	.006	5.86	.33950	.000	1
S3	5.0000	4.9691	-.031	-.619	12.135	.033	1
S4	10.000	9.6542	-.346	-3.46	23.498	1.06	1
S5	20.000	20.375	.375	1.88	49.500	1.28	1
S2	1.6000	1.5958	-.004	-.263	3.9532	.033	1

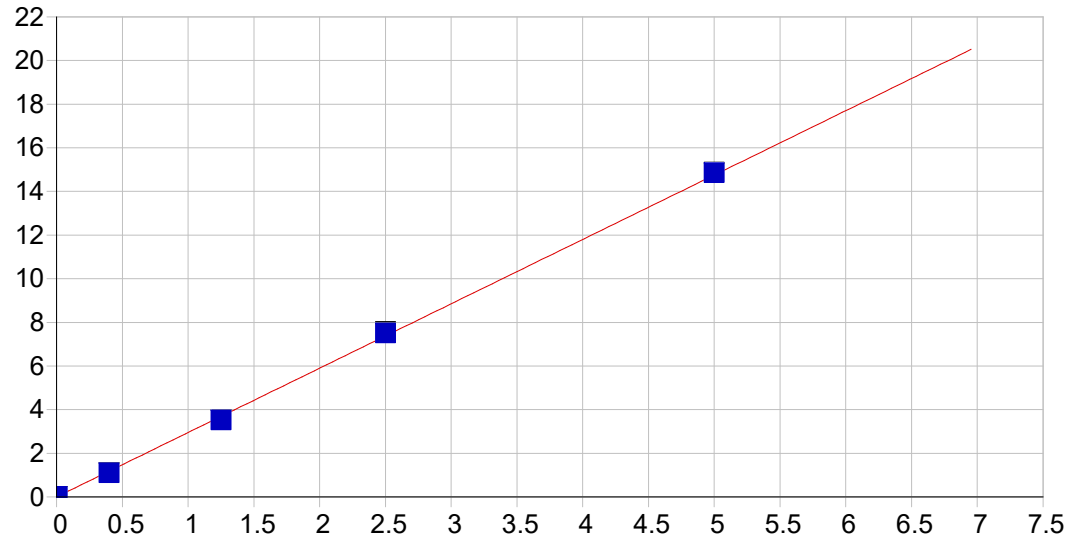


Be 234.861 {144}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001312	Re-Slope:	1.000000
A1 (Gain):	7.259213	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000267		
Predicted MDL:	0.000077		
Predicted MQL:	0.000255		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00132	.000	1
S1	.00600	.00647	.000	7.84	.04533	.000	1
S3	.12500	.12455	-.000	-.360	.89876	.004	1
S4	.25000	.24565	-.004	-1.74	1.7738	.095	1
S5	.50000	.50376	.004	.753	3.6394	.095	1
S2	.04000	.04057	.001	1.42	.29188	.003	1

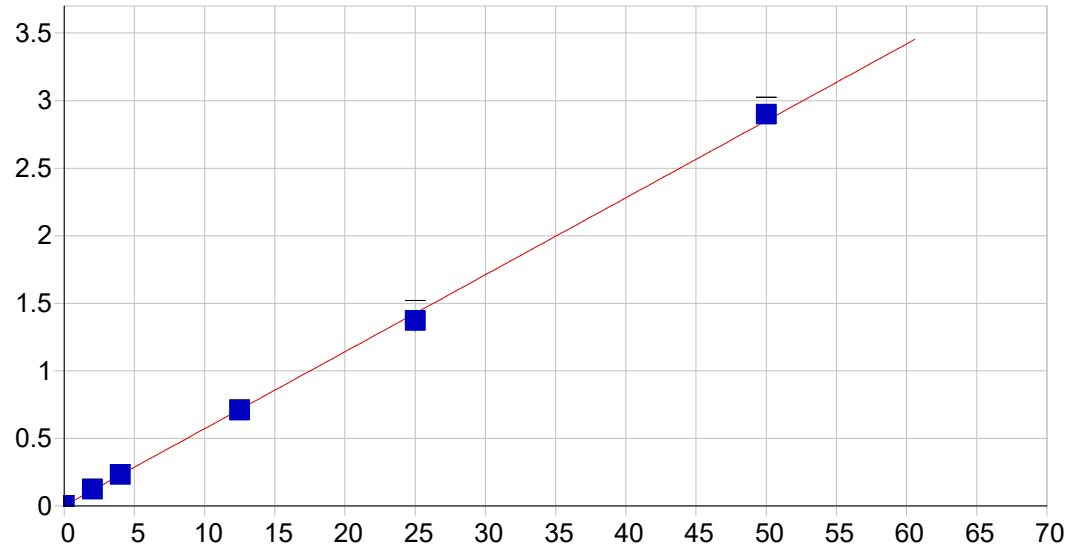


Cd 226.502 {449}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000186	Re-Slope:	1.000000
A1 (Gain):	2.950114	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999719	Status:	OK.
Std Error of Est:	0.000635		
Predicted MDL:	0.000075		
Predicted MQL:	0.000250		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00019	.000	1
S1	.00600	.00585	-.000	-2.45	.01751	.000	1
S3	1.2500	1.1949	-.055	-4.41	3.5276	.011	1
S4	2.5000	2.5455	.046	1.82	7.5146	.057	1
S5	5.0000	5.0354	.035	.707	14.865	.022	1
S2	.40000	.37439	-.026	-6.40	1.1054	.002	1

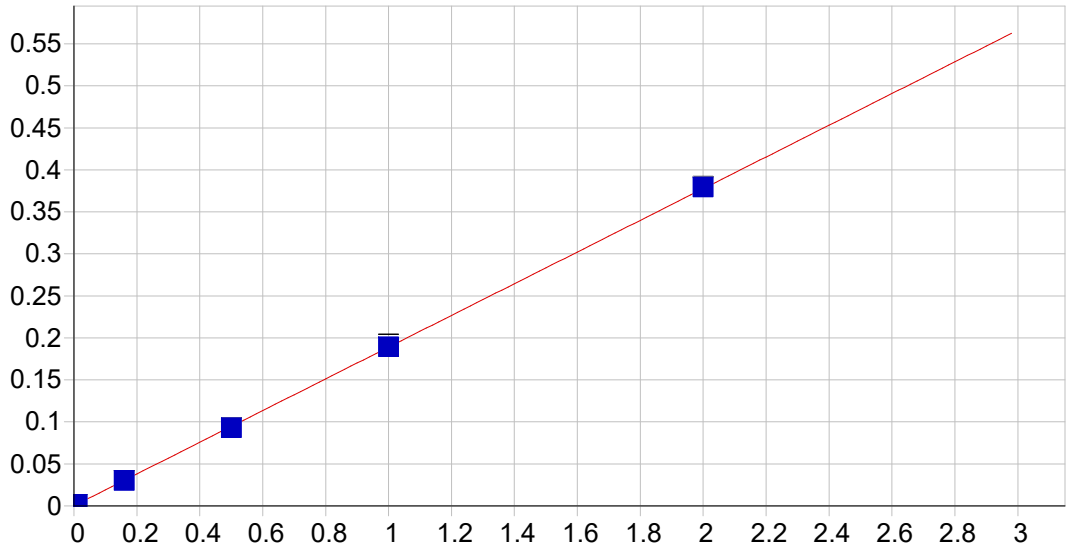


Ca 373.690 { 90}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001941	Re-Slope:	1.000000
A1 (Gain):	0.056964	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999675	Status:	OK.
Std Error of Est:	0.000769		
Predicted MDL:	0.012813		
Predicted MQL:	0.042709		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00009	-.000	.000	.00194	.000	1
S2	4.0000	4.0243	.024	.609	.23118	.001	1
S3	12.500	12.416	-.084	-.670	.70922	.002	1
S4	25.000	24.052	-.948	-3.79	1.3721	.076	1
S5	50.000	50.873	.873	1.75	2.8999	.051	1
S1	2.0000	2.1340	.134	6.70	.12350	.000	1

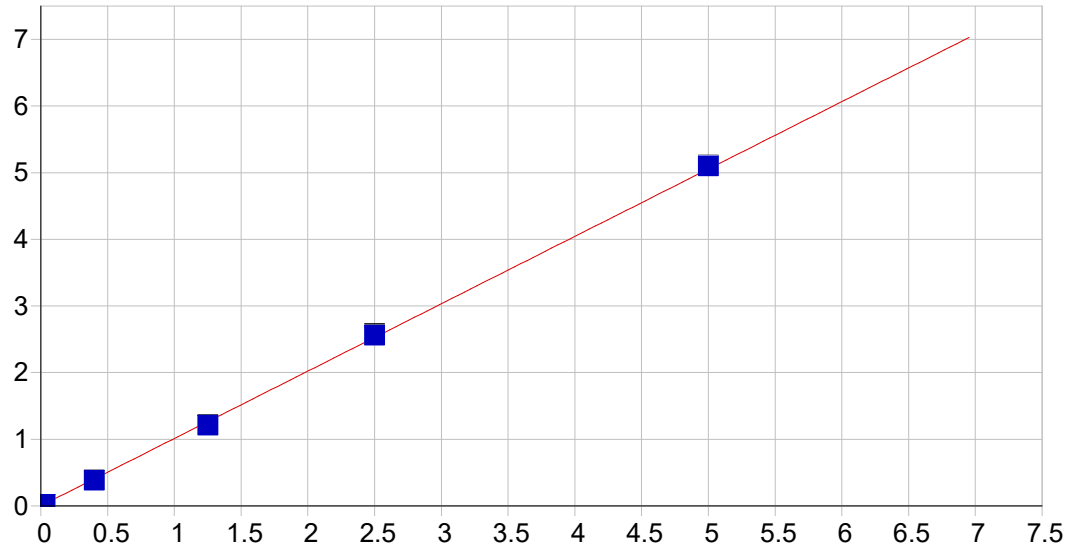


Cr 267.716 {126}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000288	Re-Slope:	1.000000
A1 (Gain):	0.188684	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999969	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.000371		
Predicted MQL:	0.001237		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00029	.000	1
S1	.01000	.01002	.000	.160	.00218	.000	1
S3	.50000	.49103	-.009	-1.79	.09301	.000	1
S4	1.0000	1.0016	.002	.162	.18943	.003	1
S5	2.0000	2.0092	.009	.461	.37970	.001	1
S2	.16000	.15812	-.002	-1.18	.03015	.000	1

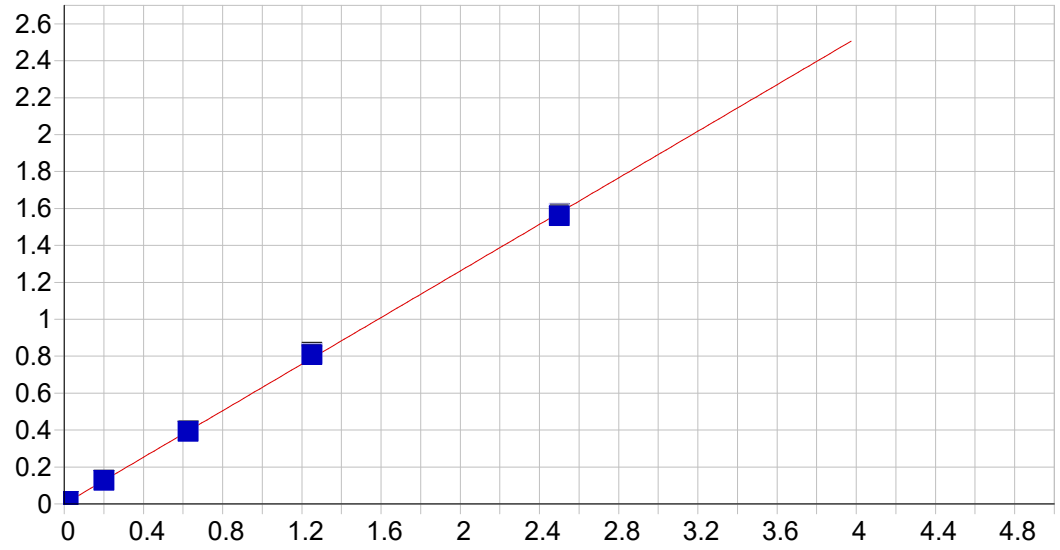


Co 228.616 {448}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000271	Re-Slope:	1.000000
A1 (Gain):	1.010961	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999771	Status:	OK.
Std Error of Est:	0.000441		
Predicted MDL:	0.000194		
Predicted MQL:	0.000648		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00027	.000	1
S1	.03000	.03000	-.000	-.010	.03047	.000	1
S3	1.2500	1.1961	-.054	-4.31	1.2116	.004	1
S4	2.5000	2.5297	.030	1.19	2.5620	.019	1
S5	5.0000	5.0455	.046	.911	5.1097	.006	1
S2	.40000	.37868	-.021	-5.33	.38379	.000	1

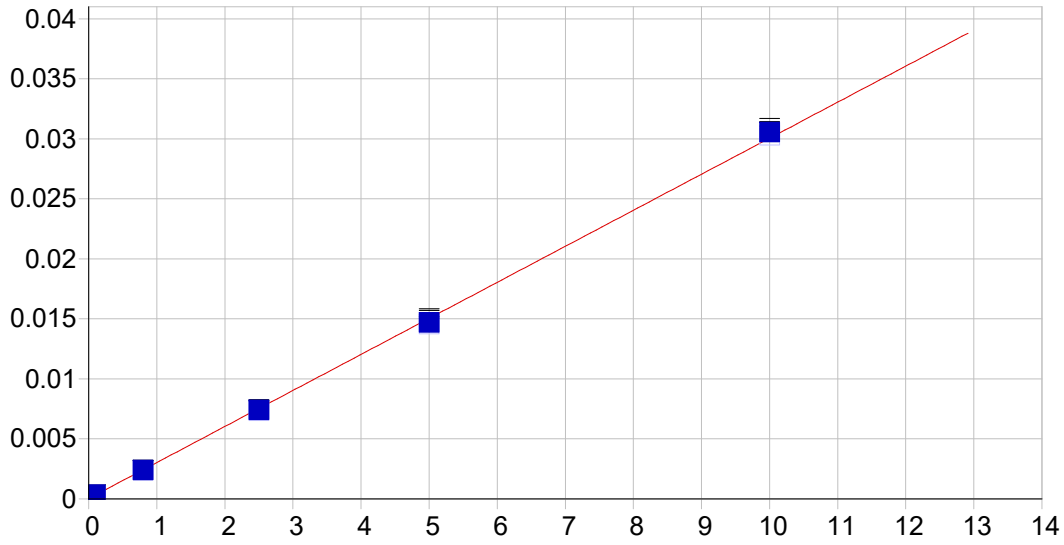


Cu 224.700 {450}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000481	Re-Slope:	1.000000
A1 (Gain):	0.630562	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999861	Status:	OK.
Std Error of Est:	0.000125		
Predicted MDL:	0.000429		
Predicted MQL:	0.001429		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00048	.000	1
S1	.02000	.02201	.002	10.0	.01450	.000	1
S3	.62500	.62061	-.004	-.703	.39510	.001	1
S4	1.2500	1.2805	.030	2.44	.81447	.007	1
S5	2.5000	2.4714	-.029	-1.14	1.5720	.001	1
S2	.20000	.20045	.000	.225	.12793	.000	1

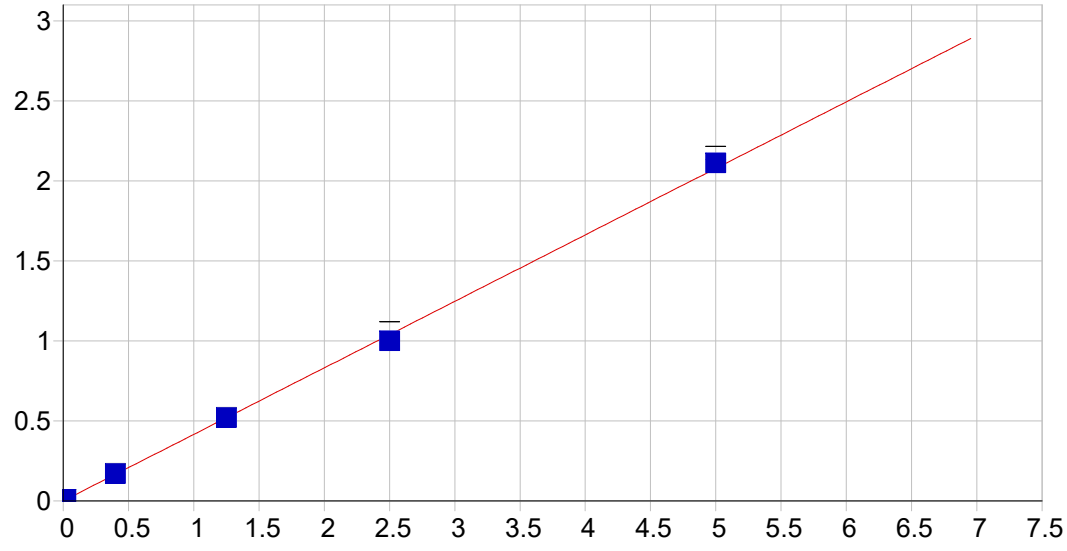


Fe 240.488 {140}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.003002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999800	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.007431		
Predicted MQL:	0.024770		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00003	.000	1
S1	.10000	.10825	.008	8.25	.00035	.000	1
S3	2.5000	2.4556	-.044	-1.78	.00734	.000	1
S4	5.0000	4.8829	-.117	-2.34	.01456	.000	1
S5	10.000	10.167	.167	1.67	.03030	.000	1
S2	.80000	.78605	-.014	-1.74	.00237	.000	1

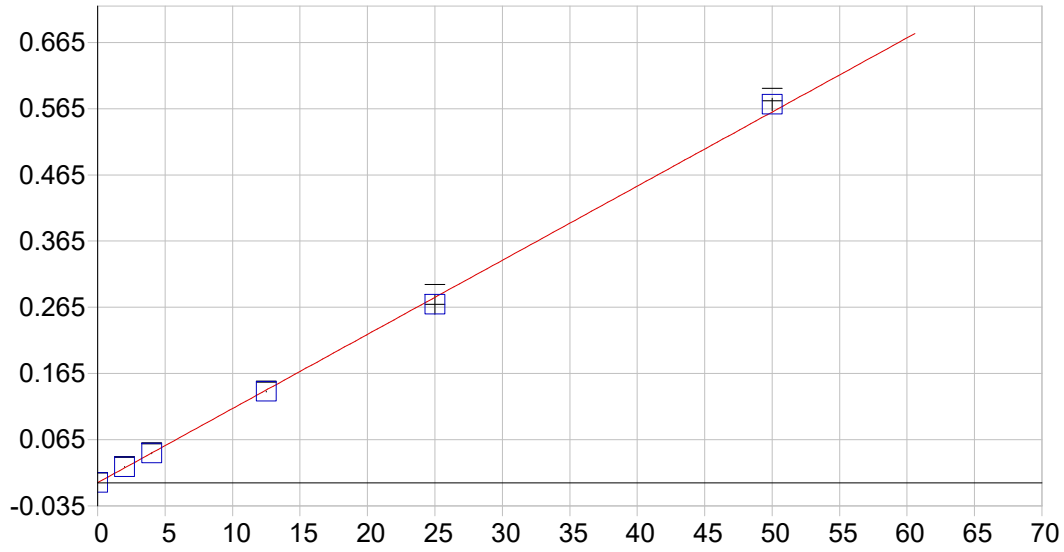


Mn 257.610 {131}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000115	Re-Slope:	1.000000
A1 (Gain):	0.415655	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999708	Status:	OK.
Std Error of Est:	0.000166		
Predicted MDL:	0.000656		
Predicted MQL:	0.002188		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00011	.000	1
S1	.02000	.02291	.003	14.6	.00964	.000	1
S3	1.2500	1.2498	-.000	-.013	.51972	.001	1
S4	2.5000	2.4074	-.093	-3.70	1.0010	.057	1
S5	5.0000	5.0818	.082	1.64	2.1128	.041	1
S2	.40000	.40804	.008	2.01	.16975	.002	1

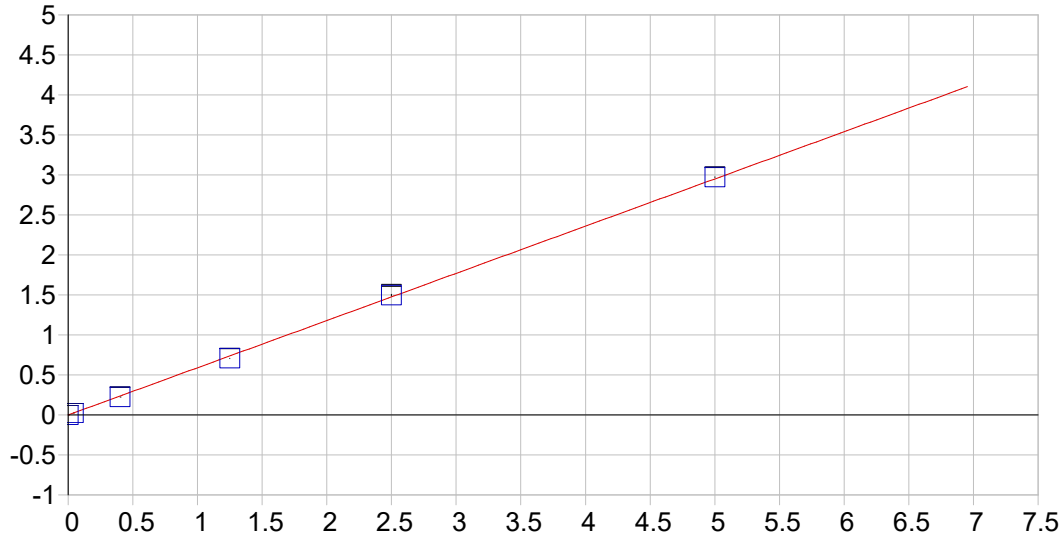


Mg 279.079 {121}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000061	Re-Slope:	1.000000
A1 (Gain):	0.011199	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999621	Status:	OK.
Std Error of Est:	0.000163		
Predicted MDL:	0.030337		
Predicted MQL:	0.101124		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00007	-.000	.000	.00006	.000	1
S2	4.0000	3.9704	-.030	-.740	.04452	.001	1
S3	12.500	12.300	-.200	-1.60	.13781	.001	1
S4	25.000	24.059	-.941	-3.76	.26948	.015	1
S5	50.000	51.022	1.02	2.04	.57143	.009	1
S1	2.0000	2.1488	.149	7.44	.02412	.000	1

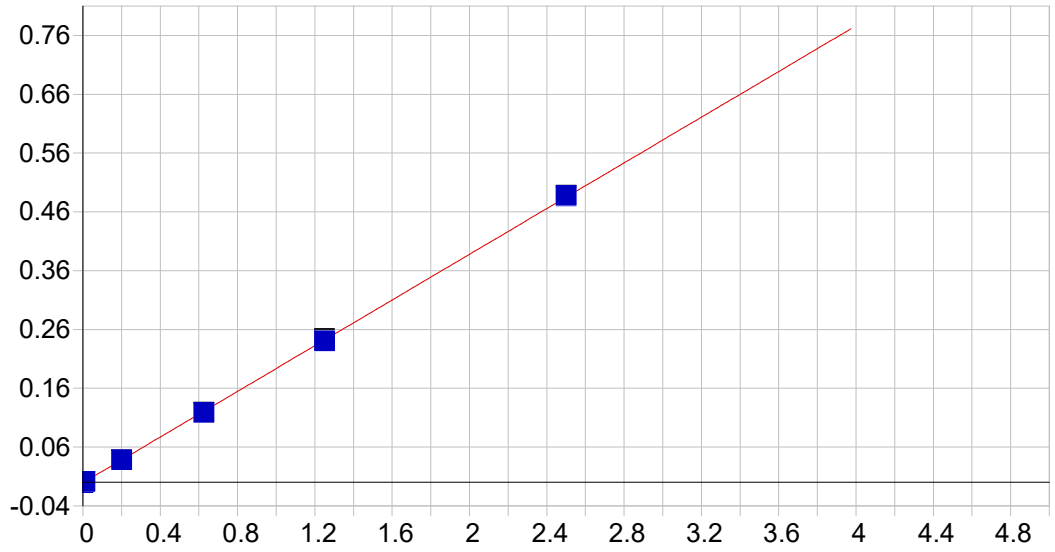


Ni 231.604 {446}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000504	Re-Slope:	1.000000
A1 (Gain):	0.590059	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999802	Status:	OK.
Std Error of Est:	0.000276		
Predicted MDL:	0.000355		
Predicted MQL:	0.001183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00050	.000	1
S1	.04000	.04035	.000	.874	.02331	.000	1
S3	1.2500	1.2002	-.050	-3.99	.70767	.002	1
S4	2.5000	2.5341	.034	1.36	1.4948	.013	1
S5	5.0000	5.0348	.035	.696	2.9703	.004	1
S2	.40000	.38059	-.019	-4.85	.22407	.000	1

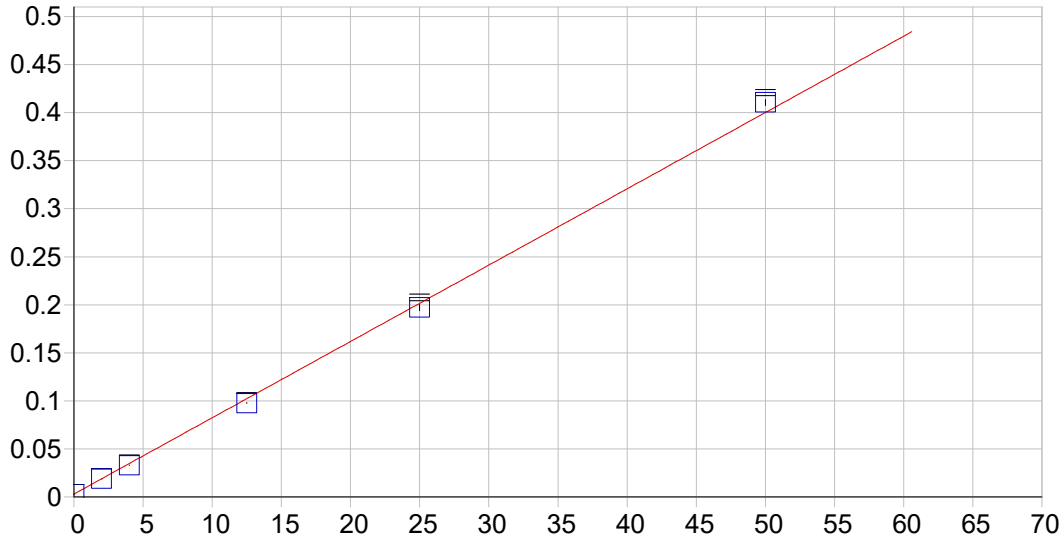


Ag 328.068 {103}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000691	Re-Slope:	1.000000
A1 (Gain):	0.194279	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999964	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.000583		
Predicted MQL:	0.001942		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00069	.000	1
S1	.01000	.01073	.001	7.29	.00138	.000	1
S3	.62500	.61597	-.009	-1.44	.11839	.000	1
S4	1.2500	1.2424	-.008	-.608	.23950	.004	1
S5	2.5000	2.5152	.015	.609	.48561	.000	1
S2	.20000	.20068	.001	.341	.03811	.000	1

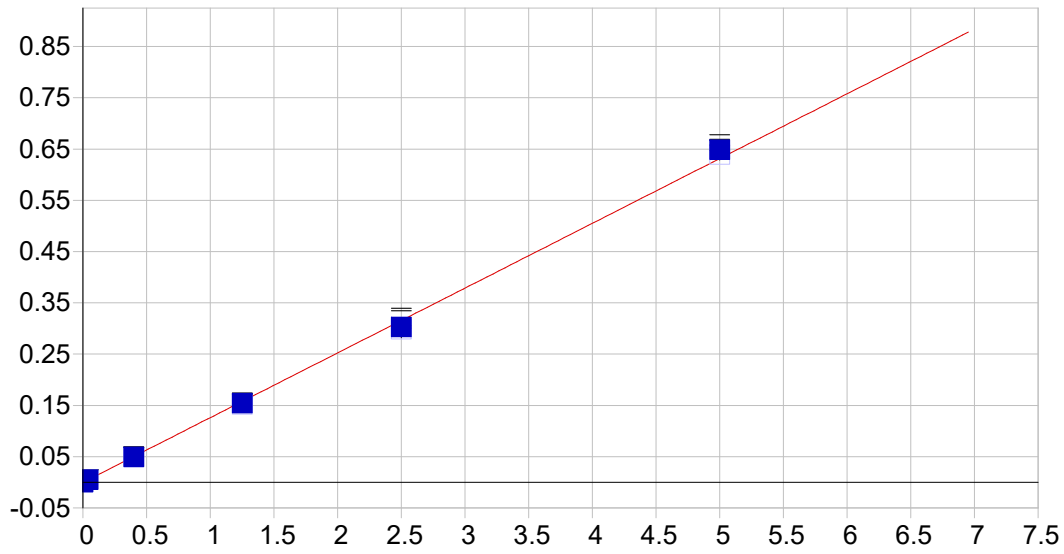


Na 589.592 { 57}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002984	Re-Slope:	1.000000
A1 (Gain):	0.007943	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999548	Status:	OK.
Std Error of Est:	0.000126		
Predicted MDL:	0.019459		
Predicted MQL:	0.064863		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00018	.000	.000	.00299	.000	1
S2	4.0000	3.7766	-.223	-5.58	.03298	.000	1
S3	12.500	11.927	-.573	-4.58	.09772	.000	1
S4	25.000	24.472	-.528	-2.11	.19737	.003	1
S5	50.000	51.314	1.31	2.63	.41057	.003	1
S1	2.0000	2.0100	.010	.501	.01895	.000	1

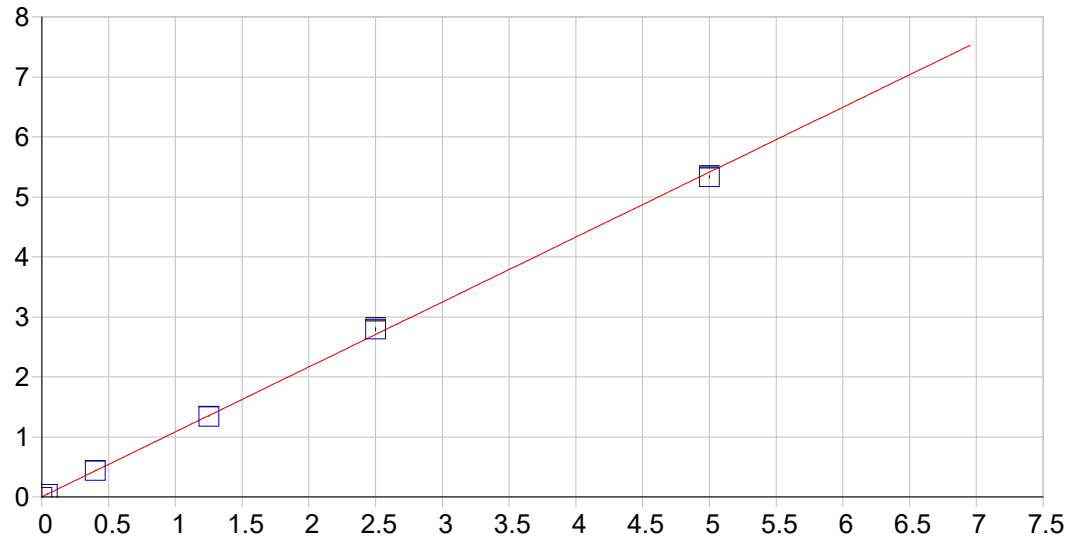


V 292.402 {115}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000292	Re-Slope:	1.000000
A1 (Gain):	0.126342	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999521	Status:	OK.
Std Error of Est:	0.000090		
Predicted MDL:	0.003197		
Predicted MQL:	0.010658		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00029	.000	1
S1	.04000	.04252	.003	6.29	.00489	.000	1
S3	1.2500	1.2226	-.027	-2.19	.15188	.000	1
S4	2.5000	2.3996	-.100	-4.02	.29827	.017	1
S5	5.0000	5.1339	.134	2.68	.63912	.010	1
S2	.40000	.39142	-.009	-2.14	.04842	.000	1

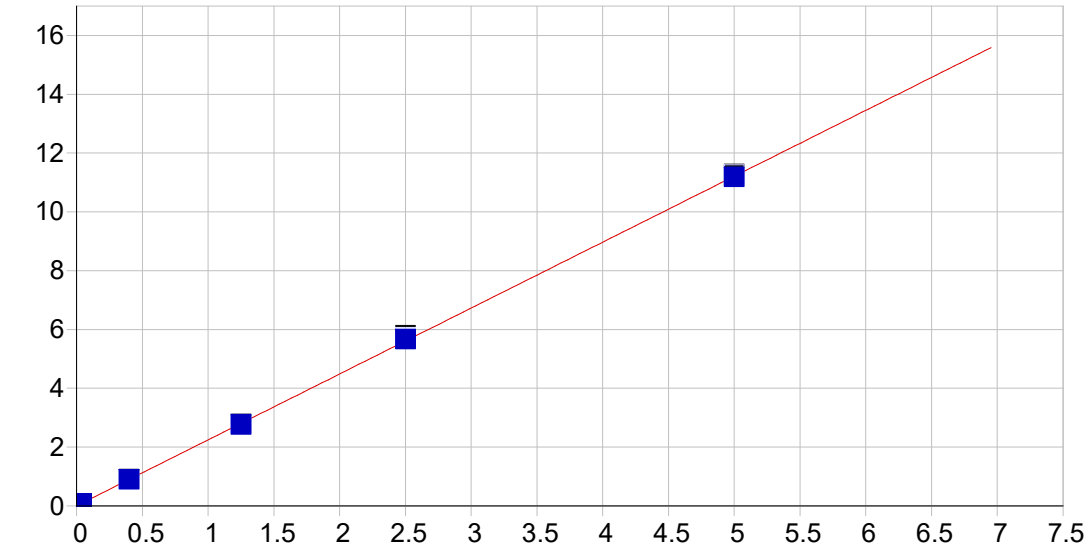


Zn 206.200 {464}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001757	Re-Slope:	1.000000
A1 (Gain):	1.082219	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999785	Status:	OK.
Std Error of Est:	0.000526		
Predicted MDL:	0.000148		
Predicted MQL:	0.000492		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00175	.000	1
S1	.04000	.04252	.003	6.29	.04777	.000	1
S3	1.2500	1.2370	-.013	-1.04	1.3404	.004	1
S4	2.5000	2.5809	.081	3.24	2.7949	.025	1
S5	5.0000	4.9283	-.072	-1.43	5.3352	.017	1
S2	.40000	.40131	.001	.328	.43607	.001	1

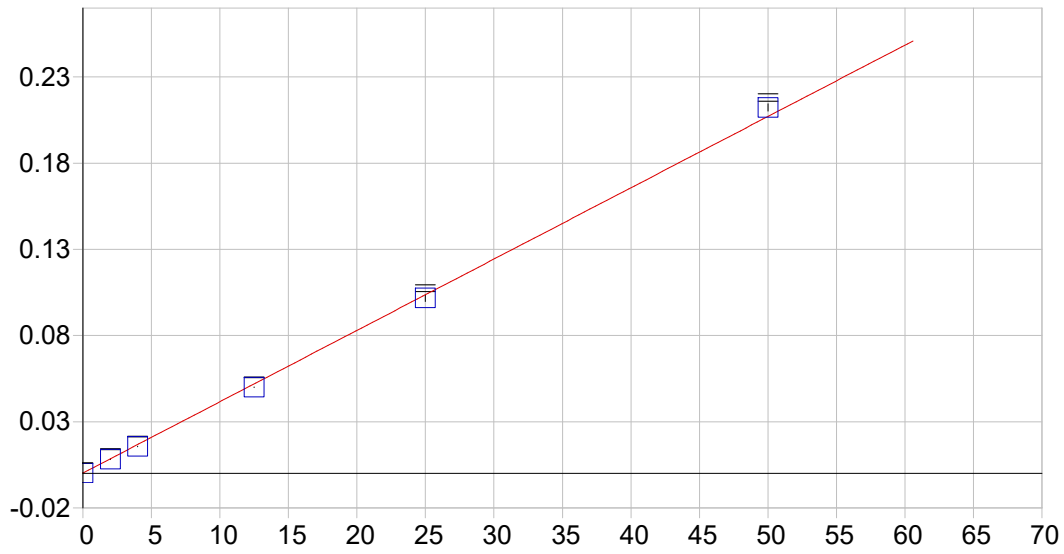


Zn 213.856 {158}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004729	Re-Slope:	1.000000
A1 (Gain):	2.241385	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000480		
Predicted MDL:	0.000260		
Predicted MQL:	0.000867		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00473	.001	1
S1	.04000	.04220	.002	5.50	.09995	.000	1
S3	1.2500	1.2310	-.019	-1.52	2.7834	.007	1
S4	2.5000	2.5286	.029	1.15	5.7113	.095	1
S5	5.0000	4.9895	-.010	-.209	11.266	.023	1
S2	.40000	.39861	-.001	-.347	.90441	.004	1

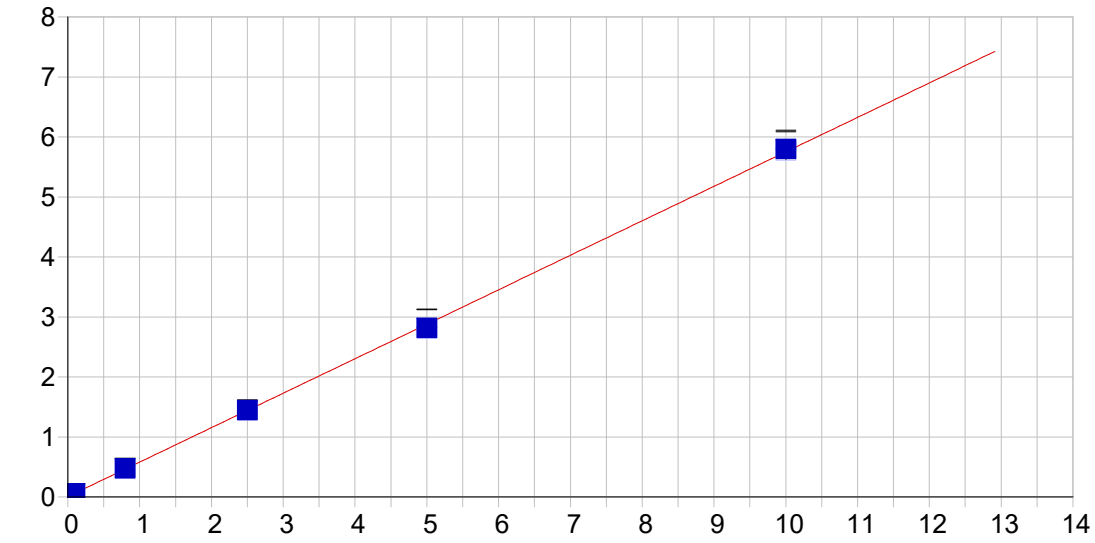


K 766.490 { 44}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000225	Re-Slope:	1.000000
A1 (Gain):	0.004138	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999585	Status:	OK.
Std Error of Est:	0.000063		
Predicted MDL:	0.044037		
Predicted MQL:	0.146791		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00025	.000	.000	.00023	.000	1
S2	4.0000	3.7237	-.276	-6.91	.01563	.000	1
S3	12.500	12.041	-.459	-3.68	.05005	.000	1
S4	25.000	24.531	-.469	-1.88	.10173	.002	1
S5	50.000	51.256	1.26	2.51	.21231	.002	1
S1	2.0000	1.9487	-.051	-2.57	.00829	.000	1

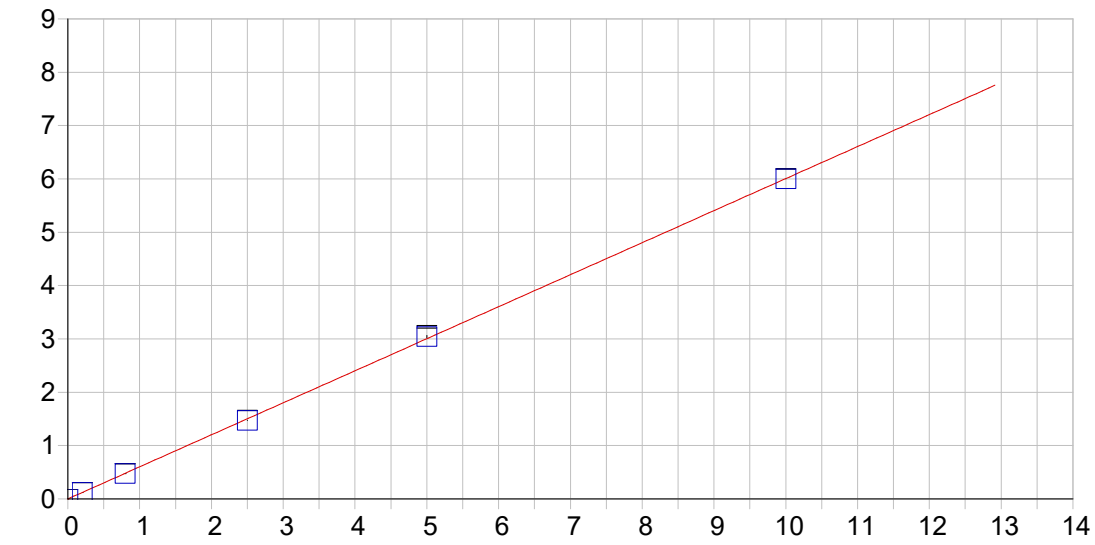


B 249.678 {135}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004371	Re-Slope:	1.000000
A1 (Gain):	0.574655	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999893	Status:	OK.
Std Error of Est:	0.000440		
Predicted MDL:	0.001002		
Predicted MQL:	0.003340		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00437	.000	1
S1	.10000	.10719	.007	7.19	.06559	.000	1
S3	2.5000	2.5061	.006	.245	1.4383	.004	1
S4	5.0000	4.8909	-.109	-2.18	2.8026	.153	1
S5	10.000	10.078	.078	.783	5.7711	.148	1
S2	.80000	.81749	.017	2.19	.47216	.004	1

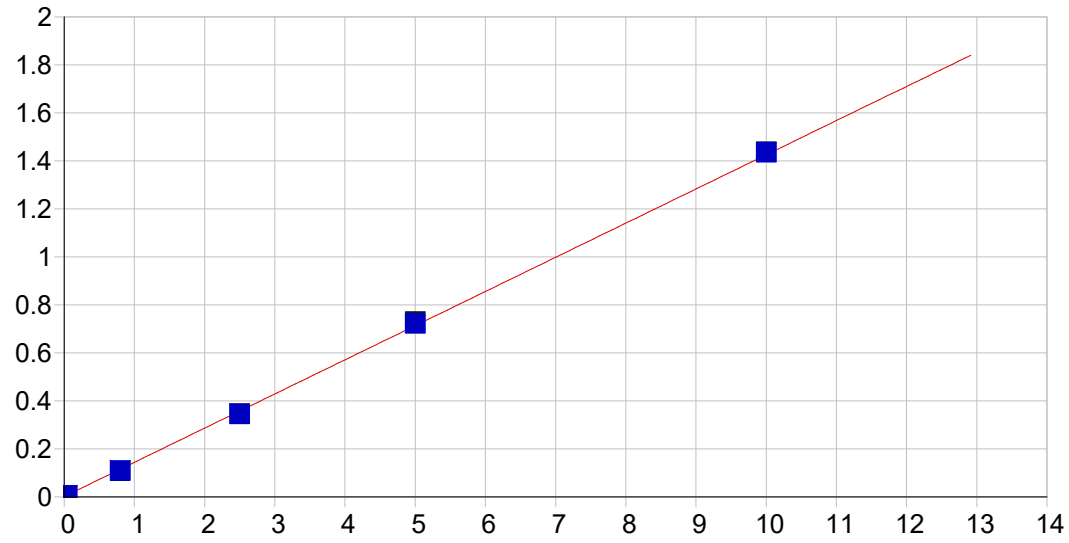


Mo 202.030 {467}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000608	Re-Slope:	1.000000
A1 (Gain):	0.600498	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000460		
Predicted MDL:	0.000278		
Predicted MQL:	0.000928		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00061	.000	1
S1	.20000	.19793	-.002	-1.04	.11946	.000	1
S3	2.5000	2.4510	-.049	-1.96	1.4724	.002	1
S4	5.0000	5.0656	.066	1.31	3.0425	.026	1
S5	10.000	9.9952	-.005	-.048	6.0027	.003	1
S2	.80000	.79037	-.010	-1.20	.47522	.002	1

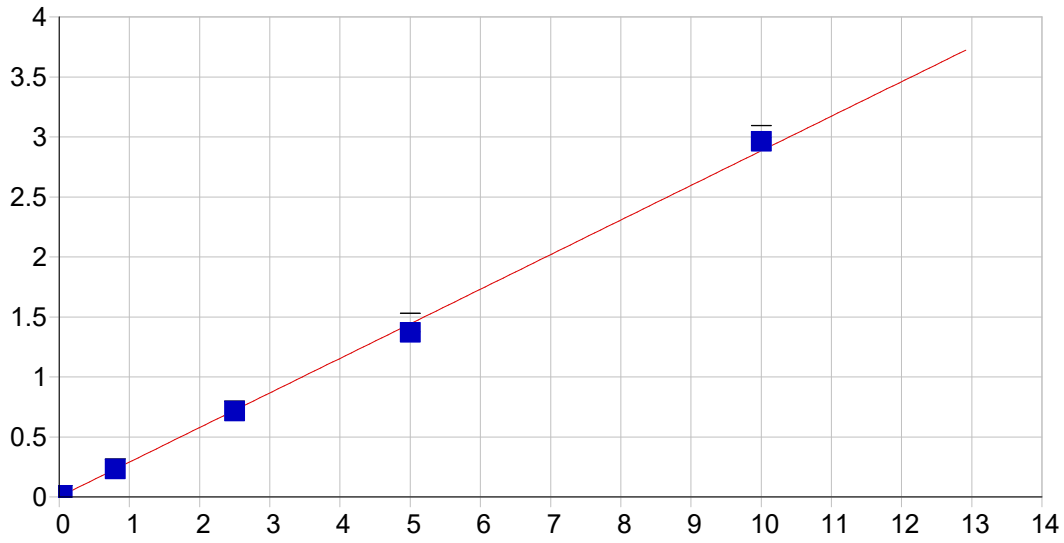


Sn 189.989 {478}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001795	Re-Slope:	1.000000
A1 (Gain):	0.142359	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999819	Status:	OK.
Std Error of Est:	0.000090		
Predicted MDL:	0.000651		
Predicted MQL:	0.002169		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00180	.000	1
S1	.04000	.03865	-.001	-3.37	.00729	.000	1
S3	2.5000	2.4124	-.088	-3.50	.34485	.002	1
S4	5.0000	5.0613	.061	1.23	.72159	.006	1
S5	10.000	10.070	.070	.702	1.4339	.002	1
S2	.80000	.75748	-.043	-5.31	.10951	.000	1

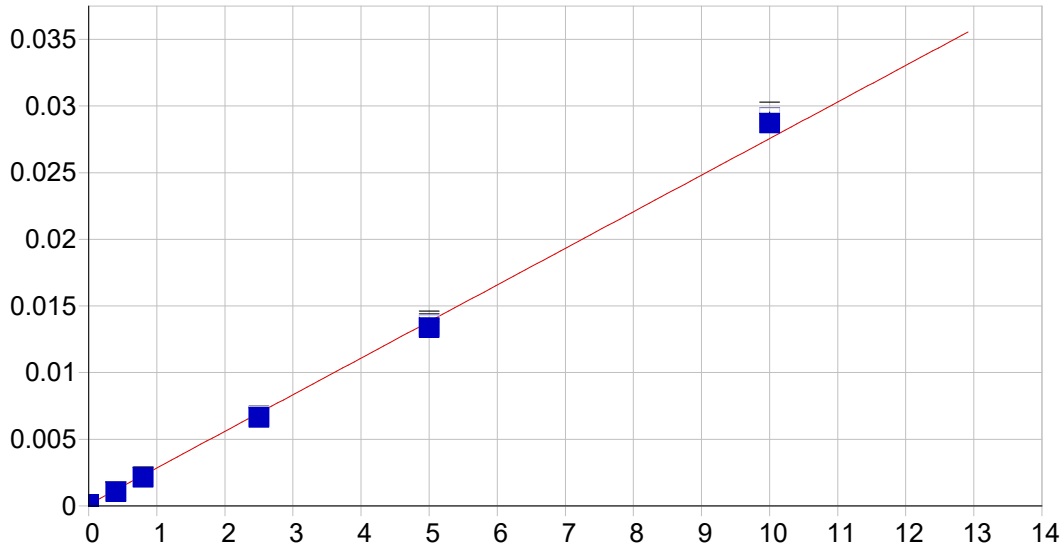


Ti 336.121 {100}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001404	Re-Slope:	1.000000
A1 (Gain):	0.288232	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999452	Status:	OK.
Std Error of Est:	0.000316		
Predicted MDL:	0.001852		
Predicted MQL:	0.006175		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00140	.000	1
S1	.04000	.04039	.000	.963	.01304	.000	1
S3	2.5000	2.4756	-.024	-.975	.71470	.001	1
S4	5.0000	4.7512	-.249	-4.98	1.3703	.077	1
S5	10.000	10.273	.273	2.73	2.9614	.050	1
S2	.80000	.79955	-.000	-.056	.23178	.002	1

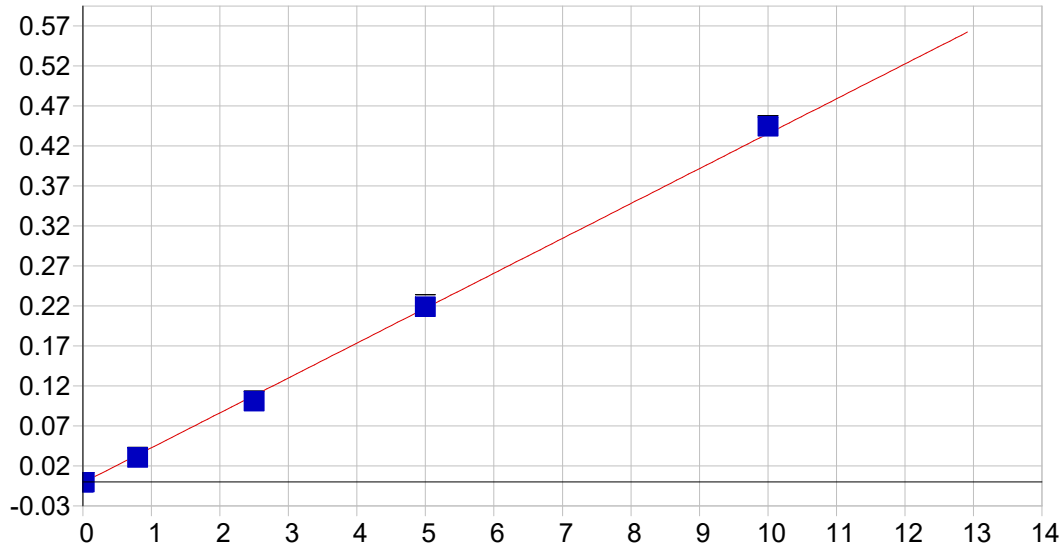


Si 288.158 {117}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000105	Re-Slope:	1.000000
A1 (Gain):	0.002745	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998887	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.014386		
Predicted MQL:	0.047955		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00011	.000	.000	.00011	.000	1
S1	.40000	.34414	-.056	-14.0	.00105	.000	1
S3	2.5000	2.3710	-.129	-5.16	.00672	.000	1
S4	5.0000	4.8291	-.171	-3.42	.01357	.000	1
S5	10.000	10.419	.419	4.19	.02912	.000	1
S2	.80000	.73638	-.064	-7.95	.00216	.000	1

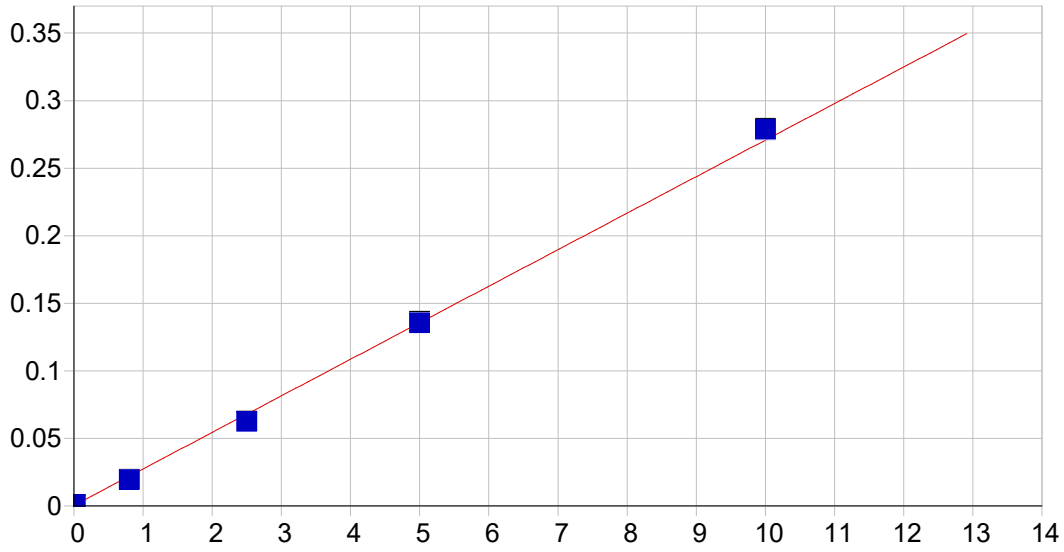


P 177.495 {490}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000938	Re-Slope:	1.000000
A1 (Gain):	0.043632	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999324	Status:	OK.
Std Error of Est:	0.000038		
Predicted MDL:	0.001730		
Predicted MQL:	0.005768		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00094	.000	1
S1	.02000	.01667	-.003	-16.6	-.00021	.000	1
S3	2.5000	2.3370	-.163	-6.52	.10101	.000	1
S4	5.0000	5.0399	.040	.799	.21893	.003	1
S5	10.000	10.211	.211	2.11	.44450	.001	1
S2	.80000	.71586	-.084	-10.5	.03029	.000	1

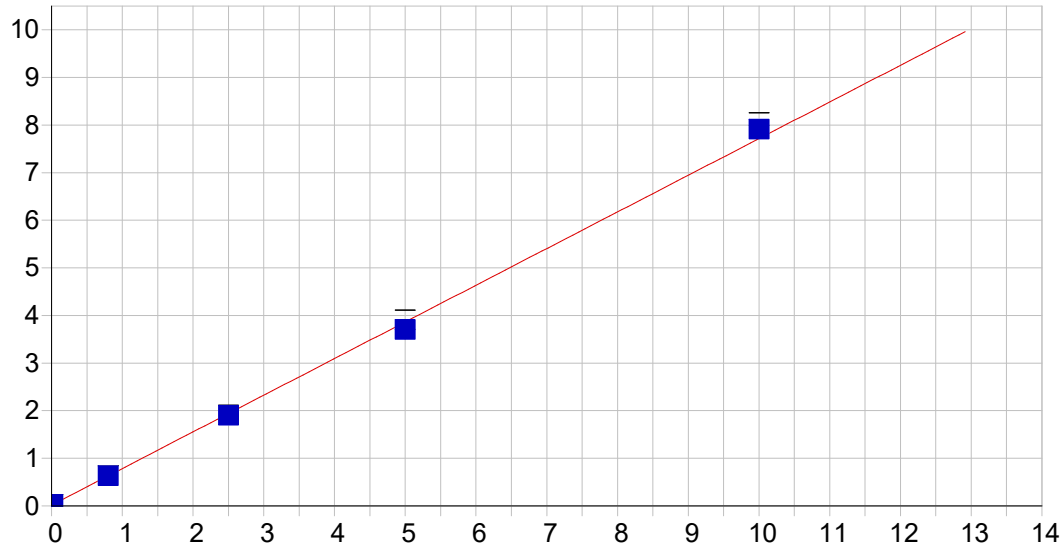


S 182.034 {485}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000350	Re-Slope:	1.000000
A1 (Gain):	0.027043	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998997	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	0.003056		
Predicted MQL:	0.010187		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00035	.000	1
S1	.02000	.01855	-.001	-7.26	.00083	.000	1
S3	2.5000	2.2965	-.204	-8.14	.06228	.000	1
S4	5.0000	4.9974	-.003	-.052	.13514	.001	1
S5	10.000	10.301	.301	3.01	.27821	.001	1
S2	.80000	.70676	-.093	-11.7	.01941	.000	1

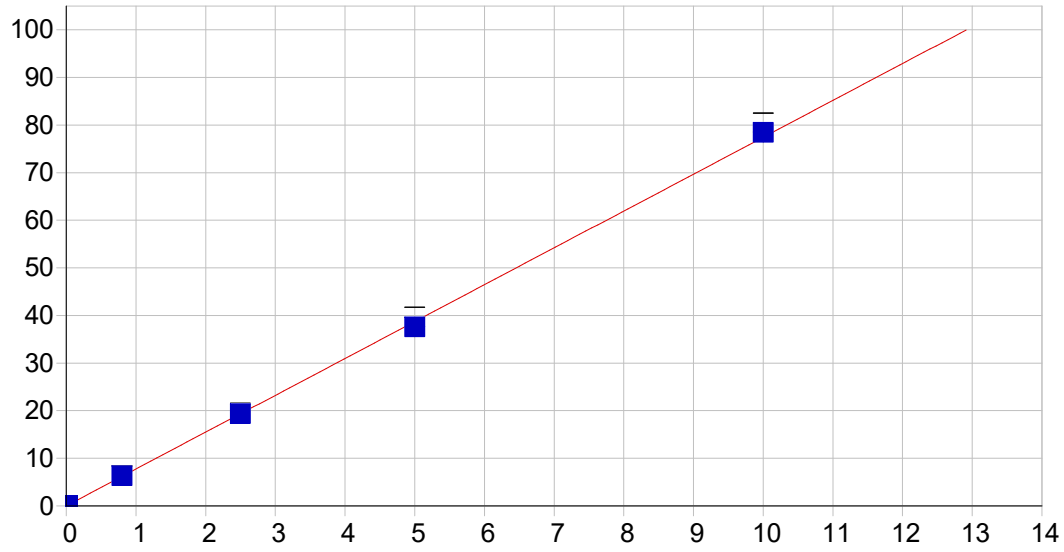


Li 670.784 { 50}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.015377	Re-Slope:	1.000000
A1 (Gain):	0.770023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999531	Status:	OK.
Std Error of Est:	0.000553		
Predicted MDL:	0.002180		
Predicted MQL:	0.007267		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.01538	.001	1
S5	10.000	10.258	.258	2.58	7.9206	.131	1
S4	5.0000	4.7861	-.214	-4.28	3.7039	.204	1
S3	2.5000	2.4501	-.050	-2.00	1.9036	.003	1
S1	.02000	.02284	.003	14.2	.03324	.001	1
S2	.80000	.80262	.003	.327	.63390	.004	1

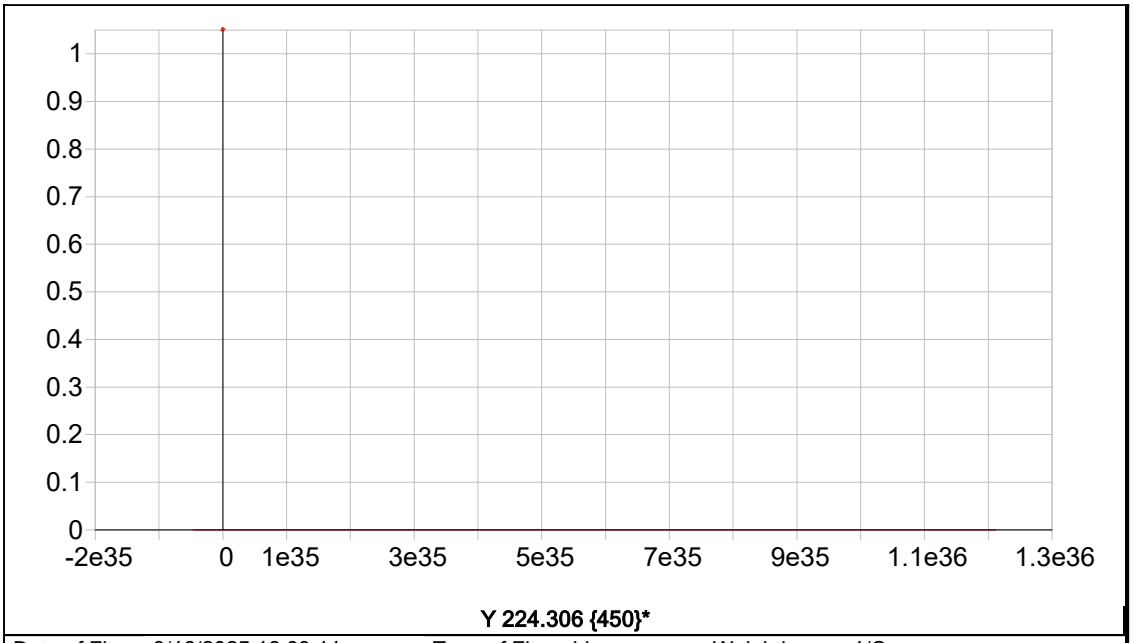


Sr 407.771 { 83}

Date of Fit:	9/16/2025 16:09:11	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003966	Re-Slope:	1.000000
A1 (Gain):	7.742493	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999828	Status:	OK.
Std Error of Est:	0.003365		
Predicted MDL:	0.000118		
Predicted MQL:	0.000394		

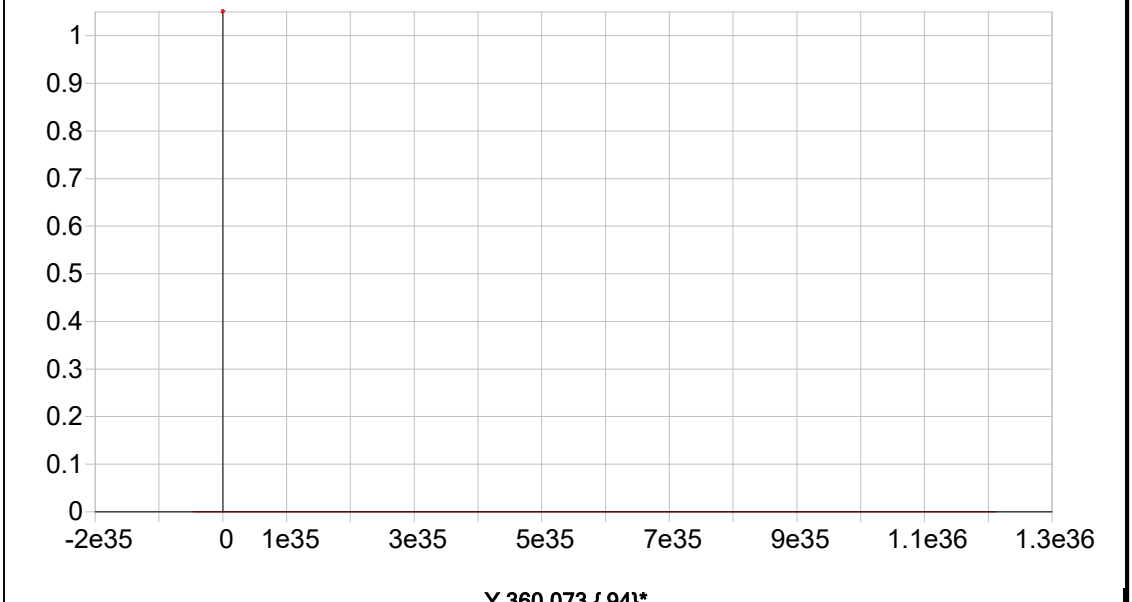
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00395	.001	1
S1	.02000	.02210	.002	10.5	.17579	.000	1
S3	2.5000	2.5029	.003	.116	19.401	.088	1
S4	5.0000	4.8544	-.146	-2.91	37.627	2.04	1
S5	10.000	10.127	.127	1.27	78.488	1.97	1
S2	.80000	.81330	.013	1.66	6.3068	.058	1



Y 224.306 {450}*

Date of Fit:	9/16/2025 16:09:11	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

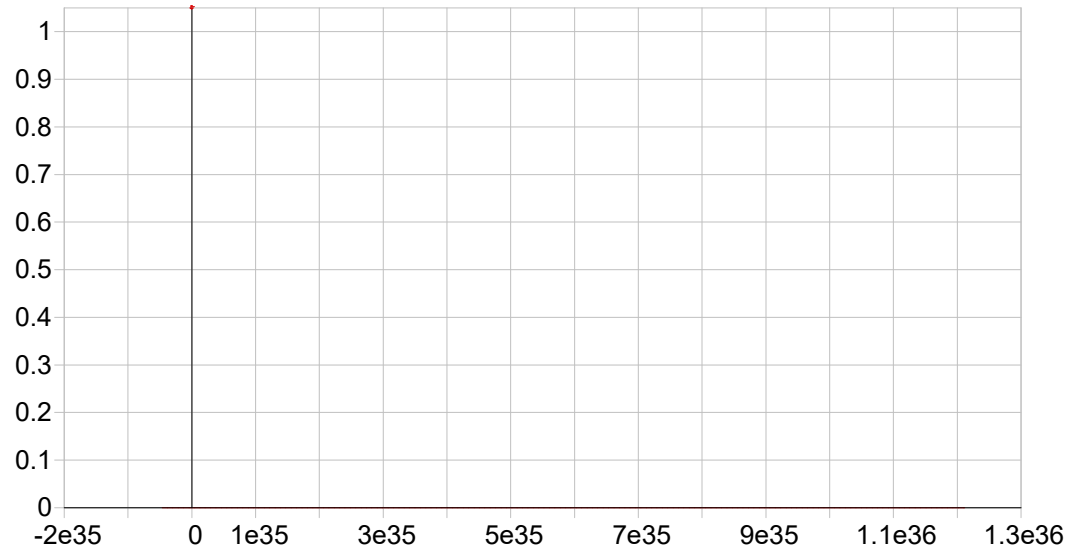


Y 360.073 { 94}*

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					

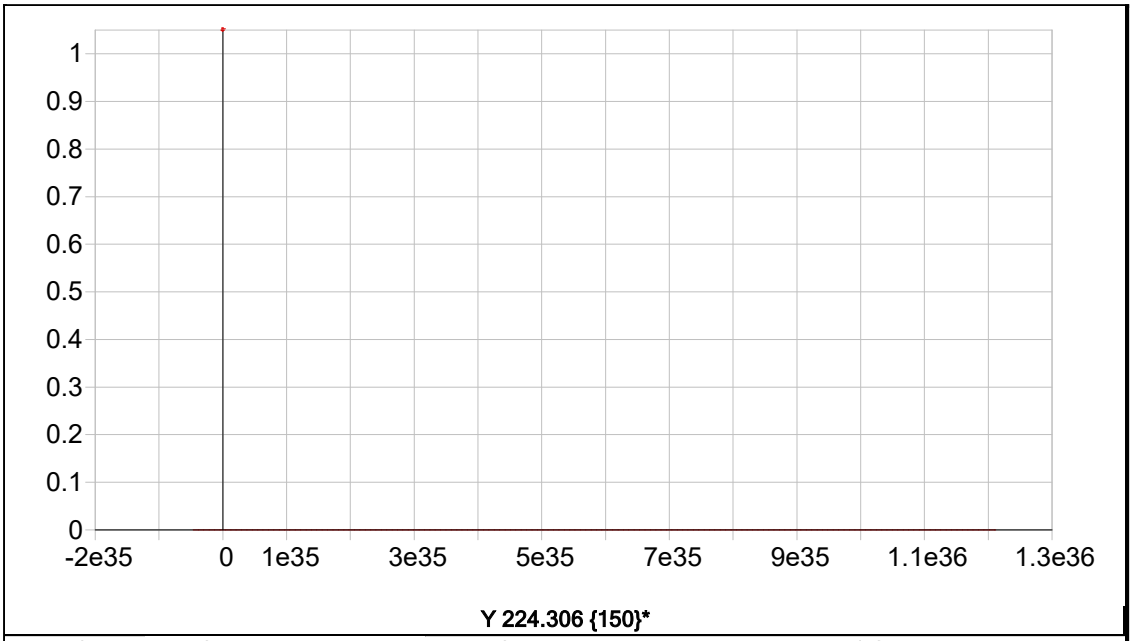
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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				

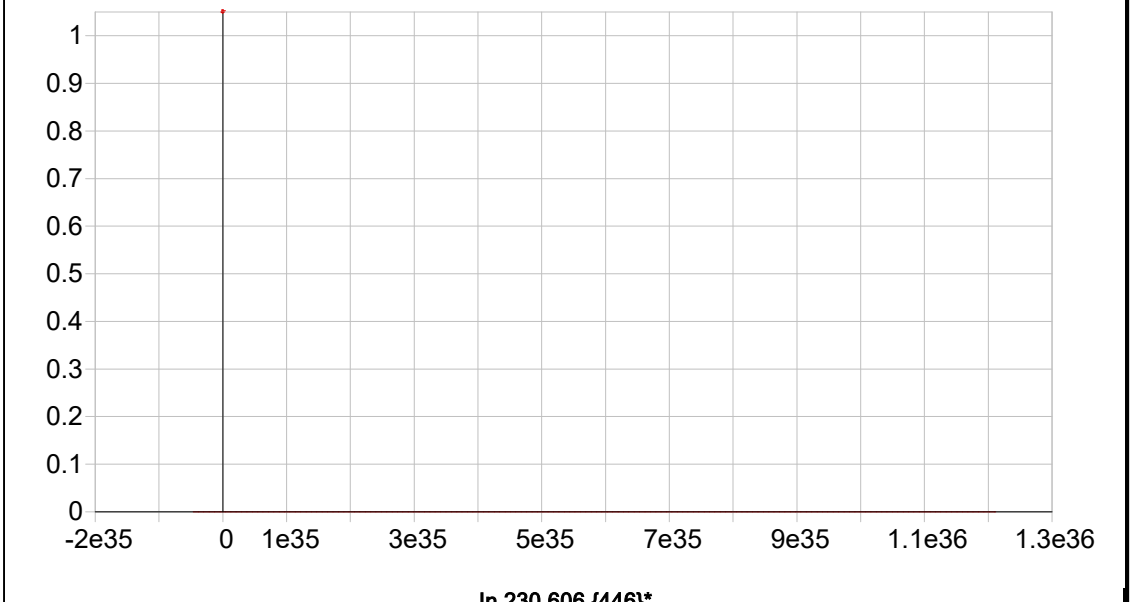
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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	

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

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:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S0 Acquired: 9/16/2025 10:53:59 Type: Cal
Method: 6010-200.7 NEW(v174) 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	**.00008**	**.00041**	**.00019**	**.00043**	**.00069**	**-.00105**	**.08274**	**-.00132**
Stddev	.00011	.00006	.00023	.00007	.00012	.00038	.00119	.00023
%RSD	136.44	14.611	123.06	17.203	17.810	35.898	1.4339	17.322
#1	-.00003	.00047	.00035	.00048	.00065	-.00133	.08285	-.00155
#2	.00020	.00038	.00029	.00035	.00060	-.00062	.08150	-.00130
#3	.00009	.00037	-.00008	.00047	.00083	-.00119	.08387	-.00109

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	**.00019**	**.00194**	**.00029**	**.00027**	**.00048**	**.00003**	**.00011**	**.00006**
Stddev	.00007	.00032	.00005	.00012	.00019	.00002	.00003	.00027
%RSD	36.040	16.739	16.096	42.426	39.035	60.551	26.343	442.35
#1	.00023	.00174	.00032	.00041	.00044	.00004	.00014	.00037
#2	.00022	.00176	.00024	.00020	.00031	.00004	.00008	-.00010
#3	.00011	.00231	.00030	.00021	.00068	.00001	.00013	-.00009

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	**-.00050**	**-.00069**	**.00299**	**-.00029**	**.00473**	**.00023**	**.00437**	**.00061**
Stddev	.00006	.00012	.00016	.00011	.00063	.00023	.00048	.00020
%RSD	11.241	16.655	5.3432	35.997	13.297	102.78	11.076	32.343
#1	-.00048	-.00082	.00285	-.00017	.00448	-.00003	.00461	.00081
#2	-.00057	-.00064	.00295	-.00038	.00426	.00028	.00468	.00061
#3	-.00046	-.00061	.00316	-.00032	.00544	.00043	.00381	.00042

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	**.00180**	**.00140**	**.00011**	**-.00094**	**.00035**	**.01538**	**.00395**
Stddev	.00001	.00049	.00004	.00005	.00009	.00051	.00065
%RSD	.70145	35.048	38.718	5.5640	25.507	3.3381	16.391
#1	.00178	.00167	.00007	-.00092	.00045	.01585	.00469
#2	.00181	.00084	.00010	-.00100	.00027	.01483	.00367
#3	.00180	.00170	.00015	-.00090	.00034	.01544	.00349

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S0 Acquired: 9/16/2025 10:53:59 Type: Cal
Method: 6010-200.7 NEW(v174) 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	6140.4	99765.	9021.0	4734.0	7685.3
Stddev	79.1	1461.	32.0	63.7	97.4
%RSD	1.2879	1.4646	.35436	1.3454	1.2679
#1	6104.5	101090.	8994.2	4795.6	7630.5
#2	6231.0	100010.	9056.4	4738.1	7797.8
#3	6085.5	98199.	9012.4	4668.4	7627.6

Sample Name: S1 Acquired: 9/16/2025 10:58:23 Type: Cal
Method: 6010-200.7 NEW(v174) 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	**.00104**	**.00282**	**.00250**	**.00136**	**.00512**	**.00812**	**.33950**	**.04533**
Stddev	.00006	.00008	.00023	.00009	.00019	.00113	.00021	.00043
%RSD	6.1555	3.0111	9.1051	6.4175	3.6951	13.911	.06180	.94501
#1	.00109	.00272	.00232	.00126	.00519	.00722	.33929	.04580
#2	.00107	.00289	.00276	.00139	.00491	.00776	.33971	.04525
#3	.00097	.00285	.00243	.00143	.00527	.00939	.33950	.04495

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	**.01751**	**.12350**	**.00218**	**.03047**	**.01450**	**.00035**	**.00964**	**.02412**
Stddev	.00024	.00032	.00002	.00030	.00008	.00001	.00035	.00041
%RSD	1.3969	.25958	.95683	.97399	.57715	4.0675	3.6124	1.7068
#1	.01743	.12315	.00218	.03031	.01449	.00036	.00939	.02407
#2	.01732	.12376	.00216	.03028	.01442	.00035	.01004	.02375
#3	.01779	.12361	.00220	.03081	.01459	.00034	.00950	.02456

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	**.02331**	**.00138**	**.01895**	**.00489**	**.09995**	**.00829**	**.06559**	**.11946**
Stddev	.00012	.00002	.00006	.00027	.00049	.00026	.00021	.00024
%RSD	.52672	1.3832	.30568	5.5675	.49139	3.1218	.31468	.20228
#1	.02324	.00138	.01896	.00489	.10043	.00818	.06547	.11924
#2	.02322	.00139	.01889	.00517	.09997	.00810	.06583	.11943
#3	.02345	.00135	.01900	.00462	.09944	.00858	.06548	.11972

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	**.00729**	**.01304**	**.00105**	**-.00021**	**.00083**	**.03324**	**.17579**
Stddev	.00010	.00030	.00003	.00005	.00007	.00102	.00040
%RSD	1.3426	2.2682	2.9132	23.016	8.2894	3.0706	.22863
#1	.00721	.01270	.00105	-.00016	.00075	.03208	.17612
#2	.00740	.01317	.00102	-.00026	.00089	.03360	.17534
#3	.00727	.01324	.00108	-.00021	.00084	.03402	.17590

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S1 Acquired: 9/16/2025 10:58:23 Type: Cal
Method: 6010-200.7 NEW(v174) 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	**5918.8**	**102200.**	**9217.8**	**4797.6**	**7233.8**
Stddev	8.8	459.	8.1	31.4	7.4
%RSD	.14882	.44899	.08775	.65435	.10269
#1	5911.3	102260.	9214.2	4797.3	7232.3
#2	5928.5	102620.	9212.2	4829.1	7241.8
#3	5916.7	101710.	9227.1	4766.3	7227.2

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S2 Acquired: 9/16/2025 11:02:44 Type: Cal
Method: 6010-200.7 NEW(v174) 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	**.03723**	**.04566**	**.14864**	**.03254**	**.06789**	**.12443**	**3.9532**	**.29188**
Stddev	.00018	.00174	.00017	.00016	.00023	.00061	.0327	.00330
%RSD	.48325	3.8011	.11510	.49151	.33903	.48651	.82679	1.1319
#1	.03732	.04644	.14881	.03239	.06797	.12391	3.9186	.28998
#2	.03703	.04367	.14847	.03253	.06764	.12509	3.9836	.29570
#3	.03735	.04687	.14865	.03271	.06808	.12429	3.9573	.28996

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	**1.1054**	**.23118**	**.03015**	**.38379**	**.12793**	**.00237**	**.16975**	**.04452**
Stddev	.0022	.00132	.00010	.00033	.00024	.00001	.00154	.00053
%RSD	.19525	.57302	.34799	.08534	.19057	.38530	.90763	1.1958
#1	1.1067	.22978	.03026	.38400	.12782	.00236	.16820	.04399
#2	1.1030	.23241	.03005	.38341	.12776	.00236	.17128	.04505
#3	1.1067	.23135	.03013	.38395	.12821	.00238	.16977	.04453

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	**.22407**	**.03811**	**.03298**	**.04842**	**.90441**	**.01563**	**.47216**	**.47522**
Stddev	.00034	.00008	.00024	.00047	.00429	.00013	.00365	.00172
%RSD	.15201	.21293	.74037	.97172	.47416	.85017	.77334	.36189
#1	.22445	.03819	.03283	.04820	.90928	.01560	.47099	.47633
#2	.22378	.03811	.03326	.04896	.90271	.01552	.47626	.47324
#3	.22398	.03803	.03286	.04810	.90122	.01578	.46925	.47610

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	**.10951**	**.23178**	**.00216**	**.03029**	**.01941**	**.63390**	**6.3068**
Stddev	.00035	.00188	.00002	.00043	.00026	.00391	.0579
%RSD	.32023	.80905	1.1277	1.4297	1.3613	.61622	.91831
#1	.10963	.22963	.00218	.03046	.01945	.62969	6.2456
#2	.10912	.23312	.00213	.02980	.01912	.63741	6.3607
#3	.10979	.23257	.00216	.03061	.01965	.63461	6.3142

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S2 Acquired: 9/16/2025 11:02:44 Type: Cal
Method: 6010-200.7 NEW(v174) 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	6069.2	104090.	9562.9	4886.5	7369.9
Stddev	7.1	274.	79.4	19.0	11.3
%RSD	.11673	.26370	.82988	.38855	.15341
#1	6065.1	103860.	9617.9	4864.6	7364.6
#2	6077.4	104390.	9471.9	4898.1	7382.9
#3	6065.1	104030.	9598.8	4896.8	7362.3

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S3 Acquired: 9/16/2025 11:06:52 Type: Cal
Method: 6010-200.7 NEW(v174) 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	**.11755**	**.13975**	**.46639**	**.10098**	**.20929**	**.38385**	**12.135**	**.89876**
Stddev	.00010	.00274	.00132	.00036	.00040	.00099	.033	.00350
%RSD	.08333	1.9622	.28241	.35789	.19134	.25823	.27454	.38988
#1	.11757	.13678	.46633	.10068	.20889	.38461	12.166	.89780
#2	.11745	.14219	.46510	.10138	.20930	.38420	12.100	.89584
#3	.11764	.14026	.46773	.10088	.20969	.38273	12.138	.90265

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	**3.5276**	**.70922**	**.09301**	**1.2116**	**.39510**	**.00734**	**.51972**	**.13781**
Stddev	.0115	.00182	.00012	.0036	.00095	.00003	.00142	.00063
%RSD	.32466	.25722	.13233	.30057	.24148	.47197	.27302	.45776
#1	3.5266	.70726	.09287	1.2112	.39466	.00737	.51931	.13762
#2	3.5167	.71087	.09307	1.2082	.39443	.00730	.51855	.13729
#3	3.5395	.70953	.09309	1.2155	.39619	.00734	.52130	.13851

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	**.70767**	**.11839**	**.09772**	**.15188**	**2.7834**	**.05005**	**1.4383**	**1.4724**
Stddev	.00210	.00027	.00039	.00032	.0066	.00019	.0043	.0021
%RSD	.29633	.22477	.40193	.20937	.23848	.37386	.29731	.14519
#1	.70722	.11867	.09797	.15158	2.7765	.05024	1.4393	1.4711
#2	.70583	.11835	.09792	.15221	2.7897	.04987	1.4337	1.4713
#3	.70995	.11814	.09727	.15184	2.7840	.05003	1.4420	1.4749

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	**.34485**	**.71470**	**.00672**	**.10101**	**.06228**	**1.9036**	**19.401**
Stddev	.00157	.00078	.00003	.00039	.00035	.0027	.088
%RSD	.45507	.10853	.43680	.38233	.56955	.13936	.45267
#1	.34474	.71540	.00672	.10074	.06191	1.9005	19.319
#2	.34334	.71387	.00674	.10085	.06231	1.9048	19.391
#3	.34648	.71482	.00669	.10145	.06261	1.9054	19.494

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S3 Acquired: 9/16/2025 11:06:52 Type: Cal
Method: 6010-200.7 NEW(v174) 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	5993.4	102430.	9620.3	4767.2	7074.8
Stddev	9.3	250.	53.9	16.3	20.9
%RSD	.15529	.24447	.55987	.34250	.29480
#1	5993.2	102570.	9644.2	4786.0	7072.1
#2	6002.8	102570.	9658.0	4756.2	7096.9
#3	5984.2	102140.	9558.6	4759.4	7055.4

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S4 Acquired: 9/16/2025 11:10:58 Type: Cal
Method: 6010-200.7 NEW(v174) 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	**.24583**	**.31593**	**.97024**	**.21016**	**.43080**	**.75395**	**23.498**	**1.7738**
Stddev	.00177	.00793	.00831	.00199	.00366	.04086	1.057	.0955
%RSD	.72171	2.5088	.85633	.94686	.85036	5.4193	4.4997	5.3835
#1	.24395	.30678	.96162	.20806	.42706	.71290	22.489	1.6797
#2	.24606	.32063	.97090	.21038	.43097	.79462	24.598	1.8706
#3	.24748	.32038	.97819	.21203	.43438	.75432	23.407	1.7710

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	**7.5146**	**1.3721**	**.18943**	**2.5620**	**.81447**	**.01456**	**1.0010**	**.26948**
Stddev	.0568	.0761	.00320	.0192	.00697	.00032	.0570	.01516
%RSD	.75627	5.5489	1.6872	.74870	.85569	2.1759	5.6988	5.6267
#1	7.4571	1.2971	.18574	2.5426	.80705	.01420	.94498	.25430
#2	7.5161	1.4493	.19140	2.5622	.81550	.01479	1.0590	.28463
#3	7.5707	1.3698	.19114	2.5810	.82087	.01469	.99896	.26952

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	**1.4948**	**.23950**	**.19737**	**.29827**	**5.7113**	**.10173**	**2.8026**	**3.0425**
Stddev	.0127	.00401	.00340	.01699	.0947	.00191	.1528	.0260
%RSD	.85300	1.6759	1.7207	5.6951	1.6585	1.8763	5.4537	.85415
#1	1.4822	.23487	.19349	.28093	5.6027	.09953	2.6526	3.0154
#2	1.4944	.24193	.19979	.31488	5.7766	.10271	2.9581	3.0447
#3	1.5077	.24171	.19882	.29901	5.7547	.10295	2.7970	3.0673

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	**.72159**	**1.3703**	**.01357**	**.21893**	**.13514**	**3.7039**	**37.627**
Stddev	.00647	.0772	.00030	.00268	.00127	.2036	2.045
%RSD	.89640	5.6316	2.1782	1.2255	.93758	5.4980	5.4349
#1	.71492	1.2943	.01323	.21587	.13368	3.5021	35.329
#2	.72202	1.4486	.01373	.22002	.13590	3.9094	39.248
#3	.72783	1.3682	.01375	.22089	.13585	3.7002	38.303

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S4 Acquired: 9/16/2025 11:10:58 Type: Cal
Method: 6010-200.7 NEW(v174) 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	5692.4	99429.	9703.4	4579.1	6561.6
Stddev	52.4	1607.	504.6	51.2	57.9
%RSD	.92114	1.6160	5.1999	1.1186	.88304
#1	5750.1	101280.	10203.	4637.5	6625.0
#2	5679.6	98509.	9193.9	4541.8	6548.3
#3	5647.6	98493.	9713.5	4557.9	6511.4

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S5 Acquired: 9/16/2025 11:15:10 Type: Cal
Method: 6010-200.7 NEW(v174) 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	**.49142**	**.60604**	**1.9477**	**.41657**	**.86075**	**1.6036**	**49.500**	**3.6394**
Stddev	.00077	.00861	.0021	.00102	.00176	.0251	1.282	.0949
%RSD	.15770	1.4202	.10882	.24492	.20393	1.5685	2.5905	2.6085
#1	.49066	.60648	1.9501	.41540	.85916	1.6326	50.971	3.7469
#2	.49221	.59723	1.9467	.41704	.86046	1.5881	48.910	3.6042
#3	.49139	.61442	1.9463	.41726	.86263	1.5900	48.619	3.5670

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	**14.865**	**2.8999**	**.37970**	**5.1097**	**1.5720**	**.03030**	**2.1128**	**.57143**
Stddev	.022	.0515	.00067	.0057	.0013	.00031	.0407	.00942
%RSD	.14686	1.7746	.17768	.11233	.08549	1.0167	1.9248	1.6485
#1	14.884	2.9592	.37908	5.1151	1.5730	.03005	2.1598	.58231
#2	14.870	2.8728	.37959	5.1103	1.5726	.03019	2.0885	.56579
#3	14.841	2.8676	.38042	5.1037	1.5705	.03064	2.0901	.56620

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	**2.9703**	**.48561**	**.41057**	**.63912**	**11.266**	**.21231**	**5.7711**	**6.0027**
Stddev	.0040	.00033	.00329	.01039	.023	.00218	.1485	.0032
%RSD	.13282	.06712	.80249	1.6250	.20531	1.0256	2.5725	.05416
#1	2.9746	.48542	.40769	.65105	11.287	.21023	5.9339	6.0007
#2	2.9697	.48598	.40986	.63209	11.270	.21213	5.7362	6.0064
#3	2.9667	.48542	.41416	.63423	11.241	.21457	5.6432	6.0009

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	**1.4339**	**2.9614**	**.02912**	**.44450**	**.27821**	**7.9206**	**78.488**
Stddev	.0017	.0502	.00043	.00129	.00060	.1306	1.974
%RSD	.12110	1.6939	1.4676	.28971	.21563	1.6489	2.5156
#1	1.4354	3.0194	.02873	.44572	.27782	8.0714	80.768
#2	1.4344	2.9322	.02905	.44315	.27791	7.8459	77.399
#3	1.4320	2.9328	.02958	.44462	.27890	7.8445	77.299

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: S5 Acquired: 9/16/2025 11:15:10 Type: Cal
Method: 6010-200.7 NEW(v174) 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	5681.6	96864.	9203.0	4412.8	6385.1
Stddev	32.4	349.	215.4	18.4	43.7
%RSD	.57075	.36076	2.3401	.41726	.68468
#1	5646.5	97108.	8956.7	4413.4	6336.7
#2	5687.8	97020.	9297.1	4430.9	6397.2
#3	5710.5	96464.	9355.4	4394.1	6421.5

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: ICV01 Acquired: 9/16/2025 11:19:20 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**4.010548**	**3.617365**	**3.900457**	**3.999962**	**4.111721**	**8.083824**
Stddev	.010249	.030401	.009173	.020583	.019142	.093363
%RSD	.2555414	.8404215	.2351768	.5145736	.4655416	1.154932
#1	4.020491	3.651575	3.909409	4.023653	4.133773	8.059846
#2	4.011134	3.593444	3.900883	3.986472	4.099394	8.186837
#3	4.000019	3.607075	3.891078	3.989761	4.101996	8.004789

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.880448**	**.2004402**	**1.986604**	**20.07790**	**.8283007**	**1.995466**
Stddev	.024179	.0023833	.005252	.23196	.0023456	.006044
%RSD	.3068249	1.189046	.2643737	1.155293	.2831768	.3029078
#1	7.885539	.1985575	1.992310	20.01490	.8309625	2.001819
#2	7.901677	.2031199	1.985527	20.33484	.8274029	1.994790
#3	7.854129	.1996433	1.981973	19.88394	.8265367	1.989787

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.027875**	**4.104436**	**1.988332**	**20.07264**	**2.000291**	**1.016288**
Stddev	.002912	.043292	.013978	.23959	.006816	.001765
%RSD	.2833138	1.054762	.7029877	1.193622	.3407441	.1737028
#1	1.031179	4.152804	1.981691	19.99749	2.007376	1.018268
#2	1.026768	4.069316	2.004392	20.34080	1.999716	1.015715
#3	1.025680	4.091188	1.978913	19.87964	1.993781	1.014879

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**19.77021**	**2.018312**	**2.033901**	**20.26835**	**3.878736**	**4.056884**
Stddev	.18178	.023174	.003156	.14944	.047955	.013640
%RSD	.9194692	1.148200	.1551733	.7372959	1.236351	.3362216
#1	19.96958	2.007735	2.036124	20.42886	3.840397	4.072267
#2	19.61366	2.044888	2.035290	20.13324	3.932507	4.052120
#3	19.72739	2.002314	2.030289	20.24294	3.863305	4.046264

Sample Name: ICV01 Acquired: 9/16/2025 11:19:20 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.972729**	**4.014037**	**3.885959**	F **.0035853**	F **.0285850**	F **-.007080**
Stddev	.003269	.035463	.026220	.0021919	.0005414	.001350
%RSD	.0822842	.8834814	.6747336	61.13614	1.894025	19.07000
#1	3.974552	4.007320	3.911090	.0029878	.0279828	-.005934
#2	3.974679	4.052379	3.858771	.0017541	.0287407	-.006738
#3	3.968955	3.982413	3.888016	.0060140	.0290315	-.008568

Elem	Sr4077
Units	ppm
Avg	F **-.003334**
Stddev	.000032
%RSD	.9670948
#1	-.003359
#2	-.003298
#3	-.003345

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5788.041**	**99036.96**	**9794.985**	**4523.887**	**6775.059**
Stddev	20.304	370.73	102.864	6.170	21.464
%RSD	.3507858	.3743369	1.050173	.1363915	.3168042
#1	5768.915	98609.02	9866.878	4517.440	6760.500
#2	5785.861	99241.11	9677.157	4529.737	6764.968
#3	5809.346	99260.74	9840.921	4524.483	6799.708

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: LLICV01 Acquired: 9/16/2025 11:29:22 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0180810**	**.0360355**	**.0105074**	**.0196139**	**.0453096**	**.1088872**
Stddev	.0016064	.0020803	.0014343	.0015134	.0005042	.0028854
%RSD	8.884677	5.772922	13.64997	7.715770	1.112816	2.649919
#1	.0196667	.0352356	.0090641	.0191589	.0451774	.1121501
#2	.0181217	.0383971	.0119324	.0183802	.0458668	.1066721
#3	.0164546	.0344739	.0105256	.0213025	.0448847	.1078393

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0914053**	**.0057182**	**.0052405**	**1.933574**	**.0092319**	**.0270175**
Stddev	.0005125	.0000626	.0000645	.004151	.0000914	.0001042
%RSD	.5606735	1.093900	1.230601	.2146777	.9905051	.3856329
#1	.0919751	.0056460	.0053149	1.932844	.0091349	.0269874
#2	.0909820	.0057553	.0052018	1.929836	.0092445	.0271334
#3	.0912589	.0057534	.0052047	1.938041	.0093165	.0269317

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0197043**	**.0973823**	**.0198688**	**1.943381**	**.0367897**	**.0101080**
Stddev	.0001796	.0044914	.0003720	.025510	.0005140	.0000931
%RSD	.9114879	4.612092	1.872193	1.312662	1.397150	.9212571
#1	.0197873	.0991940	.0194717	1.914674	.0371458	.0100273
#2	.0194982	.1006848	.0199254	1.963452	.0370228	.0102099
#3	.0198275	.0922680	.0202092	1.952019	.0362004	.0100869

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.737599**	**.0386065**	**.0412415**	**1.804213**	**.0958895**	**.1830533**
Stddev	.015707	.0032365	.0002620	.020693	.0003827	.0005357
%RSD	.9039617	8.383428	.6353814	1.146926	.3990993	.2926608
#1	1.722038	.0421214	.0415395	1.794238	.0961516	.1834354
#2	1.737310	.0357494	.0410472	1.828005	.0954503	.1832835
#3	1.753449	.0379487	.0411378	1.790398	.0960665	.1824409

Sample Name: LLICV01 Acquired: 9/16/2025 11:29:22 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0341992	.0359564	.3361501	F .0156523	F .0157851	F .0139303
Stddev	.0006589	.0013806	.0136996	.0008182	.0029567	.0017750
%RSD	1.926640	3.839695	4.075436	5.227587	18.73121	12.74228
#1	.0345545	.0370741	.3258414	.0164765	.0172096	.0120854
#2	.0346041	.0344131	.3516957	.0148401	.0123858	.0140795
#3	.0334389	.0363820	.3309133	.0156404	.0177599	.0156261

Elem	Sr4077
Units	ppm
Avg	.0198382
Stddev	.0000560
%RSD	.2822386
#1	.0198270
#2	.0197887
#3	.0198990

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6447.939	111147.3	10702.10	5000.740	7964.796
Stddev	7.789	499.3	43.48	13.252	15.781
%RSD	.1208021	.4492177	.4062879	.2650075	.1981305
#1	6448.398	110976.1	10684.80	4999.462	7950.951
#2	6439.930	110756.1	10751.57	4988.173	7961.459
#3	6455.488	111709.6	10669.93	5014.585	7981.978

Sample Name: ICB01 Acquired: 9/16/2025 11:33:37 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002418**	**-.000388**	**-.000103**	**-.000049**	**-.000060**	**.0145187**	**-.002301**
Stddev	.001438	.000465	.000798	.003412	.001963	.0046724	.001267
%RSD	59.47869	119.7522	774.0574	7026.741	3293.924	32.18164	55.08313
#1	-.004009	-.000191	-.001011	.003890	-.002326	.0121132	-.003752
#2	-.001211	-.000919	.000488	-.001948	.001105	.0199037	-.001407
#3	-.002033	-.000054	.000213	-.002088	.001042	.0115393	-.001744

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000606**	**-.000124**	**.0052345**	**-.000044**	**-.000117**	**-.000445**	**.0207216**
Stddev	.0000682	.000042	.0030436	.000173	.000232	.000377	.0040520
%RSD	112.4531	33.90078	58.14480	396.0287	198.9446	84.81561	19.55454
#1	.0001164	-.000133	.0041749	.000088	-.000152	-.000580	.0178523
#2	-.000015	-.000161	.0028623	.000020	-.000329	-.000018	.0189556
#3	.000081	-.000078	.0086662	-.000240	.000131	-.000735	.0253569

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004061**	**-.037970**	**-.000232**	**.0005908**	**-.139982**	**-.000598**	**-.000454**
Stddev	.0006510	.011183	.000061	.0002660	.019502	.002483	.000221
%RSD	160.2975	29.45318	26.39402	45.02756	13.93218	414.9335	48.57367
#1	-.000008	-.025075	-.000251	.0007736	-.162050	-.000557	-.000309
#2	.000070	-.045015	-.000164	.0002856	-.132833	-.003102	-.000708
#3	.001157	-.043820	-.000282	.0007133	-.125062	.001863	-.000345

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.124253**	**.0015307**	**-.000226**	**-.000767**	**.0000088**	**.0006750**	**-.002128**
Stddev	.014015	.0002617	.000225	.000678	.0007647	.0068817	.000737
%RSD	11.27939	17.09631	99.80087	88.35360	8720.722	1019.458	34.64468
#1	-.140268	.0012512	-.000386	-.000070	-.000183	.0085758	-.002465
#2	-.118263	.0017698	.000032	-.001424	-.000642	-.002540	-.001282
#3	-.114229	.0015711	-.000323	-.000808	.000851	-.004011	-.002636

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: ICB01 Acquired: 9/16/2025 11:33:37 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.004975**	**-.006405**	**-.000375**
Stddev	.004013	.000352	.000015
%RSD	80.66507	5.499580	3.913741
#1	-.009432	-.006771	-.000377
#2	-.001651	-.006069	-.000359
#3	-.003841	-.006374	-.000388

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6163.413**	**106195.8**	**10327.02**	**4773.206**	**7794.733**
Stddev	14.396	599.0	136.21	25.976	16.835
%RSD	.2335726	.5640919	1.318936	.5442018	.2159846
#1	6173.308	106797.3	10467.42	4766.294	7803.605
#2	6146.898	105599.3	10195.43	4751.386	7775.317
#3	6170.033	106190.8	10318.21	4801.939	7805.277

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CRI01 Acquired: 9/16/2025 11:38:16 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0199340**	**.0355879**	**.0113640**	**.0225821**	**.0487363**	**.1105310**	**.0927911**
Stddev	.0008760	.0010170	.0012084	.0022710	.0001148	.0041844	.0008644
%RSD	4.394395	2.857774	10.63322	10.05650	.2356228	3.785751	.9315346
#1	.0199939	.0349605	.0127567	.0247087	.0488682	.1142807	.0918823
#2	.0190296	.0367613	.0107418	.0201901	.0486592	.1060172	.0936028
#3	.0207785	.0350418	.0105935	.0228473	.0486813	.1112951	.0928882

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0059322**	**.0054895**	**1.991141**	**.0099959**	**.0282754**	**.0209566**	**.0982340**
Stddev	.0000393	.0000710	.014713	.0001534	.0001717	.0001276	.0034886
%RSD	.6620210	1.293183	.7389065	1.534535	.6071990	.6088606	3.551281
#1	.0059676	.0055714	1.986079	.0101245	.0284300	.0208306	.1018859
#2	.0058899	.0054449	1.979627	.0100369	.0283056	.0209536	.0978805
#3	.0059391	.0054522	2.007716	.0098261	.0280906	.0210857	.0949357

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0205005**	**2.022398**	**.0383423**	**.0103581**	**1.760560**	**.0385249**	**.0430823**
Stddev	.0004655	.018670	.0002449	.0003987	.007904	.0004024	.0004283
%RSD	2.270641	.9231490	.6386610	3.848632	.4489453	1.044451	.9941695
#1	.0202173	2.003170	.0383286	.0102551	1.767809	.0384188	.0428615
#2	.0202465	2.040454	.0381046	.0107981	1.752133	.0381862	.0435760
#3	.0210378	2.023569	.0385938	.0100210	1.761737	.0389697	.0428095

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.857146**	**.0956443**	**.1918889**	**.0355337**	**.0368605**	**.3409923**	**.0163198**
Stddev	.027659	.0002985	.0004629	.0003599	.0015425	.0088644	.0002787
%RSD	1.489303	.3120641	.2412237	1.012957	4.184759	2.599604	1.707743
#1	1.825215	.0954395	.1923968	.0357235	.0351020	.3321791	.0160903
#2	1.873649	.0959867	.1917794	.0351185	.0374941	.3408905	.0162392
#3	1.872574	.0955066	.1914907	.0357589	.0379852	.3499072	.0166299

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CRI01 Acquired: 9/16/2025 11:38:16 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0193324	.0140112	.0201186
Stddev	.0017728	.0008019	.0000334
%RSD	9.170179	5.723557	.1661797
#1	.0213766	.0131164	.0201474
#2	.0184049	.0142519	.0201266
#3	.0182158	.0146652	.0200819

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6160.450	106094.8	10375.05	4774.107	7667.975
Stddev	6.648	220.2	24.73	24.091	4.222
%RSD	.1079157	.2075848	.2383126	.5046153	.0550651
#1	6154.643	105840.8	10401.40	4777.546	7671.660
#2	6167.702	106211.3	10352.35	4748.481	7668.897
#3	6159.004	106232.3	10371.41	4796.293	7663.367

Sample Name: ICSA01 Acquired: 9/16/2025 11:42:31 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0075163**	**.0054669**	**.0028779**	**.0044601**	**.0014743**	**246.7563**
Stddev	.0045877	.0009574	.0011249	.0054148	.0010676	.0332
%RSD	61.03686	17.51236	39.08799	121.4044	72.41355	.0134583
#1	.0024039	.0048404	.0032791	.0092014	.0019932	246.7913
#2	.0112745	.0049913	.0037473	-.001440	.0002465	246.7252
#3	.0088707	.0065689	.0016074	.005619	.0021833	246.7523

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0020796**	**.0021084**	**.0008475**	**233.0718**	**.0548131**	**.0020131**
Stddev	.0003059	.0001089	.0000747	.1503	.0008634	.0002322
%RSD	14.71109	5.167050	8.810902	.0644660	1.575155	11.53659
#1	.0017280	.0020197	.0008535	233.2447	.0547764	.0019409
#2	.0022264	.0020755	.0007699	232.9719	.0539687	.0018255
#3	.0022845	.0022300	.0009189	232.9990	.0556943	.0022729

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0063441**	**101.2107**	**.0092007**	**247.5690**	**.0075388**	**.0021793**
Stddev	.0004775	.1154	.0001474	.1606	.0005214	.0000425
%RSD	7.526299	.1139982	1.602151	.0648891	6.915840	1.950021
#1	.0067163	101.0928	.0090481	247.5066	.0071789	.0021358
#2	.0058057	101.2161	.0092118	247.7515	.0073008	.0022208
#3	.0065102	101.3233	.0093422	247.4489	.0081367	.0021812

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0836838**	**.0043342**	**.0040966**	**.1337196**	**.0957923**	**.0018617**
Stddev	.0387339	.0012233	.0001555	.0572583	.0020525	.0003097
%RSD	46.28604	28.22369	3.796714	42.81965	2.142620	16.63316
#1	.0566509	.0053608	.0041936	.0697386	.0958782	.0022165
#2	.0663419	.0046611	.0041789	.1512763	.0978004	.0016457
#3	.1280585	.0029807	.0039172	.1801439	.0936982	.0017230

Sample Name: ICSA01 Acquired: 9/16/2025 11:42:31 Type: Unk
Method: 6010-200.7 NEW(v174) 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	-.003487	-.003484	.0147743	.0065264	-.002197	F -.033121
Stddev	.000773	.000711	.0128943	.0011730	.002526	.003403
%RSD	22.17113	20.42152	87.27525	17.97319	114.9653	10.27303
#1	-.004367	-.004080	.0164736	.0055623	-.004682	-.037044
#2	-.002920	-.002696	.0011146	.0061844	-.002279	-.031346
#3	-.003173	-.003676	.0267347	.0078323	.000368	-.030973

Elem	Sr4077
Units	ppm
Avg	.0008442
Stddev	.0001374
%RSD	16.27010
#1	.0007290
#2	.0009962
#3	.0008075

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5453.278	93567.27	9923.510	4223.996	6138.034
Stddev	6.485	356.89	20.701	24.146	11.052
%RSD	.1189270	.3814305	.2086076	.5716450	.1800568
#1	5460.257	93540.00	9923.185	4219.644	6146.621
#2	5447.437	93937.02	9944.371	4250.023	6125.565
#3	5452.139	93224.79	9902.972	4202.322	6141.916

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: ICSAB01 Acquired: 9/16/2025 11:46:42 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.1037325**	**.1016026**	**.0458284**	**.0516767**	**.5746307**	**241.0140**
Stddev	.0022593	.0048519	.0015206	.0044478	.0028595	.1220
%RSD	2.177991	4.775400	3.318072	8.607056	.4976224	.0506321
#1	.1046323	.1067441	.0474305	.0521051	.5715682	241.1448
#2	.1011620	.1009594	.0444050	.0558948	.5750931	240.9033
#3	.1054033	.0971044	.0456498	.0470301	.5772308	240.9937

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4630242**	**.4604456**	**.9328401**	**227.5615**	**.5370867**	**.4683913**
Stddev	.0022323	.0022851	.0009050	.3623	.0033583	.0005318
%RSD	.4821115	.4962881	.0970125	.1592001	.6252882	.1135423
#1	.4654293	.4604674	.9325550	227.9445	.5332501	.4679388
#2	.4626244	.4627198	.9321120	227.5157	.5394938	.4682582
#3	.4610187	.4581497	.9338532	227.2243	.5385162	.4689771

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4625592**	**99.02684**	**.4628670**	**241.8830**	**.9343089**	**.2061574**
Stddev	.0008013	.49930	.0013663	.1781	.0016985	.0012411
%RSD	.1732249	.5042079	.2951739	.0736310	.1817866	.6020115
#1	.4616713	98.77076	.4644436	241.8080	.9333215	.2047557
#2	.4627779	98.70754	.4621268	242.0864	.9333351	.2071165
#3	.4632285	99.60223	.4620304	241.7547	.9362701	.2066001

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002451**	**.4553317**	**.9959636**	**-.191011**	**.8918237**	**.8942818**
Stddev	.019306	.0033000	.0015160	.021618	.0017177	.0018931
%RSD	787.6338	.7247404	.1522148	11.31748	.1925999	.2116867
#1	-.021444	.4519385	.9946787	-.213729	.8898410	.8963432
#2	-.003062	.4555267	.9955765	-.188611	.8927730	.8938809
#3	.017153	.4585298	.9976357	-.170694	.8928572	.8926212

Sample Name: ICSAB01 Acquired: 9/16/2025 11:46:42 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.8668559	.8563211	.9188985	F .0068863	F .0029052	F -.036708
Stddev	.0022213	.0018629	.0063792	.0013580	.0025817	.000395
%RSD	.2562416	.2175413	.6942261	19.72008	88.86337	1.076691
#1	.8684201	.8584296	.9150201	.0076291	.0050073	-.036327
#2	.8643135	.8548980	.9262610	.0053190	.0036847	-.037116
#3	.8678342	.8556358	.9154142	.0077110	.0000236	-.036682

Elem	Sr4077
Units	ppm
Avg	F .0008220
Stddev	.0005188
%RSD	63.12072
#1	.0013585
#2	.0007846
#3	.0003228

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5607.561	95656.15	10169.23	4337.924	6309.067
Stddev	1.482	544.96	19.10	26.562	4.856
%RSD	.0264257	.5697077	.1878124	.6123203	.0769714
#1	5608.478	96144.93	10172.69	4366.182	6306.542
#2	5605.851	95754.98	10148.63	4334.123	6314.666
#3	5608.354	95068.54	10186.35	4313.468	6305.994

Sample Name: ICSADLX20 Acquired: 9/16/2025 11:50:43 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0014075	.0006282	-.000913	-.000083	-.002362	12.15122	-.001863
Stddev	.0016590	.0006765	.000656	.001611	.001015	.08799	.000346
%RSD	117.8704	107.6840	71.83874	1944.082	42.95970	.7241439	18.59076
#1	.0029685	.0010478	-.001106	.001391	-.003391	12.05486	-.001539
#2	.0015887	.0009890	-.001452	.000163	-.001361	12.17150	-.001822
#3	-.000335	-.000152	-.000183	-.001803	-.002335	12.22730	-.002228

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001748	-.000174	11.94818	.0027541	.0001595	.0003035	4.961056
Stddev	.0000426	.000049	.06012	.0005798	.0001711	.0002716	.140342
%RSD	24.36342	28.26251	.5031314	21.05338	107.2886	89.51501	2.828875
#1	.0002138	-.000150	11.88229	.0027910	.0003549	.0005959	4.864772
#2	.0001293	-.000141	11.96223	.0021567	.0000361	.0002555	4.896313
#3	.0001813	-.000230	12.00003	.0033146	.0000875	.0000590	5.122083

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009536	12.50080	.0002966	.0008014	-.140696	.0003867	.0000819
Stddev	.0000851	.15247	.0000670	.0005573	.014236	.0039139	.0001809
%RSD	8.921028	1.219682	22.58378	69.54099	10.11797	1012.175	220.8092
#1	.0010101	12.34669	.0002736	.0001625	-.149101	-.000143	-.000078
#2	.0008557	12.50414	.0002442	.0011878	-.148728	.004538	.000278
#3	.0009949	12.65157	.0003721	.0010538	-.124260	-.003235	.000046

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.331921	.0034214	-.000255	-.001519	-.001487	.0005189	-.001828
Stddev	.007808	.0007231	.000358	.000613	.000762	.0038336	.000881
%RSD	2.352477	21.13443	140.3717	40.35742	51.25006	738.8154	48.17175
#1	-.336638	.0036985	-.000458	-.000878	-.000927	-.000961	-.001844
#2	-.336216	.0026007	.000159	-.002100	-.001179	-.002354	-.000939
#3	-.322908	.0039649	-.000467	-.001578	-.002355	.004872	-.002700

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: ICSADLX20 Acquired: 9/16/2025 11:50:43 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.002879**	**-.008557**	**-.000314**
Stddev	.004877	.001143	.000099
%RSD	169.3732	13.35325	31.65038
#1	.000670	-.007247	-.000306
#2	-.008440	-.009074	-.000219
#3	-.000867	-.009349	-.000417

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5972.792**	**101294.6**	**10116.56**	**4558.242**	**7306.212**
Stddev	3.915	2402.7	40.52	96.806	9.896
%RSD	.0655526	2.372021	.4005567	2.123767	.1354505
#1	5971.140	103090.7	10160.36	4624.128	7306.429
#2	5977.263	102227.7	10108.91	4603.502	7315.999
#3	5969.974	98565.2	10080.41	4447.095	7296.210

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: ICSABDLX20 Acquired: 9/16/2025 11:54:59 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0035925	.0059684	.0033903	.0018897	.0299373	12.81836	.0236142
Stddev	.0009661	.0010454	.0010124	.0016238	.0005210	.01210	.0002287
%RSD	26.89124	17.51611	29.86161	85.92536	1.740217	.0943682	.9683071
#1	.0028338	.0061608	.0045269	.0022464	.0304189	12.82119	.0238565
#2	.0046800	.0048401	.0025852	.0001173	.0293843	12.80509	.0234022
#3	.0032636	.0069042	.0030589	.0033055	.0300086	12.82878	.0235839

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0256456	.0482702	12.63265	.0288486	.0241971	.0257064	5.137538
Stddev	.0002025	.0013248	.03291	.0007784	.0008209	.0011044	.075082
%RSD	.7897351	2.744458	.2605329	2.698061	3.392680	4.296225	1.461430
#1	.0256200	.0497961	12.61758	.0291262	.0251447	.0269524	5.146420
#2	.0258597	.0474137	12.67040	.0294500	.0237452	.0248481	5.207784
#3	.0254571	.0476008	12.60997	.0279695	.0237014	.0253188	5.058411

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0262264	13.21441	.0491111	.0105821	-.142405	.0263525	.0528166
Stddev	.0005815	.02979	.0016358	.0007156	.027391	.0027169	.0011071
%RSD	2.217308	.2254462	3.330825	6.762712	19.23457	10.30991	2.096198
#1	.0267866	13.24623	.0509999	.0109442	-.168387	.0285150	.0531556
#2	.0256257	13.18718	.0481845	.0110444	-.145034	.0233029	.0537145
#3	.0262669	13.20984	.0481490	.0097578	-.113795	.0272396	.0515795

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.362004	.0505378	.0504774	.0457488	.0492110	.0445997	-.001527
Stddev	.026611	.0008326	.0015737	.0015806	.0012620	.0038179	.001110
%RSD	7.350917	1.647376	3.117531	3.454911	2.564491	8.560389	72.74283
#1	-.373358	.0509651	.0522940	.0475129	.0506363	.0475409	-.000429
#2	-.331600	.0510699	.0496036	.0444617	.0482354	.0402851	-.002650
#3	-.381055	.0495784	.0495345	.0452716	.0487614	.0459732	-.001500

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: ICSABDLX20 Acquired: 9/16/2025 11:54:59 Type: Unk
Method: 6010-200.7 NEW(v174) 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	-.003671	-.009482	-.000164
Stddev	.002296	.000429	.000112
%RSD	62.54702	4.528104	68.16744
#1	-.005834	-.009358	-.000181
#2	-.001262	-.009960	-.000267
#3	-.003915	-.009129	-.000045

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5990.840	101969.6	9945.152	4576.996	7318.787
Stddev	153.835	1592.0	31.789	78.346	191.728
%RSD	2.567841	1.561281	.3196433	1.711733	2.619676
#1	5813.272	101163.1	9941.653	4567.547	7097.418
#2	6083.819	100942.1	9915.257	4503.803	7432.044
#3	6075.428	103803.4	9978.546	4659.638	7426.899

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV01 Acquired: 9/16/2025 11:59:11 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**4.982335**	**4.646170**	**4.850105**	**4.939455**	**4.913776**	**9.879650**	**9.460929**
Stddev	.077862	.028273	.090401	.074034	.080973	.034094	.097405
%RSD	1.562764	.6085194	1.863903	1.498832	1.647871	.3450949	1.029551
#1	5.014147	4.618949	4.894700	4.974644	4.957505	9.890059	9.532494
#2	4.893603	4.644171	4.746071	4.854390	4.820341	9.841565	9.350003
#3	5.039253	4.675389	4.909543	4.989332	4.963482	9.907327	9.500289

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2372943**	**2.475312**	**24.39774**	**1.012273**	**2.455425**	**1.247293**	**5.016989**
Stddev	.0012118	.048607	.02318	.019567	.048007	.023159	.066388
%RSD	.5106894	1.963654	.0950211	1.933013	1.955136	1.856779	1.323273
#1	.2371657	2.499545	24.40174	.995083	2.479740	1.258017	4.954508
#2	.2361518	2.419352	24.37282	1.008170	2.400126	1.220716	5.009766
#3	.2385653	2.507037	24.41866	1.033567	2.486410	1.263147	5.086694

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.389414**	**24.53989**	**2.466844**	**1.232194**	**24.42811**	**2.467113**	**2.537168**
Stddev	.005197	.09424	.049917	.022672	.36306	.006225	.050276
%RSD	.2175159	.3840383	2.023511	1.840006	1.486223	.2523053	1.981578
#1	2.387636	24.47321	2.492356	1.211367	24.04406	2.472146	2.491112
#2	2.395267	24.49875	2.409327	1.228871	24.47456	2.460153	2.529588
#3	2.385338	24.64771	2.498850	1.256345	24.76570	2.469041	2.590803

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.16995**	**4.630070**	**4.984328**	**4.900491**	**4.815024**	**5.077526**	**4.784550**
Stddev	.43144	.026061	.088362	.087253	.005978	.099051	.063423
%RSD	1.714117	.5628653	1.772788	1.780502	.1241460	1.950781	1.325586
#1	24.74556	4.622007	5.025607	4.945575	4.821885	4.988766	4.804851
#2	25.15616	4.608994	4.882881	4.799919	4.810940	5.059436	4.713462
#3	25.60812	4.659210	5.044496	4.955979	4.812247	5.184376	4.835337

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV01 Acquired: 9/16/2025 11:59:11 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**4.801343**	**4.751633**	**4.867103**
Stddev	.052215	.006903	.049228
%RSD	1.087504	.1452792	1.011440
#1	4.818405	4.755531	4.838364
#2	4.742731	4.755705	4.838999
#3	4.842892	4.743663	4.923945

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5885.884**	**101260.5**	**10246.45**	**4539.268**	**6834.889**
Stddev	91.412	1557.2	22.90	68.308	111.464
%RSD	1.553080	1.537815	.2234677	1.504820	1.630804
#1	5843.523	102757.9	10222.38	4597.618	6781.232
#2	5990.792	101373.8	10267.96	4556.053	6963.033
#3	5823.336	99649.7	10249.01	4464.132	6760.401

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB01 Acquired: 9/16/2025 12:05:10 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002316**	**-.001118**	**-.000968**	**.0001634**	**-.001633**	**.0139468**	**-.001828**
Stddev	.001505	.000783	.000803	.0020741	.001917	.0081719	.000735
%RSD	65.00665	70.08780	83.01743	1269.381	117.3847	58.59353	40.20213
#1	-.002682	-.001232	-.001356	.0025488	-.000525	.0083323	-.001224
#2	-.003604	-.000284	-.000044	-.000844	-.000528	.0233220	-.001615
#3	-.000661	-.001838	-.001503	-.001215	-.003847	.0101860	-.002646

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000511**	**-.000081**	**.0050940**	**-.000299**	**-.000129**	**-.000172**	**.0011599**
Stddev	.0000966	.000064	.0041669	.000262	.000067	.000099	.0050773
%RSD	188.8272	78.89519	81.80016	87.84350	51.54757	57.87020	437.7466
#1	.0001082	-.000134	.0093963	-.000262	-.000204	-.000090	-.004001
#2	.0001056	-.000010	.0010772	-.000577	-.000078	-.000143	.001331
#3	-.000060	-.000098	.0048085	-.000056	-.000105	-.000282	.006149

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003574**	**-.017328**	**.0001658**	**.0003459**	**-.190033**	**.0008428**	**-.000195**
Stddev	.0003164	.032005	.0001419	.0002318	.015910	.0007113	.000161
%RSD	88.54827	184.7031	85.59104	67.02962	8.372432	84.40212	82.39107
#1	.0005680	-.037074	.0000875	.0002183	-.206130	.0011933	-.000012
#2	.0005106	-.034507	.0003296	.0002058	-.189654	.0013109	-.000312
#3	-.000007	.019598	.0000803	.0006135	-.174316	.0000242	-.000262

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.312566**	**.0014274**	**-.000227**	**-.000754**	**.0003722**	**-.017517**	**-.003001**
Stddev	.060901	.0003313	.000301	.000289	.0015990	.002955	.001691
%RSD	19.48413	23.21157	132.7949	38.40520	429.6664	16.86792	56.35407
#1	-.349102	.0012554	-.000029	-.000749	.0010950	-.014260	-.002909
#2	-.346334	.0012175	-.000574	-.001045	.0014822	-.020025	-.001357
#3	-.242262	.0018094	-.000078	-.000467	-.001461	-.018266	-.004735

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB01 Acquired: 9/16/2025 12:05:10 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003826	-.007745	-.000331
Stddev	.002101	.000762	.000054
%RSD	54.91222	9.837851	16.43138
#1	-.001401	-.007186	-.000380
#2	-.005092	-.008613	-.000273
#3	-.004985	-.007437	-.000341

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6131.889	105777.6	10347.60	4713.985	7731.175
Stddev	3.611	332.6	58.52	29.267	10.890
%RSD	.0588906	.3143967	.5655459	.6208496	.1408569
#1	6134.842	106157.8	10285.65	4746.091	7735.410
#2	6132.961	105540.8	10355.23	4707.068	7739.311
#3	6127.863	105634.3	10401.94	4688.797	7718.804

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: LR-1 Acquired: 9/16/2025 12:09:28 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LR-1 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005895**	**.0056277**	**.0181051**	**-.022327**	**.0191134**	**.2193272**	**-.008427**
Stddev	.0056235	.0016817	.0021166	.006867	.0050929	.0142013	.001476
%RSD	953.9717	29.88291	11.69075	30.75623	26.64580	6.474925	17.51495
#1	-.001989	.0058912	.0170642	-.024420	.0218860	.2033595	-.006948
#2	.007040	.0038298	.0205407	-.027903	.0132357	.2305438	-.009900
#3	-.003283	.0071621	.0167106	-.014657	.0222183	.2240782	-.008434

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002878**	**.0006094**	**2445.135**	**.0272588**	**.0001450**	**.0030514**	**.5604301**
Stddev	.0000668	.0001832	27.768	.0006552	.0002593	.0004132	.0003633
%RSD	23.19380	30.06422	1.135661	2.403569	178.8633	13.54124	.0648188
#1	.0002689	.0008190	2474.628	.0265813	.0000657	.0027257	.5603784
#2	.0002326	.0004799	2419.492	.0273060	.0004347	.0029123	.5600955
#3	.0003620	.0005292	2441.287	.0278891	-.000065	.0035162	.5608165

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0181225**	**2190.733**	**.0177008**	**-.000583**	**2446.805**	**.0069587**	**.0573139**
Stddev	.0003612	12.571	.0008228	.000779	14.646	.0026450	.0002883
%RSD	1.992876	.5738291	4.648453	133.6875	.5985629	38.01030	.5030485
#1	.0182767	2201.668	.0181058	-.001313	2463.681	.0057079	.0571657
#2	.0177099	2193.533	.0167540	-.000672	2437.426	.0051711	.0576462
#3	.0183810	2176.998	.0182426	.000237	2439.307	.0099972	.0571299

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.460093**	**.0107558**	**.0194176**	**-.009972**	**-.116694**	**-.022080**	**.0268171**
Stddev	.707757	.0010988	.0005232	.000372	.001425	.011179	.0041794
%RSD	12.96237	10.21603	2.694407	3.734909	1.221102	50.62768	15.58470
#1	4.716224	.0116121	.0190242	-.009574	-.115053	-.034531	.0288780
#2	5.538915	.0095168	.0192172	-.010312	-.117401	-.018803	.0220075
#3	6.125139	.0111385	.0200113	-.010029	-.117626	-.012906	.0295657

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: LR-1 Acquired: 9/16/2025 12:09:28 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LR-1 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2338790	-.383275	.0620544
Stddev	.0028285	.006673	.0002015
%RSD	1.209400	1.740974	.3247793
#1	.2359681	-.390663	.0622791
#2	.2306602	-.377687	.0619942
#3	.2350085	-.381475	.0618898

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3872.814	69536.90	9046.087	3015.226	4106.423
Stddev	28.586	140.86	79.014	18.824	31.095
%RSD	.7381069	.2025645	.8734565	.6243027	.7572272
#1	3891.247	69699.50	8954.890	2998.626	4118.029
#2	3887.310	69452.10	9094.049	3011.374	4130.047
#3	3839.884	69459.10	9089.320	3035.679	4071.195

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: LR-2 Acquired: 9/16/2025 12:14:05 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LR-2 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1127774**	**-.164008**	**.1062967**	**.0480059**	**-.123224**	**1884.196**	**.0230686**
Stddev	.0029285	.006548	.0026884	.0090736	.001128	9.922	.0012360
%RSD	2.596682	3.992269	2.529169	18.90104	.9151469	.5265749	5.357874
#1	.1124884	-.157971	.1079673	.0390509	-.122417	1872.759	.0232073
#2	.1100041	-.170968	.1031954	.0571937	-.124512	1889.337	.0217691
#3	.1158396	-.163085	.1077273	.0477732	-.122741	1890.493	.0242294

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0467199**	**.0039244**	**12.82755**	**-.262975**	**.0615272**	**.0589373**	**2786.379**
Stddev	.0003193	.0016942	.02073	.000994	.0002354	.0003145	6.454
%RSD	.6835024	43.17068	.1616307	.3780763	.3826135	.5336982	.2316243
#1	.0466065	.0042991	12.81691	-.262899	.0612971	.0585758	2783.244
#2	.0470805	.0020742	12.85144	-.264005	.0615168	.0590879	2793.802
#3	.0464728	.0053998	12.81429	-.262021	.0617676	.0591483	2782.091

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.181562**	**1.314518**	**.0510072**	**^ *****	**4.380165**	**.0457832**	**.0777276**
Stddev	.000255	.018314	.0006987	-----	.060656	.0046778	.0012143
%RSD	.1403081	1.393224	1.369892	-----	1.384797	10.21738	1.562239
#1	-.181855	1.310776	.0517141	^ -----	4.316246	.0511680	.0768103
#2	-.181437	1.298363	.0503169	^ -----	4.387325	.0427231	.0772679
#3	-.181393	1.334414	.0509906	^ -----	4.436923	.0434586	.0791046

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1737.390**	**^ *****	**-.015084**	**.0190891**	**.0033872**	**.5026945**	**.0871579**
Stddev	8.571	-----	.001061	.0014042	.0011410	.0089623	.0045436
%RSD	.4933178	-----	7.036657	7.356099	33.68666	1.782860	5.213068
#1	1747.228	^ -----	-.016095	.0180954	.0031409	.5061626	.0887570
#2	1731.539	^ -----	-.013979	.0206955	.0023895	.4925163	.0906859
#3	1733.403	^ -----	-.015177	.0184763	.0046313	.5094045	.0820310

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: LR-2 Acquired: 9/16/2025 12:14:05 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LR-2 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.482699**	**.2684170**	**-2.67153**
Stddev	.015491	.0020750	.00615
%RSD	3.209159	.7730578	.2301961
#1	-.464814	.2660313	-2.66855
#2	-.491907	.2694179	-2.67860
#3	-.491374	.2698019	-2.66744

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4910.902**	**81535.48**	**9820.211**	**3783.200**	**5256.745**
Stddev	2.709	79.32	84.685	19.094	5.748
%RSD	.0551599	.0972873	.8623581	.5047127	.1093362
#1	4911.702	81538.66	9884.710	3800.819	5259.584
#2	4913.120	81454.61	9724.310	3762.912	5260.521
#3	4907.883	81613.17	9851.614	3785.871	5250.131

Sample Name: PB169686BL Acquired: 9/16/2025 12:23:27 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.000324**	**-.002232**	**.0007047**	**.0006958**	**-.000850**	**.0227772**	**-.000533**
Stddev	.000264	.001432	.0009997	.0036893	.000618	.0088566	.000381
%RSD	81.48558	64.16805	141.8636	530.2384	72.73838	38.88378	71.38120
#1	-.000478	-.002030	.0000567	-.002297	-.001229	.0225873	-.000407
#2	-.000019	-.003754	.0002014	-.000433	-.001184	.0140170	-.000232
#3	-.000474	-.000911	.0018561	.004818	-.000137	.0317272	-.000961

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000281**	**-.000145**	**.0093992**	**.0003879**	**-.000172**	**-.000005**	**.0193406**
Stddev	.0000442	.000045	.0040038	.0001357	.000218	.000285	.0068146
%RSD	157.1833	31.36365	42.59683	34.99572	126.6297	6017.985	35.23482
#1	.0000225	-.000094	.0139965	.0005429	-.000401	.000125	.0121139
#2	-.000013	-.000182	.0075229	.0002902	-.000147	-.000331	.0202576
#3	.000075	-.000159	.0066781	.0003306	.000032	.000192	.0256503

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014915**	**-.024459**	**.0005386**	**.0002217**	**-.092572**	**.0014679**	**.0018207**
Stddev	.0005924	.015318	.0001122	.0005064	.019533	.0007630	.0001973
%RSD	39.71885	62.62564	20.83013	228.4009	21.09989	51.97530	10.83875
#1	.0008299	-.032578	.0004096	.0003757	-.096205	.0005870	.0020253
#2	.0019729	-.006791	.0005926	-.000344	-.110033	.0019114	.0016315
#3	.0016717	-.034008	.0006136	.000633	-.071478	.0019055	.0018053

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.115761**	**-.003381**	**-.000235**	**-.004056**	**.0010435**	**-.021407**	**-.002231**
Stddev	.014773	.000362	.000199	.000766	.0019533	.002608	.000471
%RSD	12.76127	10.71611	84.61653	18.88124	187.1759	12.18093	21.13392
#1	-.112185	-.003735	-.000273	-.004939	.0030064	-.018812	-.002563
#2	-.131992	-.003011	-.000020	-.003652	.0010242	-.024026	-.002438
#3	-.103104	-.003396	-.000412	-.003577	-.000900	-.021382	-.001691

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: PB169686BL Acquired: 9/16/2025 12:23:27 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.003194**	**-.008053**	**-.000425**
Stddev	.001830	.001919	.000106
%RSD	57.29503	23.83310	24.97805
#1	-.004759	-.008695	-.000448
#2	-.003641	-.009570	-.000309
#3	-.001182	-.005895	-.000517

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6238.579**	**106519.0**	**10041.04**	**4792.981**	**7837.950**
Stddev	9.169	180.4	18.50	17.203	5.492
%RSD	.1469782	.1693711	.1842783	.3589177	.0700664
#1	6235.040	106437.2	10020.06	4801.106	7840.318
#2	6231.707	106393.9	10055.04	4804.617	7831.671
#3	6248.991	106725.8	10048.01	4773.221	7841.860

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: PB169686BS Acquired: 9/16/2025 12:27:46 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.7794820**	**1.795722**	**.9368889**	**1.953208**	**.7760471**	**1.968410**
Stddev	.0056221	.023498	.0059157	.008710	.0099836	.008566
%RSD	.7212558	1.308559	.6314215	.4459161	1.286471	.4351919
#1	.7794243	1.772447	.9437130	1.945526	.7649456	1.971282
#2	.7738890	1.795282	.9337406	1.951427	.7789070	1.975172
#3	.7851327	1.819437	.9332132	1.962670	.7842887	1.958777

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1854979**	**.1929639**	**.1892603**	**.9850675**	**.3994996**	**.1905502**
Stddev	.0000748	.0004370	.0028901	.0065958	.0003387	.0016895
%RSD	.0403037	.2264842	1.527032	.6695760	.0847851	.8866607
#1	.1855794	.1924736	.1925798	.9775582	.3996525	.1925011
#2	.1854325	.1931056	.1873035	.9877217	.3997350	.1895668
#3	.1854817	.1933124	.1878976	.9899227	.3991114	.1895828

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3037828**	**2.935666**	**.1933377**	**1.942438**	**.4808416**	**.0729073**
Stddev	.0016717	.012607	.0003621	.012441	.0049756	.0001371
%RSD	.5502830	.4294307	.1873078	.6405018	1.034776	.1880204
#1	.3054747	2.950198	.1937283	1.934815	.4864897	.0729733
#2	.3021322	2.927666	.1932716	1.935704	.4771058	.0729989
#3	.3037415	2.929134	.1930131	1.956795	.4789294	.0727497

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.799881**	**.2906955**	**.1982432**	**9.745592**	**.2800738**	**.3968709**
Stddev	.016871	.0032659	.0002644	.025795	.0013221	.0009307
%RSD	.6025450	1.123474	.1333867	.2646826	.4720464	.2345171
#1	2.813793	.2902857	.1981632	9.740607	.2792229	.3978011
#2	2.804735	.2941469	.1985384	9.773516	.2794015	.3959397
#3	2.781116	.2876538	.1980280	9.722653	.2815969	.3968719

Sample Name: PB169686BS Acquired: 9/16/2025 12:27:46 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.6596604**	**.1887197**	**.8661188**	**5.426728**	F **-.004964**	**.1946476**
Stddev	.0063806	.0021406	.0154991	.060399	.000891	.0021045
%RSD	.9672553	1.134278	1.789491	1.112991	17.95063	1.081172
#1	.6667761	.1905293	.8826097	5.496149	-.005599	.1962681
#2	.6544482	.1892729	.8638948	5.386222	-.003946	.1954056
#3	.6577569	.1863567	.8518518	5.397813	-.005348	.1922691

Elem	Sr4077
Units	ppm
Avg	**.1884019**
Stddev	.0012621
%RSD	.6699017
#1	.1896213
#2	.1884833
#3	.1871010

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6213.806**	**106864.2**	**10405.98**	**4837.761**	**7565.860**
Stddev	73.164	379.8	19.21	19.556	145.580
%RSD	1.177437	.3554059	.1845698	.4042269	1.924176
#1	6130.396	106633.5	10397.02	4815.840	7397.908
#2	6267.133	106656.5	10392.88	4844.032	7655.980
#3	6243.888	107302.5	10428.02	4853.412	7643.693

Sample Name: Q3086-01 Acquired: 9/16/2025 12:36:41 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.003141**	**-.002832**	**.0071558**	**.0029278**	**-.000548**	**.0861719**	**-.000143**
Stddev	.001301	.002290	.0003899	.0017673	.000179	.0007807	.001005
%RSD	41.41435	80.85573	5.448192	60.36425	32.62370	.9060340	700.9367
#1	-.003640	-.004021	.0070802	.0046008	-.000602	.0869145	.000988
#2	-.001664	-.000192	.0068093	.0010792	-.000348	.0862432	-.000487
#3	-.004118	-.004284	.0075779	.0031033	-.000694	.0853579	-.000932

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000076**	**-.000103**	**4.458182**	**.0002786**	**.0074091**	**.0314527**	**1.323504**
Stddev	.000037	.000010	.003412	.0002484	.0002111	.0003792	.008830
%RSD	49.38620	9.540365	.0765363	89.14878	2.848842	1.205606	.6671616
#1	-.000034	-.000097	4.457649	.0001070	.0074329	.0314229	1.333146
#2	-.000106	-.000115	4.461829	.0005634	.0071871	.0310892	1.315812
#3	-.000087	-.000098	4.455068	.0001654	.0076073	.0318458	1.321553

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0190745**	**1.761634**	**.0090104**	**-.000011**	**14.44142**	**.0009610**	**.0939018**
Stddev	.0003165	.008758	.0001514	.000210	.07440	.0021618	.0008836
%RSD	1.659394	.4971284	1.679898	1856.841	.5151847	224.9541	.9409948
#1	.0194232	1.754251	.0091659	.000223	14.41521	-.001455	.0945378
#2	.0189949	1.771310	.0088635	-.000184	14.38367	.002712	.0928929
#3	.0188054	1.759341	.0090018	-.000072	14.52537	.001626	.0942748

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7148817**	**.0040156**	**.0002221**	**-.011124**	**-.000740**	**6.329079**	**.0045572**
Stddev	.0041862	.0010149	.0002846	.000357	.001522	.038391	.0011548
%RSD	.5855735	25.27324	128.1492	3.213541	205.8080	.6065875	25.34085
#1	.7104219	.0050038	.0000390	-.011508	-.001793	6.299542	.0051778
#2	.7187260	.0029760	.0005499	-.010801	-.001431	6.315219	.0052690
#3	.7154971	.0040672	.0000772	-.011063	.001005	6.372475	.0032247

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-01 Acquired: 9/16/2025 12:36:41 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**5.920740**	**-.012856**	**.0228598**
Stddev	.082458	.001039	.0000464
%RSD	1.392691	8.079633	.2027616
#1	5.921416	-.012676	.0229133
#2	5.837946	-.013973	.0228305
#3	6.002857	-.011919	.0228357

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6273.039**	**110770.6**	**10670.26**	**4869.102**	**7782.754**
Stddev	67.764	551.8	65.16	53.932	88.438
%RSD	1.080238	.4981127	.6106570	1.107631	1.136337
#1	6247.088	110209.4	10602.33	4823.095	7749.829
#2	6349.943	111312.4	10676.21	4928.453	7882.931
#3	6222.086	110790.0	10732.24	4855.757	7715.500

Sample Name: Q3086-02 Acquired: 9/16/2025 12:40:55 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.003547**	**-.004548**	**.0005392**	**-.000648**	**-.000795**	**.0757244**	**.0005503**
Stddev	.000462	.002200	.0010362	.002268	.000224	.0023301	.0004319
%RSD	13.03240	48.36724	192.1641	350.1845	28.23450	3.077035	78.48356
#1	-.003687	-.002029	.0000349	-.002863	-.000912	.0768262	.0003509
#2	-.003031	-.005523	.0017310	-.000749	-.000936	.0772992	.0010459
#3	-.003923	-.006093	-.000148	.001669	-.000536	.0730477	.0002541

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000071**	**-.000133**	**4.171863**	**-.000526**	**.0065428**	**.0054700**	**.0605733**
Stddev	.000061	.000012	.012735	.000195	.0001275	.0005014	.0032632
%RSD	85.65053	8.998035	.3052544	36.98136	1.948197	9.166329	5.387236
#1	-.000004	-.000126	4.171553	-.000701	.0066413	.0060408	.0588255
#2	-.000087	-.000126	4.184750	-.000562	.0063988	.0051008	.0643382
#3	-.000122	-.000147	4.159286	-.000316	.0065882	.0052685	.0585563

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0170166**	**1.661044**	**.0070548**	**.0002159**	**13.48220**	**.0010933**	**.0248590**
Stddev	.0003235	.014251	.0002241	.0005354	.08856	.0021799	.0001478
%RSD	1.900847	.8579448	3.175862	247.9791	.6568869	199.3898	.5944075
#1	.0170404	1.661960	.0072110	-.000262	13.38457	.0001927	.0249135
#2	.0173276	1.674815	.0071553	.000115	13.55736	.0035791	.0249717
#3	.0166819	1.646358	.0067981	.000795	13.50468	-.000492	.0246917

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6357905**	**.0032886**	**-.000047**	**-.010730**	**.0005216**	**5.990759**	**.0154146**
Stddev	.0197607	.0008589	.000005	.000485	.0007697	.038134	.0003456
%RSD	3.108047	26.11745	11.15458	4.516203	147.5582	.6365415	2.241777
#1	.6133269	.0027890	-.000052	-.010533	.0010092	5.956110	.0155028
#2	.6435552	.0042803	-.000048	-.011282	.0009214	5.984552	.0150335
#3	.6504896	.0027964	-.000042	-.010375	-.000366	6.031616	.0157075

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02 Acquired: 9/16/2025 12:40:55 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**5.370397**	**-.014529**	**.0223580**
Stddev	.090885	.001275	.0001030
%RSD	1.692339	8.772232	.4604511
#1	5.475066	-.013480	.0223082
#2	5.324649	-.015947	.0224764
#3	5.311476	-.014159	.0222894

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6556.259**	**112627.7**	**10966.23**	**4902.085**	**8225.515**
Stddev	132.390	332.2	82.12	33.321	179.302
%RSD	2.019285	.2949440	.7488278	.6797387	2.179833
#1	6404.065	112616.6	10925.31	4940.368	8018.491
#2	6619.917	112301.2	10912.62	4886.280	8326.724
#3	6644.794	112965.3	11060.77	4879.607	8331.329

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02DUP Acquired: 9/16/2025 12:50:39 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.002938**	**-.003121**	**.0023030**	**.0022278**	**-.001080**	**.0714617**	**-.000941**
Stddev	.000185	.000937	.0005969	.0033069	.001868	.0007420	.000618
%RSD	6.293316	30.01425	25.91878	148.4363	172.9891	1.038242	65.71478
#1	-.003151	-.002562	.0021782	.0031932	.000769	.0710308	-.001631
#2	-.002828	-.004202	.0017784	.0049445	-.002967	.0710359	-.000436
#3	-.002833	-.002598	.0029524	-.001454	-.001042	.0723184	-.000757

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000079**	**-.000121**	**4.234319**	**-.000211**	**.0071071**	**.0055719**	**.0645471**
Stddev	.000086	.000037	.013371	.000215	.0000436	.0004567	.0028283
%RSD	108.8774	30.63609	.3157771	101.5275	.6140883	8.196314	4.381692
#1	-.000158	-.000160	4.222695	-.000438	.0070698	.0059714	.0639773
#2	.000013	-.000087	4.231330	-.000186	.0070966	.0050740	.0676169
#3	-.000092	-.000115	4.248932	-.000011	.0071551	.0056701	.0620472

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0178857**	**1.679836**	**.0074815**	**.0003298**	**13.84020**	**.0003193**	**.0253223**
Stddev	.0001090	.018036	.0003461	.0002514	.03404	.0010570	.0002092
%RSD	.6093474	1.073671	4.626456	76.21261	.2459528	331.0030	.8260190
#1	.0179054	1.682221	.0078529	.0004727	13.80707	-.000888	.0252922
#2	.0179834	1.660726	.0074237	.0004772	13.83845	.000766	.0255449
#3	.0177681	1.696560	.0071680	.0000396	13.87509	.001080	.0251298

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6680903**	**.0031328**	**.0001394**	**-.010693**	**-.000576**	**6.055563**	**.0154214**
Stddev	.0318742	.0009783	.0002478	.000351	.000699	.012281	.0020210
%RSD	4.770941	31.22727	177.7975	3.278101	121.3337	.2028092	13.10529
#1	.6634247	.0038355	.0003080	-.011093	-.001125	6.042917	.0132462
#2	.6388061	.0035475	.0002552	-.010437	.000211	6.067444	.0172410
#3	.7020402	.0020155	-.000145	-.010549	-.000814	6.056328	.0157772

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02DUP Acquired: 9/16/2025 12:50:39 Type: Unk
Method: 6010-200.7 NEW(v174) 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	5.557626	-.013295	.0230565
Stddev	.052245	.000241	.0001276
%RSD	.9400531	1.811973	.5534359
#1	5.608718	-.013117	.0230437
#2	5.559858	-.013569	.0229358
#3	5.504301	-.013198	.0231900

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6537.926	115693.4	11231.46	5053.416	8166.787
Stddev	25.746	29.4	69.74	10.201	32.408
%RSD	.3937906	.0253854	.6209699	.2018564	.3968209
#1	6509.004	115671.7	11262.10	5062.351	8130.859
#2	6546.430	115726.8	11280.64	5055.594	8175.687
#3	6558.343	115681.7	11151.64	5042.302	8193.815

Sample Name: Q3086-02LX5 Acquired: 9/16/2025 12:54:54 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.001072**	**-.001719**	**.0004546**	**-.000284**	**-.002298**	**.0237564**	**-.004292**
Stddev	.000460	.002727	.0010568	.001533	.001215	.0126012	.001058
%RSD	42.95010	158.6515	232.4588	539.8870	52.85112	53.04336	24.64136
#1	-.000545	.001147	-.000578	-.000638	-.002104	.0094871	-.005329
#2	-.001273	-.004282	.001534	-.001608	-.001192	.0333567	-.004333
#3	-.001398	-.002022	.000407	.001395	-.003598	.0284254	-.003215

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000014**	**-.000140**	**.8294128**	**-.000055**	**.0012600**	**.0008985**	**.0122343**
Stddev	.000018	.000053	.0052079	.000039	.0001475	.0004822	.0010908
%RSD	130.3789	38.03587	.6278960	70.42941	11.70869	53.66746	8.916086
#1	-.000028	-.000199	.8293876	-.000054	.0013695	.0014492	.0125956
#2	-.000020	-.000096	.8242176	-.000017	.0010922	.0005523	.0110087
#3	.000006	-.000124	.8346332	-.000094	.0013183	.0006939	.0130987

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0033042**	**.3101976**	**.0015117**	**.0002145**	**2.559397**	**-.000843**	**.0044440**
Stddev	.0005681	.0083912	.0001137	.0001289	.018403	.000961	.0002372
%RSD	17.19391	2.705116	7.522007	60.09814	.7190255	114.0301	5.338081
#1	.0029625	.3069335	.0015167	.0002421	2.542496	-.000180	.0044774
#2	.0039601	.3197304	.0016228	.0000740	2.556694	-.001945	.0041918
#3	.0029902	.3039290	.0013956	.0003273	2.579002	-.000404	.0046627

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0140739**	**-.003016**	**-.000443**	**-.003805**	**.0002992**	**1.159496**	**.0024036**
Stddev	.0272526	.000466	.000132	.000484	.0005351	.004931	.0005707
%RSD	193.6401	15.45688	29.67834	12.71970	178.8420	.4252774	23.74613
#1	-.011467	-.002697	-.000456	-.004310	-.000060	1.165122	.0020221
#2	.010923	-.003551	-.000568	-.003758	.000914	1.157441	.0021289
#3	.042765	-.002800	-.000306	-.003346	.000043	1.155925	.0030597

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02LX5 Acquired: 9/16/2025 12:54:54 Type: Unk
Method: 6010-200.7 NEW(v174) 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	1.121902	-.008816	.0043024
Stddev	.015470	.001192	.0000347
%RSD	1.378876	13.51739	.8077767
#1	1.116428	-.007651	.0042687
#2	1.139365	-.008765	.0043004
#3	1.109914	-.010033	.0043381

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6504.500	114682.6	11117.45	5036.270	8113.886
Stddev	6.731	84.3	28.00	17.192	9.796
%RSD	.1034765	.0735492	.2518442	.3413664	.1207304
#1	6504.818	114765.3	11089.14	5027.397	8123.860
#2	6511.066	114685.7	11145.13	5056.086	8113.519
#3	6497.616	114596.7	11118.07	5025.327	8104.279

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02MS Acquired: 9/16/2025 13:05:42 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.7219660**	**1.607525**	**.8364607**	**1.773138**	**.7231562**	**1.834978**	**.1705817**
Stddev	.0083806	.007888	.0104352	.022575	.0069556	.009387	.0017513
%RSD	1.160797	.4906807	1.247540	1.273148	.9618356	.5115721	1.026634
#1	.7189867	1.610676	.8296514	1.766208	.7194431	1.843345	.1688396
#2	.7154821	1.598549	.8312561	1.754841	.7188451	1.824827	.1705635
#3	.7314291	1.613352	.8484746	1.798365	.7311804	1.836762	.1723419

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1650849**	**.1692057**	**4.981005**	**.3667194**	**.1819944**	**.2808389**	**2.765825**
Stddev	.0009888	.0019938	.029108	.0015933	.0020830	.0038021	.018907
%RSD	.5989439	1.178339	.5843740	.4344701	1.144527	1.353825	.6836102
#1	.1647600	.1679471	4.959701	.3684923	.1809157	.2784607	2.758470
#2	.1642994	.1681656	4.969143	.3662586	.1806721	.2788322	2.787305
#3	.1661952	.1715046	5.014171	.3654073	.1843955	.2852240	2.751701

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1919247**	**3.355321**	**.4428612**	**.0645542**	**16.13863**	**.2698594**	**.2061013**
Stddev	.0010604	.008251	.0055327	.0000220	.07392	.0020223	.0011319
%RSD	.5525058	.2458979	1.249301	.0340917	.4580204	.7493943	.5491728
#1	.1907850	3.362672	.4398496	.0645288	16.15061	.2705991	.2072402
#2	.1921069	3.346397	.4394876	.0645658	16.20583	.2675713	.2060872
#3	.1928822	3.356893	.4492463	.0645680	16.05945	.2714077	.2049766

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.502606**	**.2343255**	**.3959571**	**.6024778**	**.1761994**	**6.745870**	**4.767996**
Stddev	.071281	.0005766	.0051092	.0066825	.0006951	.024929	.081118
%RSD	.7501192	.2460860	1.290353	1.109173	.3945009	.3695385	1.701301
#1	9.556419	.2343654	.3929112	.6004797	.1760540	6.774367	4.723030
#2	9.529634	.2337299	.3931044	.5970223	.1755884	6.728102	4.719320
#3	9.421764	.2348811	.4018557	.6099315	.1769556	6.735142	4.861639

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02MS Acquired: 9/16/2025 13:05:42 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**5.578926**	**.1653089**	**.1945734**
Stddev	.102946	.0007690	.0010884
%RSD	1.845266	.4652216	.5593581
#1	5.564734	.1652090	.1937449
#2	5.483813	.1645947	.1941693
#3	5.688232	.1661230	.1958060

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6519.451**	**117374.9**	**11580.60**	**5118.903**	**8021.063**
Stddev	71.935	727.9	38.07	29.438	92.441
%RSD	1.103386	.6201380	.3287641	.5750840	1.152477
#1	6570.015	116659.1	11582.60	5099.764	8085.334
#2	6551.239	117351.5	11617.64	5104.144	8062.733
#3	6437.098	118114.3	11541.57	5152.801	7915.122

Sample Name: LR-3 Acquired: 9/16/2025 13:10:17 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.1063700**	**.0173470**	**247.3049**	**.0045986**	**.1730416**	**.0612716**	**-.002445**
Stddev	.0017919	.0039621	2.4590	.0002319	.0052663	.0020927	.001267
%RSD	1.684603	22.84028	.9943178	5.042304	3.043392	3.415386	51.80824
#1	.1056302	.0213385	249.9536	.0048628	.1721197	.0598991	-.003787
#2	.1084134	.0172877	246.8667	.0044290	.1787080	.0602357	-.001271
#3	.1050665	.0134149	245.0945	.0045040	.1682970	.0636802	-.002277

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.004792**	**-.001930**	**.1865403**	**25.87356**	**.0072489**	**53.55499**	**.0555628**
Stddev	.000138	.000019	.0060693	.21523	.0001718	.05148	.0026766
%RSD	2.880370	.9832271	3.253609	.8318347	2.369834	.0961340	4.817259
#1	-.004633	-.001908	.1828345	26.05901	.0070710	53.56829	.0528476
#2	-.004880	-.001943	.1935446	25.63756	.0074138	53.59853	.0581990
#3	-.004863	-.001939	.1832418	25.92411	.0072620	53.49817	.0556419

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.37108**	**-.230960**	**26.23154**	**.0052385**	**-.150361**	**-.044883**	**30.36926**
Stddev	1.05489	.014091	.05677	.0001426	.016845	.003261	.22438
%RSD	2.053475	6.101090	.2164096	2.721094	11.20299	7.264454	.7388258
#1	50.15299	-.247187	26.27857	.0051421	-.169734	-.041223	30.62564
#2	51.98004	-.221812	26.24756	.0051713	-.139167	-.045951	30.20872
#3	51.98020	-.223881	26.16848	.0054023	-.142183	-.047476	30.27341

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.145231**	**.0007793**	**-.016942**	**-.007479**	**-.047846**	**-.145688**	**.1275253**
Stddev	.046814	.0002049	.000425	.000131	.000454	.011864	.0010996
%RSD	32.23442	26.28859	2.507267	1.748105	.9480459	8.143668	.8622823
#1	-.189268	.0009547	-.017424	-.007339	-.047636	-.157289	.1278806
#2	-.150364	.0008289	-.016776	-.007597	-.048367	-.146198	.1284034
#3	-.096062	.0005542	-.016624	-.007500	-.047536	-.133577	.1262920

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: LR-3 Acquired: 9/16/2025 13:10:17 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0805783	-.009256	.0002547
Stddev	.0038721	.000868	.0000077
%RSD	4.805377	9.372208	3.031370
#1	.0848698	-.009744	.0002609
#2	.0773463	-.009770	.0002460
#3	.0795187	-.008254	.0002571

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5997.043	114648.0	11278.22	4869.452	7747.081
Stddev	25.689	1050.7	310.53	18.836	38.408
%RSD	.4283672	.9164149	2.753327	.3868268	.4957692
#1	5970.394	113451.3	11618.07	4847.833	7707.379
#2	5999.086	115073.4	11207.33	4878.191	7749.816
#3	6021.651	115419.2	11009.27	4882.332	7784.048

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV02 Acquired: 9/16/2025 13:39:02 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**5.083254**	**5.027952**	**4.893496**	**5.074459**	**5.100674**	**9.382669**	**9.211564**
Stddev	.006654	.214042	.016204	.021092	.014526	.037358	.051950
%RSD	.1308945	4.257045	.3311291	.4156523	.2847933	.3981580	.5639696
#1	5.090065	5.266109	4.881877	5.097504	5.111363	9.339590	9.253781
#2	5.076769	4.851645	4.886605	5.056111	5.106523	9.406140	9.227362
#3	5.082928	4.966103	4.912006	5.069761	5.084134	9.402277	9.153548

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2303407**	**2.459643**	**23.24674**	**.9786555**	**2.462036**	**1.256347**	**4.878683**
Stddev	.0037348	.011933	.04093	.0469109	.008933	.003321	.183644
%RSD	1.621433	.4851369	.1760472	4.793403	.3628357	.2643243	3.764203
#1	.2262904	2.452966	23.20515	.9246086	2.456789	1.254835	4.666928
#2	.2310834	2.452543	23.24811	1.008814	2.456968	1.254052	4.974827
#3	.2336484	2.473419	23.28697	1.002544	2.472350	1.260155	4.994294

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.289499**	**23.24390**	**2.463535**	**1.229476**	**23.69677**	**2.354670**	**2.419084**
Stddev	.005993	.04915	.009353	.055339	.69672	.004970	.114771
%RSD	.2617442	.2114464	.3796776	4.501026	2.940135	.2110526	4.744392
#1	2.293791	23.19843	2.459199	1.165682	22.89372	2.349581	2.287848
#2	2.282652	23.23721	2.457136	1.258191	24.05658	2.354919	2.468730
#3	2.292053	23.29605	2.474269	1.264555	24.14002	2.359511	2.500674

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.45692**	**4.630555**	**5.087603**	**4.937446**	**4.676295**	**4.977424**	**5.040545**
Stddev	.75672	.070646	.009797	.023787	.017344	.214255	.045498
%RSD	3.094096	1.525647	.1925691	.4817735	.3708859	4.304530	.9026334
#1	23.58320	4.555223	5.087347	4.941262	4.678412	4.730994	5.087029
#2	24.88467	4.641114	5.077936	4.911982	4.657990	5.119595	4.996103
#3	24.90289	4.695326	5.097526	4.959095	4.692483	5.081682	5.038502

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV02 Acquired: 9/16/2025 13:39:02 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**4.895664**	**4.543234**	**4.661023**
Stddev	.055052	.021167	.020131
%RSD	1.124503	.4659050	.4319008
#1	4.957586	4.551677	4.648729
#2	4.852253	4.519148	4.650084
#3	4.877154	4.558877	4.684255

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6083.286**	**108888.3**	**11062.91**	**4820.989**	**7103.095**
Stddev	26.165	4234.2	48.48	184.577	36.575
%RSD	.4301066	3.888532	.4382395	3.828617	.5149208
#1	6100.445	113719.6	11113.14	5033.778	7120.582
#2	6096.242	105823.2	11016.39	4725.059	7127.645
#3	6053.172	107122.1	11059.20	4704.130	7061.059

Sample Name: CCB02 Acquired: 9/16/2025 13:43:13 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000173**	**-.004205**	**-.000420**	**-.002397**	**-.001540**	**.0168504**	**-.005411**
Stddev	.001219	.001100	.000520	.001913	.002549	.0051228	.001531
%RSD	704.4100	26.16491	123.6385	79.80709	165.5622	30.40185	28.30355
#1	.000306	-.004448	-.001020	-.004564	-.003289	.0120071	-.006326
#2	.000734	-.005163	-.000139	-.001689	-.002715	.0163310	-.006264
#3	-.001559	-.003003	-.000102	-.000939	.001385	.0222132	-.003643

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000600**	**-.000045**	**.0050757**	**.0001757**	**-.000087**	**-.000212**	**-.001710**
Stddev	.0000586	.000024	.0052209	.0002812	.000148	.000072	.001987
%RSD	97.72653	53.36292	102.8608	160.0275	169.8427	33.95657	116.1690
#1	.0000181	-.000046	.0111041	-.000047	-.000252	-.000133	-.003676
#2	.0000349	-.000069	.0020873	.000082	-.000044	-.000274	-.001753
#3	.0001269	-.000021	.0020355	.000492	.000035	-.000227	.000297

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000346**	**.0005450**	**.0001351**	**.0003269**	**-.126609**	**.0005347**	**-.000081**
Stddev	.0004136	.0132554	.0001743	.0002203	.013265	.0006899	.000060
%RSD	1194.254	2432.032	129.0179	67.40640	10.47746	129.0330	74.30409
#1	-.000225	-.010510	-.000000	.0000771	-.114077	.0003485	-.000062
#2	-.000182	-.003096	.000074	.0004100	-.140503	.0012985	-.000032
#3	.000512	.015240	.000332	.0004936	-.125247	-.000043	-.000148

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.008570**	**.0017253**	**.0000027**	**-.001636**	**-.000468**	**-.001730**	**-.000875**
Stddev	.050547	.0006507	.0003872	.000416	.000287	.007482	.001074
%RSD	589.8357	37.71722	14360.07	25.39244	61.22458	432.3889	122.7723
#1	-.061239	.0009873	.0002835	-.002010	-.000479	.006785	-.001239
#2	-.004019	.0022166	.0001637	-.001710	-.000749	-.004726	-.001719
#3	.039549	.0019720	-.000439	-.001189	-.000176	-.007250	.000334

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB02 Acquired: 9/16/2025 13:43:13 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077		
Units	ppm	ppm	ppm		
Avg	**-.005080**	**-.007466**	**-.000027**		
Stddev	.001723	.001320	.000094		
%RSD	33.91804	17.67453	346.9634		
#1	-.005199	-.006209	.000070		
#2	-.006740	-.007348	-.000116		
#3	-.003300	-.008841	-.000035		

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6503.099**	**113295.6**	**11385.58**	**4926.788**	**8307.592**
Stddev	29.354	1110.5	98.28	70.370	44.221
%RSD	.4513825	.9801676	.8631597	1.428317	.5322993
#1	6533.232	112060.6	11470.77	4847.036	8344.008
#2	6501.474	114211.9	11278.06	4980.142	8320.383
#3	6474.592	113614.2	11407.92	4953.186	8258.385

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02MSD Acquired: 9/16/2025 13:47:31 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.6977977**	**1.616855**	**.8002028**	**1.711988**	**.7019787**	**1.795071**	**.1653806**
Stddev	.0008785	.026220	.0014337	.010326	.0022106	.004379	.0008223
%RSD	.1258953	1.621686	.1791668	.6031838	.3149151	.2439694	.4972085
#1	.6981266	1.586701	.8006816	1.701844	.7044738	1.790102	.1654313
#2	.6968022	1.634286	.7985909	1.722488	.7011977	1.798367	.1645342
#3	.6984643	1.629579	.8013358	1.711631	.7002646	1.796744	.1661764

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1602456**	**.1609908**	**4.861225**	**.3616166**	**.1734756**	**.2686823**	**2.746575**
Stddev	.0008111	.0001511	.015878	.0005221	.0001886	.0002604	.018913
%RSD	.5061508	.0938249	.3266288	.1443836	.1086888	.0969332	.6886092
#1	.1611036	.1611233	4.874637	.3610764	.1732651	.2683816	2.727589
#2	.1601418	.1608263	4.865346	.3621185	.1736290	.2688287	2.746724
#3	.1594915	.1610227	4.843693	.3616550	.1735327	.2688367	2.765414

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1864608**	**3.271802**	**.4234659**	**.0636783**	**15.96638**	**.2617817**	**.2029764**
Stddev	.0007893	.012405	.0009124	.0001289	.12172	.0016353	.0006558
%RSD	.4233152	.3791441	.2154543	.2023579	.7623229	.6246844	.3230908
#1	.1873624	3.268589	.4244438	.0635410	15.88946	.2632877	.2025589
#2	.1858947	3.285498	.4226374	.0637966	15.90298	.2620153	.2026380
#3	.1861252	3.261321	.4233166	.0636972	16.10671	.2600422	.2037322

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.389010**	**.2288033**	**.3821000**	**.5759912**	**.1710983**	**6.721537**	**4.556478**
Stddev	.084892	.0022587	.0006090	.0020604	.0008063	.056664	.023706
%RSD	.9041649	.9871955	.1593712	.3577175	.4712243	.8430198	.5202705
#1	9.312353	.2303436	.3820022	.5736317	.1702163	6.659482	4.533318
#2	9.374428	.2298560	.3827519	.5769069	.1717974	6.734601	4.580694
#3	9.480248	.2262104	.3815458	.5774351	.1712811	6.770528	4.555422

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02MSD Acquired: 9/16/2025 13:47:31 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**5.358223**	**.1597124**	**.1897670**
Stddev	.042317	.0019814	.0004382
%RSD	.7897583	1.240610	.2309349
#1	5.311869	.1617270	.1900485
#2	5.394788	.1596442	.1892621
#3	5.368012	.1577659	.1899905

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6734.876**	**118568.5**	**11857.17**	**5178.846**	**8344.111**
Stddev	4.916	100.9	67.90	6.274	14.100
%RSD	.0729872	.0850631	.5726093	.1211402	.1689767
#1	6730.355	118668.9	11795.07	5174.861	8343.537
#2	6740.109	118569.5	11846.78	5175.599	8358.489
#3	6734.164	118467.2	11929.66	5186.078	8330.307

Sample Name: Q3086-02A Acquired: 9/16/2025 13:51:29 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.7245939**	**1.705428**	**.8340083**	**1.782996**	**.7331381**	**1.835324**	**.1675439**
Stddev	.0016094	.043491	.0005193	.002010	.0010751	.006774	.0018472
%RSD	.2221049	2.550129	.0622676	.1127588	.1466434	.3691034	1.102491
#1	.7227969	1.728468	.8345660	1.783856	.7343573	1.836111	.1696625
#2	.7250825	1.655265	.8335385	1.780698	.7323262	1.841670	.1666982
#3	.7259024	1.732551	.8339203	1.784433	.7327306	1.828190	.1662710

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1644973**	**.1692725**	**4.888215**	**.3650912**	**.1808041**	**.2789191**	**2.751608**
Stddev	.0005658	.0002269	.007507	.0013291	.0002856	.0003525	.011523
%RSD	.3439798	.1340481	.1535635	.3640428	.1579741	.1263903	.4187666
#1	.1640329	.1692481	4.895898	.3636401	.1805053	.2785534	2.750977
#2	.1651276	.1690588	4.880898	.3662493	.1808325	.2789470	2.763433
#3	.1643315	.1695106	4.887850	.3653843	.1810744	.2792568	2.740413

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1890021**	**3.303748**	**.4422062**	**.0649223**	**15.86385**	**.2697901**	**.2070074**
Stddev	.0010056	.008453	.0008074	.0004025	.07397	.0012320	.0012192
%RSD	.5320626	.2558466	.1825828	.6199691	.4663068	.4566660	.5889610
#1	.1900459	3.303471	.4413440	.0644786	15.93268	.2710702	.2070733
#2	.1889208	3.312336	.4423301	.0650241	15.87325	.2686125	.2081923
#3	.1880397	3.295438	.4429445	.0652640	15.78563	.2696875	.2057566

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.480572**	**.2351382**	**.3964050**	**.6130307**	**.1740263**	**6.774650**	**4.783814**
Stddev	.025763	.0003334	.0011751	.0025481	.0005448	.020146	.021924
%RSD	.2717480	.1417777	.2964374	.4156511	.3130690	.2973773	.4582892
#1	9.510129	.2355167	.3952706	.6120558	.1745715	6.795551	4.791240
#2	9.468719	.2350094	.3963273	.6111140	.1734818	6.755355	4.759142
#3	9.462869	.2348884	.3976169	.6159223	.1740255	6.773044	4.801060

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3086-02A Acquired: 9/16/2025 13:51:29 Type: Unk
Method: 6010-200.7 NEW(v174) 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	5.528842	.1634615	.1921102
Stddev	.012271	.0019240	.0006076
%RSD	.2219424	1.177020	.3162514
#1	5.518656	.1618520	.1927522
#2	5.525404	.1655925	.1920340
#3	5.542464	.1629400	.1915443

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6497.307	116673.2	11669.41	5048.938	7959.052
Stddev	18.516	69.0	29.18	15.121	23.112
%RSD	.2849793	.0591703	.2500284	.2994918	.2903831
#1	6516.887	116616.7	11667.37	5043.465	7982.736
#2	6494.953	116652.7	11641.30	5037.316	7957.862
#3	6480.080	116750.1	11699.55	5066.034	7936.558

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3088-02 Acquired: 9/16/2025 13:55:27 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0366856**	**-.015400**	**.0547105**	**.0185768**	**.0063235**	**35.14855**
Stddev	.0015758	.000341	.0010496	.0019601	.0005116	.09745
%RSD	4.295353	2.211748	1.918381	10.55115	8.090025	.2772396
#1	.0379730	-.015685	.0535115	.0206531	.0059285	35.24183
#2	.0349283	-.015023	.0554626	.0183187	.0069013	35.04741
#3	.0371555	-.015492	.0551575	.0167586	.0061406	35.15643

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2058963**	**.0022474**	**-.000095**	**64.97539**	**.0722198**	**.0260767**
Stddev	.0005030	.0001206	.000020	.04448	.0005464	.0001480
%RSD	.2443106	5.364023	21.12036	.0684560	.7566092	.5674610
#1	.2060537	.0021301	-.000118	64.99291	.0722644	.0262398
#2	.2053334	.0022412	-.000084	64.92482	.0716525	.0259511
#3	.2063019	.0023709	-.000082	65.00844	.0727426	.0260391

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0986490**	**68.73110**	**1.028390**	**29.52897**	**.0460046**	**.0043571**
Stddev	.0004761	.22481	.004091	.08502	.0002380	.0003101
%RSD	.4825834	.3270834	.3978036	.2879134	.5173438	7.116220
#1	.0988172	68.51132	1.023964	29.43269	.0460121	.0046906
#2	.0981116	68.72135	1.029173	29.59371	.0462387	.0043029
#3	.0990181	68.96062	1.032033	29.56049	.0457629	.0040776

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**456.4134**	**.1303432**	**.7734750**	**21.54747**	**.1546203**	**.1392386**
Stddev	4.5588	.0011794	.0010100	.02105	.0012529	.0003458
%RSD	.9988364	.9048579	.1305799	.0976874	.8103006	.2483236
#1	461.5384	.1307713	.7746413	21.52662	.1537950	.1396246
#2	454.8919	.1312487	.7728851	21.56871	.1540040	.1389575
#3	452.8100	.1290095	.7728988	21.54709	.1560620	.1391335

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3088-02 Acquired: 9/16/2025 13:55:27 Type: Unk
Method: 6010-200.7 NEW(v174) 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	-.007409	.8874682	F 141.1927	3.571780	F 59.76757	.0205427
Stddev	.000252	.0042916	.0442	.010954	.35617	.0012691
%RSD	3.404679	.4835759	.0313280	.3066925	.5959285	6.177766
#1	-.007231	.8844423	141.2399	3.579755	60.02699	.0191889
#2	-.007698	.8855826	141.1858	3.559290	59.36148	.0207338
#3	-.007299	.8923798	141.1523	3.576295	59.91423	.0217054

Elem	Sr4077
Units	ppm
Avg	.3042421
Stddev	.0005338
%RSD	.1754517
#1	.3037217
#2	.3042162
#3	.3047884

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6488.041	111377.5	12444.08	5025.985	6957.727
Stddev	9.229	266.2	55.56	20.146	10.832
%RSD	.1422490	.2389972	.4465003	.4008387	.1556861
#1	6479.113	111331.1	12436.83	5008.431	6946.908
#2	6487.465	111663.8	12502.91	5047.982	6957.700
#3	6497.544	111137.6	12392.50	5021.544	6968.573

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: PB169684BL Acquired: 9/16/2025 13:59:38 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.000707**	**-.004395**	**-.000668**	**-.000649**	**-.002319**	**.0148396**
Stddev	.001257	.002591	.000584	.001816	.000766	.0024284
%RSD	177.9079	58.94914	87.53344	279.7254	33.01731	16.36413
#1	.000744	-.003179	-.001232	.000146	-.001601	.0158754
#2	-.001468	-.007369	-.000065	-.002727	-.002230	.0165783
#3	-.001396	-.002635	-.000706	.000634	-.003124	.0120651

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.006924**	**.0000449**	**-.000168**	**-.002812**	**-.000285**	**-.000150**
Stddev	.001455	.0000393	.000034	.005468	.000089	.000146
%RSD	21.01964	87.55891	19.97879	194.4700	31.12554	97.71418
#1	-.006416	.0000303	-.000130	-.003290	-.000261	-.000268
#2	-.005790	.0000150	-.000183	.002880	-.000383	-.000195
#3	-.008565	.0000894	-.000191	-.008026	-.000211	.000014

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000415**	**.0001065**	**-.000044**	**-.009025**	**-.000182**	**.0002608**
Stddev	.000351	.0017820	.000769	.004632	.000236	.0006362
%RSD	84.75289	1672.554	1757.427	51.32805	129.9417	244.0027
#1	-.000707	.0020825	-.000147	-.003968	.000014	.0007487
#2	-.000512	-.001378	.000771	-.010042	-.000115	.0004925
#3	-.000025	-.000385	-.000756	-.013064	-.000444	-.000459

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.011894**	**.0007433**	**-.000322**	**-.031738**	**-.001700**	**-.000305**
Stddev	.005245	.0019413	.000042	.030704	.000484	.000229
%RSD	44.09720	261.1673	13.14446	96.73990	28.49024	75.13369
#1	-.014644	.0017649	-.000319	-.065565	-.001707	-.000238
#2	-.015193	-.001495	-.000281	-.024021	-.001213	-.000117
#3	-.005846	.001961	-.000365	-.005630	-.002181	-.000560

Sample Name: PB169684BL Acquired: 9/16/2025 13:59:38 Type: Unk
Method: 6010-200.7 NEW(v174) 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	-.002556	-.000514	-.007779	-.001821	F .0136828	-.006420
Stddev	.000348	.001136	.010758	.000612	.0029875	.001527
%RSD	13.60960	220.9018	138.2951	33.57676	21.83445	23.78207
#1	-.002155	.000663	-.002848	-.001115	.0167956	-.005913
#2	-.002726	-.001604	-.000371	-.002188	.0134141	-.005211
#3	-.002785	-.000602	-.020118	-.002161	.0108386	-.008136

Elem	Sr4077
Units	ppm
Avg	-.000387
Stddev	.000016
%RSD	4.168656
#1	-.000400
#2	-.000369
#3	-.000392

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6779.214	119202.4	11963.79	5315.303	8628.333
Stddev	22.308	2106.5	330.37	119.458	44.072
%RSD	.3290649	1.767133	2.761408	2.247438	.5107829
#1	6755.008	118702.1	11933.09	5268.946	8591.960
#2	6783.689	121513.9	11649.85	5450.991	8615.695
#3	6798.945	117391.1	12308.44	5225.971	8677.343

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: PB169684BS Acquired: 9/16/2025 14:03:57 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.7355552**	**1.860474**	**.8716329**	**1.850058**	**.7309333**	**1.861301**
Stddev	.0105526	.012148	.0143462	.039042	.0121818	.004775
%RSD	1.434646	.6529269	1.645901	2.110335	1.666614	.2565604
#1	.7454481	1.847872	.8835667	1.876750	.7412472	1.855849
#2	.7244479	1.861439	.8557160	1.805249	.7174929	1.864743
#3	.7367695	1.872110	.8756160	1.868176	.7340597	1.863311

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1757470**	**.1820056**	**.1744713**	**.9415689**	**.3800903**	**.1772621**
Stddev	.0016888	.0014090	.0026542	.0076371	.0041931	.0030099
%RSD	.9609185	.7741510	1.521287	.8110985	1.103185	1.697994
#1	.1768054	.1832887	.1767185	.9444828	.3787662	.1796790
#2	.1737995	.1804978	.1715429	.9329038	.3767191	.1738907
#3	.1766363	.1822305	.1751526	.9473200	.3847856	.1782167

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2837222**	**2.844967**	**.1835884**	**1.825411**	**.4458036**	**.0722328**
Stddev	.0049064	.053559	.0009097	.016012	.0072984	.0006292
%RSD	1.729309	1.882576	.4954939	.8771892	1.637142	.8710741
#1	.2880677	2.811796	.1833071	1.815306	.4518681	.0721172
#2	.2784013	2.816350	.1828527	1.817054	.4377035	.0716694
#3	.2846975	2.906755	.1846055	1.843873	.4478392	.0729118

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.619076**	**.2757166**	**.1932902**	**9.418224**	**.2668376**	**.3716832**
Stddev	.055912	.0020778	.0029167	.188965	.0015151	.0065201
%RSD	2.134812	.7535883	1.508987	2.006377	.5678127	1.754214
#1	2.593547	.2733175	.1924211	9.356927	.2679599	.3767469
#2	2.580485	.2769384	.1909068	9.267518	.2651141	.3643263
#3	2.683196	.2768938	.1965427	9.630228	.2674387	.3739764

Sample Name: PB169684BS Acquired: 9/16/2025 14:03:57 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.6054049	.1762354	.8371449	F 5.059180	F .0027176	.1858701
Stddev	.0119119	.0012916	.0133987	.094293	.0049039	.0008389
%RSD	1.967597	.7328583	1.600529	1.863793	180.4472	.4513620
#1	.6156324	.1775628	.8231145	5.118325	.0032318	.1866713
#2	.5923260	.1761605	.8385130	4.950440	.0073441	.1849979
#3	.6082562	.1749830	.8498071	5.108774	-.002423	.1859411

Elem	Sr4077
Units	ppm
Avg	.1819194
Stddev	.0013514
%RSD	.7428752
#1	.1824556
#2	.1803821
#3	.1829204

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6514.290	111886.4	11170.44	4948.692	8023.128
Stddev	87.772	1173.6	65.60	43.281	106.881
%RSD	1.347372	1.048962	.5872890	.8745918	1.332160
#1	6433.019	112010.0	11100.78	4976.947	7922.897
#2	6607.367	112993.4	11231.05	4970.265	8135.604
#3	6502.485	110655.9	11179.49	4898.865	8010.882

Sample Name: Q3063-02 Acquired: 9/16/2025 14:07:58 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.003655**	**-.006578**	**.0753152**	**.0003263**	**.0038807**	**.7506587**
Stddev	.001088	.001530	.0016593	.0015450	.0009089	.0080780
%RSD	29.77513	23.25763	2.203110	473.5141	23.42129	1.076116
#1	-.003324	-.004830	.0748608	.0005349	.0044652	.7598973
#2	-.002771	-.007675	.0771543	.0017564	.0028335	.7449260
#3	-.004871	-.007229	.0739304	-.001312	.0043434	.7471528

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0266003**	**.0037049**	**.0036153**	**20.31584**	**.0944783**	**.0056339**
Stddev	.0004531	.0000799	.0000753	.15103	.0007898	.0002163
%RSD	1.703443	2.155389	2.083623	.7433973	.8359165	3.839277
#1	.0260958	.0037833	.0035299	20.49017	.0936858	.0058593
#2	.0269727	.0037078	.0036435	20.22459	.0944837	.0054280
#3	.0267323	.0036236	.0036725	20.23277	.0952653	.0056143

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.597079**	**3.828348**	**.0962454**	**4.016206**	**.3515257**	**.0574168**
Stddev	.003030	.013727	.0005612	.008953	.0013585	.0000919
%RSD	.0659068	.3585744	.5830742	.2229247	.3864537	.1600831
#1	4.594203	3.840654	.0965882	4.026541	.3530725	.0573167
#2	4.596793	3.830849	.0965503	4.011251	.3509783	.0574362
#3	4.600242	3.813542	.0955978	4.010826	.3505263	.0574974

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**123.1512**	**.0013505**	**3.011477**	**4.926212**	**.3817147**	**-.000750**
Stddev	.6844	.0020511	.005982	.037429	.0024687	.000211
%RSD	.5557721	151.8766	.1986526	.7597929	.6467330	28.07120
#1	123.3456	.0004628	3.010510	4.920844	.3844342	-.000769
#2	123.7174	.0036960	3.017884	4.966036	.3796150	-.000951
#3	122.3905	-.000107	3.006037	4.891757	.3810949	-.000531

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3063-02 Acquired: 9/16/2025 14:07:58 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0208692	.0263914	2.515771	2.919211	F 20.93022	-.012881
Stddev	.0007486	.0017393	.025212	.042584	.31159	.000849
%RSD	3.587097	6.590385	1.002140	1.458762	1.488686	6.588110
#1	.0216551	.0283660	2.544008	2.951371	21.18634	-.013827
#2	.0201645	.0257216	2.507786	2.870917	20.58333	-.012628
#3	.0207881	.0250865	2.495518	2.935345	21.02097	-.012187

Elem	Sr4077
Units	ppm
Avg	.0892778
Stddev	.0011179
%RSD	1.252102
#1	.0904788
#2	.0890868
#3	.0882677

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6448.671	114409.8	11854.15	5016.813	7556.631
Stddev	7.198	349.5	67.70	21.258	7.050
%RSD	.1116168	.3054855	.5710896	.4237299	.0932962
#1	6455.574	114655.9	11777.79	5012.241	7551.761
#2	6441.211	114009.8	11877.83	4998.214	7553.418
#3	6449.230	114563.8	11906.83	5039.985	7564.716

Sample Name: Q3098-04DLX5 Acquired: 9/16/2025 14:12:06 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.001319**	**-.005001**	**.0004526**	**-.001205**	**-.001493**	**.0260892**	**-.005673**
Stddev	.001426	.002849	.0004559	.001708	.001358	.0024588	.000869
%RSD	108.1219	56.97224	100.7285	141.7378	90.91001	9.424550	15.32013
#1	-.000823	-.006505	.0001968	-.000100	-.001705	.0249262	-.006079
#2	-.000207	-.001715	.0009789	-.000343	-.002732	.0244277	-.006265
#3	-.002926	-.006784	.0001820	-.003172	-.000042	.0289138	-.004675

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000008**	**-.000150**	**4.550899**	**.0000056**	**.0002394**	**.0356466**	**.0020903**
Stddev	.000007	.000033	.007210	.0002185	.0001098	.0001826	.0029796
%RSD	96.29859	21.71497	.1584317	3925.869	45.84696	.5121718	142.5422
#1	-.000013	-.000116	4.556961	.0002516	.0002903	.0357810	-.000617
#2	-.000011	-.000181	4.542926	-.000166	.0003145	.0354387	.005283
#3	.000001	-.000153	4.552811	-.000069	.0001135	.0357201	.001605

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0060157**	**1.164354**	**.0006480**	**.0004379**	**44.43836**	**.0003116**	**.0445164**
Stddev	.0004520	.004125	.0001632	.0002035	.16424	.0010049	.0002430
%RSD	7.514015	.3542499	25.18180	46.47523	.3695998	322.5469	.5457587
#1	.0057920	1.166705	.0004897	.0005276	44.41134	-.000388	.0444693
#2	.0057191	1.166766	.0006386	.0005811	44.61444	-.000141	.0443004
#3	.0065359	1.159591	.0008157	.0002049	44.28930	.001463	.0447794

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**45.56095**	**.0014402**	**.0001109**	**-.004594**	**-.000746**	**.5017496**	**1.992379**
Stddev	.23707	.0005288	.0000140	.000728	.000437	.0043256	.007403
%RSD	.5203261	36.71696	12.57148	15.84617	58.59420	.8621076	.3715765
#1	45.36679	.0019789	.0001228	-.005131	-.000253	.5024899	1.989336
#2	45.82514	.0014196	.0001145	-.003765	-.001087	.5056573	1.986983
#3	45.49092	.0009220	.0000956	-.004884	-.000897	.4971016	2.000819

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-04DLX5 Acquired: 9/16/2025 14:12:06 Type: Unk
Method: 6010-200.7 NEW(v174) 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	3.096851	-.009023	.0140683
Stddev	.006057	.001001	.0000623
%RSD	.1955995	11.09595	.4425646
#1	3.094833	-.009468	.0140584
#2	3.092060	-.009724	.0141350
#3	3.103660	-.007876	.0140117

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6638.685	115695.9	11932.39	5150.260	7919.023
Stddev	17.563	446.5	74.49	43.391	25.987
%RSD	.2645617	.3859568	.6242474	.8425001	.3281583
#1	6626.665	115915.7	11936.06	5158.823	7897.308
#2	6630.550	115989.9	12004.97	5188.730	7911.945
#3	6658.841	115182.0	11856.13	5103.226	7947.815

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-04DUPDLX5 Acquired: 9/16/2025 14:16:21 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.001870**	**-.004644**	**-.000604**	**-.002646**	**-.002420**	**.0286264**	**-.004442**
Stddev	.000634	.000455	.000132	.001339	.001378	.0075854	.000259
%RSD	33.92215	9.798977	21.80515	50.61155	56.94913	26.49789	5.822982
#1	-.001145	-.004129	-.000675	-.003964	-.001240	.0278580	-.004254
#2	-.002140	-.004812	-.000685	-.002687	-.002085	.0365668	-.004336
#3	-.002325	-.004992	-.000452	-.001287	-.003935	.0214545	-.004737

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000018**	**-.000134**	**5.000436**	**.0000456**	**.0002496**	**.0376802**	**.0002683**
Stddev	.000081	.000006	.033765	.0000889	.0001437	.0002744	.0058495
%RSD	458.5528	4.269411	.6752342	195.0011	57.54777	.7283543	2179.776
#1	-.000025	-.000128	5.036206	-.000015	.0002460	.0379339	.0058857
#2	-.000095	-.000140	4.995984	.000004	.0001078	.0377178	.0007078
#3	.000067	-.000133	4.969119	.000148	.0003951	.0373889	-.005788

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0064265**	**1.274226**	**.0007626**	**.0002537**	**48.78353**	**.0004207**	**.0488891**
Stddev	.0003689	.013425	.0001309	.0003513	.09104	.0032755	.0003226
%RSD	5.740389	1.053595	17.16079	138.4889	.1866214	778.6369	.6598292
#1	.0066251	1.270217	.0006681	.0005808	48.85544	.0029970	.0492597
#2	.0066536	1.263263	.0009120	-.000118	48.68117	-.003266	.0487358
#3	.0060009	1.289199	.0007077	.000298	48.81398	.001531	.0486717

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**50.32602**	**.0016812**	**-.000002**	**-.004626**	**-.001082**	**.5577798**	**2.149894**
Stddev	.05731	.0005766	.000103	.000677	.001231	.0025284	.017548
%RSD	.1138836	34.29511	4685.701	14.64503	113.7869	.4533031	.8162308
#1	50.38893	.0012645	-.000059	-.004022	-.000340	.5601649	2.145260
#2	50.27677	.0014399	-.000065	-.005359	-.000403	.5551291	2.169294
#3	50.31237	.0023393	.000117	-.004497	-.002502	.5580454	2.135128

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-04DUPDLX5 Acquired: 9/16/2025 14:16:21 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**3.335901**	**-.008915**	**.0154614**
Stddev	.029000	.000579	.0000619
%RSD	.8693200	6.498435	.4001968
#1	3.346845	-.009581	.0155078
#2	3.357836	-.008533	.0154852
#3	3.303022	-.008630	.0153911

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6552.611**	**114986.8**	**11931.13**	**5046.333**	**7820.573**
Stddev	19.203	317.6	36.89	4.952	20.055
%RSD	.2930651	.2762369	.3092056	.0981387	.2564376
#1	6554.433	115291.2	11932.74	5048.933	7829.580
#2	6532.562	114657.4	11893.47	5040.622	7797.593
#3	6570.839	115011.9	11967.20	5049.443	7834.544

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-04LDLX25 Acquired: 9/16/2025 14:20:36 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.000342**	**-.003415**	**.0002143**	**-.000170**	**-.001453**	**.0151058**	**-.004927**
Stddev	.001654	.000974	.0007064	.001489	.000606	.0047077	.000638
%RSD	483.6966	28.50579	329.6723	876.1623	41.71105	31.16478	12.94786
#1	.000163	-.004261	.0003713	.000343	-.000766	.0199429	-.005317
#2	-.002190	-.002351	-.000557	-.001848	-.001685	.0105392	-.005273
#3	.001001	-.003633	.000829	.000995	-.001910	.0148352	-.004191

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000641**	**-.000156**	**.9660085**	**-.000227**	**-.000095**	**.0072640**	**-.003490**
Stddev	.0000272	.000034	.0068721	.000182	.000105	.0000798	.004305
%RSD	42.38181	21.55366	.7113957	80.34503	110.6516	1.099034	123.3404
#1	.0000785	-.000174	.9580753	-.000152	-.000044	.0073295	-.000007
#2	.0000328	-.000117	.9701312	-.000094	-.000215	.0072875	-.008304
#3	.0000811	-.000177	.9698191	-.000435	-.000025	.0071751	-.002161

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014819**	**.2605290**	**.0001115**	**.0005918**	**8.471401**	**.0015857**	**.0088475**
Stddev	.0002918	.0117647	.0000758	.0004706	.141555	.0018577	.0003950
%RSD	19.69158	4.515689	67.94948	79.52092	1.670970	117.1523	4.465157
#1	.0017807	.2561946	.0000514	.0005701	8.467623	.0021221	.0088080
#2	.0011976	.2738460	.0000865	.0010730	8.331773	-.000481	.0084736
#3	.0014676	.2515464	.0001967	.0001325	8.614807	.003116	.0092607

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.107746**	**-.001665**	**-.000269**	**-.002893**	**.0002265**	**.0976978**	**.4133077**
Stddev	.167285	.000435	.000088	.000135	.0009974	.0115411	.0025201
%RSD	1.836735	26.13549	32.55438	4.669116	440.3277	11.81308	.6097356
#1	9.057227	-.002125	-.000261	-.002926	-.000909	.0946850	.4161265
#2	8.971543	-.001610	-.000186	-.002745	.000962	.0879618	.4112727
#3	9.294468	-.001260	-.000361	-.003009	.000626	.1104465	.4125238

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-04LDLX25 Acquired: 9/16/2025 14:20:36 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.6186587	-.009075	.0026591
Stddev	.0042153	.000562	.0001309
%RSD	.6813602	6.191393	4.922943
#1	.6225920	-.009317	.0027242
#2	.6191752	-.008433	.0027448
#3	.6142090	-.009476	.0025085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6558.653	114900.7	11285.92	5141.666	8130.452
Stddev	29.466	1504.8	54.71	85.958	46.590
%RSD	.4492764	1.309694	.4847777	1.671788	.5730321
#1	6528.954	115049.8	11246.39	5170.733	8079.538
#2	6587.882	116325.4	11262.99	5209.322	8170.957
#3	6559.123	113326.8	11348.36	5044.944	8140.863

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-05DLX5 Acquired: 9/16/2025 14:24:54 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.1668448**	**.4043480**	**.1970262**	**.4133626**	**.1647576**	**.4307695**	**.0358923**
Stddev	.0007501	.0126802	.0015896	.0032122	.0007372	.0058090	.0012608
%RSD	.4496040	3.135967	.8067765	.7771006	.4474515	1.348507	3.512611
#1	.1677107	.4189189	.1988530	.4161353	.1649666	.4353307	.0345291
#2	.1663921	.3958158	.1962673	.4141099	.1639384	.4327480	.0370164
#3	.1664317	.3983093	.1959583	.4098426	.1653676	.4242297	.0361315

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0385338**	**.0404556**	**5.513586**	**.0849311**	**.0412734**	**.1040676**	**.1406622**
Stddev	.0001542	.0001806	.014791	.0003234	.0000984	.0007233	.0052551
%RSD	.4000719	.4463123	.2682575	.3807233	.2384485	.6950235	3.735990
#1	.0386884	.0406238	5.504568	.0852987	.0413074	.1048956	.1362949
#2	.0383801	.0404781	5.505535	.0846906	.0413503	.1037481	.1391974
#3	.0385328	.0402648	5.530656	.0848040	.0411625	.1035591	.1464943

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0463499**	**1.754277**	**.1032146**	**.0150361**	**51.59039**	**.0608353**	**.0951410**
Stddev	.0007072	.011486	.0006055	.0002322	.18151	.0024880	.0004083
%RSD	1.525786	.6547571	.5866694	1.544061	.3518342	4.089762	.4291794
#1	.0457755	1.766858	.1039007	.0152113	51.79991	.0599259	.0955925
#2	.0461344	1.744351	.1029884	.0151244	51.48078	.0589298	.0947976
#3	.0471398	1.751621	.1027548	.0147728	51.49048	.0636500	.0950330

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**54.74514**	**.0585648**	**.0828959**	**-.001541**	**.0087888**	**.7735873**	**3.279669**
Stddev	.09880	.0015929	.0007587	.000298	.0014693	.0066985	.020698
%RSD	.1804686	2.719840	.9152677	19.36395	16.71827	.8658962	.6311104
#1	54.85183	.0598501	.0828277	-.001530	.0079428	.7790309	3.302832
#2	54.72676	.0567828	.0836865	-.001844	.0104854	.7661068	3.273190
#3	54.65682	.0590616	.0821736	-.001248	.0079382	.7756242	3.262986

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-05DLX5 Acquired: 9/16/2025 14:24:54 Type: Unk
Method: 6010-200.7 NEW(v174) 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	3.611910	.0325639	.0568692
Stddev	.024789	.0010760	.0002713
%RSD	.6863205	3.304131	.4770393
#1	3.640338	.0329657	.0571821
#2	3.600590	.0313448	.0566993
#3	3.594801	.0333811	.0567262

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6356.995	112135.0	11535.11	4959.841	7522.285
Stddev	12.433	134.8	45.39	20.719	6.983
%RSD	.1955831	.1202331	.3934800	.4177261	.0928267
#1	6342.915	112014.3	11485.34	4953.499	7518.392
#2	6366.463	112110.1	11574.21	4943.034	7530.346
#3	6361.607	112280.5	11545.79	4982.989	7518.116

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV03 Acquired: 9/16/2025 14:40:42 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.872407**	**4.641705**	**4.708629**	**4.874890**	**4.904987**	**9.517914**	**9.289982**
Stddev	.007852	.139158	.010286	.009275	.005992	.141165	.126250
%RSD	.1611564	2.997994	.2184594	.1902531	.1221550	1.483151	1.358986
#1	4.864482	4.613805	4.697534	4.883903	4.900202	9.680128	9.372303
#2	4.880184	4.792699	4.710504	4.875393	4.903052	9.450682	9.353016
#3	4.872555	4.518610	4.717848	4.865374	4.911707	9.422932	9.144628

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2275050**	**2.356120**	**23.59506**	**.9661183**	**2.362473**	**1.201185**	**4.936888**
Stddev	.0038337	.001858	.33032	.0024483	.003912	.001642	.016903
%RSD	1.685109	.0788425	1.399964	.2534150	.1655808	.1367175	.3423815
#1	.2318528	2.354086	23.97636	.9683507	2.359878	1.202009	4.945821
#2	.2260523	2.356549	23.41285	.9635000	2.360570	1.199294	4.917392
#3	.2246100	2.357727	23.39597	.9665042	2.366973	1.202252	4.947449

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.324567**	**23.54890**	**2.361134**	**1.209729**	**24.00163**	**2.396879**	**2.423847**
Stddev	.042247	.28763	.003728	.003333	.13129	.035343	.005584
%RSD	1.817416	1.221404	.1578813	.2755006	.5470250	1.474534	.2303949
#1	2.373333	23.87603	2.357719	1.212861	24.11877	2.437379	2.421765
#2	2.301299	23.43503	2.360571	1.206226	23.85972	2.380974	2.419603
#3	2.299070	23.33564	2.365111	1.210098	24.02641	2.372283	2.430174

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.70004**	**4.558153**	**4.879444**	**4.735252**	**4.747689**	**4.991026**	**4.834821**
Stddev	.13043	.076721	.003015	.009882	.077808	.031709	.022541
%RSD	.5280562	1.683170	.0617887	.2086835	1.638862	.6353264	.4662172
#1	24.62563	4.645157	4.882798	4.730543	4.837374	4.955936	4.826740
#2	24.62385	4.529106	4.878576	4.746607	4.707476	4.999517	4.860288
#3	24.85065	4.500196	4.876958	4.728606	4.698216	5.017626	4.817434

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV03 Acquired: 9/16/2025 14:40:42 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**4.688861**	**4.619103**	**4.775070**
Stddev	.036558	.074313	.082386
%RSD	.7796869	1.608814	1.725340
#1	4.698451	4.704909	4.866796
#2	4.719669	4.576849	4.707361
#3	4.648464	4.575552	4.751054

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6350.407**	**111074.5**	**11244.84**	**4929.051**	**7416.055**
Stddev	14.888	169.3	188.43	5.188	22.563
%RSD	.2344341	.1524381	1.675704	.1052579	.3042407
#1	6366.231	111034.4	11042.91	4928.988	7441.347
#2	6348.312	110928.9	11275.63	4934.271	7408.820
#3	6336.679	111260.3	11415.98	4923.895	7397.997

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB03 Acquired: 9/16/2025 14:47:06 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000529**	**-.003816**	**-.000064**	**-.001320**	**-.000219**	**.0160764**	**-.004995**
Stddev	.0018421	.000982	.001359	.002034	.000878	.0092074	.000032
%RSD	3481.253	25.72859	2110.089	154.1017	401.1605	57.27282	.6427966
#1	.0007916	-.002722	.001496	-.001817	.000063	.0266118	-.004958
#2	.0014110	-.004105	-.000705	-.003059	-.001203	.0120460	-.005016
#3	-.002044	-.004620	-.000984	.000917	.000483	.0095715	-.005011

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000080**	**-.000134**	**.0031263**	**-.000007**	**.0000127**	**-.000336**	**.0020413**
Stddev	.0000456	.000035	.0071800	.000270	.0000861	.000136	.0031304
%RSD	570.3676	26.33555	229.6663	3677.334	677.0146	40.48186	153.3530
#1	.0000216	-.000098	-.004044	.000186	-.000060	-.000345	-.001572
#2	.0000453	-.000136	.003106	.000107	-.000009	-.000195	.003928
#3	-.000043	-.000168	.010316	-.000315	.000108	-.000467	.003769

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000196**	**-.009921**	**.0002888**	**.0003308**	**-.186348**	**.0011452**	**-.000251**
Stddev	.000251	.028956	.0002691	.0001927	.012753	.0004078	.000154
%RSD	128.0435	291.8731	93.20707	58.24777	6.843449	35.60661	61.19701
#1	.000078	-.043304	.0000383	.0001146	-.199533	.0006888	-.000392
#2	-.000252	.008382	.0005733	.0003933	-.174077	.0012734	-.000087
#3	-.000415	.005160	.0002546	.0004844	-.185434	.0014735	-.000274

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.123926**	**-.000752**	**.0002275**	**-.001806**	**.0004151**	**-.005303**	**.0003445**
Stddev	.055438	.000150	.0001232	.000373	.0011129	.001575	.0010644
%RSD	44.73464	19.92910	54.14438	20.62853	268.0924	29.68904	309.0168
#1	-.184489	-.000925	.0002372	-.002158	.0007036	-.005088	-.000595
#2	-.111602	-.000670	.0003455	-.001843	-.000814	-.003847	.000127
#3	-.075687	-.000661	.0000997	-.001416	.001355	-.006974	.001501

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB03 Acquired: 9/16/2025 14:47:06 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.002774**	**-.007922**	**-.000369**
Stddev	.000576	.000963	.000027
%RSD	20.74604	12.16204	7.266083
#1	-.002538	-.009016	-.000374
#2	-.003430	-.007199	-.000340
#3	-.002355	-.007551	-.000393

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6541.304**	**115404.0**	**11351.14**	**5070.972**	**8259.649**
Stddev	15.252	282.7	66.67	26.631	14.629
%RSD	.2331705	.2449635	.5873627	.5251699	.1771182
#1	6558.711	115331.8	11299.58	5040.533	8273.505
#2	6534.913	115164.4	11426.43	5082.411	8261.089
#3	6530.286	115715.8	11327.41	5089.973	8244.352

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-06DLX5 Acquired: 9/16/2025 14:51:26 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.1560391**	**.3667270**	**.1829860**	**.3858269**	**.1548921**	**.4062487**	**.0346747**
Stddev	.0020563	.0077548	.0017986	.0028831	.0009448	.0086463	.0006753
%RSD	1.317788	2.114607	.9828921	.7472460	.6099486	2.128330	1.947607
#1	.1577212	.3590247	.1850609	.3891528	.1550198	.4132455	.0343027
#2	.1566494	.3666231	.1820270	.3842887	.1557665	.4089182	.0342671
#3	.1537468	.3745333	.1818703	.3840390	.1538900	.3965825	.0354542

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0367292**	**.0372955**	**5.154204**	**.0809984**	**.0383572**	**.0956416**	**.1854945**
Stddev	.0003064	.0003847	.010593	.0003819	.0004061	.0011667	.0034693
%RSD	.8342840	1.031605	.2055230	.4715415	1.058756	1.219878	1.870282
#1	.0370602	.0376528	5.146707	.0814253	.0387272	.0968718	.1830397
#2	.0366722	.0373454	5.166323	.0806890	.0384217	.0955020	.1894635
#3	.0364554	.0368882	5.149582	.0808809	.0379227	.0945509	.1839803

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0440735**	**1.651303**	**.0952213**	**.0145374**	**48.82455**	**.0596670**	**.0892245**
Stddev	.0012248	.013874	.0011753	.0002651	.51868	.0007181	.0001008
%RSD	2.779016	.8402051	1.234234	1.823234	1.062342	1.203424	.1129255
#1	.0427281	1.654672	.0964472	.0143984	48.23034	.0604573	.0892712
#2	.0451237	1.663183	.0951122	.0143708	49.18661	.0594890	.0891089
#3	.0443687	1.636055	.0941043	.0148431	49.05670	.0590547	.0892934

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**51.61788**	**.0555422**	**.0787543**	**-.000835**	**.0127686**	**.7375502**	**2.947271**
Stddev	.42091	.0005331	.0004132	.000422	.0001627	.0089991	.002724
%RSD	.8154297	.9598004	.5246288	50.55015	1.274264	1.220134	.0924285
#1	51.13489	.0560805	.0790317	-.001322	.0125876	.7321074	2.944149
#2	51.90629	.0555315	.0789518	-.000574	.0128156	.7326057	2.948500
#3	51.81247	.0550145	.0782795	-.000609	.0129027	.7479375	2.949164

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-06DLX5 Acquired: 9/16/2025 14:51:26 Type: Unk
Method: 6010-200.7 NEW(v174) 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	3.244963	.0298633	.0535889
Stddev	.003680	.0009715	.0003561
%RSD	.1134016	3.253037	.6645478
#1	3.243281	.0289152	.0532165
#2	3.249183	.0298182	.0539261
#3	3.242424	.0308565	.0536242

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6485.479	111676.5	11623.41	4985.508	7749.452
Stddev	4.387	257.0	69.31	12.439	.816
%RSD	.0676361	.2300852	.5962741	.2495039	.0105294
#1	6485.300	111515.5	11543.54	4996.522	7748.563
#2	6489.953	111972.8	11659.04	4987.986	7749.624
#3	6481.185	111541.2	11667.66	4972.017	7750.168

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-04ADLX5 Acquired: 9/16/2025 14:55:33 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.1409750**	**.3382588**	**.1687672**	**.3532270**	**.1438500**	**.3628866**	**.0293107**
Stddev	.0022145	.0079891	.0009000	.0035651	.0010453	.0013372	.0006062
%RSD	1.570853	2.361824	.5332798	1.009301	.7266253	.3684957	2.068285
#1	.1417788	.3430144	.1677350	.3509162	.1427003	.3615296	.0288164
#2	.1426753	.3427267	.1693879	.3573329	.1447430	.3629270	.0291285
#3	.1384708	.3290353	.1691787	.3514320	.1441068	.3642032	.0299871

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0331246**	**.0344084**	**4.830848**	**.0720685**	**.0351145**	**.0903259**	**.5062812**
Stddev	.0001600	.0003109	.019742	.0017270	.0003191	.0008490	.0108509
%RSD	.4831318	.9035015	.4086586	2.396374	.9087844	.9399598	2.143250
#1	.0332406	.0341308	4.810236	.0740613	.0348544	.0893645	.5187884
#2	.0331913	.0347443	4.849585	.0710079	.0354706	.0909730	.4993815
#3	.0329421	.0343502	4.832722	.0711364	.0350184	.0906401	.5006735

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0398286**	**1.527176**	**.0881935**	**.0134330**	**45.68155**	**.0546983**	**.0827212**
Stddev	.0005651	.005847	.0007460	.0002812	.93124	.0010695	.0019220
%RSD	1.418848	.3828378	.8459241	2.093593	2.038546	1.955225	2.323403
#1	.0404611	1.520993	.0875595	.0135236	46.70671	.0536235	.0849404
#2	.0393733	1.527918	.0890156	.0131177	44.88793	.0557623	.0815943
#3	.0396514	1.532616	.0880055	.0136578	45.45000	.0547091	.0816290

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**48.12172**	**.0507326**	**.0738173**	**.1119372**	**.0295281**	**.6961913**	**2.965587**
Stddev	.96367	.0003042	.0008043	.0007681	.0019886	.0184310	.027517
%RSD	2.002565	.5996403	1.089576	.6862266	6.734737	2.647408	.9278667
#1	49.20619	.0510320	.0735321	.1114427	.0306797	.7173030	2.942046
#2	47.36359	.0504238	.0747254	.1128221	.0272318	.6879650	2.995838
#3	47.79539	.0507421	.0731945	.1115468	.0306728	.6833061	2.958876

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3098-04ADLX5 Acquired: 9/16/2025 14:55:33 Type: Unk
Method: 6010-200.7 NEW(v174) 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	3.150999	.0255853	.0482882
Stddev	.028911	.0006496	.0002450
%RSD	.9175137	2.539170	.5073028
#1	3.132086	.0248647	.0482409
#2	3.184279	.0257650	.0480703
#3	3.136632	.0261262	.0485534

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6428.093	112733.8	11653.60	4961.065	7654.425
Stddev	26.776	2169.0	23.46	99.578	31.304
%RSD	.4165388	1.923975	.2012807	2.007196	.4089709
#1	6453.522	110253.9	11647.89	4846.128	7685.841
#2	6400.149	114277.1	11679.38	5015.736	7623.234
#3	6430.609	113670.4	11633.52	5021.333	7654.200

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01 Acquired: 9/16/2025 14:59:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.1031734**	**-.033964**	**2.406692**	**.0096460**	**-.002484**	**159.7449**	**1.185162**
Stddev	.0023980	.001946	.003630	.0054159	.001881	.2300	.003811
%RSD	2.324254	5.730963	.1508415	56.14651	75.72968	.1439827	.3215914
#1	.1058943	-.035918	2.405976	.0077653	-.004458	159.5364	1.183798
#2	.1022584	-.033950	2.410627	.0054212	-.002284	159.7068	1.189467
#3	.1013677	-.032025	2.403473	.0157516	-.000711	159.9916	1.182220

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0128867**	**.0177480**	**68.22624**	**.2000758**	**.1378476**	**1.921337**	**326.8244**
Stddev	.0000964	.0000592	.10629	.0012345	.0002821	.000601	1.6611
%RSD	.7481833	.3335704	.1557913	.6169986	.2046488	.0312771	.5082448
#1	.0129005	.0177200	68.10587	.2005138	.1381721	1.922011	325.7395
#2	.0129754	.0177080	68.26571	.2010316	.1376612	1.921143	328.7367
#3	.0127841	.0178160	68.30716	.1986821	.1377093	1.920857	325.9971

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.518784**	**52.26287**	**.3258534**	**.0109101**	**1.601484**	**.3244642**	**5.894070**
Stddev	.021353	.14310	.0002396	.0009304	.012490	.0013835	.033646
%RSD	.3275607	.2738116	.0735429	8.527556	.7799325	.4263914	.5708484
#1	6.499143	52.10481	.3261118	.0098932	1.603992	.3249387	5.899241
#2	6.541513	52.38363	.3258100	.0117186	1.612530	.3255481	5.924831
#3	6.515696	52.30016	.3256385	.0111185	1.587930	.3229059	5.858137

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**17.63345**	**.1679278**	**.0085539**	**.2774074**	**3.138950**	**4.777486**	**5.175489**
Stddev	.06429	.0073310	.0001028	.0015968	.004668	.007534	.024831
%RSD	.3645835	4.365581	1.201908	.5756211	.1487031	.1577053	.4797750
#1	17.65169	.1607162	.0085512	.2790453	3.134830	4.776758	5.170479
#2	17.68666	.1753727	.0084525	.2773220	3.144020	4.785357	5.202443
#3	17.56202	.1676947	.0086581	.2758551	3.138000	4.770341	5.153545

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01 Acquired: 9/16/2025 14:59:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	4.025021	.3188547	.3671533
Stddev	.021320	.0006518	.0009415
%RSD	.5296980	.2044268	.2564344
#1	4.028547	.3181700	.3679792
#2	4.044359	.3194678	.3673527
#3	4.002158	.3189262	.3661281

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7385.767	129230.2	14043.54	5728.779	7245.193
Stddev	8.522	197.6	12.32	28.870	8.991
%RSD	.1153790	.1529313	.0877600	.5039419	.1240977
#1	7378.147	129161.3	14037.23	5711.273	7239.242
#2	7384.185	129076.3	14057.74	5712.963	7240.800
#3	7394.969	129453.1	14035.65	5762.100	7255.536

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01DUP Acquired: 9/16/2025 15:03:41 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.1034702**	**-.032717**	**2.431499**	**.0087433**	**-.005458**	**161.6477**
Stddev	.0014201	.001049	.001657	.0030256	.002626	.1676
%RSD	1.372488	3.207087	.0681349	34.60422	48.10991	.1036798
#1	.1047900	-.033897	2.433319	.0107939	-.003084	161.6251
#2	.1019675	-.031887	2.430079	.0052685	-.005011	161.4925
#3	.1036531	-.032368	2.431098	.0101676	-.008278	161.8254

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.194604**	**.0126735**	**.0163840**	**66.07247**	**.1992526**	**.1338666**
Stddev	.002072	.0000595	.0001368	.09743	.0005893	.0001207
%RSD	.1734469	.4690619	.8352497	.1474655	.2957651	.0901546
#1	1.195421	.0127113	.0162428	66.06424	.1995426	.1338044
#2	1.196144	.0126050	.0163932	66.17376	.1985745	.1337897
#3	1.192248	.0127042	.0165161	65.97941	.1996407	.1340057

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.977582**	**327.9241**	**5.993130**	**50.84483**	**.3166411**	**.0116072**
Stddev	.002429	1.0998	.004284	.11439	.0004024	.0003055
%RSD	.1228303	.3353882	.0714741	.2249803	.1270759	2.631808
#1	1.980376	329.0781	5.996419	50.73713	.3168210	.0118913
#2	1.976404	327.8061	5.994685	50.83246	.3161802	.0112841
#3	1.975967	326.8880	5.988286	50.96490	.3169222	.0116463

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.598277**	**.3269620**	**5.868880**	**17.95155**	**.1666284**	**.0074375**
Stddev	.002310	.0030558	.008153	.10618	.0016015	.0002939
%RSD	.1445193	.9346130	.1389129	.5914796	.9611180	3.951662
#1	1.600805	.3238927	5.866995	18.05513	.1674930	.0077740
#2	1.597751	.3269890	5.861834	17.95656	.1647804	.0073076
#3	1.596277	.3300042	5.877809	17.84295	.1676117	.0072309

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01DUP Acquired: 9/16/2025 15:03:41 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.3337927	3.357938	F 10.76709	5.128827	4.135433	.3177588
Stddev	.0007541	.004631	.04372	.036687	.028204	.0019384
%RSD	.2259243	.1379028	.4060426	.7153193	.6820119	.6100349
#1	.3341504	3.361107	10.79808	5.112728	4.134038	.3174598
#2	.3343013	3.360084	10.78611	5.102941	4.107952	.3198294
#3	.3329263	3.352624	10.71708	5.170811	4.164309	.3159872

Elem	Sr4077
Units	ppm
Avg	.3546415
Stddev	.0013073
%RSD	.3686241
#1	.3548680
#2	.3558207
#3	.3532357

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7401.349	129842.8	14114.19	5735.552	7314.076
Stddev	5.855	197.5	46.13	17.011	9.493
%RSD	.0791091	.1521324	.3268089	.2965898	.1297921
#1	7394.726	129684.6	14147.34	5734.462	7304.951
#2	7405.838	130064.2	14133.71	5753.082	7323.899
#3	7403.483	129779.5	14061.51	5719.113	7313.377

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01LX5 Acquired: 9/16/2025 15:07:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0220099**	**-.009003**	**.5038439**	**.0003997**	**-.002624**	**39.27155**	**.2883558**
Stddev	.0012032	.003490	.0114506	.0048751	.000965	1.92152	.0157376
%RSD	5.466779	38.76897	2.272646	1219.700	36.79298	4.892901	5.457693
#1	.0209667	-.010109	.5118476	.0050197	-.003489	41.49025	.3065210
#2	.0217369	-.005093	.4907277	.0008751	-.002799	38.14606	.2797105
#3	.0233262	-.011806	.5089565	-.004696	-.001583	38.17835	.2788359

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0034127**	**.0022013**	**17.30150**	**.0486089**	**.0276049**	**.4704729**	**77.77686**
Stddev	.0001008	.0002158	.85491	.0007292	.0003674	.0100667	1.63959
%RSD	2.952561	9.804208	4.941224	1.500040	1.330929	2.139690	2.108070
#1	.0035286	.0021444	18.28849	.0494296	.0278946	.4769825	79.60222
#2	.0033459	.0020196	16.82415	.0483609	.0271917	.4588780	77.29927
#3	.0033635	.0024398	16.79187	.0480360	.0277285	.4755581	76.42909

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.661896**	**13.27609**	**.0669053**	**.0022585**	**.2198742**	**.0822039**	**1.456092**
Stddev	.086219	.66795	.0009710	.0003156	.0098142	.0031135	.013536
%RSD	5.187969	5.031250	1.451380	13.97173	4.463543	3.787576	.9295909
#1	1.761427	14.04735	.0675137	.0022678	.2096360	.0857119	1.471013
#2	1.614076	12.88491	.0657854	.0025692	.2292007	.0811316	1.452661
#3	1.610185	12.89601	.0674168	.0019383	.2207858	.0797683	1.444602

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.828510**	**.0251433**	**.0015875**	**.0542078**	**.7850389**	**1.086140**	**1.047783**
Stddev	.065840	.0057226	.0001352	.0009633	.0379473	.015873	.016894
%RSD	1.719733	22.76010	8.515096	1.777073	4.833808	1.461428	1.612353
#1	3.903356	.0187217	.0017404	.0548726	.8288566	1.102931	1.062311
#2	3.802643	.0297036	.0015381	.0531031	.7632183	1.071380	1.029245
#3	3.779532	.0270045	.0014840	.0546478	.7630419	1.084110	1.051793

Sample Name: Q3082-01LX5 Acquired: 9/16/2025 15:07:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.7960076	.0700884	.0931373
Stddev	.0179566	.0037598	.0068688
%RSD	2.255832	5.364328	7.374944
#1	.8102474	.0743614	.1010678
#2	.7758355	.0672871	.0890688
#3	.8019400	.0686167	.0892753

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6833.265	116586.4	11683.62	5199.484	7952.639
Stddev	129.061	1245.1	459.47	36.032	156.572
%RSD	1.888711	1.067962	3.932627	.6929840	1.968800
#1	6761.492	115220.8	11153.19	5166.785	7859.945
#2	6982.258	116879.8	11938.74	5193.555	8133.413
#3	6756.045	117658.6	11958.92	5238.112	7864.560

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01MS Acquired: 9/16/2025 15:11:45 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.6652929**	**1.351920**	**3.582829**	**1.334845**	**.2230438**	**211.9120**
Stddev	.0011227	.018715	.006878	.001356	.0022010	4.1055
%RSD	.1687460	1.384298	.1919755	.1015749	.9868001	1.937379
#1	.6664922	1.330641	3.590362	1.335351	.2254802	209.3508
#2	.6642671	1.359298	3.581242	1.333309	.2211992	216.6474
#3	.6651194	1.365821	3.576883	1.335874	.2224520	209.7378

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.489591**	**.1408620**	**.1891922**	**161.1513**	**.5137645**	**.3481836**
Stddev	.002687	.0011068	.0005032	.1903	.0016018	.0003321
%RSD	.1803750	.7857369	.2659928	.1180671	.3117734	.0953690
#1	1.488103	.1402218	.1894059	161.3122	.5128182	.3484113
#2	1.487978	.1421400	.1895533	161.2004	.5156139	.3483369
#3	1.492693	.1402241	.1886174	160.9413	.5128613	.3478026

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.227686**	**361.1732**	**6.092231**	**78.61557**	**.7987816**	**.0656251**
Stddev	.000409	.8566	.011766	.10614	.0009144	.0001411
%RSD	.0183758	.2371844	.1931384	.1350120	.1144773	.2150589
#1	2.227608	361.7016	6.078755	78.49317	.7997250	.0656396
#2	2.227322	360.1848	6.097471	78.67124	.7987207	.0654773
#3	2.228129	361.6331	6.100467	78.68229	.7978992	.0657585

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.002039**	**.5771714**	**6.631402**	**39.92388**	**.3309365**	**.2697932**
Stddev	.017706	.0015080	.032178	.13572	.0083058	.0005381
%RSD	.3539768	.2612692	.4852407	.3399486	2.509789	.1994356
#1	4.998856	.5782956	6.599752	39.98528	.3318480	.2696988
#2	4.986140	.5777608	6.664084	39.76831	.3222125	.2693086
#3	5.021121	.5754577	6.630370	40.01805	.3387489	.2703722

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01MS Acquired: 9/16/2025 15:11:45 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.7150807	5.122038	F 15.55064	F 10.81039	4.629078	.5032815
Stddev	.0005196	.003299	.07993	.03174	.036393	.0005617
%RSD	.0726603	.0644146	.5140269	.2936320	.7861887	.1116034
#1	.7156459	5.123126	15.63835	10.78110	4.587836	.5026802
#2	.7149725	5.118332	15.48190	10.84412	4.642713	.5033716
#3	.7146238	5.124656	15.53166	10.80595	4.656685	.5037926

Elem	Sr4077
Units	ppm
Avg	.8433079
Stddev	.0021965
%RSD	.2604641
#1	.8409842
#2	.8435895
#3	.8453501

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7697.648	134807.0	14903.22	5927.070	6894.793
Stddev	4.158	326.9	92.19	38.063	7.351
%RSD	.0540202	.2424616	.6186212	.6421881	.1066111
#1	7700.225	135058.1	14987.49	5969.404	6893.719
#2	7699.868	134437.4	14804.75	5895.673	6888.039
#3	7692.851	134925.4	14917.42	5916.132	6902.622

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01MSD Acquired: 9/16/2025 15:15:49 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.8434493**	**1.490632**	**3.554612**	**1.416486**	**.2866198**	**189.5407**
Stddev	.0034236	.048454	.003253	.006662	.0016660	.2112
%RSD	.4058987	3.250577	.0915069	.4703443	.5812421	.1114206
#1	.8474015	1.536153	3.554533	1.423853	.2846996	189.7804
#2	.8415459	1.496043	3.557904	1.414722	.2874795	189.3823
#3	.8414003	1.439699	3.551400	1.410883	.2876803	189.4593

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.463554**	**.1461004**	**.1797619**	**56.02740**	**.5252022**	**.3305801**
Stddev	.002685	.0005158	.0001560	.05045	.0011438	.0003156
%RSD	.1834808	.3530451	.0867944	.0900527	.2177838	.0954681
#1	1.464514	.1464789	.1796547	56.06269	.5263398	.3302190
#2	1.465629	.1463094	.1799409	56.04990	.5240523	.3307181
#3	1.460521	.1455129	.1796900	55.96961	.5252146	.3308031

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.375628**	**423.7468**	**8.047810**	**60.13093**	**.8176897**	**.0720795**
Stddev	.003603	.5804	.019742	.12767	.0008591	.0004549
%RSD	.1516493	.1369716	.2453031	.2123239	.1050687	.6311277
#1	2.372472	423.5982	8.062835	60.22949	.8172239	.0722055
#2	2.379554	423.2552	8.055143	60.17661	.8186812	.0715748
#3	2.374860	424.3871	8.025451	59.98671	.8171641	.0724580

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.854792**	**.5930286**	**6.511709**	**27.44108**	**.3331743**	**.3050700**
Stddev	.006033	.0015658	.016146	.06923	.0111004	.0002682
%RSD	.1565185	.2640279	.2479554	.2522851	3.331698	.0879199
#1	3.848131	.5936137	6.528469	27.36572	.3236741	.3053429
#2	3.856354	.5912546	6.496256	27.45567	.3304727	.3048068
#3	3.859891	.5942176	6.510402	27.50185	.3453761	.3050604

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01MSD Acquired: 9/16/2025 15:15:49 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.6823576	3.506681	5.375460	F 10.59623	5.650045	.5117020
Stddev	.0005082	.007287	.010959	.09820	.068030	.0017168
%RSD	.0744760	.2078118	.2038788	.9267907	1.204060	.3355047
#1	.6829011	3.514370	5.369180	10.70949	5.725755	.5101392
#2	.6818942	3.505798	5.369085	10.54431	5.630329	.5114273
#3	.6822776	3.499876	5.388115	10.53488	5.594050	.5135396

Elem	Sr4077
Units	ppm
Avg	.4554928
Stddev	.0015407
%RSD	.3382423
#1	.4566433
#2	.4560926
#3	.4537424

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7207.410	125758.0	13659.44	5554.845	7199.544
Stddev	16.695	142.0	59.88	11.665	13.017
%RSD	.2316340	.1129227	.4383621	.2099912	.1808041
#1	7195.098	125790.0	13633.24	5541.390	7188.898
#2	7200.719	125602.7	13617.13	5562.122	7195.679
#3	7226.412	125881.2	13727.96	5561.021	7214.056

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01A Acquired: 9/16/2025 15:19:45 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.6990673**	**1.572263**	**3.140553**	**1.484428**	**.6046790**	**160.7609**
Stddev	.0089793	.048654	.033850	.019249	.0069279	.6406
%RSD	1.284464	3.094499	1.077838	1.296723	1.145717	.3984927
#1	.7056727	1.540774	3.146808	1.486374	.6100727	161.3603
#2	.7026860	1.628301	3.170839	1.502631	.6070984	160.0858
#3	.6888434	1.547716	3.104012	1.464280	.5968658	160.8367

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.328627**	**.1461725**	**.1844111**	**69.08091**	**.4928533**	**.3084247**
Stddev	.006696	.0007063	.0023196	.31104	.0019399	.0031487
%RSD	.5039742	.4831766	1.257868	.4502570	.3936048	1.020907
#1	1.332899	.1469736	.1848779	69.40164	.4909711	.3091514
#2	1.320910	.1459043	.1864619	68.78055	.4927426	.3111466
#3	1.332072	.1456396	.1818935	69.06055	.4948461	.3049762

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.058904**	**329.9948**	**6.844135**	**53.85209**	**.7464837**	**.0699303**
Stddev	.017653	1.8348	.039534	.22425	.0062001	.0006322
%RSD	.8574214	.5559983	.5776362	.4164275	.8305757	.9040780
#1	2.066247	328.6943	6.884619	54.10223	.7489183	.0697051
#2	2.071700	329.1967	6.805624	53.66902	.7510970	.0694415
#3	2.038764	332.0934	6.842161	53.78503	.7394358	.0706443

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.031387**	**.5422052**	**5.958632**	**26.21589**	**.3758947**	**.3147883**
Stddev	.044272	.0000856	.035668	.15639	.0046624	.0028753
%RSD	1.098179	.0157852	.5985968	.5965413	1.240354	.9134052
#1	3.982959	.5422780	5.919875	26.07072	.3706001	.3154028
#2	4.041420	.5421110	5.990078	26.19544	.3793866	.3173067
#3	4.069781	.5422267	5.965943	26.38149	.3776974	.3116554

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3082-01A Acquired: 9/16/2025 15:19:45 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.8344079	3.622593	F 13.95216	F 10.12209	3.988214	.4709677
Stddev	.0071910	.022012	.18978	.15963	.052502	.0027858
%RSD	.8618078	.6076196	1.360235	1.577026	1.316435	.5914939
#1	.8362808	3.636013	13.80168	10.10808	3.978700	.4729516
#2	.8404772	3.597190	13.88945	10.28826	4.044822	.4677829
#3	.8264658	3.634576	14.16537	9.96993	3.941119	.4721685

Elem	Sr4077
Units	ppm
Avg	.5135346
Stddev	.0046151
%RSD	.8986917
#1	.5188043
#2	.5102130
#3	.5115864

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7371.617	128258.7	14014.32	5688.695	7204.676
Stddev	57.527	519.4	85.54	39.181	67.538
%RSD	.7803862	.4049660	.6103480	.6887591	.9374144
#1	7344.168	128618.3	13921.70	5733.918	7177.586
#2	7332.956	128494.6	14090.34	5667.244	7154.889
#3	7437.728	127663.2	14030.94	5664.923	7281.553

Sample Name: PB169706BL Acquired: 9/16/2025 15:23:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.001285**	**-.003899**	**-.000015**	**-.001447**	**-.001278**	**.0172281**	**-.005943**
Stddev	.002090	.001289	.000227	.001260	.001059	.0014957	.000288
%RSD	162.5924	33.07300	1470.186	87.10027	82.80865	8.681773	4.841429
#1	-.002738	-.003755	.000038	-.001569	-.000214	.0176319	-.006068
#2	-.002228	-.005254	.000180	-.000130	-.002331	.0184804	-.006147
#3	.001110	-.002687	-.000264	-.002641	-.001289	.0155719	-.005614

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000569**	**-.000154**	**-.001035**	**-.000157**	**-.000039**	**-.000385**	**.0110378**
Stddev	.0000952	.000050	.001697	.000236	.000061	.000293	.0043081
%RSD	167.2961	32.60076	163.9565	150.3556	153.7781	75.95527	39.03017
#1	.0000155	-.000122	-.000383	.000116	-.000110	-.000713	.0060695
#2	.0001657	-.000128	.000239	-.000298	-.000006	-.000294	.0137370
#3	-.000011	-.000212	-.002961	-.000289	-.000003	-.000149	.0133070

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002088**	**-.019138**	**.0000751**	**.0001040**	**-.207303**	**.0009208**	**.0000353**
Stddev	.0003368	.009299	.0002848	.0002355	.007244	.0015640	.0001723
%RSD	161.3094	48.59107	379.3059	226.4880	3.494633	169.8540	488.1845
#1	-.000113	-.011385	.0001649	.0002657	-.215235	.0023088	.0001842
#2	.000180	-.029448	.0003042	-.000166	-.201036	-.000774	-.000153
#3	.000559	-.016580	-.000244	.000212	-.205638	.001227	.000075

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.210421**	**-.002963**	**-.000154**	**-.002659**	**-.000637**	**-.010751**	**.0010392**
Stddev	.052899	.000749	.000128	.000134	.000597	.013363	.0006745
%RSD	25.13952	25.29285	83.35841	5.023954	93.73207	124.2950	64.90828
#1	-.270871	-.002105	-.000078	-.002635	-.000037	-.013185	.0010152
#2	-.172607	-.003294	-.000302	-.002803	-.000641	.003662	.0003770
#3	-.187784	-.003490	-.000081	-.002539	-.001231	-.022730	.0017254

Sample Name: PB169706BL Acquired: 9/16/2025 15:23:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.000854**	**-.009583**	**-.000390**
Stddev	.000243	.001967	.000044
%RSD	28.47293	20.52677	11.38622
#1	-.000587	-.011851	-.000433
#2	-.000911	-.008563	-.000392
#3	-.001063	-.008336	-.000344

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6761.122**	**119475.3**	**11691.04**	**5266.876**	**8574.546**
Stddev	5.779	401.6	76.00	18.887	12.710
%RSD	.0854724	.3361501	.6501037	.3585978	.1482239
#1	6766.429	119519.1	11678.25	5287.371	8588.535
#2	6754.965	119053.5	11772.63	5250.171	8563.709
#3	6761.971	119853.1	11622.25	5263.088	8571.395

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: PB169706BS Acquired: 9/16/2025 15:27:59 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.7268071**	**1.815139**	**.8629298**	**1.831734**	**.7240534**	**1.841430**
Stddev	.0009220	.043040	.0015925	.009324	.0025553	.072468
%RSD	.1268559	2.371171	.1845394	.5090247	.3529141	3.935422
#1	.7274322	1.864346	.8615283	1.842398	.7265027	1.924979
#2	.7257483	1.796569	.8625998	1.825118	.7214039	1.795617
#3	.7272410	1.784501	.8646615	1.827686	.7242535	1.803694

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1716513**	**.1792097**	**.1729656**	**.9291840**	**.3618059**	**.1758387**
Stddev	.0066190	.0054952	.0002594	.0386449	.0015430	.0003443
%RSD	3.856096	3.066336	.1499551	4.159013	.4264673	.1958064
#1	.1792781	.1855511	.1732515	.9732106	.3629208	.1755946
#2	.1682684	.1758462	.1727454	.9134688	.3624521	.1756890
#3	.1674073	.1762319	.1728999	.9008725	.3600449	.1762325

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2808944**	**2.734169**	**.1816399**	**1.809724**	**.4413759**	**.0694287**
Stddev	.0006089	.022672	.0055791	.080195	.0005290	.0003836
%RSD	.2167566	.8291924	3.071530	4.431321	.1198608	.5525381
#1	.2815236	2.760303	.1880552	1.901096	.4408490	.0691109
#2	.2803082	2.722435	.1779231	1.777061	.4419070	.0693204
#3	.2808514	2.719770	.1789414	1.751015	.4413717	.0698548

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.437167**	**.2769648**	**.1865553**	**8.813896**	**.2641969**	**.3661718**
Stddev	.022245	.0106033	.0007163	.035053	.0078552	.0004548
%RSD	.9127318	3.828385	.3839524	.3976960	2.973248	.1241938
#1	2.445706	.2891906	.1866651	8.823945	.2732674	.3666953
#2	2.453877	.2702807	.1857905	8.842826	.2596767	.3658745
#3	2.411918	.2714231	.1872104	8.774916	.2596467	.3659455

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: PB169706BS Acquired: 9/16/2025 15:27:59 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.6007654	.1762945	.7854554	5.083014	F -.001592	.1802700
Stddev	.0007834	.0067129	.0094178	.016634	.001708	.0059996
%RSD	.1303983	3.807769	1.199025	.3272390	107.3340	3.328135
#1	.6010879	.1839756	.7805973	5.100255	-.000164	.1871934
#2	.5998723	.1733562	.7794586	5.067062	-.001126	.1770218
#3	.6013361	.1715518	.7963102	5.081725	-.003484	.1765948

Elem	Sr4077
Units	ppm
Avg	.1788300
Stddev	.0061280
%RSD	3.426727
#1	.1858835
#2	.1757915
#3	.1748149

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6591.306	116906.1	11359.30	5130.014	8097.199
Stddev	4.135	344.2	354.58	1.889	6.075
%RSD	.0627281	.2944620	3.121507	.0368153	.0750246
#1	6587.617	116510.4	10949.99	5128.011	8103.496
#2	6590.525	117071.6	11572.71	5130.269	8096.726
#3	6595.775	117136.4	11555.20	5131.762	8091.374

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV04 Acquired: 9/16/2025 15:32:01 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.862338**	**4.791133**	**4.679380**	**4.871134**	**4.895153**	**9.378330**	**9.279613**
Stddev	.046637	.261997	.018446	.041420	.018776	.007057	.054849
%RSD	.9591554	5.468366	.3941891	.8503135	.3835615	.0752474	.5910726
#1	4.809061	4.506418	4.658186	4.823433	4.873740	9.386018	9.342886
#2	4.895777	4.844916	4.691808	4.891966	4.902918	9.372147	9.250397
#3	4.882176	5.022065	4.688146	4.898002	4.908800	9.376825	9.245556

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2262437**	**2.349632**	**23.18717**	**.9483776**	**2.358808**	**1.203422**	**4.847492**
Stddev	.0015789	.013144	.05834	.0033292	.012483	.004861	.033432
%RSD	.6978877	.5594021	.2516011	.3510382	.5292192	.4039478	.6896823
#1	.2276975	2.334683	23.16248	.9502911	2.344412	1.197950	4.823023
#2	.2264695	2.359375	23.25379	.9503083	2.366627	1.207243	4.833866
#3	.2245640	2.354838	23.14524	.9445334	2.365387	1.205073	4.885585

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.289300**	**23.15220**	**2.356156**	**1.200392**	**23.61234**	**2.357152**	**2.394522**
Stddev	.002181	.08418	.012142	.003791	.11540	.003188	.013202
%RSD	.0952730	.3635895	.5153366	.3158408	.4887172	.1352337	.5513379
#1	2.286786	23.07624	2.342187	1.204472	23.60167	2.354679	2.408735
#2	2.290424	23.24270	2.364179	1.199726	23.50264	2.360749	2.392188
#3	2.290689	23.13766	2.362103	1.196978	23.73270	2.356026	2.382643

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.10916**	**4.550852**	**4.857835**	**4.712103**	**4.680815**	**4.912120**	**4.858265**
Stddev	.10209	.024705	.033300	.036139	.002805	.028034	.093140
%RSD	.4234583	.5428604	.6854896	.7669433	.0599227	.5707120	1.917153
#1	24.01438	4.572710	4.820004	4.670386	4.678989	4.880687	4.755740
#2	24.09584	4.555796	4.882707	4.733847	4.679411	4.934536	4.881396
#3	24.21725	4.524049	4.870795	4.732076	4.684045	4.921138	4.937661

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV04 Acquired: 9/16/2025 15:32:01 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.703368**	**4.567803**	**4.710147**
Stddev	.087895	.008372	.023325
%RSD	1.868776	.1832763	.4952068
#1	4.604914	4.567689	4.697393
#2	4.731249	4.559489	4.695981
#3	4.773941	4.576231	4.737068

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6379.091**	**112788.8**	**11386.31**	**4985.869**	**7441.400**
Stddev	39.936	363.5	77.24	35.998	43.954
%RSD	.6260416	.3223246	.6783857	.7220013	.5906716
#1	6418.141	112696.8	11335.23	4949.769	7489.829
#2	6338.325	112480.2	11348.53	4986.072	7404.034
#3	6380.806	113189.6	11475.17	5021.764	7430.336

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB04 Acquired: 9/16/2025 15:36:30 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001400**	**-.000828**	**-.000671**	**.0016029**	**-.001051**	**.0127910**	**-.006166**
Stddev	.0013749	.001897	.000225	.0023301	.000714	.0080977	.000440
%RSD	982.1435	229.1883	33.56612	145.3659	67.94199	63.30809	7.131393
#1	.0016418	-.002984	-.000534	.0036783	-.001753	.0214856	-.005991
#2	-.001057	.000587	-.000548	-.000918	-.001073	.0114230	-.005841
#3	-.000165	-.000087	-.000931	.002048	-.000326	.0054644	-.006666

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000337**	**-.000155**	**-.001261**	**-.000406**	**-.000146**	**-.000243**	**-.003199**
Stddev	.0000256	.000047	.004516	.000189	.000152	.000120	.003063
%RSD	75.72674	30.52788	358.0848	46.56979	103.6450	49.21849	95.75283
#1	.0000096	-.000167	-.003699	-.000587	-.000279	-.000109	-.001910
#2	.0000605	-.000103	.003950	-.000210	.000019	-.000281	-.000991
#3	.0000312	-.000196	-.004035	-.000422	-.000178	-.000339	-.006695

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001430**	**-.021965**	**.0000991**	**-.000142**	**-.199018**	**-.001369**	**.0000755**
Stddev	.0002768	.024054	.0001533	.000586	.023095	.001997	.0001463
%RSD	193.5153	109.5135	154.5819	411.5114	11.60453	145.8950	193.8401
#1	.0000042	-.000616	.0000389	-.000784	-.206681	-.002730	.0000994
#2	-.000037	-.048026	.0002734	-.000007	-.217308	-.002299	-.000081
#3	.000462	-.017252	-.000015	.000364	-.173066	.000924	.000208

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.218611**	**-.001831**	**-.000049**	**-.001991**	**.0010528**	**-.003007**	**.0010265**
Stddev	.060672	.000529	.000275	.000124	.0004211	.011366	.0011232
%RSD	27.75344	28.89167	555.9247	6.220850	39.99690	378.0566	109.4214
#1	-.233225	-.001543	.000002	-.002129	.0006823	.008758	.0022796
#2	-.270641	-.002442	-.000346	-.001889	.0009653	-.003849	.0001102
#3	-.151966	-.001509	.000196	-.001955	.0015107	-.013928	.0006898

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB04 Acquired: 9/16/2025 15:36:30 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001197	-.008133	-.000350
Stddev	.001191	.000449	.000066
%RSD	99.51126	5.521044	18.98641
#1	-.002540	-.007778	-.000397
#2	-.000784	-.008637	-.000378
#3	-.000268	-.007982	-.000274

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6671.074	119236.3	11493.19	5226.139	8395.185
Stddev	16.295	110.5	32.13	4.655	25.665
%RSD	.2442691	.0926965	.2795269	.0890646	.3057112
#1	6669.591	119157.2	11489.32	5228.673	8396.909
#2	6688.060	119362.6	11463.18	5228.977	8419.944
#3	6655.571	119189.2	11527.08	5220.767	8368.701

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3091-01 Acquired: 9/16/2025 15:40:49 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0445840**	**-.009967**	**.0335465**	**.0002255**	**-.010693**	**18.51524**
Stddev	.0009789	.001351	.0016057	.0008753	.001186	.08985
%RSD	2.195689	13.55070	4.786506	388.0859	11.09425	.4852647
#1	.0456266	-.008415	.0321201	.0009279	-.011502	18.44366
#2	.0444411	-.010614	.0332339	-.000755	-.009331	18.48598
#3	.0436844	-.010873	.0352855	.000504	-.011245	18.61607

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0601466**	**.0039361**	**-.000059**	**2.467705**	**.0739390**	**.0095257**
Stddev	.0006007	.0000786	.000150	.010136	.0002358	.0000789
%RSD	.9987445	1.997153	255.1810	.4107270	.3189753	.8282127
#1	.0607410	.0038882	.000085	2.457268	.0741852	.0094376
#2	.0595398	.0040268	-.000215	2.468339	.0739167	.0095497
#3	.0601591	.0038932	-.000046	2.477509	.0737150	.0095898

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0478786**	**128.3439**	**.1579925**	**1.445229**	**.0215497**	**.0035131**
Stddev	.0010370	1.2427	.0008983	.003166	.0003314	.0006329
%RSD	2.165887	.9682546	.5685758	.2190702	1.537951	18.01516
#1	.0489020	126.9532	.1571043	1.448795	.0218668	.0028072
#2	.0468285	129.3454	.1589006	1.442750	.0212056	.0040299
#3	.0479052	128.7330	.1579726	1.444142	.0215768	.0037022

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9349962**	**.2658302**	**.0924194**	**2.106270**	**.0342374**	**.0015901**
Stddev	.0078994	.0037795	.0001518	.034959	.0034070	.0000386
%RSD	.8448592	1.421782	.1642587	1.659772	9.951181	2.425176
#1	.9266556	.2639499	.0925743	2.074245	.0304455	.0016320
#2	.9423643	.2701811	.0922708	2.101000	.0370410	.0015823
#3	.9359686	.2633597	.0924132	2.143565	.0352256	.0015561

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3091-01 Acquired: 9/16/2025 15:40:49 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0920904	.4750047	F 12.40188	2.698104	.6264148	.0108720
Stddev	.0002868	.0076345	.12893	.006334	.0023306	.0007701
%RSD	.3113980	1.607239	1.039639	.2347428	.3720479	7.083083
#1	.0921589	.4677526	12.34520	2.692957	.6244507	.0105920
#2	.0923367	.4829713	12.31100	2.696178	.6258037	.0117428
#3	.0917756	.4742902	12.54945	2.705177	.6289900	.0102810

Elem	Sr4077
Units	ppm
Avg	-.095270
Stddev	.001144
%RSD	1.200868
#1	-.093956
#2	-.096047
#3	-.095806

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6916.259	121742.2	12366.59	5339.886	8279.159
Stddev	12.328	161.7	60.83	8.700	12.640
%RSD	.1782420	.1328617	.4919085	.1629173	.1526695
#1	6903.484	121667.2	12298.91	5341.187	8266.701
#2	6917.209	121927.8	12384.15	5347.862	8278.802
#3	6928.084	121631.5	12416.71	5330.610	8291.973

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3091-08 Acquired: 9/16/2025 15:44:57 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0451929**	**-.012659**	**.0312866**	**-.000562**	**-.009552**	**15.37116**
Stddev	.0025036	.001241	.0009704	.002116	.001683	.05428
%RSD	5.539894	9.806561	3.101626	376.5757	17.61804	.3531520
#1	.0451842	-.012538	.0322800	-.002635	-.009995	15.39954
#2	.0426936	-.013957	.0303410	-.000645	-.007692	15.30857
#3	.0477009	-.011483	.0312386	.001595	-.010970	15.40537

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0411021**	**.0033823**	**-.000413**	**1.667232**	**.0541289**	**.0101347**
Stddev	.0007595	.0000213	.000109	.003890	.0000757	.0001052
%RSD	1.847785	.6282101	26.49604	.2333099	.1399312	1.037985
#1	.0412957	.0033579	-.000313	1.665811	.0541032	.0100261
#2	.0417460	.0033966	-.000530	1.671632	.0542142	.0101420
#3	.0402646	.0033924	-.000396	1.664252	.0540694	.0102361

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0383645**	**124.1006**	**.1622303**	**.7845554**	**.0199332**	**.0041287**
Stddev	.0003952	.0469	.0004721	.0092649	.0001290	.0000371
%RSD	1.030236	.0378228	.2910073	1.180909	.6474332	.8992729
#1	.0387881	124.1296	.1627728	.7832377	.0198427	.0040859
#2	.0383000	124.0465	.1620053	.7944086	.0198759	.0041496
#3	.0380055	124.1258	.1619127	.7760199	.0200810	.0041507

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.172075**	**.1716815**	**.0640165**	**1.357877**	**.0353074**	**.0021751**
Stddev	.005615	.0013858	.0002196	.008658	.0044653	.0000457
%RSD	3.263342	.8072033	.3430223	.6376236	12.64706	2.100763
#1	-.169177	.1705772	.0639933	1.367755	.0404515	.0022098
#2	-.168500	.1712306	.0638095	1.351606	.0324309	.0021234
#3	-.178547	.1732366	.0642468	1.354269	.0330397	.0021922

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3091-08 Acquired: 9/16/2025 15:44:57 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0050526	.4633552	F 11.63373	2.774097	.1829871	.0052019
Stddev	.0003220	.0040197	.15061	.009246	.0006139	.0002470
%RSD	6.372320	.8675252	1.294598	.3332929	.3354875	4.748297
#1	.0048407	.4612190	11.72172	2.771719	.1824814	.0053413
#2	.0048941	.4608547	11.45983	2.766272	.1836702	.0049168
#3	.0054231	.4679920	11.71966	2.784299	.1828097	.0053478

Elem	Sr4077
Units	ppm
Avg	-.104957
Stddev	.000110
%RSD	.1049321
#1	-.105019
#2	-.104830
#3	-.105021

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6764.967	117767.7	12167.57	5259.347	8241.582
Stddev	15.721	12.2	28.06	22.176	11.365
%RSD	.2323886	.0103767	.2306225	.4216546	.1378956
#1	6761.956	117754.5	12188.62	5235.143	8247.882
#2	6750.970	117778.7	12135.71	5278.688	8228.462
#3	6781.976	117769.8	12178.38	5264.209	8248.401

Sample Name: Q3101-01 Acquired: 9/16/2025 15:49:05 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**-.004137**	**-.004369**	**-.000017**	**.0012418**	**-.000308**	**.0171627**	**-.009130**
Stddev	.000853	.000578	.001021	.0005667	.001492	.0013507	.000167
%RSD	20.62833	13.22674	5884.838	45.63095	484.6376	7.869817	1.826856
#1	-.005099	-.004257	.001156	.0006217	-.000273	.0159397	-.008946
#2	-.003840	-.003856	-.000703	.0013710	-.001816	.0169360	-.009270
#3	-.003472	-.004995	-.000506	.0017327	.001166	.0186124	-.009176

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000084**	**-.000122**	**-.000398**	**.0003325**	**-.000314**	**.0009302**	**.0090556**
Stddev	.000030	.000070	.004288	.0000928	.000272	.0000999	.0015985
%RSD	35.31598	57.28713	1078.443	27.92478	86.66743	10.73651	17.65190
#1	-.000099	-.000124	-.004154	.0004322	-.000436	.0009124	.0072790
#2	-.000050	-.000051	-.001314	.0002486	-.000503	.0010378	.0095103
#3	-.000102	-.000191	.004275	.0003166	-.000002	.0008404	.0103775

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010703**	**-.003979**	**.0012097**	**-.000165**	**-.104298**	**.0006747**	**.0019632**
Stddev	.0003781	.010317	.0001032	.000261	.008137	.0010588	.0000471
%RSD	35.32427	259.2767	8.532561	158.0778	7.801986	156.9316	2.401402
#1	.0011462	.003772	.0013173	-.000394	-.107433	-.000317	.0019113
#2	.0014047	-.015690	.0012004	.000119	-.110400	.001790	.0020034
#3	.0006600	-.000020	.0011115	-.000219	-.095059	.000552	.0019748

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.264672**	**-.002458**	**.0000524**	**.1031617**	**.0014864**	**-.009263**	**.0129368**
Stddev	.020843	.000320	.0001255	.0006367	.0009464	.002999	.0009248
%RSD	7.875173	13.03696	239.5765	.6171872	63.66937	32.37554	7.148956
#1	-.272569	-.002828	-.000087	.1026728	.0007872	-.006642	.0139965
#2	-.280412	-.002268	.000088	.1029305	.0011087	-.008613	.0125214
#3	-.241034	-.002278	.000156	.1038817	.0025633	-.012533	.0122925

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3101-01 Acquired: 9/16/2025 15:49:05 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**4.669562**	**-.011852**	**-.000170**
Stddev	.029391	.001686	.000091
%RSD	.6294160	14.22787	53.24034
#1	4.641089	-.011642	-.000197
#2	4.667807	-.013633	-.000245
#3	4.699792	-.010280	-.000069

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6943.622**	**125760.1**	**12252.82**	**5386.395**	**8878.523**
Stddev	14.612	338.3	68.77	44.966	22.332
%RSD	.2104413	.2689658	.5612816	.8348090	.2515254
#1	6960.362	126016.3	12300.58	5394.954	8901.783
#2	6933.427	125887.4	12174.00	5426.467	8876.532
#3	6937.076	125376.7	12283.90	5337.765	8857.253

Sample Name: Q3105-01 Acquired: 9/16/2025 15:53:22 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0527148**	**-.020791**	**.2118501**	**.0017355**	**-.017343**	**145.1041**
Stddev	.0027088	.000179	.0020377	.0028366	.001772	.4585
%RSD	5.138566	.8587841	.9618695	163.4406	10.21877	.3159890
#1	.0527930	-.020682	.2095060	.0045404	-.016572	145.5135
#2	.0499677	-.020997	.2131983	-.001132	-.016087	144.6087
#3	.0553836	-.020695	.2128460	.001798	-.019370	145.1902

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.636287**	**.0143604**	**.0116709**	**30.63139**	**.2432101**	**.1500838**
Stddev	.007067	.0000890	.0001030	.06719	.0010360	.0003046
%RSD	.4319227	.6194511	.8825165	.2193560	.4259604	.2029513
#1	1.636373	.0143760	.0115678	30.63198	.2443975	.1504356
#2	1.629177	.0144406	.0116710	30.56390	.2427420	.1499061
#3	1.643311	.0142647	.0117738	30.69828	.2424908	.1499099

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4997033**	**320.7574**	**5.929635**	**53.58152**	**.3182867**	**.0098206**
Stddev	.0016877	1.0372	.020403	.01431	.0001375	.0002265
%RSD	.3377392	.3233680	.3440795	.0267040	.0431959	2.305908
#1	.5015255	321.7565	5.931595	53.57715	.3182648	.0095734
#2	.4993903	319.6858	5.908323	53.56991	.3184338	.0098703
#3	.4981939	320.8299	5.948987	53.59750	.3181615	.0100180

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.95574**	**.4131431**	**.6845754**	**32.13548**	**.1828709**	**.0011034**
Stddev	.05235	.0019677	.0008000	.16201	.0079704	.0002384
%RSD	.4778612	.4762654	.1168667	.5041588	4.358466	21.60736
#1	10.99943	.4153700	.6854158	32.26958	.1905795	.0011615
#2	10.89771	.4124199	.6838230	31.95547	.1746623	.0008413
#3	10.97008	.4116394	.6844872	32.18139	.1833708	.0013074

Sample Name: Q3105-01 Acquired: 9/16/2025 15:53:22 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0102332	5.107278	F 44.88168	F 10.33776	.1268234	.2303134
Stddev	.0004810	.035067	.56874	.05273	.0028727	.0014626
%RSD	4.700478	.6866126	1.267203	.5100970	2.265090	.6350392
#1	.0107051	5.106609	45.50800	10.28276	.1235168	.2315256
#2	.0102511	5.072551	44.73956	10.34262	.1282481	.2286889
#3	.0097436	5.142676	44.39747	10.38789	.1287052	.2307256

Elem	Sr4077
Units	ppm
Avg	-.148677
Stddev	.001083
%RSD	.7283519
#1	-.149924
#2	-.148141
#3	-.147967

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	8522.560	147171.3	15798.00	6562.368	7196.690
Stddev	16.796	448.4	104.78	26.397	9.176
%RSD	.1970794	.3046877	.6632523	.4022547	.1275017
#1	8510.400	147328.8	15892.53	6551.422	7196.150
#2	8515.556	147519.8	15816.13	6592.477	7187.796
#3	8541.725	146665.4	15685.33	6543.204	7206.124

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3106-01 Acquired: 9/16/2025 15:57:24 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0776123**	**-.022726**	**.3910959**	**-.001317**	**-.018686**	**181.4935**
Stddev	.0026082	.003495	.0007648	.004796	.002146	11.8484
%RSD	3.360510	15.37645	.1955433	364.0646	11.48551	6.528300
#1	.0777836	-.018970	.3912259	-.006627	-.017239	167.8173
#2	.0801306	-.023329	.3917872	-.000026	-.021152	188.0052
#3	.0749227	-.025880	.3902744	.002701	-.017667	188.6580

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.029130**	**.0166042**	**.0119389**	**137.4041**	**.3302919**	**.2741526**
Stddev	.007995	.0001257	.0005753	.3386	.0007679	.0004726
%RSD	.7768331	.7571331	4.818861	.2464610	.2324866	.1723744
#1	1.033001	.0167150	.0125496	137.7777	.3310555	.2736267
#2	1.019937	.0164676	.0118599	137.1173	.3295198	.2742894
#3	1.034452	.0166301	.0114072	137.3173	.3303003	.2745416

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5167583**	**461.6367**	**11.05504**	**122.1642**	**.5873622**	**.0111173**
Stddev	.0026500	4.0471	.06794	.4005	.0014707	.0018380
%RSD	.5128065	.8766903	.6145584	.3278219	.2503947	16.53251
#1	.5197473	456.9635	11.10890	122.6252	.5857582	.0090057
#2	.5146965	463.9831	10.97871	121.9024	.5876811	.0123574
#3	.5158311	463.9635	11.07751	121.9649	.5886473	.0119888

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**13.45014**	**.7534007**	**1.141729**	**22.15381**	**.4542758**	**.0073241**
Stddev	.08620	.0028673	.002434	.05305	.0237100	.0001781
%RSD	.6408936	.3805772	.2131439	.2394426	5.219294	2.431973
#1	13.48199	.7525818	1.140501	22.12168	.4289120	.0073129
#2	13.35254	.7565883	1.144532	22.12471	.4758837	.0071519
#3	13.51588	.7510320	1.140155	22.21504	.4580317	.0075076

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3106-01 Acquired: 9/16/2025 15:57:24 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0160109	F 10.55840	9.353401	8.903072	6.110220	.6729099
Stddev	.0011406	.04017	.084090	.048862	.030130	.0029357
%RSD	7.124083	.3804643	.8990330	.5488200	.4931073	.4362683
#1	.0165934	10.59295	9.266243	8.935706	6.145010	.6724090
#2	.0146967	10.51432	9.359915	8.926613	6.093096	.6702568
#3	.0167427	10.56794	9.434044	8.846896	6.092555	.6760637

Elem	Sr4077
Units	ppm
Avg	.0869276
Stddev	.0059675
%RSD	6.864904
#1	.0924842
#2	.0806203
#3	.0876783

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7335.430	129430.8	14308.58	5629.162	7053.619
Stddev	9.182	744.1	124.23	18.308	4.184
%RSD	.1251733	.5749153	.8682055	.3252311	.0593223
#1	7326.776	128624.4	14176.80	5637.940	7049.088
#2	7334.453	130090.9	14423.54	5608.118	7054.432
#3	7345.062	129577.1	14325.39	5641.428	7057.338

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3106-03 Acquired: 9/16/2025 16:01:38 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0500207**	**-.019831**	**.2709686**	**.0028633**	**-.013404**	**92.73611**	**.9649718**
Stddev	.0021685	.001116	.0019409	.0027079	.000691	1.11342	.0128898
%RSD	4.335124	5.628996	.7162844	94.57033	5.158995	1.200629	1.335773
#1	.0476495	-.018557	.2687837	.0000470	-.012664	92.56992	.9618652
#2	.0519029	-.020297	.2724931	.0054478	-.014034	93.92328	.9791310
#3	.0505096	-.020638	.2716290	.0030953	-.013513	91.71513	.9539192

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0125940**	**.0047570**	**17.64248**	**.2111156**	**.1407251**	**.1164379**	**255.7909**
Stddev	.0001380	.0001631	.21221	.0020557	.0002688	.0010390	2.2550
%RSD	1.096087	3.429092	1.202863	.9737447	.1910321	.8923326	.8815689
#1	.0125378	.0049223	17.57852	.2094218	.1410137	.1172217	253.2053
#2	.0127513	.0045962	17.87931	.2105221	.1406796	.1152594	256.8177
#3	.0124930	.0047525	17.46959	.2134027	.1404819	.1168325	257.3497

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.483872**	**52.14377**	**.2786917**	**.0081335**	**4.298955**	**.2396585**	**.5859861**
Stddev	.016962	.50477	.0002121	.0007840	.041732	.0024010	.0035397
%RSD	1.143067	.9680436	.0761088	9.639125	.9707408	1.001852	.6040655
#1	1.481694	52.17138	.2789237	.0074114	4.257333	.2381503	.5857741
#2	1.501818	52.63417	.2785077	.0089674	4.298738	.2424273	.5825572
#3	1.468105	51.62575	.2786437	.0080217	4.340795	.2383979	.5896271

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.37496**	**.1078309**	**.0034721**	**.0060313**	**3.561484**	**9.031425**	**5.212791**
Stddev	.05467	.0034921	.0001346	.0002559	.058572	.117357	.051213
%RSD	.5269516	3.238500	3.876152	4.243489	1.644595	1.299430	.9824446
#1	10.31954	.1040852	.0034894	.0062991	3.539292	8.955483	5.156510
#2	10.42885	.1084107	.0033297	.0060056	3.627909	9.166593	5.225215
#3	10.37649	.1109968	.0035973	.0057891	3.517251	8.972199	5.256649

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3106-03 Acquired: 9/16/2025 16:01:38 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**2.241666**	**.3282446**	**-.120480**
Stddev	.025639	.0028124	.003181
%RSD	1.143756	.8567930	2.639942
#1	2.216821	.3272244	-.117917
#2	2.240147	.3314246	-.119482
#3	2.268032	.3260846	-.124040

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7608.920**	**134420.6**	**14013.28**	**5903.113**	**7530.191**
Stddev	8.534	1104.3	81.09	61.760	6.758
%RSD	.1121560	.8215441	.5786992	1.046223	.0897423
#1	7607.040	135321.0	14022.59	5945.175	7525.807
#2	7618.237	134752.4	13927.93	5931.954	7537.974
#3	7601.483	133188.4	14089.31	5832.208	7526.793

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01 Acquired: 9/16/2025 16:05:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0448365**	**-.012385**	**.4878654**	**-.002353**	**-.010841**	**102.0243**
Stddev	.0011798	.001325	.0021251	.003246	.001382	.1583
%RSD	2.631334	10.69468	.4355916	137.9412	12.74644	.1551654
#1	.0440132	-.011450	.4881083	-.001448	-.009990	101.8416
#2	.0443082	-.011805	.4856293	-.005955	-.012435	102.1216
#3	.0461881	-.013901	.4898586	.000344	-.010097	102.1097

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7005807**	**.0079349**	**.0040575**	**40.53449**	**.2085844**	**.1184339**
Stddev	.0008954	.0002174	.0000515	.05645	.0017448	.0002757
%RSD	.1278098	2.740121	1.268574	.1392535	.8364897	.2327590
#1	.7015866	.0078759	.0040158	40.48913	.2065700	.1182781
#2	.6998706	.0081757	.0041150	40.59770	.2095613	.1182714
#3	.7002849	.0077531	.0040417	40.51663	.2096219	.1187522

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3513390**	**229.8882**	**4.519047**	**36.78249**	**.2087072**	**.0069706**
Stddev	.0004218	1.8026	.004091	.05298	.0008627	.0002686
%RSD	.1200435	.7841064	.0905376	.1440328	.4133623	3.853568
#1	.3518112	227.9334	4.523404	36.73065	.2077297	.0066618
#2	.3512060	230.2465	4.515287	36.83653	.2093625	.0070998
#3	.3509997	231.4848	4.518450	36.78031	.2090292	.0071503

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.289400**	**.4226365**	**.6604953**	**8.687368**	**.1330493**	**.0036758**
Stddev	.061470	.0004904	.0018129	.058359	.0126608	.0001449
%RSD	.9773530	.1160391	.2744756	.6717631	9.515860	3.941509
#1	6.264880	.4221353	.6593712	8.626585	.1199898	.0035105
#2	6.243976	.4231154	.6625867	8.692565	.1338884	.0037806
#3	6.359346	.4226589	.6595279	8.742954	.1452697	.0037364

Sample Name: Q3104-01 Acquired: 9/16/2025 16:05:40 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0146611	5.853857	F 12.29214	4.098675	1.110330	.1378834
Stddev	.0003619	.025517	.20289	.041422	.006019	.0008881
%RSD	2.468329	.4359047	1.650532	1.010612	.5420978	.6441121
#1	.0148972	5.837384	12.10050	4.063043	1.105086	.1368593
#2	.0142445	5.883250	12.27126	4.144123	1.116903	.1383477
#3	.0148417	5.840936	12.50466	4.088858	1.109002	.1384431

Elem	Sr4077
Units	ppm
Avg	-.052236
Stddev	.001625
%RSD	3.110610
#1	-.050360
#2	-.053134
#3	-.053213

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7139.255	125166.4	13328.48	5507.798	7447.744
Stddev	6.566	504.8	45.13	30.879	10.336
%RSD	.0919699	.4032766	.3386243	.5606429	.1387777
#1	7146.141	125650.1	13278.30	5543.424	7459.033
#2	7138.559	125206.1	13341.41	5491.259	7445.452
#3	7133.065	124642.9	13365.74	5488.712	7438.747

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01DUP Acquired: 9/16/2025 16:09:41 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0494790**	**-.012716**	**.5792971**	**-.000701**	**-.011596**	**114.9121**
Stddev	.0018866	.002291	.0018641	.000422	.001761	.1724
%RSD	3.812925	18.01751	.3217926	60.13749	15.18262	.1500484
#1	.0491968	-.014345	.5772098	-.000500	-.009712	114.7628
#2	.0514908	-.013706	.5807962	-.000417	-.013199	115.1008
#3	.0477494	-.010096	.5798853	-.001186	-.011876	114.8728

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7357254**	**.0086169**	**.0048817**	**51.89635**	**.2447343**	**.1348107**
Stddev	.0045115	.0000578	.0001252	.06215	.0003018	.0002205
%RSD	.6132043	.6709950	2.564380	.1197573	.1233246	.1635687
#1	.7401758	.0086604	.0047416	51.95551	.2444694	.1345567
#2	.7358453	.0086391	.0049208	51.90194	.2446707	.1349530
#3	.7311552	.0085513	.0049826	51.83159	.2450629	.1349223

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4354564**	**269.1099**	**4.281426**	**45.15554**	**.2498369**	**.0089303**
Stddev	.0028030	1.1727	.013891	.11510	.0007873	.0004696
%RSD	.6436845	.4357841	.3244386	.2549028	.3151112	5.258325
#1	.4327006	269.9868	4.297333	45.04357	.2503970	.0094721
#2	.4383043	267.7778	4.275257	45.27354	.2501769	.0086412
#3	.4353645	269.5651	4.271689	45.14950	.2489368	.0086776

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.748528**	**.4811633**	**.7419310**	**9.568209**	**.1987552**	**.0042279**
Stddev	.041995	.0005151	.0033088	.068448	.0007489	.0001245
%RSD	.5419787	.1070562	.4459772	.7153728	.3768008	2.944968
#1	7.795900	.4807076	.7383689	9.627956	.1984710	.0041119
#2	7.715866	.4817222	.7449088	9.493526	.1981900	.0043595
#3	7.733820	.4810600	.7425154	9.583144	.1996046	.0042124

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01DUP Acquired: 9/16/2025 16:09:41 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.0164608	6.934498	F 12.11679	4.665238	1.593280	.1555313
Stddev	.0008955	.020740	.15259	.031329	.009770	.0015337
%RSD	5.440038	.2990813	1.259349	.6715516	.6131902	.9861057
#1	.0171843	6.934741	11.94455	4.631889	1.582610	.1560829
#2	.0167387	6.955115	12.23508	4.669769	1.595442	.1537980
#3	.0154593	6.913638	12.17073	4.694055	1.601788	.1567128

Elem	Sr4077
Units	ppm
Avg	-.059245
Stddev	.001138
%RSD	1.920526
#1	-.058887
#2	-.058330
#3	-.060519

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7244.386	127312.6	13919.50	5539.138	7410.865
Stddev	8.386	191.7	80.91	31.950	13.721
%RSD	.1157550	.1505923	.5812921	.5768083	.1851475
#1	7246.601	127382.5	13939.41	5573.780	7425.163
#2	7235.115	127095.8	13830.49	5510.826	7397.805
#3	7251.441	127459.6	13988.60	5532.809	7409.626

Sample Name: Q3104-01LX5 Acquired: 9/16/2025 16:13:43 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.0076765**	**-.002666**	**.0996227**	**-.001949**	**-.005944**	**23.09864**	**.1540519**
Stddev	.0016531	.003612	.0005526	.000614	.001747	.12197	.0025434
%RSD	21.53398	135.4494	.5546780	31.49251	29.38962	.5280248	1.651013
#1	.0095824	.001453	.1001057	-.001476	-.004002	23.13179	.1568508
#2	.0066323	-.004161	.0990202	-.002642	-.007386	23.20061	.1534230
#3	.0068149	-.005290	.0997423	-.001727	-.006446	22.96353	.1518819

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019486**	**-.000012**	**9.306056**	**.0467961**	**.0233601**	**.0814087**	**51.30292**
Stddev	.0000781	.000147	.058043	.0009335	.0002581	.0004894	1.07524
%RSD	4.008349	1264.957	.6237163	1.994914	1.105042	.6011102	2.095860
#1	.0018663	-.000018	9.345064	.0466153	.0235411	.0817786	51.36842
#2	.0020217	-.000155	9.333753	.0478068	.0230645	.0808538	52.34390
#3	.0019579	.000138	9.239352	.0459662	.0234747	.0815936	50.19642

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.051964**	**8.397593**	**.0421525**	**.0014094**	**1.224602**	**.0971074**	**.1482111**
Stddev	.007038	.071306	.0001887	.0004038	.037949	.0027560	.0033939
%RSD	.6690602	.8491300	.4476471	28.64872	3.098886	2.838047	2.289884
#1	1.054835	8.432757	.0420740	.0018330	1.214878	.0977707	.1476123
#2	1.057112	8.444488	.0420156	.0013663	1.266467	.0994712	.1518645
#3	1.043943	8.315535	.0423677	.0010289	1.192461	.0940803	.1451564

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.790910**	**.0205940**	**.0003617**	**.0002836**	**1.335724**	**3.018771**	**.8015697**
Stddev	.040251	.0028149	.0000546	.0002505	.012772	.054816	.0083094
%RSD	2.247512	13.66856	15.08183	88.33687	.9562226	1.815824	1.036639
#1	1.764576	.0208003	.0003713	.0003936	1.331137	3.079416	.8078194
#2	1.837243	.0233002	.0004109	.0004604	1.350156	3.004145	.7921400
#3	1.770910	.0176817	.0003030	-.000003	1.325878	2.972752	.8047497

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01LX5 Acquired: 9/16/2025 16:13:43 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.2169956	.0230122	-.010914
Stddev	.0002357	.0007749	.000885
%RSD	.1086110	3.367324	8.107873
#1	.2171644	.0225523	-.010784
#2	.2170961	.0239068	-.011857
#3	.2167263	.0225774	-.010102

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6837.531	118593.9	12148.50	5248.801	8088.633
Stddev	32.191	1998.9	36.57	89.925	40.378
%RSD	.4708028	1.685479	.3010182	1.713240	.4991891
#1	6800.360	118798.4	12114.26	5261.737	8042.099
#2	6856.198	116500.6	12144.23	5153.108	8114.407
#3	6856.036	120482.7	12187.02	5331.556	8109.393

Sample Name: Q3104-01MS Acquired: 9/16/2025 16:17:51 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.6610504**	**1.724648**	**1.598692**	**1.484594**	**.3091186**	**139.6321**
Stddev	.0009911	.037818	.002629	.003706	.0016756	1.6157
%RSD	.1499208	2.192818	.1644274	.2496206	.5420618	1.157114
#1	.6616730	1.762929	1.599951	1.481979	.3101293	138.7889
#2	.6599076	1.723704	1.600455	1.488835	.3100422	138.6124
#3	.6615707	1.687310	1.595671	1.482969	.3071845	141.4949

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.061972**	**.1482453**	**.1746913**	**52.71428**	**.5467284**	**.3269983**
Stddev	.008073	.0010237	.0001946	.49877	.0014269	.0005918
%RSD	.7602338	.6905108	.1113879	.9461788	.2609864	.1809696
#1	1.063142	.1472634	.1748438	52.52526	.5478212	.3275982
#2	1.053377	.1481665	.1747579	52.33764	.5472498	.3269815
#3	1.069396	.1493061	.1744721	53.27993	.5451141	.3264151

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6785035**	**287.5104**	**5.091383**	**49.98315**	**.6993227**	**.0695453**
Stddev	.0007462	1.5977	.034064	.54549	.0005402	.0002792
%RSD	.1099700	.5557063	.6690561	1.091349	.0772443	.4015206
#1	.6779232	289.1962	5.089134	49.67411	.6998287	.0696811
#2	.6793452	286.0185	5.058499	49.66234	.6987539	.0692241
#3	.6782421	287.3165	5.126516	50.61299	.6993854	.0697307

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.19092**	**.7372118**	**.9719545**	**20.47857**	**.3838493**	**.3153208**
Stddev	.10176	.0117081	.0041206	.12816	.0024022	.0003588
%RSD	.9093244	1.588161	.4239505	.6258406	.6258169	.1137806
#1	11.30826	.7323490	.9719016	20.62430	.3865867	.3156521
#2	11.12686	.7287187	.9678606	20.38340	.3828685	.3153706
#3	11.13763	.7505677	.9761013	20.42802	.3820926	.3149398

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01MS Acquired: 9/16/2025 16:17:51 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.5973373	7.853973	F 19.02394	F 10.08846	1.544418	.3400634
Stddev	.0010051	.068234	.01313	.04973	.004639	.0031599
%RSD	.1682645	.8687863	.0689933	.4929418	.3003646	.9292247
#1	.5976631	7.852208	19.03762	10.13057	1.549769	.3396876
#2	.5981391	7.786638	19.01145	10.10121	1.541956	.3371081
#3	.5962097	7.923072	19.02276	10.03359	1.541530	.3433944

Elem	Sr4077
Units	ppm
Avg	.1030175
Stddev	.0022710
%RSD	2.204488
#1	.1016010
#2	.1018147
#3	.1056370

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7434.684	130781.3	13945.05	5793.529	7424.817
Stddev	6.029	289.3	83.40	22.484	11.844
%RSD	.0810959	.2212043	.5980644	.3880957	.1595245
#1	7427.904	130663.4	14029.00	5805.668	7411.987
#2	7436.702	130569.5	13943.93	5807.335	7427.130
#3	7439.444	131110.9	13862.21	5767.584	7435.334

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV05 Acquired: 9/16/2025 16:27:05 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**5.056863**	**5.370922**	**4.818702**	**5.100514**	**5.058412**	**9.589596**	**9.421132**
Stddev	.018664	.100713	.010132	.034396	.015795	.009953	.083229
%RSD	.3690901	1.875159	.2102621	.6743677	.3122504	.1037934	.8834327
#1	5.073944	5.437100	4.809922	5.130958	5.074968	9.582949	9.381833
#2	5.059704	5.420649	4.829788	5.107381	5.056761	9.601040	9.516734
#3	5.036941	5.255017	4.816396	5.063202	5.043508	9.584800	9.364829

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2340211**	**2.410983**	**23.82347**	**.9878326**	**2.416486**	**1.228210**	**5.020869**
Stddev	.0016839	.004645	.04732	.0027382	.003035	.001456	.031018
%RSD	.7195589	.1926707	.1986391	.2771888	.1256130	.1185748	.6177878
#1	.2328714	2.405666	23.81816	.9909932	2.413394	1.227489	5.034026
#2	.2359540	2.414258	23.87323	.9861796	2.419461	1.229887	4.985441
#3	.2332379	2.413024	23.77903	.9863249	2.416603	1.227255	5.043140

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.347442**	**23.82553**	**2.411084**	**1.250031**	**23.98277**	**2.421109**	**2.486539**
Stddev	.005479	.05412	.004907	.001872	.15581	.002434	.013838
%RSD	.2334138	.2271331	.2035002	.1497192	.6496735	.1005228	.5565346
#1	2.341303	23.86574	2.405900	1.251968	23.99464	2.418363	2.502518
#2	2.349190	23.84685	2.415656	1.248232	23.82136	2.423001	2.478670
#3	2.351835	23.76400	2.411695	1.249892	24.13230	2.421962	2.478429

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.77293**	**4.704458**	**5.023042**	**4.884915**	**4.788235**	**5.159620**	**4.975526**
Stddev	.17011	.030522	.010644	.008480	.006925	.039922	.010637
%RSD	.6866591	.6487836	.2119077	.1736038	.1446194	.7737394	.2137905
#1	24.82821	4.685626	5.030579	4.879093	4.780741	5.142301	4.981908
#2	24.58206	4.739673	5.027683	4.894644	4.794398	5.131282	4.981423
#3	24.90852	4.688075	5.010866	4.881007	4.789565	5.205277	4.963246

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV05 Acquired: 9/16/2025 16:27:05 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**5.026732**	**4.616705**	**4.805722**
Stddev	.033515	.017153	.019761
%RSD	.6667425	.3715474	.4112031
#1	5.044004	4.596910	4.819050
#2	5.048088	4.627194	4.783018
#3	4.988103	4.626011	4.815098

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6389.460**	**111940.2**	**11404.73**	**4934.078**	**7468.005**
Stddev	10.954	511.6	79.88	32.244	23.431
%RSD	.1714322	.4569941	.7003924	.6534927	.3137515
#1	6402.101	111351.0	11405.20	4898.029	7495.045
#2	6383.510	112199.3	11324.61	4944.038	7455.286
#3	6382.769	112270.5	11484.37	4960.166	7453.685

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCB05 Acquired: 9/16/2025 16:31:16 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001214**	**-.000893**	**-.000765**	**-.002717**	**-.001870**	**.0264036**	**-.002810**
Stddev	.002348	.001759	.001105	.000928	.001237	.0061631	.002655
%RSD	193.3531	196.8627	144.3444	34.16575	66.14576	23.34202	94.48883
#1	-.000168	.001136	-.002000	-.001645	-.000861	.0293832	-.004727
#2	.000429	-.001832	-.000426	-.003274	-.003249	.0305107	.000221
#3	-.003904	-.001984	.000130	-.003231	-.001499	.0193169	-.003924

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000890**	**-.000065**	**.0014211**	**-.000013**	**-.000074**	**-.000313**	**.0016512**
Stddev	.0000343	.000043	.0042247	.000078	.000047	.000180	.0035231
%RSD	38.56115	65.89252	297.2771	592.8374	62.91170	57.39828	213.3700
#1	.0001271	-.000083	.0056133	-.000087	-.000020	-.000368	.0039392
#2	.0000796	-.000016	.0014856	.000068	-.000104	-.000458	-.002406
#3	.0000604	-.000096	-.002835	-.000021	-.000098	-.000112	.003420

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002675**	**.0013816**	**.0000515**	**.0001758**	**-.148080**	**-.001416**	**.0063614**
Stddev	.0002750	.0090162	.0001445	.0000793	.008539	.000462	.0002217
%RSD	102.8360	652.5862	280.3701	45.07611	5.766145	32.66658	3.485230
#1	.0002782	-.000352	.0001038	.0002674	-.157887	-.001874	.0061411
#2	.0005370	.011139	.0001627	.0001305	-.142292	-.000949	.0063584
#3	-.000013	-.006642	-.000112	.0001297	-.144062	-.001423	.0065845

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.161004**	**.0003415**	**.0001243**	**-.001775**	**.0001917**	**-.005758**	**-.000845**
Stddev	.010862	.0007899	.0000711	.000182	.0006456	.011341	.000736
%RSD	6.746301	231.2716	57.14257	10.23892	336.8331	196.9592	87.11380
#1	-.166305	.0010349	.0001997	-.001734	-.000483	-.012351	-.000032
#2	-.148509	.0005080	.0001148	-.001618	.000254	.007337	-.001035
#3	-.168197	-.000518	.0000586	-.001974	.000804	-.012260	-.001467

Sample Name: CCB05 Acquired: 9/16/2025 16:31:16 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.003294**	**-.009397**	**-.000204**
Stddev	.002046	.000963	.000171
%RSD	62.09909	10.25129	83.73569
#1	-.001309	-.010472	-.000240
#2	-.005396	-.008613	-.000018
#3	-.003177	-.009104	-.000353

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6637.378**	**115496.8**	**11310.80**	**5109.891**	**8473.239**
Stddev	16.106	433.8	32.22	37.357	14.602
%RSD	.2426576	.3756380	.2848581	.7310682	.1723328
#1	6655.214	115004.5	11332.82	5088.199	8486.219
#2	6633.024	115662.7	11273.82	5153.026	8476.068
#3	6623.897	115823.2	11325.77	5088.447	8457.429

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01MSD Acquired: 9/16/2025 16:35:34 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.6875866**	**1.793451**	**1.408705**	**1.556614**	**.3286770**	**127.3350**
Stddev	.0019663	.047975	.003539	.003328	.0043090	.3006
%RSD	.2859729	2.675023	.2512130	.2137859	1.311008	.2360520
#1	.6898469	1.740230	1.411081	1.553423	.3289874	127.2716
#2	.6866419	1.806746	1.410395	1.556354	.3328224	127.0711
#3	.6862708	1.833376	1.404638	1.560064	.3242213	127.6622

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9002967**	**.1571371**	**.1818715**	**50.86840**	**.5917878**	**.3207832**
Stddev	.0012479	.0008749	.0002069	.07547	.0019883	.0005383
%RSD	.1386100	.5567808	.1137580	.1483721	.3359907	.1678187
#1	.9016668	.1579328	.1820539	50.92596	.5936533	.3212314
#2	.8992250	.1562002	.1819140	50.78294	.5896960	.3209321
#3	.8999984	.1572782	.1816467	50.89628	.5920141	.3201860

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6338618**	**249.8304**	**5.081296**	**44.09756**	**.6897178**	**.0700135**
Stddev	.0009805	1.0064	.008708	.08954	.0015996	.0002980
%RSD	.1546885	.4028440	.1713805	.2030583	.2319162	.4255869
#1	.6349231	248.7166	5.085898	44.10706	.6912896	.0696709
#2	.6336726	250.6746	5.071253	44.00365	.6897717	.0702123
#3	.6329897	250.1000	5.086739	44.18198	.6880919	.0701573

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.803232**	**.7008802**	**.8673104**	**18.43823**	**.3923348**	**.3349866**
Stddev	.045839	.0035073	.0025417	.11119	.0078945	.0004525
%RSD	.4675887	.5004080	.2930524	.6030140	2.012189	.1350764
#1	9.751005	.7018308	.8694175	18.31067	.3846181	.3349920
#2	9.821899	.6969956	.8644876	18.51463	.4003958	.3354364
#3	9.836791	.7038142	.8680261	18.48938	.3919904	.3345315

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01MSD Acquired: 9/16/2025 16:35:34 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.6286569	7.195791	F 17.77489	9.858609	1.315251	.3108860
Stddev	.0007223	.009853	.22340	.032268	.005480	.0008085
%RSD	.1148940	.1369278	1.256832	.3273051	.4166441	.2600740
#1	.6279539	7.207070	17.56489	9.825027	1.308989	.3103027
#2	.6286197	7.191444	17.75013	9.889378	1.317593	.3118089
#3	.6293970	7.188859	18.00963	9.861422	1.319171	.3105463

Elem	Sr4077
Units	ppm
Avg	.1045444
Stddev	.0010675
%RSD	1.021136
#1	.1056748
#2	.1035535
#3	.1044048

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7051.073	123298.1	13087.34	5432.536	7166.103
Stddev	19.623	325.3	93.94	22.787	26.009
%RSD	.2782979	.2638697	.7177787	.4194532	.3629433
#1	7041.495	122987.4	12999.56	5423.891	7145.366
#2	7038.078	123636.3	13186.42	5458.380	7157.657
#3	7073.645	123270.5	13076.05	5415.336	7195.285

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: Q3104-01A Acquired: 9/16/2025 16:39:32 Type: Unk
Method: 6010-200.7 NEW(v174) 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	**.6641494**	**1.757630**	**1.282595**	**1.529966**	**.6178802**	**100.8415**
Stddev	.0048990	.039744	.002093	.004630	.0018036	.2039
%RSD	.7376414	2.261200	.1632026	.3026390	.2918958	.2021604
#1	.6643318	1.782679	1.283402	1.529211	.6162243	100.6103
#2	.6689546	1.778407	1.280219	1.534928	.6176143	100.9952
#3	.6591617	1.711805	1.284165	1.525760	.6198019	100.9191

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8343642**	**.1514212**	**.1701409**	**40.36492**	**.5107702**	**.2838489**
Stddev	.0027678	.0005553	.0001967	.01527	.0012350	.0002870
%RSD	.3317231	.3667334	.1156294	.0378365	.2417930	.1011214
#1	.8359622	.1518760	.1703535	40.37663	.5104119	.2835675
#2	.8359621	.1508024	.1701037	40.37047	.5121447	.2838378
#3	.8311682	.1515853	.1699653	40.34764	.5097539	.2841413

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5679821**	**224.8015**	**4.594548**	**37.64099**	**.6215368**	**.0665429**
Stddev	.0014253	1.0852	.016873	.02476	.0011349	.0005606
%RSD	.2509451	.4827407	.3672413	.0657764	.1825900	.8424990
#1	.5664722	224.9509	4.611538	37.65442	.6208915	.0663139
#2	.5681700	225.8043	4.594310	37.61242	.6208718	.0671818
#3	.5693042	223.6493	4.577794	37.65614	.6228472	.0661331

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.437437**	**.6369544**	**.7965173**	**16.47865**	**.3224333**	**.3294962**
Stddev	.054418	.0014257	.0029207	.09621	.0084528	.0002891
%RSD	.6449546	.2238373	.3666839	.5838397	2.621561	.0877509
#1	8.458690	.6381607	.7998577	16.47524	.3196494	.3296488
#2	8.478022	.6353810	.7944449	16.57652	.3319270	.3296771
#3	8.375601	.6373215	.7952494	16.38419	.3157237	.3291627

Sample Name: Q3104-01A Acquired: 9/16/2025 16:39:32 Type: Unk
Method: 6010-200.7 NEW(v174) 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	.6163320	5.866364	F 12.93564	8.916669	1.091625	.2912271
Stddev	.0018242	.013704	.18780	.067306	.011312	.0015003
%RSD	.2959701	.2336045	1.451780	.7548279	1.036281	.5151581
#1	.6149755	5.876105	12.71880	8.914353	1.081608	.2919492
#2	.6184058	5.872294	13.04503	8.985103	1.103894	.2922299
#3	.6156147	5.850694	13.04310	8.850552	1.089374	.2895024

Elem	Sr4077
Units	ppm
Avg	.0972042
Stddev	.0009483
%RSD	.9755985
#1	.0982135
#2	.0963318
#3	.0970671

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7112.251	123655.8	12917.87	5516.358	7385.511
Stddev	6.851	614.1	45.10	27.878	4.689
%RSD	.0963240	.4966409	.3491191	.5053780	.0634948
#1	7117.107	123317.6	12866.00	5503.800	7384.307
#2	7115.230	123285.2	12939.71	5496.967	7390.685
#3	7104.414	124364.7	12947.88	5548.306	7381.540

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV06 Acquired: 9/16/2025 16:48:45 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.993037**	**5.190588**	**4.823070**	**4.990910**	**4.963512**	**9.614992**	**9.353325**
Stddev	.010350	.251184	.004365	.014397	.004301	.027176	.018222
%RSD	.2072905	4.839222	.0905015	.2884726	.0866608	.2826403	.1948170
#1	5.003351	5.478241	4.821116	5.007452	4.961222	9.640648	9.358677
#2	4.982651	5.078933	4.820023	4.981206	4.960841	9.617812	9.333027
#3	4.993108	5.014589	4.828070	4.984072	4.968474	9.586516	9.368272

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2363065**	**2.427143**	**23.85986**	**.9931979**	**2.418790**	**1.229620**	**4.949793**
Stddev	.0010601	.003703	.02202	.0030793	.000821	.001289	.018981
%RSD	.4486158	.1525742	.0923002	.3100387	.0339504	.1048091	.3834722
#1	.2367326	2.431416	23.85968	.9941181	2.419679	1.228625	4.968768
#2	.2350996	2.424850	23.83792	.9957122	2.418061	1.229159	4.949805
#3	.2370873	2.425164	23.88197	.9897634	2.418629	1.231076	4.930806

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.350971**	**24.03430**	**2.420435**	**1.237721**	**23.61520**	**2.408657**	**2.469008**
Stddev	.008799	.06451	.001037	.000210	.02327	.005473	.002952
%RSD	.3742681	.2683997	.0428414	.0169851	.0985189	.2272357	.1195599
#1	2.350274	23.98874	2.421324	1.237561	23.63090	2.414343	2.471945
#2	2.342541	24.00605	2.420684	1.237959	23.62623	2.403425	2.469038
#3	2.360098	24.10811	2.419296	1.237643	23.58847	2.408201	2.466041

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.34307**	**4.727400**	**4.995983**	**4.904451**	**4.774470**	**5.031565**	**5.058231**
Stddev	.08233	.027625	.006940	.013206	.010464	.031281	.040757
%RSD	.3382177	.5843520	.1389213	.2692565	.2191746	.6217011	.8057511
#1	24.25173	4.729068	5.002967	4.919691	4.768351	4.999835	5.103979
#2	24.41157	4.698980	4.989087	4.897253	4.768507	5.062378	5.044920
#3	24.36591	4.754154	4.995895	4.896408	4.786553	5.032484	5.025794

Reviewed By:mohan
On:9/18/2025 9:41:57 AM
Inst Id :P4
LB :LB137209

Sample Name: CCV06 Acquired: 9/16/2025 16:48:45 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.942221**	**4.604049**	**4.825473**
Stddev	.046751	.015281	.022517
%RSD	.9459532	.3319015	.4666260
#1	4.995998	4.596060	4.811002
#2	4.919413	4.594419	4.851415
#3	4.911251	4.621668	4.814001

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6213.423**	**108135.2**	**10807.94**	**4840.503**	**7222.839**
Stddev	9.352	366.6	26.44	11.417	.610
%RSD	.1505167	.3390213	.2446139	.2358693	.0084500
#1	6223.842	108296.5	10825.21	4832.296	7222.596
#2	6210.672	107715.6	10821.11	4835.671	7222.387
#3	6205.754	108393.5	10777.51	4853.541	7223.533

Sample Name: CCB06 Acquired: 9/16/2025 16:53:28 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002876**	**-.001665**	**-.000853**	**-.000078**	**-.001860**	**.0130106**	**-.004171**
Stddev	.000992	.001175	.000120	.002263	.001416	.0032133	.000838
%RSD	34.48839	70.53406	14.03676	2899.136	76.13297	24.69783	20.09771
#1	-.002558	-.002867	-.000734	.000538	-.003260	.0166865	-.005008
#2	-.003989	-.000520	-.000973	-.002586	-.000428	.0116099	-.003331
#3	-.002083	-.001608	-.000851	.001813	-.001892	.0107353	-.004173

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000204**	**-.000081**	**.0023624**	**-.000292**	**-.000063**	**-.000395**	**.0006573**
Stddev	.0000167	.000069	.0047183	.000115	.000117	.000154	.0048966
%RSD	81.77961	84.56970	199.7263	39.30965	186.7869	39.05322	744.9301
#1	.0000220	-.000005	.0018044	-.000388	.000067	-.000217	.0002327
#2	.0000030	-.000102	.0073349	-.000324	-.000096	-.000492	-.004013
#3	.0000362	-.000138	-.002052	-.000165	-.000160	-.000475	.005752

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001215**	**.0110438**	**.0000349**	**.0000262**	**-.181436**	**.0001841**	**-.000160**
Stddev	.0002290	.0392086	.0002941	.0002524	.014822	.0033239	.000158
%RSD	188.4438	355.0279	841.6810	962.5598	8.169429	1805.356	98.80282
#1	.0003609	-.030960	.0001676	.0001776	-.198438	-.001948	.000017
#2	.0000991	.046676	.0002393	.0001662	-.174633	.004014	-.000211
#3	-.000095	.017416	-.000302	-.000265	-.171236	-.001513	-.000286

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.188388**	**.0000689**	**-.000068**	**-.001735**	**.0006474**	**-.008558**	**-.001024**
Stddev	.043459	.0003390	.000158	.000576	.0004614	.011277	.001858
%RSD	23.06896	492.1669	232.7896	33.19888	71.26818	131.7660	181.3612
#1	-.237239	.0000245	.000064	-.002384	.0001648	-.004349	-.002980
#2	-.154018	.0004279	-.000025	-.001285	.0006932	-.021334	-.000810
#3	-.173908	-.000246	-.000243	-.001535	.0010842	.000009	.000717

Sample Name: CCB06 Acquired: 9/16/2025 16:53:28 Type: Unk
Method: 6010-200.7 NEW(v174) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.002355**	**-.009024**	**-.000203**
Stddev	.000793	.001351	.000022
%RSD	33.65672	14.97508	10.97317
#1	-.003189	-.010584	-.000225
#2	-.002265	-.008214	-.000202
#3	-.001611	-.008275	-.000181

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6624.460**	**116399.7**	**11170.05**	**5134.914**	**8375.282**
Stddev	37.270	383.0	36.02	8.886	48.261
%RSD	.5626127	.3290674	.3224860	.1730569	.5762271
#1	6655.265	116398.9	11201.90	5144.051	8403.448
#2	6635.083	116017.0	11130.96	5134.390	8402.842
#3	6583.031	116783.1	11177.30	5126.302	8319.557

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB169686

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: 09/15/2025 **Time :** 10:20 **Temp :** 96 °C

End Digest Date: 09/15/2025 **Time :** 12:25 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SKG.

Supervisor Signature: jgp

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6180
LFS-2	0.25	M6181
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
09/15/25 13:25	SKG met dig	jgp / Metlab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB169686

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB169686BL	PBW686	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	18
PB169686BS	LCS686	<2	50	25	Colorless	Colorless	Clear	Clear	M6180,M6181	19
Q3086-01	RW8-SP100-20250911	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	20
Q3086-02	RW8-SP303-20250911	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	21
Q3086-02MS	RW8-SP303-20250911MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6180,M6181	23
Q3086-02MSD	RW8-SP303-20250911MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6180,M6181	24
Q3086-02DUP	RW8-SP303-20250911DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	22
Q3088-02	90525-LQ	<2	50	25	Brown	Brown	Cloudy	Clear	N/A	25

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB169686 **WorkList ID :** 191869 **Department :** Digestion **Date :** 09-15-2025 09:45:59

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q3086-01	RW8-SP100-20250911	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	D31	09/11/2025	6010D
Q3086-02	RW8-SP303-20250911	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	TETR06	D31	09/11/2025	6010D
Q3088-02	90525-LQ	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	D31	09/12/2025	6010D

Date/Time 09/15/2025 10:02
Raw Sample Received by: SKB.mct dig
Raw Sample Relinquished by: CPC(m)

Date/Time 09/15/2025 11:02
Raw Sample Received by: CPC(m)
Raw Sample Relinquished by: SKB.mct dig

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB137209

Review By	jaswal	Review On	9/17/2025 12:32:06 PM
Supervise By	mohan	Supervise On	9/18/2025 9:41:57 AM

STD. NAME	STD REF.#
ICAL Standard	MP87031,MP87038,MP87035,MP87034,MP87033,MP87032
ICV Standard	MP87039
CCV Standard	MP87042
ICSA Standard	MP87040,MP87048
CRI Standard	MP87035
LCS Standard	
Chk Standard	MP87043,MP87044,MP87045,MP87046,MP87049

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	09/16/25 10:53		Jaswal	OK
2	S1	S1	CAL2	09/16/25 10:58		Jaswal	OK
3	S2	S2	CAL3	09/16/25 11:02		Jaswal	OK
4	S3	S3	CAL4	09/16/25 11:06		Jaswal	OK
5	S4	S4	CAL5	09/16/25 11:10		Jaswal	OK
6	S5	S5	CAL6	09/16/25 11:15		Jaswal	OK
7	ICV01	ICV01	ICV	09/16/25 11:19		Jaswal	OK
8	LLICV01	LLICV01	LLICV	09/16/25 11:29		Jaswal	OK
9	ICB01	ICB01	ICB	09/16/25 11:33		Jaswal	OK
10	CRI01	CRI01	CRDL	09/16/25 11:38		Jaswal	OK
11	ICSA01	ICSA01	ICSA	09/16/25 11:42		Jaswal	OK
12	ICSAB01	ICSAB01	ICSAB	09/16/25 11:46		Jaswal	OK
13	ICSADL	ICSADL	ICSA	09/16/25 11:50		Jaswal	OK
14	ICSABDL	ICSABDL	ICSAB	09/16/25 11:54		Jaswal	OK
15	CCV01	CCV01	CCV	09/16/25 11:59		Jaswal	OK
16	CCB01	CCB01	CCB	09/16/25 12:05		Jaswal	OK
17	LR-1	LR-1	HIGH STD	09/16/25 12:09		Jaswal	OK
18	LR-2	LR-2	HIGH STD	09/16/25 12:14		Jaswal	OK

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Review By	jaswal	Review On	9/17/2025 12:32:06 PM
Supervise By	mohan	Supervise On	9/18/2025 9:41:57 AM

STD. NAME	STD REF.#
ICAL Standard	MP87031,MP87038,MP87035,MP87034,MP87033,MP87032
ICV Standard	MP87039
CCV Standard	MP87042
ICSA Standard	MP87040,MP87048
CRI Standard	MP87035
LCS Standard	
Chk Standard	MP87043,MP87044,MP87045,MP87046,MP87049

19	PB169686BL	PB169686BL	MB	09/16/25 12:23		Jaswal	OK
20	PB169686BS	PB169686BS	LCS	09/16/25 12:27		Jaswal	OK
21	Q3086-01	RW8-SP100-2025091	SAM	09/16/25 12:36		Jaswal	OK
22	Q3086-02	RW8-SP303-2025091	SAM	09/16/25 12:40		Jaswal	OK
23	Q3086-02DUP	RW8-SP303-2025091	DUP	09/16/25 12:50		Jaswal	OK
24	Q3086-02L	RW8-SP303-2025091	SD	09/16/25 12:54		Jaswal	OK
25	Q3086-02MS	RW8-SP303-2025091	MS	09/16/25 13:05		Jaswal	OK
26	LR-3	LR-3	HIGH STD	09/16/25 13:10		Jaswal	OK
27	CCV02	CCV02	CCV	09/16/25 13:39		Jaswal	OK
28	CCB02	CCB02	CCB	09/16/25 13:43		Jaswal	OK
29	Q3086-02MSD	RW8-SP303-2025091	MSD	09/16/25 13:47		Jaswal	OK
30	Q3086-02A	RW8-SP303-2025091	PS	09/16/25 13:51		Jaswal	OK
31	Q3088-02	90525-LQ	SAM	09/16/25 13:55		Jaswal	OK
32	PB169684BL	PB169684BL	MB	09/16/25 13:59		Jaswal	OK
33	PB169684BS	PB169684BS	LCS	09/16/25 14:03		Jaswal	OK
34	Q3063-02	FALL-2025	SAM	09/16/25 14:07		Jaswal	OK
35	Q3098-04DL	EFF-WWDL	SAM	09/16/25 14:12	Not USe	Jaswal	Not Ok
36	Q3098-04DUPDL	EFF-WWDUPDL	DUP	09/16/25 14:16	Not USe	Jaswal	Not Ok
37	Q3098-04LDL	EFF-WWLDL	SD	09/16/25 14:20	Not USe	Jaswal	Not Ok
38	Q3098-05DL	EFF-WWMSDL	MS	09/16/25 14:24	Not USe	Jaswal	Not Ok

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Daily Analysis Runlog For Sequence/QCBatch ID # LB137209

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Supervise By	mohan	Supervise On	9/18/2025 9:41:57 AM

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ICAL Standard	MP87031,MP87038,MP87035,MP87034,MP87033,MP87032
ICV Standard	MP87039
CCV Standard	MP87042
ICSA Standard	MP87040,MP87048
CRI Standard	MP87035
LCS Standard	
Chk Standard	MP87043,MP87044,MP87045,MP87046,MP87049

39	CCV03	CCV03	CCV	09/16/25 14:40		Jaswal	OK
40	CCB03	CCB03	CCB	09/16/25 14:47		Jaswal	OK
41	Q3098-06DL	EFF-WWMSDDL	MSD	09/16/25 14:51	Not USe	Jaswal	Not Ok
42	Q3098-04ADL	EFF-WWADL	PS	09/16/25 14:55	Not USe	Jaswal	Not Ok
43	Q3082-01	WC-29	SAM	09/16/25 14:59	For Conformation , use from previous Data	Jaswal	Not Ok
44	Q3082-01DUP	WC-29DUP	DUP	09/16/25 15:03	For Conformation , use from previous Data	Jaswal	Not Ok
45	Q3082-01L	WC-29L	SD	09/16/25 15:07	For Conformation , use from previous Data	Jaswal	Not Ok
46	Q3082-01MS	WC-29MS	MS	09/16/25 15:11	For Conformation , use from previous Data	Jaswal	Not Ok
47	Q3082-01MSD	WC-29MSD	MSD	09/16/25 15:15	For Conformation , use from previous Data	Jaswal	Not Ok
48	Q3082-01A	WC-29A	PS	09/16/25 15:19	For Conformation , use from previous Data	Jaswal	Not Ok
49	PB169706BL	PB169706BL	MB	09/16/25 15:23		Jaswal	OK
50	PB169706BS	PB169706BS	LCS	09/16/25 15:27		Jaswal	OK
51	CCV04	CCV04	CCV	09/16/25 15:32		Jaswal	OK
52	CCB04	CCB04	CCB	09/16/25 15:36		Jaswal	OK
53	Q3091-01	12/9C-COMP	SAM	09/16/25 15:40		Jaswal	OK
54	Q3091-08	12/9B-COMP	SAM	09/16/25 15:44		Jaswal	OK
55	Q3101-01	Lot#S:091/15	SAM	09/16/25 15:49		Jaswal	OK
56	Q3105-01	FREEZE-PIT-SAMPLI	SAM	09/16/25 15:53		Jaswal	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB137209

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Supervise By	mohan	Supervise On	9/18/2025 9:41:57 AM

STD. NAME	STD REF.#
ICAL Standard	MP87031,MP87038,MP87035,MP87034,MP87033,MP87032
ICV Standard	MP87039
CCV Standard	MP87042
ICSA Standard	MP87040,MP87048
CRI Standard	MP87035
LCS Standard	
Chk Standard	MP87043,MP87044,MP87045,MP87046,MP87049

57	Q3106-01	NB-07-09152025	SAM	09/16/25 15:57		Jaswal	OK
58	Q3106-03	NB-08-09152025	SAM	09/16/25 16:01		Jaswal	OK
59	Q3104-01	SU-04-091525	SAM	09/16/25 16:05		Jaswal	OK
60	Q3104-01DUP	SU-04-091525DUP	DUP	09/16/25 16:09		Jaswal	OK
61	Q3104-01L	SU-04-091525L	SD	09/16/25 16:13		Jaswal	OK
62	Q3104-01MS	SU-04-091525MS	MS	09/16/25 16:17		Jaswal	OK
63	CCV05	CCV05	CCV	09/16/25 16:27		Jaswal	OK
64	CCB05	CCB05	CCB	09/16/25 16:31		Jaswal	OK
65	Q3104-01MSD	SU-04-091525MSD	MSD	09/16/25 16:35		Jaswal	OK
66	Q3104-01A	SU-04-091525A	PS	09/16/25 16:39		Jaswal	OK
67	CCV06	CCV06	CCV	09/16/25 16:48		Jaswal	OK
68	CCB06	CCB06	CCB	09/16/25 16:53		Jaswal	OK

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Prep Standard - Chemical Standard Summary

Order ID : Q3086

Test : Metals Group4

Prepbatch ID : PB169686,

Sequence ID/Qc Batch ID: LB137209,LB137209,

Standard ID :
MP85156,MP87031,MP87032,MP87033,MP87034,MP87035,MP87036,MP87038,MP87039,MP87040,MP87042,MP87043,MP87044,MP87045,MP87046,MP87048,MP87049,

Chemical ID :
M5467,M5658,M5748,M5751,M5798,M5799,M5800,M5801,M5814,M5820,M5962,M5969,M5971,M5979,M5985,M5998,M6021,M6023,M6026,M6027,M6028,M6030,M6032,M6076,M6077,M6128,M6137,M6138,M6140,M6142,M6144,M6145,M6151,M6158,M6159,M6160,M6163,M6164,M6165,M6171,M6174,M6176,M6177,M6178,M6179,M6180,M6181,M6182,M6184,M6187,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	10/08/2025	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)	MP87031	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 125.00000ml of M6151 + 2350.00000ml of W3112 + 25.00000ml of M6187 = 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)	MP87032	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 5.00000ml of M5467 + 5.00000ml of M5820 + 5.00000ml of M5969 + 5.00000ml of M5971 + 5.00000ml of M5998 + 5.00000ml of M6077 + 5.00000ml of M6160 + 5.00000ml of M6174 + 5.00000ml of M6176 + 455.00000ml of MP87031 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP87033	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 50.00000ml of MP87031 + 50.00000ml of MP87032 = 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	MP87034	09/02/2025	10/03/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 09/04/2025

FROM 25.00000ml of MP87032 + 75.00000ml of MP87031 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP87035	09/02/2025	10/03/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 09/04/2025

FROM 16.00000ml of MP87032 + 184.00000ml of MP87031 = 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	MP87036	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6140 + 0.05000ml of M6159 + 0.06000ml of M6177 + 0.10000ml of M5751 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5971 + 0.10000ml of M6128 + 0.10000ml of M6176 + 0.15000ml of M5800 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6027 + 0.20000ml of M6145 + 0.25000ml of M5467 + 0.25000ml of M6160 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5979 + 1.00000ml of M6138 + 1.00000ml of M6142 + 1.00000ml of M6144 + 1.00000ml of M6171 + 1.00000ml of M6178 + 2.00000ml of M5969 + 88.29000ml of MP87031 = 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	MP87038	09/02/2025	10/03/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 09/04/2025

FROM 2.00000ml of MP87036 + 98.00000ml of MP87031 = 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	MP87039	09/02/2025	10/03/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 09/04/2025

FROM 0.40000ml of M6163 + 0.40000ml of M6164 + 0.40000ml of M6165 + 48.80000ml of MP87031 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP87040	09/02/2025	10/03/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 09/04/2025

FROM 25.00000ml of M6182 + 225.00000ml of MP87031 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP87042	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 50.00000ml of MP87031 + 50.00000ml of MP87032 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP87043	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 1.00000ml of M6179 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6187 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP87044	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 200.00000ml of M6187 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4225	LR-1	MP87045	09/02/2025	10/03/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 09/04/2025

FROM 11.50000ml of M6138 + 11.50000ml of M6144 + 11.50000ml of M6171 + 15.50000ml of MP87031 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4226	LR-2	MP87046	09/02/2025	10/03/2025	Sarabjit Jaswal	None	METALS_PIPETTE_3 (A)	Janvi Patel 09/04/2025

FROM 13.50000ml of M6140 + 9.00000ml of M6142 + 9.50000ml of M6159 + 18.00000ml of MP87031 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP87048	09/02/2025	10/03/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 09/04/2025

FROM 0.05000ml of M6076 + 5.00000ml of M6182 + 5.00000ml of M6184 + 39.95000ml of MP87031 = 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
4227	LR-3	MP87049	09/02/2025	10/03/2025	Sarabjit Jaswal	None	None	Janvi Patel 09/04/2025

FROM 1.15000ml of M6026 + 1.25000ml of M5658 + 1.25000ml of M5748 + 1.50000ml of M6145 + 2.50000ml of M5751 + 2.50000ml of M6128 + 39.85000ml of MP87031 = Final Quantity: 50.000 ml

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CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 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

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

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

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

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

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

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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	06/06/2025 / Janvi	07/01/2024 / Jaswal	M5971

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	08/05/2026	08/06/2025 / Janvi	02/22/2024 / Jaswal	M5979

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB727800	07/30/2026	07/30/2025 / Janvi	02/22/2024 / kareem	M5998

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

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

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

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	01/01/2026	01/01/2025 / kareem	09/19/2024 / kareem	M6076

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	011025	01/10/2028	06/25/2025 / Janvi	01/13/2025 / Jaswal	M6140

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	02/17/2026	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	10/09/2025	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	03/24/2025 / kareem	10/18/2024 / kareem	M6160

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	011525	01/15/2028	07/15/2025 / Jaswal	02/13/2025 / Janvi	M6171

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	V2-MEB742428	07/31/2026	07/31/2025 / Janvi	05/05/2025 / Janvi	M6174

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	092724	09/27/2027	08/06/2025 / Janvi	08/06/2025 / Janvi	M6176

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	08/05/2026	08/06/2025 / Janvi	06/02/2024 / Janvi	M6179

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	W2-MEB752149	02/05/2026	08/06/2025 / Janvi	07/22/2025 / Janvi	M6180

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	V2-MEB7433480	02/05/2026	08/06/2025 / Janvi	07/22/2025 / Janvi	M6181

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	02/05/2026	08/06/2025 / Janvi	03/06/2024 / Janvi	M6182

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	02/05/2026	08/06/2025 / Janvi	03/06/2024 / Janvi	M6184

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24H0162012	01/28/2026	08/29/2025 / Sagar	08/08/2025 / Sagar	M6187

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6032

R 8/5/24

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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		

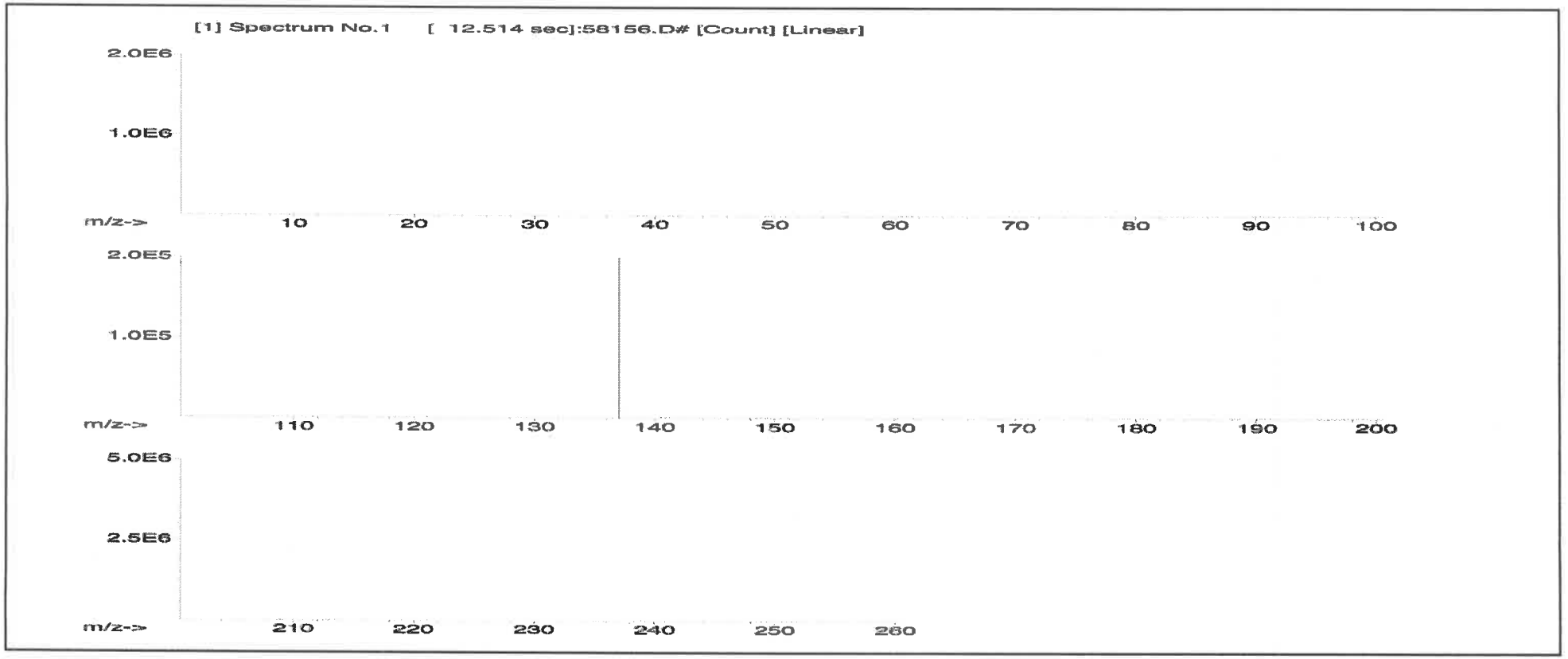
Giovanni Esposito

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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Certified Reference Material CRM

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

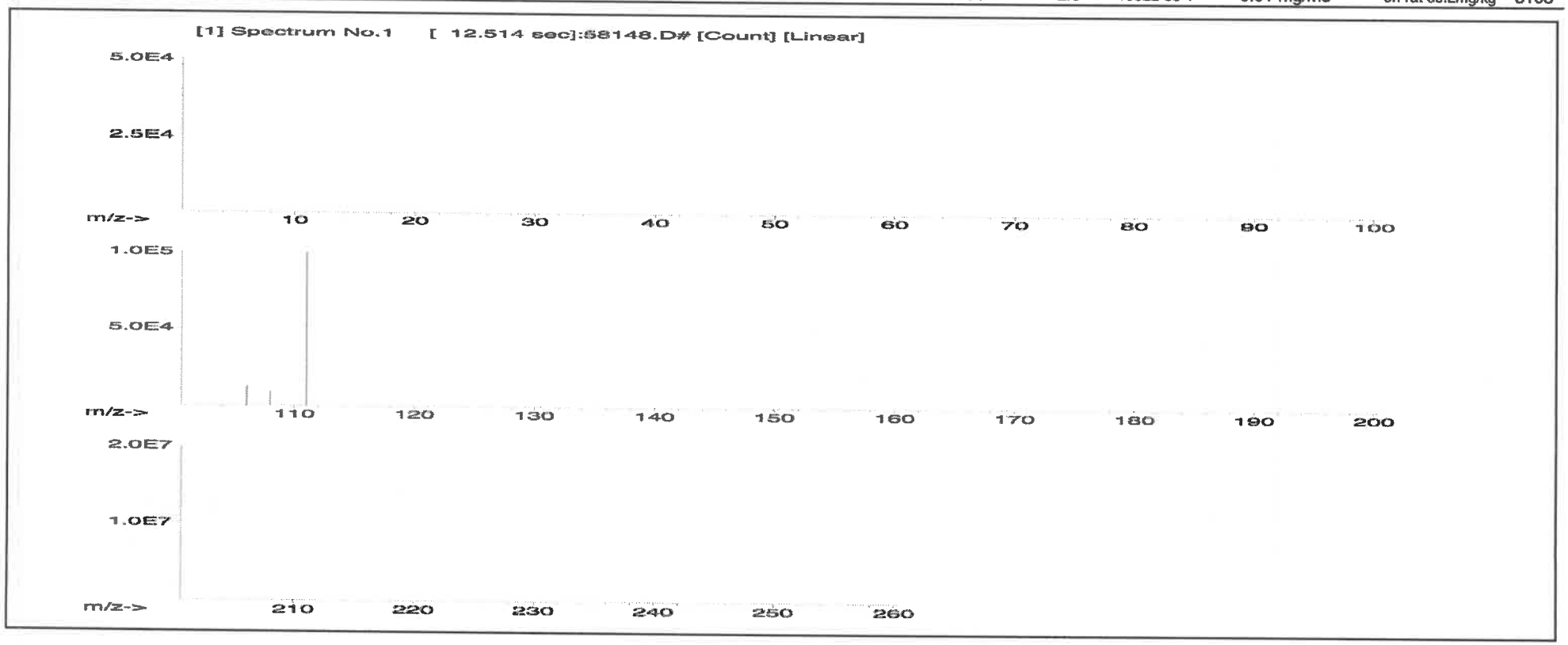
		Lot #	
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Aleah O'Brady

Formulated By:	Aleah O'Brady	070124
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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Certified Reference Material CRM

M6026

R: 8/5/24

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CERTIFIED WEIGHT REPORT:

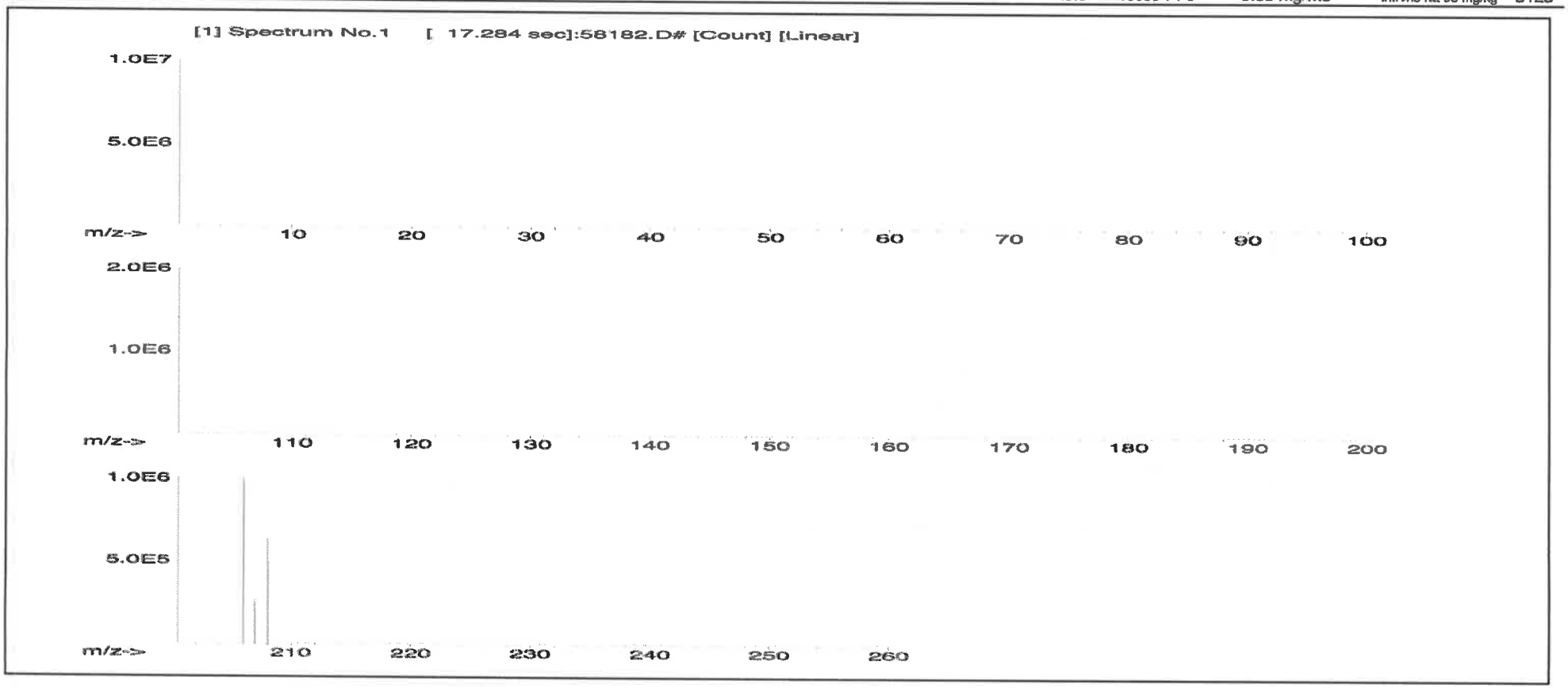
Part Number: 57182
Lot Number: 110923
Description: Lead (Pb)

Expiration Date: 110926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawence Barry	110923
Reviewed By:	Pedro L. Rentas	110923

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	10000	99.999	0.10	62.5	32.0006	32.0040	**10001.1**	**20.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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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	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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5467 R: 03/01/23 (LA)

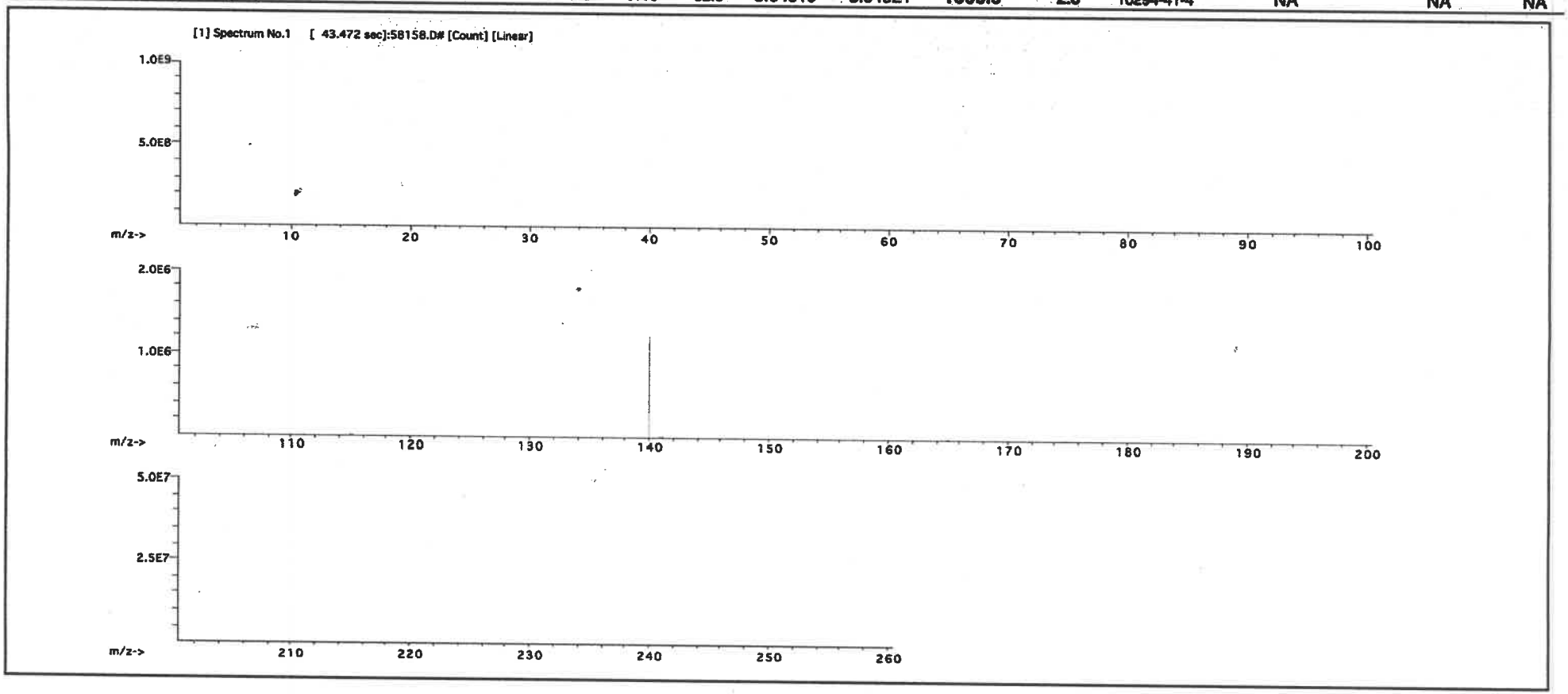
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	57058		**Lot #**		
Lot Number:	020623	**Solvent:**	21110221	Nitric Acid	
Description:	Cerium (Ce)				
		2%	20.0 (mL)	Nitric Acid	
Expiration Date:	020626				
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):	1000.12	0.058	Flask 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



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.
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M5658 R ! 8/25/23

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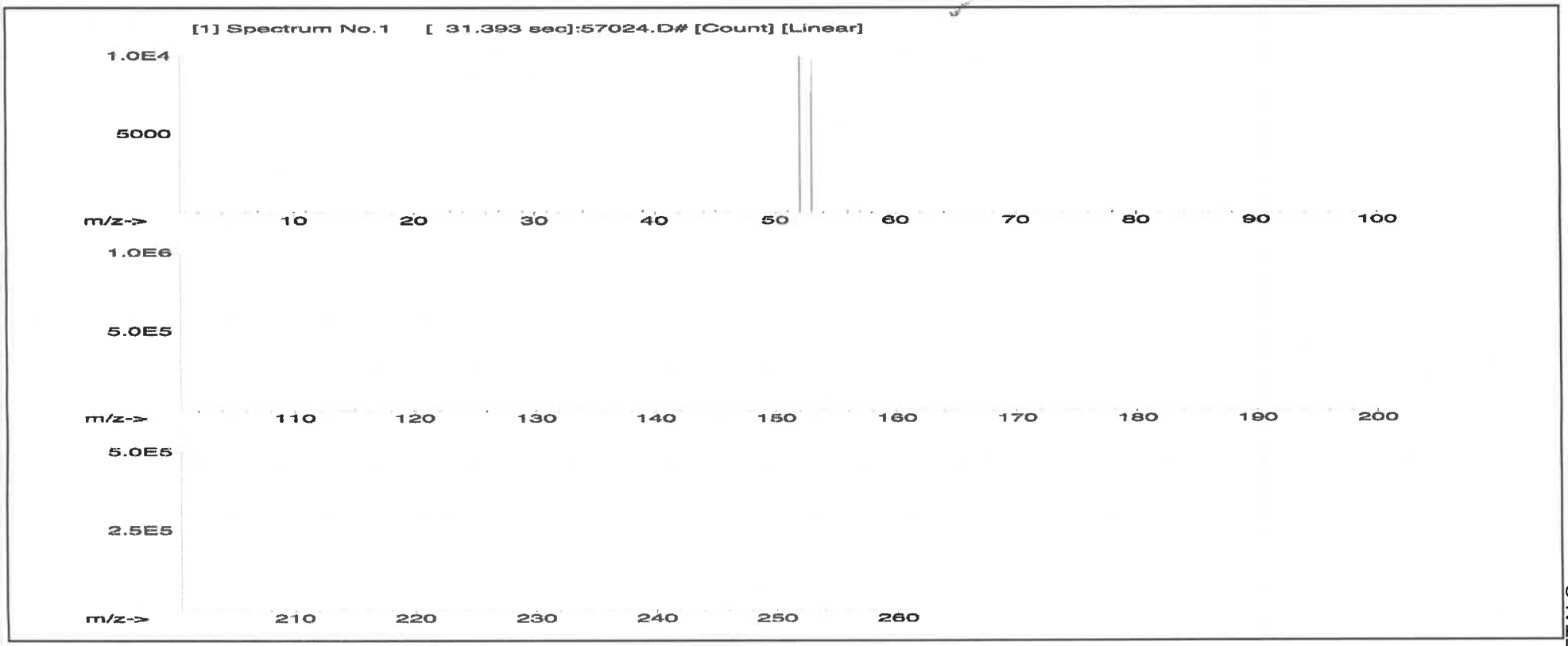
CERTIFIED WEIGHT REPORT:

		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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Certified Reference Material CRM

R: 12/20/23 M5748

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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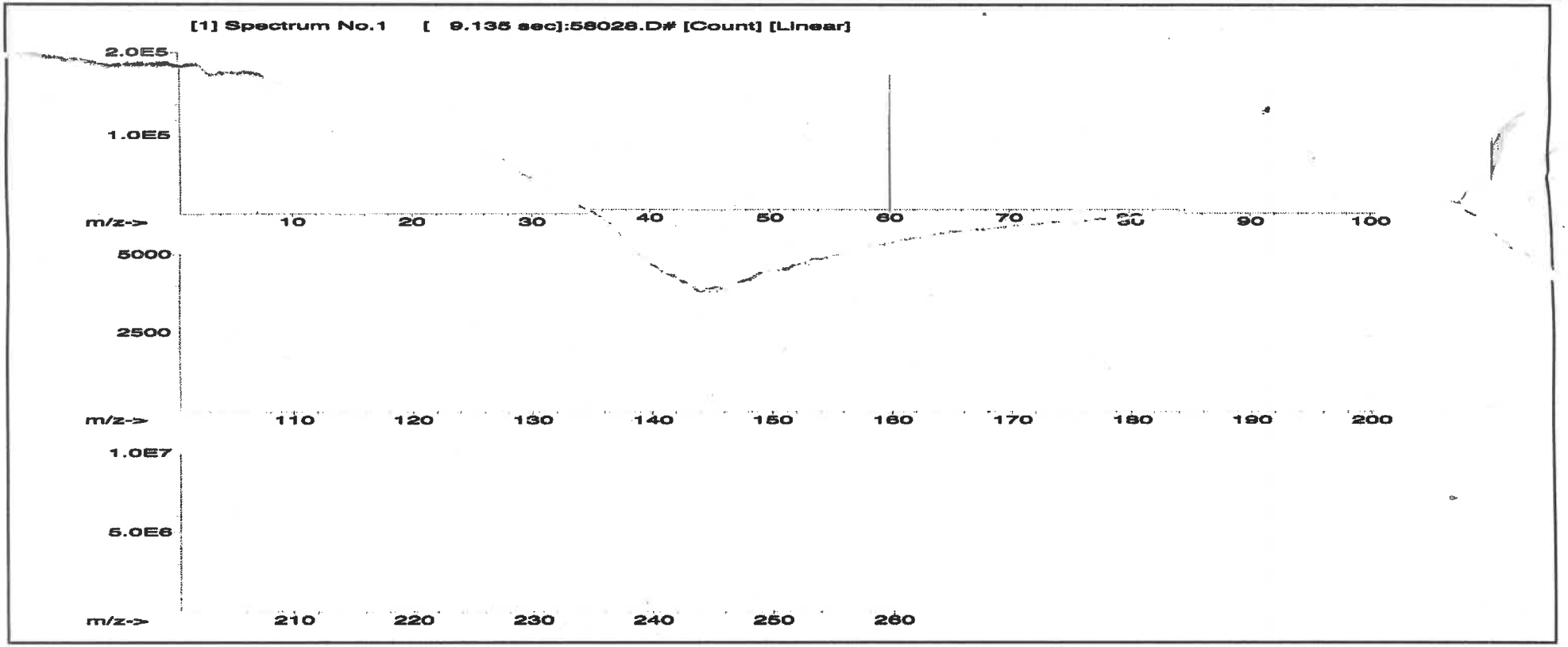
CERTIFIED WEIGHT REPORT:

		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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Certified Reference Material CRM

R: 8/25/23 M5751

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AR-1539 Certificate Number
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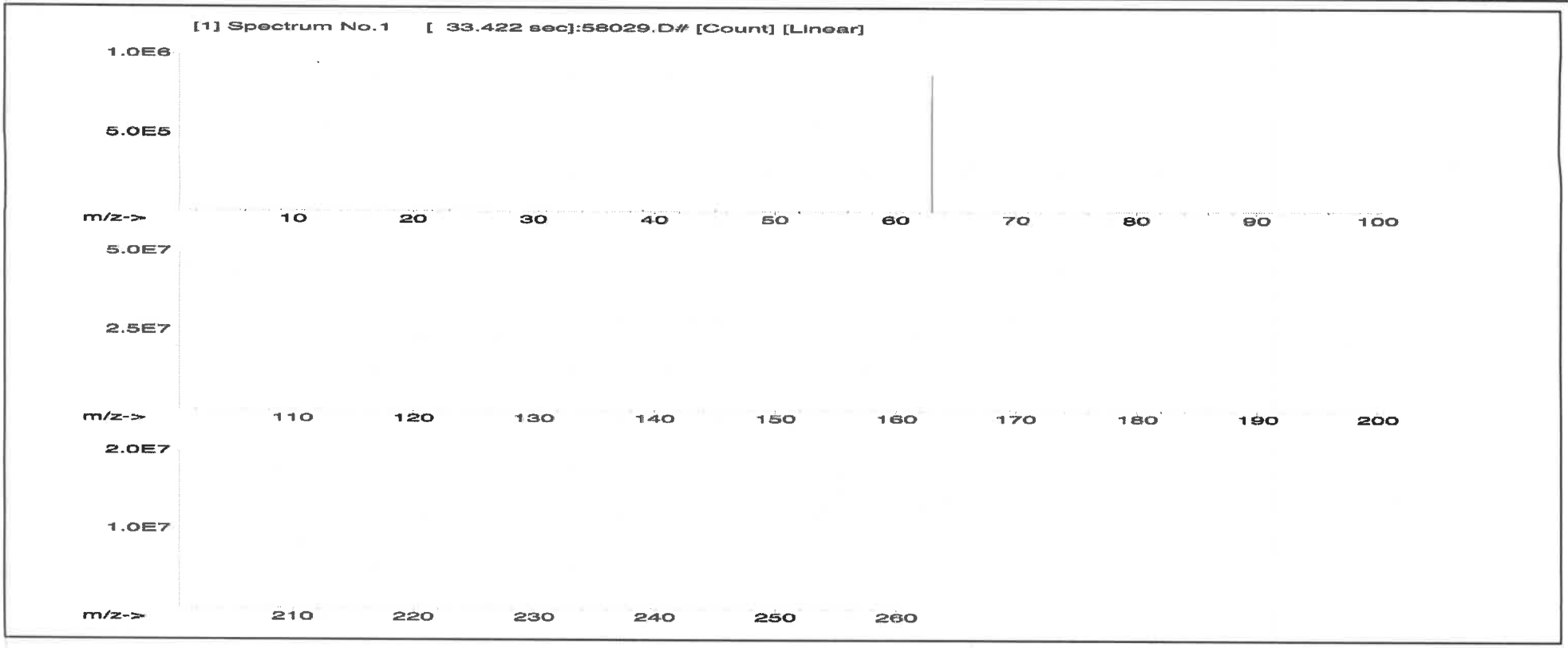
CERTIFIED WEIGHT REPORT:

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:

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R: 02/09/24 M5798

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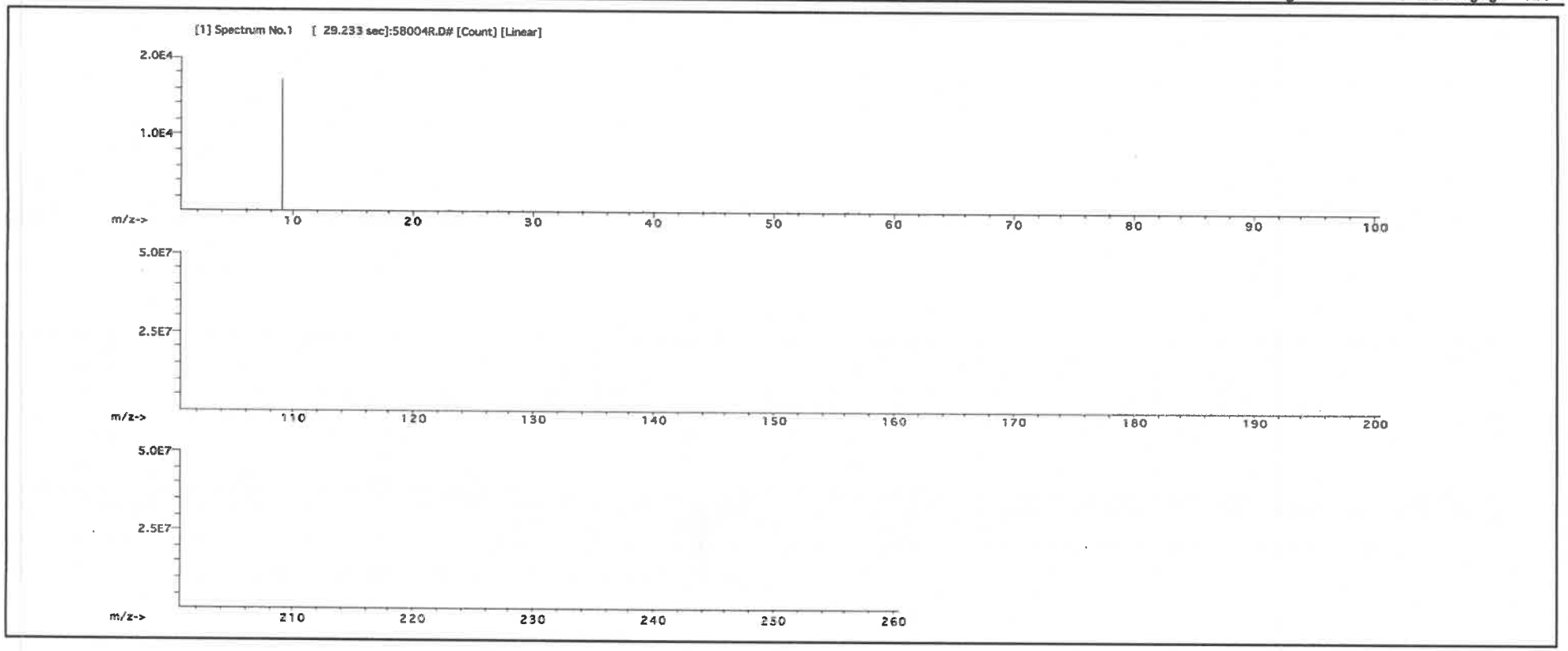
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57004**	24002546	Nitric Acid		
Lot Number:	**102523**				
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



Q3086-METALS

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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* 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? 02/09/24 IM5799

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

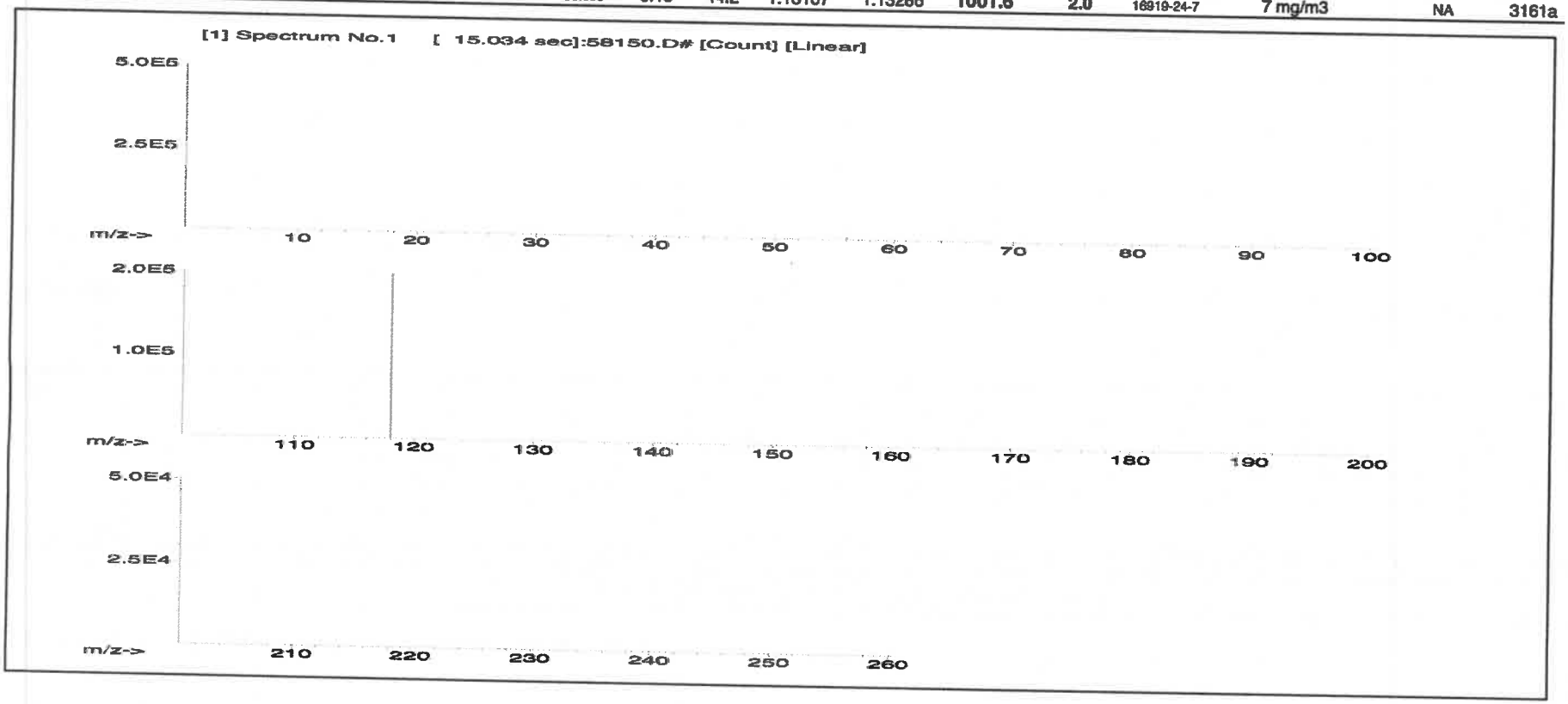
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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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R: 02/09/24 IM5800 BH

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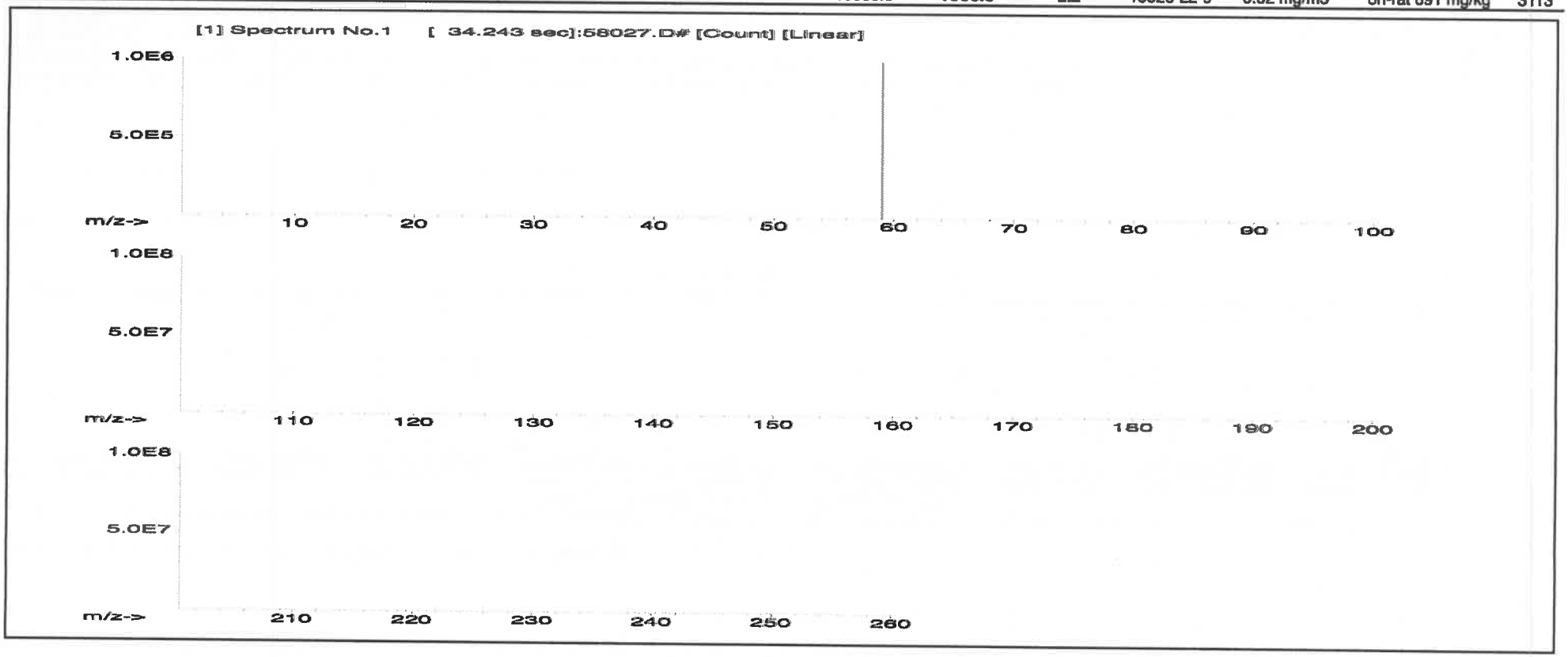
CERTIFIED WEIGHT REPORT:

		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:

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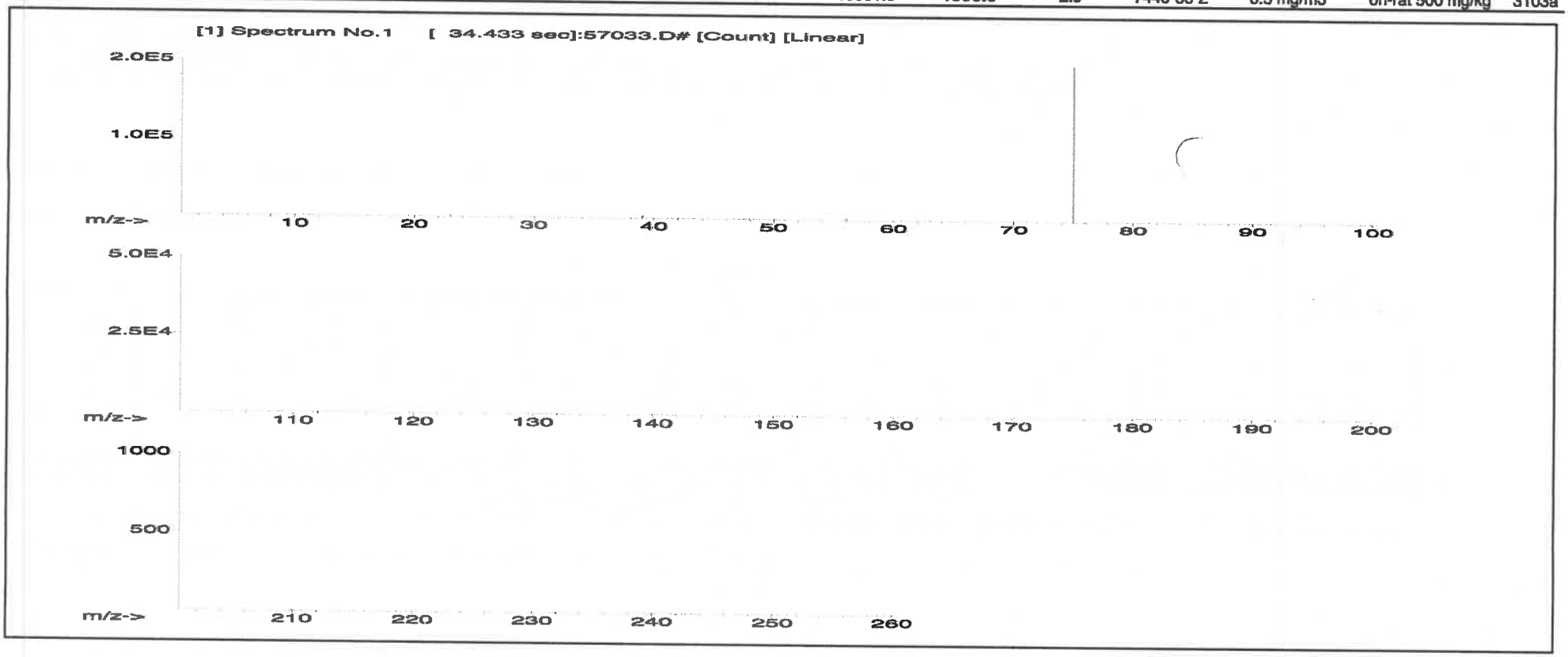
CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**	24002546	Nitric Acid		
Lot Number:	**111323**				
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 Reference Material CRM

A: 02/09/24 M.5814

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CERTIFIED WEIGHT REPORT:

Part Number: 57005
Lot Number: 071123
Description: Boron (B)

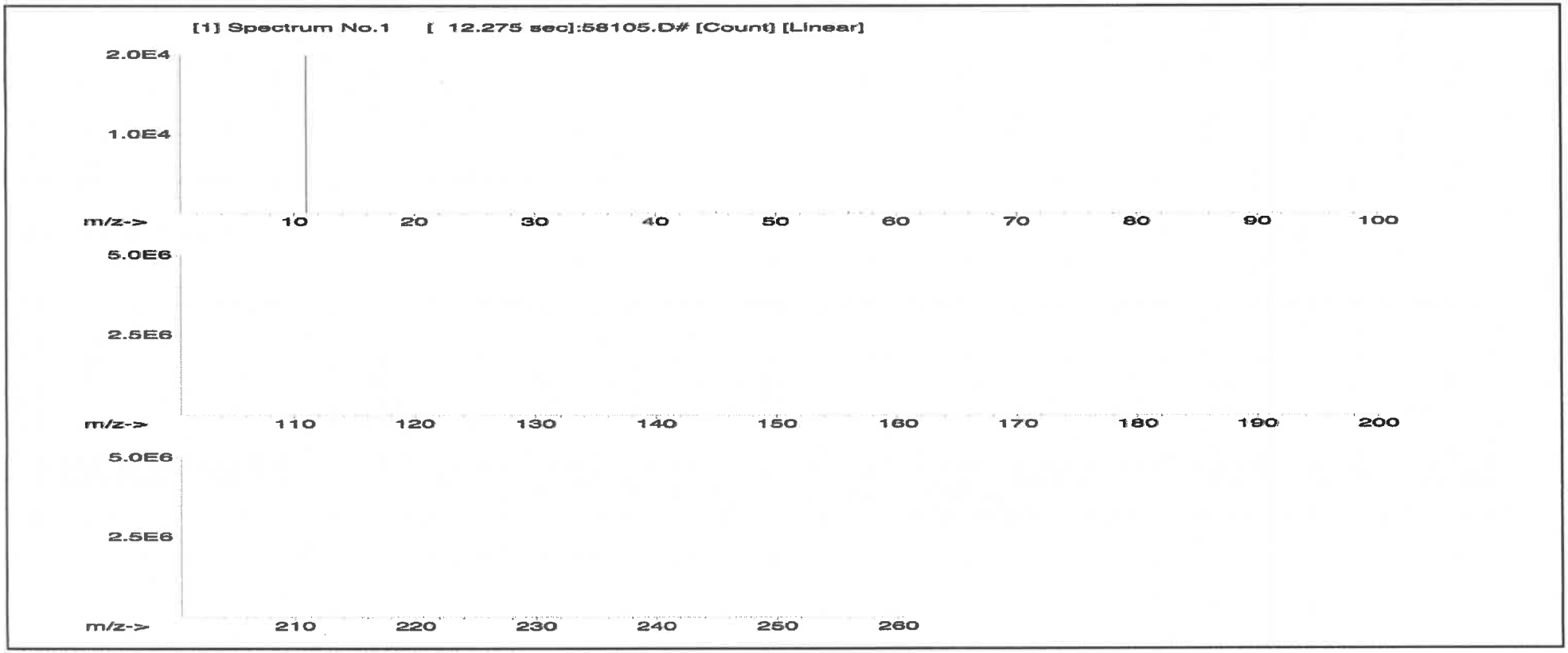
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

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:

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R: 02/09/24 M5820

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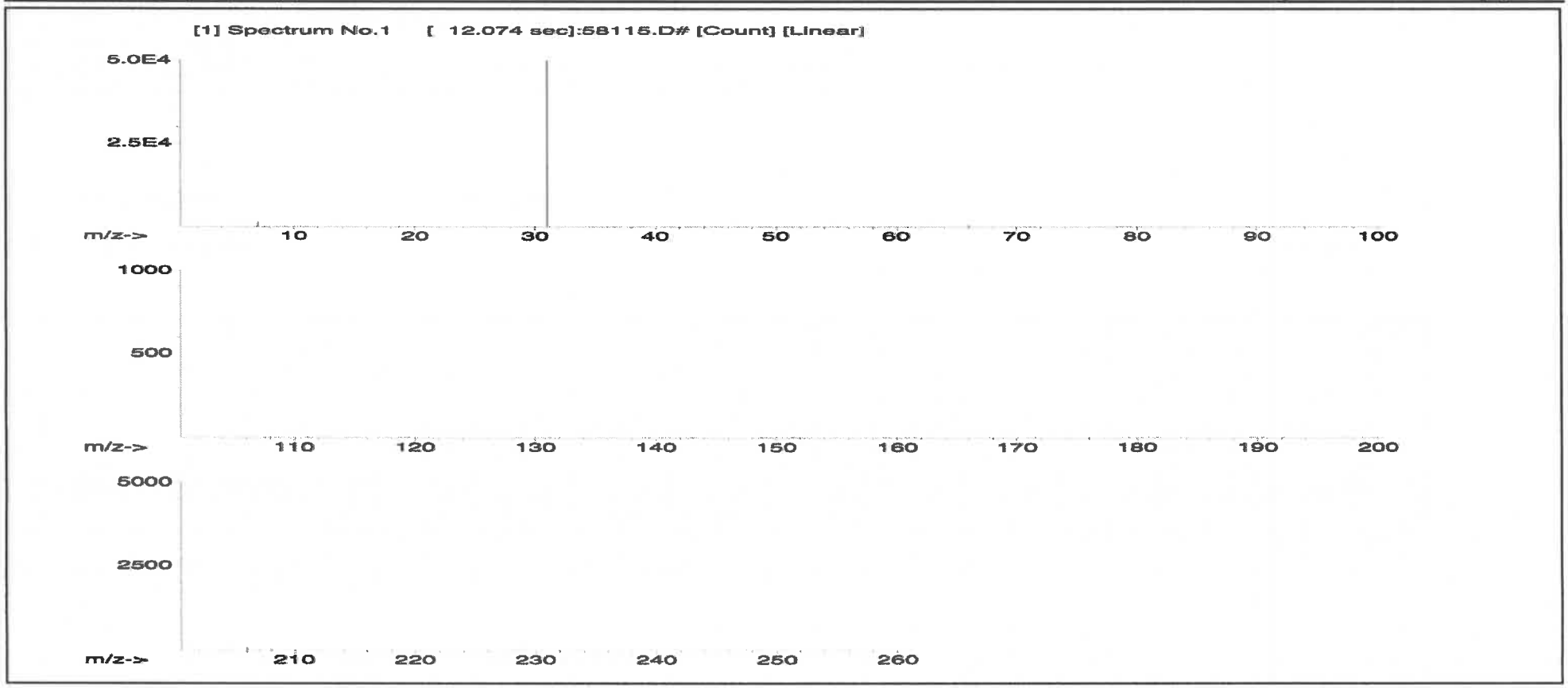
CERTIFIED WEIGHT REPORT:

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)

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	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:

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

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M5962 R! 06/14/24.

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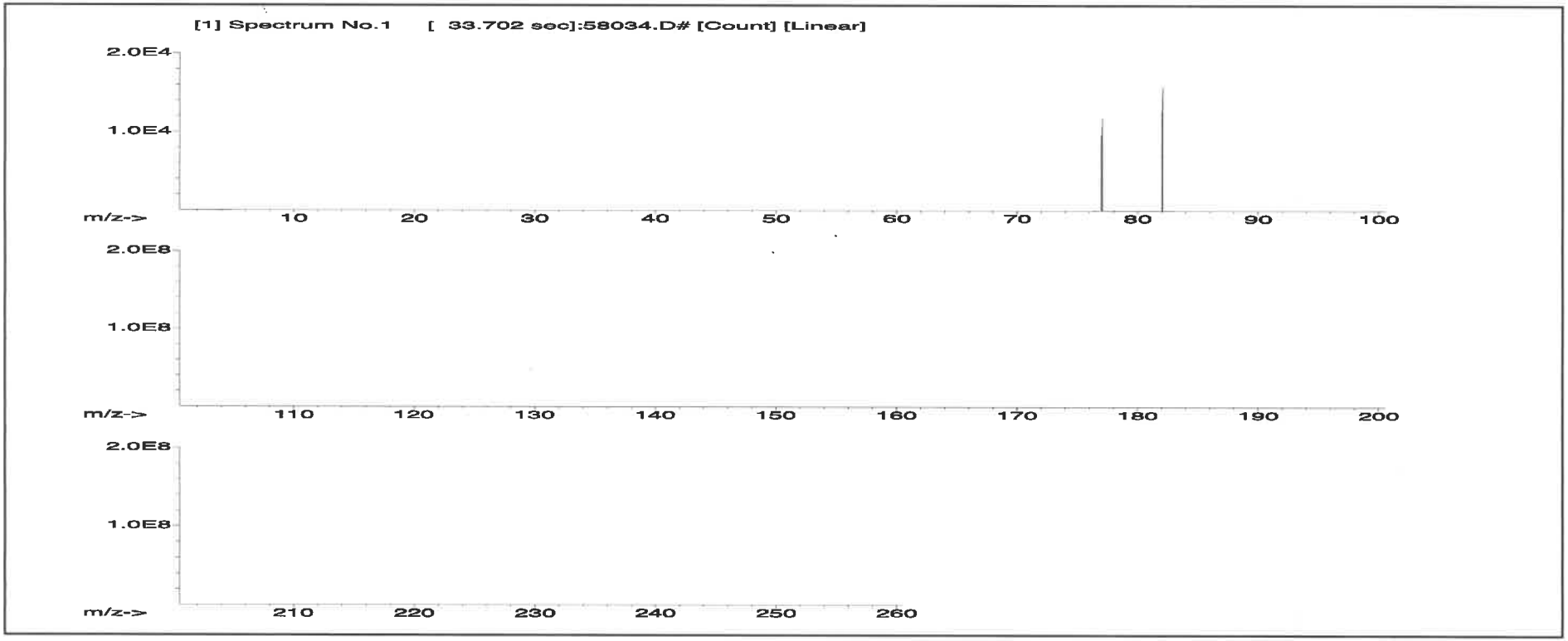
CERTIFIED WEIGHT REPORT:

		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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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	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

M5969 R: 06/11/24

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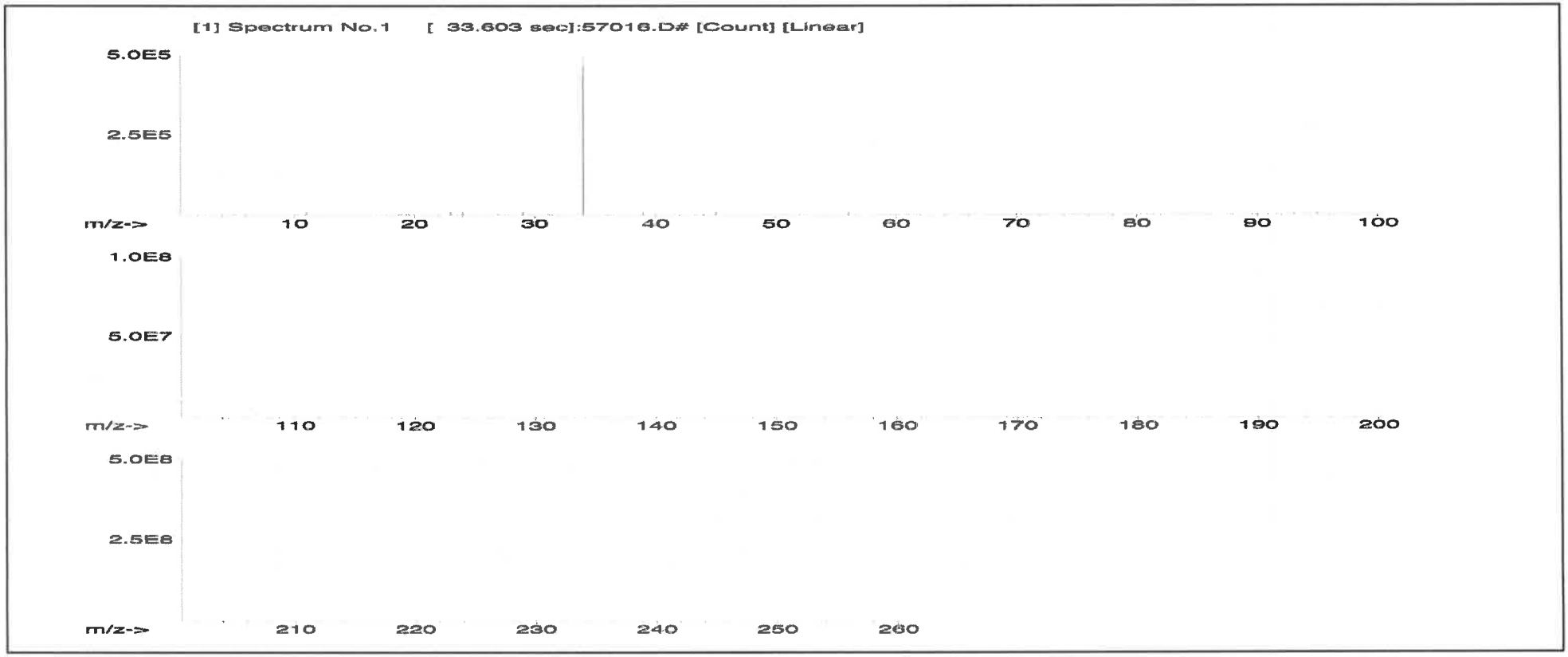
CERTIFIED WEIGHT REPORT:

Part Number:	**57016**		**Solvent:**	Lot # 122923 ASTM Type 1 Water
Lot Number:	**122923**			
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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Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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

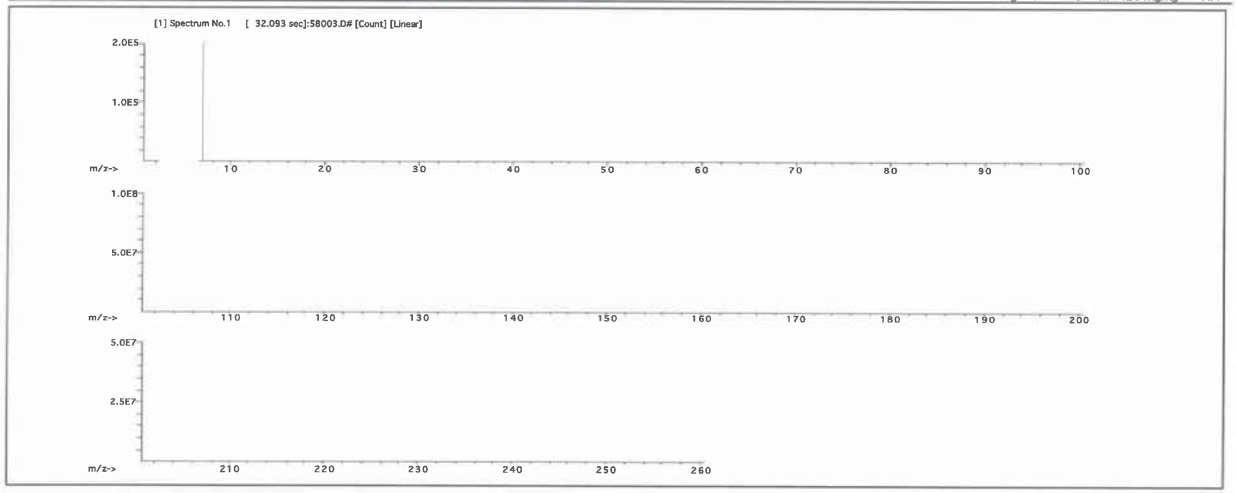
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57003**	24002546	Nitric Acid		
Lot Number:	**062124**				
Description:	**Lithium (Li)**	2.0%	5.0 (mL)	Nitric Acid	
Expiration Date:	062127				
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):	250.11	0.016	Flask Uncertainty		

Giovanni Esposito

Formulated By:	Giovanni Esposito	062124
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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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.
* 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: 2/22/24

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 865.01 — ACCREDITED Reference Material Producer Certificate 865.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	TI Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**

ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/MM}$, 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 ($\pm$) = $U_{CRM/RM} = k\,(u^2_{Char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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:

$$X_{CRM/RM} = (\bar{x}_a)\,(u_{Char\,a})$$

$\bar{x}_a$ = mean of Assay Method A with

$u_{Char\,a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty ($\pm$) = $U_{CRM/RM} = k\,(u^2_{Char\,a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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 for months in 1% 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

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MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

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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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

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

11.2 Lot Expiration Date

- February 21, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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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

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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300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

EXP.: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

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

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

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300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

EXP.: 9/6/2029

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:	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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

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

11.2 Lot Expiration Date

- September 06, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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 #**		
Lot Number:	**101124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Manganese (Mn)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	101127				
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):	4000.2	0.10	Flask Uncertainty		

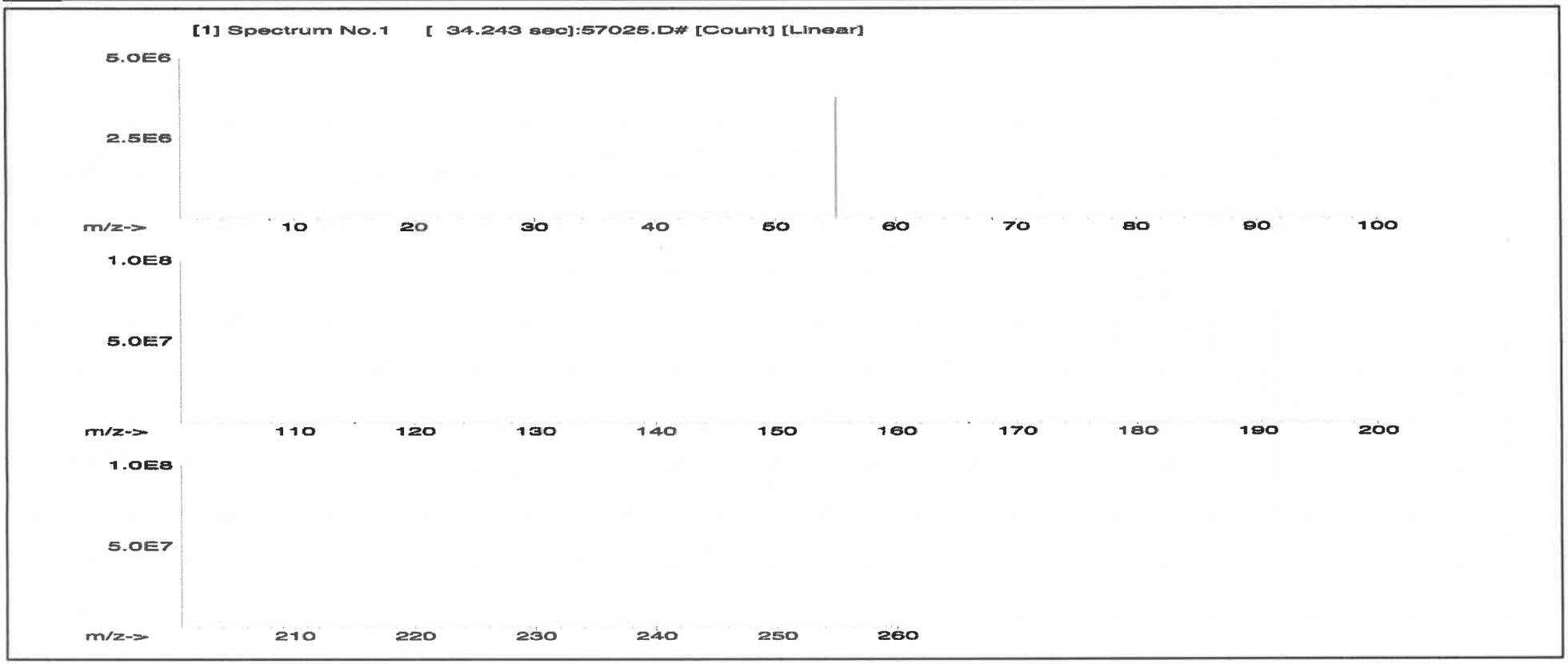
Giovanni Esposito

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



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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:

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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Certificate of Analysis

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inorganicventures.com

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

Absolute Standards, Inc.
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Certified Reference Material CRM

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M6138
R->1/13/25

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 121824
Description: Calcium (Ca)

Expiration Date: 121827
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.1 0.15 Flask Uncertainty

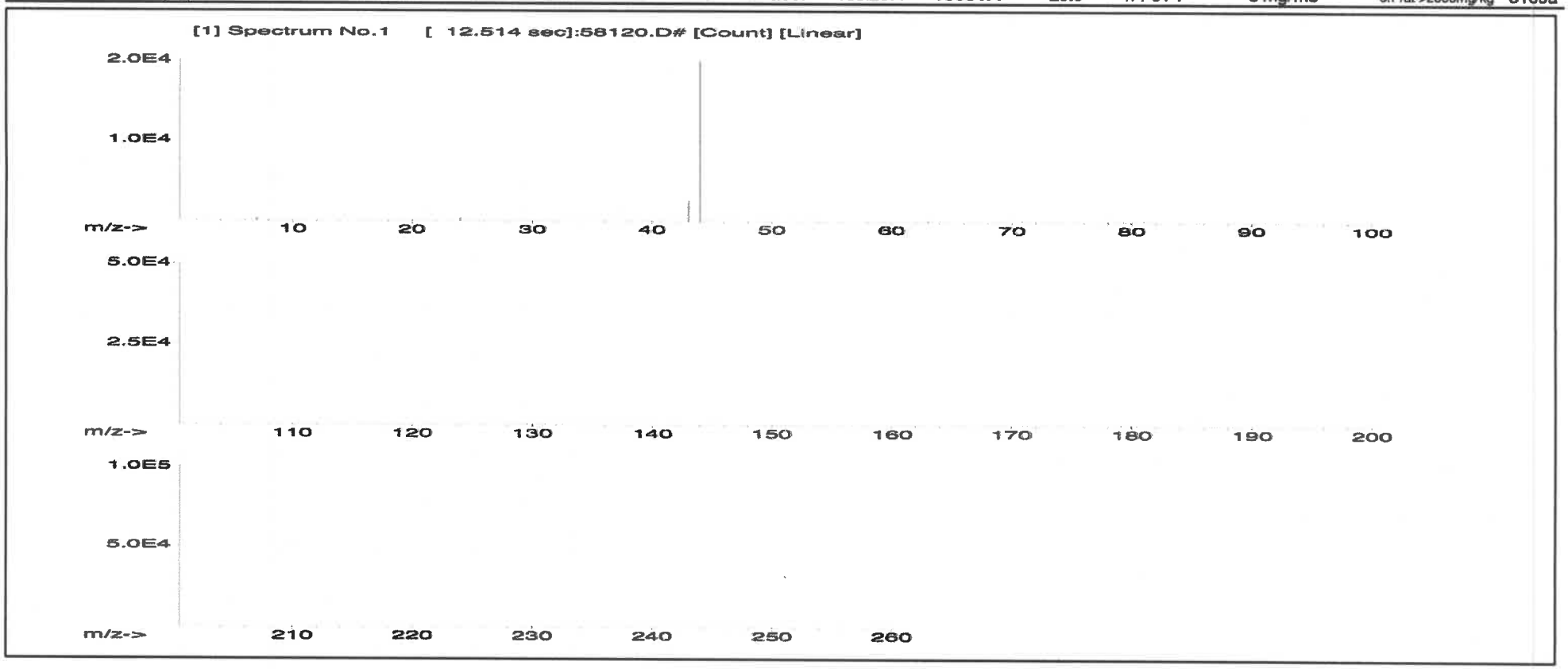
		Lot #		
Solvent:	24012496	Nitric Acid		
	2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	121824
Reviewed By:	Pedro L. Rentas	121824

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. Calcium carbonate (Ca)	IN014	CAD03203B3	10000	99.999	0.10	39.9	100.2537	100.2677	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



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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	<0.02	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	30	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	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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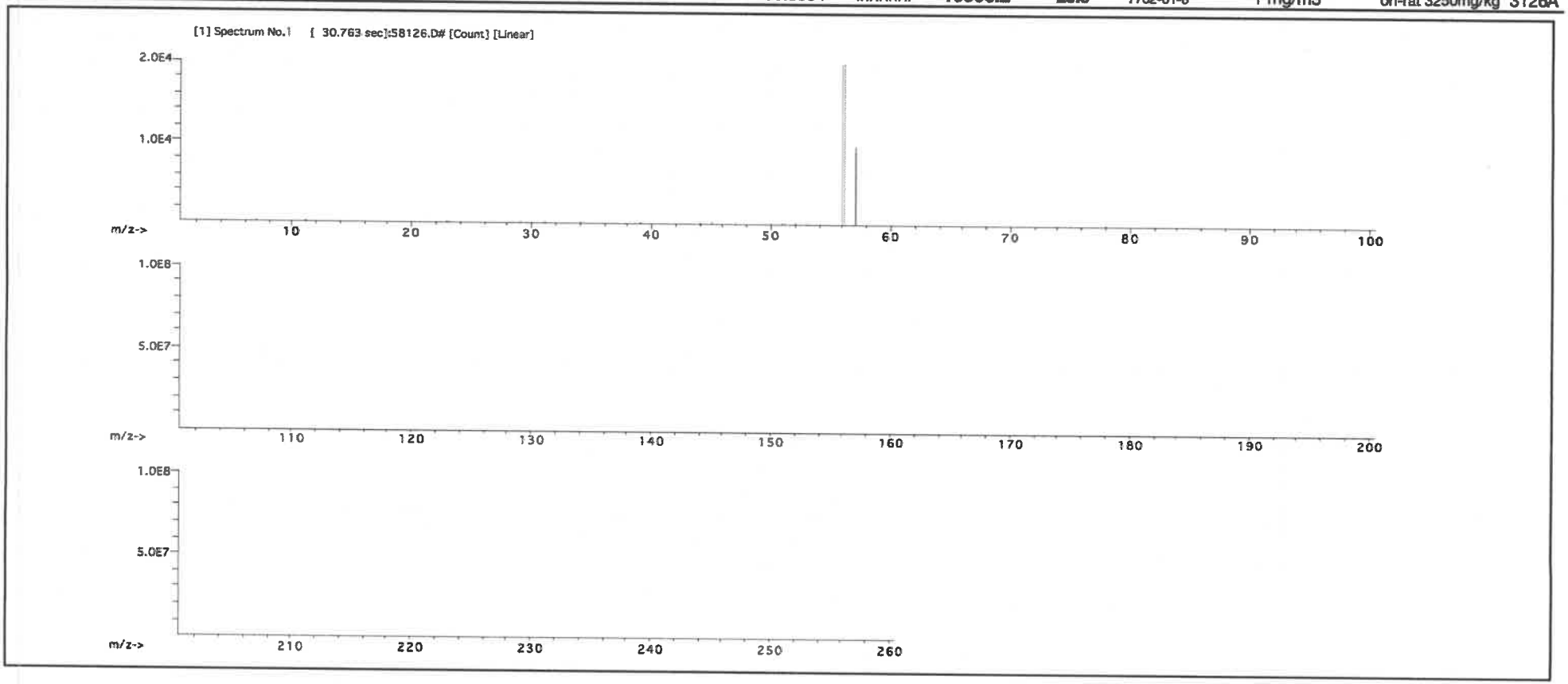
CERTIFIED WEIGHT REPORT:

R->1|B|2S

Part Number:	58126			Lot #	
Lot Number:	011025	**Solvent:**	24012496	Nitric Acid	
Description:	Iron (Fe) M6140		2%	40.0 (mL)	Nitric Acid
Expiration Date:	011028				
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		

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

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(III) nitrate nonahydrate (Fe)	IN028	FED082023A1	10000	99.999	0.10	13.0	153.8534	######	**10000.2**	**20.0**	7782-61-8	1 mg/m3	orl-rat 3250mg/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	<0.02	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	T	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:

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CERTIFIED WEIGHT REPORT:

R->1/13/25

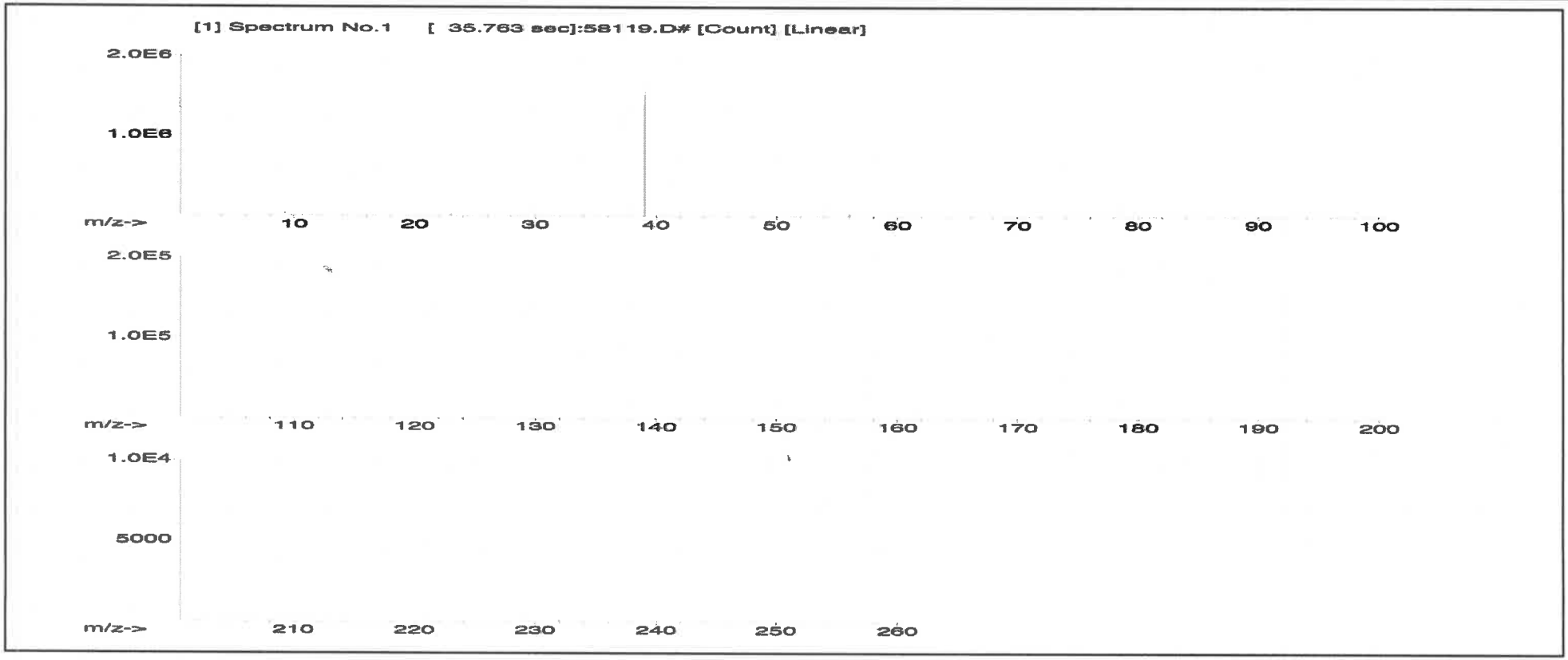
Part Number:	**57119**		**Lot #**		
Lot Number:	**103024**	**Solvent:**	24002546	Nitric Acid	
Description:	**Potassium (K)**				
		2%	80.0 (mL)	Nitric Acid	
Expiration Date:	103027				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.1	0.15	Flask Uncertainty		

M6141
M6142
M6143

Giovanni Esposito

Formulated By:	Giovanni Esposito	103024
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.

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CERTIFIED WEIGHT REPORT:

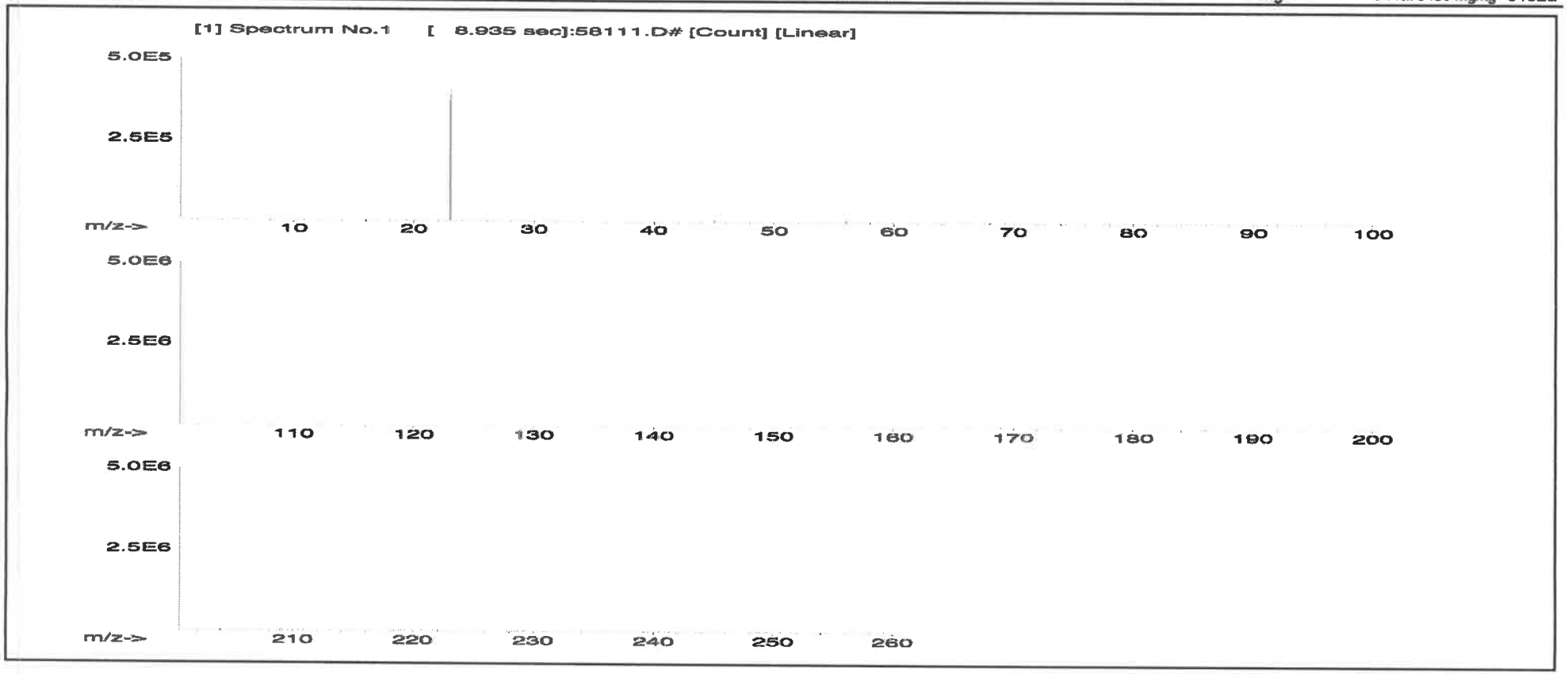
R->1/13/25

M6144

Part Number:	**58111**		**Lot #**		
Lot Number:	**072424**	**Solvent:**	24002546	Nitric Acid	
Description:	**Sodium (Na)**				
		2%	80.0 (mL)	Nitric Acid	
Expiration Date:	072427				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.2	0.10	Flask Uncertainty		

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

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Certified Reference Material CRM

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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

Weight shown below was diluted to (mL): 2000.1 ± 0.10 Flask Uncertainty

	Lot #	
Solvent:	24012496	Nitric Acid
2%	40.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

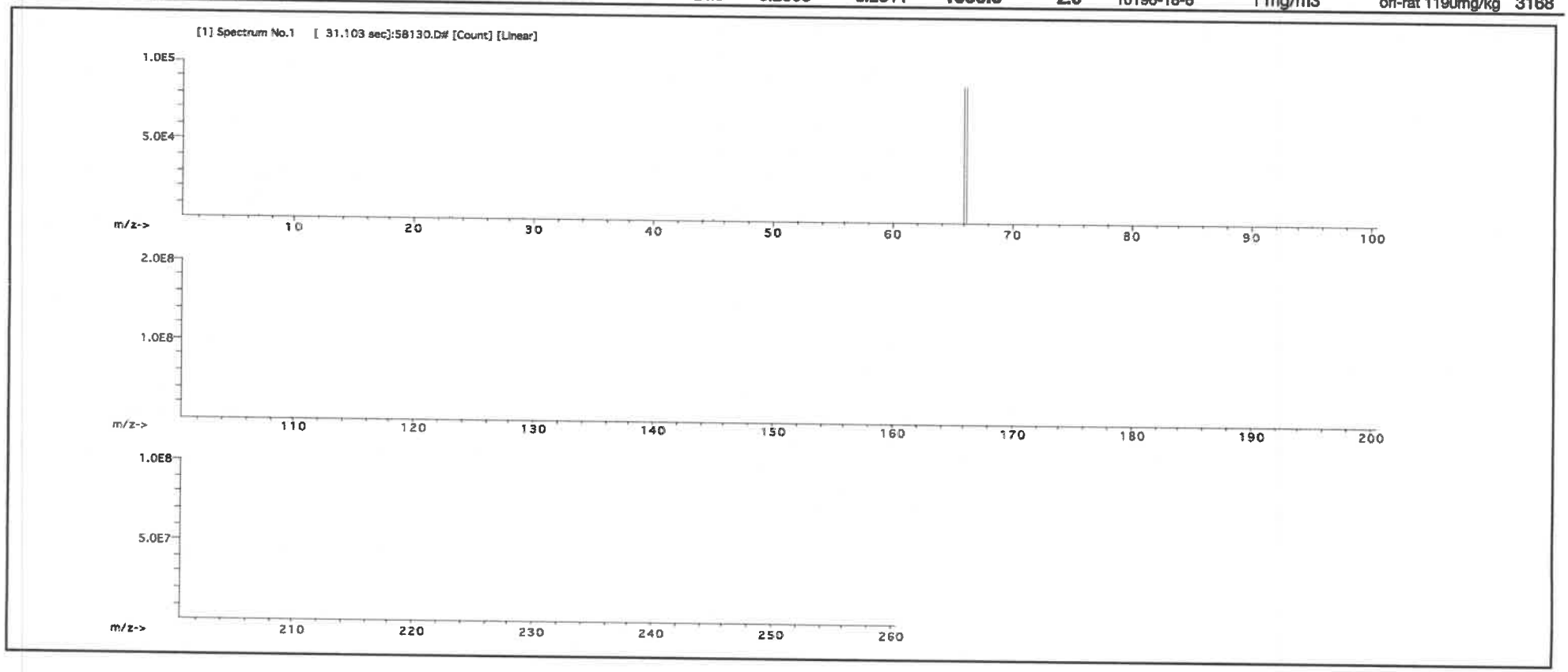
Aleah O'Brady

Formulated By: Aleah O'Brady 121724

Pedro Rentas

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

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Physical Characterization:

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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

avantor™ | J.T.Baker®

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

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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

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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.

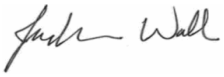
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

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

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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

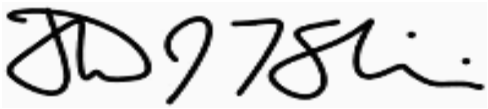
- Sealed TCT Bag Open Date: _____

- 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

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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.

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

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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.

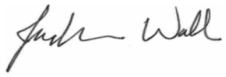
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor

Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

R -> 013125

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Certified Reference Material CRM

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CERTIFIED WEIGHT REPORT:

M 6171

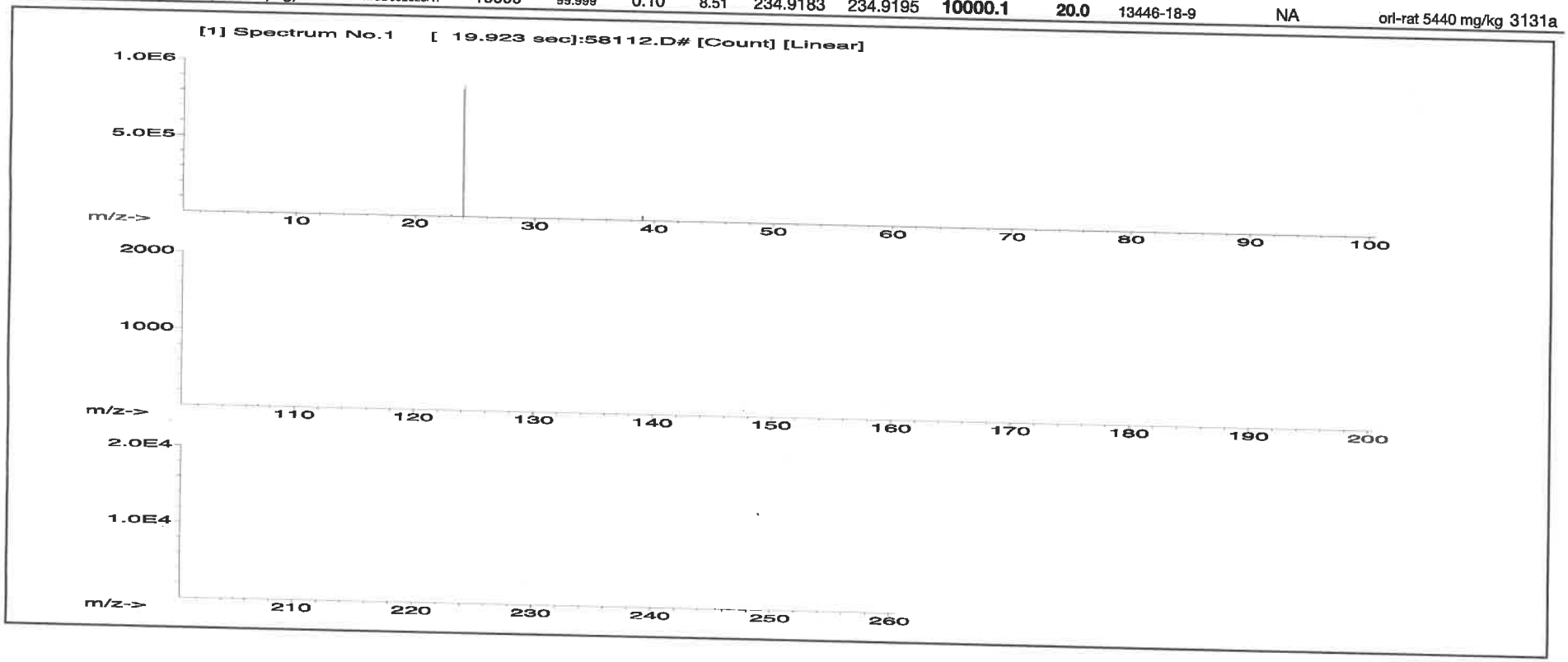
Part Number: 58112
Lot Number: 011525
Description: Magnesium (Mg)

Expiration Date: 011528
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.07

	Lot #		
Solvent:	24012496	Nitric Acid	
	2%	40.0 (mL)	Nitric Acid
	5E-05	Balance Uncertainty	
	0.100	Flask Uncertainty	

Formulated By:	Benson Chan	011525
Reviewed By:	Pedro L. Rentas	011525

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	234.9195	**10000.1**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



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Certified Reference Material CRM

ANAB ISO 17034 Accredited
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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	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:

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

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M6174
R->5/5/24

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:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	V2-MEB742428
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	50.03 ± 0.30 µg/mL	Calcium, Ca	5 000 ± 16 µg/mL
Chromium, Cr	200.0 ± 1.1 µg/mL	Cobalt, Co	500.0 ± 2.3 µg/mL
Copper, Cu	250.0 ± 1.1 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 22 µg/mL	Manganese, Mn	499.9 ± 2.2 µg/mL
Nickel, Ni	500.1 ± 2.3 µg/mL	Potassium, K	5 000 ± 22 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 22 µg/mL
Vanadium, V	500.0 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.117 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	120618
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	200413
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, 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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 22, 2024

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

11.2 Lot Expiration Date

- March 22, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Jodie Wall
Stock VSM Coordinator

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

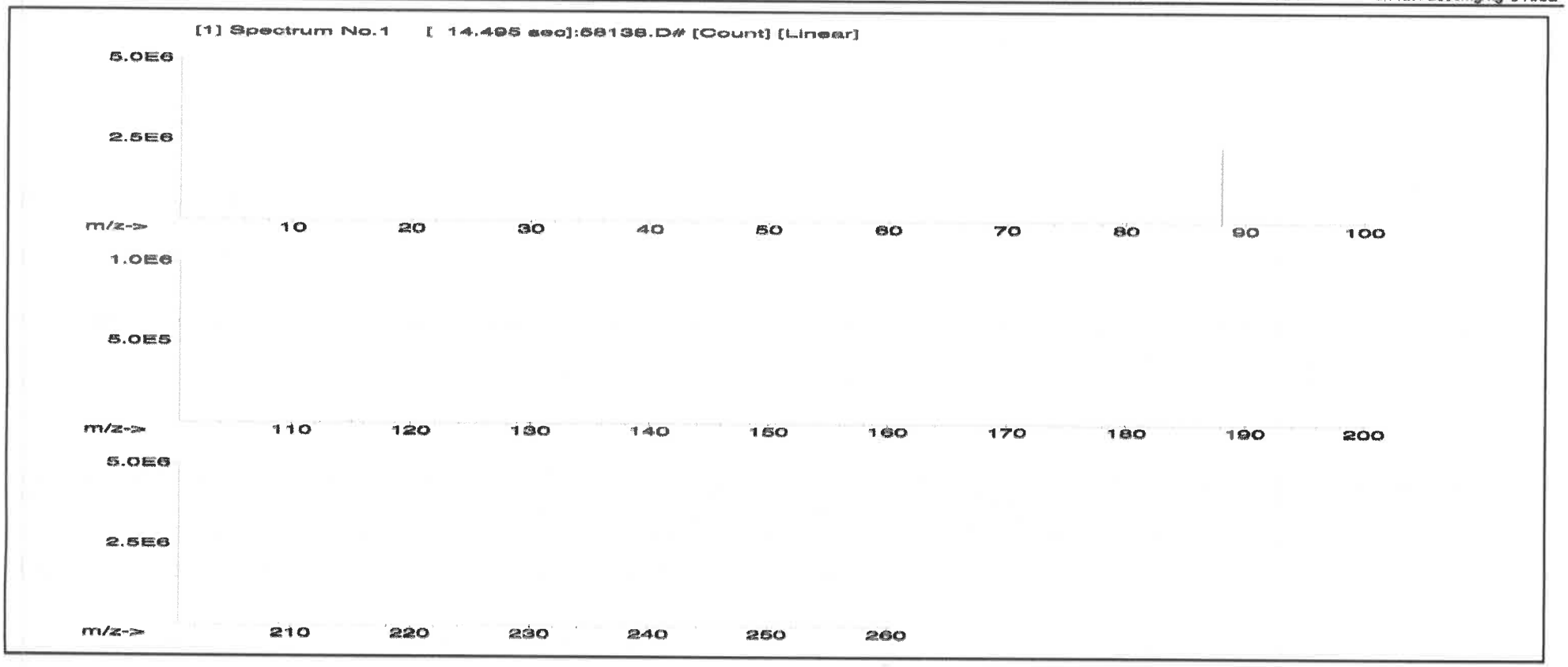
R->8/6/29

M6176

Part Number:	**57038**		**Lot #**		
Lot Number:	**092724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Strontium (Sr)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	092727				
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):	2000.07	0.100	Flask Uncertainty		

Formulated By:	Benson Chan 092724
Reviewed By:	Pedro L. Rentas 092724

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. Strontium nitrate (Sr)	IN017	SRZ022018A1	1000	99.997	0.10	41.2	4.85470	4.85481	**1000.0**	**2.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



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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	T	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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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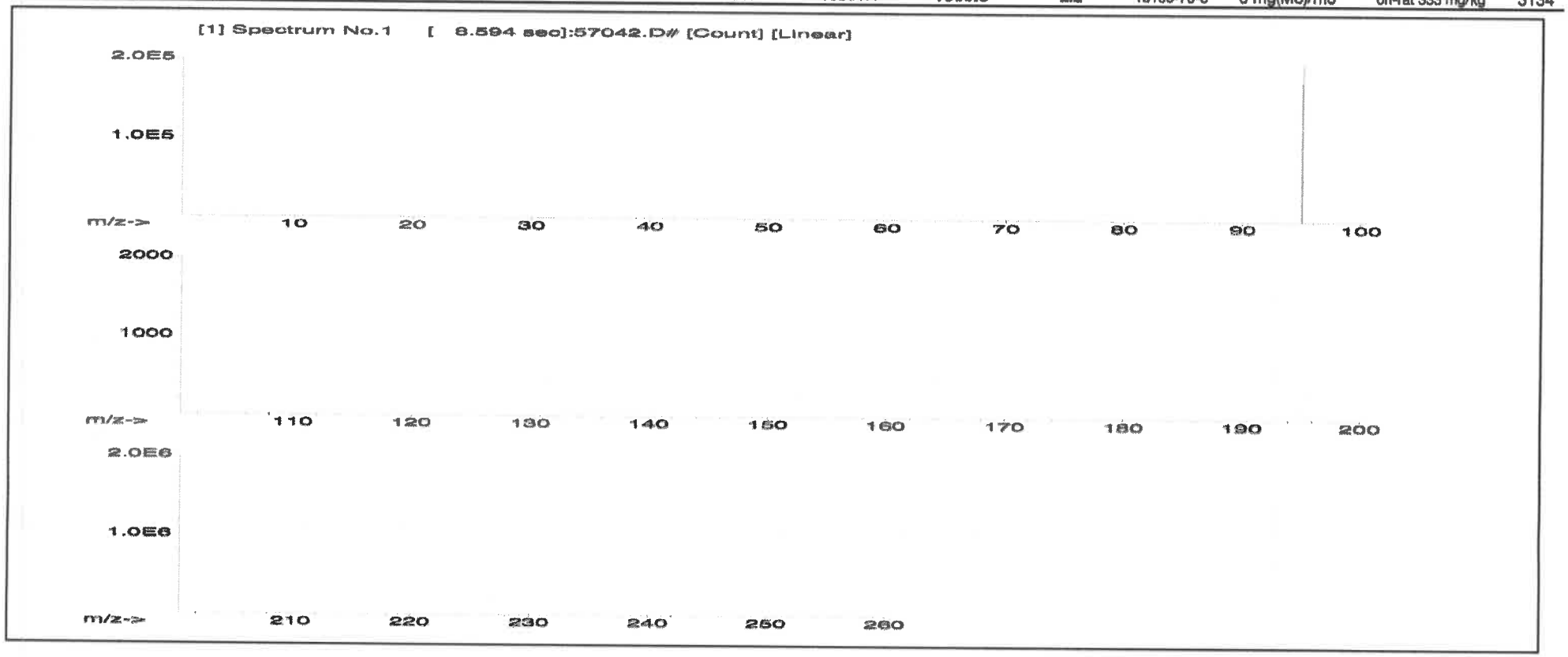
CERTIFIED WEIGHT REPORT:

R→ 8/6/25
M6177

		Lot #	Solvent:		
Part Number:	57042	MKBQ8597V	Ammonium hydroxide		
Lot Number:	080525	080525	ASTM Type 1 Water		
Description:	Molybdenum (Mo)	0.5%	10.0 (mL)	Ammonium hydroxide	
Expiration Date:	080528				
Recommended Storage:	Ambient (15 - 30 °C)				
Nominal Concentration (µg/mL):	1000				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	1999.41	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	080525
Reviewed By:	Pedro L. Rentas	080525

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 molybdate (Mo)	58142	112322	0.1000	200.0	0.084	1000	10001.4	**1000.5**	**2.2**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



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Certified Reference Material CRM

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

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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<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	T	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 by an ISO17025 certified organization with weights traceable through NIST to the SI kilogram (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).
Rev 1.0, 2/25/2025

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>8/6/28
M6178

Part Number:	**57082**		**Lot #**		
Lot Number:	**031525**	**Solvent:**	24014457	Nitric Acid	
Description:	**Lead (Pb)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	031528				
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):	2000.07	0.10	Flask Uncertainty		

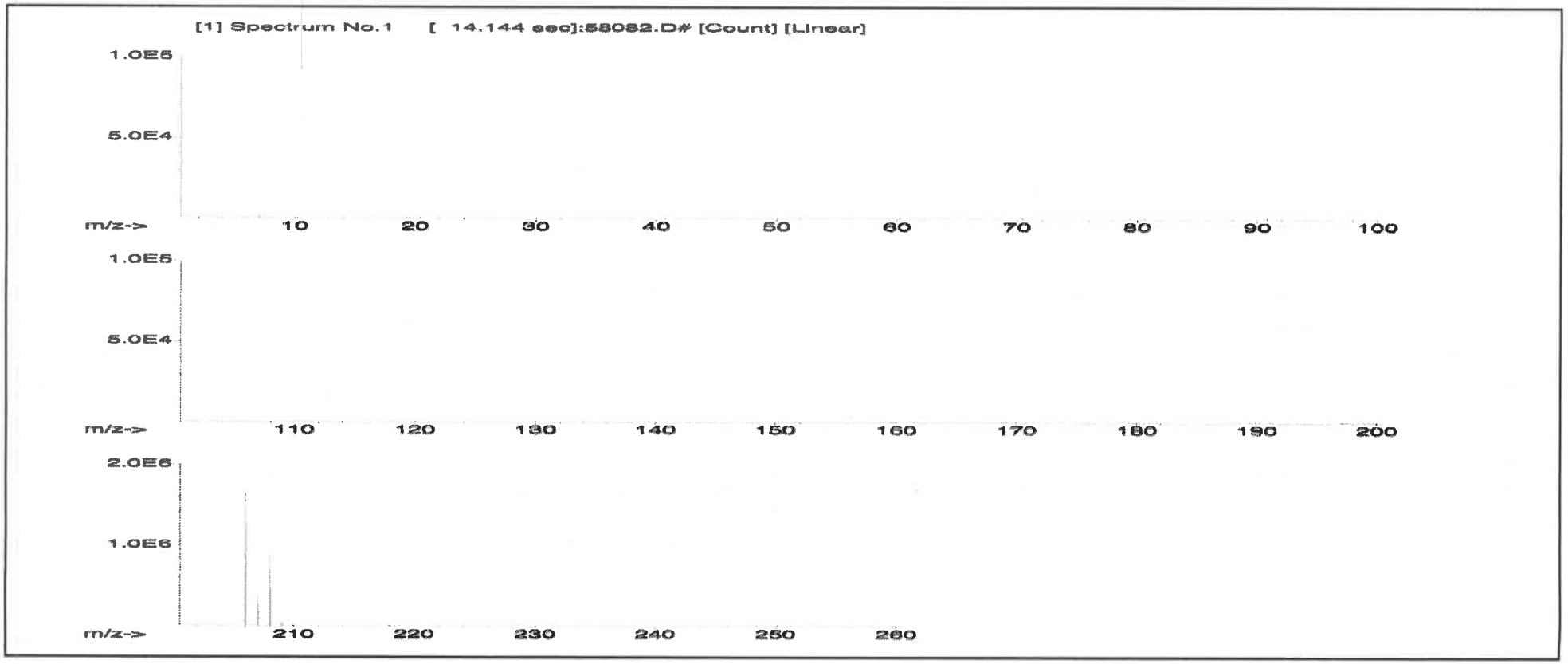
Giovanni Esposito

Formulated By:	Giovanni Esposito	031525

Pedro Rentas

Reviewed By:	Pedro L. Rentas	031525

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	3.20015	3.20067	**1000.2**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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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	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	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.

* 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

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M6179
R -> 6/2/24

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:	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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

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

11.2 Lot Expiration Date

- February 20, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
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info@inorganicventures.com

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:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	W2-MEB752149
Matrix:	5% (v/v) HNO3

M6180
R-7/22/25

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	200.2 ± 0.7 µg/mL	Arsenic, As	80.1 ± 0.5 µg/mL
Barium, Ba	20.02 ± 0.12 µg/mL	Beryllium, Be	20.02 ± 0.11 µg/mL
Boron, B	30.02 ± 0.15 µg/mL	Cadmium, Cd	20.04 ± 0.09 µg/mL
Calcium, Ca	100.1 ± 0.3 µg/mL	Cerium, Ce	200.2 ± 1.0 µg/mL
Chromium, Cr	40.02 ± 0.26 µg/mL	Cobalt, Co	20.03 ± 0.09 µg/mL
Copper, Cu	30.03 ± 0.13 µg/mL	Iron, Fe	300.3 ± 1.3 µg/mL
Lead, Pb	100.1 ± 0.5 µg/mL	Lithium, Li	20.03 ± 0.09 µg/mL
Magnesium, Mg	200.2 ± 0.9 µg/mL	Manganese, Mn	19.99 ± 0.09 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.05 ± 0.22 µg/mL
Phosphorus, P	600.5 ± 2.9 µg/mL	Potassium, K	1 001 ± 4 µg/mL
Selenium, Se	200.2 ± 1.1 µg/mL	Silver, Ag	7.52 ± 0.03 µg/mL
Sodium, Na	300.3 ± 1.3 µg/mL	Strontium, Sr	20.02 ± 0.10 µg/mL
Thallium, Tl	200.2 ± 1.0 µg/mL	Vanadium, V	30.02 ± 0.13 µg/mL
Zinc, Zn	20.05 ± 0.09 µg/mL		

Density: 1.037 g/mL (measured at 20 ± 5 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	160830
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	120618
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	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
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, 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° - 25° C to minimize the effects of transpiration. Use at 20° ± 5° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information (https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver)

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 08, 2025

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

11.2 Lot Expiration Date

- **April 08, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor

Certificate Approved By:

Jodie Wall
Stock VSM Coordinator

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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

M6181
R->7/22/28

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-2
Lot Number:	V2-MEB743480
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.5 µg/mL	Molybdenum, Mo	40.05 ± 0.22 µg/mL
Silica, SiO2	200.3 ± 1.4 µg/mL	Tin, Sn	70.1 ± 0.4 µg/mL
Titanium, Ti	20.03 ± 0.12 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102a	140911
SiO2	Calculated		See Sec. 4.2
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

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

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, 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

May 07, 2024

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

11.2 Lot Expiration Date

- May 07, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor

Certificate Approved By:

Thomas Kozikowski
Stock VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6182

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,

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.

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.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

M6184

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

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.

Nitric Acid 69%
CMOS

M6187
R.D :- 08/08/25

avantor™ | J.T.Baker®

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

avantor™ | J.T.Baker®

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6027

R1 8/05/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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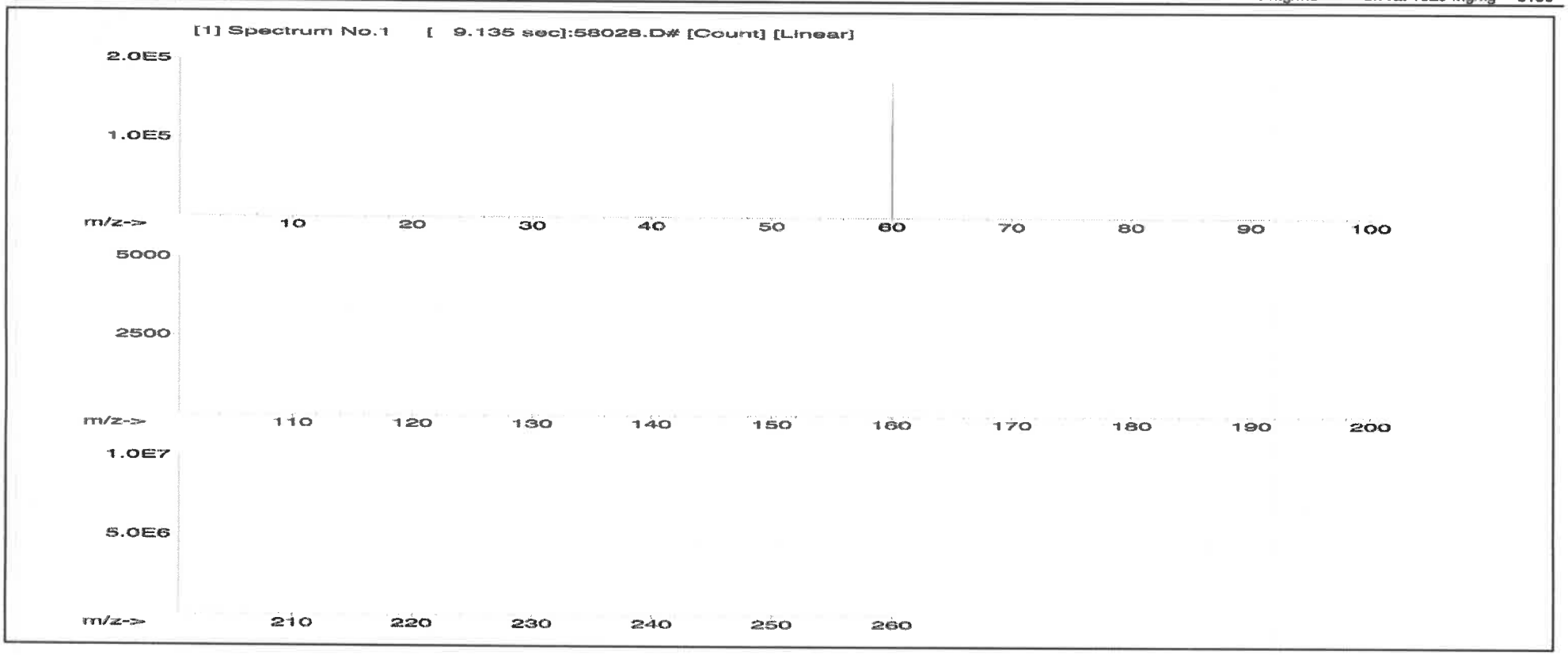
CERTIFIED WEIGHT REPORT:

Part Number:	**57028**
Lot Number:	**062024**
Description:	**Nickel (Ni)**
Expiration Date:	062027
Recommended Storage:	Ambient (20 °C)
Nominal Concentration (µg/mL):	**1000**
NIST Test Number:	6UTB

	Lot #	**Solvent:**	
	24002546	Nitric Acid	
	2.0%	40.0 (mL)	Nitric Acid
	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty

Formulated **By:**	Benson Chan	062024
Reviewed By:	Pedro L. Rentas	062024

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 Spectrometry (ICP-MS):

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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M6030

R: 8/5/24

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CERTIFIED WEIGHT REPORT:

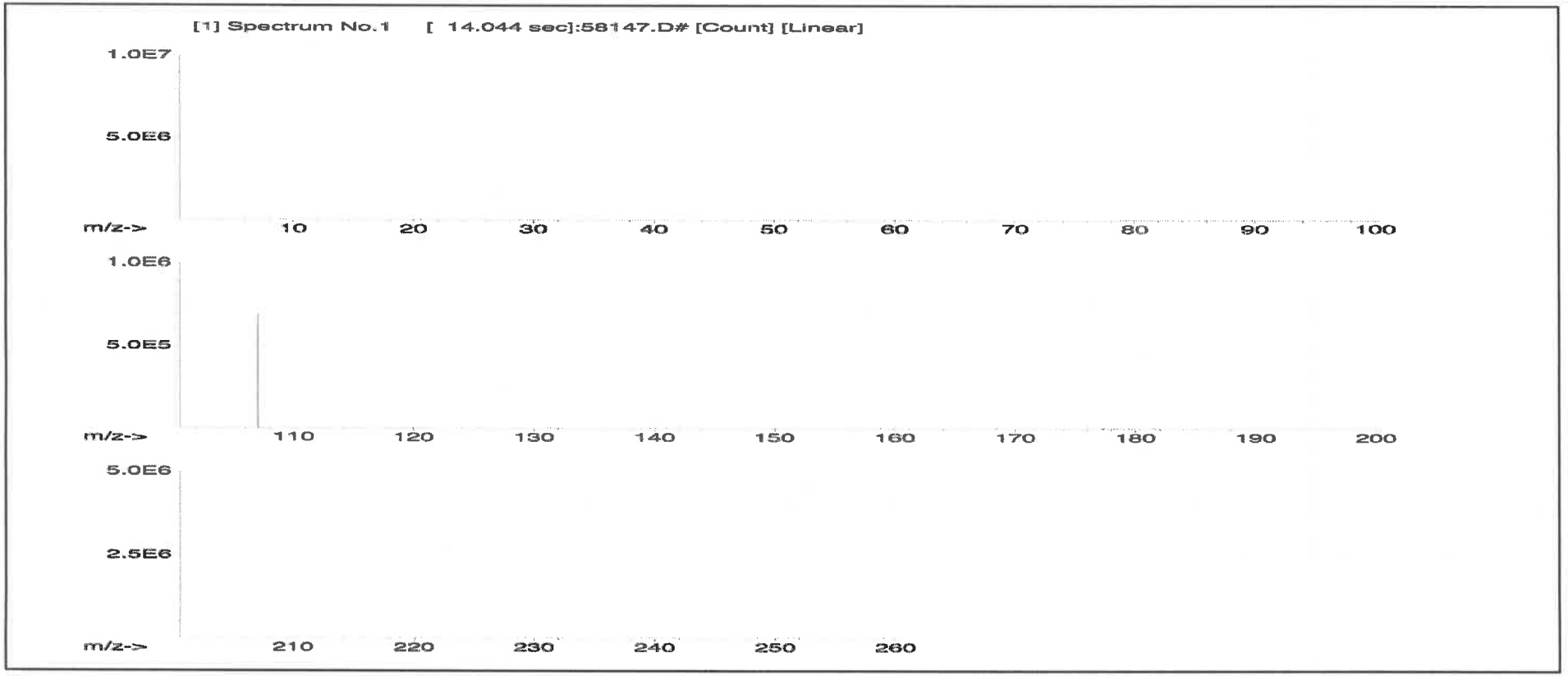
Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)

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

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask 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.

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CERTIFIED WEIGHT REPORT: M6160

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

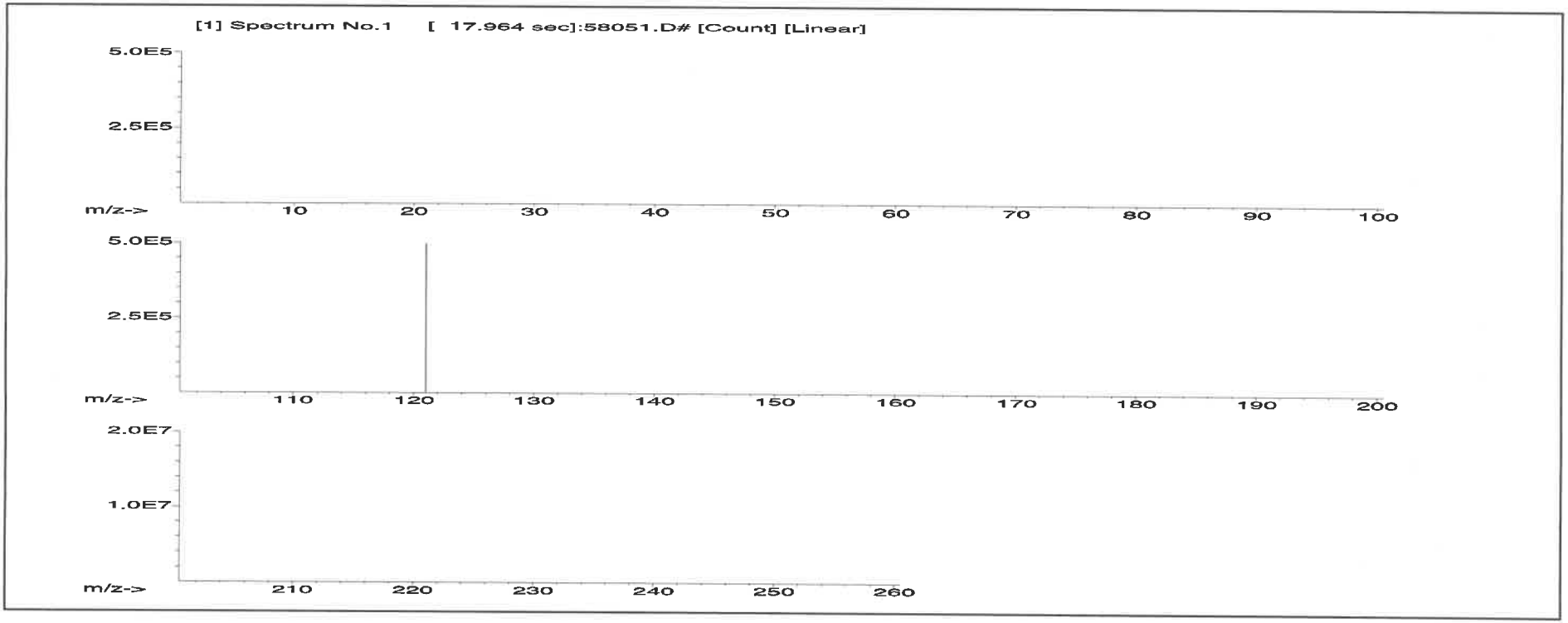
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 071724

Pedro Rentas
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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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:

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M6023

R ! 8/5/24

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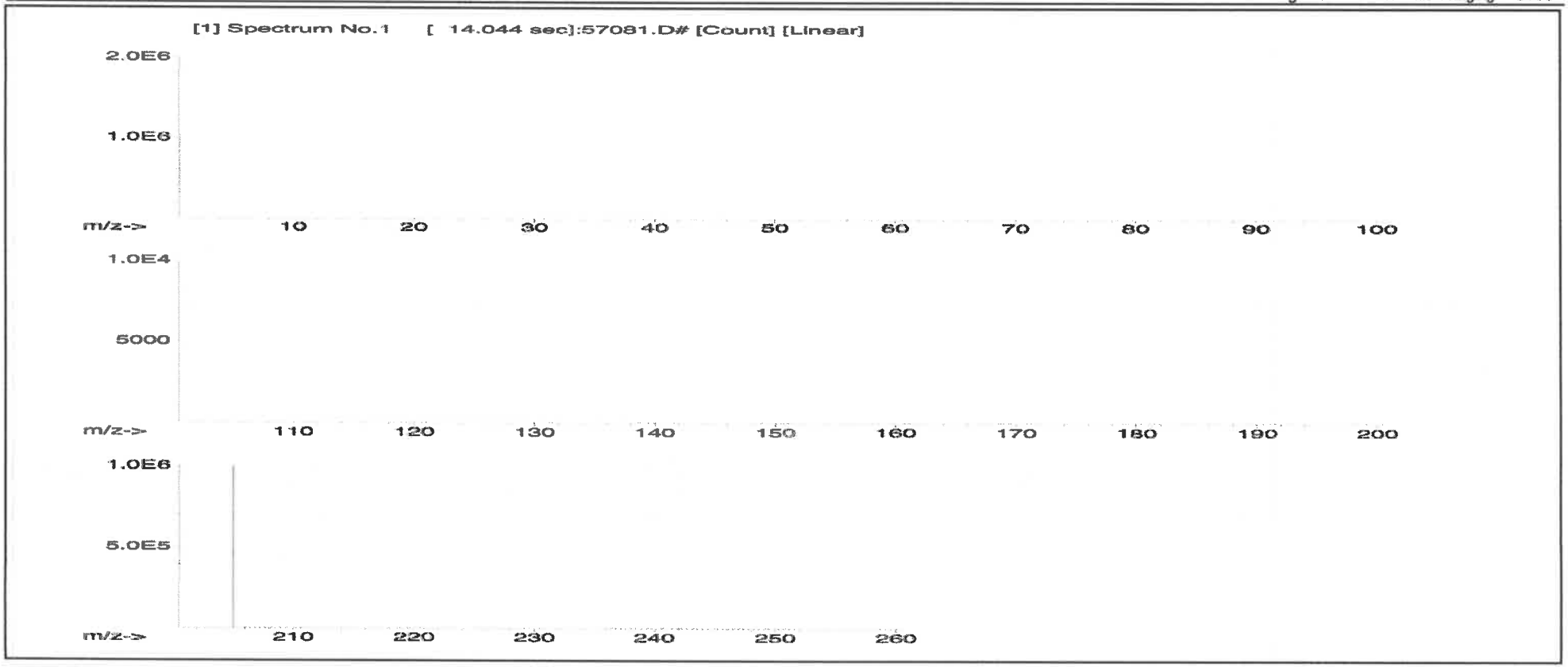
CERTIFIED WEIGHT REPORT:

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
Pedro Rentas		
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:

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Certified by:

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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	

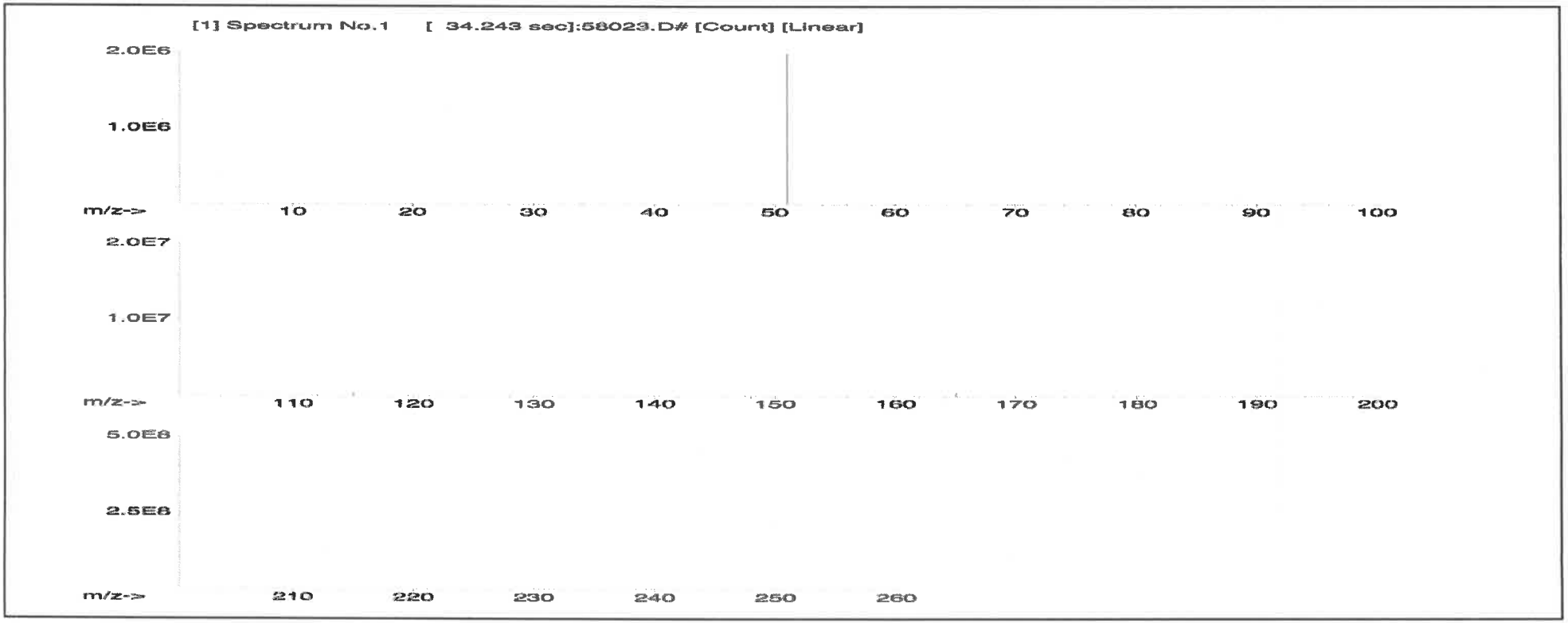
Aleah O'Brady

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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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

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Certified by:

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SHIPPING DOCUMENTS

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(908) 789-8900 Fax: (908) 78-8922
www.chemtech.net

Chemtech Project Number: Q3086

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	2	3	4	5	6	7	8	9
	1,4-Dioxane SW846 8270 SIM	Iron, Total	TSS	TDS					

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# of Bottles	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
									B								<-- Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other
1.	RW8-SP100-20250911	GW		x	9/11/25	13:05	4	x	x	x	x						
2.	RW8-SP303-20250911	GW		x	9/11/25	13:13	4	x	x	x	x						
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER	DATE/TIME	RECEIVED BY
1.	9/12/25 950	1.
RELINQUISHED BY	DATE/TIME	RECEIVED BY
2.		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
Comments:
❑ Ice in Cooler?: yes
IR-Gun #1

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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

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

Laboratory Certification

Certified By	License No.
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255425
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	TX-C25-00189
Virginia	460312