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

Cover Page

Order ID : Q2371

Project ID : Buff

Client : G Environmental

Lab Sample Number	Client Sample Number
Q2371-04	RPXY42025
Q2371-05	BBX42025
Q2371-06	GBUFF1

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: 6/24/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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

CASE NARRATIVE

G Environmental
Project Name: Buff
Project # N/A
Order ID # Q2371
Test Name: Metals Group4

A. Number of Samples and Date of Receipt:
3 Solid samples were received on 06/19/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Anions Group1, Anions Group1, Metals Group4, VOC-TCLVOA-10 and VOCMS Group1. 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 3050 (soils).

D. QA/ QC Samples:

The Holding Times were met for all analysis.
The Blank Spike met requirements for all parameters.
The Duplicate (GAV1BDUP) analysis met criteria for all parameters except for Manganese due to sample matrix interference.
The Matrix Spike (GAV1BMS) analysis met criteria for all parameters except for Manganese and Sodium due to Chemical Interference during Digestion Process.
The Matrix Spike Duplicate (GAV1BMSD) analysis met criteria for all parameters except for Sodium due to Chemical Interference during Digestion Process.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:

The Post Digest Spike (GAVIBA) analysis met criteria for all samples except for Manganese due to unknown chemical interference of matrix with the addition of spike amount after digestion and before analysis; matrix has suppression effect during addition of spike.

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

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **Q2371**

	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: **KETAN PATEL** **Date:** **06/24/2025**

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

LAB CHRONICLE

OrderID:	Q2371	**OrderDate:**	6/19/2025 2:53:00 PM
Client:	G Environmental	**Project:**	Buff
Contact:	Gary Landis	**Location:**	D51,VOA Ref. #2 Soil,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2371-04	**RPXY42025**	**SOIL**			**06/19/25**			**06/19/25**
			Metals Group4	6010D		06/20/25	06/23/25	
Q2371-05	**BBX42025**	**SOIL**			**06/19/25**			**06/19/25**
			Metals Group4	6010D		06/20/25	06/23/25	

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

Hit Summary Sheet
SW-846

SDG No.: Q2371 **Order ID:** Q2371

Client: G Environmental **Project ID:** Buff

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : RPXY42025								
Q2371-04	RPXY42025	SOIL	Iron	11000		3.96	4.97	mg/Kg
Q2371-04	RPXY42025	SOIL	Manganese	253		0.14	0.99	mg/Kg
Q2371-04	RPXY42025	SOIL	Sodium	403		17.7	99.3	mg/Kg
Client ID : BBX42025								
Q2371-05	BBX42025	SOIL	Iron	11900		4.01	5.02	mg/Kg
Q2371-05	BBX42025	SOIL	Manganese	185		0.14	1.00	mg/Kg
Q2371-05	BBX42025	SOIL	Sodium	50.8	J	17.9	100	mg/Kg

SAMPLE DATA

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

Report of Analysis

Client:	G Environmental	Date Collected:	06/19/25
Project:	Buff	Date Received:	06/19/25
Client Sample ID:	RPXY42025	SDG No.:	Q2371
Lab Sample ID:	Q2371-04	Matrix:	SOIL
Level (low/med):	low	% Solid:	89.5

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7439-89-6	Iron	11000		1	3.96	4.97	mg/Kg	06/20/25 10:05	06/23/25 17:41	6010D	SW3050
7439-96-5	Manganese	253	N*	1	0.14	0.99	mg/Kg	06/20/25 10:05	06/23/25 17:41	6010D	SW3050
7440-23-5	Sodium	403	N	1	17.7	99.3	mg/Kg	06/20/25 10:05	06/23/25 17:41	6010D	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		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

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

Report of Analysis

Client:	G Environmental	Date Collected:	06/19/25
Project:	Buff	Date Received:	06/19/25
Client Sample ID:	BBX42025	SDG No.:	Q2371
Lab Sample ID:	Q2371-05	Matrix:	SOIL
Level (low/med):	low	% Solid:	86.6

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.	Prep Met.
7439-89-6	Iron	11900		1	4.01	5.02	mg/Kg	06/20/25 10:05	06/23/25 17:54	6010D	SW3050
7439-96-5	Manganese	185	N*	1	0.14	1.00	mg/Kg	06/20/25 10:05	06/23/25 17:54	6010D	SW3050
7440-23-5	Sodium	50.8	JN	1	17.9	100	mg/Kg	06/20/25 10:05	06/23/25 17:54	6010D	SW3050

Color Before:	Brown	Clarity Before:		Texture:	Medium
Color After:	Yellow	Clarity After:		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

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

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	3920	4000	98	90 - 110	P	06/23/2025	12:34	LB136236
	Manganese	1960	2000	98	90 - 110	P	06/23/2025	12:34	LB136236
	Sodium	20000	20000	100	90 - 110	P	06/23/2025	12:34	LB136236

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

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	102	100	102	80 - 120	P	06/23/2025	13:09	LB136236
	Manganese	20.2	20.0	101	80 - 120	P	06/23/2025	13:09	LB136236
	Sodium	1890	2000	94	80 - 120	P	06/23/2025	13:09	LB136236

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

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

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	4900	5000	98	90 - 110	P	06/23/2025	13:56	LB136236
	Manganese	2450	2500	98	90 - 110	P	06/23/2025	13:56	LB136236
	Sodium	24500	25000	98	90 - 110	P	06/23/2025	13:56	LB136236
CCV02	Iron	4910	5000	98	90 - 110	P	06/23/2025	14:54	LB136236
	Manganese	2470	2500	99	90 - 110	P	06/23/2025	14:54	LB136236
	Sodium	24100	25000	96	90 - 110	P	06/23/2025	14:54	LB136236
CCV03	Iron	4960	5000	99	90 - 110	P	06/23/2025	15:47	LB136236
	Manganese	2500	2500	100	90 - 110	P	06/23/2025	15:47	LB136236
	Sodium	24700	25000	99	90 - 110	P	06/23/2025	15:47	LB136236
CCV04	Iron	4900	5000	98	90 - 110	P	06/23/2025	16:51	LB136236
	Manganese	2490	2500	100	90 - 110	P	06/23/2025	16:51	LB136236
	Sodium	24800	25000	99	90 - 110	P	06/23/2025	16:51	LB136236
CCV05	Iron	4880	5000	98	90 - 110	P	06/23/2025	17:45	LB136236
	Manganese	2470	2500	99	90 - 110	P	06/23/2025	17:45	LB136236
	Sodium	25000	25000	100	90 - 110	P	06/23/2025	17:45	LB136236
CCV06	Iron	4860	5000	97	90 - 110	P	06/23/2025	18:39	LB136236
	Manganese	2450	2500	98	90 - 110	P	06/23/2025	18:39	LB136236
	Sodium	25000	25000	100	90 - 110	P	06/23/2025	18:39	LB136236
CCV07	Iron	4880	5000	98	90 - 110	P	06/23/2025	19:24	LB136236
	Manganese	2440	2500	98	90 - 110	P	06/23/2025	19:24	LB136236
	Sodium	25300	25000	101	90 - 110	P	06/23/2025	19:24	LB136236

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

Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

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	94.8	100	95	65 - 135	P	06/23/2025	13:23	LB136236
	Manganese	20.4	20.0	102	65 - 135	P	06/23/2025	13:23	LB136236
	Sodium	1870	2000	93	65 - 135	P	06/23/2025	13:23	LB136236

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Iron	23.4	+/-50	U	100	P	06/23/2025	13:19	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	13:19	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	13:19	LB136236

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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Iron	23.4	+/-50	U	100	P	06/23/2025	14:05	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	14:05	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	14:05	LB136236
CCB02	Iron	23.4	+/-50	U	100	P	06/23/2025	14:58	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	14:58	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	14:58	LB136236
CCB03	Iron	23.4	+/-50	U	100	P	06/23/2025	15:52	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	15:52	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	15:52	LB136236
CCB04	Iron	23.4	+/-50	U	100	P	06/23/2025	16:56	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	16:56	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	16:56	LB136236
CCB05	Iron	23.4	+/-50	U	100	P	06/23/2025	17:49	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	17:49	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	17:49	LB136236
CCB06	Iron	23.4	+/-50	U	100	P	06/23/2025	18:43	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	18:43	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	18:43	LB136236
CCB07	Iron	23.4	+/-50	U	100	P	06/23/2025	19:28	LB136236
	Manganese	5.94	+/-10	U	20.0	P	06/23/2025	19:28	LB136236
	Sodium	868	+/-1000	U	2000	P	06/23/2025	19:28	LB136236

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

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: G Environmental **SDG No.:** Q2371

Instrument: P5

Sample ID	Analyte	Result (mg/Kg)	Acceptance Limit	Conc Qual	CRQL mg/Kg	M	Analysis Date	Analysis Time	Run
PB168564BL		**SOLID**		**Batch Number:**	**PB168564**		**Prep Date:**	**06/20/2025**	
	Iron	3.99	<2.5	U	5.00	P	06/23/2025	15:11	LB136236
	Manganese	0.14	<0.5	U	1.00	P	06/23/2025	15:11	LB136236
	Sodium	17.8	<50	U	100	P	06/23/2025	15:11	LB136236

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

Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

ICS Source: EPA **Instrument ID:** P5

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	98400	100000	98	85600	116500	06/23/2025	13:27	LB136236
	Manganese	4.76	7.0	68	-13	27	06/23/2025	13:27	LB136236
	Sodium	196			0	0	06/23/2025	13:27	LB136236
ICSAB01	Iron	96200	99000	97	84400	114500	06/23/2025	13:43	LB136236
	Manganese	486	510	95	430	584	06/23/2025	13:43	LB136236
	Sodium	192			0	0	06/23/2025	13:43	LB136236

METAL
QC
DATA

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

metals
- 5a -
MATRIX SPIKE SUMMARY

client: G Environmental **level:** low **sdg no.:** Q2371

contract: GENV01 **lab code:** CHEM **case no.:** Q2371 **sas no.:** Q2371

matrix: Solid **sample id:** Q2364-02 **client id:** GAV1BMS

Percent Solids for Sample: 85.5 **Spiked ID:** Q2364-02MS **Percent Solids for Spike Sample:** 85.5

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	mg/Kg	75 - 125	4830		5660		150	-544		P
Manganese	mg/Kg	75 - 125	36.7		40.5		10.3	-36	N	P
Sodium	mg/Kg	75 - 125	213		111		150	66	N	P

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

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: G Environmental **level:** low **sdg no.:** Q2371

contract: GENV01 **lab code:** CHEM **case no.:** Q2371 **sas no.:** Q2371

matrix: Solid **sample id:** Q2364-02 **client id:** GAV1BMSD

Percent Solids for Sample: 85.5 **Spiked ID:** Q2364-02MSD **Percent Solids for Spike Sample:** 85.5

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Iron	mg/Kg	75 - 125	4990		5660		150	-463		P
Manganese	mg/Kg	75 - 125	39.7		40.5		9.7	-8		P
Sodium	mg/Kg	75 - 125	200		111		150	61	N	P

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

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Matrix: Solid **Level:** LOW **Client ID:** GAV1BA

Sample ID: Q2364-02 **Spiked ID:** Q2364-02A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Manganese	mg/Kg	75 - 125	48.0		40.5		10.4	73	N	P
Sodium	mg/Kg	75 - 125	233		111		160	76		P

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

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: G Environmental **Level:** LOW **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Matrix: Solid **Sample ID:** Q2364-02 **Client ID:** GAV1BDUP

Percent Solids for Sample: 85.5 **Duplicate ID** Q2364-02DUP **Percent Solids for Spike Sample:** 85.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	mg/Kg	20	5660		4870		15		P
Manganese	mg/Kg	20	40.5		31.8		24	*	P
Sodium	mg/Kg	20	111		70.0	J	45		P

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

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

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: G Environmental **Level:** LOW **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Matrix: Solid **Sample ID:** Q2364-02MS **Client ID:** GAV1BMSD

Percent Solids for Sample: 85.5 **Duplicate ID** Q2364-02MSD **Percent Solids for Spike Sample:** 85.5

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Iron	mg/Kg	20	4830		4990		3		P
Manganese	mg/Kg	20	36.7		39.7		8		P
Sodium	mg/Kg	20	213		200		6		P

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

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

LABORATORY CONTROL SAMPLE SUMMARY

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168564BS							
Iron	mg/Kg	150	155		103	80 - 120	P
Manganese	mg/Kg	10.0	10.2		102	80 - 120	P
Sodium	mg/Kg	150	142		95	80 - 120	P

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

Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

GAV1BL

Lab Name: Chemtech Consulting Group **Contract:** GENV01

Lab Code: CHEM **Lb No.:** lb136236 **Lab Sample ID :** Q2364-02L **SDG No.:** Q2371

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

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Iron	5660		6200		10		P
Manganese	40.5		44.7		11		P
Sodium	111		123	J	11		P

METAL PREPARATION & INSTRUMENT DATA

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

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
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

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	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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

Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Case No.:** Q2371 **SAS No.:** Q2371

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
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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

Metals
- 13 -
SAMPLE PREPARATION SUMMARY

Client: G Environmental **SDG No.:** Q2371

Contract: GENV01 **Lab Code:** CHEM **Method:**

Case No.: Q2371 **SAS No.:** Q2371

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(g)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB168564**						
PB168564BL	PB168564BL	MB	SOLID	06/20/2025	2.00	100.0	100.00
PB168564BS	PB168564BS	LCS	SOLID	06/20/2025	2.00	100.0	100.00
Q2364-02DUP	GAV1BDUP	DUP	SOLID	06/20/2025	2.44	100.0	85.50
Q2364-02MS	GAV1BMS	MS	SOLID	06/20/2025	2.28	100.0	85.50
Q2364-02MSD	GAV1BMSD	MSD	SOLID	06/20/2025	2.40	100.0	85.50
Q2371-04	RPXY42025	SAM	SOLID	06/20/2025	2.25	100.0	89.50
Q2371-05	BBX42025	SAM	SOLID	06/20/2025	2.30	100.0	86.60

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

metals
- 14 -
ANALYSIS RUN LOG

Client: G Environmental **Contract:** GENV01

Lab code: CHEM **Case no.:** Q2371 **Sas no.:** Q2371 **Sdg no.:** Q2371

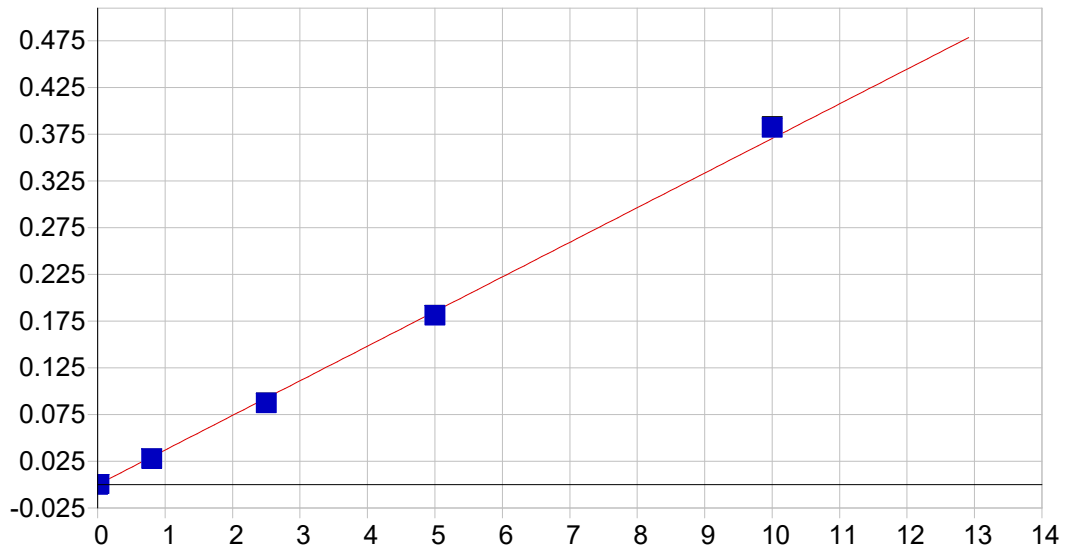
Instrument id number: **Method:** **Run number:** LB136236

Start date: 06/23/2025 **End date:** 06/23/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1153	Fe,Mn,Na
S1	S1	1	1158	Fe,Mn,Na
S2	S2	1	1202	Fe,Mn,Na
S3	S3	1	1207	Fe,Mn,Na
S4	S4	1	1211	Fe,Mn,Na
S5	S5	1	1215	Fe,Mn,Na
ICV01	ICV01	1	1234	Fe,Mn,Na
LLICV01	LLICV01	1	1309	Fe,Mn,Na
ICB01	ICB01	1	1319	Fe,Mn,Na
CRI01	CRI01	1	1323	Fe,Mn,Na
ICSA01	ICSA01	1	1327	Fe,Mn,Na
ICSAB01	ICSAB01	1	1343	Fe,Mn,Na
CCV01	CCV01	1	1356	Fe,Mn,Na
CCB01	CCB01	1	1405	Fe,Mn,Na
CCV02	CCV02	1	1454	Fe,Mn,Na
CCB02	CCB02	1	1458	Fe,Mn,Na
PB168564BL	PB168564BL	1	1511	Fe,Mn,Na
PB168564BS	PB168564BS	1	1516	Fe,Mn,Na
CCV03	CCV03	1	1547	Fe,Mn,Na
CCB03	CCB03	1	1552	Fe,Mn,Na
CCV04	CCV04	1	1651	Fe,Mn,Na
CCB04	CCB04	1	1656	Fe,Mn,Na
Q2364-02DUP	GAV1BDUP	1	1701	Fe,Mn,Na
Q2364-02L	GAV1BL	5	1706	Fe,Mn,Na
Q2364-02MS	GAV1BMS	1	1710	Fe,Mn,Na
Q2364-02MSD	GAV1BMSD	1	1714	Fe,Mn,Na
Q2364-02A	GAV1BA	1	1719	Mn,Na
Q2371-04	RPXY42025	1	1741	Fe,Mn,Na
CCV05	CCV05	1	1745	Fe,Mn,Na
CCB05	CCB05	1	1749	Fe,Mn,Na
Q2371-05	BBX42025	1	1754	Fe,Mn,Na
CCV06	CCV06	1	1839	Fe,Mn,Na
CCB06	CCB06	1	1843	Fe,Mn,Na
CCV07	CCV07	1	1924	Fe,Mn,Na
CCB07	CCB07	1	1928	Fe,Mn,Na

METAL
RAW DATA

Reviewed By:
On:
Inst Id :P5
LB :LB136236



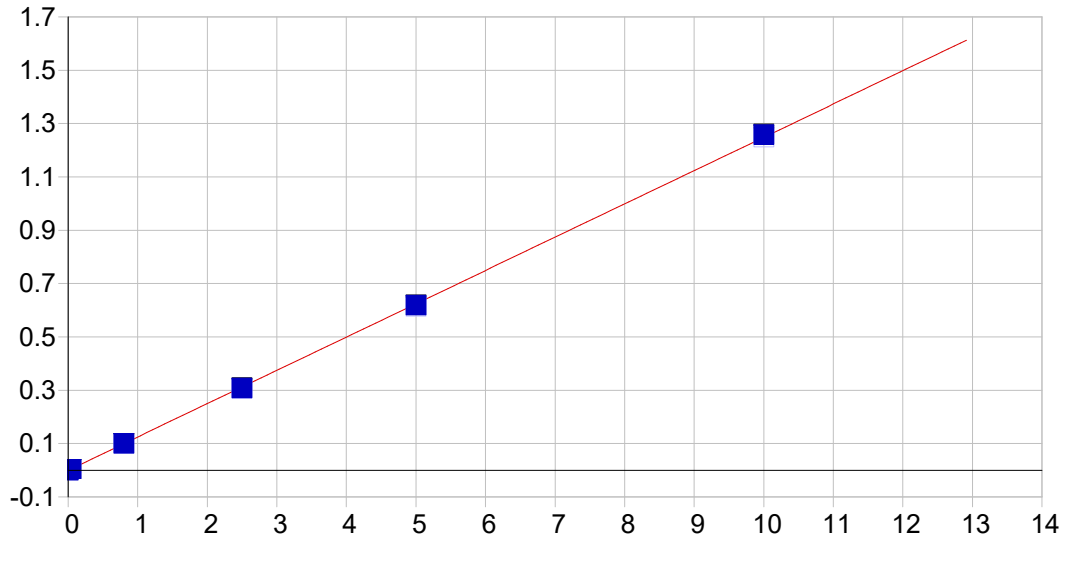
As 189.042 {479}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000031	Re-Slope:	1.000000
A1 (Gain):	0.037058	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999298	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.003281		
Predicted MQL:	0.010935		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00003	.000	1
S1	.02000	.01589	-.004	-20.5	.00056	.000	1
S2	.80000	.74513	-.055	-6.86	.02758	.000	1
S3	2.5000	2.3539	-.146	-5.85	.08718	.000	1
S4	5.0000	4.8878	-.112	-2.24	.18107	.000	1
S5	10.000	10.317	.317	3.17	.38225	.001	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



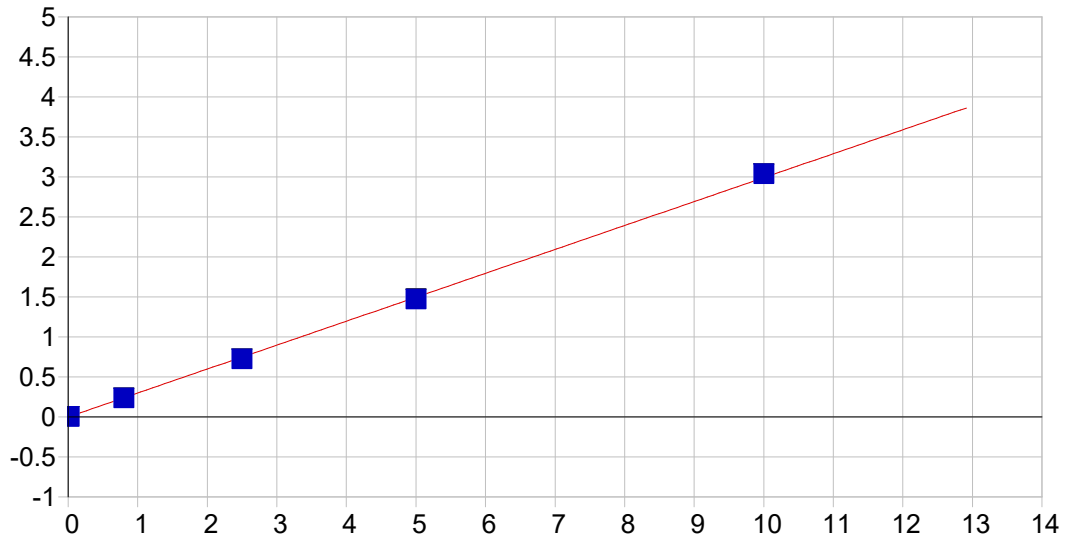
Tl 190.856 {477}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000052	Re-Slope:	1.000000
A1 (Gain):	0.124857	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999955	Status:	OK.
Std Error of Est:	0.000039		
Predicted MDL:	0.001683		
Predicted MQL:	0.005610		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00005	.000	1
S1	.04000	.03866	-.001	-3.36	.00466	.000	1
S2	.80000	.80437	.004	.546	.09960	.000	1
S3	2.5000	2.4654	-.035	-1.39	.30533	.002	1
S4	5.0000	4.9523	-.048	-.953	.61340	.002	1
S5	10.000	10.079	.079	.793	1.2487	.002	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



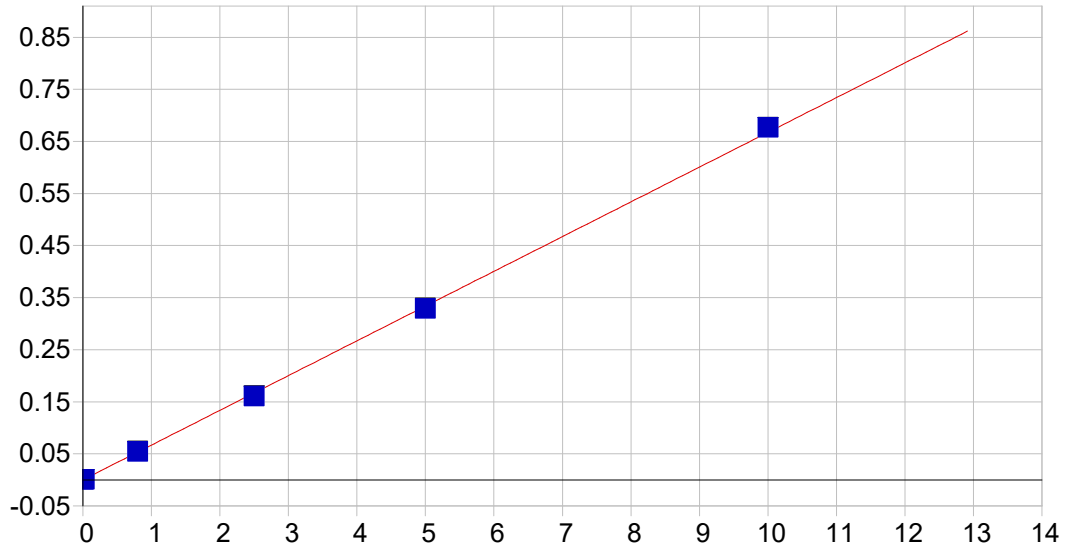
Pb 220.353 {453}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000105	Re-Slope:	1.000000
A1 (Gain):	0.299052	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999830	Status:	OK.
Std Error of Est:	0.000100		
Predicted MDL:	0.001414		
Predicted MQL:	0.004712		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00011	.000	1
S1	.01200	.01108	-.001	-7.67	.00334	.000	1
S2	.80000	.78872	-.011	-1.41	.23576	.001	1
S3	2.5000	2.4238	-.076	-3.05	.72428	.001	1
S4	5.0000	4.9270	-.073	-1.46	1.4722	.002	1
S5	10.000	10.161	.161	1.61	3.0362	.002	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



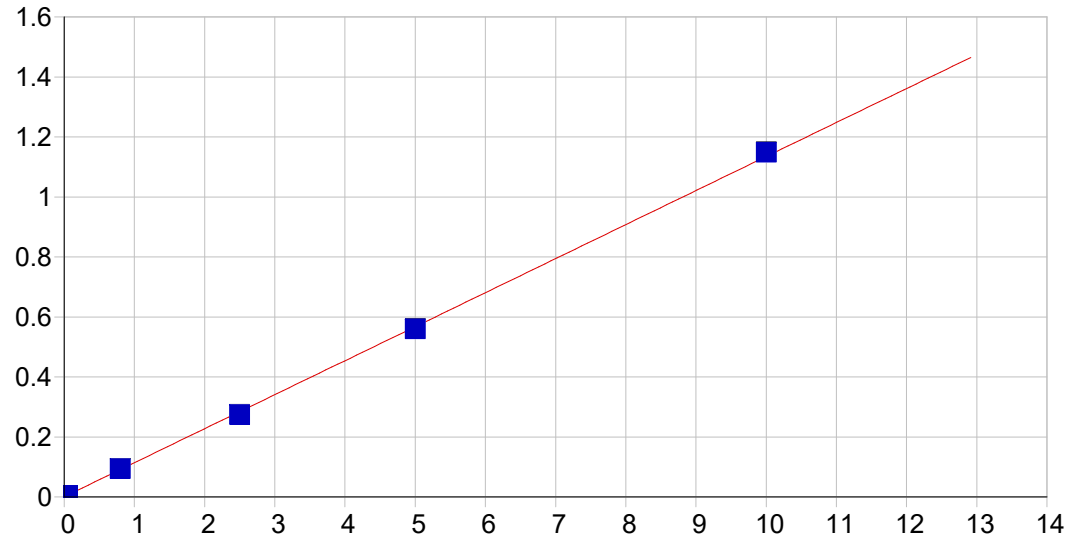
Se 196.090 {472}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000086	Re-Slope:	1.000000
A1 (Gain):	0.066733	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999796	Status:	OK.
Std Error of Est:	0.000032		
Predicted MDL:	0.003369		
Predicted MQL:	0.011230		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00009	.000	1
S1	.02000	.01549	-.005	-22.5	.00112	.000	1
S2	.80000	.81741	.017	2.18	.05461	.000	1
S3	2.5000	2.4114	-.089	-3.54	.16094	.000	1
S4	5.0000	4.9327	-.067	-1.35	.32913	.000	1
S5	10.000	10.143	.143	1.43	.67670	.000	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



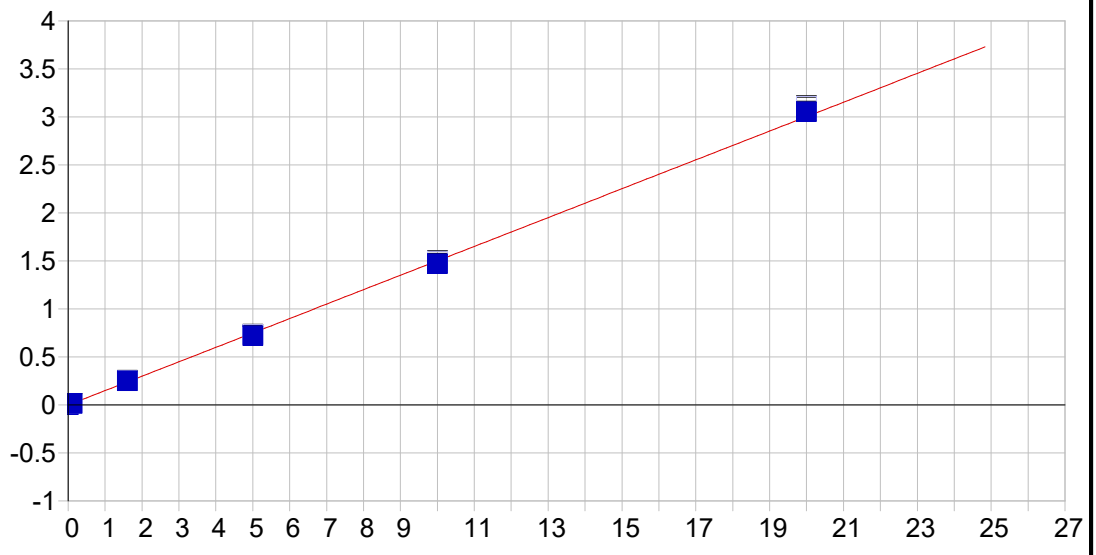
Sb 206.833 {463}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000487	Re-Slope:	1.000000
A1 (Gain):	0.113395	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999830	Status:	OK.
Std Error of Est:	0.000077		
Predicted MDL:	0.002598		
Predicted MQL:	0.008661		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00049	.000	1
S1	.05000	.05093	.001	1.86	.00620	.000	1
S2	.80000	.82293	.023	2.87	.09367	.000	1
S3	2.5000	2.4156	-.084	-3.37	.27398	.000	1
S4	5.0000	4.9298	-.070	-1.40	.55864	.001	1
S5	10.000	10.131	.131	1.31	1.1475	.000	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



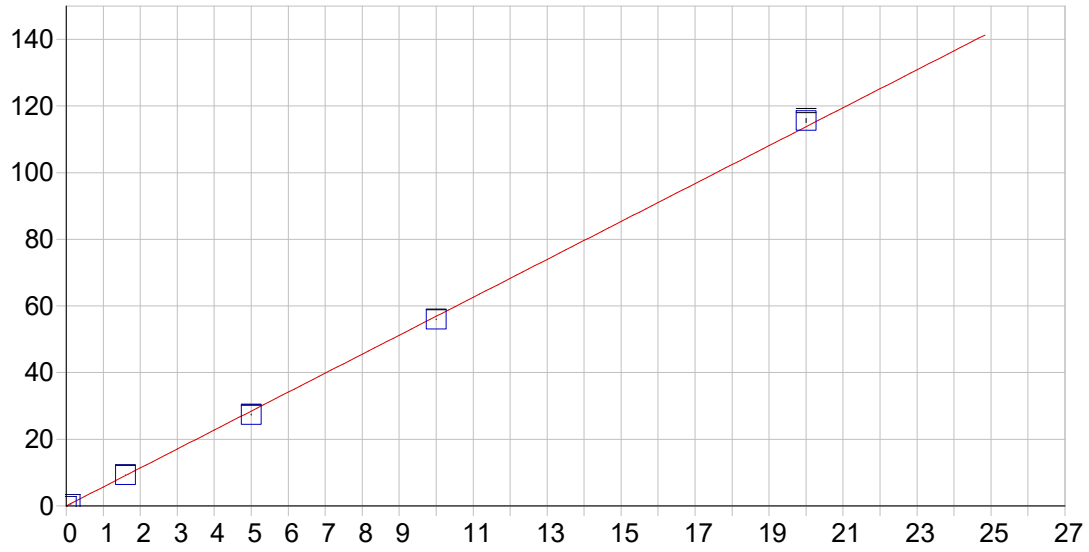
Al 396.152 { 85}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001416	Re-Slope:	1.000000
A1 (Gain):	0.150212	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999734	Status:	OK.
Std Error of Est:	0.000262		
Predicted MDL:	0.021169		
Predicted MQL:	0.070563		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00142	.003	1
S1	.10000	.10339	.003	3.39	.01523	.002	1
S2	1.6000	1.6628	.063	3.93	.25283	.003	1
S3	5.0000	4.8029	-.197	-3.94	.73402	.002	1
S4	10.000	9.7940	-.206	-2.06	1.4977	.005	1
S5	20.000	20.337	.337	1.68	3.1093	.006	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



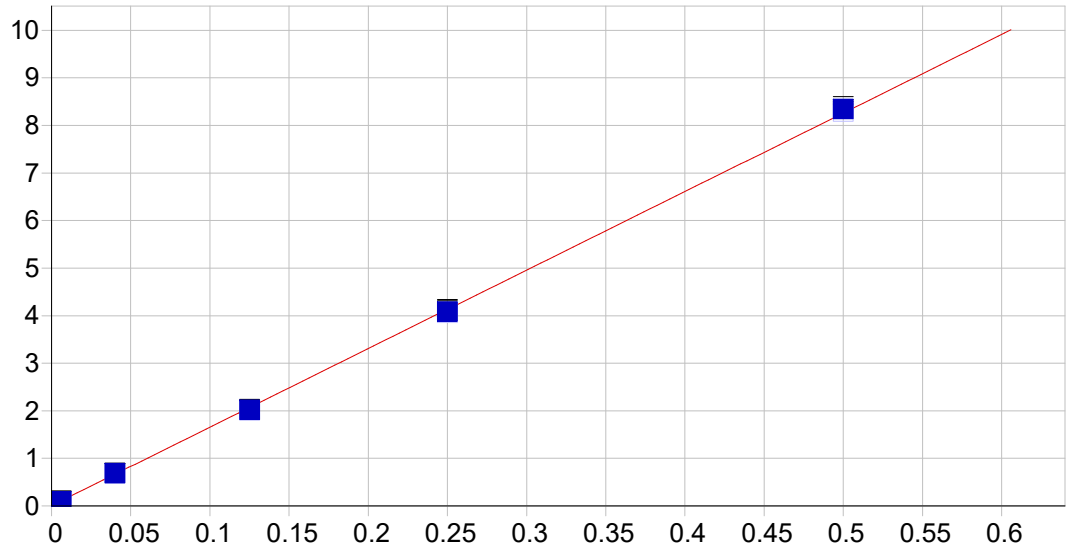
Ba 493.409 { 68}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010101	Re-Slope:	1.000000
A1 (Gain):	5.689860	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999786	Status:	OK.
Std Error of Est:	0.008730		
Predicted MDL:	0.000884		
Predicted MQL:	0.002947		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.01014	.004	1
S1	.10000	.09581	-.004	-4.19	.55526	.003	1
S2	1.6000	1.6291	.029	1.82	9.2792	.026	1
S3	5.0000	4.8131	-.187	-3.74	27.396	.119	1
S4	10.000	9.8357	-.164	-1.64	55.974	.095	1
S5	20.000	20.326	.326	1.63	115.66	.658	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



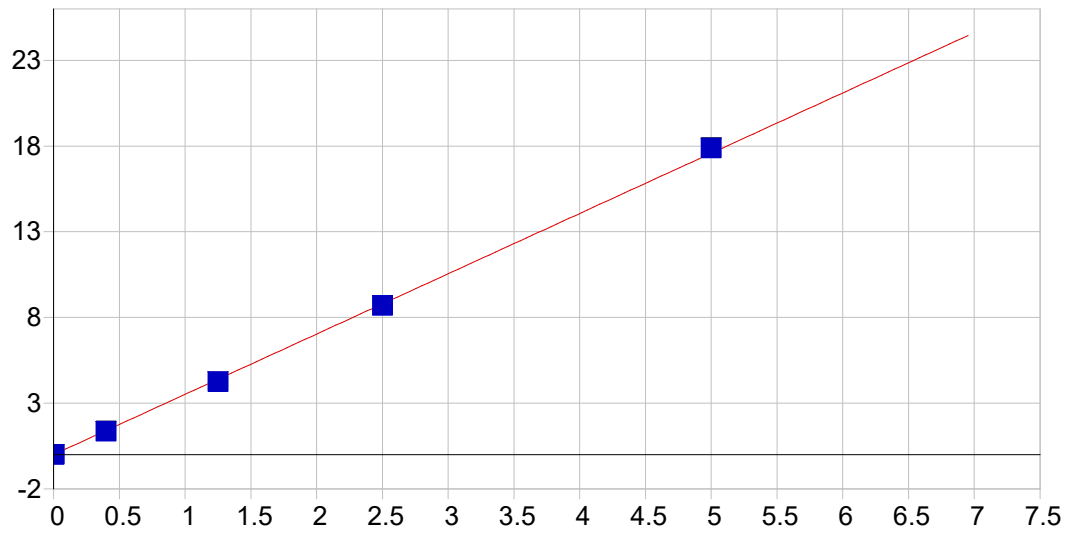
Be 234.861 {144}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005095	Re-Slope:	1.000000
A1 (Gain):	16.511263	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999882	Status:	OK.
Std Error of Est:	0.000724		
Predicted MDL:	0.000112		
Predicted MQL:	0.000374		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00510	.002	1
S1	.00600	.00577	-.000	-3.84	.09931	.002	1
S2	.04000	.04121	.001	3.03	.68115	.002	1
S3	.12500	.12187	-.003	-2.51	2.0035	.012	1
S4	.25000	.24698	-.003	-1.21	4.0556	.051	1
S5	.50000	.50517	.005	1.03	8.2910	.049	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



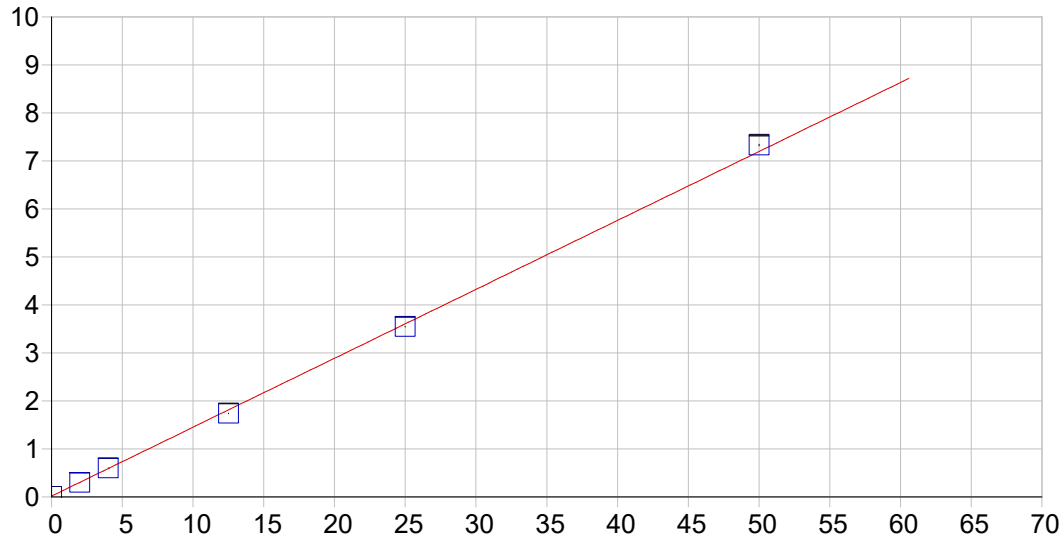
Cd 214.438 {457}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000147	Re-Slope:	1.000000
A1 (Gain):	3.516685	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999807	Status:	OK.
Std Error of Est:	0.000628		
Predicted MDL:	0.000076		
Predicted MQL:	0.000254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00015	.000	1
S1	.00600	.00542	-.001	-9.60	.01924	.000	1
S2	.40000	.38690	-.013	-3.27	1.3609	.004	1
S3	1.2500	1.2088	-.041	-3.30	4.2515	.004	1
S4	2.5000	2.4718	-.028	-1.13	8.6932	.010	1
S5	5.0000	5.0831	.083	1.66	17.877	.028	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



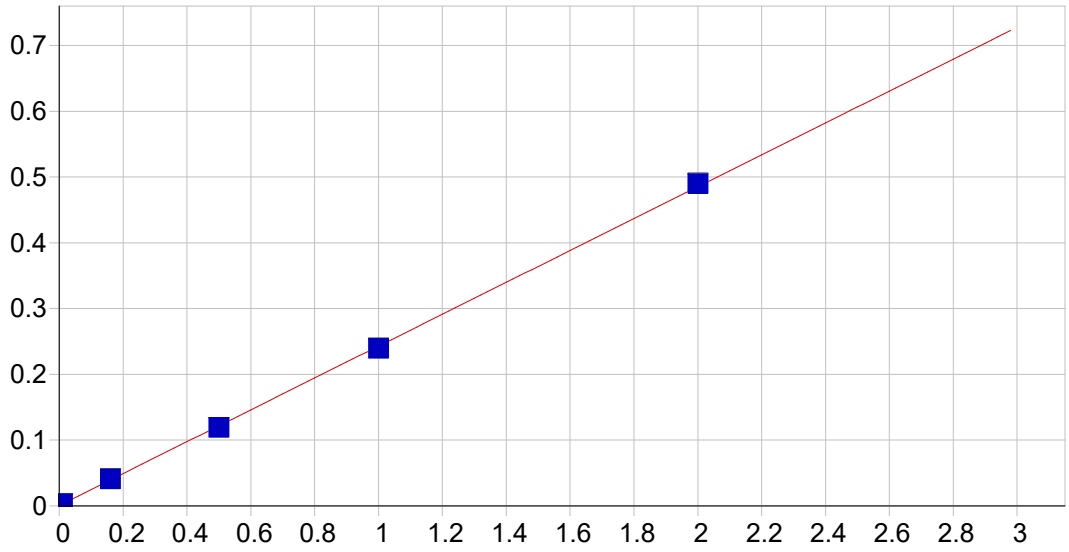
Ca 373.690 { 90}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.016948	Re-Slope:	1.000000
A1 (Gain):	0.143580	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999753	Status:	OK.
Std Error of Est:	0.001689		
Predicted MDL:	0.018349		
Predicted MQL:	0.061162		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00010	.000	.000	.01696	.001	1
S1	2.0000	1.9566	-.043	-2.17	.29788	.002	1
S2	4.0000	4.0458	.046	1.14	.59784	.001	1
S3	12.500	11.997	-.503	-4.02	1.7395	.005	1
S4	25.000	24.573	-.427	-1.71	3.5451	.006	1
S5	50.000	50.928	.928	1.86	7.3291	.016	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



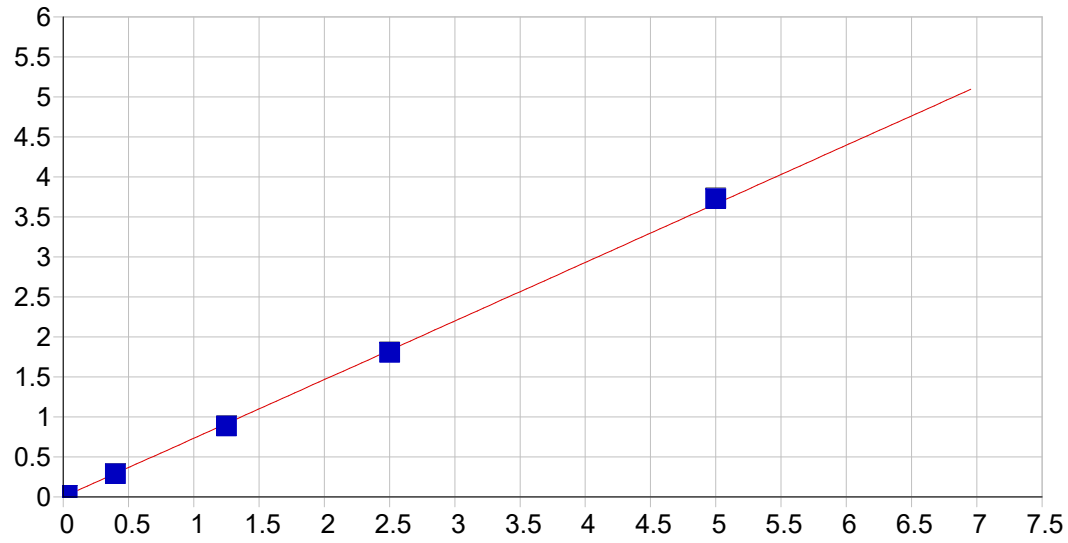
Cr 267.716 {126}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000637	Re-Slope:	1.000000
A1 (Gain):	0.242342	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999862	Status:	OK.
Std Error of Est:	0.000030		
Predicted MDL:	0.000976		
Predicted MQL:	0.003254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00064	.000	1
S1	.01000	.01115	.001	11.5	.00334	.000	1
S2	.16000	.16596	.006	3.73	.04089	.000	1
S3	.50000	.48838	-.012	-2.32	.11910	.000	1
S4	1.0000	.98549	-.015	-1.45	.23968	.000	1
S5	2.0000	2.0190	.019	.951	.49037	.001	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



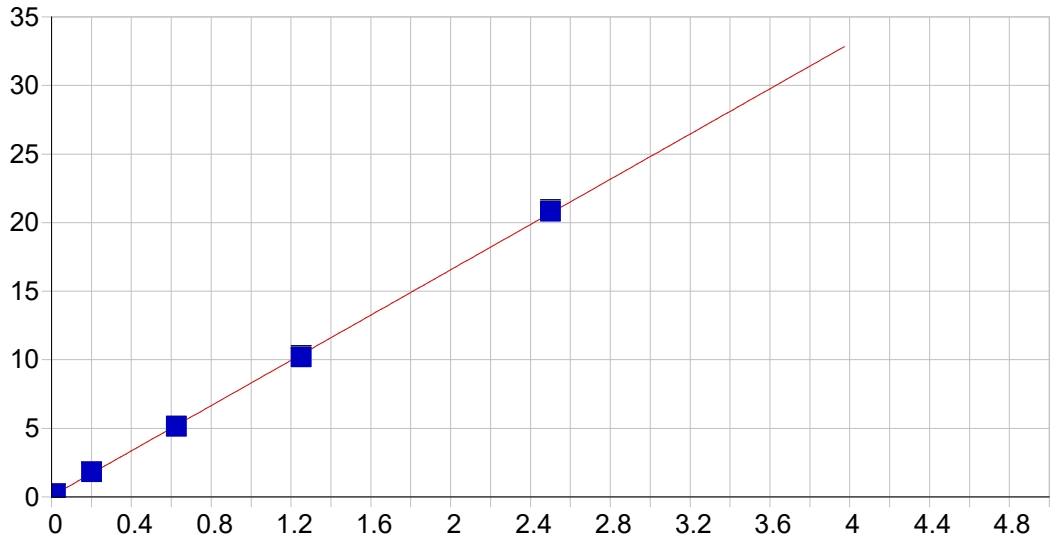
Co 228.616 {448}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000259	Re-Slope:	1.000000
A1 (Gain):	0.732699	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999799	Status:	OK.
Std Error of Est:	0.000299		
Predicted MDL:	0.000370		
Predicted MQL:	0.001234		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00026	.000	1
S1	.03000	.02873	-.001	-4.24	.02118	.000	1
S2	.40000	.39183	-.008	-2.04	.28771	.000	1
S3	1.2500	1.2081	-.042	-3.35	.88658	.000	1
S4	2.5000	2.4636	-.036	-1.46	1.8076	.001	1
S5	5.0000	5.0877	.088	1.75	3.7325	.005	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



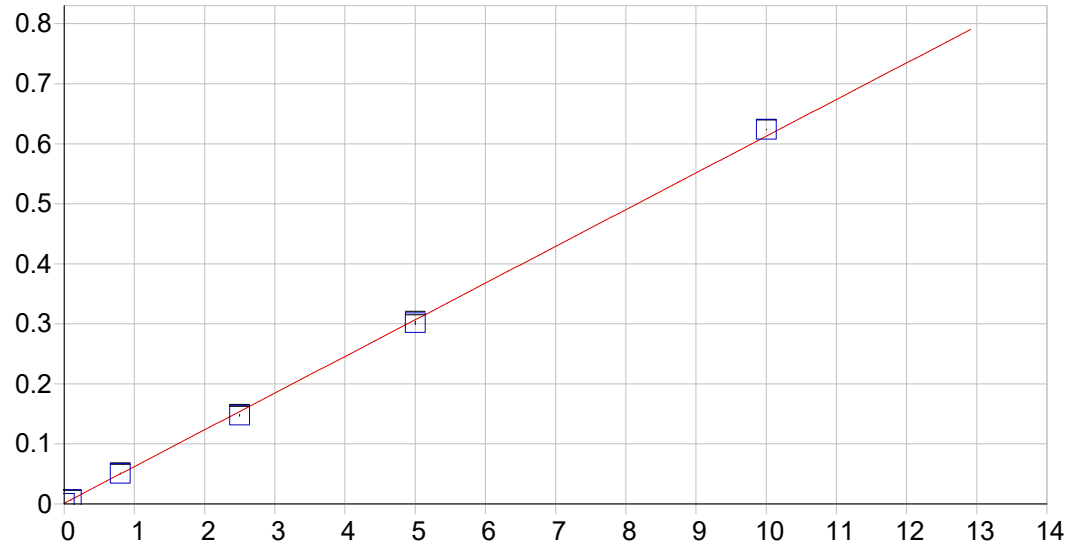
Cu 324.754 {104}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.056169	Re-Slope:	1.000000
A1 (Gain):	8.251055	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999843	Status:	OK.
Std Error of Est:	0.001717		
Predicted MDL:	0.000529		
Predicted MQL:	0.001763		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.05615	.001	1
S1	.02000	.02109	.001	5.45	.23025	.005	1
S2	.20000	.21253	.013	6.26	1.8105	.002	1
S3	.62500	.61497	-.010	-1.60	5.1328	.022	1
S4	1.2500	1.2297	-.020	-1.62	10.208	.079	1
S5	2.5000	2.5167	.017	.668	20.832	.101	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



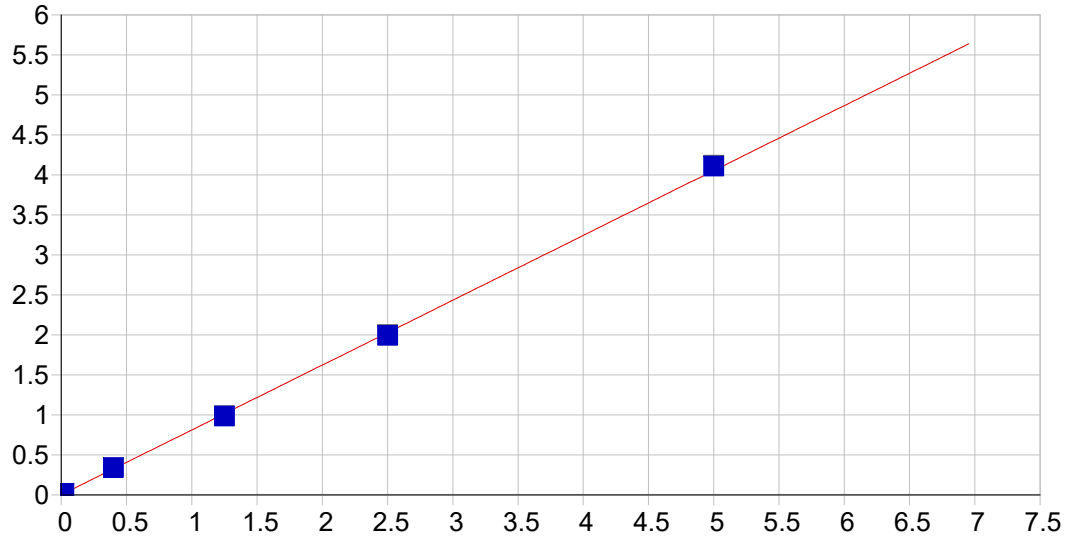
Fe 259.837 {130}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001117	Re-Slope:	1.000000
A1 (Gain):	0.061134	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999726	Status:	OK.
Std Error of Est:	0.000075		
Predicted MDL:	0.014382		
Predicted MQL:	0.047940		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00112	.000	1
S1	.10000	.09112	-.009	-8.88	.00669	.000	1
S2	.80000	.81057	.011	1.32	.05067	.001	1
S3	2.5000	2.3977	-.102	-4.09	.14770	.002	1
S4	5.0000	4.9140	-.086	-1.72	.30153	.003	1
S5	10.000	10.187	.187	1.87	.62387	.001	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



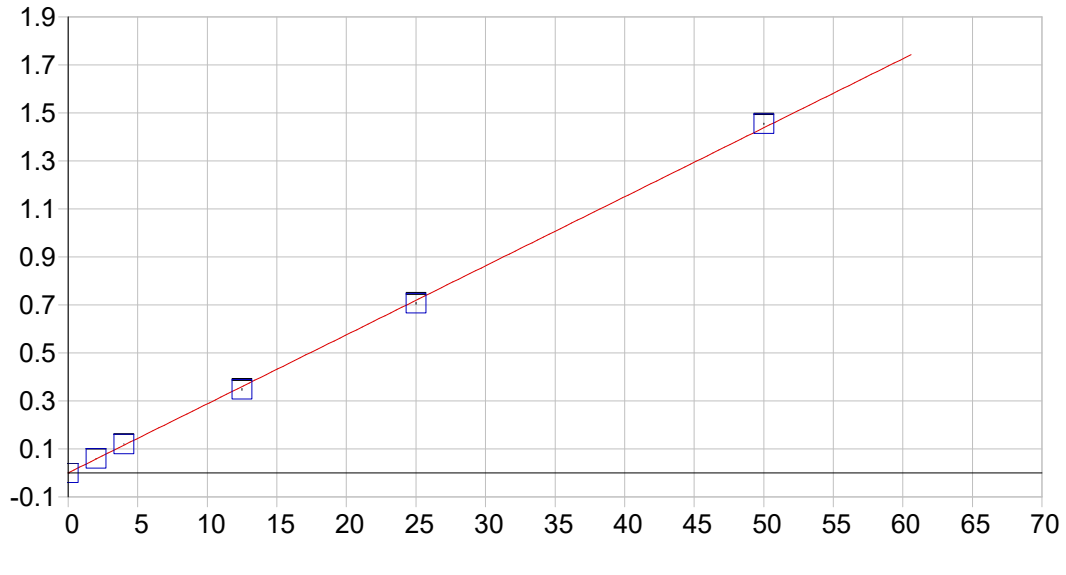
Mn 257.610 {131}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001228	Re-Slope:	1.000000
A1 (Gain):	0.810757	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999809	Status:	OK.
Std Error of Est:	0.000263		
Predicted MDL:	0.001003		
Predicted MQL:	0.003345		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00123	.001	1
S1	.02000	.02093	.001	4.67	.01823	.000	1
S2	.40000	.41611	.016	4.03	.33888	.002	1
S3	1.2500	1.2104	-.040	-3.17	.98348	.001	1
S4	2.5000	2.4577	-.042	-1.69	1.9956	.003	1
S5	5.0000	5.0649	.065	1.30	4.1113	.007	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



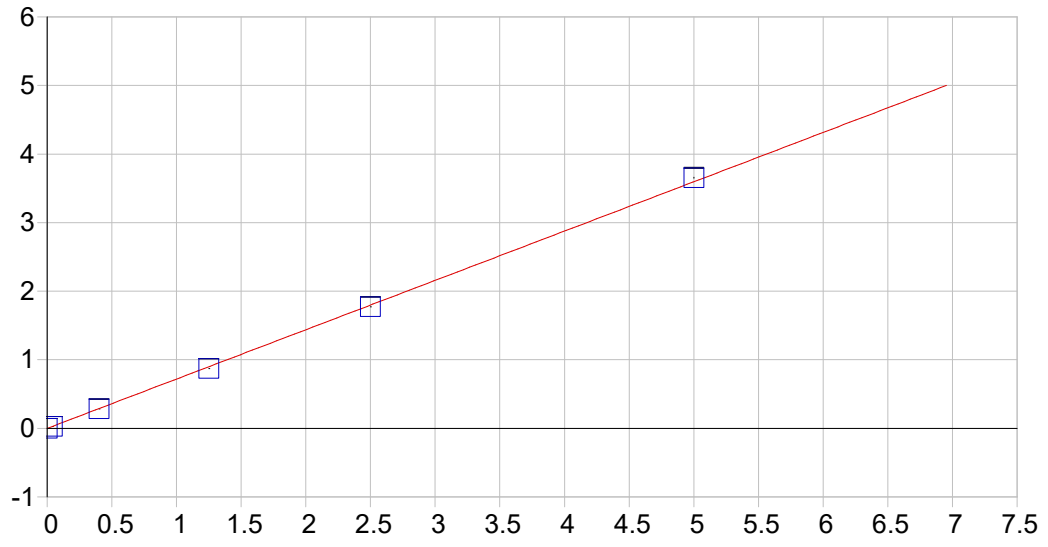
Mg 279.079 {121}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000252	Re-Slope:	1.000000
A1 (Gain):	0.028755	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999798	Status:	OK.
Std Error of Est:	0.000306		
Predicted MDL:	0.038583		
Predicted MQL:	0.128610		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00009	-.000	.000	.00025	.000	1
S1	2.0000	2.0729	.073	3.64	.05986	.001	1
S2	4.0000	4.1811	.181	4.53	.12048	.001	1
S3	12.500	12.097	-.403	-3.22	.34810	.004	1
S4	25.000	24.574	-.426	-1.70	.70689	.004	1
S5	50.000	50.575	.575	1.15	1.4545	.003	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



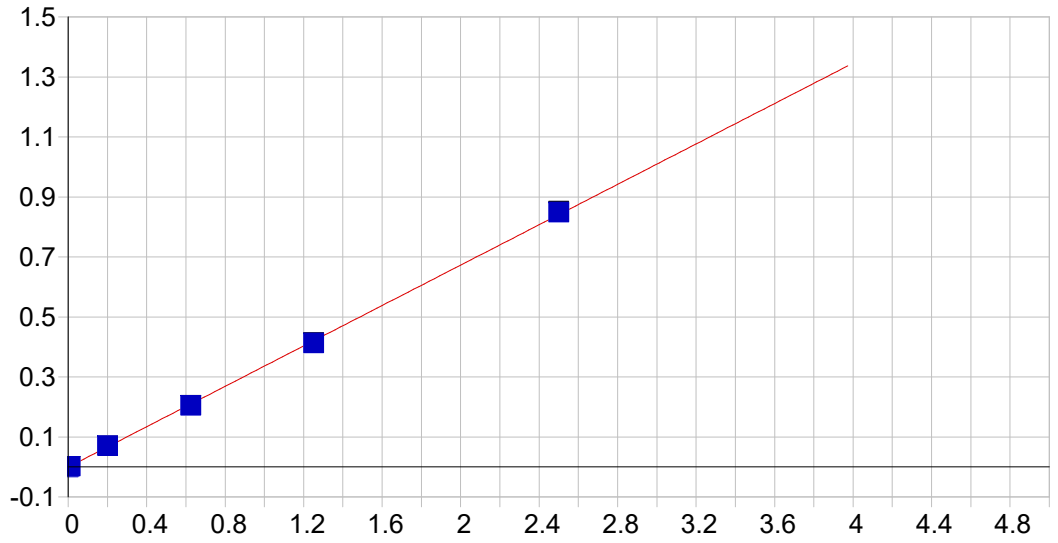
Ni 231.604 {446}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000042	Re-Slope:	1.000000
A1 (Gain):	0.719118	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999834	Status:	OK.
Std Error of Est:	0.000308		
Predicted MDL:	0.000447		
Predicted MQL:	0.001490		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00004	.000	1
S1	.04000	.03842	-.002	-3.94	.02759	.001	1
S2	.40000	.39503	-.005	-1.24	.28403	.000	1
S3	1.2500	1.2129	-.037	-2.97	.87220	.001	1
S4	2.5000	2.4633	-.037	-1.47	1.7713	.001	1
S5	5.0000	5.0803	.080	1.61	3.6533	.007	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



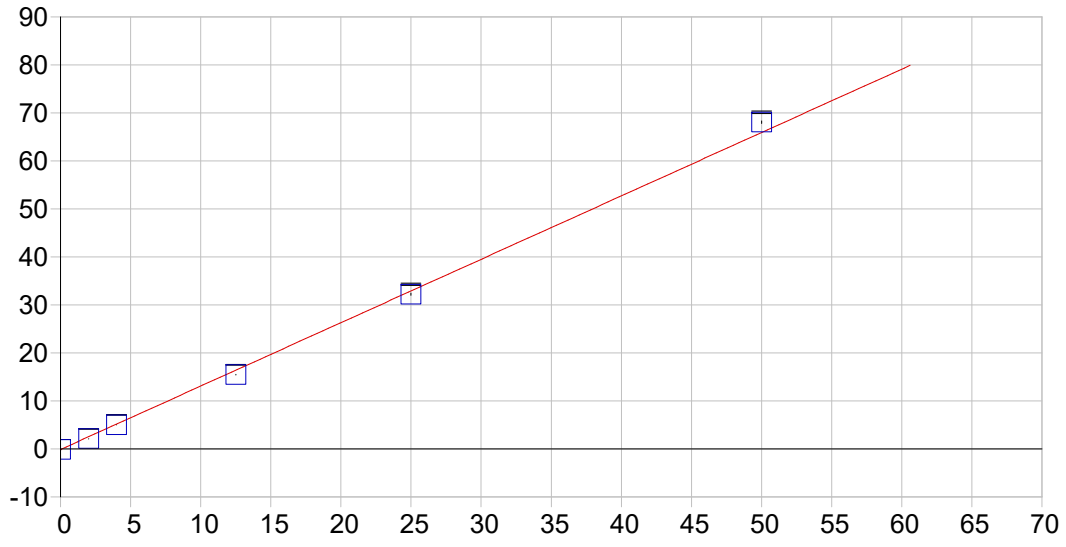
Ag 328.068 {103}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000646	Re-Slope:	1.000000
A1 (Gain):	0.336634	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999821	Status:	OK.
Std Error of Est:	0.000053		
Predicted MDL:	0.000901		
Predicted MQL:	0.003003		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00065	.000	1
S1	.01000	.01000	-.000	-.048	.00270	.000	1
S2	.20000	.21103	.011	5.52	.07023	.000	1
S3	.62500	.61002	-.015	-2.40	.20418	.001	1
S4	1.2500	1.2279	-.022	-1.77	.41165	.001	1
S5	2.5000	2.5261	.026	1.04	.84763	.003	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



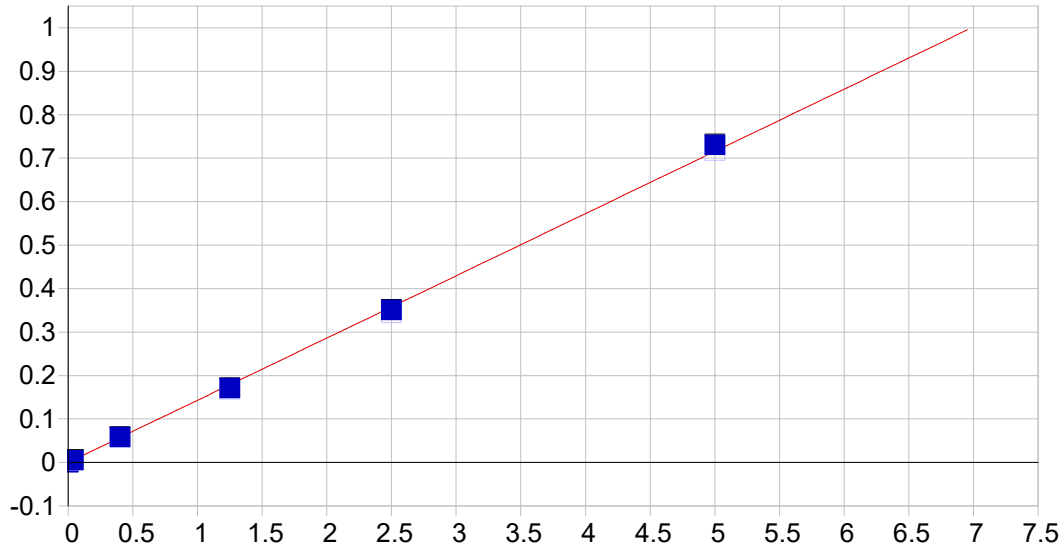
Na 818.326 { 41}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.113584	Re-Slope:	1.000000
A1 (Gain):	1.320550	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999169	Status:	OK.
Std Error of Est:	0.028491		
Predicted MDL:	0.010574		
Predicted MQL:	0.035245		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00045	.000	.000	-.11299	.005	1
S1	2.0000	1.6974	-.303	-15.1	2.1280	.030	1
S2	4.0000	3.8906	-.109	-2.74	5.0241	.020	1
S3	12.500	11.780	-.720	-5.76	15.443	.059	1
S4	25.000	24.482	-.518	-2.07	32.217	.226	1
S5	50.000	51.649	1.65	3.30	68.092	.275	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



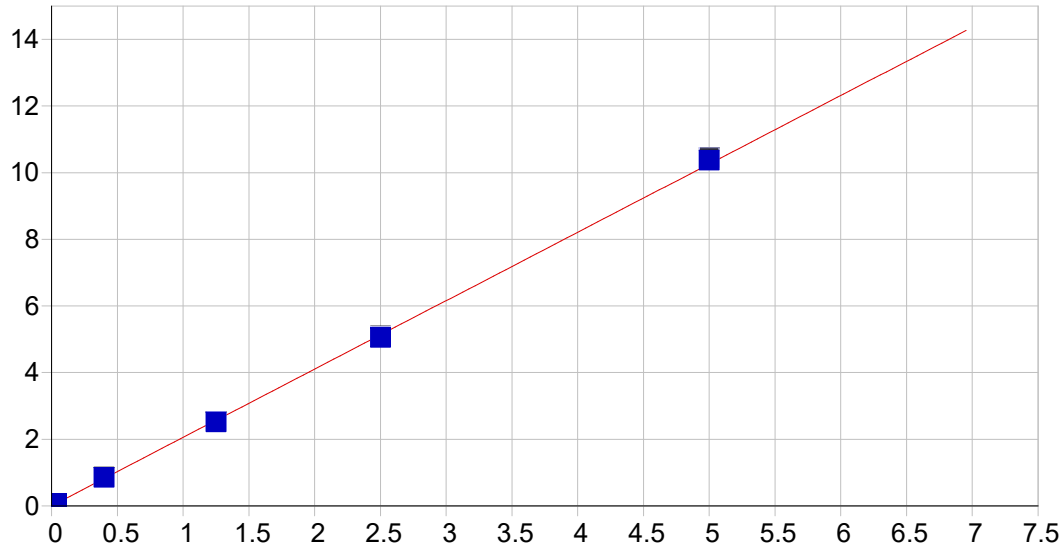
V 292.402 {115}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000055	Re-Slope:	1.000000
A1 (Gain):	0.143146	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999650	Status:	OK.
Std Error of Est:	0.000087		
Predicted MDL:	0.007935		
Predicted MQL:	0.026450		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00005	.001	1
S1	.04000	.03608	-.004	-9.79	.00486	.001	1
S2	.40000	.40902	.009	2.25	.05747	.001	1
S3	1.2500	1.1945	-.056	-4.44	.16773	.001	1
S4	2.5000	2.4484	-.052	-2.06	.34404	.002	1
S5	5.0000	5.1019	.102	2.04	.71749	.002	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



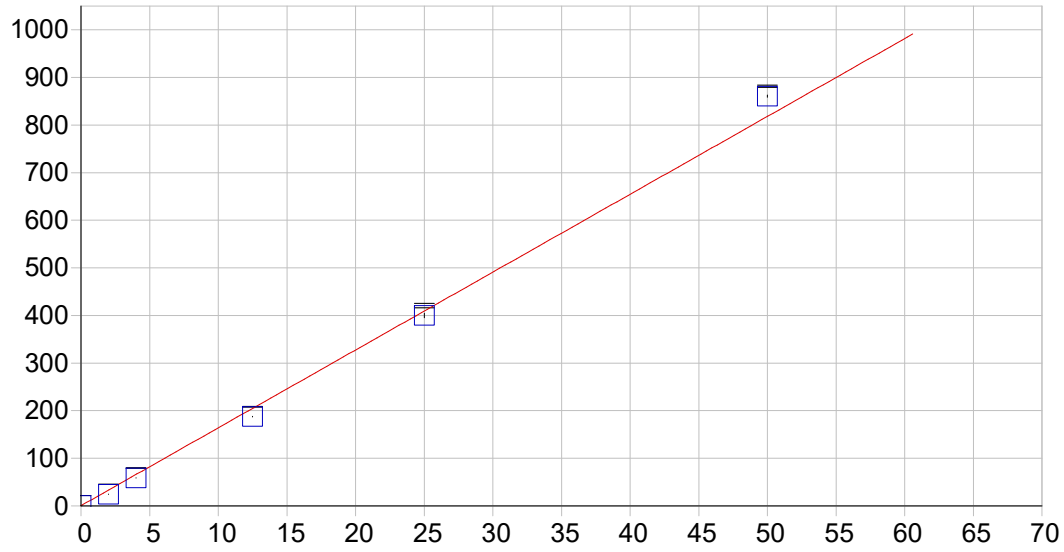
Zn 213.856 {158}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002780	Re-Slope:	1.000000
A1 (Gain):	2.052051	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999883	Status:	OK.
Std Error of Est:	0.000742		
Predicted MDL:	0.000420		
Predicted MQL:	0.001400		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00278	.000	1
S1	.04000	.03938	-.001	-1.55	.08419	.000	1
S2	.40000	.41296	.013	3.24	.85616	.006	1
S3	1.2500	1.2228	-.027	-2.18	2.5307	.001	1
S4	2.5000	2.4616	-.038	-1.54	5.0914	.007	1
S5	5.0000	5.0533	.053	1.07	10.447	.014	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



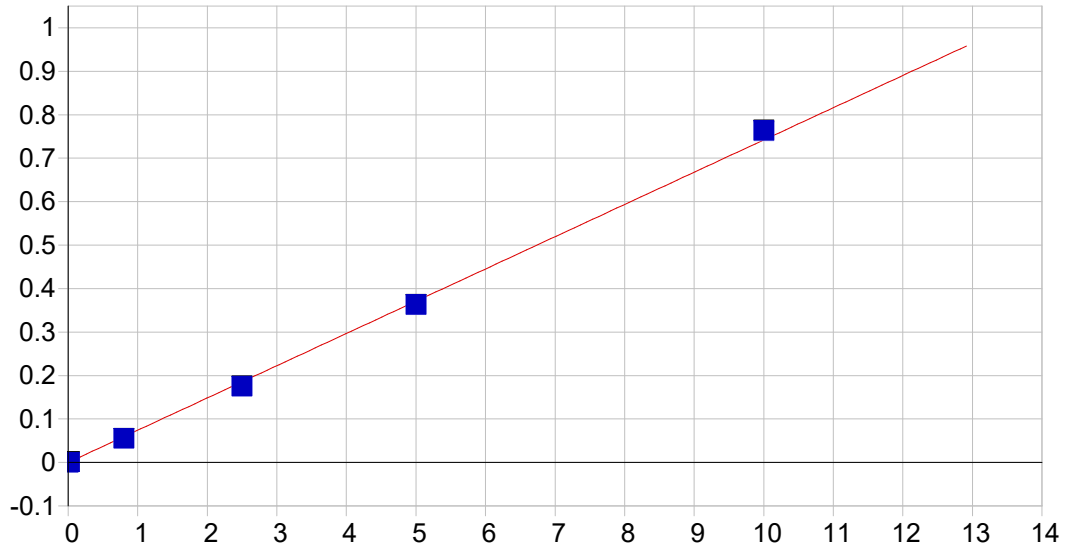
K 769.896 { 44}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.439896	Re-Slope:	1.000000
A1 (Gain):	16.353365	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997704	Status:	OK.
Std Error of Est:	0.587296		
Predicted MDL:	0.000798		
Predicted MQL:	0.002659		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00087	.001	.000	.45406	.015	1
S1	2.0000	1.4655	-.534	-26.7	24.406	.311	1
S2	4.0000	3.5592	-.441	-11.0	58.644	.257	1
S3	12.500	11.440	-1.06	-8.48	187.53	.707	1
S4	25.000	24.427	-.573	-2.29	399.91	4.51	1
S5	50.000	52.607	2.61	5.21	860.75	2.45	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



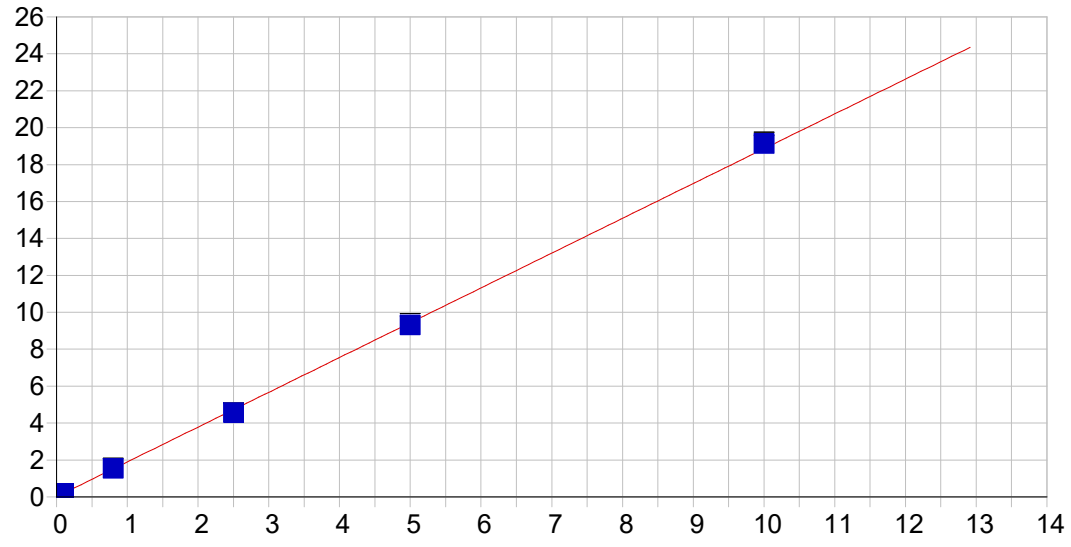
P 177.495 {490}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000044	Re-Slope:	1.000000
A1 (Gain):	0.074197	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999394	Status:	OK.
Std Error of Est:	0.000060		
Predicted MDL:	0.001962		
Predicted MQL:	0.006539		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00004	.000	1
S1	.02000	.01698	-.003	-15.1	.00120	.000	1
S2	.80000	.74653	-.053	-6.68	.05521	.000	1
S3	2.5000	2.3640	-.136	-5.44	.17493	.000	1
S4	5.0000	4.8987	-.101	-2.03	.36257	.000	1
S5	10.000	10.294	.294	2.94	.76200	.001	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



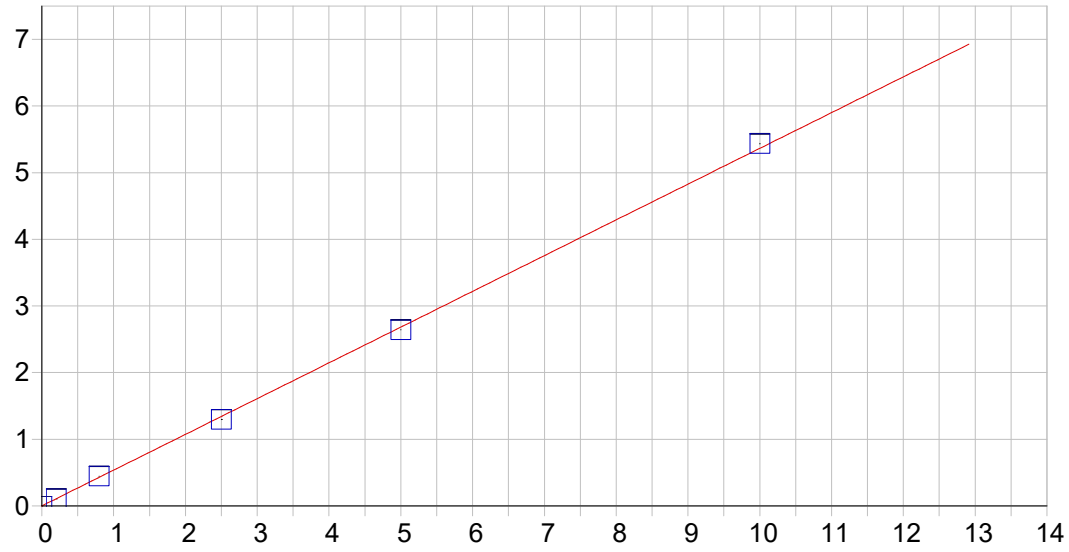
B 249.678 {135}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010642	Re-Slope:	1.000000
A1 (Gain):	1.884951	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999810	Status:	OK.
Std Error of Est:	0.001926		
Predicted MDL:	0.001227		
Predicted MQL:	0.004091		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.01066	.003	1
S1	.10000	.09333	-.007	-6.67	.18635	.003	1
S2	.80000	.81173	.012	1.47	1.5396	.012	1
S3	2.5000	2.4089	-.091	-3.65	4.5476	.023	1
S4	5.0000	4.9369	-.063	-1.26	9.3092	.084	1
S5	10.000	10.149	.149	1.49	19.127	.089	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



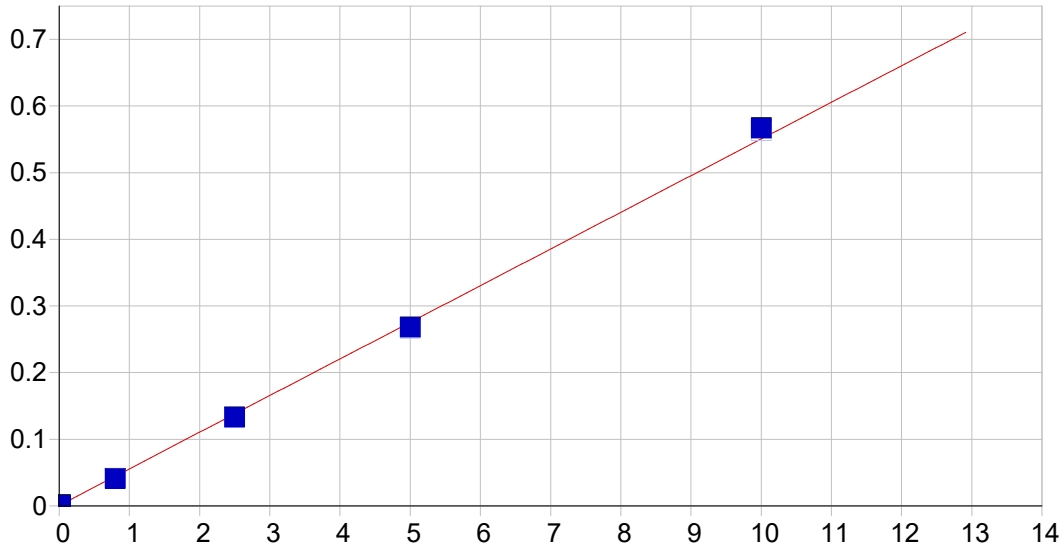
Mo 202.030 {467}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000429	Re-Slope:	1.000000
A1 (Gain):	0.536455	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999823	Status:	OK.
Std Error of Est:	0.000752		
Predicted MDL:	0.000457		
Predicted MQL:	0.001524		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00043	.000	1
S1	.20000	.19648	-.004	-1.76	.10583	.001	1
S2	.80000	.82760	.028	3.45	.44440	.002	1
S3	2.5000	2.4192	-.081	-3.23	1.2982	.000	1
S4	5.0000	4.9238	-.076	-1.52	2.6418	.003	1
S5	10.000	10.133	.133	1.33	5.4363	.003	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



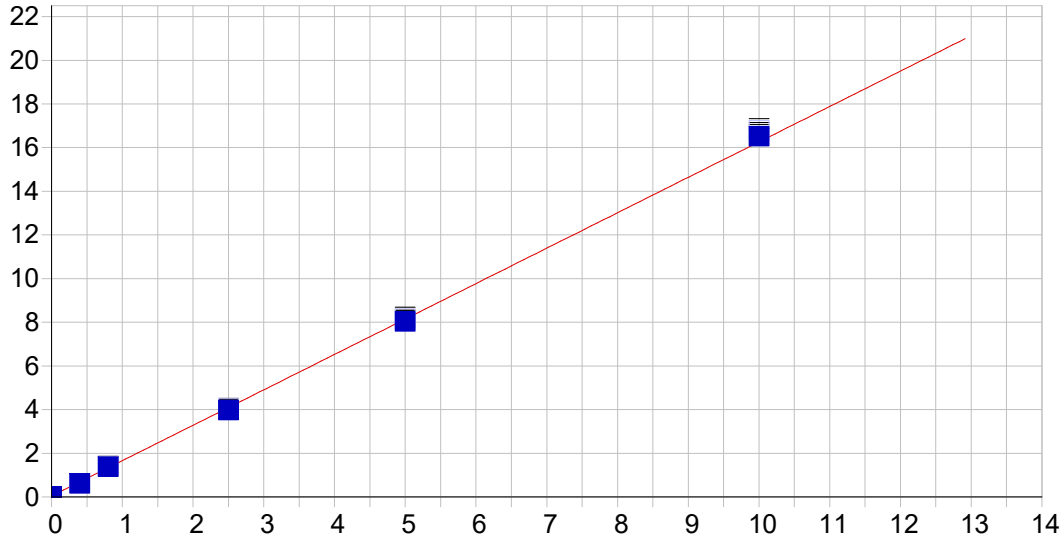
S 182.034 {485}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000586	Re-Slope:	1.000000
A1 (Gain):	0.054991	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999419	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	0.002735		
Predicted MQL:	0.009117		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00059	.000	1
S1	.02000	.01754	-.002	-12.3	.00147	.000	1
S2	.80000	.73577	-.064	-8.03	.04075	.000	1
S3	2.5000	2.4102	-.090	-3.59	.13221	.000	1
S4	5.0000	4.8633	-.137	-2.73	.26619	.000	1
S5	10.000	10.293	.293	2.93	.56295	.001	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



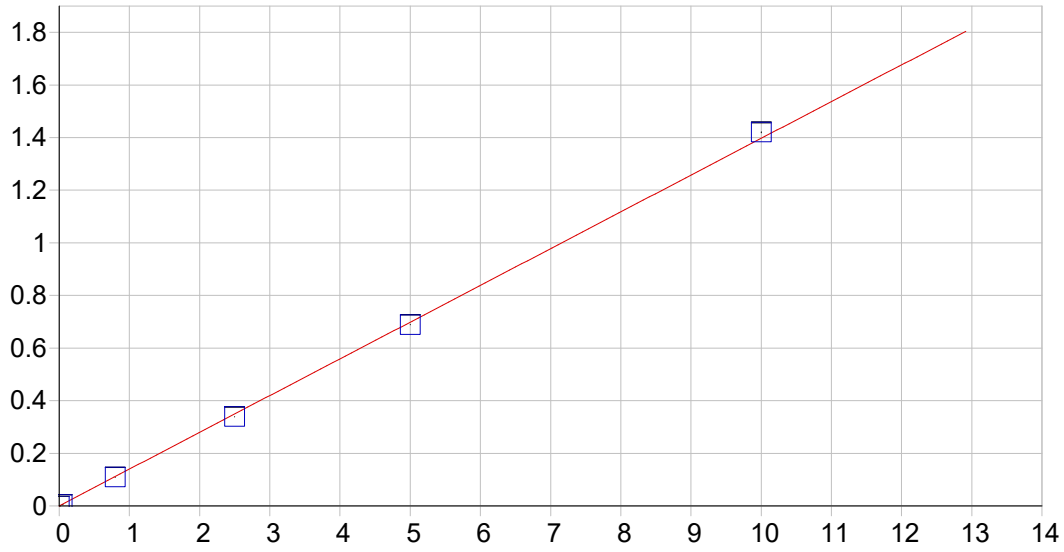
Si 251.611 {134}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.036111	Re-Slope:	1.000000
A1 (Gain):	1.622486	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999701	Status:	OK.
Std Error of Est:	0.004269		
Predicted MDL:	0.001294		
Predicted MQL:	0.004315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00004	.000	.000	.03618	.001	1
S1	.40000	.35637	-.044	-10.9	.61810	.002	1
S2	.80000	.82854	.029	3.57	1.4014	.013	1
S3	2.5000	2.4278	-.072	-2.89	4.0407	.021	1
S4	5.0000	4.9259	-.074	-1.48	8.1595	.079	1
S5	10.000	10.161	.161	1.61	16.784	.090	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



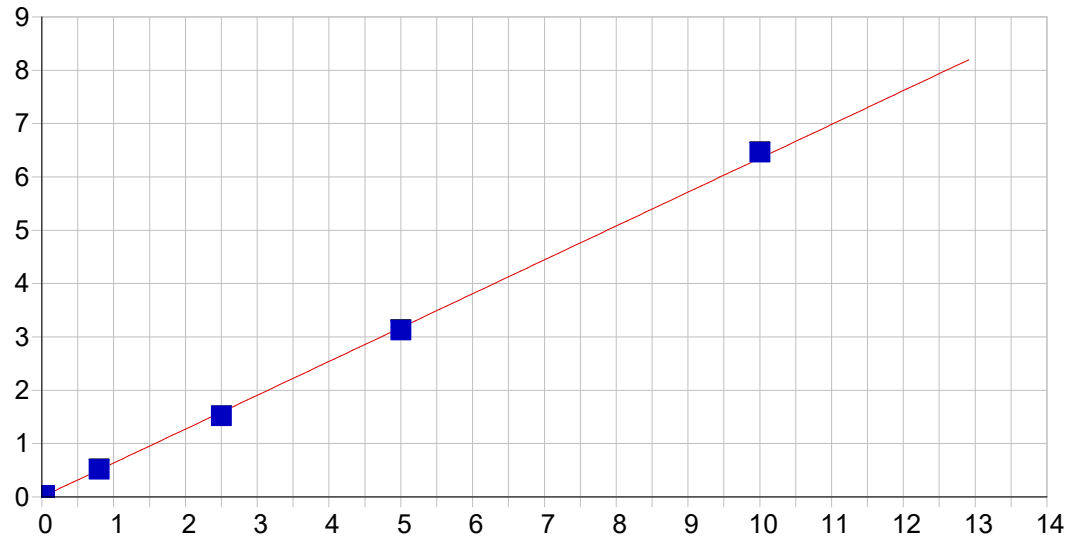
Sn 189.989 {478}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000167	Re-Slope:	1.000000
A1 (Gain):	0.139685	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000089		
Predicted MDL:	0.000943		
Predicted MQL:	0.003144		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00017	.000	1
S1	.04000	.03618	-.004	-9.55	.00522	.000	1
S2	.80000	.78080	-.019	-2.40	.10923	.001	1
S3	2.5000	2.4252	-.075	-2.99	.33892	.000	1
S4	5.0000	4.9306	-.069	-1.39	.68890	.001	1
S5	10.000	10.167	.167	1.67	1.4204	.002	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



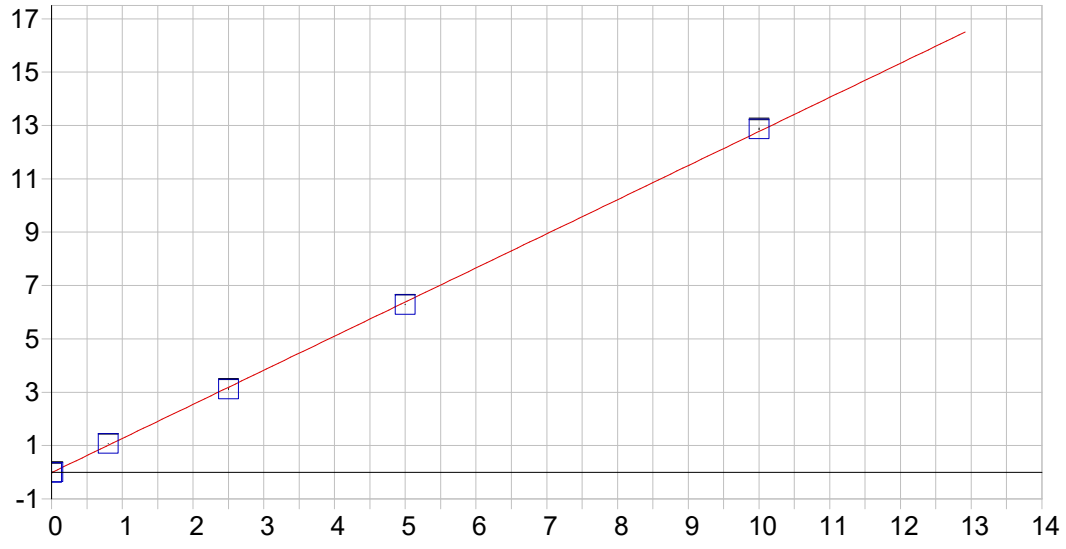
Ti 336.121 {100}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000817	Re-Slope:	1.000000
A1 (Gain):	0.634799	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999723	Status:	OK.
Std Error of Est:	0.000495		
Predicted MDL:	0.002768		
Predicted MQL:	0.009227		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00082	.001	1
S1	.04000	.03495	-.005	-12.6	.02298	.002	1
S2	.80000	.81007	.010	1.26	.51479	.004	1
S3	2.5000	2.3902	-.110	-4.39	1.5173	.008	1
S4	5.0000	4.9222	-.078	-1.56	3.1238	.010	1
S5	10.000	10.183	.183	1.83	6.4616	.005	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236



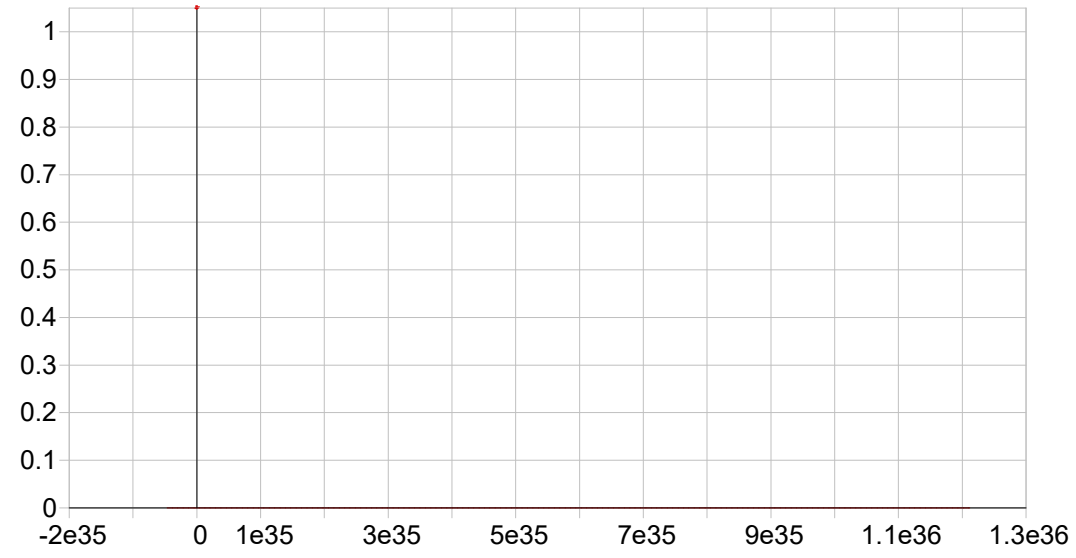
Li 670.784 { 50}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.013732	Re-Slope:	1.000000
A1 (Gain):	1.278920	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999841	Status:	OK.
Std Error of Est:	0.000535		
Predicted MDL:	0.005494		
Predicted MQL:	0.018313		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.01373	.009	1
S5	10.000	10.078	.078	.778	12.875	.025	1
S4	5.0000	4.9261	-.074	-1.48	6.2863	.008	1
S3	2.5000	2.4492	-.051	-2.03	3.1185	.018	1
S2	.80000	.84868	.049	6.08	1.0717	.008	1
S1	.02000	.01829	-.002	-8.57	.00965	.007	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236

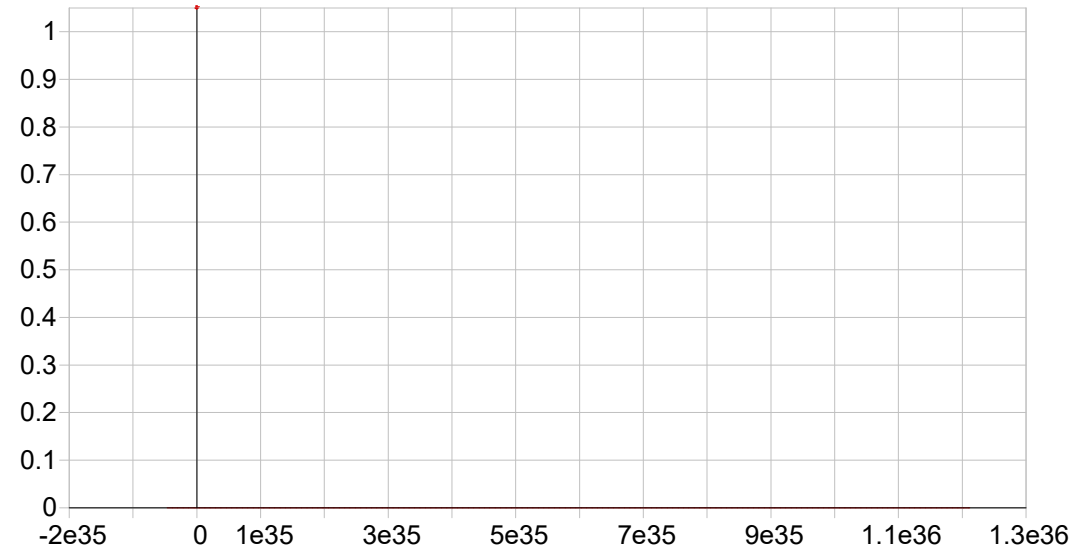


Y 224.306 {450}*

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 360.073 { 94}*

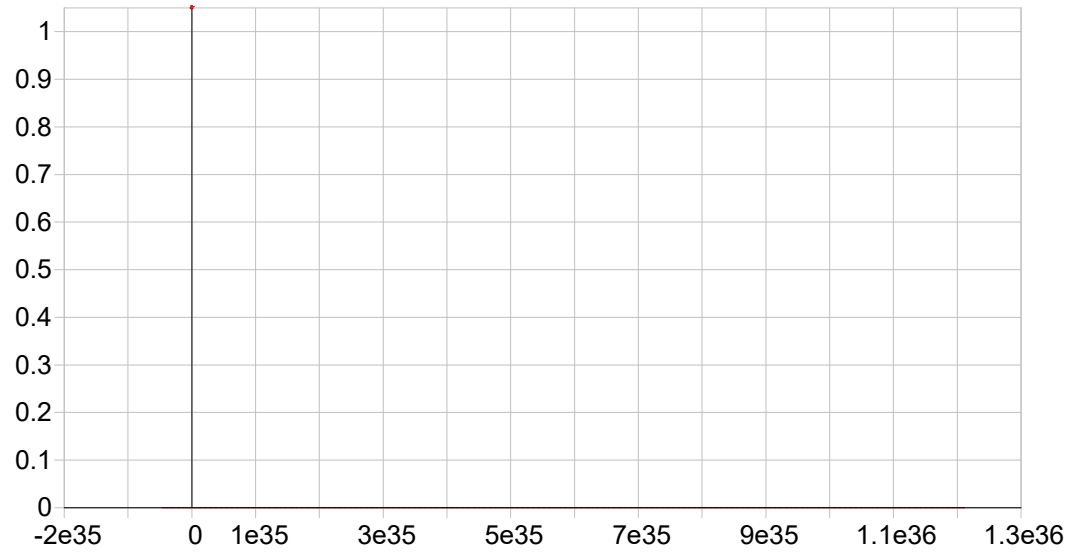
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000

Reviewed By:
On:
Inst Id :P5
LB :LB136236

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

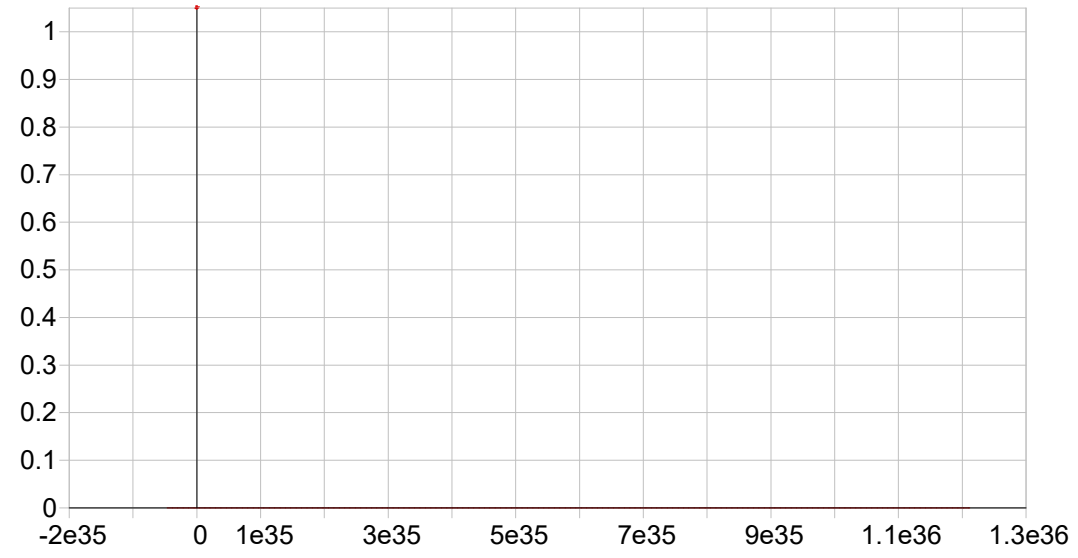


Y 371.030 { 91}*

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

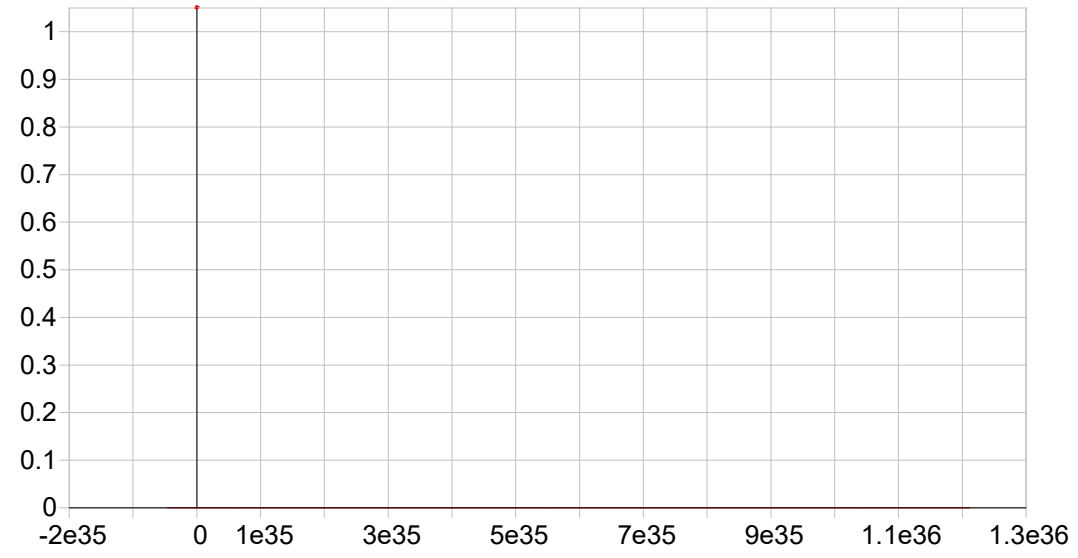
Reviewed By:
On:
Inst Id :P5
LB :LB136236



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



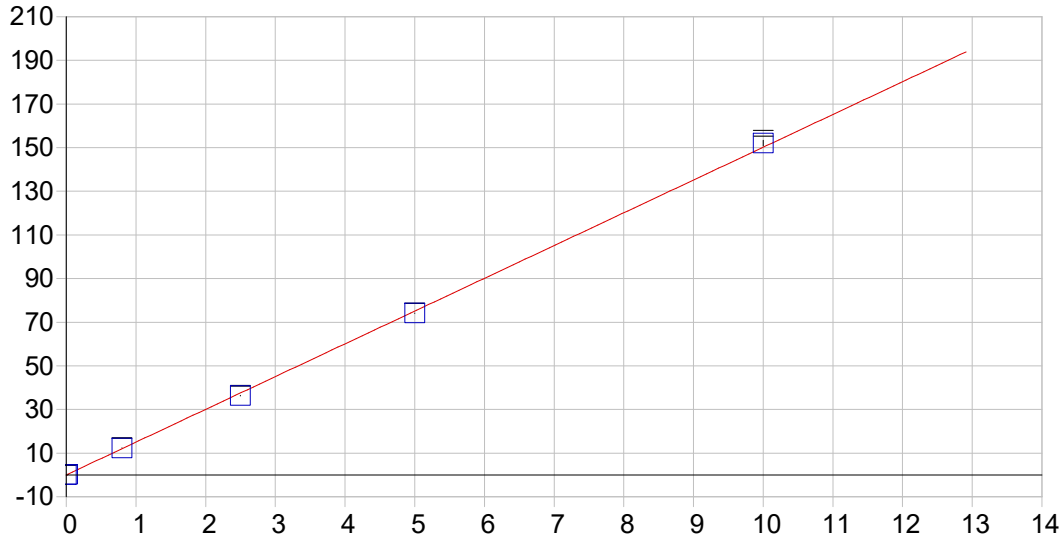
In 230.606 {446}*

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:
On:
Inst Id :P5
LB :LB136236

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



Sr 407.771 { 83}

Date of Fit:	6/23/2025 16:02:16	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000279	Re-Slope:	1.000000
A1 (Gain):	15.017281	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999849	Status:	OK.
Std Error of Est:	0.006106		
Predicted MDL:	0.000192		
Predicted MQL:	0.000639		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00029	.002	1
S1	.02000	.01913	-.001	-4.37	.28750	.002	1
S2	.80000	.81997	.020	2.50	12.314	.055	1
S3	2.5000	2.4192	-.081	-3.23	36.330	.112	1
S4	5.0000	4.9366	-.063	-1.27	74.134	.121	1
S5	10.000	10.125	.125	1.25	152.05	1.28	1

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S0 Acquired: 6/23/2025 11:53:42 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00003**	**-.00005**	**.00011**	**.00009**	**.00049**	**-.00142**	**.01014**	**.00510**
Stddev	.00005	.00007	.00049	.00025	.00028	.00336	.00446	.00176
%RSD	174.76	140.56	461.97	286.55	57.501	237.33	44.036	34.442
#1	-.00005	.00003	.00056	-.00020	.00025	-.00453	.00498	.00635
#2	-.00007	-.00008	-.00041	.00019	.00042	.00215	.01267	.00585
#3	.00003	-.00010	.00016	.00026	.00080	-.00187	.01276	.00309

Elem	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00015**	**.01696**	**.00064**	**.00026**	**.05615**	**.00112**	**.00123**	**.00025**
Stddev	.00018	.00126	.00015	.00020	.00104	.00039	.00116	.00040
%RSD	117.49	7.4083	24.276	75.426	1.8546	35.144	94.316	160.86
#1	.00011	.01607	.00056	.00049	.05522	.00157	.00253	-.00004
#2	-.00000	.01642	.00081	.00015	.05597	.00090	.00033	.00071
#3	.00034	.01840	.00054	.00014	.05728	.00088	.00082	.00008

Elem	Ni2316	Ag3280	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00004**	**-.00065**	**-.11299**	**-.00005**	**.00278**	**.45406**	**-.00004**	**.01066**
Stddev	.00018	.00030	.00477	.00144	.00026	.01541	.00002	.00278
%RSD	467.21	46.478	4.2250	2654.3	9.4477	3.3946	36.415	26.061
#1	-.00008	-.00080	-.10762	-.00128	.00256	.47098	-.00003	.00788
#2	-.00020	-.00030	-.11462	.00154	.00272	.45036	-.00006	.01344
#3	.00016	-.00084	-.11674	-.00042	.00307	.44083	-.00005	.01065

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00043**	**.00059**	**.03618**	**.00017**	**.00082**	**-.01373**	**.00029**
Stddev	.00027	.00015	.00071	.00011	.00062	.00949	.00172
%RSD	62.973	24.942	1.9735	63.179	75.027	69.085	584.33
#1	.00041	.00061	.03677	.00021	.00057	-.01130	-.00134
#2	.00071	.00043	.03538	.00005	.00037	-.00570	.00013
#3	.00017	.00072	.03638	.00025	.00152	-.02420	.00209

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S0 Acquired: 6/23/2025 11:53:42 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5050.4	40886.	2378.2	3620.9	5943.3
Stddev	8.4	148.	24.3	1.6	6.3
%RSD	.16728	.36300	1.0235	.04501	.10590
#1	5043.9	41047.	2351.3	3621.0	5936.6
#2	5059.9	40857.	2398.7	3619.3	5949.1
#3	5047.4	40755.	2384.7	3622.5	5944.2

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S1 Acquired: 6/23/2025 11:58:16 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00056**	**.00466**	**.00334**	**.00112**	**.00620**	**.01523**	**.55526**	**.09931**	**.01924**
Stddev	.00004	.00014	.00023	.00010	.00010	.00229	.00283	.00212	.00012
%RSD	7.5191	2.9203	6.7610	9.2647	1.5734	15.060	.50964	2.1302	.64752
#1	.00061	.00453	.00311	.00105	.00615	.01724	.55255	.09887	.01927
#2	.00053	.00480	.00336	.00124	.00614	.01572	.55820	.09744	.01934
#3	.00054	.00464	.00356	.00106	.00632	.01273	.55501	.10161	.01910

Elem	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.29788**	**.00334**	**.02118**	**.23025**	**.00669**	**.01823**	**.05986**	**.02759**	**.00270**
Stddev	.00194	.00008	.00031	.00494	.00036	.00049	.00056	.00051	.00011
%RSD	.65261	2.3946	1.4716	2.1470	5.4390	2.6617	.93800	1.8309	4.2342
#1	.29731	.00328	.02125	.22941	.00695	.01845	.05953	.02776	.00279
#2	.30004	.00332	.02146	.22578	.00684	.01856	.05953	.02799	.00274
#3	.29628	.00343	.02084	.23556	.00627	.01767	.06051	.02702	.00257

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.1280**	**.00486**	**.08419**	**24.406**	**.00120**	**.18635**	**.10583**	**.00147**	**.61810**
Stddev	.0296	.00096	.00048	.311	.00010	.00282	.00051	.00015	.00193
%RSD	1.3916	19.647	.57075	1.2740	8.1622	1.5119	.48280	10.340	.31198
#1	2.1107	.00385	.08465	24.056	.00112	.18619	.10633	.00130	.62029
#2	2.1621	.00574	.08421	24.650	.00118	.18924	.10586	.00159	.61737
#3	2.1110	.00501	.08369	24.512	.00131	.18361	.10531	.00151	.61665

Elem	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00522**	**.02298**	**.00965**	**.28750**
Stddev	.00019	.00170	.00749	.00214
%RSD	3.6694	7.3866	77.601	.74321
#1	.00536	.02427	.00965	.28895
#2	.00531	.02105	.00216	.28505
#3	.00500	.02360	.01715	.28850

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S1 Acquired: 6/23/2025 11:58:16 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5092.3	41136.	2404.9	3628.5	5915.7
Stddev	28.3	239.	1.7	4.0	34.0
%RSD	.55672	.58006	.07258	.11095	.57462
#1	5062.1	41398.	2403.8	3623.9	5882.5
#2	5096.7	41077.	2404.0	3631.5	5914.3
#3	5118.2	40931.	2406.9	3629.9	5950.4

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S2 Acquired: 6/23/2025 12:02:46 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.02758	.09960	.23576	.05461	.09367	.25283	9.2792	.68115	1.3609
Stddev	.00017	.00009	.00130	.00043	.00030	.00252	.0260	.00202	.0042
%RSD	.61351	.08956	.55052	.77948	.31644	.99797	.27992	.29714	.30677
#1	.02748	.09956	.23431	.05412	.09354	.25269	9.2644	.67912	1.3563
#2	.02748	.09970	.23681	.05488	.09346	.25543	9.3092	.68317	1.3645
#3	.02777	.09953	.23616	.05484	.09401	.25039	9.2639	.68115	1.3619

Elem	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.59784	.04089	.28771	1.8105	.05067	.33888	.12048	.28403	.07023
Stddev	.00109	.00000	.00017	.0018	.00126	.00155	.00074	.00049	.00031
%RSD	.18166	.01134	.06046	.09722	2.4850	.45749	.61554	.17097	.44275
#1	.59815	.04090	.28759	1.8123	.04933	.33709	.11968	.28363	.07050
#2	.59874	.04089	.28762	1.8105	.05183	.33975	.12061	.28457	.06989
#3	.59664	.04089	.28791	1.8088	.05086	.33980	.12115	.28388	.07030

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.0241	.05747	.85616	58.644	.05521	1.5396	.44440	.04075	1.4014
Stddev	.0203	.00086	.00576	.257	.00025	.0123	.00161	.00038	.0129
%RSD	.40384	1.5043	.67223	.43826	.45485	.80005	.36255	.93898	.92169
#1	5.0393	.05712	.85966	58.937	.05493	1.5485	.44281	.04060	1.4139
#2	5.0011	.05846	.84952	58.542	.05540	1.5447	.44435	.04047	1.4022
#3	5.0320	.05684	.85931	58.454	.05530	1.5255	.44604	.04119	1.3881

Elem	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.10923	.51479	1.0717	12.314
Stddev	.00061	.00424	.0081	.055
%RSD	.56010	.82402	.75977	.44363
#1	.10853	.51225	1.0675	12.286
#2	.10962	.51969	1.0810	12.377
#3	.10955	.51243	1.0664	12.279

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S2 Acquired: 6/23/2025 12:02:46 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5082.5	40507.	2323.8	3604.0	5765.9
Stddev	6.2	250.	.6	35.9	9.9
%RSD	.12278	.61685	.02457	.99626	.17252
#1	5078.9	40463.	2323.7	3592.7	5754.6
#2	5089.7	40775.	2324.5	3644.3	5773.4
#3	5079.0	40281.	2323.4	3575.2	5769.6

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S3 Acquired: 6/23/2025 12:07:04 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.08718	.30533	.72428	.16094	.27398	.73402	27.396	2.0035	4.2515
Stddev	.00018	.00186	.00114	.00040	.00031	.00174	.119	.0117	.0045
%RSD	.20189	.60800	.15795	.24644	.11317	.23712	.43527	.58384	.10488
#1	.08713	.30329	.72329	.16117	.27434	.73223	27.260	2.0134	4.2475
#2	.08738	.30576	.72402	.16049	.27377	.73412	27.481	1.9906	4.2506
#3	.08704	.30693	.72553	.16118	.27384	.73571	27.447	2.0066	4.2563

Elem	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.7395	.11910	.88658	5.1328	.14770	.98348	.34810	.87220	.20418
Stddev	.0054	.00027	.00043	.0222	.00172	.00090	.00382	.00136	.00054
%RSD	.30995	.22668	.04805	.43205	1.1671	.09192	1.0962	.15582	.26215
#1	1.7355	.11884	.88666	5.1533	.14573	.98306	.34379	.87097	.20428
#2	1.7456	.11938	.88612	5.1093	.14891	.98286	.34949	.87196	.20467
#3	1.7372	.11909	.88696	5.1358	.14846	.98452	.35104	.87366	.20361

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	15.443	.16773	2.5307	187.53	.17493	4.5476	1.2982	.13221	4.0407
Stddev	.059	.00109	.0011	.71	.00043	.0235	.0005	.00039	.0214
%RSD	.38073	.65001	.04239	.37714	.24310	.51594	.03796	.29346	.52906
#1	15.482	.16709	2.5295	186.73	.17446	4.5700	1.2977	.13188	4.0556
#2	15.375	.16712	2.5311	187.77	.17504	4.5232	1.2985	.13263	4.0162
#3	15.471	.16899	2.5316	188.09	.17529	4.5498	1.2986	.13211	4.0503

Elem	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.33892	1.5173	3.1185	36.330
Stddev	.00037	.0078	.0176	.112
%RSD	.10923	.51260	.56314	.30745
#1	.33875	1.5107	3.0984	36.212
#2	.33867	1.5154	3.1304	36.433
#3	.33935	1.5259	3.1269	36.346

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S3 Acquired: 6/23/2025 12:07:04 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5112.6	40640.	2343.8	3611.7	5437.3
Stddev	15.0	226.	1.3	15.1	15.3
%RSD	.29245	.55622	.05567	.41743	.28126
#1	5102.8	40788.	2342.6	3624.9	5438.3
#2	5129.8	40380.	2343.7	3595.3	5452.1
#3	5105.1	40753.	2345.2	3614.9	5421.6

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S4 Acquired: 6/23/2025 12:11:26 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.18107	.61340	1.4722	.32913	.55864	1.4977	55.974	4.0556	8.6932
Stddev	.00019	.00223	.0024	.00042	.00095	.0051	.095	.0508	.0105
%RSD	.10738	.36425	.16453	.12831	.17051	.33760	.17000	1.2536	.12028
#1	.18125	.61113	1.4699	.32947	.55861	1.5029	56.084	4.0545	8.6827
#2	.18110	.61349	1.4719	.32927	.55961	1.4928	55.917	4.0053	8.6934
#3	.18086	.61560	1.4747	.32866	.55770	1.4974	55.921	4.1069	8.7036

Elem	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.5451	.23968	1.8076	10.208	.30153	1.9956	.70689	1.7713	.41165
Stddev	.0059	.00026	.0013	.079	.00295	.0027	.00387	.0010	.00124
%RSD	.16684	.10869	.06952	.77699	.97878	.13499	.54684	.05383	.30022
#1	3.5459	.23997	1.8061	10.194	.29852	1.9984	.71127	1.7708	.41218
#2	3.5389	.23946	1.8083	10.136	.30167	1.9931	.70548	1.7708	.41252
#3	3.5506	.23961	1.8082	10.293	.30441	1.9953	.70394	1.7724	.41023

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	32.217	.34404	5.0914	399.91	.36257	9.3092	2.6418	.26619	8.1595
Stddev	.226	.00150	.0074	4.51	.00016	.0841	.0027	.00029	.0788
%RSD	.70184	.43737	.14470	1.1278	.04348	.90370	.10261	.11020	.96561
#1	32.141	.34300	5.0829	398.33	.36253	9.2880	2.6434	.26591	8.1291
#2	32.038	.34335	5.0959	396.41	.36244	9.2377	2.6434	.26617	8.1004
#3	32.471	.34576	5.0953	405.00	.36275	9.4019	2.6387	.26650	8.2490

Elem	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.68890	3.1238	6.2863	74.134
Stddev	.00088	.0100	.0077	.121
%RSD	.12841	.31914	.12256	.16376
#1	.68821	3.1331	6.2937	74.274
#2	.68859	3.1251	6.2783	74.052
#3	.68990	3.1133	6.2870	74.076

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S4 Acquired: 6/23/2025 12:11:26 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4888.4	39110.	2248.4	3472.1	5147.4
Stddev	8.2	126.	25.0	5.9	2.4
%RSD	.16733	.32266	1.1111	.16978	.04593
#1	4880.8	38975.	2244.9	3465.3	5145.5
#2	4887.2	39225.	2275.0	3476.0	5146.5
#3	4897.0	39130.	2225.4	3475.0	5150.0

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S5 Acquired: 6/23/2025 12:15:41 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.38225	1.2487	3.0362	.67670	1.1475	3.1093	115.66	8.2910	17.877
Stddev	.00067	.0019	.0025	.00030	.0003	.0057	.66	.0486	.028
%RSD	.17634	.15474	.08199	.04474	.02397	.18502	.56856	.58596	.15431
#1	.38298	1.2466	3.0391	.67637	1.1475	3.1030	114.93	8.3163	17.909
#2	.38165	1.2488	3.0350	.67676	1.1478	3.1108	115.87	8.2350	17.863
#3	.38211	1.2505	3.0346	.67696	1.1473	3.1142	116.19	8.3216	17.859

Elem	Ca3736	Cr2677	Co2286	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7.3291	.49037	3.7325	20.832	.62387	4.1113	1.4545	3.6533	.84763
Stddev	.0165	.00054	.0054	.101	.00064	.0068	.0027	.0068	.00287
%RSD	.22508	.11101	.14549	.48318	.10337	.16575	.18546	.18719	.33866
#1	7.3147	.49091	3.7386	20.868	.62319	4.1172	1.4522	3.6612	.85034
#2	7.3256	.48983	3.7305	20.718	.62447	4.1038	1.4539	3.6494	.84794
#3	7.3471	.49036	3.7284	20.909	.62394	4.1128	1.4575	3.6494	.84462

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	68.092	.71749	10.447	860.75	.76200	19.127	5.4363	.56295	16.784
Stddev	.275	.00224	.014	2.45	.00124	.089	.0034	.00089	.089
%RSD	.40320	.31176	.13477	.28483	.16336	.46757	.06286	.15857	.53323
#1	68.005	.71569	10.435	862.01	.76331	19.142	5.4384	.56395	16.761
#2	67.872	.72000	10.462	857.92	.76083	19.031	5.4323	.56223	16.709
#3	68.400	.71680	10.444	862.31	.76188	19.208	5.4381	.56267	16.883

Elem	Sn1899	Ti3361	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.4204	6.4616	12.875	152.05
Stddev	.0017	.0053	.025	1.28
%RSD	.12174	.08212	.19617	.83875
#1	1.4224	6.4616	12.846	152.50
#2	1.4196	6.4563	12.895	150.61
#3	1.4192	6.4669	12.884	153.04

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: S5 Acquired: 6/23/2025 12:15:41 Type: Cal
Method: METHOD 6010D, 200.7(v20) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4673.1	37348.	2141.6	3314.3	4859.4
Stddev	3.6	68.	8.4	6.3	10.8
%RSD	.07762	.18079	.39129	.18960	.22248
#1	4671.3	37324.	2141.0	3315.4	4848.8
#2	4670.8	37296.	2150.2	3307.5	4858.9
#3	4677.3	37424.	2133.5	3319.9	4870.4

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICV01 Acquired: 6/23/2025 12:34:03 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.913271**	**4.049992**	**3.953003**	**3.979652**	**4.106848**	**7.979607**
Stddev	.007114	.010717	.012094	.020378	.007228	.046710
%RSD	.1818038	.2646206	.3059409	.5120626	.1759917	.5853682
#1	3.918134	4.062239	3.966925	4.002099	4.114249	7.943910
#2	3.905105	4.045410	3.946986	3.974540	4.106486	8.032471
#3	3.916573	4.042328	3.945097	3.962316	4.099808	7.962440

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.847528**	**.2062896**	**1.997802**	**19.38175**	**.8062543**	**2.035115**
Stddev	.041493	.0021510	.005524	.10441	.0026718	.002926
%RSD	.5287345	1.042708	.2765161	.5387145	.3313827	.1437742
#1	7.820003	.2063239	2.004051	19.28621	.8039431	2.038156
#2	7.895252	.2084232	1.995782	19.49321	.8091797	2.034869
#3	7.827328	.2041216	1.993571	19.36584	.8056401	2.032320

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.027843**	**3.923594**	**1.958692**	**19.81795**	**2.031323**	**1.065695**
Stddev	.009434	.042024	.010513	.11939	.003254	.004356
%RSD	.9178293	1.071055	.5367261	.6024107	.1601714	.4087530
#1	1.023004	3.880371	1.948272	19.68099	2.035062	1.062306
#2	1.038714	3.964306	1.969295	19.89998	2.029764	1.070609
#3	1.021810	3.926105	1.958511	19.87288	2.029142	1.064172

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**19.97299**	**1.989430**	**1.995773**	**18.98233**	F **.0138844**	F **.0049308**
Stddev	.15141	.022530	.008251	.24533	.0014956	.0013373
%RSD	.7580728	1.132467	.4134264	1.292428	10.77160	27.12056
#1	19.82598	1.969455	1.991243	18.70039	.0134827	.0064750
#2	20.12845	2.013851	2.005297	19.14718	.0155398	.0041627
#3	19.96454	1.984984	1.990779	19.09943	.0126307	.0041548

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICV01 Acquired: 6/23/2025 12:34:03 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .0009522	F .0165449	F -.000611	F .0020001	F -.002252	F .0165344
Stddev	.0006034	.0005219	.001307	.0009509	.003580	.0030775
%RSD	63.36420	3.154344	213.8251	47.54440	158.9908	18.61282
#1	.0002594	.0159425	.000707	.0012520	-.000503	.0153694
#2	.0012350	.0168612	-.001907	.0016781	.000118	.0200244
#3	.0013622	.0168310	-.000634	.0030703	-.006371	.0142095

Elem	Sr4077
Units	ppm
Avg	F .0002830
Stddev	.0001901
%RSD	67.17464
#1	.0001866
#2	.0001605
#3	.0005021

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4893.047	39301.81	2259.675	3516.405	5167.302
Stddev	18.531	96.22	14.614	15.694	17.269
%RSD	.3787126	.2448306	.6467159	.4462949	.3341937
#1	4900.987	39387.97	2269.499	3522.599	5175.608
#2	4871.869	39319.49	2242.881	3498.559	5147.450
#3	4906.284	39197.97	2266.645	3528.056	5178.849

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: LLICV01 Acquired: 6/23/2025 13:09:45 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0179969**	**.0415393**	**.0140138**	**.0203832**	**.0539854**	**.1136717**	**.1037472**
Stddev	.0025914	.0002191	.0007887	.0034071	.0014214	.0129899	.0011564
%RSD	14.39902	.5273319	5.627985	16.71510	2.632880	11.42752	1.114613
#1	.0206597	.0417803	.0141739	.0198808	.0534295	.1249484	.1049096
#2	.0154834	.0414853	.0147101	.0172552	.0556007	.0994681	.1037353
#3	.0178477	.0413523	.0131573	.0240136	.0529259	.1165986	.1025969

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0064761**	**.0059196**	**2.100156**	**.0108260**	**.0316336**	**.0233347**	**.1020334**
Stddev	.0000556	.0000824	.015601	.0003613	.0002989	.0005913	.0188618
%RSD	.8580066	1.392208	.7428565	3.337074	.9447965	2.533833	18.48595
#1	.0064145	.0058606	2.118170	.0104786	.0314252	.0233379	.0803346
#2	.0064914	.0058844	2.091331	.0107997	.0314995	.0239243	.1145082
#3	.0065224	.0060138	2.090969	.0111997	.0319760	.0227418	.1112573

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0202222**	**2.194425**	**.0416075**	**.0108212**	**1.886864**	**.0356804**	**.0411094**
Stddev	.0014887	.051946	.0005923	.0005868	.013821	.0083920	.0003177
%RSD	7.361470	2.367159	1.423539	5.422373	.7325103	23.51980	.7728785
#1	.0218877	2.137508	.0414447	.0113210	1.876647	.0291608	.0414591
#2	.0190212	2.239276	.0411137	.0101752	1.902590	.0451488	.0410306
#3	.0197576	2.206489	.0422642	.0109674	1.881354	.0327316	.0408384

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.686182**	**.0200215**	**.0985657**	**.2089276**	**.0205409**	**.3937581**	**.0407110**
Stddev	.009571	.0023378	.0018597	.0006201	.0018000	.0031645	.0013961
%RSD	.5676288	11.67640	1.886711	.2968090	8.763218	.8036798	3.429337
#1	1.683325	.0179786	.1007083	.2082464	.0226191	.3938466	.0398834
#2	1.696857	.0195150	.0976186	.2094593	.0195299	.3968775	.0399268
#3	1.678365	.0225711	.0973703	.2090770	.0194735	.3905503	.0423230

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: LLICV01 Acquired: 6/23/2025 13:09:45 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0384178	.0513178	.0204293
Stddev	.0007398	.0021762	.0001677
%RSD	1.925772	4.240542	.8207080
#1	.0383836	.0512834	.0204239
#2	.0391742	.0491591	.0205996
#3	.0376957	.0535110	.0202644

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4999.842	40427.10	2261.308	3574.852	5591.103
Stddev	14.491	33.09	15.308	2.764	16.140
%RSD	.2898194	.0818620	.6769595	.0773310	.2886812
#1	4983.979	40424.95	2262.700	3572.964	5573.395
#2	5003.166	40461.21	2245.351	3573.567	5594.924
#3	5012.382	40395.13	2275.873	3578.025	5604.990

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICB01 Acquired: 6/23/2025 13:19:01 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003349**	**.0002653**	**.0008216**	**.0001871**	**.0003343**	**.0166958**
Stddev	.000823	.0022390	.0006419	.0006012	.0018810	.0073372
%RSD	24.56395	843.8701	78.12770	321.2787	562.6502	43.94652
#1	-.003016	-.001871	.0009731	-.000476	.0017195	.0162754
#2	-.002746	.002594	.0001175	.000341	-.001807	.0242341
#3	-.004287	.000073	.0013741	.000696	.001091	.0095778

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0019522**	**.0001038**	**-.000024**	**.0492272**	**-.000222**	**-.000206**
Stddev	.0011249	.0000167	.000010	.0041863	.000146	.000316
%RSD	57.62131	16.08310	43.56222	8.504024	65.80606	153.3635
#1	.0019671	.0001033	-.000035	.0448463	-.000256	.000062
#2	.0008200	.0001208	-.000020	.0531871	-.000349	-.000555
#3	.0030696	.0000874	-.000015	.0496481	-.000062	-.000126

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004986**	**-.010961**	**-.000777**	**-.035180**	**.0001613**	**.0003017**
Stddev	.0006054	.010105	.000838	.020576	.0004243	.0001985
%RSD	121.4113	92.19118	107.8261	58.48810	262.9620	65.77875
#1	.0011975	-.005162	-.001349	-.022986	-.000325	.0004720
#2	.0001601	-.005092	.000185	-.058937	.000456	.0003493
#3	.0001382	-.022629	-.001167	-.023618	.000353	.0000838

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0449789**	**-.003639**	**-.000940**	**.0070050**	**-.003270**	**-.005419**
Stddev	.0091595	.006590	.000304	.0006955	.000689	.001632
%RSD	20.36398	181.0679	32.37879	9.928720	21.06053	30.12177
#1	.0390076	-.004484	-.000982	.0062034	-.002704	-.006887
#2	.0404045	.003332	-.000617	.0073645	-.004036	-.005711
#3	.0555246	-.009766	-.001221	.0074473	-.003068	-.003661

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICB01 Acquired: 6/23/2025 13:19:01 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000140	-.003146	-.000546	.0002199	-.001754	F .0300966
Stddev	.000257	.000938	.001207	.0003828	.000399	.0022805
%RSD	183.2917	29.81808	220.9967	174.0762	22.72754	7.577166
#1	.000122	-.002970	-.000112	.0006484	-.002116	.0280078
#2	-.000392	-.004159	-.001911	-.000088	-.001327	.0297525
#3	-.000152	-.002308	.000384	.000100	-.001820	.0325296

Elem	Sr4077
Units	ppm
Avg	-.000094
Stddev	.000084
%RSD	90.26471
#1	-.000038
#2	-.000052
#3	-.000191

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5066.971	40914.59	2238.833	3612.917	5749.149
Stddev	21.660	103.05	14.887	10.938	18.925
%RSD	.4274694	.2518664	.6649480	.3027607	.3291730
#1	5048.419	40850.97	2233.518	3603.390	5735.940
#2	5090.773	41033.49	2227.333	3624.862	5770.830
#3	5061.721	40859.32	2255.649	3610.498	5740.678

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CRI01 Acquired: 6/23/2025 13:23:31 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin 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	**.0180352**	**.0408817**	**.0117814**	**.0175351**	**.0528759**	**.1089073**	**.1004843**
Stddev	.0030127	.0002586	.0004307	.0018718	.0012574	.0039268	.0002738
%RSD	16.70447	.6324366	3.656125	10.67458	2.378096	3.605634	.2724957
#1	.0204031	.0405838	.0112922	.0196481	.0536946	.1118027	.1001720
#2	.0190581	.0410135	.0119484	.0168722	.0514281	.1044376	.1005976
#3	.0146442	.0410478	.0121037	.0160849	.0535051	.1104815	.1006832

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0063475**	**.0058374**	**2.022295**	**.0100943**	**.0311642**	**.0232760**	**.0947536**
Stddev	.0001328	.0000318	.008153	.0002004	.0002384	.0007106	.0096426
%RSD	2.092771	.5445899	.4031684	1.985703	.7649856	3.052898	10.17649
#1	.0064931	.0058712	2.028467	.0099882	.0314022	.0238946	.0848179
#2	.0062329	.0058330	2.013052	.0099693	.0311651	.0234337	.0953694
#3	.0063165	.0058081	2.025365	.0103255	.0309254	.0224999	.1040735

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0204449**	**2.118054**	**.0407444**	**.0097531**	**1.866018**	**.0342863**	**.0403188**
Stddev	.0006927	.055811	.0002986	.0002521	.027660	.0017872	.0005173
%RSD	3.387949	2.635018	.7328786	2.584484	1.482305	5.212483	1.283119
#1	.0199481	2.158545	.0407530	.0095741	1.891974	.0339921	.0397460
#2	.0212361	2.054389	.0404417	.0100413	1.869158	.0362023	.0404585
#3	.0201505	2.141228	.0410387	.0096438	1.836922	.0326644	.0407520

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.667646**	**.0177670**	**.0964960**	**.2050974**	**.0182686**	**.3854604**	**.0389053**
Stddev	.017600	.0011586	.0016353	.0008031	.0013263	.0055184	.0007100
%RSD	1.055408	6.521026	1.694674	.3915777	7.260156	1.431632	1.824992
#1	1.685479	.0181563	.0983842	.2051443	.0189768	.3916931	.0395194
#2	1.667172	.0186808	.0955433	.2058761	.0167385	.3834918	.0390687
#3	1.650288	.0164639	.0955604	.2042719	.0190905	.3811962	.0381278

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CRI01 Acquired: 6/23/2025 13:23:31 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0392072	.0490150	.0193786
Stddev	.0027684	.0079191	.0000683
%RSD	7.060943	16.15658	.3522422
#1	.0394698	.0505248	.0194487
#2	.0418349	.0404496	.0193123
#3	.0363168	.0560705	.0193748

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5113.320	41451.02	2309.947	3665.581	5703.447
Stddev	13.951	198.41	15.868	19.783	11.246
%RSD	.2728294	.4786580	.6869214	.5397075	.1971803
#1	5106.885	41667.95	2293.397	3686.549	5701.778
#2	5103.749	41406.39	2311.412	3662.950	5693.129
#3	5129.327	41278.73	2325.030	3647.246	5715.434

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSA01 Acquired: 6/23/2025 13:34:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.006995**	**.0067947**	**-.002878**	**-.001749**	**.0190801**	**257.9291**
Stddev	.009939	.0034113	.000972	.004426	.0028692	.9646
%RSD	142.0760	50.20517	33.76401	253.0397	15.03754	.3739598
#1	-.018389	.0068863	-.003392	-.006157	.0191192	259.0390
#2	-.000107	.0033385	-.001757	-.001784	.0161916	257.4534
#3	-.002490	.0101592	-.003485	.002694	.0219295	257.2948

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0070345**	**.0011441**	**-.001064**	**236.1314**	**.0502670**	**.0271423**
Stddev	.0009831	.0000564	.000009	.3859	.0008088	.0003652
%RSD	13.97586	4.931981	.8138741	.1634382	1.608944	1.345635
#1	.0060337	.0011830	-.001059	236.5740	.0507039	.0268282
#2	.0070709	.0010794	-.001074	235.9546	.0493338	.0270557
#3	.0079990	.0011700	-.001060	235.8655	.0507634	.0275431

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.009006**	**99.94125**	**.0062305**	**249.8554**	**.0045992**	**-.000536**
Stddev	.000226	.12431	.0005341	.4658	.0004189	.001187
%RSD	2.514930	.1243858	8.572930	.1864422	9.107282	221.1955
#1	-.008749	99.99297	.0063325	250.3688	.0050488	-.001364
#2	-.009088	100.0314	.0067063	249.7377	.0042200	-.001069
#3	-.009179	99.7994	.0056527	249.4598	.0045288	.000823

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1997833**	**.0069475**	**.0112216**	**.0088587**	**.0060514**	**.0029526**
Stddev	.0085038	.0111351	.0005738	.0008132	.0010004	.0027882
%RSD	4.256535	160.2744	5.113190	9.179076	16.53151	94.43430
#1	.1929187	-.000480	.0116379	.0094198	.0067765	.0059706
#2	.1971349	.019751	.0114598	.0092303	.0064677	.0024148
#3	.2092961	.001572	.0105671	.0079262	.0049101	.0004724

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSA01 Acquired: 6/23/2025 13:34:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036747	.0112720	-.010715	F .0083692	-.000672	F .0323494
Stddev	.0008205	.0049917	.000745	.0002416	.003299	.0059832
%RSD	22.32861	44.28429	6.952380	2.886396	490.7988	18.49568
#1	.0036330	.0069170	-.010862	.0081942	.001470	.0309124
#2	.0045153	.0101796	-.009907	.0082685	-.004472	.0272155
#3	.0028758	.0167195	-.011375	.0086448	.000985	.0389203

Elem	Sr4077
Units	ppm
Avg	.0994915
Stddev	.0001334
%RSD	.1340847
#1	.0993521
#2	.0996180
#3	.0995042

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4645.160	36394.88	2189.462	3315.977	4578.841
Stddev	10.361	167.86	5.394	12.950	10.688
%RSD	.2230387	.4612228	.2463460	.3905277	.2334166
#1	4655.568	36286.92	2185.332	3311.262	4582.564
#2	4645.065	36588.27	2195.565	3330.623	4587.169
#3	4634.848	36309.43	2187.490	3306.045	4566.789

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSAB01 Acquired: 6/23/2025 13:43:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0944857**	**.0989292**	**.0458822**	**.0519818**	**.6175664**	**248.7170**
Stddev	.0053801	.0028496	.0017314	.0014426	.0016416	1.0486
%RSD	5.694043	2.880459	3.773599	2.775274	.2658225	.4215966
#1	.0958545	.0957059	.0460454	.0509316	.6194148	249.5242
#2	.0990492	.1011137	.0475262	.0536267	.6162782	249.0949
#3	.0885535	.0999680	.0440750	.0513870	.6170062	247.5318

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5050018**	**.5129333**	**1.030139**	**225.9896**	**.5434524**	**.5314826**
Stddev	.0019725	.0018902	.001573	.8510	.0014048	.0012900
%RSD	.3905853	.3685050	.1526919	.3765869	.2584902	.2427194
#1	.5058386	.5137720	1.028501	226.3556	.5429195	.5300215
#2	.5064180	.5107689	1.030280	226.5965	.5450457	.5319622
#3	.5027489	.5142590	1.031637	225.0168	.5423921	.5324642

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4782180**	**96.15902**	**.4863348**	**240.0849**	**1.011931**	**.2092290**
Stddev	.0012090	.46216	.0036797	.8061	.001246	.0007215
%RSD	.2528204	.4806235	.7566258	.3357643	.1231045	.3448468
#1	.4775137	96.28086	.4880811	240.7786	1.012668	.2090149
#2	.4775263	96.54806	.4888162	240.2754	1.012633	.2100334
#3	.4796141	95.64815	.4821070	239.2005	1.010493	.2086388

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1920766**	**.4895425**	**1.010186**	**.0059102**	F **.0137438**	**.0021082**
Stddev	.0202482	.0130523	.002114	.0002016	.0051777	.0016678
%RSD	10.54172	2.666225	.2092668	3.411030	37.67274	79.11040
#1	.2049042	.5033302	1.010346	.0059477	.0098838	.0021017
#2	.1687342	.4773774	1.012216	.0056924	.0117199	.0037793
#3	.2025915	.4879198	1.007997	.0060904	.0196277	.0004437

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSAB01 Acquired: 6/23/2025 13:43:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033592	.0169188	-.008678	F .0080031	-.002384	F .0302673
Stddev	.0006392	.0043474	.000742	.0009610	.001831	.0092851
%RSD	19.02803	25.69582	8.554861	12.00751	76.81577	30.67695
#1	.0035343	.0142199	-.008350	.0069187	-.001595	.0400671
#2	.0026507	.0146026	-.008156	.0083414	-.001079	.0216010
#3	.0038926	.0219339	-.009528	.0087492	-.004477	.0291337

Elem	Sr4077
Units	ppm
Avg	.0955387
Stddev	.0004044
%RSD	.4233091
#1	.0959031
#2	.0956094
#3	.0951036

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4696.475	37022.93	2231.433	3364.655	4645.520
Stddev	7.970	25.11	10.904	10.176	1.889
%RSD	.1696930	.0678209	.4886383	.3024444	.0406581
#1	4687.358	37051.21	2227.351	3360.309	4645.742
#2	4702.112	37014.33	2243.789	3357.374	4643.530
#3	4699.956	37003.26	2223.159	3376.283	4647.288

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSADLX20 Acquired: 6/23/2025 13:47:35 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.006095**	**.0015820**	**.0006185**	**-.003405**	**.0002805**	**11.51582**	**.0009042**
Stddev	.003144	.0011672	.0016282	.003271	.0015392	.12355	.0012987
%RSD	51.58472	73.78021	263.2460	96.06807	548.8406	1.072909	143.6357
#1	-.002743	.0027811	.0024983	-.000956	.0017011	11.38003	-.000338
#2	-.006564	.0004496	-.000299	-.002139	.0004950	11.54582	.002253
#3	-.008979	.0015154	-.000344	-.007120	-.001355	11.62162	.000798

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001767**	**-.000081**	**10.38290**	**.0015883**	**.0057800**	**.0000094**	**4.492750**
Stddev	.0001617	.000075	.04334	.0007749	.0003621	.0012505	.042434
%RSD	91.51069	92.64163	.4173779	48.78601	6.264752	13330.45	.9444994
#1	.0000124	-.000063	10.34117	.0012374	.0061522	-.001341	4.444794
#2	.0003357	-.000017	10.42768	.0024765	.0057591	.001128	4.508020
#3	.0001820	-.000164	10.37984	.0010509	.0054288	.000241	4.525435

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003230**	**11.15638**	**.0001179**	**-.000099**	**.0602064**	**-.001114**	**.0017519**
Stddev	.0009063	.12444	.0000804	.000225	.0124422	.010444	.0003115
%RSD	280.5494	1.115379	68.19660	227.0322	20.66582	937.5037	17.78268
#1	-.000268	11.01272	.0000354	.000024	.0515515	.010565	.0016150
#2	.001366	11.23072	.0001223	-.000358	.0546028	-.009557	.0021085
#3	-.000129	11.22569	.0001960	.000038	.0744650	-.004351	.0015323

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068043**	**-.000433**	**-.005454**	**.0005135**	**-.001059**	**.0028880**	**.0014521**
Stddev	.0007099	.001793	.000456	.0005506	.003704	.0004702	.0010790
%RSD	10.43276	413.5652	8.360730	107.2247	349.8245	16.28015	74.30400
#1	.0064408	.001622	-.005089	.0000842	-.003261	.0024713	.0014080
#2	.0063498	-.001250	-.005965	.0003220	.003218	.0027949	.0003958
#3	.0076223	-.001673	-.005308	.0011342	-.003133	.0033977	.0025524

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSADLX20 Acquired: 6/23/2025 13:47:35 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002218	.0258789	.0042876
Stddev	.0035504	.0034717	.0000289
%RSD	1601.097	13.41502	.6734816
#1	-.000689	.0283296	.0042904
#2	-.002784	.0274010	.0043151
#3	.004139	.0219062	.0042575

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5091.073	40861.10	2294.187	3646.633	5525.717
Stddev	9.598	191.23	6.353	29.942	5.041
%RSD	.1885176	.4679998	.2769067	.8210996	.0912332
#1	5098.640	40651.86	2293.406	3614.505	5531.537
#2	5094.302	40904.62	2288.261	3673.761	5522.881
#3	5080.278	41026.81	2300.894	3651.633	5522.731

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSABDLX20 Acquired: 6/23/2025 13:52:02 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001528**	**.0045494**	**.0033533**	**-.003998**	**.0335490**	**12.57227**	**.0255874**
Stddev	.001577	.0014988	.0007742	.002936	.0036121	.03041	.0016508
%RSD	103.2430	32.94618	23.08613	73.44278	10.76669	.2418645	6.451410
#1	-.001924	.0034898	.0040195	-.005824	.0373448	12.53811	.0238489
#2	-.002869	.0038941	.0035365	-.000611	.0301540	12.59639	.0257796
#3	.000210	.0062643	.0025040	-.005559	.0331482	12.58231	.0271335

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0262672**	**.0495769**	**11.69079**	**.0276407**	**.0308501**	**.0264779**	**5.052422**
Stddev	.0001687	.0001125	.06861	.0006310	.0001736	.0001362	.015881
%RSD	.6420822	.2269028	.5869091	2.283027	.5627290	.5145324	.3143286
#1	.0262410	.0496777	11.71659	.0271132	.0306908	.0266039	5.058480
#2	.0264474	.0494556	11.61301	.0274692	.0308242	.0264964	5.064382
#3	.0261131	.0495975	11.74276	.0283398	.0310351	.0263333	5.034403

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0254053**	**12.56707**	**.0500297**	**.0095922**	**.0536653**	**.0259088**	**.0493531**
Stddev	.0008358	.05866	.0004218	.0010877	.0080115	.0121983	.0001629
%RSD	3.289724	.4667386	.8430248	11.33992	14.92873	47.08146	.3300396
#1	.0252303	12.52039	.0499145	.0108246	.0489949	.0234531	.0492682
#2	.0246709	12.63291	.0504971	.0091855	.0490850	.0151253	.0492502
#3	.0263147	12.54790	.0496776	.0087663	.0629161	.0391481	.0495409

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0067859**	**-.000836**	**-.005592**	**.0010853**	**.0016363**	**-.003037**	**.0007392**
Stddev	.0011271	.001356	.000717	.0004335	.0028465	.001526	.0007085
%RSD	16.61004	162.2766	12.81931	39.94000	173.9557	50.24698	95.84566
#1	.0063333	-.002321	-.005665	.0013445	.0024805	-.004669	.0007585
#2	.0059553	-.000523	-.006269	.0005849	-.001537	-.002795	.0014378
#3	.0080689	.000336	-.004841	.0013265	.003965	-.001646	.0000213

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: ICSABDLX20 Acquired: 6/23/2025 13:52:02 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000528	.0269877	.0048021
Stddev	.000965	.0011495	.0000812
%RSD	182.7804	4.259329	1.692063
#1	.000103	.0271823	.0047135
#2	-.001639	.0257534	.0048196
#3	-.000048	.0280275	.0048731

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5039.487	40655.09	2293.740	3640.790	5466.477
Stddev	59.238	214.77	5.014	13.280	45.655
%RSD	1.175484	.5282659	.2185872	.3647643	.8351845
#1	4971.224	40579.00	2294.909	3628.411	5413.876
#2	5069.843	40897.54	2298.067	3654.817	5495.816
#3	5077.396	40488.73	2288.246	3639.140	5489.739

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV01 Acquired: 6/23/2025 13:56:23 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.137654**	**5.118622**	**5.160520**	**5.015564**	**4.922837**	**10.11820**	**9.941372**
Stddev	.005674	.012114	.004002	.002114	.007543	.06755	.036577
%RSD	.1104374	.2366574	.0775502	.0421428	.1532208	.6676213	.3679249
#1	5.142549	5.104744	5.155977	5.016681	4.929866	10.14935	9.977098
#2	5.131436	5.124047	5.162062	5.016885	4.923775	10.04069	9.904000
#3	5.138977	5.127075	5.163522	5.013126	4.914868	10.16455	9.943019

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2499989**	**2.580635**	**24.02457**	**.9883847**	**2.579307**	**1.243366**	**4.900180**
Stddev	.0010484	.002971	.13461	.0057760	.002075	.006266	.032900
%RSD	.4193465	.1151316	.5602906	.5843920	.0804369	.5039883	.6713964
#1	.2489032	2.577204	24.17660	.9950460	2.576973	1.236133	4.920042
#2	.2509924	2.582381	23.92053	.9847669	2.580006	1.247142	4.918295
#3	.2501012	2.582319	23.97659	.9853411	2.580942	1.246824	4.862205

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.452325**	**24.53459**	**2.567787**	**1.225880**	**24.49116**	**2.436499**	**2.448055**
Stddev	.004317	.06017	.001610	.003031	.08565	.003617	.001523
%RSD	.1760193	.2452488	.0626863	.2472425	.3497083	.1484464	.0621974
#1	2.457235	24.47318	2.565933	1.229378	24.39763	2.432918	2.447423
#2	2.450611	24.59344	2.568825	1.224031	24.51010	2.436428	2.449792
#3	2.449129	24.53715	2.568604	1.224232	24.56575	2.440151	2.446950

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.61317**	**5.163119**	**4.977646**	**5.020769**	**5.160044**	**4.937251**	**5.179876**
Stddev	.03742	.004245	.030201	.004911	.008388	.030041	.005462
%RSD	.1584641	.0822252	.6067255	.0978231	.1625507	.6084515	.1054464
#1	23.63108	5.164449	4.942965	5.024643	5.151086	4.903948	5.173779
#2	23.57016	5.158367	4.991827	5.022418	5.161337	4.945497	5.184321
#3	23.63827	5.166539	4.998147	5.015245	5.167711	4.962307	5.181530

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV01 Acquired: 6/23/2025 13:56:23 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.927414**	**5.008769**	**4.923933**
Stddev	.026734	.001949	.019261
%RSD	.5425646	.0389101	.3911694
#1	4.958172	5.010484	4.943777
#2	4.914307	5.009173	4.905313
#3	4.909761	5.006650	4.922709

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4912.779**	**39502.48**	**2240.870**	**3526.011**	**5017.965**
Stddev	18.531	206.08	4.123	14.010	15.058
%RSD	.3772088	.5216847	.1840107	.3973304	.3000819
#1	4904.004	39276.76	2244.033	3515.191	5011.759
#2	4900.265	39550.12	2236.206	3521.006	5007.002
#3	4934.068	39680.57	2242.370	3541.836	5035.134

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB01 Acquired: 6/23/2025 14:05:14 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001593**	**-.000022**	**.0010842**	**-.002239**	**-.001022**	**.0120721**
Stddev	.000840	.003006	.0010985	.001385	.002160	.0173821
%RSD	52.73211	13630.32	101.3198	61.82760	211.3264	143.9849
#1	-.002561	.003150	.0022126	-.000828	-.003482	-.002577
#2	-.001172	-.002829	.0010217	-.003595	-.000152	.031279
#3	-.001047	-.000387	.0000183	-.002295	.000567	.007514

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005639**	**.0000805**	**-.000072**	**.0542127**	**.0001144**	**-.000204**
Stddev	.0003246	.0000229	.000004	.0050703	.0008004	.000424
%RSD	57.55711	28.48810	5.292481	9.352539	700.0014	207.9473
#1	.0005508	.0000541	-.000070	.0506182	-.000206	-.000369
#2	.0002461	.0000958	-.000070	.0600121	-.000476	.000278
#3	.0008949	.0000915	-.000076	.0520077	.001025	-.000521

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005916**	**.0009149**	**-.000798**	**-.034713**	**.0000697**	**.0002539**
Stddev	.0006452	.0009722	.001204	.016679	.0004012	.0011366
%RSD	109.0644	106.2665	150.8742	48.04823	575.7636	447.6916
#1	.0012837	.0017698	-.001760	-.053812	.0005265	.0015461
#2	.0004840	-.000143	.000553	-.027312	-.000225	-.000591
#3	.0000069	.001117	-.001187	-.023015	-.000092	-.000194

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0472014**	**-.000488**	**-.000766**	**.0061768**	**-.001422**	**.0014061**
Stddev	.0144402	.005935	.000354	.0012165	.002785	.0022761
%RSD	30.59278	1216.579	46.15378	19.69415	195.9357	161.8790
#1	.0320262	.005938	-.000749	.0063560	-.001663	.0040041
#2	.0488052	-.001637	-.000422	.0048807	-.004079	.0004509
#3	.0607727	-.005764	-.001128	.0072938	.001476	-.000237

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB01 Acquired: 6/23/2025 14:05:14 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002821	-.005302	-.002003	.0001309	-.000980	F .0304073
Stddev	.0001130	.000523	.001109	.0004437	.001143	.0057331
%RSD	40.05959	9.857353	55.39107	339.0377	116.6848	18.85420
#1	.0004087	-.004772	-.002409	-.000328	.000240	.0308353
#2	.0002465	-.005817	-.000748	.000558	-.002027	.0359144
#3	.0001912	-.005317	-.002852	.000163	-.001152	.0244723

Elem	Sr4077
Units	ppm
Avg	-.000199
Stddev	.000091
%RSD	45.73875
#1	-.000107
#2	-.000202
#3	-.000289

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5079.596	41142.11	2278.063	3638.618	5720.404
Stddev	19.025	165.46	5.228	15.257	18.351
%RSD	.3745282	.4021615	.2294891	.4193054	.3207906
#1	5063.147	41325.49	2277.212	3655.622	5700.691
#2	5075.210	41096.88	2283.664	3634.107	5723.532
#3	5100.430	41003.98	2273.312	3626.125	5736.990

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2347-01 Acquired: 6/23/2025 14:09:42 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0746803**	**-.022785**	**.3225399**	**.0860455**	**.0225807**	**114.7966**	**.9913349**
Stddev	.0053272	.001021	.0011351	.0029901	.0003028	.2269	.0030751
%RSD	7.133319	4.482794	.3519168	3.475027	1.340907	.1976820	.3102017
#1	.0798723	-.021606	.3236771	.0843070	.0227561	115.0361	.9929515
#2	.0749411	-.023398	.3225356	.0894981	.0222310	114.7689	.9932645
#3	.0692275	-.023352	.3214070	.0843313	.0227548	114.5848	.9877886

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0125394**	**.0006340**	**29.05335**	**.2366593**	**.2060188**	**.7002187**	**272.8016**
Stddev	.0000387	.0001276	.20662	.0006707	.0004444	.0050409	.5189
%RSD	.3088692	20.12660	.7111802	.2834020	.2156930	.7198966	.1901944
#1	.0125730	.0006237	29.21771	.2364421	.2065239	.7051183	273.0780
#2	.0124970	.0005119	29.12095	.2374118	.2056879	.7004903	273.1236
#3	.0125482	.0007665	28.82140	.2361242	.2058447	.6950476	272.2030

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.410331**	**67.72929**	**.3472875**	**-.000041**	**7.420079**	**.3557710**	**.8015835**
Stddev	.024698	.15691	.0008144	.000392	.041939	.0057429	.0026932
%RSD	.2624578	.2316733	.2344902	958.9071	.5652060	1.614211	.3359798
#1	9.412039	67.87643	.3469390	.000245	7.467990	.3494284	.8010313
#2	9.434130	67.74729	.3482181	.000120	7.402233	.3606184	.8045100
#3	9.384823	67.56416	.3467054	-.000488	7.390016	.3572663	.7992093

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**18.80930**	**11.99309**	**.0418955**	**.0042344**	**.4810720**	**7.047787**	**.0225003**
Stddev	.01361	.01352	.0013196	.0002751	.0047536	.049423	.0013133
%RSD	.0723645	.1126988	3.149752	6.496973	.9881351	.7012575	5.836622
#1	18.82047	12.00250	.0404155	.0041827	.4863913	7.100375	.0232569
#2	18.79414	11.99916	.0423217	.0039889	.4772393	7.040690	.0209839
#3	18.81328	11.97760	.0429493	.0045317	.4795854	7.002296	.0232602

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2347-01 Acquired: 6/23/2025 14:09:42 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.606287**	**.2494895**	**.1276036**
Stddev	.018612	.0038213	.0001697
%RSD	.3319798	1.531661	.1329786
#1	5.607432	.2461600	.1277639
#2	5.624300	.2536619	.1276212
#3	5.587130	.2486464	.1274259

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6474.152**	**52163.38**	**3052.008**	**4708.739**	**4857.661**
Stddev	7.185	128.83	19.052	14.294	4.296
%RSD	.1109855	.2469785	.6242288	.3035527	.0884479
#1	6468.232	52293.28	3030.306	4723.979	4860.932
#2	6482.146	52161.23	3065.979	4706.607	4859.257
#3	6472.077	52035.64	3059.738	4695.631	4852.795

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2354-01 Acquired: 6/23/2025 14:14:04 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4062525**	**-.004094**	**.1666343**	**.0653282**	**.0185769**	**108.4798**
Stddev	.0014089	.001047	.0014836	.0000735	.0011355	.3730
%RSD	.3467990	25.57604	.8903477	.1125567	6.112425	.3438029
#1	.4048981	-.003820	.1664323	.0652435	.0176078	108.9102
#2	.4077102	-.003212	.1652621	.0653751	.0182966	108.2512
#3	.4061492	-.005251	.1682086	.0653661	.0198263	108.2781

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8927395**	**.0324479**	**.0071688**	**57.66638**	**.2730573**	**.3176564**
Stddev	.0025999	.0001980	.0001890	.22788	.0011862	.0009317
%RSD	.2912225	.6102323	2.635683	.3951702	.4343999	.2933096
#1	.8952533	.0326174	.0069514	57.87107	.2721975	.3167195
#2	.8929039	.0322303	.0072933	57.42083	.2744106	.3176670
#3	.8900614	.0324960	.0072618	57.70723	.2725640	.3185828

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0843807**	**234.5403**	**3.022998**	**88.56291**	**.3324922**	**-.000868**
Stddev	.0009667	.6820	.010434	.42431	.0012581	.000544
%RSD	1.145681	.2907997	.3451664	.4791089	.3783775	62.73762
#1	.0853134	235.3222	3.034650	89.03862	.3314534	-.001004
#2	.0833832	234.2306	3.014518	88.22348	.3321322	-.001331
#3	.0844454	234.0680	3.019826	88.42663	.3338911	-.000268

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.52460**	**.3951094**	**.4461915**	**21.79894**	F **26.38330**	**.0500908**
Stddev	.20695	.0034342	.0015458	.17007	.05574	.0033115
%RSD	.8797261	.8691795	.3464355	.7801833	.2112542	6.611071
#1	23.70388	.3989832	.4473068	21.98478	26.33171	.0501641
#2	23.29813	.3939067	.4468407	21.65106	26.37578	.0533651
#3	23.57178	.3924383	.4444270	21.76096	26.44242	.0467432

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2354-01 Acquired: 6/23/2025 14:14:04 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0093415	3.394857	1.820300	.0191935	.5036568	.0984104
Stddev	.0003516	.011155	.023711	.0008462	.0017178	.0043118
%RSD	3.764204	.3285925	1.302585	4.408539	.3410628	4.381415
#1	.0097000	3.394554	1.840875	.0199075	.5019030	.1019279
#2	.0089972	3.383856	1.794369	.0182589	.5053362	.0936001
#3	.0093272	3.406160	1.825656	.0194142	.5037313	.0997031

Elem	Sr4077
Units	ppm
Avg	.4664882
Stddev	.0014625
%RSD	.3135141
#1	.4681698
#2	.4655130
#3	.4657817

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	8678.951	68571.21	4103.229	6198.408	4865.014
Stddev	36.688	420.14	29.279	40.094	26.644
%RSD	.4227290	.6127115	.7135603	.6468395	.5476741
#1	8699.417	68524.57	4073.302	6200.062	4884.595
#2	8700.842	68176.33	4131.814	6157.513	4875.774
#3	8636.595	69012.72	4104.569	6237.649	4834.672

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2355-01 Acquired: 6/23/2025 14:18:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008268	-.000307	.0135153	-.001083	.0008939	1.099137	.0072388
Stddev	.001547	.000735	.0004056	.001812	.0008869	.011132	.0013579
%RSD	18.71261	239.0759	3.001285	167.3427	99.22024	1.012765	18.75867
#1	-.006718	.000514	.0139812	-.001903	.0018500	1.086556	.0078564
#2	-.009813	-.000904	.0132406	-.002338	.0007336	1.107708	.0056819
#3	-.008273	-.000533	.0133242	.000994	.0000980	1.103147	.0081782

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000462	.0007119	3.348490	.0083677	.0023081	.0051366	.6681451
Stddev	.0000669	.0000617	.033297	.0003100	.0002494	.0001808	.0106781
%RSD	144.8050	8.664487	.9943872	3.705186	10.80497	3.519260	1.598165
#1	.0000741	.0006548	3.323668	.0081046	.0022626	.0052725	.6776758
#2	.0000947	.0007035	3.335475	.0087095	.0020847	.0052059	.6701544
#3	-.000030	.0007773	3.386329	.0082891	.0025772	.0049315	.6566051

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0093455	2.557623	.0027718	.0004507	.2616807	.0007925	.1842359
Stddev	.0012815	.013768	.0000583	.0007297	.0124873	.0067306	.0001760
%RSD	13.71203	.5383259	2.103597	161.9041	4.771964	849.2623	.0955166
#1	.0079684	2.569257	.0027074	-.000351	.2654259	-.000600	.1841982
#2	.0105028	2.561189	.0027871	.000627	.2718668	-.005133	.1844277
#3	.0095653	2.542422	.0028210	.001076	.2477494	.008111	.1840819

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0862408	.1715282	-.001652	.0010879	.3504113	.9228179	.0112758
Stddev	.0014717	.0006896	.001062	.0005619	.0013150	.0064000	.0007880
%RSD	1.706548	.4020577	64.26419	51.64618	.3752751	.6935304	6.988132
#1	.0853514	.1723123	-.000734	.0006169	.3495074	.9212926	.0121239
#2	.0854315	.1712568	-.002815	.0017099	.3498067	.9173184	.0111371
#3	.0879396	.1710157	-.001407	.0009370	.3519199	.9298428	.0105664

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2355-01 Acquired: 6/23/2025 14:18:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0089000	.0268297	.0030633
Stddev	.0042066	.0040294	.0000283
%RSD	47.26477	15.01852	.9238344
#1	.0041470	.0270818	.0030595
#2	.0121438	.0226801	.0030371
#3	.0104092	.0307271	.0030933

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5340.835	43489.66	2376.590	3831.996	5915.817
Stddev	12.970	399.33	1.003	22.309	16.504
%RSD	.2428453	.9182099	.0422078	.5821665	.2789748
#1	5336.837	43310.96	2377.600	3829.212	5905.949
#2	5355.334	43210.89	2376.576	3811.211	5934.869
#3	5330.335	43947.13	2375.594	3855.566	5906.632

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2355-03 Acquired: 6/23/2025 14:22:48 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6060822**	**-.003134**	**.1079182**	**.0236429**	**.0080829**	**85.22852**	**.6136807**
Stddev	.0037934	.001850	.0022896	.0023437	.0011280	.15418	.0023527
%RSD	.6258906	59.05157	2.121634	9.912857	13.95585	.1809043	.3833686
#1	.6101114	-.004345	.1062257	.0226948	.0091942	85.22323	.6136479
#2	.6025796	-.001004	.1105234	.0263120	.0069388	85.38528	.6160495
#3	.6055555	-.004052	.1070055	.0219217	.0081156	85.07706	.6113446

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0068788**	**.0051655**	**35.78818**	**.0533920**	**.0490594**	**.1123886**	**97.52448**
Stddev	.0001178	.0001226	.12509	.0002715	.0002221	.0004860	.22445
%RSD	1.712769	2.374296	.3495235	.5084087	.4527255	.4324473	.2301479
#1	.0067438	.0050239	35.65762	.0534620	.0490189	.1122731	97.37575
#2	.0069607	.0052362	35.79995	.0536215	.0492990	.1129220	97.78266
#3	.0069321	.0052364	35.90696	.0530924	.0488605	.1119708	97.41503

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7870480**	**17.21117**	**.0906728**	**.0014490**	**14.82952**	**.1829165**	**7.689322**
Stddev	.0041442	.04117	.0006284	.0006651	.12624	.0054974	.018302
%RSD	.5265515	.2392306	.6930168	45.89855	.8512483	3.005438	.2380187
#1	.7827284	17.25866	.0907683	.0009667	14.70713	.1779225	7.706731
#2	.7874245	17.18953	.0912480	.0022076	14.95928	.1820198	7.690993
#3	.7909912	17.18533	.0900022	.0011725	14.82215	.1888071	7.670241

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.13287**	**2.884891**	**.0394615**	**.0341049**	**2.720037**	**11.69355**	**.0130607**
Stddev	.11661	.010735	.0025115	.0005391	.006999	.11363	.0012819
%RSD	.7705693	.3721214	6.364460	1.580826	.2573240	.9716980	9.814771
#1	15.00745	2.872833	.0403194	.0341585	2.712171	11.62110	.0124836
#2	15.15315	2.893409	.0366334	.0346152	2.725579	11.82451	.0145297
#3	15.23800	2.888431	.0414317	.0335410	2.722360	11.63505	.0121688

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2355-03 Acquired: 6/23/2025 14:22:48 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6869061	.0439475	.6377510
Stddev	.0003101	.0033402	.0014497
%RSD	.0451414	7.600551	.2273070
#1	.6871046	.0419283	.6375420
#2	.6870650	.0478031	.6392938
#3	.6865488	.0421112	.6364172

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5682.966	45762.25	2621.178	4095.594	5227.593
Stddev	6.539	263.69	13.064	20.462	11.461
%RSD	.1150645	.5762199	.4984010	.4996156	.2192348
#1	5690.341	45573.03	2633.864	4077.455	5239.789
#2	5677.877	46063.45	2607.766	4117.776	5217.047
#3	5680.680	45650.28	2621.903	4091.552	5225.943

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168553BL Acquired: 6/23/2025 14:27:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003775**	**.0004565**	**.0000263**	**-.001085**	**.0004983**	**.0090209**
Stddev	.001316	.0006018	.0005231	.001645	.0028250	.0204019
%RSD	34.87033	131.8301	1986.341	151.5720	566.9023	226.1643
#1	-.002391	.0007104	-.000234	-.002713	-.002361	.0174847
#2	-.005011	.0008898	-.000316	-.001119	.000568	.0238287
#3	-.003923	-.000231	.000629	.000576	.003288	-.014251

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016474**	**.0000064**	**-.000099**	**-.033733**	**-.000443**	**.0000459**
Stddev	.0018843	.0000685	.000070	.007275	.000387	.0002220
%RSD	114.3789	1071.858	71.28333	21.56813	87.46694	483.8616
#1	.0015926	-.000011	-.000078	-.039602	-.000125	.0003020
#2	-.000209	.000082	-.000177	-.025593	-.000329	-.000092
#3	.003559	-.000052	-.000041	-.036004	-.000875	-.000072

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008763**	**.0197437**	**.0005290**	**-.008031**	**-.000180**	**.0003249**
Stddev	.0003516	.0134331	.0004956	.022291	.000691	.0007831
%RSD	40.12196	68.03746	93.67591	277.5659	382.8108	241.0262
#1	.0007743	.0188331	.0001324	.005230	.000602	-.000577
#2	.0005870	.0067890	.0003702	.004444	-.000439	.000715
#3	.0012676	.0336089	.0010845	-.033767	-.000704	.000837

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0483261**	**.0001776**	**-.000121**	**.0067151**	**-.001985**	**-.005313**
Stddev	.0131085	.0042961	.000463	.0005032	.000298	.001468
%RSD	27.12520	2418.376	381.7069	7.493967	15.01646	27.62670
#1	.0502582	.0051235	.000110	.0061896	-.001714	-.006900
#2	.0603613	-.001963	-.000654	.0067632	-.001937	-.005033
#3	.0343587	-.002628	.000181	.0071926	-.002304	-.004005

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168553BL Acquired: 6/23/2025 14:27:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001124	-.002992	.0008764	-.000330	-.000252	F .0304736
Stddev	.0002162	.001264	.0002336	.000740	.002089	.0019724
%RSD	192.3996	42.23196	26.65585	224.2362	830.3592	6.472587
#1	.0003534	-.003601	.0010191	-.000537	-.000618	.0291027
#2	-.000065	-.001539	.0010034	.000491	-.002134	.0295839
#3	.000048	-.003836	.0006068	-.000945	.001997	.0327341

Elem	Sr4077
Units	ppm
Avg	-.000019
Stddev	.000114
%RSD	589.6654
#1	-.000121
#2	.000104
#3	-.000041

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5156.282	42037.72	2334.829	3714.283	5795.768
Stddev	3.260	96.30	15.076	13.255	5.961
%RSD	.0632166	.2290893	.6457086	.3568589	.1028568
#1	5157.053	41927.01	2350.124	3704.972	5801.579
#2	5159.088	42083.97	2334.382	3708.418	5789.667
#3	5152.706	42102.17	2319.982	3729.458	5796.058

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168553BS Acquired: 6/23/2025 14:31:41 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7598244	2.111122	.9927048	2.004726	.7803081	2.152359	.2082981
Stddev	.0012927	.002068	.0020021	.004134	.0014978	.030439	.0013032
%RSD	.1701364	.0979744	.2016866	.2062209	.1919486	1.414225	.6256350
#1	.7594821	2.109014	.9910195	2.000551	.7801968	2.181798	.2097924
#2	.7612538	2.113148	.9949180	2.004808	.7788690	2.121010	.2077048
#3	.7587371	2.111204	.9921770	2.008818	.7818584	2.154269	.2073972

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2131928	.1974703	1.076690	.4039263	.2029276	.3274531	3.202908
Stddev	.0028625	.0003104	.011761	.0010527	.0010330	.0047868	.048196
%RSD	1.342685	.1571858	1.092317	.2606227	.5090444	1.461840	1.504745
#1	.2164927	.1971196	1.090267	.4045614	.2024755	.3329783	3.245810
#2	.2113786	.1975815	1.070159	.4045064	.2041095	.3248263	3.212154
#3	.2117072	.1977097	1.069643	.4027112	.2021977	.3245548	3.150759

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2075055	2.063123	.5092612	.0749722	2.854635	.3019993	.2052107
Stddev	.0011689	.053728	.0005431	.0005148	.024441	.0029875	.0006257
%RSD	.5632887	2.604196	.1066359	.6865945	.8561822	.9892428	.3049129
#1	.2074529	2.098141	.5086349	.0749032	2.881870	.2996276	.2059328
#2	.2086998	2.001263	.5095470	.0755180	2.847425	.3010157	.2048289
#3	.2063638	2.089964	.5096016	.0744955	2.834611	.3053546	.2048704

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.182927	5.734417	.2997566	.3969674	-.003614	.9102131	.6840250
Stddev	.080707	.006314	.0034272	.0009729	.001616	.0136904	.0004399
%RSD	.9862846	.1101034	1.143338	.2450956	44.70540	1.504083	.0643170
#1	8.268446	5.729064	.3035339	.3958589	-.001865	.9258948	.6835454
#2	8.172240	5.741379	.2968457	.3976800	-.005050	.9006429	.6841200
#3	8.108097	5.732806	.2988903	.3973633	-.003927	.9041018	.6844097

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168553BS Acquired: 6/23/2025 14:31:41 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1919862	.2346230	.2027940
Stddev	.0025592	.0058041	.0020772
%RSD	1.333016	2.473798	1.024272
#1	.1933092	.2411530	.2051020
#2	.1936132	.2326644	.2010748
#3	.1890363	.2300516	.2022052

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5068.178	41352.74	2264.671	3671.492	5590.806
Stddev	3.441	388.21	20.604	30.474	8.232
%RSD	.0678983	.9387760	.9097851	.8300244	.1472351
#1	5071.344	41487.91	2242.406	3666.633	5596.868
#2	5064.515	40915.01	2268.544	3643.740	5581.435
#3	5068.675	41655.29	2283.064	3704.104	5594.115

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168535BL Acquired: 6/23/2025 14:36:02 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003687**	**-.000574**	**.0005224**	**.0020289**	**-.001155**	**-.003048**
Stddev	.001702	.001925	.0013564	.0024942	.001273	.007663
%RSD	46.15493	335.6259	259.6656	122.9327	110.2037	251.3894
#1	-.005412	-.002622	-.000940	.0020117	-.001088	-.010662
#2	-.002009	.001199	.001739	.0045317	-.002461	.004663
#3	-.003640	-.000298	.000768	-.000457	.000083	-.003145

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013652**	**.0001712**	**-.000056**	**-.023462**	**.0001331**	**-.000245**
Stddev	.0007637	.0000972	.000075	.020976	.0003624	.000546
%RSD	55.93778	56.79664	134.4684	89.40118	272.3501	223.3963
#1	.0009409	.0000783	-.000006	-.046703	-.000193	-.000087
#2	.0022468	.0001631	-.000020	-.005936	.000068	.000205
#3	.0009079	.0002722	-.000142	-.017748	.000523	-.000853

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005623**	**-.005507**	**.0005449**	**-.028447**	**-.000200**	**.0004916**
Stddev	.0000982	.010984	.0006676	.036787	.000306	.0004175
%RSD	17.46344	199.4320	122.5261	129.3174	153.2167	84.93384
#1	.0004493	-.015554	.0000449	-.053393	-.000077	.0008613
#2	.0006264	-.007188	.0013031	-.045749	-.000549	.0000387
#3	.0006113	.006220	.0002867	.013801	.000026	.0005748

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0095393**	**-.003183**	**-.000999**	**.0059091**	**-.001622**	**-.004055**
Stddev	.0088841	.002327	.000373	.0009911	.002002	.000907
%RSD	93.13101	73.11572	37.34256	16.77246	123.4457	22.35866
#1	.0188610	-.005869	-.001413	.0053084	-.000469	-.003476
#2	.0011695	-.001776	-.000686	.0070530	-.003934	-.003590
#3	.0085875	-.001903	-.000900	.0053659	-.000463	-.005100

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168535BL Acquired: 6/23/2025 14:36:02 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000529**	**-.005095**	**-.001378**	**-.000036**	**-.002176**	F **.0174530**
Stddev	.0002933	.002495	.000423	.000775	.001966	.0055513
%RSD	554.3988	48.97022	30.67742	2156.387	90.36516	31.80693
#1	.0002904	-.002214	-.001858	-.000719	-.000786	.0238483
#2	.0001432	-.006543	-.001218	.000805	-.004425	.0138796
#3	-.000275	-.006527	-.001059	-.000194	-.001316	.0146310

Elem	Sr4077
Units	ppm
Avg	**-.000143**
Stddev	.000121
%RSD	84.40535
#1	-.000153
#2	-.000018
#3	-.000259

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5069.833**	**41122.16**	**2242.259**	**3624.540**	**5734.761**
Stddev	25.459	213.05	5.886	17.155	27.024
%RSD	.5021581	.5180937	.2625038	.4732986	.4712339
#1	5072.126	40899.84	2238.370	3605.077	5738.493
#2	5094.067	41142.10	2239.376	3631.082	5759.726
#3	5043.305	41324.54	2249.030	3637.461	5706.066

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168535BS Acquired: 6/23/2025 14:40:31 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7562191	2.094899	.9876695	1.993718	.8020619	2.305505	.2063108
Stddev	.0051976	.001999	.0035174	.007866	.0023160	.004943	.0010763
%RSD	.6873157	.0954290	.3561303	.3945493	.2887533	.2143970	.5216821
#1	.7502990	2.093607	.9916996	1.984985	.8045292	2.302450	.2074021
#2	.7600333	2.093889	.9852175	2.000248	.8017216	2.311207	.2052501
#3	.7583249	2.097202	.9860915	1.995920	.7999349	2.302856	.2062801

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2098994	.1967324	1.052766	.4036054	.2013666	.3209932	3.155590
Stddev	.0029725	.0000762	.011814	.0012541	.0004404	.0049754	.038321
%RSD	1.416174	.0387180	1.122143	.3107172	.2187198	1.549998	1.214382
#1	.2125721	.1966449	1.065996	.4050185	.2017626	.3259115	3.134550
#2	.2066980	.1967837	1.049031	.4026249	.2014449	.3159627	3.132399
#3	.2104282	.1967687	1.043273	.4031728	.2008922	.3211053	3.199822

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2053498	2.018290	.5055945	.0757324	2.831180	.3017725	.2035018
Stddev	.0024388	.006162	.0003242	.0002091	.035954	.0076797	.0007123
%RSD	1.187646	.3053152	.0641189	.2761481	1.269947	2.544861	.3500160
#1	.2079891	2.011510	.5054445	.0758546	2.867913	.2956798	.2035189
#2	.2031796	2.019807	.5059665	.0754910	2.796058	.2992387	.2027811
#3	.2048806	2.023551	.5053724	.0758518	2.829568	.3103989	.2042053

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.192001	5.707703	.2973291	.4068496	-.003879	.9223818	.7025052
Stddev	.091122	.001965	.0050081	.0008353	.000989	.0135797	.0014148
%RSD	1.112326	.0344195	1.684376	.2053083	25.48934	1.472240	.2013911
#1	8.245201	5.707652	.3017249	.4061726	-.004010	.9345263	.7010471
#2	8.086785	5.709693	.2918771	.4077831	-.004795	.9077194	.7025961
#3	8.244017	5.705765	.2983853	.4065931	-.002831	.9248997	.7038723

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168535BS Acquired: 6/23/2025 14:40:31 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1971736	.2279868	.2017926
Stddev	.0025846	.0016089	.0006055
%RSD	1.310829	.7056927	.3000442
#1	.1963616	.2261545	.2016669
#2	.2000666	.2291685	.2012599
#3	.1950924	.2286375	.2024511

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5024.309	40387.04	2242.882	3596.536	5532.799
Stddev	7.585	80.42	23.165	6.600	11.016
%RSD	.1509679	.1991143	1.032814	.1835177	.1990986
#1	5017.203	40422.07	2219.265	3596.017	5525.442
#2	5023.427	40295.05	2265.567	3590.211	5527.491
#3	5032.296	40444.00	2243.815	3603.381	5545.464

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168514TB Acquired: 6/23/2025 14:44:52 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002371	-.002477	.0021265	.0002122	-.000061	.1049599	.0025635
Stddev	.002595	.002846	.0003736	.0027182	.002217	.0167607	.0004607
%RSD	109.4539	114.9217	17.56905	1280.751	3654.090	15.96864	17.97228
#1	-.005227	-.002499	.0021768	.0032985	-.002138	.0868567	.0020333
#2	-.000158	.000381	.0017303	-.001826	-.000318	.1199382	.0028665
#3	-.001728	-.005312	.0024724	-.000836	.002274	.1080847	.0027907

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000117	-.000064	-.044439	.0007066	-.000018	.0010401	-.003378
Stddev	.000075	.000023	.013414	.0009916	.000275	.0005395	.009353
%RSD	64.55282	35.41159	30.18450	140.3293	1573.681	51.87107	276.9060
#1	-.000124	-.000079	-.059690	.0001397	.000250	.0013735	.000526
#2	-.000038	-.000075	-.034472	.0018516	-.000300	.0013291	-.014050
#3	-.000188	-.000038	-.039155	.0001286	-.000003	.0004176	.003391

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0125754	-.002285	.0015370	.0010650	402.6134	.0049128	.0007851
Stddev	.0016474	.035945	.0005286	.0002797	2.8896	.0019084	.0003752
%RSD	13.10029	1572.961	34.39061	26.26109	.7177189	38.84538	47.78920
#1	.0141801	.030078	.0009437	.0011085	399.8871	.0069459	.0010609
#2	.0108884	.004039	.0019577	.0007662	402.3105	.0031601	.0003579
#3	.0126576	-.040973	.0017096	.0013205	405.6425	.0046323	.0009364

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0957677	.0070350	-.002081	.0002737	.0641179	.0060500	.0030441
Stddev	.0010239	.0001182	.000534	.0002811	.0020336	.0011789	.0003142
%RSD	1.069161	1.680704	25.67096	102.7238	3.171715	19.48668	10.32214
#1	.0965692	.0069338	-.001465	.0002175	.0655547	.0068400	.0033953
#2	.0961197	.0070061	-.002412	.0005786	.0617910	.0066150	.0029475
#3	.0946142	.0071649	-.002366	.0000249	.0650082	.0046949	.0027896

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168514TB Acquired: 6/23/2025 14:44:52 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0017911	.0115744	.0001123
Stddev	.0040957	.0093995	.0000171
%RSD	228.6707	81.20979	15.18716
#1	-.000383	.0011549	.0001191
#2	.006515	.0194160	.0001250
#3	-.000759	.0141523	.0000929

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4754.845	37386.80	2211.246	3385.713	4834.213
Stddev	29.772	133.16	12.084	19.880	29.919
%RSD	.6261455	.3561624	.5464746	.5871638	.6189006
#1	4774.319	37291.95	2222.227	3396.878	4858.715
#2	4769.643	37539.03	2198.300	3397.500	4843.055
#3	4720.573	37329.43	2213.209	3362.761	4800.870

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168544TB Acquired: 6/23/2025 14:49:30 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006391	-.002429	.0004489	-.001816	-.000087	.0024030	.0003476
Stddev	.000645	.002014	.0010285	.000844	.001600	.0072438	.0006176
%RSD	10.09150	82.93309	229.0860	46.44307	1848.245	301.4529	177.6926
#1	-.005667	-.002534	.0012480	-.001705	-.001888	-.004619	.0009003
#2	-.006903	-.000364	-.000711	-.002710	.000459	.009850	.0004614
#3	-.006603	-.004388	.000810	-.001034	.001170	.001978	-.000319

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000072	-.000089	-.054596	.0010138	-.000340	.0003696	-.004536
Stddev	.000073	.000020	.015689	.0010714	.000659	.0008386	.008516
%RSD	101.9618	23.08834	28.73708	105.6849	193.4227	226.9203	187.7267
#1	.000012	-.000068	-.071355	.0005751	.000402	.0009566	.005258
#2	-.000105	-.000109	-.040259	.0002313	-.000571	.0007429	-.010189
#3	-.000122	-.000088	-.052174	.0022349	-.000853	-.000591	-.008678

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005955	-.044149	.0017364	-.000141	445.6171	-.003349	-.000200
Stddev	.0002959	.036171	.0002641	.000823	4.2744	.007602	.000346
%RSD	49.68643	81.92922	15.20750	585.3378	.9592068	226.9738	172.5728
#1	.0006992	-.010981	.0014427	-.000236	447.2342	-.011809	-.000389
#2	.0008256	-.038750	.0019541	-.000912	448.8470	.002910	-.000411
#3	.0002617	-.082717	.0018125	.000726	440.7701	-.001149	.000199

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0916720	.0058707	-.004354	.0004253	.0223720	-.000335	.0044718
Stddev	.0009912	.0016372	.000527	.0000451	.0038330	.000538	.0003770
%RSD	1.081219	27.88682	12.09700	10.59373	17.13294	160.7444	8.430906
#1	.0927530	.0061986	-.004863	.0003768	.0255176	-.000755	.0040441
#2	.0914571	.0073192	-.003811	.0004334	.0234957	-.000520	.0047558
#3	.0908059	.0040945	-.004389	.0004658	.0181028	.000271	.0046154

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168544TB Acquired: 6/23/2025 14:49:30 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0004647	.0228609	-.000066
Stddev	.0017002	.0043346	.000178
%RSD	365.8231	18.96083	267.6278
#1	-.001491	.0255442	-.000265
#2	.001291	.0178602	.000078
#3	.001594	.0251783	-.000012

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4764.260	37651.18	2274.637	3428.676	4810.732
Stddev	20.310	283.46	12.095	21.453	25.443
%RSD	.4263008	.7528492	.5317295	.6256921	.5288799
#1	4781.498	37934.14	2277.718	3445.924	4833.857
#2	4769.412	37652.17	2261.300	3435.451	4814.861
#3	4741.870	37367.23	2284.894	3404.654	4783.476

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV02 Acquired: 6/23/2025 14:54:07 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.119577**	**5.057434**	**5.124090**	**4.996738**	**4.895823**	**10.41588**	**10.02343**
Stddev	.007933	.018699	.006214	.005950	.007422	.03091	.01236
%RSD	.1549527	.3697297	.1212642	.1190855	.1515962	.2967430	.1233569
#1	5.113279	5.037006	5.117328	4.992320	4.899385	10.42651	10.02274
#2	5.116966	5.061591	5.125395	5.003504	4.900793	10.44007	10.03613
#3	5.128487	5.073704	5.129548	4.994389	4.887292	10.38106	10.01143

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2495505**	**2.566212**	**24.07751**	**.9889984**	**2.560908**	**1.239192**	**4.912766**
Stddev	.0022118	.004434	.11726	.0017882	.002913	.011782	.021103
%RSD	.8863115	.1728027	.4870135	.1808139	.1137466	.9508037	.4295477
#1	.2506540	2.561168	24.20255	.9875158	2.558405	1.248527	4.912899
#2	.2509935	2.567972	24.05997	.9884951	2.560215	1.243096	4.933802
#3	.2470041	2.569496	23.97000	.9909844	2.564106	1.225953	4.891597

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.474706**	**24.59015**	**2.546656**	**1.230644**	**24.09891**	**2.452904**	**2.439037**
Stddev	.007516	.04603	.001309	.003031	.17393	.005600	.005908
%RSD	.3037069	.1871689	.0513916	.2462941	.7217277	.2282994	.2422274
#1	2.473338	24.62281	2.548152	1.228558	24.24925	2.458874	2.445474
#2	2.482812	24.61013	2.545725	1.229253	24.13907	2.452072	2.433862
#3	2.467968	24.53751	2.546090	1.234121	23.90842	2.447767	2.437776

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.29367**	**5.127778**	**4.958416**	**5.012011**	**5.129266**	**4.915510**	**5.148053**
Stddev	.34530	.011531	.043311	.004391	.009867	.040224	.007473
%RSD	1.482394	.2248685	.8734887	.0876174	.1923737	.8182981	.1451634
#1	23.59785	5.117988	4.995799	5.009348	5.120723	4.946649	5.140266
#2	23.36483	5.124858	4.968495	5.017079	5.127009	4.929786	5.155167
#3	22.91833	5.140488	4.910954	5.009605	5.140066	4.870096	5.148726

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV02 Acquired: 6/23/2025 14:54:07 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.996465**	**5.068408**	**4.991793**
Stddev	.011685	.014655	.011562
%RSD	.2338678	.2891530	.2316283
#1	4.998449	5.074424	4.992610
#2	5.007031	5.079098	5.002926
#3	4.983915	5.051702	4.979844

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4949.496**	**39737.08**	**2264.364**	**3548.096**	**5086.977**
Stddev	11.352	93.55	20.356	11.954	7.478
%RSD	.2293475	.2354173	.8989590	.3369010	.1470081
#1	4948.752	39781.50	2247.255	3538.133	5086.665
#2	4938.534	39800.14	2258.962	3561.351	5079.660
#3	4961.201	39629.60	2286.876	3544.805	5094.606

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB02 Acquired: 6/23/2025 14:58:23 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002362**	**.0038189**	**.0001146**	**-.001256**	**-.001154**	**-.003963**
Stddev	.002145	.0009014	.0013811	.002166	.000904	.015392
%RSD	90.79603	23.60295	1204.964	172.4944	78.32183	388.3833
#1	-.003335	.0030137	.0016691	-.003749	-.002024	-.015053
#2	-.003848	.0047926	-.000971	.000163	-.001218	-.010446
#3	.000097	.0036502	-.000354	-.000181	-.000220	.013610

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003255**	**.0001211**	**-.000037**	**-.030267**	**.0001298**	**-.000416**
Stddev	.0007859	.0000790	.000067	.022084	.0007596	.000273
%RSD	241.4285	65.25515	179.8950	72.96485	585.0590	65.50892
#1	.0012329	.0001537	-.000087	-.051171	-.000747	-.000174
#2	-.000118	.0001787	.000039	-.007167	.000583	-.000711
#3	-.000138	.0000310	-.000062	-.032463	.000553	-.000364

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004277**	**-.017341**	**.0000211**	**-.069861**	**-.000027**	**.0003844**
Stddev	.0003513	.008470	.0005122	.044411	.000184	.0006056
%RSD	82.14384	48.84485	2428.227	63.57079	682.9097	157.5377
#1	.0000504	-.022798	-.000498	-.121121	-.000234	.0005215
#2	.0004873	-.021640	.000034	-.042911	.000116	.0009096
#3	.0007454	-.007583	.000526	-.045553	.000038	-.000278

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0490278**	**-.002608**	**-.000546**	**.0077703**	**-.003361**	**.0105930**
Stddev	.0137118	.003944	.000149	.0013224	.000837	.0011172
%RSD	27.96749	151.1995	27.33954	17.01855	24.90050	10.54622
#1	.0519882	-.001141	-.000388	.0086264	-.004294	.0095549
#2	.0340775	-.007075	-.000684	.0084372	-.003116	.0104490
#3	.0610176	.000391	-.000565	.0062472	-.002674	.0117752

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB02 Acquired: 6/23/2025 14:58:23 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002848**	**-.002615**	**.0006903**	**.0000880**	**-.001737**	F **.0494799**
Stddev	.0004257	.002296	.0018813	.0006630	.001012	.0032584
%RSD	149.4737	87.79476	272.5224	753.7868	58.29761	6.585377
#1	.0004638	-.001521	.0021863	-.000482	-.002899	.0500468
#2	-.000201	-.001071	.0013065	-.000069	-.001045	.0459752
#3	.000592	-.005254	-.001422	.000816	-.001266	.0524177

Elem	Sr4077
Units	ppm
Avg	**-.000224**
Stddev	.000024
%RSD	10.77833
#1	-.000224
#2	-.000249
#3	-.000200

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5189.496**	**41761.89**	**2285.938**	**3695.674**	**5860.188**
Stddev	14.741	131.86	8.467	9.519	13.233
%RSD	.2840634	.3157444	.3703972	.2575591	.2258125
#1	5172.481	41906.33	2286.146	3697.627	5844.955
#2	5198.429	41731.39	2277.370	3704.064	5868.842
#3	5197.577	41647.96	2294.300	3685.330	5866.767

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168565BL Acquired: 6/23/2025 15:02:53 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002665**	**.0019764**	**-.000214**	**-.005490**	**-.000621**	**.0236035**
Stddev	.002071	.0009120	.001747	.001470	.002069	.0120153
%RSD	77.70421	46.14235	815.5144	26.77928	333.4874	50.90491
#1	-.004550	.0029682	.000535	-.005062	-.000891	.0258987
#2	-.002996	.0011740	-.002211	-.007127	.001571	.0106061
#3	-.000449	.0017871	.001033	-.004282	-.002541	.0343057

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007159**	**.0000894**	**-.000071**	**-.014095**	**-.000045**	**.0000028**
Stddev	.0006186	.0000866	.000055	.009254	.000718	.0000502
%RSD	86.40349	96.90497	76.77475	65.65900	1588.747	1793.698
#1	.0014243	.0001771	-.000060	-.003695	.000767	.0000564
#2	.0004412	.0000871	-.000131	-.017168	-.000309	-.000043
#3	.0002823	.0000039	-.000023	-.021421	-.000595	-.000005

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008841**	**-.010166**	**.0002916**	**-.040674**	**.0000736**	**.0003251**
Stddev	.0003512	.002971	.0001459	.023210	.0001192	.0005613
%RSD	39.72275	29.23000	50.03179	57.06352	161.9390	172.6681
#1	.0012685	-.006836	.0004074	-.057063	.0000753	.0002982
#2	.0008038	-.012547	.0001277	-.050845	-.000046	-.000222
#3	.0005800	-.011115	.0003397	-.014115	.000192	.000899

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0523568**	**.0042924**	**-.000680**	**.0074595**	**-.001769**	**.0014676**
Stddev	.0020596	.0028143	.000221	.0007347	.000838	.0011414
%RSD	3.933730	65.56425	32.45376	9.848688	47.38190	77.77400
#1	.0547269	.0014495	-.000451	.0078461	-.001611	.0001514
#2	.0513410	.0043505	-.000891	.0079202	-.001021	.0021853
#3	.0510024	.0070771	-.000697	.0066123	-.002674	.0020661

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168565BL Acquired: 6/23/2025 15:02:53 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001875	-.003361	.0009923	-.000559	-.000265	F .0444477
Stddev	.0002075	.000747	.0035544	.002061	.001816	.0041565
%RSD	110.6390	22.23525	358.2012	368.9262	686.0269	9.351344
#1	.0003135	-.004220	.0050932	-.001431	.001831	.0492441
#2	-.000052	-.002866	-.001202	.001795	-.001257	.0421991
#3	.000301	-.002996	-.000914	-.002040	-.001368	.0419000

Elem	Sr4077
Units	ppm
Avg	-.000206
Stddev	.000355
%RSD	172.2376
#1	-.000101
#2	-.000601
#3	.000085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5120.128	41316.76	2264.022	3654.876	5768.475
Stddev	16.088	50.92	8.234	13.620	13.183
%RSD	.3142038	.1232393	.3637099	.3726583	.2285385
#1	5102.876	41335.36	2261.376	3655.529	5756.551
#2	5122.790	41259.15	2257.436	3640.940	5766.241
#3	5134.719	41355.75	2273.255	3668.157	5782.632

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168565BS Acquired: 6/23/2025 15:07:22 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7397008	2.071615	.9688706	1.947965	.7763139	2.026172	.1978744
Stddev	.0018307	.001725	.0014610	.006983	.0017277	.023054	.0014096
%RSD	.2474867	.0832837	.1507965	.3584532	.2225528	1.137823	.7123578
#1	.7379613	2.071329	.9673370	1.949410	.7745678	2.047604	.1978624
#2	.7395304	2.070050	.9702462	1.940372	.7780226	2.029129	.1964709
#3	.7416107	2.073465	.9690286	1.954111	.7763513	2.001781	.1992899

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2075620	.1932650	1.024943	.3979478	.1974233	.3179465	3.067224
Stddev	.0014360	.0001910	.004758	.0010248	.0004928	.0023613	.016374
%RSD	.6918448	.0988085	.4642108	.2575282	.2496365	.7426731	.5338325
#1	.2066501	.1931617	1.030144	.3991236	.1976323	.3154603	3.061574
#2	.2068185	.1931480	1.020809	.3974755	.1968604	.3182201	3.054424
#3	.2092173	.1934854	1.023876	.3972443	.1977771	.3201591	3.085675

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2001586	1.980787	.4959036	.0744129	2.830197	.2863786	.1981363
Stddev	.0013337	.050980	.0001887	.0013306	.031729	.0069551	.0010403
%RSD	.6663038	2.573722	.0380551	1.788072	1.121088	2.428628	.5250369
#1	.1996091	2.034737	.4958762	.0728808	2.793577	.2943431	.1983330
#2	.1991875	1.933415	.4957301	.0752777	2.847535	.2815034	.1970118
#3	.2016792	1.974211	.4961045	.0750803	2.849480	.2832892	.1990643

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.033108	5.598744	.2972312	.3947245	-.000896	.9092302	.6858334
Stddev	.098508	.009521	.0032020	.0007199	.001194	.0082785	.0008843
%RSD	1.226277	.1700494	1.077279	.1823852	133.2063	.9104933	.1289369
#1	7.951760	5.593827	.2943235	.3940764	.000360	.8996987	.6859915
#2	8.004928	5.592687	.2967072	.3954994	-.001032	.9133664	.6848807
#3	8.142635	5.609718	.3006629	.3945978	-.002016	.9146255	.6866279

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168565BS Acquired: 6/23/2025 15:07:22 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1920554	.2415806	.1974917
Stddev	.0012969	.0075135	.0008113
%RSD	.6752858	3.110158	.4107869
#1	.1926070	.2370361	.1975086
#2	.1929853	.2374525	.1966722
#3	.1905739	.2502531	.1982945

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5062.319	40594.08	2240.374	3626.308	5555.529
Stddev	7.906	223.03	26.029	32.096	5.559
%RSD	.1561812	.5494200	1.161795	.8850813	.1000567
#1	5067.401	40661.78	2261.779	3640.684	5560.665
#2	5053.210	40775.42	2247.945	3648.702	5549.627
#3	5066.346	40345.05	2211.400	3589.537	5556.295

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168564BL Acquired: 6/23/2025 15:11:43 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002674**	**.0009800**	**-.000001**	**-.002170**	**-.001406**	**.0024687**
Stddev	.001142	.0002974	.000905	.001381	.000860	.0049768
%RSD	42.71078	30.34922	61643.71	63.61082	61.16615	201.5924
#1	-.001678	.0011076	.000686	-.000615	-.002136	.0057832
#2	-.003920	.0011924	.000337	-.002646	-.000458	-.003254
#3	-.002423	.0006401	-.001027	-.003250	-.001624	.004877

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000701**	**.0000973**	**.0000058**	**-.025141**	**.0002960**	**-.000069**
Stddev	.0007590	.0000875	.0000117	.006022	.0004340	.000086
%RSD	1082.735	89.91649	201.8435	23.95094	146.5950	123.4517
#1	-.000172	.0001427	.0000162	-.029195	.0002438	.000029
#2	-.000538	.0001528	.0000082	-.028007	-.000109	-.000118
#3	.000921	-.000004	-.000007	-.018222	.000754	-.000120

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008537**	**-.018882**	**-.000261**	**-.051323**	**.0000471**	**.0002148**
Stddev	.0005460	.016065	.000918	.016935	.0003898	.0005120
%RSD	63.95137	85.07639	352.0638	32.99663	827.5908	238.4170
#1	.0003969	-.018834	.000706	-.063623	.0000768	.0007401
#2	.0007058	-.002842	-.001119	-.032008	-.000357	-.000283
#3	.0014584	-.034971	-.000369	-.058338	.000421	.000187

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0568528**	**-.000329**	**-.000834**	**.0086571**	**-.002071**	**-.001606**
Stddev	.0023387	.005004	.000474	.0006387	.000916	.000713
%RSD	4.113547	1522.157	56.85202	7.377440	44.23896	44.35535
#1	.0585197	-.003174	-.001369	.0085377	-.001284	-.000952
#2	.0578594	-.003262	-.000666	.0093471	-.001853	-.002365
#3	.0541794	.005449	-.000466	.0080866	-.003077	-.001502

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168564BL Acquired: 6/23/2025 15:11:43 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000273	-.003880	-.001192	.0002181	-.001084	F .0323563
Stddev	.000213	.002527	.000655	.0003709	.003055	.0067901
%RSD	78.01339	65.12679	54.97355	170.0369	281.7605	20.98537
#1	-.000515	-.006513	-.001026	-.000160	.000918	.0279346
#2	-.000192	-.001475	-.000636	.000233	.000430	.0401745
#3	-.000113	-.003652	-.001914	.000582	-.004601	.0289599

Elem	Sr4077
Units	ppm
Avg	-.000149
Stddev	.000149
%RSD	100.2833
#1	.000014
#2	-.000181
#3	-.000279

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5111.354	41264.19	2256.878	3653.472	5760.577
Stddev	7.572	230.25	23.226	28.762	9.945
%RSD	.1481358	.5579800	1.029114	.7872619	.1726382
#1	5118.783	41220.65	2273.327	3635.816	5767.190
#2	5111.631	41513.09	2230.309	3686.662	5765.399
#3	5103.647	41058.81	2266.997	3637.940	5749.140

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168564BS Acquired: 6/23/2025 15:16:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7480814	2.096968	.9804053	1.976493	.7773628	2.068586	.2004361
Stddev	.0040542	.004306	.0019609	.005158	.0003545	.015137	.0008397
%RSD	.5419498	.2053447	.2000101	.2609439	.0456009	.7317379	.4189553
#1	.7450469	2.095673	.9781672	1.979878	.7773416	2.085239	.2008252
#2	.7526858	2.101773	.9818215	1.970557	.7777274	2.064856	.2010108
#3	.7465115	2.093458	.9812273	1.979045	.7770194	2.055663	.1994724

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2093616	.1950742	1.016962	.4003033	.1993280	.3199231	3.108342
Stddev	.0020132	.0001842	.006204	.0025180	.0002301	.0032587	.016953
%RSD	.9616125	.0944251	.6100294	.6290327	.1154600	1.018595	.5453936
#1	.2074153	.1950278	1.023471	.3974428	.1991750	.3175322	3.127793
#2	.2114357	.1949175	1.011117	.4012824	.1992162	.3236349	3.096705
#3	.2092338	.1952771	1.016297	.4021848	.1995926	.3186023	3.100529

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2032122	2.006643	.5001870	.0744824	2.837615	.2910735	.2014804
Stddev	.0016776	.049185	.0004648	.0009258	.023007	.0086353	.0007709
%RSD	.8255601	2.451089	.0929245	1.243025	.8107758	2.966720	.3826393
#1	.2032626	2.057727	.5004527	.0744881	2.828441	.2930559	.2007701
#2	.2048641	1.959607	.4996503	.0735538	2.863793	.2816194	.2013708
#3	.2015099	2.002596	.5004580	.0754054	2.820610	.2985453	.2023003

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.069469	5.667469	.2964649	.3936663	-.002304	.9071224	.6849863
Stddev	.066208	.012099	.0028508	.0007272	.000790	.0101835	.0008423
%RSD	.8204810	.2134756	.9616067	.1847286	34.29145	1.122610	.1229640
#1	7.998057	5.661949	.2961944	.3941172	-.003216	.9010289	.6840205
#2	8.128813	5.659115	.2994413	.3928274	-.001886	.9188786	.6853701
#3	8.081537	5.681343	.2937589	.3940544	-.001811	.9014597	.6855684

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168564BS Acquired: 6/23/2025 15:16:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1878532	.2408236	.1998958
Stddev	.0019821	.0053175	.0010937
%RSD	1.055122	2.208066	.5471573
#1	.1899921	.2349918	.1990129
#2	.1874889	.2420756	.2011193
#3	.1860785	.2454034	.1995552

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5088.237	40890.04	2262.519	3634.969	5581.796
Stddev	13.478	149.14	13.231	14.773	14.996
%RSD	.2648935	.3647284	.5848023	.4063998	.2686648
#1	5101.175	40905.61	2271.472	3627.852	5598.759
#2	5089.260	41030.77	2247.321	3651.953	5576.328
#3	5074.276	40733.72	2268.764	3625.103	5570.300

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2354-02 Acquired: 6/23/2025 15:20:33 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003286**	**-.001270**	**.0052902**	**-.006933**	**.0014890**	**.0677249**	**.1923443**
Stddev	.002170	.001746	.0012160	.002779	.0017808	.0103053	.0012405
%RSD	66.05122	137.4723	22.98614	40.08234	119.5974	15.21642	.6449575
#1	-.004685	-.003177	.0058402	-.003826	.0002276	.0748279	.1936438
#2	-.004387	-.000885	.0061339	-.007791	.0007133	.0724414	.1922164
#3	-.000786	.000251	.0038963	-.009182	.0035262	.0559054	.1911726

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010376**	**.0003513**	**18.50906**	**.0000434**	**.0127806**	**.0049597**	**.0007648**
Stddev	.0000538	.0000917	.06063	.0009782	.0002955	.0002300	.0047091
%RSD	5.181708	26.11330	.3275477	2254.341	2.312068	4.638123	615.7455
#1	.0010937	.0002891	18.55315	-.000351	.0128058	.0052043	.0055573
#2	.0009866	.0003082	18.53410	.001157	.0124734	.0047477	-.003856
#3	.0010325	.0004567	18.43992	-.000676	.0130628	.0049271	.000593

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1348431**	**11.36954**	**.0054610**	**-.000033**	**307.4530**	**-.000976**	**.1035283**
Stddev	.0015083	.03292	.0005933	.000199	3.2469	.000692	.0004154
%RSD	1.118547	.2895883	10.86352	612.1152	1.056067	70.92218	.4012366
#1	.1331876	11.40721	.0058262	.000090	308.2190	-.000188	.1030581
#2	.1361393	11.35515	.0057804	.000075	310.2484	-.001486	.1036816
#3	.1352024	11.34625	.0047765	-.000263	303.8916	-.001255	.1038453

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.810807**	**.0984722**	**.0759189**	**.0012647**	**2.139540**	**4.885004**	**.0045751**
Stddev	.057422	.0020994	.0004579	.0001689	.002817	.042146	.0009631
%RSD	.8431056	2.131965	.6032136	13.35143	.1316657	.8627600	21.05159
#1	6.826044	.1001870	.0764031	.0014596	2.136313	4.898871	.0039066
#2	6.859074	.0990987	.0758610	.0011711	2.140796	4.918468	.0041396
#3	6.747303	.0961308	.0754927	.0011633	2.141510	4.837671	.0056791

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2354-02 Acquired: 6/23/2025 15:20:33 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0019462	.0341243	.1329135
Stddev	.0024050	.0038110	.0002584
%RSD	123.5708	11.16792	.1944123
#1	-.000831	.0382484	.1328701
#2	.003349	.0333919	.1331909
#3	.003321	.0307327	.1326796

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4859.739	38186.15	2232.651	3472.465	4924.000
Stddev	12.629	95.45	18.950	6.986	12.796
%RSD	.2598628	.2499504	.8487827	.2011911	.2598670
#1	4851.443	38139.39	2227.297	3476.308	4912.633
#2	4874.273	38123.10	2216.954	3464.401	4937.858
#3	4853.502	38295.96	2253.703	3476.687	4921.508

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2355-02 Acquired: 6/23/2025 15:25:06 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004827	-.001291	.0050034	-.000003	.0017634	-.000444	.1382691
Stddev	.000226	.001089	.0008747	.001053	.0015475	.016990	.0019461
%RSD	4.674853	84.32930	17.48122	35234.90	87.75914	3824.298	1.407500
#1	-.005068	-.002522	.0041553	-.001131	-.000002	.016938	.1403010
#2	-.004621	-.000451	.0049526	.000167	.002405	-.017013	.1380844
#3	-.004791	-.000901	.0059024	.000955	.002887	-.001257	.1364219

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000889	-.000040	.7262470	.0000657	.0002772	.0038201	-.007400
Stddev	.0000589	.000020	.0041700	.0009993	.0004014	.0008156	.012843
%RSD	66.24563	48.84382	.5741905	1520.708	144.8312	21.35098	173.5668
#1	.0000699	-.000033	.7214337	.0003552	-.000153	.0046291	-.012364
#2	.0001550	-.000062	.7285380	-.001046	.000641	.0038331	.007185
#3	.0000419	-.000025	.7287694	.000888	.000344	.0029980	-.017020

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035754	.0795815	.0023488	-.000633	295.5717	.0010765	.1584219
Stddev	.0006164	.0335206	.0002615	.000552	1.0863	.0073775	.0009239
%RSD	17.23936	42.12108	11.13286	87.20539	.3675363	685.2927	.5831571
#1	.0029227	.0522068	.0020663	-.001261	296.6692	.0090064	.1594885
#2	.0036561	.1169670	.0023975	-.000412	295.5489	-.000193	.1579072
#3	.0041475	.0695708	.0025824	-.000226	294.4969	-.005584	.1578700

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2189475	.0152266	.0419965	.0004368	.3317219	.0308991	.0024663
Stddev	.0001376	.0019198	.0005605	.0003214	.0027089	.0023203	.0005924
%RSD	.0628503	12.60800	1.334568	73.59206	.8166030	7.509393	24.02093
#1	.2191046	.0174339	.0419850	.0008029	.3300851	.0283570	.0025261
#2	.2188899	.0139458	.0425627	.0002011	.3348487	.0314372	.0018462
#3	.2188481	.0143001	.0414419	.0003063	.3302319	.0329031	.0030265

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2355-02 Acquired: 6/23/2025 15:25:06 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002388	.0187197	.0029245
Stddev	.0019777	.0050795	.0001488
%RSD	828.3724	27.13426	5.088877
#1	-.001719	.0180680	.0030793
#2	.000200	.0139976	.0027825
#3	.002236	.0240936	.0029117

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4928.218	38656.91	2250.291	3499.258	5048.592
Stddev	11.209	50.63	4.126	5.336	14.689
%RSD	.2274387	.1309729	.1833557	.1525005	.2909521
#1	4918.900	38713.92	2250.521	3503.414	5040.404
#2	4940.656	38639.63	2254.297	3493.240	5065.551
#3	4925.098	38617.18	2246.055	3501.120	5039.823

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-04 Acquired: 6/23/2025 15:29:43 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009226	.0020044	.0034432	-.003403	-.000447	.1430553	.4264918
Stddev	.001977	.0006953	.0006911	.002100	.002351	.0100246	.0013870
%RSD	21.43017	34.68840	20.07236	61.70701	526.0489	7.007492	.3252166
#1	-.010108	.0027257	.0041463	-.001465	-.000553	.1490512	.4279908
#2	-.006961	.0013385	.0034186	-.005634	-.002743	.1486322	.4252539
#3	-.010609	.0019490	.0027647	-.003110	.001955	.1314824	.4262307

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002580	.0001977	7.768676	.0022910	.0087403	.2220263	2.375509
Stddev	.0000958	.0000574	.021770	.0014173	.0004008	.0005965	.022860
%RSD	37.15639	29.02891	.2802267	61.86523	4.586110	.2686372	.9623036
#1	.0001675	.0002566	7.792377	.0038943	.0083561	.2226999	2.352836
#2	.0002479	.0001420	7.749571	.0012047	.0087088	.2215653	2.398551
#3	.0003584	.0001945	7.764079	.0017741	.0091559	.2218136	2.375139

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.777252	.5868459	.0030000	.0003356	331.2795	-.009201	.0881749
Stddev	.009026	.0332573	.0001585	.0005937	1.3152	.002763	.0007698
%RSD	.2389549	5.667120	5.282569	176.9390	.3969942	30.03254	.8730479
#1	3.783309	.5732510	.0031821	.0000846	329.8189	-.007284	.0888257
#2	3.766878	.5625399	.0028932	.0010136	331.6501	-.012368	.0873251
#3	3.781568	.6247469	.0029247	-.000092	332.3697	-.007950	.0883739

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.488670	.0189927	.0238032	.0003158	.5502186	.8004455	.0028489
Stddev	.026935	.0009402	.0011943	.0001008	.0022737	.0022452	.0005964
%RSD	.6000649	4.950517	5.017397	31.91962	.4132357	.2804871	20.93417
#1	4.519660	.0181989	.0247108	.0002450	.5476512	.8023773	.0033819
#2	4.475449	.0187483	.0224502	.0004311	.5519776	.7979823	.0022047
#3	4.470899	.0200311	.0242487	.0002711	.5510271	.8009768	.0029601

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-04 Acquired: 6/23/2025 15:29:43 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0012339	.0155254	.0541552
Stddev	.0030045	.0055242	.0001565
%RSD	243.4952	35.58205	.2889542
#1	-.000898	.0098425	.0541253
#2	-.000070	.0158577	.0540158
#3	.004670	.0208760	.0543244

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4919.451	38834.99	2241.677	3530.313	4981.461
Stddev	13.077	155.30	.916	18.043	10.509
%RSD	.2658323	.3998910	.0408415	.5110917	.2109657
#1	4931.803	39003.45	2242.249	3545.140	4991.967
#2	4920.797	38804.01	2242.162	3535.575	4981.467
#3	4905.752	38697.52	2240.621	3510.224	4970.948

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-08 Acquired: 6/23/2025 15:34:15 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.017612**	**.0009075**	**.0031348**	**-.011099**	**.0033755**	**.1394707**	**.2858751**
Stddev	.003909	.0007618	.0010022	.003137	.0018119	.0276073	.0010573
%RSD	22.19336	83.94999	31.97082	28.26278	53.67789	19.79437	.3698299
#1	-.022103	.0016366	.0041182	-.012908	.0018043	.1684810	.2848057
#2	-.014975	.0009691	.0021148	-.012911	.0029645	.1135214	.2869198
#3	-.015758	.0001167	.0031713	-.007477	.0053575	.1364098	.2858998

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002173**	**.0001106**	**28.18734**	**.0018535**	**.0151656**	**.0346214**	**.0191810**
Stddev	.0000770	.0000463	.02167	.0005619	.0003528	.0007059	.0113998
%RSD	35.41564	41.84615	.0768699	30.31698	2.326527	2.038814	59.43290
#1	.0002365	.0000634	28.20203	.0023233	.0148124	.0354244	.0313711
#2	.0001326	.0001126	28.19754	.0020063	.0155180	.0343411	.0087840
#3	.0002830	.0001559	28.16246	.0012310	.0151666	.0340987	.0173880

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.097863**	**5.424580**	**.0083566**	**.0000086**	**375.5640**	**.0016118**	**.0695091**
Stddev	.006692	.081471	.0005416	.0007332	3.7965	.0068481	.0003235
%RSD	.3190000	1.501886	6.480589	8544.289	1.010891	424.8756	.4654811
#1	2.103368	5.515781	.0080729	-.000089	377.8134	-.003118	.0691363
#2	2.099806	5.358996	.0089811	-.000671	371.1806	.009465	.0697168
#3	2.090414	5.398963	.0080158	.000785	377.6979	-.001512	.0696741

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.322771**	**.0281882**	**.0150604**	**.0013583**	**1.191248**	**1.185211**	**.0048231**
Stddev	.010931	.0017352	.0005822	.0003549	.004665	.012656	.0000769
%RSD	.8263886	6.155745	3.865828	26.12556	.3916293	1.067842	1.595054
#1	1.334913	.0262045	.0156909	.0017093	1.195829	1.199758	.0048389
#2	1.313713	.0294244	.0149473	.0009997	1.191411	1.176722	.0047395
#3	1.319687	.0289357	.0145431	.0013658	1.186503	1.179154	.0048909

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-08 Acquired: 6/23/2025 15:34:15 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0025193	.0151457	.1577923
Stddev	.0028867	.0091168	.0004405
%RSD	114.5817	60.19396	.2791352
#1	.0048718	.0241373	.1579450
#2	.0033882	.0059086	.1581362
#3	-.000702	.0153913	.1572959

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4948.234	38769.54	2281.769	3527.412	4894.084
Stddev	4.084	300.68	8.848	19.015	3.531
%RSD	.0825330	.7755568	.3877495	.5390624	.0721385
#1	4948.382	39094.63	2271.797	3548.757	4890.537
#2	4944.079	38712.55	2288.679	3521.193	4894.119
#3	4952.243	38501.43	2284.830	3512.285	4897.597

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-04 Acquired: 6/23/2025 15:38:47 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.021967**	**.0048083**	**.0093239**	**-.022145**	**.0057073**	**.0279870**	**.4581930**
Stddev	.003910	.0015891	.0019774	.002836	.0027696	.0225640	.0013607
%RSD	17.79983	33.04857	21.20835	12.80547	48.52648	80.62338	.2969682
#1	-.021527	.0059483	.0109646	-.025215	.0029536	.0537400	.4587032
#2	-.026078	.0054833	.0098787	-.021599	.0084924	.0116867	.4592249
#3	-.018295	.0029931	.0071283	-.019623	.0056759	.0185343	.4566510

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000454**	**.0003934**	**87.25742**	**.0021825**	**.0249827**	**.0191237**	**.4345765**
Stddev	.000063	.0000192	.50633	.0008497	.0005986	.0005497	.0135018
%RSD	13.81636	4.866682	.5802740	38.93013	2.396033	2.874431	3.106883
#1	-.000463	.0004119	86.93521	.0031629	.0253327	.0188875	.4200393
#2	-.000512	.0003736	87.84103	.0016583	.0242915	.0187315	.4467237
#3	-.000387	.0003947	86.99603	.0017264	.0253238	.0197520	.4369664

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.402679**	**16.43703**	**.0049334**	**-.000274**	**367.0494**	**-.004089**	**.0865376**
Stddev	.014481	.14264	.0005682	.000516	3.4951	.007407	.0008178
%RSD	.3289150	.8677859	11.51776	187.8761	.9522240	181.1558	.9449968
#1	4.396863	16.35536	.0054876	.000086	363.0299	-.001145	.0858093
#2	4.419164	16.60174	.0043521	-.000044	368.7445	.001394	.0874223
#3	4.392010	16.35400	.0049605	-.000865	369.3737	-.012516	.0863813

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.391916**	**.0325632**	**.0303737**	**.0015027**	**1.081715**	**1.638711**	**.0066155**
Stddev	.026571	.0000479	.0007639	.0001166	.005926	.015246	.0003660
%RSD	1.110853	.1472051	2.514999	7.761578	.5478667	.9303747	5.532165
#1	2.363776	.0326122	.0300126	.0016196	1.088515	1.622644	.0068369
#2	2.416573	.0325611	.0312512	.0013863	1.077650	1.652976	.0068165
#3	2.395401	.0325164	.0298573	.0015023	1.078979	1.640514	.0061931

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-04 Acquired: 6/23/2025 15:38:47 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001424	.0222605	.3316020
Stddev	.002318	.0065043	.0009468
%RSD	162.7139	29.21902	.2855372
#1	-.001492	.0289627	.3324479
#2	.000926	.0218449	.3317790
#3	-.003707	.0159740	.3305792

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4921.657	39076.28	2321.246	3540.177	4866.383
Stddev	6.086	94.67	24.638	19.422	12.744
%RSD	.1236660	.2422642	1.061415	.5486244	.2618849
#1	4914.650	39168.26	2346.866	3559.259	4852.030
#2	4924.690	38979.14	2297.725	3520.432	4870.748
#3	4925.632	39081.43	2319.146	3540.839	4876.372

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08 Acquired: 6/23/2025 15:43:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.016697**	**.0073034**	**.0024409**	**-.005798**	**.0012616**	**.1185338**	**.3955485**
Stddev	.003540	.0004031	.0002783	.001660	.0015643	.0156034	.0015088
%RSD	21.20156	5.519042	11.40051	28.62639	123.9930	13.16363	.3814517
#1	-.016365	.0075284	.0021892	-.004197	.0019312	.1131482	.3970880
#2	-.013335	.0068381	.0023936	-.005687	.0023798	.1063367	.3954854
#3	-.020391	.0075437	.0027397	-.007510	-.000526	.1361166	.3940723

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000293**	**.0002210**	**27.11252**	**.0049016**	**.0302866**	**.0163710**	**2.739787**
Stddev	.000135	.0000140	.05352	.0006350	.0003346	.0005111	.029339
%RSD	46.08744	6.338244	.1973963	12.95554	1.104864	3.122163	1.070857
#1	-.000210	.0002066	27.06055	.0052210	.0306730	.0159873	2.748067
#2	-.000221	.0002220	27.16747	.0041703	.0301010	.0161744	2.707197
#3	-.000449	.0002345	27.10954	.0053135	.0300860	.0169512	2.764096

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.274551**	**6.880981**	**.0076938**	**-.000031**	**336.0241**	**-.013252**	**.0701335**
Stddev	.014561	.010523	.0005727	.000433	1.5044	.004450	.0004132
%RSD	.1759763	.1529229	7.444012	1412.283	.4477012	33.58157	.5891850
#1	8.258216	6.880093	.0083139	-.000160	334.7716	-.010104	.0705663
#2	8.286169	6.870931	.0071847	-.000384	335.6079	-.011309	.0697431
#3	8.279267	6.891920	.0075829	.000452	337.6927	-.018344	.0700912

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.932032**	**.0098473**	**.0118845**	**.0011990**	**.6797690**	**1.411228**	**.0256039**
Stddev	.004731	.0017447	.0010847	.0001159	.0022896	.009935	.0005323
%RSD	.2448755	17.71739	9.126655	9.664534	.3368126	.7040160	2.079025
#1	1.927391	.0116557	.0106968	.0012973	.6817851	1.400069	.0252044
#2	1.931857	.0097120	.0121340	.0010713	.6802420	1.414503	.0253991
#3	1.936848	.0081742	.0128226	.0012285	.6772799	1.419112	.0262082

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08 Acquired: 6/23/2025 15:43:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000249	.0248126	.1552120
Stddev	.001200	.0045543	.0005249
%RSD	481.2943	18.35465	.3382052
#1	-.000465	.0211811	.1554964
#2	.001044	.0233344	.1555334
#3	-.001326	.0299224	.1546062

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5019.182	39449.25	2342.378	3590.812	5005.544
Stddev	9.118	133.54	21.376	17.202	8.950
%RSD	.1816658	.3385214	.9125633	.4790549	.1788113
#1	5029.387	39301.86	2357.989	3593.887	5014.220
#2	5011.836	39562.20	2351.131	3606.269	4996.343
#3	5016.324	39483.69	2318.015	3572.280	5006.069

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV03 Acquired: 6/23/2025 15:47:49 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.210565**	**5.124227**	**5.192582**	**5.064202**	**4.959708**	**10.45804**	**10.12718**
Stddev	.034723	.029692	.042343	.019848	.012560	.02252	.03822
%RSD	.6664024	.5794339	.8154512	.3919330	.2532421	.2153128	.3773712
#1	5.201155	5.095459	5.171540	5.056322	4.973212	10.44406	10.08835
#2	5.249023	5.154763	5.241324	5.086780	4.957535	10.48402	10.16476
#3	5.181516	5.122459	5.164882	5.049504	4.948376	10.44605	10.12844

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2471756**	**2.593772**	**24.37846**	**1.011249**	**2.589565**	**1.223419**	**4.963076**
Stddev	.0154262	.019814	.10042	.014191	.009307	.084702	.048176
%RSD	6.240969	.7639082	.4119090	1.403315	.3594143	6.923373	.9706851
#1	.2559386	2.584165	24.26285	1.012018	2.590154	1.271098	4.907543
#2	.2293638	2.616558	24.44390	1.025041	2.598563	1.125624	4.993673
#3	.2562244	2.580593	24.42865	.996690	2.579977	1.273535	4.988012

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.497278**	**24.66092**	**2.574036**	**1.262660**	**24.66958**	**2.492154**	**2.485934**
Stddev	.007162	.11439	.010657	.012447	.50490	.010864	.020967
%RSD	.2867834	.4638567	.4140320	.9857982	2.046652	.4359187	.8434252
#1	2.489739	24.62936	2.574764	1.258876	25.23193	2.479760	2.477383
#2	2.503991	24.78778	2.584311	1.276561	24.25518	2.496669	2.509825
#3	2.498104	24.56563	2.563034	1.252544	24.52164	2.500032	2.470594

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.06462**	**5.205474**	**4.905836**	**5.060201**	**5.232321**	**4.867931**	**5.226086**
Stddev	.64253	.027119	.298549	.016317	.032447	.281312	.034488
%RSD	2.670033	.5209768	6.085585	.3224539	.6201287	5.778878	.6599291
#1	24.07679	5.187567	5.075438	5.078551	5.214364	5.027465	5.206249
#2	24.70098	5.236676	4.561116	5.054724	5.269777	4.543118	5.265910
#3	23.41608	5.192180	5.080954	5.047327	5.212821	5.033211	5.206100

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV03 Acquired: 6/23/2025 15:47:49 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.055998**	**5.154673**	**5.056209**
Stddev	.014948	.015575	.016722
%RSD	.2956581	.3021534	.3307124
#1	5.043697	5.148129	5.037538
#2	5.072635	5.172453	5.069805
#3	5.051661	5.143439	5.061285

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5027.725**	**38689.60**	**2290.485**	**3482.155**	**5152.271**
Stddev	27.514	2729.43	9.530	197.600	16.188
%RSD	.5472480	7.054699	.4160716	5.674653	.3141859
#1	4999.045	40207.80	2289.486	3603.711	5133.758
#2	5053.903	35538.61	2300.476	3254.153	5163.763
#3	5030.228	40322.39	2281.494	3588.601	5159.292

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB03 Acquired: 6/23/2025 15:52:05 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003644**	**.0030378**	**-.000496**	**-.000496**	**.0008822**	**.0006477**
Stddev	.001953	.0002963	.000979	.003689	.0014857	.0100432
%RSD	53.59910	9.753818	197.5162	742.9491	168.3983	1550.644
#1	-.002161	.0027713	-.001452	-.004132	-.000502	-.006277
#2	-.005857	.0029852	.000505	.003243	.000696	.012166
#3	-.002915	.0033569	-.000541	-.000601	.002452	-.003946

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005452**	**.0000018**	**.0000484**	**-.030582**	**-.000007**	**-.000107**
Stddev	.0004504	.0000847	.0000164	.009241	.000159	.000265
%RSD	82.61728	4829.157	33.82329	30.21539	2137.266	248.7242
#1	.0010079	-.000084	.0000347	-.020665	-.000017	.000143
#2	.0005196	.000004	.0000665	-.032131	.000155	-.000385
#3	.0001081	.000085	.0000440	-.038951	-.000161	-.000079

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0013285**	**-.013721**	**.0001377**	**-.043867**	**-.000079**	**.0003632**
Stddev	.0002709	.011231	.0004415	.016209	.000672	.0010966
%RSD	20.38967	81.85392	320.6687	36.94914	855.2779	301.9371
#1	.0011229	-.002080	-.000044	-.034179	-.000156	.0001886
#2	.0016355	-.024492	-.000184	-.034844	.000629	.0015366
#3	.0012273	-.014593	.000641	-.062579	-.000709	-.000636

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0851840**	**.0003580**	**-.000692**	**.0091851**	**-.000461**	**.0103828**
Stddev	.0095703	.0042760	.000172	.0004175	.000562	.0003512
%RSD	11.23490	1194.554	24.89348	4.545066	121.8936	3.382140
#1	.0957098	.0002039	-.000710	.0096624	.000118	.0099814
#2	.0770061	-.003839	-.000511	.0090051	-.001004	.0106333
#3	.0828361	.004709	-.000855	.0088879	-.000498	.0105337

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB03 Acquired: 6/23/2025 15:52:05 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002806	-.002225	.0020424	-.000036	.0004483	F .0460909
Stddev	.0006557	.002676	.0019809	.000823	.0029441	.0048387
%RSD	233.6817	120.2618	96.98742	2270.455	656.7387	10.49817
#1	.0005018	.000470	.0001299	.000870	-.002830	.0501571
#2	-.000457	-.002264	.0019120	-.000735	.002866	.0473765
#3	.000797	-.004881	.0040852	-.000244	.001309	.0407393

Elem	Sr4077
Units	ppm
Avg	.0000197
Stddev	.0000694
%RSD	352.1923
#1	-.000030
#2	.000099
#3	-.000009

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5260.617	42353.64	2318.333	3749.793	5923.576
Stddev	12.937	209.50	4.231	19.019	12.277
%RSD	.2459282	.4946358	.1824826	.5071995	.2072617
#1	5251.948	42188.22	2313.470	3730.709	5919.719
#2	5275.487	42283.50	2321.161	3749.924	5937.318
#3	5254.414	42589.21	2320.370	3768.747	5913.690

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08DUP Acquired: 6/23/2025 15:57:48 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.015929**	**.0108538**	**.0033464**	**-.009507**	**.0016695**	**.1312385**	**.4030507**
Stddev	.005340	.0011500	.0009664	.003162	.0017832	.0132771	.0004268
%RSD	33.52607	10.59517	28.87717	33.26211	106.8091	10.11680	.1058998
#1	-.020006	.0118540	.0035778	-.010520	.0023149	.1211600	.4031084
#2	-.017897	.0095973	.0022854	-.005962	.0030402	.1462828	.4025980
#3	-.009884	.0111100	.0041760	-.012038	-.000347	.1262728	.4034458

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000283**	**.0001773**	**27.52372**	**.0039895**	**.0306889**	**.0166404**	**2.793518**
Stddev	.000115	.0000254	.14531	.0002185	.0001572	.0001470	.024637
%RSD	40.58685	14.34867	.5279404	5.477290	.5121171	.8836195	.8819504
#1	-.000404	.0001734	27.67610	.0038120	.0305094	.0167405	2.775085
#2	-.000272	.0002044	27.50835	.0042335	.0307560	.0164716	2.783967
#3	-.000174	.0001540	27.38670	.0039229	.0308015	.0167091	2.821501

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.380366**	**6.946118**	**.0080278**	**.0002703**	**340.9219**	**-.018125**	**.0712485**
Stddev	.022668	.039842	.0003102	.0005056	4.6744	.007278	.0004135
%RSD	.2704868	.5735844	3.864202	187.0387	1.371095	40.15165	.5803065
#1	8.406364	6.946216	.0076885	-.000300	343.9216	-.009996	.0717131
#2	8.369994	6.985911	.0082968	.000448	343.3080	-.020345	.0709208
#3	8.364740	6.906228	.0080980	.000663	335.5360	-.024035	.0711117

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.937872**	**.0104790**	**.0176376**	**.0012868**	**.6790857**	**1.428130**	**.0041400**
Stddev	.018044	.0019599	.0016415	.0001371	.0051542	.014316	.0007612
%RSD	.9311056	18.70307	9.306887	10.65180	.7589873	1.002406	18.38563
#1	1.953156	.0108360	.0194759	.0012162	.6755240	1.437503	.0043104
#2	1.942493	.0122358	.0163184	.0014448	.6767371	1.435235	.0033081
#3	1.917968	.0083651	.0171184	.0011995	.6849958	1.411651	.0048015

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08DUP Acquired: 6/23/2025 15:57:48 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0005794	.0232685	.1573054
Stddev	.0010174	.0041186	.0003809
%RSD	175.5887	17.70042	.2421301
#1	.0014185	.0195808	.1577433
#2	.0008719	.0277131	.1570516
#3	-.000552	.0225116	.1571211

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4961.889	39005.34	2303.300	3542.445	4945.184
Stddev	20.450	192.40	19.247	15.215	18.996
%RSD	.4121327	.4932615	.8356362	.4294988	.3841382
#1	4944.676	38936.33	2287.195	3535.227	4931.724
#2	4984.495	39222.73	2298.089	3559.925	4966.914
#3	4956.497	38856.97	2324.616	3532.182	4936.915

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08LX5 Acquired: 6/23/2025 16:02:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002778	.0023921	.0004454	-.003482	-.001351	.0456852	.0777554
Stddev	.003993	.0013178	.0008109	.002676	.002122	.0248278	.0013499
%RSD	143.7146	55.09040	182.0510	76.85175	157.0883	54.34552	1.736033
#1	.001786	.0016754	.0003570	-.005828	-.003264	.0212820	.0773054
#2	-.005625	.0039130	-.000318	-.004049	-.001721	.0448565	.0792728
#3	-.004496	.0015880	.001297	-.000568	.000932	.0709169	.0766880

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000516	.0000251	5.431331	.0014511	.0067474	.0045946	.5261091
Stddev	.0000789	.0000542	.032268	.0010531	.0003155	.0012743	.0042554
%RSD	152.8603	215.7083	.5941132	72.57057	4.675635	27.73360	.8088422
#1	.0001153	-.000034	5.424209	.0019423	.0066750	.0055968	.5212124
#2	-.000037	.000037	5.466566	.0002422	.0064745	.0031606	.5282039
#3	.000076	.000073	5.403219	.0021688	.0070928	.0050265	.5289111

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.648443	1.364553	.0015406	.0005424	75.35409	.0000949	.0136466
Stddev	.008924	.014172	.0004131	.0003715	.36770	.0039390	.0004188
%RSD	.5413634	1.038568	26.81556	68.49365	.4879601	4149.629	3.068840
#1	1.638526	1.353104	.0019125	.0003991	75.25222	-.002880	.0137072
#2	1.655825	1.380403	.0016133	.0002639	75.76198	.004562	.0140318
#3	1.650977	1.360151	.0010959	.0009643	75.04806	-.001397	.0132008

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3203919	.0017418	.0015936	.0002501	.1247456	.2924593	.0021269
Stddev	.0027120	.0008399	.0005741	.0002138	.0031559	.0019189	.0005703
%RSD	.8464720	48.21750	36.02489	85.45341	2.529882	.6561158	26.81432
#1	.3210186	.0010255	.0019656	.0000272	.1279792	.2922372	.0023976
#2	.3227358	.0026661	.0018828	.0002698	.1216736	.2944796	.0014717
#3	.3174214	.0015339	.0009324	.0004534	.1245841	.2906612	.0025115

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08LX5 Acquired: 6/23/2025 16:02:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000374	.0564591	.0309263
Stddev	.000703	.0096163	.0001302
%RSD	188.0737	17.03225	.4210090
#1	.000410	.0675590	.0310616
#2	-.000582	.0506516	.0309155
#3	-.000948	.0511667	.0308019

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5099.213	40548.55	2296.412	3636.358	5348.429
Stddev	8.000	138.57	12.446	6.115	7.359
%RSD	.1568938	.3417403	.5419731	.1681674	.1375894
#1	5103.620	40582.80	2301.709	3630.096	5349.631
#2	5089.979	40666.78	2282.194	3642.315	5340.543
#3	5104.041	40396.07	2305.333	3636.663	5355.113

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08MS Acquired: 6/23/2025 16:06:44 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8245055	1.988087	.9981714	1.930820	.7738691	2.127179	.5745087
Stddev	.0022787	.004664	.0010485	.006320	.0019591	.015321	.0027511
%RSD	.2763738	.2345844	.1050440	.3273433	.2531538	.7202710	.4788535
#1	.8226965	1.990715	.9992713	1.931537	.7733516	2.110818	.5719669
#2	.8270648	1.990844	.9971831	1.924172	.7760349	2.141189	.5774297
#3	.8237553	1.982703	.9980597	1.936751	.7722207	2.129530	.5741294

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1984342	.2093644	27.26386	.4012328	.2345694	.3076531	5.661217
Stddev	.0008667	.0005009	.11627	.0019996	.0003854	.0021830	.009110
%RSD	.4367821	.2392331	.4264543	.4983597	.1642815	.7095555	.1609231
#1	.1974461	.2098470	27.19350	.4035179	.2342637	.3052708	5.650702
#2	.1990656	.2093990	27.39807	.3998039	.2350022	.3095576	5.666744
#3	.1987911	.2088471	27.20002	.4003765	.2344421	.3081311	5.666205

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.171077	8.488959	.5209953	.0720463	331.7723	.2840170	.2639507
Stddev	.033020	.042683	.0014679	.0003822	1.9134	.0102870	.0012612
%RSD	.4041115	.5028024	.2817530	.5304677	.5767230	3.621974	.4778270
#1	8.159709	8.533308	.5219916	.0716071	333.9192	.2792503	.2629099
#2	8.208280	8.485405	.5216848	.0723033	331.1510	.2769779	.2653533
#3	8.145243	8.448164	.5193096	.0722285	330.2468	.2958228	.2635890

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.44785	6.374598	.2828897	.4062487	.6349587	2.248376	.7488626
Stddev	.05153	.005673	.0010246	.0007593	.0032483	.012106	.0023543
%RSD	.3831625	.0889938	.3621976	.1868971	.5115810	.5384119	.3143820
#1	13.42489	6.381099	.2818401	.4056811	.6362072	2.234450	.7514265
#2	13.41180	6.370646	.2838874	.4071112	.6312714	2.254289	.7483631
#3	13.50687	6.372051	.2829415	.4059538	.6373976	2.256388	.7467981

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08MS Acquired: 6/23/2025 16:06:44 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1954867	.2102173	.3414433
Stddev	.0023738	.0045435	.0017317
%RSD	1.214294	2.161337	.5071712
#1	.1927631	.2149626	.3403902
#2	.1965814	.2059068	.3434419
#3	.1971156	.2097825	.3404977

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4976.986	39090.48	2260.330	3542.761	4956.233
Stddev	1.903	121.76	11.878	20.969	1.430
%RSD	.0382385	.3114798	.5255047	.5918756	.0288566
#1	4978.918	39016.76	2270.111	3547.627	4955.000
#2	4975.113	39023.67	2247.113	3519.787	4955.897
#3	4976.928	39231.02	2263.766	3560.869	4957.801

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08MSD Acquired: 6/23/2025 16:11:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8650971	2.075140	1.043225	2.021144	.8087529	2.226775	.6131714
Stddev	.0050929	.001834	.000891	.002841	.0041544	.018754	.0035566
%RSD	.5887140	.0883773	.0854496	.1405884	.5136792	.8422192	.5800323
#1	.8639513	2.074446	1.043889	2.019092	.8051080	2.216223	.6121103
#2	.8706654	2.077220	1.043575	2.019953	.8132763	2.215673	.6102661
#3	.8606747	2.073754	1.042212	2.024387	.8078745	2.248428	.6171378

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2030851	.2194825	29.03175	.4179621	.2460135	.3132274	5.962342
Stddev	.0042356	.0003408	.26986	.0010485	.0005765	.0061934	.027073
%RSD	2.085616	.1552650	.9295433	.2508602	.2343474	1.977284	.4540620
#1	.1992444	.2197994	28.94028	.4188224	.2457229	.3075988	5.974417
#2	.2023831	.2191220	28.81951	.4182696	.2456401	.3122210	5.931333
#3	.2076279	.2195262	29.33546	.4167942	.2466775	.3198624	5.981277

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.789050	9.135231	.5452081	.0731875	350.6130	.2921618	.2760610
Stddev	.071583	.087608	.0004283	.0012897	1.1002	.0050614	.0012782
%RSD	.8144529	.9590129	.0785516	1.762163	.3137935	1.732382	.4630097
#1	8.771315	9.058643	.5454758	.0746331	349.9893	.2863420	.2749189
#2	8.728002	9.116289	.5447141	.0721550	351.8833	.2955350	.2758223
#3	8.867833	9.230760	.5454343	.0727743	349.9664	.2946084	.2774417

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.15061	6.699791	.2908257	.4222300	.6982415	2.353249	.7813111
Stddev	.09876	.007223	.0046691	.0008136	.0021267	.039070	.0006020
%RSD	.6979378	.1078168	1.605462	.1926800	.3045787	1.660279	.0770513
#1	14.05725	6.691835	.2858471	.4222417	.6966809	2.319075	.7809493
#2	14.14056	6.701599	.2915231	.4214107	.6973799	2.344829	.7809779
#3	14.25401	6.705938	.2951068	.4230377	.7006638	2.395843	.7820061

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08MSD Acquired: 6/23/2025 16:11:12 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2052908	.2147496	.3602814
Stddev	.0021880	.0020421	.0028381
%RSD	1.065823	.9509342	.7877578
#1	.2037063	.2165797	.3597781
#2	.2043789	.2151222	.3577286
#3	.2077873	.2125468	.3633375

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4997.507	39403.55	2328.351	3580.363	4962.067
Stddev	8.591	118.32	32.172	13.912	6.206
%RSD	.1718996	.3002660	1.381769	.3885691	.1250658
#1	4995.728	39267.47	2356.464	3574.527	4961.339
#2	5006.848	39482.11	2335.326	3596.243	4968.605
#3	4989.945	39461.07	2293.264	3570.319	4956.257

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08A Acquired: 6/23/2025 16:15:41 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8427786	2.023303	1.016325	1.966510	.7858334	2.182070	.5946286
Stddev	.0007686	.003981	.003069	.003480	.0026938	.035074	.0016765
%RSD	.0911925	.1967638	.3019557	.1769864	.3427885	1.607385	.2819393
#1	.8419243	2.027130	1.015976	1.964642	.7855109	2.221878	.5950784
#2	.8429974	2.019184	1.013446	1.964363	.7833155	2.168620	.5960342
#3	.8434140	2.023595	1.019554	1.970526	.7886739	2.155711	.5927730

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2013005	.2134219	28.20412	.4099915	.2391762	.3110340	5.839545
Stddev	.0015112	.0009005	.01489	.0032955	.0005531	.0020823	.009822
%RSD	.7507008	.4219268	.0527949	.8038030	.2312371	.6694741	.1681984
#1	.2026796	.2132001	28.21342	.4066611	.2387132	.3129771	5.836475
#2	.2015368	.2126530	28.21200	.4132510	.2390266	.3112890	5.831625
#3	.1996851	.2144126	28.18695	.4100626	.2397886	.3088360	5.850536

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.468876	8.843433	.5306715	.0730198	338.4780	.2899273	.2702365
Stddev	.008403	.027447	.0011361	.0004693	1.9325	.0057827	.0009129
%RSD	.0992199	.3103697	.2140787	.6427404	.5709380	1.994539	.3378293
#1	8.475880	8.814000	.5301544	.0725388	340.2835	.2904088	.2692682
#2	8.471189	8.868329	.5298860	.0734765	336.4396	.2954543	.2703597
#3	8.459559	8.847971	.5319741	.0730440	338.7109	.2839190	.2710815

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.85609	6.500040	.2875327	.4109483	.6643383	2.307114	.7596191
Stddev	.07860	.015441	.0013885	.0005879	.0044083	.011703	.0018191
%RSD	.5672815	.2375586	.4828854	.1430693	.6635588	.5072378	.2394784
#1	13.76937	6.492152	.2890570	.4111811	.6592571	2.319782	.7607315
#2	13.92264	6.490135	.2872007	.4102796	.6666154	2.304854	.7575198
#3	13.87625	6.517832	.2863403	.4113842	.6671423	2.296706	.7606060

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-08A Acquired: 6/23/2025 16:15:41 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2049536	.2136908	.3529460
Stddev	.0016371	.0069751	.0004479
%RSD	.7987640	3.264109	.1269091
#1	.2038237	.2176893	.3532611
#2	.2042062	.2177464	.3524333
#3	.2068311	.2056367	.3531437

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4984.132	39223.27	2285.721	3551.322	4962.920
Stddev	16.932	280.02	5.099	24.172	18.445
%RSD	.3397186	.7139016	.2230851	.6806357	.3716583
#1	4991.581	39516.35	2290.273	3574.346	4973.164
#2	4996.061	39195.00	2286.680	3553.474	4973.969
#3	4964.752	38958.47	2280.211	3526.146	4941.626

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-01 Acquired: 6/23/2025 16:20:10 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0327450	-.013951	.1522382	.0728149	.0183725	102.8147	.5687747
Stddev	.0028429	.001360	.0011498	.0048710	.0027934	.3814	.0012273
%RSD	8.681894	9.746300	.7552522	6.689573	15.20416	.3710047	.2157813
#1	.0321821	-.013646	.1511064	.0682857	.0212190	103.0858	.5694727
#2	.0302257	-.012770	.1534051	.0721913	.0156355	102.9799	.5694938
#3	.0358273	-.015437	.1522031	.0779677	.0182629	102.3786	.5673576

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089399	-.001152	15.20809	.1730745	.1387273	.4119074	222.6876
Stddev	.0000885	.000089	.09443	.0006869	.0006565	.0034205	.5822
%RSD	.9902420	7.747784	.6209390	.3968562	.4732568	.8304104	.2614464
#1	.0089377	-.001243	15.14857	.1729774	.1393735	.4130118	222.7777
#2	.0090296	-.001150	15.31698	.1738048	.1387474	.4146393	223.2195
#3	.0088526	-.001065	15.15873	.1724414	.1380609	.4080711	222.0656

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.447997	42.95284	.2449673	.0009391	10.51054	.2565348	.4608357
Stddev	.007965	.11050	.0002524	.0003994	.09402	.0038457	.0014043
%RSD	.1790724	.2572566	.1030359	42.52636	.8945323	1.499087	.3047289
#1	4.452124	42.95718	.2448445	.0011790	10.55485	.2546891	.4609151
#2	4.453051	43.06111	.2452576	.0004781	10.57422	.2609554	.4621987
#3	4.438815	42.84024	.2447997	.0011603	10.40255	.2539598	.4593935

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.80358	6.433112	.0371538	.0035680	1.008723	4.778617	.0106723
Stddev	.22360	.013945	.0010299	.0004465	.004842	.042165	.0006362
%RSD	1.330642	.2167644	2.771896	12.51418	.4799867	.8823587	5.960733
#1	16.79193	6.449021	.0361712	.0036241	1.014293	4.789516	.0099694
#2	17.03277	6.423007	.0370650	.0039839	1.005516	4.814262	.0108390
#3	16.58603	6.427308	.0382252	.0030961	1.006361	4.732073	.0112085

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-01 Acquired: 6/23/2025 16:20:10 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**3.538544**	**.2172900**	**.0844533**
Stddev	.012898	.0028121	.0003646
%RSD	.3645077	1.294184	.4317153
#1	3.536631	.2190600	.0843572
#2	3.552292	.2140474	.0848563
#3	3.526709	.2187627	.0841463

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6108.309**	**48525.50**	**2791.842**	**4371.129**	**5191.724**
Stddev	7.015	302.93	21.160	23.086	13.805
%RSD	.1148476	.6242596	.7579354	.5281404	.2659016
#1	6116.313	48856.58	2788.350	4388.442	5198.110
#2	6105.385	48262.23	2772.646	4344.918	5201.179
#3	6103.228	48457.67	2814.532	4380.026	5175.882

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-05 Acquired: 6/23/2025 16:24:35 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0460309**	**-.017138**	**.2200927**	**.0942827**	**.0235297**	**130.3257**	**1.279788**
Stddev	.0017172	.003220	.0016036	.0030151	.0003596	.3500	.002303
%RSD	3.730448	18.78690	.7286158	3.197949	1.528133	.2685499	.1799365
#1	.0446525	-.018743	.2184912	.0909212	.0233964	130.6617	1.282445
#2	.0479545	-.013432	.2200885	.0951786	.0239369	130.3521	1.278538
#3	.0454857	-.019240	.2216985	.0967484	.0232559	129.9632	1.278380

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0125779**	**-.000920**	**26.15192**	**.2729470**	**.2129323**	**.9943898**	**301.4964**
Stddev	.0002490	.000031	.03097	.0008503	.0003078	.0110732	.2587
%RSD	1.979503	3.389153	.1184406	.3115204	.1445555	1.113570	.0857914
#1	.0128614	-.000955	26.18675	.2737816	.2126944	1.005779	301.5593
#2	.0123951	-.000912	26.14156	.2729777	.2132800	.993727	301.7179
#3	.0124771	-.000894	26.12745	.2720818	.2128226	.983663	301.2121

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.808294**	**66.05288**	**.3842914**	**-.000910**	**13.55315**	**.3452557**	**.6214393**
Stddev	.012432	.24868	.0010552	.000144	.15937	.0091739	.0010758
%RSD	.1267519	.3764904	.2745787	15.79461	1.175871	2.657128	.1731118
#1	9.822643	66.33797	.3834391	-.001064	13.72419	.3358527	.6205770
#2	9.801503	65.88055	.3854716	-.000885	13.52642	.3541818	.6226448
#3	9.800737	65.94013	.3839635	-.000780	13.40884	.3457326	.6210960

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.11099**	**8.342764**	**.0458886**	**.0045884**	**.8912154**	**2.871541**	**.0111253**
Stddev	.16781	.020215	.0038851	.0005754	.0028795	.025458	.0011666
%RSD	.7261160	.2423004	8.466377	12.53967	.3230976	.8865792	10.48626
#1	23.30476	8.326843	.0414666	.0044919	.8880038	2.899969	.0124343
#2	23.01322	8.335941	.0474449	.0052059	.8920758	2.863809	.0101952
#3	23.01499	8.365507	.0487543	.0040673	.8935667	2.850845	.0107465

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2362-05 Acquired: 6/23/2025 16:24:35 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.155232**	**.2789907**	**.1831327**
Stddev	.006950	.0061630	.0003829
%RSD	.1348200	2.209018	.2090839
#1	5.162793	.2852508	.1834965
#2	5.149121	.2729297	.1831683
#3	5.153784	.2787915	.1827332

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6684.372**	**52986.76**	**3109.588**	**4781.497**	**5003.837**
Stddev	26.755	254.10	24.299	19.030	14.062
%RSD	.4002603	.4795493	.7814215	.3979979	.2810198
#1	6666.571	53109.49	3081.913	4794.974	4998.669
#2	6671.405	53156.20	3119.425	4789.789	4993.091
#3	6715.139	52694.60	3127.427	4759.727	5019.752

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2363-01 Acquired: 6/23/2025 16:28:59 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1648419**	**-.005766**	**6.602999**	**.0508361**	**.0071182**	**81.12622**	**1.878510**
Stddev	.0021742	.003206	.018671	.0016331	.0021451	.19557	.004307
%RSD	1.318955	55.60284	.2827717	3.212495	30.13598	.2410674	.2292791
#1	.1627619	-.002065	6.588658	.0496341	.0084291	81.26350	1.876859
#2	.1646644	-.007567	6.596227	.0501788	.0046426	81.21287	1.883398
#3	.1670994	-.007667	6.624111	.0526955	.0082827	80.90230	1.875272

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0082833**	**.0037385**	**102.3322**	**.1499268**	**.1205045**	**7.245053**	**192.4219**
Stddev	.0000904	.0000903	.3995	.0012872	.0002998	.008933	.5319
%RSD	1.090925	2.416260	.3903875	.8585568	.2488229	.1232964	.2764073
#1	.0083686	.0037133	102.0565	.1512919	.1202161	7.251461	192.4315
#2	.0081886	.0038387	102.7903	.1497535	.1204828	7.248849	192.9489
#3	.0082926	.0036634	102.1498	.1487350	.1208146	7.234849	191.8853

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.916946**	**14.27221**	**.2350916**	**.0070497**	**2.944020**	**.3082279**	**3.582726**
Stddev	.006951	.03542	.0009635	.0002022	.017671	.0048881	.005596
%RSD	.3626105	.2482035	.4098242	2.867680	.6002204	1.585875	.1562009
#1	1.914325	14.26704	.2356491	.0072831	2.958546	.3068908	3.586466
#2	1.924827	14.30993	.2339790	.0069382	2.949166	.3041475	3.576292
#3	1.911687	14.23965	.2356465	.0069279	2.924347	.3136454	3.585421

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.699004**	**16.37072**	**.0205126**	**.0311486**	**16.37224**	**3.800273**	**2.520489**
Stddev	.028412	.04347	.0010033	.0001277	.04025	.014557	.004464
%RSD	.4241182	.2655551	4.891300	.4099443	.2458244	.3830604	.1771148
#1	6.680990	16.34791	.0216687	.0310062	16.35278	3.787817	2.517704
#2	6.731756	16.34340	.0198692	.0311866	16.34542	3.796726	2.518125
#3	6.684265	16.42085	.0200000	.0312529	16.41852	3.816276	2.525638

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2363-01 Acquired: 6/23/2025 16:28:59 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.526791	.1598173	.7543859
Stddev	.009090	.0036873	.0018747
%RSD	.5953606	2.307185	.2485123
#1	1.516719	.1573334	.7536433
#2	1.529267	.1640540	.7565182
#3	1.534386	.1580645	.7529962

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5865.485	46580.92	2732.427	4192.848	5262.794
Stddev	10.041	110.80	8.973	14.043	4.323
%RSD	.1711865	.2378710	.3283951	.3349264	.0821492
#1	5863.172	46489.46	2726.394	4176.658	5262.780
#2	5856.803	46549.17	2728.149	4201.724	5258.478
#3	5876.481	46704.13	2742.739	4200.162	5267.125

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-01 Acquired: 6/23/2025 16:33:21 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2735026	.0161483	10.94502	.1071181	.1109233	129.8110	2.232118
Stddev	.0046529	.0030669	.19943	.0023873	.0044445	.4458	.008999
%RSD	1.701232	18.99182	1.822096	2.228671	4.006821	.3434200	.4031424
#1	.2741736	.0177016	10.81416	.1098705	.1057920	129.3214	2.222154
#2	.2685506	.0126156	10.84634	.1056110	.1135662	130.1934	2.239652
#3	.2777835	.0181278	11.17454	.1058726	.1134116	129.9182	2.234547

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095083	.0780556	225.9073	4.231846	.1646481	3.527349	272.7113
Stddev	.0000343	.0015368	1.3036	.053730	.0018723	.017295	1.5350
%RSD	.3609497	1.968856	.5770462	1.269650	1.137133	.4903163	.5628840
#1	.0094708	.0771221	224.4091	4.250992	.1634363	3.515006	270.9586
#2	.0095163	.0772153	226.7827	4.171165	.1637035	3.547116	273.8168
#3	.0095380	.0798293	226.5301	4.273379	.1668045	3.519924	273.3585

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.641464	57.72894	11.69616	.0023823	3.110577	.3048334	8.751564
Stddev	.025977	.28588	.10238	.0007480	.004975	.0031719	.119663
%RSD	.5596767	.4952153	.8753056	31.39617	.1599534	1.040536	1.367327
#1	4.614488	57.42941	11.63089	.0017614	3.104856	.3015194	8.773473
#2	4.666312	57.99887	11.64344	.0032126	3.113894	.3078410	8.622460
#3	4.643591	57.75854	11.81415	.0021729	3.112982	.3051398	8.858757

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.28576	7.668129	.1312922	.0176326	20.06135	7.767329	.5652205
Stddev	.03423	.205274	.0033067	.0002815	.56831	.048726	.0076662
%RSD	.2396420	2.676976	2.518591	1.596687	2.832870	.6273240	1.356317
#1	14.29634	7.498517	.1306914	.0176028	19.54835	7.724926	.5592078
#2	14.24749	7.609543	.1283271	.0179278	19.96345	7.820558	.5626004
#3	14.31347	7.896327	.1348581	.0173671	20.67226	7.756502	.5738532

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-01 Acquired: 6/23/2025 16:33:21 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**2.686804**	**.2897542**	**1.163782**
Stddev	.013035	.0024583	.005203
%RSD	.4851581	.8484006	.4471185
#1	2.672317	.2888497	1.157944
#2	2.697585	.2878763	1.167933
#3	2.690510	.2925366	1.165468

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5239.915**	**43759.46**	**2622.680**	**3932.936**	**4781.175**
Stddev	144.567	648.89	17.158	61.989	136.539
%RSD	2.758958	1.482857	.6542021	1.576163	2.855765
#1	5401.870	43695.96	2642.456	3935.488	4937.177
#2	5123.900	44437.77	2613.822	3993.609	4683.414
#3	5193.974	43144.65	2611.762	3869.709	4722.934

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02 Acquired: 6/23/2025 16:37:41 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0077275**	**-.005676**	**.3100007**	**.0314209**	**.0591981**	**65.17576**	**.2746402**
Stddev	.0055994	.001232	.0028416	.0009598	.0026095	.10826	.0015884
%RSD	72.46012	21.70246	.9166301	3.054531	4.407991	.1661001	.5783566
#1	.0140778	-.005906	.3109081	.0311781	.0604307	65.13814	.2764551
#2	.0034997	-.004345	.3068162	.0306059	.0562007	65.09134	.2735035
#3	.0056050	-.006776	.3122777	.0324787	.0609630	65.29781	.2739620

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0036523**	**.0106102**	**18.38049**	**2.935331**	**.0528876**	**1.650430**	**109.4273**
Stddev	.0000718	.0000328	.08219	.015140	.0003628	.012227	.3456
%RSD	1.964880	.3087531	.4471583	.5157850	.6859441	.7408362	.3157896
#1	.0036832	.0106150	18.40739	2.952343	.0532719	1.639560	109.8048
#2	.0035702	.0105753	18.44586	2.930314	.0528399	1.648062	109.3504
#3	.0037034	.0106403	18.28822	2.923336	.0525510	1.663667	109.1267

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7818889**	**15.22583**	**.5864902**	**.0025684**	**2.152705**	**.1388914**	**1.587158**
Stddev	.0016866	.02994	.0013508	.0003099	.012082	.0022754	.001502
%RSD	.2157092	.1966435	.2303267	12.06678	.5612613	1.638219	.0946640
#1	.7808415	15.21208	.5854778	.0028837	2.140992	.1369934	1.587759
#2	.7809906	15.26018	.5859686	.0022641	2.151997	.1382670	1.588266
#3	.7838345	15.20523	.5880240	.0025575	2.165125	.1414137	1.585448

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.662386**	**3.300463**	**.1428152**	**.0404673**	**2.682044**	**8.642979**	**.0169057**
Stddev	.030071	.029522	.0004766	.0005536	.030458	.078629	.0012497
%RSD	.6449678	.8944678	.3337198	1.367972	1.135631	.9097460	7.392317
#1	4.636110	3.288594	.1433598	.0398358	2.668867	8.554300	.0182345
#2	4.655866	3.278723	.1426116	.0408687	2.660392	8.670450	.0157540
#3	4.695182	3.334072	.1424742	.0406975	2.716872	8.704188	.0167284

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02 Acquired: 6/23/2025 16:37:41 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.358726	.0834901	.0925406
Stddev	.000378	.0027036	.0003147
%RSD	.0278248	3.238179	.3400202
#1	1.359090	.0834605	.0928548
#2	1.358752	.0862083	.0925414
#3	1.358335	.0808015	.0922255

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5560.204	45902.64	2596.577	4101.936	5348.443
Stddev	146.247	260.22	14.750	19.182	144.397
%RSD	2.630252	.5668946	.5680613	.4676286	2.699801
#1	5645.903	45602.17	2605.594	4079.946	5430.461
#2	5643.369	46054.58	2604.581	4110.631	5433.153
#3	5391.338	46051.17	2579.554	4115.230	5181.714

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV04 Acquired: 6/23/2025 16:51:54 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.243356**	**5.162220**	**5.227753**	**5.069928**	**4.960261**	**10.52668**	**10.18934**
Stddev	.009768	.003322	.009313	.011281	.004712	.03564	.02858
%RSD	.1862924	.0643582	.1781381	.2225150	.0949976	.3385260	.2805002
#1	5.252743	5.158406	5.235203	5.082419	4.964396	10.48642	10.16026
#2	5.244077	5.164488	5.230743	5.066885	4.955131	10.53946	10.19035
#3	5.233247	5.163764	5.217313	5.060481	4.961255	10.55416	10.21740

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2590576**	**2.604772**	**24.50369**	**1.010797**	**2.611505**	**1.284652**	**4.904604**
Stddev	.0009924	.005119	.09348	.005546	.004308	.003839	.015195
%RSD	.3830889	.1965152	.3814965	.5486939	.1649441	.2988675	.3098154
#1	.2579372	2.608945	24.39674	1.014267	2.616064	1.280711	4.887767
#2	.2598262	2.606310	24.56978	1.013722	2.610948	1.288381	4.908744
#3	.2594093	2.599060	24.54455	1.004400	2.607504	1.284862	4.917300

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.487169**	**24.81095**	**2.591835**	**1.262221**	**24.80573**	**2.487176**	**2.478652**
Stddev	.009581	.13654	.006214	.006309	.06416	.004659	.007073
%RSD	.3852028	.5503108	.2397455	.4998185	.2586455	.1873290	.2853425
#1	2.478601	24.70085	2.596464	1.259208	24.77004	2.486136	2.480555
#2	2.485393	24.76827	2.594269	1.269471	24.87980	2.492266	2.484579
#3	2.497514	24.96373	2.584773	1.257984	24.76735	2.483124	2.470823

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.75556**	**5.223304**	**5.132052**	**5.092763**	**5.286659**	**5.105167**	**5.260768**
Stddev	.07383	.013442	.014254	.009007	.009415	.021778	.011549
%RSD	.3107908	.2573535	.2777362	.1768576	.1780925	.4265833	.2195266
#1	23.79541	5.235176	5.115797	5.102103	5.297527	5.082383	5.272485
#2	23.80091	5.226028	5.137943	5.092056	5.280986	5.125775	5.260425
#3	23.67037	5.208709	5.142416	5.084130	5.281465	5.107341	5.249395

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV04 Acquired: 6/23/2025 16:51:54 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.043812**	**5.055269**	**5.049461**
Stddev	.022219	.025345	.015560
%RSD	.4405214	.5013502	.3081585
#1	5.029687	5.036159	5.034403
#2	5.032326	5.045629	5.048501
#3	5.069423	5.084019	5.065479

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4956.811**	**39750.98**	**2233.195**	**3546.491**	**5059.468**
Stddev	11.833	125.42	3.417	11.007	11.016
%RSD	.2387279	.3155063	.1530193	.3103619	.2177287
#1	4950.116	39618.11	2231.892	3534.218	5055.260
#2	4949.843	39767.52	2237.072	3549.768	5051.176
#3	4970.474	39867.31	2230.620	3555.488	5071.967

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB04 Acquired: 6/23/2025 16:56:09 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001676**	**.0027694**	**.0000370**	**-.000111**	**-.002390**	**.0088984**
Stddev	.002347	.0005737	.0009761	.001768	.000760	.0130962
%RSD	140.0203	20.71554	2640.825	1594.410	31.81432	147.1743
#1	.000975	.0033623	.0006705	.001833	-.003256	.0234816
#2	-.003491	.0027287	-.001087	-.000543	-.001829	.0050723
#3	-.002513	.0022171	.000528	-.001622	-.002086	-.001859

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0008669**	**-.000005**	**-.000037**	**-.012749**	**.0005494**	**-.000200**
Stddev	.0007250	.000040	.000051	.017377	.0002715	.000331
%RSD	83.63504	867.0451	136.9376	136.2983	49.41318	165.8391
#1	.0014963	-.000036	-.000061	-.010452	.0003033	-.000080
#2	.0010302	.000040	.000021	.003365	.0008407	-.000574
#3	.0000741	-.000018	-.000072	-.031161	.0005043	.000055

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007742**	**-.000640**	**.0004344**	**-.042616**	**.0000519**	**.0004382**
Stddev	.0004283	.002210	.0007335	.041064	.0005335	.0003211
%RSD	55.32106	345.2141	168.8537	96.35676	1028.782	73.28218
#1	.0003153	-.000018	.0006671	.003698	.0006480	.0000969
#2	.0011633	.001192	-.000387	-.074576	-.000381	.0007344
#3	.0008440	-.003095	.001023	-.056970	-.000112	.0004832

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0344473**	**.0039336**	**-.000718**	**.0081997**	**-.000469**	**.0130724**
Stddev	.0093446	.0074842	.000309	.0003282	.001721	.0008136
%RSD	27.12710	190.2644	43.00245	4.002980	367.1069	6.224098
#1	.0267770	.0125741	-.000364	.0085686	.000693	.0140059
#2	.0317102	-.000252	-.000858	.0079398	-.002446	.0126974
#3	.0448548	-.000521	-.000931	.0080907	.000346	.0125139

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB04 Acquired: 6/23/2025 16:56:09 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000003	-.002758	.0023198	.0001383	-.000746	F .0399986
Stddev	.000136	.001196	.0010184	.0005711	.006722	.0062694
%RSD	4684.764	43.35122	43.89897	412.8544	901.2797	15.67406
#1	.000051	-.001383	.0025109	-.000397	.002160	.0369189
#2	-.000158	-.003338	.0032291	.000073	.004034	.0358647
#3	.000098	-.003554	.0012194	.000739	-.008432	.0472123

Elem	Sr4077
Units	ppm
Avg	.0000969
Stddev	.0001512
%RSD	156.0540
#1	.0002335
#2	-.000066
#3	.000123

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5235.859	42096.27	2286.730	3728.044	5897.737
Stddev	14.817	269.58	12.775	17.726	14.285
%RSD	.2829825	.6403932	.5586667	.4754683	.2422050
#1	5247.985	41785.28	2296.597	3710.341	5913.592
#2	5219.344	42239.99	2291.294	3727.998	5885.871
#3	5240.249	42263.53	2272.300	3745.793	5893.748

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02DUP Acquired: 6/23/2025 17:01:58 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0157468**	**-.004471**	**.1475861**	**.0327889**	**.0551072**	**65.57525**	**.2562746**
Stddev	.0022461	.001482	.0012001	.0003782	.0037327	.17572	.0004894
%RSD	14.26391	33.14596	.8131491	1.153324	6.773602	.2679669	.1909529
#1	.0167613	-.003126	.1482114	.0332225	.0547675	65.57711	.2563933
#2	.0173067	-.006060	.1462025	.0325272	.0515559	65.39861	.2566937
#3	.0131724	-.004228	.1483445	.0326170	.0589981	65.75003	.2557368

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0035533**	**.0090470**	**10.79172**	**2.914224**	**.0462569**	**.8273129**	**101.6906**
Stddev	.0001761	.0000911	.06143	.004289	.0004929	.0048886	.3301
%RSD	4.955910	1.006552	.5692634	.1471701	1.065509	.5909026	.3245887
#1	.0037563	.0089420	10.86108	2.915172	.0463613	.8323752	101.8767
#2	.0034620	.0091053	10.74418	2.917959	.0457202	.8269447	101.3095
#3	.0034416	.0090936	10.76990	2.909540	.0466892	.8226188	101.8856

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6637738**	**14.57887**	**.5171654**	**.0022912**	**1.460457**	**.1251541**	**1.134847**
Stddev	.0032404	.08861	.0013254	.0005848	.016521	.0042459	.002183
%RSD	.4881721	.6077902	.2562883	25.52518	1.131189	3.392570	.1923227
#1	.6664412	14.64793	.5167931	.0021928	1.447623	.1262935	1.134985
#2	.6601677	14.47896	.5160659	.0017618	1.454652	.1287141	1.136957
#3	.6647125	14.60973	.5186371	.0029190	1.479097	.1204548	1.132598

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.710965**	**3.022100**	**.0349395**	**.0157974**	**1.938638**	**9.871626**	**.0152627**
Stddev	.015754	.011854	.0021268	.0008427	.003851	.073654	.0011224
%RSD	.3344189	.3922601	6.087114	5.334740	.1986519	.7461189	7.353869
#1	4.726662	3.019740	.0326950	.0161186	1.939652	9.947273	.0150842
#2	4.711081	3.011603	.0369249	.0148413	1.934382	9.867465	.0164637
#3	4.695154	3.034957	.0351984	.0164323	1.941881	9.800141	.0142403

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02DUP Acquired: 6/23/2025 17:01:58 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.173162	.0955190	.0666298
Stddev	.004442	.0034278	.0000787
%RSD	.3786155	3.588596	.1180562
#1	1.177209	.0981560	.0665390
#2	1.168410	.0967566	.0666766
#3	1.173866	.0916442	.0666739

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5622.895	45456.84	2562.511	4054.908	5491.503
Stddev	27.280	288.73	10.433	20.981	30.113
%RSD	.4851529	.6351756	.4071305	.5174268	.5483594
#1	5644.876	45722.49	2560.394	4073.098	5517.218
#2	5631.445	45498.47	2573.840	4059.672	5498.915
#3	5592.365	45149.55	2553.299	4031.955	5458.376

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02LX5 Acquired: 6/23/2025 17:06:13 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008403	-.000351	.0610150	.0059225	.0109374	14.49238	.0606061
Stddev	.0037470	.000495	.0014789	.0032421	.0047355	.07350	.0002000
%RSD	445.9075	141.0590	2.423810	54.74142	43.29625	.5071827	.3299711
#1	.0020569	-.000073	.0619084	.0023748	.0133623	14.51570	.0604318
#2	-.003364	-.000922	.0593079	.0087313	.0054806	14.41004	.0605620
#3	.003828	-.000058	.0618287	.0066614	.0139694	14.55139	.0608244

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008312	.0019123	4.039696	.6407255	.0108318	.3669613	23.96625
Stddev	.0001025	.0000709	.017289	.0013153	.0001764	.0055232	.13587
%RSD	12.33625	3.708575	.4279886	.2052799	1.628947	1.505117	.5669415
#1	.0007136	.0019736	4.045869	.6418164	.0109516	.3655155	23.97093
#2	.0008777	.0019286	4.020167	.6410951	.0109146	.3623047	23.82809
#3	.0009023	.0018346	4.053052	.6392650	.0106292	.3730635	24.09971

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1729041	3.360120	.1140267	.0009206	.4765940	.0322080	.3446114
Stddev	.0004004	.041793	.0005820	.0005429	.0133698	.0092381	.0012541
%RSD	.2315915	1.243802	.5103818	58.97341	2.805270	28.68276	.3639266
#1	.1726520	3.387710	.1144763	.0014018	.4870550	.0385853	.3438879
#2	.1726945	3.312036	.1142345	.0003320	.4615311	.0216139	.3460596
#3	.1733658	3.380615	.1133693	.0010280	.4811959	.0364248	.3438868

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8386515	.6357374	.0330328	.0081477	.5068212	2.249519	.0041027
Stddev	.0106399	.0020689	.0008313	.0002897	.0011128	.026352	.0010019
%RSD	1.268692	.3254254	2.516666	3.555045	.2195650	1.171458	24.42012
#1	.8379077	.6371513	.0330364	.0078230	.5061604	2.231519	.0047405
#2	.8284030	.6366980	.0321997	.0083796	.5061973	2.237271	.0046196
#3	.8496437	.6333629	.0338623	.0082405	.5081060	2.279766	.0029479

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02LX5 Acquired: 6/23/2025 17:06:13 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3002542	.0511000	.0202798
Stddev	.0035917	.0054610	.0000861
%RSD	1.196231	10.68694	.4247990
#1	.3042498	.0448176	.0203688
#2	.2992190	.0547114	.0201968
#3	.2972937	.0537711	.0202739

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5341.533	42756.36	2393.839	3811.439	5708.671
Stddev	20.262	227.92	25.385	27.006	21.736
%RSD	.3793236	.5330615	1.060444	.7085473	.3807509
#1	5334.375	42561.26	2392.197	3802.867	5700.773
#2	5325.822	42700.95	2420.006	3789.760	5691.989
#3	5364.402	43006.88	2369.315	3841.691	5733.252

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02MS Acquired: 6/23/2025 17:10:35 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8000856**	**2.008562**	**1.109202**	**1.797319**	**.4366309**	**72.01021**	**.3843062**
Stddev	.0057960	.010266	.003394	.005655	.0018843	.25221	.0013768
%RSD	.7244280	.5111011	.3059793	.3146278	.4315503	.3502428	.3582571
#1	.7933931	1.996716	1.105349	1.790790	.4344578	71.71898	.3830479
#2	.8034729	2.014127	1.111749	1.800658	.4378122	72.15541	.3840939
#3	.8033908	2.014844	1.110506	1.800510	.4376225	72.15623	.3857769

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1896423**	**.2085650**	**9.949306**	**3.313105**	**.2443593**	**2.751319**	**94.09041**
Stddev	.0019147	.0005758	.041621	.006566	.0006749	.022701	.39170
%RSD	1.009627	.2760845	.4183296	.1981976	.2761734	.8251063	.4163018
#1	.1899468	.2079531	9.901246	3.308192	.2437184	2.753716	93.65467
#2	.1913864	.2090963	9.973316	3.310561	.2442959	2.772727	94.20327
#3	.1875936	.2086455	9.973355	3.320563	.2450637	2.727514	94.41329

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7159620**	**14.66954**	**1.154152**	**.0667694**	**4.156140**	**.3958964**	**1.600836**
Stddev	.0061898	.02891	.001338	.0013822	.023821	.0034276	.005475
%RSD	.8645417	.1970660	.1159455	2.070083	.5731549	.8657885	.3420366
#1	.7088962	14.67556	1.153233	.0668712	4.162687	.3922600	1.596362
#2	.7185630	14.69496	1.155687	.0653392	4.176003	.3963615	1.606942
#3	.7204270	14.63810	1.153536	.0680979	4.129730	.3990677	1.599204

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.90866**	**9.446696**	**.2761644**	**.3880269**	**2.572014**	**11.81837**	**.7074908**
Stddev	.10152	.018729	.0007093	.0006773	.003211	.10896	.0035975
%RSD	.7864362	.1982570	.2568239	.1745368	.1248282	.9219259	.5084912
#1	13.00260	9.431619	.2753479	.3881915	2.568528	11.81595	.7044666
#2	12.92243	9.467662	.2765172	.3872825	2.572664	11.92851	.7114693
#3	12.80097	9.440808	.2766280	.3886066	2.574849	11.71064	.7065366

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02MS Acquired: 6/23/2025 17:10:35 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**1.471803**	**.2695776**	**.2392608**
Stddev	.008236	.0030925	.0006490
%RSD	.5595552	1.147170	.2712740
#1	1.462418	.2731112	.2385250
#2	1.475168	.2673645	.2395052
#3	1.477823	.2682573	.2397522

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5589.349**	**45157.41**	**2554.449**	**4028.776**	**5426.814**
Stddev	19.852	284.06	9.462	14.230	10.320
%RSD	.3551774	.6290409	.3704162	.3532037	.1901708
#1	5572.986	45131.53	2546.498	4022.721	5419.144
#2	5611.434	45453.52	2551.935	4045.032	5438.547
#3	5583.629	44887.17	2564.914	4018.575	5422.750

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02MSD Acquired: 6/23/2025 17:14:52 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7878333	1.976840	1.126454	1.760574	.4328552	73.52341	.4064959
Stddev	.0044792	.006388	.004413	.002856	.0018592	.26047	.0018512
%RSD	.5685408	.3231414	.3917313	.1622120	.4295292	.3542748	.4553994
#1	.7926753	1.970653	1.121440	1.757626	.4309096	73.43667	.4063357
#2	.7838377	1.976457	1.129745	1.763327	.4330419	73.81619	.4084220
#3	.7869868	1.983411	1.128178	1.760770	.4346140	73.31737	.4047300

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1851492	.2066213	11.87844	3.430807	.2471338	1.948032	102.3103
Stddev	.0015301	.0001863	.03643	.006310	.0005316	.013891	.3203
%RSD	.8264385	.0901392	.3067072	.1839197	.2150985	.7130985	.3130329
#1	.1859080	.2064178	11.90120	3.423521	.2465283	1.958109	102.1369
#2	.1861517	.2066629	11.89771	3.434530	.2475237	1.953801	102.6798
#3	.1833880	.2067833	11.83643	3.434369	.2473494	1.932186	102.1141

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8140139	16.87448	1.085640	.0679083	4.113269	.3967432	1.449556
Stddev	.0020979	.04684	.001415	.0002130	.022464	.0046775	.003171
%RSD	.2577241	.2775540	.1303259	.3135947	.5461240	1.178975	.2187610
#1	.8164363	16.84829	1.084422	.0677386	4.129360	.4007325	1.451926
#2	.8128039	16.92855	1.085304	.0678390	4.122842	.3915953	1.445954
#3	.8128015	16.84661	1.087192	.0681473	4.087605	.3979019	1.450788

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.09385	9.016257	.2650217	.3945696	2.593632	11.35003	.6943525
Stddev	.11071	.011265	.0006701	.0005029	.005325	.06427	.0019522
%RSD	.8455010	.1249462	.2528485	.1274515	.2053098	.5662953	.2811535
#1	13.13485	9.009505	.2653237	.3939898	2.589048	11.39466	.6928363
#2	13.17820	9.010004	.2642538	.3948321	2.592375	11.37907	.6965552
#3	12.96848	9.029262	.2654877	.3948870	2.599473	11.27636	.6936661

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02MSD Acquired: 6/23/2025 17:14:52 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.528974	.2690833	.2413178
Stddev	.002893	.0027326	.0006233
%RSD	.1891906	1.015511	.2583023
#1	1.531123	.2661259	.2410462
#2	1.530113	.2696095	.2420309
#3	1.525685	.2715144	.2408764

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5573.347	45626.76	2578.851	4066.052	5386.816
Stddev	6.258	99.97	16.011	9.871	4.371
%RSD	.1122766	.2191111	.6208417	.2427659	.0811390
#1	5579.182	45728.31	2570.293	4072.876	5391.833
#2	5574.120	45528.44	2568.937	4054.734	5384.784
#3	5566.739	45623.53	2597.321	4070.547	5383.831

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02A Acquired: 6/23/2025 17:19:09 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7947225	2.043766	1.289057	1.791086	.7661282	66.02115	.4368126
Stddev	.0092248	.014140	.006334	.011969	.0026297	.30908	.0023545
%RSD	1.160759	.6918457	.4913660	.6682476	.3432422	.4681477	.5390147
#1	.7842153	2.028341	1.282330	1.777582	.7631601	66.22107	.4382614
#2	.7984608	2.046844	1.289935	1.795287	.7670573	65.66516	.4340959
#3	.8014915	2.056113	1.294906	1.800387	.7681672	66.17722	.4380804

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1809092	.2081015	18.81010	3.222500	.2531996	1.873107	109.5853
Stddev	.0014023	.0011406	.04839	.001368	.0012637	.002868	.3197
%RSD	.7751438	.5480989	.2572810	.0424507	.4990794	.1531335	.2917581
#1	.1796432	.2068165	18.86127	3.223265	.2517436	1.873780	109.9521
#2	.1806680	.2084942	18.80396	3.223315	.2538454	1.869962	109.3651
#3	.1824165	.2089940	18.76506	3.220921	.2540100	1.875579	109.4388

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9279478	16.54326	1.068481	.0682345	4.506722	.3872764	1.726235
Stddev	.0001438	.09014	.002354	.0009764	.017684	.0019162	.001613
%RSD	.0154911	.5448972	.2203076	1.430954	.3923962	.4947881	.0934653
#1	.9280960	16.47676	1.066095	.0671152	4.497233	.3850936	1.724919
#2	.9278090	16.50716	1.068546	.0686768	4.495808	.3886811	1.725750
#3	.9279384	16.64586	1.070802	.0689115	4.527126	.3880547	1.728035

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.78736	8.992652	.3848098	.4060684	2.611185	10.50169	.7301596
Stddev	.13155	.041253	.0023672	.0020020	.002225	.01571	.0029695
%RSD	1.028775	.4587406	.6151554	.4930094	.0852117	.1495768	.4066975
#1	12.70859	8.953621	.3826416	.4038228	2.613550	10.49161	.7268086
#2	12.71426	8.988519	.3844523	.4067162	2.610870	10.49367	.7312057
#3	12.93923	9.035816	.3873353	.4076663	2.609134	10.51979	.7324645

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-02A Acquired: 6/23/2025 17:19:09 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**1.519411**	**.2484866**	**.2545314**
Stddev	.005930	.0007051	.0016231
%RSD	.3902893	.2837705	.6376947
#1	1.517633	.2486798	.2538578
#2	1.514574	.2490750	.2533536
#3	1.526027	.2477050	.2563829

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5600.513**	**45508.12**	**2589.904**	**4058.080**	**5387.925**
Stddev	5.855	175.54	16.390	15.178	6.740
%RSD	.1045480	.3857361	.6328412	.3740160	.1251003
#1	5593.777	45367.98	2577.174	4042.246	5381.099
#2	5603.379	45705.01	2608.397	4072.503	5394.576
#3	5604.383	45451.36	2584.141	4059.490	5388.100

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-03 Acquired: 6/23/2025 17:23:26 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0240928	.0050256	5.586585	.0978076	.0364198	173.1833	1.206178
Stddev	.0050209	.0023539	.015964	.0030212	.0028457	.3643	.002848
%RSD	20.83991	46.83803	.2857497	3.088931	7.813584	.2103709	.2361071
#1	.0291086	.0067413	5.572498	.1011647	.0379570	172.9541	1.207495
#2	.0241030	.0023421	5.583332	.0953072	.0381664	173.6034	1.208129
#3	.0190668	.0059934	5.603924	.0969511	.0331361	172.9924	1.202910

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107105	.0638093	80.37416	.8012119	.1739052	.9315950	330.7280
Stddev	.0002068	.0001564	.39534	.0009900	.0005343	.0064618	.9252
%RSD	1.931096	.2451642	.4918711	.1235695	.3072085	.6936332	.2797453
#1	.0105762	.0636294	80.54477	.8001966	.1732891	.9251751	331.2132
#2	.0109487	.0638846	80.65554	.8012645	.1741869	.9380980	331.3097
#3	.0106068	.0639138	79.92216	.8021746	.1742398	.9315119	329.6611

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.094233	65.16931	1.879651	.0014471	2.143804	.3450258	13.97865
Stddev	.020995	.29137	.004030	.0006774	.013579	.0057945	.03268
%RSD	.4121423	.4471042	.2144071	46.81306	.6333840	1.679445	.2337900
#1	5.102768	65.04308	1.875029	.0011439	2.134268	.3389959	13.99101
#2	5.109616	65.50251	1.881496	.0009742	2.159350	.3455296	14.00335
#3	5.070314	64.96233	1.882428	.0022232	2.137793	.3505520	13.94159

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.87111	5.538556	.0562048	.0301629	2.873657	5.097294	.0723362
Stddev	.27200	.007408	.0033511	.0001253	.009332	.040488	.0010129
%RSD	1.243650	.1337559	5.962247	.4152800	.3247364	.7943128	1.400199
#1	21.65194	5.530130	.0587475	.0300575	2.868829	5.058941	.0717539
#2	22.17552	5.541492	.0574595	.0303013	2.867728	5.139625	.0735058
#3	21.78588	5.544047	.0524075	.0301297	2.884414	5.093317	.0717490

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-03 Acquired: 6/23/2025 17:23:26 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.200558**	**.3613168**	**.1933991**
Stddev	.011618	.0056210	.0009719
%RSD	.2765846	1.555712	.5025234
#1	4.193091	.3647679	.1938743
#2	4.213944	.3643520	.1940421
#3	4.194640	.3548307	.1922811

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5860.103**	**46392.65**	**2755.425**	**4201.022**	**4956.027**
Stddev	5.990	37.79	10.105	7.906	3.976
%RSD	.1022179	.0814486	.3667352	.1881958	.0802184
#1	5866.524	46350.83	2763.206	4194.245	4960.245
#2	5859.117	46424.34	2744.004	4199.113	4955.489
#3	5854.667	46402.79	2759.065	4209.708	4952.349

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-04 Acquired: 6/23/2025 17:27:47 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0553325	.0105361	2.832717	.0615017	.0378552	115.5476
Stddev	.0040898	.0021903	.019952	.0020203	.0031700	.3669
%RSD	7.391274	20.78873	.7043574	3.285014	8.374050	.3175388
#1	.0511054	.0081787	2.809700	.0594881	.0414634	115.3042
#2	.0556225	.0125082	2.843332	.0635287	.0355175	115.3689
#3	.0592695	.0109215	2.845117	.0614883	.0365848	115.9696

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.372067	.0086496	.0896093	38.15721	1.614811	.2086397
Stddev	.002411	.0000575	.0007749	.18250	.003043	.0010468
%RSD	.1757263	.6649204	.8647079	.4782763	.1884532	.5017436
#1	1.373833	.0085843	.0887312	38.28767	1.614443	.2074733
#2	1.369320	.0086719	.0901972	37.94866	1.611970	.2094976
#3	1.373048	.0086926	.0898995	38.23531	1.618022	.2089482

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.694594	151.0976	1.770281	16.58128	.9997986	.0335261
Stddev	.014164	.2592	.003334	.10378	.0044630	.0005786
%RSD	.8358214	.1715757	.1883432	.6258807	.4463891	1.725769
#1	1.694608	151.2681	1.772892	16.66822	.9947854	.0335944
#2	1.680423	150.7993	1.766525	16.46639	1.003339	.0340675
#3	1.708751	151.2254	1.771426	16.60923	1.001271	.0329164

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.708320	.2463982	F 63.15540	6.791452	11.96836	.0208646
Stddev	.011093	.0032352	.25563	.050115	.15602	.0005121
%RSD	.6493479	1.313005	.4047626	.7379128	1.303574	2.454158
#1	1.700740	.2498454	63.32362	6.738493	11.80472	.0204204
#2	1.703168	.2459214	62.86124	6.797731	12.11543	.0214246
#3	1.721052	.2434279	63.28135	6.838131	11.98493	.0207487

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2364-04 Acquired: 6/23/2025 17:27:47 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0165098	F 83.14232	8.564990	.1502821	.9805216	.2315585
Stddev	.0002518	1.14433	.052080	.0019258	.0015991	.0034902
%RSD	1.525336	1.376347	.6080612	1.281466	.1630905	1.507255
#1	.0166032	82.02355	8.551711	.1485765	.9804433	.2282580
#2	.0167016	84.31060	8.520834	.1498993	.9789630	.2312061
#3	.0162246	83.09281	8.622424	.1523706	.9821584	.2352116

Elem	Sr4077
Units	ppm
Avg	.3414723
Stddev	.0003679
%RSD	.1077253
#1	.3414828
#2	.3410994
#3	.3418348

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5486.112	46169.87	2675.051	4131.109	5044.756
Stddev	44.819	84.59	14.081	1.767	36.223
%RSD	.8169558	.1832168	.5263659	.0427645	.7180340
#1	5491.893	46257.60	2680.882	4131.573	5064.144
#2	5438.682	46088.81	2685.278	4129.156	5002.965
#3	5527.759	46163.19	2658.991	4132.597	5067.158

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-01 Acquired: 6/23/2025 17:32:27 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0529177**	**-.029932**	**.2372989**	**.0846448**	**.0268711**	**136.8378**	**.9058530**
Stddev	.0025633	.001795	.0020770	.0010402	.0018228	.7264	.0034479
%RSD	4.843954	5.996767	.8752592	1.228889	6.783644	.5308829	.3806196
#1	.0499579	-.028815	.2393216	.0835093	.0288820	137.3534	.9033380
#2	.0543821	-.032002	.2374036	.0855517	.0253273	136.0069	.9097833
#3	.0544132	-.028978	.2351716	.0848734	.0264039	137.1529	.9044376

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0142525**	**.0002184**	**38.11213**	**.2504291**	**.2059459**	**1.289995**	**276.2709**
Stddev	.0041861	.0000877	.07070	.0041696	.0009258	.331573	.5917
%RSD	29.37135	40.16878	.1855107	1.664975	.4495109	25.70346	.2141722
#1	.0108348	.0002709	38.06674	.2549716	.2053475	1.006784	276.1408
#2	.0189216	.0002672	38.19359	.2467760	.2054779	1.654725	276.9168
#3	.0130010	.0001171	38.07606	.2495396	.2070122	1.208477	275.7550

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.441783**	**70.02609**	**.3476128**	**-.001645**	**17.51760**	**.3660517**	**.6149014**
Stddev	.009519	.23752	.0004240	.001416	4.01877	.0025465	.0187345
%RSD	.1477761	.3391877	.1219800	86.08107	22.94133	.6956623	3.046756
#1	6.441076	70.20164	.3479763	-.003270	14.40996	.3660712	.6364595
#2	6.451637	70.12081	.3477150	-.000984	22.05595	.3634955	.6025665
#3	6.432637	69.75583	.3471470	-.000680	16.08688	.3685883	.6056784

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.64083**	**8.467786**	**.0110770**	**.0036074**	**1.141303**	**5.089443**	**.0152899**
Stddev	4.54111	.031990	.0827063	.0003989	.003199	1.300001	.0009908
%RSD	19.20876	.3777827	746.6500	11.05651	.2802923	25.54308	6.480462
#1	21.20913	8.430875	.0820327	.0035137	1.137613	3.999775	.0147930
#2	28.87996	8.487467	-.079757	.0032638	1.143008	6.528407	.0146457
#3	20.83340	8.485016	.030955	.0040448	1.143289	4.740147	.0164308

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-01 Acquired: 6/23/2025 17:32:27 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.284033	.2509305	.1835006
Stddev	.011550	.0063152	.0002892
%RSD	.1837961	2.516691	.1576073
#1	6.270747	.2480853	.1834864
#2	6.289676	.2581678	.1832188
#3	6.291677	.2465386	.1837967

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6802.162	50102.04	2910.445	4556.825	4914.656
Stddev	3.512	6425.90	504.688	532.415	8.899
%RSD	.0516269	12.82562	17.34059	11.68391	.1810768
#1	6806.166	42682.14	3182.006	3942.089	4924.124
#2	6799.605	53780.37	2328.121	4870.581	4913.381
#3	6800.715	53843.62	3221.209	4857.805	4906.463

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-05 Acquired: 6/23/2025 17:36:50 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0588319**	**-.022083**	**.2743549**	**.0914577**	**.0232403**	**136.2294**	**.9813667**
Stddev	.0039259	.002073	.0029141	.0007915	.0016399	.4240	.0029328
%RSD	6.673064	9.388715	1.062167	.8654432	7.056202	.3112446	.2988451
#1	.0549249	-.024469	.2732529	.0920219	.0219009	136.2496	.9799092
#2	.0627764	-.020719	.2776594	.0905529	.0227508	136.6430	.9847427
#3	.0587944	-.021061	.2721526	.0917982	.0250692	135.7957	.9794482

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0147209**	**.0003108**	**26.64738**	**.2506488**	**.2176345**	**.6927405**	**290.9337**
Stddev	.0002811	.0001183	.10205	.0005998	.0008942	.0106981	.8544
%RSD	1.909572	38.06880	.3829501	.2393198	.4108773	1.544315	.2936857
#1	.0149229	.0003125	26.57824	.2509343	.2167196	.6936717	290.4585
#2	.0148400	.0001916	26.76459	.2499595	.2176775	.7029426	291.9201
#3	.0143999	.0004282	26.59932	.2510526	.2185064	.6816073	290.4226

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.768225**	**65.21406**	**.3779209**	**-.001593**	**10.21095**	**.3696691**	**.6489272**
Stddev	.017243	.31063	.0001770	.000686	.13989	.0045608	.0004226
%RSD	.2219674	.4763179	.0468327	43.06568	1.370027	1.233741	.0651279
#1	7.757832	65.02575	.3778585	-.001330	10.23319	.3664477	.6489695
#2	7.788129	65.57259	.3781206	-.001077	10.33840	.3748877	.6493271
#3	7.758715	65.04383	.3777835	-.002372	10.06127	.3676717	.6484851

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**22.07348**	**10.79651**	**.0234786**	**.0031279**	**.6928508**	**6.873297**	**.0099364**
Stddev	.35370	.01293	.0044412	.0001315	.0030120	.102280	.0009917
%RSD	1.602386	.1197609	18.91602	4.203059	.4347269	1.488085	9.980670
#1	21.99545	10.79188	.0225082	.0031127	.6905456	6.883122	.0109511
#2	22.45968	10.81112	.0196028	.0032663	.6962588	6.970311	.0098889
#3	21.76530	10.78653	.0283247	.0030047	.6917481	6.766459	.0089694

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2367-05 Acquired: 6/23/2025 17:36:50 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.544055**	**.2456139**	**.1438001**
Stddev	.015669	.0038170	.0001802
%RSD	.2826263	1.554074	.1253161
#1	5.529491	.2415152	.1437767
#2	5.560634	.2490669	.1439909
#3	5.542042	.2462597	.1436328

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6852.196**	**53696.22**	**3136.545**	**4848.604**	**4948.154**
Stddev	9.253	170.46	40.804	8.161	6.758
%RSD	.1350317	.3174521	1.300923	.1683221	.1365825
#1	6852.875	53758.59	3134.074	4856.810	4947.072
#2	6842.622	53826.72	3097.032	4848.515	4942.002
#3	6861.090	53503.36	3178.528	4840.488	4955.388

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2371-04 Acquired: 6/23/2025 17:41:13 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0202132**	**-.012290**	**.1687138**	**.0733057**	**.0147633**	**107.8662**	**.6609852**
Stddev	.0019149	.002372	.0005293	.0023274	.0015650	.1811	.0007745
%RSD	9.473415	19.30036	.3137207	3.174878	10.60057	.1678819	.1171671
#1	.0187362	-.010246	.1688545	.0733218	.0132181	108.0466	.6610051
#2	.0195267	-.011732	.1691585	.0756250	.0147245	107.8677	.6617494
#3	.0223767	-.014891	.1681284	.0709704	.0163474	107.6844	.6602009

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0095594**	**-.001735**	**10.54567**	**.1572852**	**.1225154**	**.2921767**	**221.3551**
Stddev	.0000479	.000055	.06563	.0008673	.0004671	.0036212	.9795
%RSD	.5011311	3.168749	.6223246	.5514022	.3812239	1.239380	.4424806
#1	.0095438	-.001688	10.54756	.1567594	.1230320	.2922349	221.4189
#2	.0096131	-.001795	10.61033	.1568100	.1221229	.2957684	222.3011
#3	.0095212	-.001721	10.47911	.1582862	.1223913	.2885268	220.3453

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.085417**	**32.67722**	**.2141881**	**-.000127**	**8.121307**	**.2123493**	**.5297855**
Stddev	.019803	.17980	.0002771	.000610	.079645	.0021536	.0021074
%RSD	.3894146	.5502320	.1293573	480.1131	.9806886	1.014153	.3977732
#1	5.099984	32.64941	.2144220	.000571	8.114891	.2103939	.5283611
#2	5.093399	32.86930	.2138821	-.000396	8.203966	.2146574	.5322063
#3	5.062868	32.51294	.2142602	-.000557	8.045064	.2119965	.5287891

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.24720**	**5.763595**	**.0174163**	**.0022791**	**.1060247**	**6.077503**	**.0102568**
Stddev	.10604	.006783	.0017795	.0003880	.0017376	.059764	.0004080
%RSD	.8657990	.1176920	10.21719	17.02445	1.638875	.9833713	3.977975
#1	12.17829	5.759056	.0191968	.0024888	.1071931	6.061266	.0107246
#2	12.36930	5.760336	.0156378	.0025173	.1040279	6.143707	.0100717
#3	12.19400	5.771393	.0174144	.0018314	.1068531	6.027534	.0099742

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2371-04 Acquired: 6/23/2025 17:41:13 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**2.812957**	**.1724881**	**.0781224**
Stddev	.014711	.0063956	.0002979
%RSD	.5229646	3.707870	.3813133
#1	2.816809	.1700426	.0783334
#2	2.825358	.1797457	.0782522
#3	2.796703	.1676761	.0777816

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6123.942**	**47864.40**	**2752.801**	**4324.272**	**5185.075**
Stddev	13.252	69.65	27.916	15.288	11.221
%RSD	.2164018	.1455129	1.014110	.3535284	.2164121
#1	6108.761	47831.43	2755.428	4324.049	5172.159
#2	6133.196	47817.36	2723.664	4309.098	5190.641
#3	6129.869	47944.41	2779.312	4339.670	5192.425

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV05 Acquired: 6/23/2025 17:45:39 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.201372**	**5.142784**	**5.205952**	**5.046557**	**4.937882**	**10.51378**	**10.16211**
Stddev	.035636	.038150	.034487	.022653	.023910	.05139	.05712
%RSD	.6851348	.7418133	.6624519	.4488705	.4842081	.4888049	.5620911
#1	5.167725	5.101050	5.169753	5.023879	4.912303	10.57256	10.22641
#2	5.238710	5.175862	5.238425	5.069184	4.959669	10.47734	10.11723
#3	5.197681	5.151441	5.209677	5.046609	4.941673	10.49144	10.14269

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2604687**	**2.591435**	**24.45739**	**1.004229**	**2.598738**	**1.294056**	**4.880617**
Stddev	.0017708	.015372	.21395	.002826	.014212	.009464	.027281
%RSD	.6798370	.5931756	.8748027	.2814459	.5468822	.7313297	.5589583
#1	.2622960	2.575455	24.69706	1.006153	2.584482	1.304978	4.906195
#2	.2587605	2.606116	24.28563	1.000984	2.612906	1.288296	4.883751
#3	.2603497	2.592734	24.38949	1.005551	2.598827	1.288893	4.851905

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.470922**	**24.76103**	**2.581058**	**1.258419**	**24.97327**	**2.469578**	**2.454832**
Stddev	.010510	.14773	.014015	.000881	.22235	.018986	.007422
%RSD	.4253659	.5966184	.5430005	.0700270	.8903320	.7688131	.3023414
#1	2.482718	24.90926	2.567433	1.257423	25.22142	2.486601	2.460651
#2	2.462553	24.61381	2.595433	1.259100	24.79216	2.449102	2.446473
#3	2.467494	24.76002	2.580307	1.258733	24.90622	2.473031	2.457370

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.81762**	**5.193672**	**5.151151**	**5.075749**	**5.245907**	**5.156000**	**5.232828**
Stddev	.20866	.033258	.030795	.027675	.040421	.033588	.035389
%RSD	.8760705	.6403477	.5978186	.5452409	.7705292	.6514356	.6762871
#1	24.01684	5.161193	5.185706	5.049063	5.203076	5.191610	5.195718
#2	23.60066	5.227657	5.126609	5.104317	5.283385	5.124886	5.266199
#3	23.83537	5.192167	5.141137	5.073867	5.251261	5.151505	5.236567

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV05 Acquired: 6/23/2025 17:45:39 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.031264**	**5.015316**	**5.042257**
Stddev	.027952	.044565	.030523
%RSD	.5555708	.8885750	.6053376
#1	5.062442	5.066479	5.076589
#2	5.008446	4.984959	5.018190
#3	5.022904	4.994510	5.031992

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4917.458**	**39474.35**	**2191.713**	**3526.830**	**5024.270**
Stddev	22.102	103.77	19.371	22.239	23.894
%RSD	.4494535	.2628756	.8838357	.6305568	.4755694
#1	4934.691	39415.55	2172.421	3516.986	5041.309
#2	4892.539	39594.16	2211.162	3552.292	4996.958
#3	4925.143	39413.33	2191.555	3511.213	5034.543

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB05 Acquired: 6/23/2025 17:49:55 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001192**	**.0020266**	**.0004507**	**-.001475**	**-.000771**	**-.011250**
Stddev	.002010	.0016935	.0006803	.002239	.000934	.015593
%RSD	168.7329	83.56539	150.9314	151.8162	121.0981	138.5999
#1	-.001011	.0035143	.0004087	-.000267	.000229	-.007842
#2	-.003286	.0001836	.0011511	-.000099	-.001620	-.028266
#3	.000723	.0023818	-.000208	-.004058	-.000924	.002357

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003149**	**-.000028**	**.0000147**	**-.012978**	**-.000145**	**-.000183**
Stddev	.0008626	.000127	.0000995	.017541	.000804	.000143
%RSD	273.9606	458.4156	675.8489	135.1613	555.9208	77.91675
#1	.0008143	.000115	-.000090	-.008622	-.000032	-.000221
#2	-.000681	-.000126	.000108	.001975	-.000999	-.000026
#3	.000812	-.000072	.000026	-.032286	.000598	-.000304

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012512**	**-.007611**	**-.000030**	**-.033083**	**.0001063**	**.0007465**
Stddev	.0003206	.009915	.000384	.020911	.0002000	.0004327
%RSD	25.62614	130.2627	1294.577	63.20716	188.1302	57.96236
#1	.0014789	.003739	.000097	-.048001	-.000125	.0008946
#2	.0013902	-.014582	-.000462	-.009182	.000218	.0002592
#3	.0008845	-.011992	.000275	-.042065	.000225	.0010857

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0323987**	**.0044660**	**-.000244**	**.0077914**	**-.001665**	**.0107722**
Stddev	.0036810	.0016047	.000331	.0004439	.000270	.0015231
%RSD	11.36154	35.93098	135.2081	5.697103	16.22570	14.13918
#1	.0332396	.0029192	-.000246	.0082423	-.001581	.0104585
#2	.0355865	.0061229	-.000574	.0073549	-.001447	.0094304
#3	.0283701	.0043559	.000087	.0077770	-.001968	.0124278

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB05 Acquired: 6/23/2025 17:49:55 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001656	-.004488	.0000136	-.000285	-.000459	F .0413389
Stddev	.0003229	.001339	.0001673	.000434	.002108	.0054958
%RSD	195.0178	29.83337	1233.955	152.3189	459.3385	13.29449
#1	.0000788	-.002967	.0001235	-.000265	.000702	.0384544
#2	.0005230	-.005007	-.000179	.000139	.000813	.0378858
#3	-.000105	-.005490	.000096	-.000728	-.002892	.0476763

Elem	Sr4077
Units	ppm
Avg	-.000190
Stddev	.000056
%RSD	29.34559
#1	-.000184
#2	-.000138
#3	-.000250

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5172.311	41276.04	2256.118	3658.519	5818.442
Stddev	14.536	84.09	3.045	13.408	14.766
%RSD	.2810360	.2037247	.1349639	.3664783	.2537712
#1	5180.171	41202.12	2255.879	3654.567	5826.577
#2	5181.225	41367.52	2253.200	3673.458	5827.352
#3	5155.537	41258.48	2259.276	3647.531	5801.399

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2371-05 Acquired: 6/23/2025 17:54:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0221766	-.009088	.1534839	.0813804	.0167587	149.1877	.6386597
Stddev	.0037575	.001043	.0016917	.0017413	.0010159	.8413	.0041758
%RSD	16.94363	11.48057	1.102171	2.139655	6.061965	.5639304	.6538440
#1	.0179110	-.010064	.1515707	.0805034	.0176546	148.6459	.6351511
#2	.0236220	-.007988	.1540991	.0833858	.0156549	150.1569	.6432784
#3	.0249967	-.009212	.1547819	.0802521	.0169665	148.7604	.6375497

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084265	-.002970	8.432124	.1645964	.1247645	.2262754	237.9504
Stddev	.0001282	.000094	.067242	.0015615	.0005232	.0041827	1.2248
%RSD	1.520751	3.159017	.7974532	.9487093	.4193081	1.848505	.5147145
#1	.0083473	-.002977	8.398178	.1663741	.1249524	.2259017	236.8812
#2	.0085744	-.003060	8.509572	.1634463	.1241733	.2306324	239.2867
#3	.0083579	-.002873	8.388621	.1639688	.1251677	.2222921	237.6834

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.693513	32.93139	.1948858	.0007760	1.011104	.2338265	.4594915
Stddev	.024734	.26415	.0003404	.0005642	.022135	.0055670	.0011853
%RSD	.6696554	.8021339	.1746765	72.69915	2.189186	2.380806	.2579560
#1	3.669091	32.77411	.1947786	.0006553	1.013783	.2396497	.4583012
#2	3.718547	33.23636	.1952669	.0002820	1.031777	.2332726	.4606717
#3	3.692900	32.78371	.1946119	.0013908	.987751	.2285572	.4595016

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.61098	2.273400	.0188855	.0036274	3.338301	13.30253	.0112065
Stddev	.20809	.002928	.0043988	.0001273	.006187	.22787	.0007029
%RSD	1.792208	.1287742	23.29205	3.508571	.1853299	1.713020	6.272430
#1	11.68157	2.270078	.0190869	.0037615	3.331933	13.29706	.0104510
#2	11.77460	2.275606	.0143894	.0035083	3.344289	13.53309	.0118413
#3	11.37678	2.274515	.0231801	.0036125	3.338681	13.07744	.0113271

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2371-05 Acquired: 6/23/2025 17:54:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**2.749681**	**.1711292**	**.0758678**
Stddev	.014583	.0043448	.0004557
%RSD	.5303616	2.538897	.6006919
#1	2.740604	.1739355	.0753743
#2	2.766503	.1733276	.0762728
#3	2.741937	.1661246	.0759564

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5472.998**	**42682.06**	**2470.144**	**3892.893**	**5284.690**
Stddev	13.274	144.36	36.254	13.338	14.341
%RSD	.2425321	.3382286	1.467669	.3426147	.2713707
#1	5464.435	42636.70	2478.588	3902.482	5272.277
#2	5488.288	42843.65	2430.414	3898.537	5300.389
#3	5466.269	42565.82	2501.431	3877.662	5281.404

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168551BL Acquired: 6/23/2025 17:58:49 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.004031**	**-.000036**	**.0005383**	**.0005010**	**.0004321**	**.0152579**
Stddev	.001837	.000823	.0007571	.0038812	.0032930	.0289103
%RSD	45.58541	2302.956	140.6382	774.7553	762.1574	189.4783
#1	-.002917	.000233	-.000214	-.002621	-.003188	-.012906
#2	-.003023	.000619	.001301	-.000722	.003250	.044861
#3	-.006151	-.000960	.000528	.004846	.001234	.013819

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009455**	**-.000082**	**-.000017**	**-.025488**	**.0002147**	**-.000153**
Stddev	.0007716	.000115	.000041	.004257	.0008042	.000286
%RSD	81.60361	140.6700	235.7192	16.70237	374.4713	186.6789
#1	.0018257	-.000196	-.000062	-.029401	-.000058	-.000018
#2	.0003861	-.000083	-.000009	-.020955	-.000417	.000041
#3	.0006247	.000034	.000019	-.026107	.001120	-.000482

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011993**	**-.010525**	**-.000002**	**-.028801**	**-.000001**	**.0011250**
Stddev	.0003689	.015325	.000877	.018985	.000151	.0007652
%RSD	30.76325	145.5996	40252.36	65.91762	19781.03	68.01387
#1	.0013969	-.017344	-.000699	-.024639	-.000021	.0008887
#2	.0014274	.007025	-.000290	-.049521	-.000141	.0019805
#3	.0007736	-.021258	.000983	-.012242	.000160	.0005059

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0305058**	**-.004134**	**-.000519**	**.0075758**	**-.001298**	**-.001797**
Stddev	.0092192	.008538	.000218	.0005874	.001348	.001072
%RSD	30.22111	206.5474	42.10338	7.753771	103.8996	59.65523
#1	.0309424	-.012609	-.000757	.0074729	-.001953	-.000560
#2	.0210761	-.004257	-.000471	.0082078	-.002193	-.002363
#3	.0394989	.004465	-.000328	.0070466	.000253	-.002467

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168551BL Acquired: 6/23/2025 17:58:49 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000035	-.003638	-.000578	-.000165	-.001767	F .0348461
Stddev	.000150	.002111	.002039	.000851	.001055	.0040490
%RSD	430.5239	58.02435	352.7929	516.0490	59.71877	11.61958
#1	-.000194	-.002696	-.002486	.000558	-.002891	.0336109
#2	-.000014	-.002162	-.000818	.000050	-.000797	.0315585
#3	.000103	-.006056	.001570	-.001103	-.001612	.0393688

Elem	Sr4077
Units	ppm
Avg	-.000338
Stddev	.000085
%RSD	25.13202
#1	-.000253
#2	-.000423
#3	-.000338

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5217.548	41893.54	2290.664	3709.704	5870.885
Stddev	16.207	68.58	19.714	12.977	14.914
%RSD	.3106309	.1637124	.8606372	.3498178	.2540400
#1	5227.550	41893.55	2309.676	3723.536	5870.443
#2	5198.849	41824.95	2292.000	3697.797	5856.196
#3	5226.247	41962.12	2270.315	3707.779	5886.015

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168551BS Acquired: 6/23/2025 18:03:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7383780	k 2.065948	.9659126	1.954399	k .7661852	2.060278	.1995263
Stddev	.0030172	.004891	.0025614	.007186	.0015647	.005760	.0008958
%RSD	.4086228	.2367669	.2651842	.3676889	.2042145	.2795955	.4489844
#1	.7371954	2.071085	.9665347	1.955233	.7643823	2.066758	.2005247
#2	.7361312	k 2.061346	.9630974	1.946832	k .7671879	2.058339	.1992613
#3	.7418073	2.065413	.9681057	1.961131	.7669854	2.055737	.1987928

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2071858	.1921275	1.032954	s .7114431	.1972037	.3175144	3.016890
Stddev	.0003376	.0004427	.010394	.5555805	.0003049	.0009929	.019849
%RSD	.1629696	.2304242	1.006285	78.09205	.1545999	.3127076	.6579235
#1	.2075528	.1923910	1.037185	.3948449	.1974003	.3177129	3.022667
#2	.2071164	.1916164	1.021111	s 1.352954	.1968525	.3164373	3.033209
#3	.2068882	.1923751	1.040566	.386530	.1973583	.3183931	2.994793

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1962555	1.929059	.4929885	s .1309459	2.766999	k .2869706	.1977790
Stddev	.0014115	.021430	.0006409	.0981260	.032623	.0010441	.0008676
%RSD	.7192013	1.110929	.1299999	74.93623	1.179008	.3638456	.4386651
#1	.1946484	1.936263	.4935799	.0739452	2.800245	.2881210	.1984273
#2	.1968238	1.904955	.4923075	s .2442513	2.735037	k .2867076	.1981164
#3	.1972942	1.945960	.4930780	.0746413	2.765715	.2860831	.1967934

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	^ *****	5.586727	k .2921882	.3894656	-.003674	.8937972	.6766016
Stddev	-----	.009617	.0011535	.0001170	.000891	.0022246	.0012195
%RSD	-----	.1721455	.3947712	.0300416	24.26226	.2488932	.1802412
#1	7.953838	5.592216	.2934980	.3893308	-.004701	.8956483	.6774148
#2	^ -----	5.575622	k .2917426	.3895253	-.003097	.8913293	.6751994
#3	7.937677	5.592343	.2913239	.3895407	-.003224	.8944142	.6771907

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: PB168551BS Acquired: 6/23/2025 18:03:18 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1869204	.2410679	.1960127
Stddev	.0018557	.0048756	.0003004
%RSD	.9927818	2.022514	.1532510
#1	.1847795	.2363513	.1962124
#2	.1879135	.2407642	.1956673
#3	.1880683	.2460883	.1961585

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5179.063	^ *****	2299.877	3702.532	5674.820
Stddev	13.770	-----	7.140	4.204	14.027
%RSD	.2658789	-----	.3104397	.1135481	.2471855
#1	5185.679	41674.47	2297.294	3701.744	5674.115
#2	5188.277	^ -----	2307.949	3698.777	5689.187
#3	5163.234	42080.46	2294.388	3707.074	5661.159

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2351-01 Acquired: 6/23/2025 18:07:37 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002877	-.000862	.0350210	-.003757	.0056136	3.109824	.0328838
Stddev	.002185	.000921	.0014395	.003674	.0015084	.021467	.0000515
%RSD	75.96301	106.8110	4.110467	97.79109	26.87020	.6903069	.1566577
#1	-.005176	-.000419	.0333635	-.002220	.0068903	3.117416	.0329197
#2	-.002628	-.000247	.0359578	-.007951	.0039492	3.085592	.0329068
#3	-.000826	-.001920	.0357418	-.001102	.0060012	3.126463	.0328247

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001416	.0002199	12.96605	.0127302	.0135551	.0859964	3.258388
Stddev	.0000726	.0000747	.09168	.0000971	.0001042	.0006623	.031195
%RSD	51.28419	33.98490	.7070732	.7626927	.7688910	.7701971	.9573813
#1	.0000708	.0002099	12.87259	.0128235	.0136259	.0862634	3.233434
#2	.0002159	.0001506	12.96973	.0126297	.0136040	.0852423	3.248369
#3	.0001380	.0002991	13.05583	.0127376	.0134354	.0864836	3.293362

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1485665	1.945413	.0054189	.0035085	11.31759	.0108221	.2530066
Stddev	.0009939	.012867	.0003762	.0005430	.14752	.0085398	.0001552
%RSD	.6690022	.6614250	6.943073	15.47629	1.303435	78.91091	.0613404
#1	.1475264	1.930981	.0051433	.0041093	11.28422	.0010983	.2531774
#2	.1486666	1.949567	.0058476	.0030529	11.18961	.0171034	.2529684
#3	.1495066	1.955690	.0052659	.0033632	11.47893	.0142646	.2528741

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.005783	.6453577	.0252980	.0024317	2.119434	11.72503	.0046807
Stddev	.012641	.0101195	.0015124	.0001510	.036998	.13902	.0005353
%RSD	1.256827	1.568048	5.978136	6.208531	1.745640	1.185661	11.43546
#1	1.005918	.6369305	.0238043	.0022575	2.094631	11.70798	.0048453
#2	.993075	.6425612	.0252614	.0025253	2.101712	11.59532	.0051143
#3	1.018356	.6565814	.0268284	.0025122	2.161959	11.87178	.0040825

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2351-01 Acquired: 6/23/2025 18:07:37 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0985433	.0207496	.0719829
Stddev	.0042223	.0050542	.0003835
%RSD	4.284728	24.35796	.5327894
#1	.0939472	.0260595	.0718431
#2	.0994324	.0201921	.0716888
#3	.1022502	.0159973	.0724167

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5246.774	43161.51	2426.177	3797.395	5689.508
Stddev	189.463	160.93	25.448	14.921	202.915
%RSD	3.611044	.3728539	1.048892	.3929391	3.566475
#1	5350.458	43199.34	2432.470	3800.085	5808.827
#2	5361.765	42985.04	2447.888	3781.311	5804.482
#3	5028.098	43300.15	2398.173	3810.788	5455.216

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2354-05 Acquired: 6/23/2025 18:12:00 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.019939**	**.0042532**	**7.502820**	**-.016161**	**.0481969**	**2.511697**
Stddev	.004726	.0009984	.076753	.002227	.0035186	.023713
%RSD	23.70269	23.47378	1.022988	13.78194	7.300412	.9441209
#1	-.021483	.0051228	7.574352	-.014287	.0498943	2.513432
#2	-.014634	.0031629	7.512368	-.015573	.0505451	2.487164
#3	-.023700	.0044738	7.421739	-.018624	.0441515	2.534496

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2197868**	**.0002071**	**.0160904**	**92.89518**	**.0129911**	**.0315543**
Stddev	.0011304	.0001322	.0001714	.53234	.0010650	.0001856
%RSD	.5143016	63.85908	1.065432	.5730520	8.198168	.5881166
#1	.2190708	.0002487	.0162073	92.61584	.0118448	.0317681
#2	.2210899	.0003134	.0161703	93.50905	.0139500	.0314356
#3	.2191997	.0000590	.0158936	92.56067	.0131786	.0314591

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4955195**	**17.96511**	**1.671296**	**7.798596**	**.0398946**	**.0019471**
Stddev	.0044328	.06284	.010296	.029101	.0005053	.0005084
%RSD	.8945706	.3497739	.6160570	.3731570	1.266619	26.11259
#1	.4992351	17.90615	1.660554	7.768873	.0400783	.0013627
#2	.4906129	18.03122	1.681080	7.827032	.0402825	.0021905
#3	.4967106	17.95796	1.672253	7.799883	.0393232	.0022880

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**99.85923**	**.0164506**	**3.268249**	**^ *****	**1.294942**	**.0380696**
Stddev	7.43525	.0095687	.016419	-----	.025716	.0014518
%RSD	7.445734	58.16601	.5023685	-----	1.985856	3.813656
#1	96.64914	.0264680	3.267781	^ -----	1.320976	.0390388
#2	108.3603	.0074047	3.284896	^ -----	1.294293	.0364004
#3	94.5683	.0154792	3.252069	^ -----	1.269557	.0387696

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2354-05 Acquired: 6/23/2025 18:12:00 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0112424**	**13.86297**	F **13.50593**	**.0124894**	**.1043890**	**.0341239**
Stddev	.0004231	.31524	.29275	.0017556	.0033655	.0025676
%RSD	3.763603	2.273983	2.167537	14.05664	3.224030	7.524485
#1	.0108343	14.21780	13.45552	.0109706	.1013550	.0364653
#2	.0116791	13.75594	13.82061	.0144116	.1080090	.0313780
#3	.0112139	13.61518	13.24166	.0120860	.1038030	.0345285

Elem	Sr4077
Units	ppm
Avg	**.4055707**
Stddev	.0011580
%RSD	.2855338
#1	.4042481
#2	.4064026
#3	.4060613

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4796.887**	**37847.71**	**2291.989**	**3473.545**	**4726.243**
Stddev	68.629	647.77	39.094	50.519	74.838
%RSD	1.430693	1.711506	1.705692	1.454383	1.583465
#1	4719.145	38137.73	2300.985	3443.505	4639.844
#2	4849.063	37105.61	2249.181	3531.870	4770.924
#3	4822.453	38299.78	2325.802	3445.260	4767.961

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-01 Acquired: 6/23/2025 18:16:21 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.021086**	**-.000096**	**.0139720**	**-.016506**	**.0051207**	**.1722867**
Stddev	.002261	.001452	.0011350	.001062	.0022050	.0201272
%RSD	10.72229	1513.496	8.123528	6.436584	43.05969	11.68242
#1	-.022847	.001555	.0140407	-.017105	.0025896	.1567807
#2	-.021874	-.000666	.0128041	-.015279	.0066246	.1650469
#3	-.018536	-.001176	.0150711	-.017133	.0061480	.1950323

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0945217**	**-.000147**	**.0015995**	**57.21103**	**.0069514**	**.0161305**
Stddev	.0008672	.000050	.0000682	.16739	.0010170	.0004802
%RSD	.9175141	33.77779	4.263469	.2925867	14.63033	2.977002
#1	.0936079	-.000091	.0016399	57.17159	.0062010	.0162768
#2	.0953333	-.000185	.0015208	57.39463	.0065443	.0155942
#3	.0946239	-.000165	.0016379	57.06689	.0081089	.0165206

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0078299**	**.8762383**	**.1510809**	**10.10162**	**.0114435**	**.0001031**
Stddev	.0001497	.0106667	.0017940	.03161	.0002782	.0005121
%RSD	1.911372	1.217332	1.187440	.3128875	2.431099	496.6881
#1	.0077364	.8854372	.1491182	10.07991	.0113756	.0006864
#2	.0080025	.8787319	.1526361	10.13788	.0117493	-.000273
#3	.0077508	.8645456	.1514885	10.08706	.0112055	-.000104

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**114.8894**	**.0026404**	**.2213729**	**8.611913**	**.0488352**	**.0931113**
Stddev	1.0312	.0036553	.0062308	.152178	.0005791	.0010690
%RSD	.8975900	138.4374	2.814627	1.767064	1.185793	1.148058
#1	113.7162	.0052072	.2172515	8.473144	.0488050	.0927132
#2	115.2994	-.001545	.2285408	8.774655	.0494288	.0922985
#3	115.6526	.004259	.2183263	8.587941	.0482719	.0943222

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-01 Acquired: 6/23/2025 18:16:21 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026238	21.16771	F 15.72665	.0027701	.0044767	.0253342
Stddev	.0005513	.00403	.10080	.0004718	.0018138	.0004381
%RSD	21.01093	.0190189	.6409239	17.03278	40.51603	1.729078
#1	.0020337	21.16981	15.63519	.0022770	.0061094	.0248542
#2	.0027120	21.17026	15.83472	.0028160	.0025244	.0254359
#3	.0031256	21.16307	15.71004	.0032173	.0047962	.0257124

Elem	Sr4077
Units	ppm
Avg	.2753737
Stddev	.0006923
%RSD	.2514092
#1	.2750360
#2	.2761700
#3	.2749150

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4976.817	39256.77	2284.478	3499.472	5207.437
Stddev	18.312	1094.66	18.210	99.852	20.424
%RSD	.3679560	2.788461	.7971080	2.853335	.3922082
#1	4977.440	39948.88	2301.379	3559.453	5212.707
#2	4994.810	37994.74	2265.194	3384.205	5224.709
#3	4958.201	39826.70	2286.861	3554.759	5184.894

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-02 Acquired: 6/23/2025 18:20:54 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.017800**	**.0014076**	**.0130625**	**-.014758**	**.0045086**	**.0628739**
Stddev	.001994	.0009003	.0021223	.002341	.0014469	.0109130
%RSD	11.20009	63.96171	16.24749	15.86199	32.09120	17.35702
#1	-.019720	.0009617	.0116959	-.012929	.0058221	.0516876
#2	-.015740	.0024438	.0155075	-.013948	.0047460	.0734914
#3	-.017939	.0008172	.0119842	-.017396	.0029577	.0634427

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0912355**	**-.000006**	**.0011255**	**55.42012**	**.0028220**	**.0155576**
Stddev	.0029772	.000085	.0000241	1.70761	.0002579	.0005566
%RSD	3.263217	1312.751	2.140400	3.081211	9.139031	3.577780
#1	.0896838	.000012	.0010998	54.40784	.0029212	.0160319
#2	.0893547	.000068	.0011291	54.46087	.0030156	.0156961
#3	.0946680	-.000100	.0011475	57.39167	.0025293	.0149448

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0037955**	**.7179564**	**.1484469**	**9.903619**	**.0081003**	**-.000097**
Stddev	.0001163	.0218807	.0042542	.331277	.0006820	.000524
%RSD	3.064347	3.047630	2.865795	3.345012	8.419867	541.2978
#1	.0038538	.7005300	.1463352	9.658350	.0074876	.000502
#2	.0036616	.7108265	.1456617	9.772036	.0088352	-.000321
#3	.0038711	.7425127	.1533438	10.28047	.0079780	-.000472

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**112.4465**	**.0082350**	**.2057019**	**8.305863**	**.0266826**	**.0883304**
Stddev	2.5212	.0062483	.0009419	.169493	.0015293	.0012892
%RSD	2.242166	75.87443	.4578960	2.040641	5.731417	1.459564
#1	111.6400	.0097844	.2063875	8.252563	.0249187	.0876509
#2	110.4272	.0013578	.2046279	8.169427	.0276367	.0875231
#3	115.2723	.0135628	.2060904	8.495599	.0274924	.0898172

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-02 Acquired: 6/23/2025 18:20:54 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024592	20.33457	F 15.27716	.0030954	-.001305	.0201430
Stddev	.0004856	.04739	.34035	.0013802	.001320	.0051814
%RSD	19.74520	.2330409	2.227835	44.58773	101.1472	25.72301
#1	.0023311	20.28159	15.15790	.0027713	-.002824	.0189527
#2	.0020505	20.34921	15.01250	.0019061	-.000445	.0258160
#3	.0029959	20.37291	15.66110	.0046088	-.000645	.0156604

Elem	Sr4077
Units	ppm
Avg	.2686846
Stddev	.0087798
%RSD	3.267692
#1	.2637973
#2	.2634361
#3	.2788205

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5000.150	40142.38	2257.413	3575.081	5241.787
Stddev	1.862	160.12	53.750	9.979	5.381
%RSD	.0372419	.3988748	2.381060	.2791240	.1026611
#1	4998.019	40008.62	2264.245	3567.788	5237.211
#2	5001.466	40319.80	2307.421	3586.453	5247.715
#3	5000.964	40098.72	2200.573	3571.003	5240.436

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-03 Acquired: 6/23/2025 18:25:24 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.023230**	**.0017036**	**.0183243**	**-.029404**	**.0062860**	**.0444904**
Stddev	.005734	.0002084	.0004433	.002049	.0026140	.0246395
%RSD	24.68480	12.23164	2.419426	6.967764	41.58484	55.38160
#1	-.029850	.0015657	.0188261	-.029399	.0069157	.0162457
#2	-.020050	.0019433	.0179857	-.027359	.0034146	.0615764
#3	-.019790	.0016019	.0181612	-.031456	.0085276	.0556489

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2602349**	**-.000068**	**.0000753**	**208.5895**	**.0023548**	**.0224622**
Stddev	.0022350	.000122	.0000510	1.2363	.0011812	.0002810
%RSD	.8588308	178.8317	67.68843	.5927088	50.16294	1.250771
#1	.2608767	-.000153	.0001140	207.9385	.0010657	.0225072
#2	.2577493	.000072	.0000945	207.8146	.0033854	.0221614
#3	.2620788	-.000124	.0000175	210.0153	.0026134	.0227179

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0053869**	**.0826923**	**.0293999**	**25.35030**	**.0017116**	**.0003937**
Stddev	.0004156	.0083726	.0010161	.13853	.0002990	.0003252
%RSD	7.715666	10.12503	3.456174	.5464495	17.46794	82.58709
#1	.0050188	.0730282	.0292079	25.24552	.0013987	.0000223
#2	.0053044	.0872899	.0304983	25.29803	.0017417	.0006270
#3	.0058376	.0877587	.0284935	25.50736	.0019944	.0005319

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**257.8422**	**.0018939**	**.0220192**	**26.02969**	**.0186191**	**.5687277**
Stddev	4.1219	.0010006	.0003188	.15498	.0021440	.0058002
%RSD	1.598623	52.83337	1.447957	.5953793	11.51512	1.019853
#1	260.4368	.0029882	.0223676	26.08368	.0209750	.5741030
#2	253.0893	.0010257	.0217420	25.85494	.0181000	.5625800
#3	260.0006	.0016678	.0219480	26.15045	.0167823	.5695000

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-03 Acquired: 6/23/2025 18:25:24 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0090898	F 49.42718	F 16.58653	.0063988	-.001834	.0260582
Stddev	.0006424	.06868	.15452	.0012310	.002634	.0079116
%RSD	7.066770	.1389450	.9316242	19.23855	143.5906	30.36134
#1	.0093341	49.48574	16.67997	.0050584	-.004875	.0328273
#2	.0083612	49.35159	16.40817	.0074789	-.000277	.0173606
#3	.0095742	49.44420	16.67145	.0066592	-.000351	.0279866

Elem	Sr4077
Units	ppm
Avg	.9314662
Stddev	.0051572
%RSD	.5536668
#1	.9284507
#2	.9285268
#3	.9374211

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4723.567	37506.74	2241.234	3352.483	4805.630
Stddev	10.348	94.02	15.658	22.426	9.804
%RSD	.2190684	.2506710	.6986167	.6689508	.2040036
#1	4734.315	37462.30	2227.448	3329.318	4813.742
#2	4722.715	37443.18	2258.257	3354.040	4808.412
#3	4713.672	37614.74	2237.996	3374.090	4794.736

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-04 Acquired: 6/23/2025 18:30:04 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.020281**	**.0024900**	**.0178560**	**-.027408**	**.0097773**	**.0097754**
Stddev	.003261	.0018584	.0008359	.005123	.0039664	.0120224
%RSD	16.08057	74.63274	4.681443	18.69037	40.56700	122.9859
#1	-.023093	.0044693	.0175140	-.024684	.0136439	.0114677
#2	-.021044	.0022182	.0188087	-.033317	.0057182	-.003003
#3	-.016705	.0007825	.0172454	-.024223	.0099698	.020862

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2556124**	**-.000089**	**.0000383**	**204.1796**	**.0014556**	**.0221596**
Stddev	.0006632	.000094	.0000638	.1569	.0002026	.0004738
%RSD	.2594532	105.3152	166.4782	.0768286	13.91828	2.137964
#1	.2560692	-.000164	.0000991	204.0747	.0016886	.0216796
#2	.2559163	-.000119	.0000440	204.3600	.0013209	.0226269
#3	.2548517	.000016	-.000028	204.1043	.0013573	.0221723

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039935**	**-.000927**	**.0260948**	**24.80542**	**.0013149**	**.0004358**
Stddev	.0001751	.007513	.0008147	.12827	.0006410	.0002815
%RSD	4.384043	810.5498	3.122209	.5170853	48.74980	64.58900
#1	.0041047	.003725	.0256592	24.70139	.0018033	.0007483
#2	.0037917	.003088	.0270347	24.94873	.0015524	.0003567
#3	.0040842	-.009594	.0255904	24.76613	.0005890	.0002024

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**253.9442**	**-.003812**	**.0189544**	**25.40818**	**.0150572**	**.5622259**
Stddev	3.8756	.005045	.0002870	.20758	.0013777	.0038417
%RSD	1.526156	132.3346	1.514365	.8169897	9.150038	.6832956
#1	257.6070	-.009613	.0190599	25.54510	.0159037	.5664959
#2	254.3396	-.001369	.0186296	25.51010	.0158004	.5611321
#3	249.8861	-.000454	.0191738	25.16934	.0134674	.5590498

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-04 Acquired: 6/23/2025 18:30:04 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0088909	F 48.45534	F 16.23986	.0065916	-.002217	.0152824
Stddev	.0005983	.03404	.11072	.0005321	.001083	.0030637
%RSD	6.729668	.0702576	.6817841	8.072686	48.87043	20.04717
#1	.0092627	48.42860	16.36411	.0059847	-.001041	.0118123
#2	.0082007	48.44376	16.20385	.0068122	-.003174	.0176133
#3	.0092093	48.49367	16.15163	.0069780	-.002435	.0164216

Elem	Sr4077
Units	ppm
Avg	.9130715
Stddev	.0013682
%RSD	.1498415
#1	.9127211
#2	.9119125
#3	.9145807

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4735.983	37631.25	2243.081	3359.556	4818.281
Stddev	10.920	82.99	13.949	13.279	11.414
%RSD	.2305699	.2205243	.6218663	.3952477	.2368947
#1	4723.375	37536.17	2228.945	3360.619	4805.787
#2	4742.152	37689.11	2243.463	3372.271	4820.894
#3	4742.423	37668.47	2256.834	3345.778	4828.163

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-05 Acquired: 6/23/2025 18:34:44 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.018995**	**.0020601**	**.0156258**	**-.029243**	**.0086493**	**.0889937**
Stddev	.002166	.0034189	.0013192	.005488	.0027825	.0215478
%RSD	11.40309	165.9582	8.442424	18.76637	32.16999	24.21276
#1	-.021185	.0018626	.0160443	-.030477	.0066591	.1102124
#2	-.016854	.0055735	.0166850	-.023243	.0074600	.0671312
#3	-.018945	-.001256	.0141481	-.034009	.0118288	.0896375

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2642116**	**-.000025**	**.0000887**	**211.8021**	**.0035820**	**.0222052**
Stddev	.0022456	.000087	.0000837	1.3858	.0004114	.0007650
%RSD	.8499296	349.8456	94.42993	.6543112	11.48413	3.444926
#1	.2618478	-.000073	.0000108	210.7341	.0039780	.0219306
#2	.2644704	.000076	.0001772	213.3681	.0031569	.0216155
#3	.2663166	-.000078	.0000779	211.3040	.0036111	.0230696

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0044322**	**.0658626**	**.0279561**	**25.73447**	**.0017583**	**.0000755**
Stddev	.0008699	.0109277	.0005210	.15369	.0009428	.0007951
%RSD	19.62728	16.59165	1.863655	.5972059	53.62214	1053.784
#1	.0053294	.0597144	.0283531	25.55719	.0007645	.0000418
#2	.0043748	.0784794	.0281491	25.81600	.0018702	-.000702
#3	.0035924	.0593939	.0273661	25.83021	.0026401	.000887

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**263.0350**	**-.000949**	**.0198916**	**26.73144**	**.0171862**	**.5813911**
Stddev	2.1479	.005874	.0003583	.15872	.0008846	.0090525
%RSD	.8165779	618.9013	1.801398	.5937533	5.147359	1.557044
#1	260.6427	.002479	.0195471	26.54817	.0170401	.5710994
#2	263.6645	.002405	.0198655	26.82218	.0181348	.5881207
#3	264.7978	-.007731	.0202623	26.82397	.0163837	.5849532

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-05 Acquired: 6/23/2025 18:34:44 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095104	F 50.45643	F 16.98298	.0072445	-.001584	.0232997
Stddev	.0005554	.09112	.16458	.0002492	.002288	.0093774
%RSD	5.839524	.1805971	.9690943	3.440183	144.4341	40.24674
#1	.0089880	50.46909	16.79825	.0075073	-.000513	.0236887
#2	.0100937	50.35964	17.03674	.0072147	-.000028	.0324766
#3	.0094495	50.54055	17.11397	.0070116	-.004212	.0137339

Elem	Sr4077
Units	ppm
Avg	.9474484
Stddev	.0060931
%RSD	.6431094
#1	.9419399
#2	.9539932
#3	.9464121

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4711.170	37598.20	2243.953	3365.353	4783.985
Stddev	8.609	116.44	19.879	6.403	6.852
%RSD	.1827310	.3097032	.8858902	.1902509	.1432209
#1	4707.383	37517.79	2266.604	3365.438	4776.487
#2	4705.103	37731.73	2235.848	3371.712	4785.548
#3	4721.023	37545.08	2229.407	3358.908	4789.921

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV06 Acquired: 6/23/2025 18:39:24 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.189664**	**5.166110**	**5.208071**	**5.058815**	**4.976940**	**10.41393**	**10.14673**
Stddev	.013201	.015610	.010141	.003185	.005563	.02376	.03747
%RSD	.2543625	.3021580	.1947137	.0629558	.1117679	.2281857	.3693108
#1	5.193363	5.153965	5.219228	5.060983	4.973179	10.42153	10.16190
#2	5.175009	5.160649	5.199414	5.055159	4.974311	10.43296	10.17423
#3	5.200621	5.183717	5.205570	5.060304	4.983330	10.38729	10.10405

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2548365**	**2.596984**	**24.23738**	**.9975648**	**2.606780**	**1.271316**	**4.860502**
Stddev	.0036548	.002878	.09762	.0043191	.003360	.017925	.015790
%RSD	1.434157	.1108098	.4027528	.4329599	.1288781	1.409979	.3248703
#1	.2524435	2.599890	24.23527	.9950803	2.610634	1.260206	4.876895
#2	.2590434	2.594136	24.33603	1.002552	2.604468	1.291995	4.859219
#3	.2530225	2.596928	24.14083	.995062	2.605239	1.261747	4.845393

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.447915**	**24.49612**	**2.602432**	**1.243414**	**24.95938**	**2.453897**	**2.514657**
Stddev	.009400	.03183	.002706	.006242	.27864	.017263	.006697
%RSD	.3839951	.1299372	.1039613	.5019745	1.116375	.7034912	.2663090
#1	2.448667	24.46857	2.604986	1.238121	24.83210	2.472106	2.509562
#2	2.456916	24.53096	2.602713	1.250297	25.27894	2.451817	2.522242
#3	2.438162	24.48883	2.599597	1.241824	24.76711	2.437768	2.512167

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.95595**	**5.198690**	**5.060239**	**5.083886**	**5.274684**	**5.109638**	**5.225257**
Stddev	.03547	.003060	.064687	.002307	.008784	.071630	.008531
%RSD	.1480778	.0588586	1.278347	.0453702	.1665270	1.401868	.1632679
#1	23.91704	5.199817	5.022823	5.082122	5.281242	5.068671	5.227428
#2	23.96435	5.195227	5.134933	5.083039	5.264704	5.192348	5.215850
#3	23.98648	5.201027	5.022960	5.086496	5.278106	5.067894	5.232493

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV06 Acquired: 6/23/2025 18:39:24 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.989589**	**5.114366**	**5.014585**
Stddev	.018498	.017554	.018097
%RSD	.3707314	.3432319	.3608923
#1	4.994859	5.134630	5.018570
#2	5.004880	5.104683	5.030357
#3	4.969028	5.103787	4.994827

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4943.610**	**39670.31**	**2233.116**	**3526.647**	**5052.932**
Stddev	5.208	167.41	12.569	13.459	7.975
%RSD	.1053504	.4220030	.5628254	.3816299	.1578214
#1	4939.608	39550.33	2235.778	3512.653	5045.362
#2	4949.498	39861.56	2219.429	3539.498	5061.258
#3	4941.723	39599.03	2244.140	3527.790	5052.176

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB06 Acquired: 6/23/2025 18:43:40 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003820**	**.0027034**	**-.000036**	**-.003393**	**-.000657**	**.0150022**
Stddev	.002877	.0015875	.001456	.001486	.000702	.0186885
%RSD	75.32943	58.72245	4089.442	43.80790	106.8851	124.5714
#1	-.001460	.0043064	.000976	-.003706	-.001417	-.001762
#2	-.002974	.0011318	-.001704	-.001775	-.000034	.035152
#3	-.007025	.0026721	.000621	-.004698	-.000518	.011617

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012019**	**.0000666**	**.0000659**	**-.011275**	**.0004566**	**.0000340**
Stddev	.0009485	.0000268	.0000514	.008741	.0005071	.0000751
%RSD	78.92193	40.30287	78.03568	77.52981	111.0540	220.6450
#1	.0010995	.0000495	.0000229	-.002448	.0001139	-.000050
#2	.0003087	.0000975	.0001229	-.019928	.0002169	.000057
#3	.0021975	.0000528	.0000519	-.011449	.0010391	.000095

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009500**	**-.001479**	**.0005378**	**-.032408**	**-.000131**	**.0000150**
Stddev	.0002187	.007070	.0007378	.045327	.000492	.0004352
%RSD	23.02256	477.9516	137.1770	139.8604	376.2229	2909.191
#1	.0011996	-.003750	-.000127	-.015119	.000377	.0005156
#2	.0008586	-.007135	.000409	.001729	-.000606	-.000197
#3	.0007918	.006447	.001331	-.083835	-.000164	-.000274

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0501688**	**-.002466**	**-.000644**	**.0106670**	**-.000295**	**.0123226**
Stddev	.0134635	.002524	.000329	.0004702	.000621	.0002029
%RSD	26.83642	102.3205	51.03056	4.407989	210.2514	1.646762
#1	.0652239	.000428	-.000917	.0111194	.000107	.0120930
#2	.0459988	-.003622	-.000279	.0107005	-.001010	.0124779
#3	.0392836	-.004205	-.000736	.0101809	.000017	.0123970

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB06 Acquired: 6/23/2025 18:43:40 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001612	.0018325	.0031702	.0003118	-.000716	F .0546276
Stddev	.0003153	.0026422	.0004435	.0001628	.002246	.0073673
%RSD	195.6036	144.1837	13.98827	52.21238	313.5062	13.48648
#1	.0001004	.0030131	.0035989	.0004392	-.000105	.0501176
#2	.0005025	-.001194	.0027134	.0003679	-.003205	.0631294
#3	-.000119	.003679	.0031984	.0001284	.001160	.0506359

Elem	Sr4077
Units	ppm
Avg	-.000248
Stddev	.000207
%RSD	83.49613
#1	-.000029
#2	-.000440
#3	-.000274

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5130.217	41539.47	2273.351	3656.244	5763.940
Stddev	14.403	129.34	10.290	14.904	16.611
%RSD	.2807549	.3113745	.4526200	.4076205	.2881869
#1	5146.296	41666.81	2262.179	3663.102	5783.121
#2	5125.859	41408.21	2275.433	3639.147	5754.418
#3	5118.496	41543.38	2282.439	3666.485	5754.282

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-06 Acquired: 6/23/2025 18:48:09 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.019916**	**.0060518**	**.0161905**	**-.032634**	**.0092625**	**-.007260**
Stddev	.005128	.0014047	.0006100	.004513	.0009033	.028648
%RSD	25.74601	23.21091	3.767348	13.83006	9.751915	394.5740
#1	-.022351	.0048994	.0162920	-.032604	.0094567	.017224
#2	-.023373	.0076165	.0167434	-.037162	.0082779	-.000240
#3	-.014025	.0056395	.0155362	-.028136	.0100529	-.038766

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2638477**	**-.000012**	**.0000866**	**211.9679**	**.0019357**	**.0221786**
Stddev	.0013929	.000048	.0000284	1.4841	.0009798	.0002359
%RSD	.5279121	415.6674	32.81063	.7001625	50.61503	1.063724
#1	.2654074	.000010	.0001181	213.4281	.0009447	.0222324
#2	.2627278	-.000067	.0000629	210.4610	.0029039	.0219205
#3	.2634081	.000022	.0000789	212.0145	.0019585	.0223830

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0043906**	**-.004214**	**.0266306**	**25.83612**	**.0015075**	**.0006281**
Stddev	.0003989	.007754	.0010412	.03022	.0003382	.0005463
%RSD	9.086317	184.0009	3.909879	.1169599	22.43363	86.97826
#1	.0048470	.002844	.0254533	25.87080	.0018921	.0005815
#2	.0041084	-.012515	.0270078	25.82214	.0013740	.0011963
#3	.0042163	-.002972	.0274306	25.81543	.0012565	.0001066

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**265.0349**	**.0022645**	**.0198195**	**26.73554**	**.0177276**	**.5911475**
Stddev	2.8765	.0102669	.0001876	.11012	.0011763	.0054800
%RSD	1.085333	453.3787	.9465660	.4118980	6.635299	.9270158
#1	268.2790	-.007513	.0197744	26.86253	.0166069	.5971346
#2	262.7954	.012959	.0196586	26.66638	.0176233	.5863801
#3	264.0303	.001347	.0200256	26.67771	.0189525	.5899279

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-06 Acquired: 6/23/2025 18:48:09 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098092	F 50.13318	F 16.98594	.0065814	-.005371	.0224658
Stddev	.0004740	.14620	.13095	.0011784	.000473	.0020264
%RSD	4.832657	.2916220	.7709606	17.90539	8.806225	9.019923
#1	.0102914	49.99066	17.11755	.0052379	-.005879	.0217128
#2	.0097923	50.12607	16.85565	.0070662	-.005291	.0247610
#3	.0093438	50.28280	16.98462	.0074402	-.004943	.0209238

Elem	Sr4077
Units	ppm
Avg	.9481485
Stddev	.0039559
%RSD	.4172268
#1	.9513774
#2	.9437358
#3	.9493323

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4727.550	37290.45	2201.925	3323.875	4805.384
Stddev	23.952	120.06	10.593	3.421	24.776
%RSD	.5066514	.3219714	.4810805	.1029291	.5155822
#1	4700.556	37417.17	2190.885	3320.065	4776.777
#2	4735.833	37178.38	2212.006	3326.684	4819.417
#3	4746.261	37275.80	2202.884	3324.877	4819.957

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07 Acquired: 6/23/2025 18:52:49 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.017805**	**.0067645**	**.0193427**	**-.027327**	**.0101598**	**.0157813**
Stddev	.004837	.0023534	.0007182	.001284	.0028941	.0046201
%RSD	27.16883	34.79100	3.712816	4.700360	28.48561	29.27577
#1	-.013562	.0040547	.0187017	-.027669	.0126893	.0120960
#2	-.023072	.0082966	.0192076	-.025906	.0107863	.0209645
#3	-.016779	.0079421	.0201189	-.028406	.0070038	.0142833

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3322517**	**-.000074**	**.0003810**	**195.5697**	**.0080175**	**.0252849**
Stddev	.0012923	.000124	.0000710	.8227	.0008687	.0005829
%RSD	.3889551	168.1937	18.63831	.4206735	10.83456	2.305337
#1	.3310497	-.000212	.0004553	194.6288	.0080343	.0248455
#2	.3336185	.000030	.0003737	196.1538	.0071406	.0250630
#3	.3320868	-.000040	.0003139	195.9265	.0088777	.0259461

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0564389**	**11.39361**	**1.698802**	**37.33586**	**.0524143**	**.0000736**
Stddev	.0004768	.06563	.004156	.11113	.0003507	.0003740
%RSD	.8447667	.5760478	.2446215	.2976441	.6690477	508.0456
#1	.0559585	11.34772	1.698548	37.22187	.0524619	.0002309
#2	.0564463	11.46879	1.703079	37.44388	.0527388	.0003433
#3	.0569119	11.36433	1.694780	37.34184	.0520422	-.000353

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**401.6195**	**-.006082**	**.1899875**	**46.45008**	**.0262840**	**1.441926**
Stddev	2.1716	.002850	.0004651	.29276	.0032352	.003241
%RSD	.5407182	46.86098	.2447913	.6302574	12.30847	.2247511
#1	399.8229	-.007744	.1895492	46.69114	.0296113	1.440686
#2	404.0328	-.002791	.1899378	46.12431	.0231496	1.445604
#3	401.0029	-.007711	.1904753	46.53479	.0260912	1.439488

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07 Acquired: 6/23/2025 18:52:49 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0087967	21.01285	F 17.47887	.0084280	-.002115	.0254477
Stddev	.0008337	.02062	.03994	.0013868	.001398	.0045999
%RSD	9.477330	.0981443	.2285104	16.45423	66.07973	18.07589
#1	.0083044	20.99164	17.46368	.0085960	-.001871	.0202478
#2	.0083265	21.03282	17.52418	.0069648	-.000855	.0271099
#3	.0097593	21.01411	17.44876	.0097230	-.003618	.0289855

Elem	Sr4077
Units	ppm
Avg	.9114700
Stddev	.0037545
%RSD	.4119135
#1	.9071371
#2	.9137599
#3	.9135130

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4692.893	37240.37	2221.199	3352.314	4683.213
Stddev	20.429	156.14	10.526	18.261	23.535
%RSD	.4353189	.4192883	.4738985	.5447413	.5025353
#1	4716.377	37352.12	2231.260	3371.156	4709.823
#2	4683.080	37061.96	2210.262	3334.695	4674.687
#3	4679.221	37307.03	2222.075	3351.090	4665.130

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07DUP Acquired: 6/23/2025 18:57:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.016966**	**.0063313**	**.0197795**	**-.026328**	**.0077235**	**.0234093**
Stddev	.004095	.0015002	.0019653	.004106	.0014582	.0277554
%RSD	24.13481	23.69513	9.936164	15.59454	18.88029	118.5660
#1	-.012475	.0046032	.0198050	-.025559	.0091407	-.007490
#2	-.017932	.0073005	.0217320	-.030764	.0062275	.031492
#3	-.020492	.0070901	.0178015	-.022661	.0078023	.046227

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3233920**	**-.000065**	**.0005105**	**190.2835**	**.0084931**	**.0250081**
Stddev	.0008297	.000139	.0000403	.4757	.0002609	.0003734
%RSD	.2565585	214.2260	7.897018	.2500194	3.071614	1.493171
#1	.3225137	-.000019	.0005014	190.8317	.0083515	.0250164
#2	.3234997	-.000222	.0005546	190.0395	.0083335	.0246306
#3	.3241625	.000045	.0004755	189.9792	.0087941	.0253772

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0547243**	**11.08137**	**1.660174**	**36.51713**	**.0511493**	**-.000127**
Stddev	.0010757	.02228	.004182	.10338	.0003416	.000365
%RSD	1.965742	.2010223	.2518714	.2831039	.6679151	287.2756
#1	.0558731	11.07386	1.664927	36.63626	.0514344	-.000253
#2	.0537408	11.06381	1.658536	36.46429	.0512429	-.000412
#3	.0545588	11.10643	1.657060	36.45085	.0507706	.000284

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**398.0709**	**.0005789**	**.1864152**	**45.66768**	**.0245840**	**1.419887**
Stddev	4.2942	.0027944	.0016517	.47513	.0019320	.019440
%RSD	1.078761	482.7056	.8860536	1.040409	7.858727	1.369103
#1	400.5010	-.002447	.1873485	46.20178	.0265416	1.439333
#2	393.1127	.003062	.1845081	45.29199	.0226787	1.400454
#3	400.5991	.001122	.1873891	45.50928	.0245315	1.419873

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07DUP Acquired: 6/23/2025 18:57:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0081706**	**20.58219**	F **17.14927**	**.0075194**	**-.001845**	**.0275379**
Stddev	.0007943	.11274	.23201	.0006996	.003135	.0020483
%RSD	9.721527	.5477505	1.352908	9.303898	169.9121	7.438071
#1	.0085967	20.47275	17.39384	.0082790	-.002485	.0298418
#2	.0072542	20.57587	16.93228	.0073776	.001561	.0268490
#3	.0086609	20.69796	17.12168	.0069016	-.004611	.0259228

Elem	Sr4077
Units	ppm
Avg	**.8876792**
Stddev	.0014584
%RSD	.1642947
#1	.8893633
#2	.8868366
#3	.8868379

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4712.363**	**37397.24**	**2234.195**	**3354.640**	**4712.018**
Stddev	19.653	240.14	15.244	24.211	18.948
%RSD	.4170420	.6421254	.6822921	.7217142	.4021266
#1	4734.418	37658.75	2219.810	3382.552	4733.740
#2	4696.711	37186.65	2250.173	3342.046	4703.429
#3	4705.958	37346.31	2232.603	3339.323	4698.886

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07LX5 Acquired: 6/23/2025 19:02:01 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.014653**	**.0020248**	**.0070422**	**-.015159**	**.0029557**	**.0147343**	**.0660138**
Stddev	.001372	.0013492	.0017547	.006093	.0019351	.0070814	.0011773
%RSD	9.362526	66.63429	24.91702	40.19647	65.46867	48.06094	1.783428
#1	-.013157	.0014937	.0050383	-.008503	.0007862	.0131753	.0672759
#2	-.015852	.0010220	.0077848	-.020462	.0035776	.0085623	.0649452
#3	-.014950	.0035587	.0083035	-.016511	.0045034	.0224653	.0658203

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000697**	**.0000510**	**39.36685**	**.0017292**	**.0141051**	**.0130938**	**2.277081**
Stddev	.0000650	.0000280	.27053	.0003745	.0001543	.0003074	.009747
%RSD	93.18840	54.95282	.6871899	21.65835	1.093875	2.347877	.4280276
#1	.0000333	.0000221	39.45877	.0014071	.0142378	.0129007	2.267316
#2	.0001448	.0000781	39.57944	.0021402	.0141416	.0129324	2.286809
#3	.0000312	.0000528	39.06235	.0016405	.0139358	.0134483	2.277119

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3448624**	**7.581210**	**.0100033**	**.0003604**	**92.25382**	**-.010681**	**.0363582**
Stddev	.0015747	.102907	.0003556	.0005663	.69505	.009690	.0005795
%RSD	.4566110	1.357401	3.554311	157.1396	.7534073	90.72646	1.593892
#1	.3443194	7.566300	.0097374	.0006856	91.99085	-.017216	.0368971
#2	.3466367	7.690760	.0104072	.0006891	93.04198	.000453	.0357452
#3	.3436311	7.486572	.0098654	-.000294	91.72862	-.015279	.0364324

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.105193**	**.0047675**	**.3148360**	**.0025034**	**3.919630**	**3.665076**	**.0038240**
Stddev	.048095	.0005775	.0018707	.0006505	.014681	.017565	.0009914
%RSD	.5933891	12.11308	.5941914	25.98237	.3745461	.4792625	25.92579
#1	8.130128	.0048194	.3126850	.0020028	3.931402	3.652850	.0026857
#2	8.135700	.0041658	.3160831	.0032386	3.924309	3.685204	.0044988
#3	8.049751	.0053173	.3157400	.0022689	3.903181	3.657172	.0042874

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07LX5 Acquired: 6/23/2025 19:02:01 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002502	.0839508	.1836211
Stddev	.002648	.0035270	.0007834
%RSD	105.8666	4.201277	.4266210
#1	-.000946	.0879913	.1836068
#2	-.001000	.0823724	.1844115
#3	-.005560	.0814886	.1828449

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4897.287	39159.51	2250.091	3499.109	5113.237
Stddev	12.760	150.70	10.112	17.549	12.181
%RSD	.2605622	.3848360	.4493974	.5015291	.2382315
#1	4883.155	38988.57	2255.672	3485.754	5101.611
#2	4900.742	39273.16	2238.419	3518.985	5112.193
#3	4907.964	39216.81	2256.182	3492.589	5125.907

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07MS Acquired: 6/23/2025 19:06:34 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8548957**	**2.010514**	**1.026616**	**1.972337**	**.8281955**	**2.092077**
Stddev	.0085861	.002151	.000910	.002346	.0018365	.033032
%RSD	1.004349	.1070111	.0886524	.1189487	.2217482	1.578922
#1	.8647464	2.011179	1.026976	1.972230	.8260925	2.103676
#2	.8509418	2.008109	1.025580	1.970046	.8290102	2.054810
#3	.8489988	2.012255	1.027290	1.974734	.8294837	2.117745

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5277066**	**.1730145**	**.2125786**	**194.6191**	**.4204374**	**.2352453**
Stddev	.0042428	.0031675	.0003272	1.3271	.0035777	.0003517
%RSD	.8040113	1.830788	.1539010	.6819148	.8509557	.1494902
#1	.5306746	.1752134	.2125522	194.8211	.4175768	.2356153
#2	.5228470	.1693839	.2129181	193.2026	.4192865	.2352050
#3	.5295981	.1744463	.2122654	195.8337	.4244489	.2349155

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2935040**	**14.29215**	**1.875023**	**38.91803**	**.5747982**	**.0739856**
Stddev	.0048681	.13571	.011583	.20799	.0018477	.0014309
%RSD	1.658625	.9495256	.6177615	.5344183	.3214546	1.934000
#1	.2974627	14.41766	1.878760	38.86861	.5755909	.0723334
#2	.2880684	14.14814	1.862033	38.73920	.5761173	.0748121
#3	.2949809	14.31064	1.884276	39.14627	.5726864	.0748113

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**397.1317**	**.3008873**	**.4068997**	**56.17183**	**6.653749**	**1.450519**
Stddev	3.7878	.0072121	.0120356	.60072	.011303	.019554
%RSD	.9537850	2.396932	2.957868	1.069440	.1698754	1.348076
#1	400.5333	.2977912	.3936076	56.86054	6.659943	1.459064
#2	393.0499	.2957402	.4170593	55.89905	6.660601	1.428147
#3	397.8119	.3091305	.4100322	55.75589	6.640703	1.464346

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07MS Acquired: 6/23/2025 19:06:34 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4294206	20.46320	F 15.53789	.7667617	.1964093	.2191134
Stddev	.0009411	.01807	.26672	.0025304	.0005200	.0035554
%RSD	.2191678	.0882929	1.716605	.3300100	.2647323	1.622654
#1	.4283941	20.47504	15.60745	.7643223	.1969805	.2232154
#2	.4302429	20.47216	15.24328	.7693742	.1959636	.2172087
#3	.4296247	20.44241	15.76294	.7665885	.1962837	.2169161

Elem	Sr4077
Units	ppm
Avg	1.098513
Stddev	.006647
%RSD	.6051156
#1	1.102429
#2	1.090838
#3	1.102273

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4709.655	30454.48	2206.247	2817.494	4698.597
Stddev	14.317	1115.70	17.757	86.119	10.830
%RSD	.3039917	3.663484	.8048629	3.056597	.2305011
#1	4725.942	31631.77	2221.849	2895.760	4710.910
#2	4699.056	29412.77	2209.969	2725.235	4690.550
#3	4703.968	30318.91	2186.924	2831.488	4694.329

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07MSD Acquired: 6/23/2025 19:10:59 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8575351**	**2.030464**	**1.034763**	**1.994303**	**.8373559**	**2.087196**
Stddev	.0022990	.002815	.001336	.000769	.0027987	.011515
%RSD	.2680940	.1386337	.1291581	.0385666	.3342292	.5516939
#1	.8596424	2.027823	1.033470	1.993559	.8383771	2.074825
#2	.8550833	2.030143	1.034678	1.994256	.8341900	2.089162
#3	.8578795	2.033425	1.036139	1.995095	.8395006	2.097602

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5239591**	**.2025772**	**.2148197**	**192.9579**	**.4131318**	**.2369739**
Stddev	.0011544	.0008920	.0003913	.3966	.0010746	.0011702
%RSD	.2203196	.4403259	.1821650	.2055382	.2601231	.4937867
#1	.5228355	.2034610	.2144245	192.5010	.4136267	.2364014
#2	.5239000	.2016772	.2148276	193.1604	.4138698	.2362002
#3	.5251419	.2025936	.2152071	193.2125	.4118989	.2383201

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3473290**	**14.18493**	**1.864074**	**38.61070**	**.5812005**	**.0722578**
Stddev	.0021577	.08235	.003051	.01433	.0002066	.0009775
%RSD	.6212115	.5805492	.1636675	.0371203	.0355402	1.352826
#1	.3491552	14.09094	1.863919	38.61510	.5809707	.0733863
#2	.3449482	14.24444	1.861104	38.59468	.5812602	.0716711
#3	.3478835	14.21940	1.867200	38.62231	.5813707	.0717161

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**391.6011**	**.3043309**	**.3905520**	**56.11538**	**6.714828**	**1.685729**
Stddev	4.1647	.0058709	.0009085	.65402	.005984	.010861
%RSD	1.063497	1.929124	.2326283	1.165495	.0891186	.6443164
#1	396.3582	.3063920	.3913118	56.86106	6.709536	1.692405
#2	388.6127	.2977074	.3895457	55.84603	6.713625	1.673196
#3	389.8323	.3088934	.3907986	55.63904	6.721322	1.691586

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07MSD Acquired: 6/23/2025 19:10:59 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4333790	20.47210	F 17.93259	.7709552	.1952288	.2192633
Stddev	.0004489	.02348	.09705	.0021645	.0015971	.0052958
%RSD	.1035896	.1146947	.5411699	.2807517	.8180723	2.415274
#1	.4332411	20.44683	18.01204	.7690179	.1959895	.2225698
#2	.4338808	20.47623	17.82443	.7705562	.1933935	.2131552
#3	.4330153	20.49324	17.96132	.7732914	.1963033	.2220650

Elem	Sr4077
Units	ppm
Avg	1.092402
Stddev	.003363
%RSD	.3078167
#1	1.088793
#2	1.092967
#3	1.095447

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4661.751	37178.04	2213.799	3348.831	4658.455
Stddev	5.686	138.81	9.542	18.152	8.241
%RSD	.1219607	.3733736	.4310400	.5420364	.1768973
#1	4667.340	37097.77	2202.821	3328.798	4667.269
#2	4661.941	37098.03	2220.110	3353.510	4657.153
#3	4655.973	37338.33	2218.464	3364.186	4650.942

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07A Acquired: 6/23/2025 19:15:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8492013**	**2.003729**	**1.025075**	**1.963716**	**.8192196**	**2.064944**
Stddev	.0017667	.005051	.001675	.005616	.0017721	.014662
%RSD	.2080385	.2520922	.1634223	.2860097	.2163184	.7100457
#1	.8509107	2.002091	1.024831	1.958649	.8185683	2.063862
#2	.8493107	1.999701	1.026858	1.962744	.8178653	2.050852
#3	.8473824	2.009396	1.023535	1.969755	.8212252	2.080116

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5191489**	**.2016562**	**.2115321**	**191.6950**	**.4068833**	**.2334520**
Stddev	.0011776	.0020878	.0002587	.6766	.0012138	.0002989
%RSD	.2268424	1.035337	.1223125	.3529470	.2983255	.1280472
#1	.5183377	.2024883	.2112789	191.8622	.4066180	.2331240
#2	.5186093	.1992807	.2115212	190.9505	.4082078	.2335230
#3	.5204997	.2031997	.2117961	192.2723	.4058240	.2337091

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3419540**	**14.03254**	**1.844269**	**38.22782**	**.5725369**	**.0730398**
Stddev	.0040818	.01314	.005689	.10515	.0015179	.0004692
%RSD	1.193669	.0936353	.3084636	.2750508	.2651130	.6423543
#1	.3451959	14.04771	1.846719	38.32553	.5719481	.0735299
#2	.3373701	14.02466	1.837765	38.24138	.5714016	.0725948
#3	.3432960	14.02526	1.848322	38.11655	.5742609	.0729948

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**396.5686**	**.2960154**	**.3867534**	**55.76950**	**6.637942**	**1.686338**
Stddev	1.4859	.0039814	.0017883	.99799	.007857	.021782
%RSD	.3747016	1.344994	.4623811	1.789492	.1183575	1.291684
#1	397.4621	.2999280	.3884678	56.67552	6.629716	1.696032
#2	394.8533	.2919686	.3848994	54.69978	6.638741	1.661391
#3	397.3904	.2961497	.3868928	55.93320	6.645368	1.701590

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-07A Acquired: 6/23/2025 19:15:25 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4223459	20.37847	F 18.01057	.7547227	.1959837	.2167992
Stddev	.0002750	.06093	.19268	.0020312	.0028319	.0028525
%RSD	.0651174	.2990164	1.069820	.2691330	1.444946	1.315743
#1	.4226007	20.32433	18.11572	.7525582	.1951459	.2175960
#2	.4220544	20.36664	17.78819	.7565873	.1936652	.2191686
#3	.4223827	20.44446	18.12781	.7550225	.1991399	.2136330

Elem	Sr4077
Units	ppm
Avg	1.081566
Stddev	.002428
%RSD	.2245133
#1	1.081371
#2	1.079241
#3	1.084086

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4693.958	37245.93	2213.472	3362.216	4683.839
Stddev	16.856	97.33	22.440	14.043	14.306
%RSD	.3590923	.2613072	1.013784	.4176665	.3054364
#1	4685.185	37202.94	2199.107	3346.673	4676.074
#2	4683.299	37177.51	2239.330	3365.985	4675.093
#3	4713.391	37357.35	2201.978	3373.989	4700.348

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-08 Acquired: 6/23/2025 19:19:52 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.018671**	**.0038333**	**.0176200**	**-.029211**	**.0103932**	**.0264711**
Stddev	.002141	.0016052	.0012648	.002094	.0039092	.0050095
%RSD	11.46565	41.87601	7.178366	7.168011	37.61291	18.92435
#1	-.016237	.0023031	.0165285	-.030516	.0140410	.0255019
#2	-.019516	.0055043	.0190061	-.026796	.0108719	.0318943
#3	-.020261	.0036925	.0173254	-.030322	.0062667	.0220170

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3425397**	**-.000037**	**.0004428**	**200.6328**	**.0069913**	**.0253389**
Stddev	.0003131	.000086	.0000377	.3470	.0002444	.0000543
%RSD	.0914081	233.4200	8.511797	.1729607	3.496383	.2144082
#1	.3424073	.000038	.0004401	200.3232	.0072267	.0253711
#2	.3423145	-.000019	.0004818	201.0079	.0067387	.0253694
#3	.3428972	-.000130	.0004065	200.5674	.0070086	.0252762

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0500782**	**12.21758**	**1.768869**	**38.50391**	**.0549726**	**.0000963**
Stddev	.0002866	.09097	.011388	.15105	.0003443	.0008125
%RSD	.5722747	.7445804	.6438073	.3923084	.6263809	843.9183
#1	.0500612	12.11330	1.758280	38.33778	.0545750	-.000618
#2	.0498005	12.28067	1.780915	38.63300	.0551704	.000980
#3	.0503729	12.25876	1.767411	38.54096	.0551724	-.000073

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**403.4958**	**-.001253**	**.1990147**	**47.44595**	**.0246040**	**1.470454**
Stddev	1.8371	.009817	.0010719	.41393	.0027675	.001127
%RSD	.4552938	783.6336	.5385821	.8724139	11.24809	.0766602
#1	401.6227	.002535	.1998017	47.78114	.0277959	1.471473
#2	405.2946	.006106	.1977939	47.57344	.0231417	1.470645
#3	403.5703	-.012399	.1994484	46.98328	.0228744	1.469243

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: Q2344-08 Acquired: 6/23/2025 19:19:52 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0094321	21.57174	F 17.78182	.0073180	-.004367	.0220821
Stddev	.0006606	.08205	.01568	.0003922	.002035	.0041181
%RSD	7.003515	.3803712	.0881533	5.359197	46.60168	18.64891
#1	.0092657	21.57818	17.79933	.0075439	-.002122	.0267223
#2	.0088707	21.48665	17.77702	.0068652	-.004886	.0206619
#3	.0101600	21.65038	17.76910	.0075451	-.006091	.0188621

Elem	Sr4077
Units	ppm
Avg	.9375381
Stddev	.0028463
%RSD	.3035930
#1	.9348302
#2	.9405051
#3	.9372792

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4636.448	36840.40	2216.355	3305.788	4626.062
Stddev	19.961	103.37	10.350	12.077	14.438
%RSD	.4305211	.2805754	.4670041	.3653441	.3121060
#1	4658.860	36731.07	2207.543	3292.776	4640.900
#2	4629.902	36853.62	2213.769	3307.949	4625.225
#3	4620.583	36936.53	2227.754	3316.639	4612.060

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV07 Acquired: 6/23/2025 19:24:29 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.218310**	**5.205283**	**5.241508**	**5.080145**	**5.005714**	**10.40299**	**10.18312**
Stddev	.009670	.021379	.010731	.012700	.016029	.03429	.02395
%RSD	.1853088	.4107103	.2047372	.2499958	.3202177	.3296354	.2351827
#1	5.210653	5.180599	5.231472	5.065790	4.991089	10.41431	10.19853
#2	5.229176	5.217902	5.252820	5.084725	5.003204	10.43019	10.19530
#3	5.215100	5.217347	5.240231	5.089920	5.022851	10.36447	10.15553

Elem	Be2348	Cd2144	Ca3736	Cr2677	Co2286	Cu3247	Fe2598
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2564056**	**2.611150**	**24.25958**	**.9963151**	**2.620210**	**1.280539**	**4.877451**
Stddev	.0034412	.003788	.08908	.0032503	.003274	.014996	.046689
%RSD	1.342071	.1450583	.3671915	.3262286	.1249612	1.171093	.9572465
#1	.2565779	2.606946	24.31004	.9962068	2.617537	1.280156	4.839148
#2	.2597574	2.614297	24.31197	.9931203	2.623862	1.295723	4.929459
#3	.2528816	2.612206	24.15673	.9996181	2.619231	1.265738	4.863745

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na8183	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.442220**	**24.56794**	**2.604631**	**1.246331**	**25.27157**	**2.457799**	**2.490623**
Stddev	.004991	.06667	.004307	.004521	.27664	.012407	.004203
%RSD	.2043471	.2713791	.1653516	.3627354	1.094666	.5047928	.1687660
#1	2.440765	24.55153	2.601731	1.250631	25.27588	2.459042	2.488014
#2	2.447777	24.64128	2.609579	1.241617	25.54602	2.469538	2.488383
#3	2.438119	24.51100	2.602582	1.246745	24.99279	2.444818	2.495472

Elem	K_7698	P_1774	B_2496	Mo2020	S_1820	Si2516	Sn1899
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.21591**	**5.223579**	**5.108765**	**5.100356**	**5.266110**	**5.161231**	**5.245595**
Stddev	.31578	.001642	.064828	.006761	.006918	.055235	.008007
%RSD	1.304009	.0314415	1.268953	.1325520	.1313774	1.070184	.1526347
#1	24.21956	5.222440	5.103539	5.092626	5.264558	5.152542	5.236370
#2	24.52985	5.225462	5.176048	5.103281	5.273673	5.220295	5.250739
#3	23.89832	5.222835	5.046708	5.105162	5.260099	5.110855	5.249676

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCV07 Acquired: 6/23/2025 19:24:29 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	Ti3361	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.996485**	**5.181568**	**5.027002**
Stddev	.020003	.019153	.011083
%RSD	.4003370	.3696311	.2204599
#1	5.018717	5.197845	5.035710
#2	4.990792	5.186395	5.030770
#3	4.979946	5.160463	5.014527

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4900.675**	**39272.39**	**2200.491**	**3484.217**	**5006.787**
Stddev	9.849	113.47	21.835	5.445	9.064
%RSD	.2009813	.2889384	.9922904	.1562854	.1810431
#1	4912.029	39263.17	2203.556	3483.879	5013.606
#2	4894.422	39390.20	2177.285	3489.824	4996.501
#3	4895.574	39163.82	2220.632	3478.949	5010.254

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB07 Acquired: 6/23/2025 19:28:46 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003069**	**.0025023**	**.0009094**	**.0004580**	**-.000676**	**-.011052**
Stddev	.001335	.0003272	.0005567	.0013362	.003170	.015200
%RSD	43.49635	13.07685	61.21356	291.7589	468.6987	137.5275
#1	-.002750	.0024558	.0002763	.0001731	-.001359	-.017222
#2	-.001922	.0028502	.0011296	-.000713	.002779	.006262
#3	-.004534	.0022008	.0013223	.001914	-.003449	-.022198

Elem	Ba4934	Be2348	Cd2144	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014943**	**.0000738**	**-.000024**	**-.018145**	**-.000174**	**-.000092**
Stddev	.0007336	.0001446	.000085	.010904	.000779	.000241
%RSD	49.09672	195.8770	352.6306	60.09194	447.5883	263.0254
#1	.0021589	.0000584	-.000035	-.020144	-.000870	-.000358
#2	.0007071	.0002255	.000066	-.006380	-.000320	-.000029
#3	.0016168	-.000062	-.000104	-.027910	.000668	.000112

Elem	Cu3247	Fe2598	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011106**	**-.025391**	**.0003615**	**-.017072**	**-.000130**	**.0003412**
Stddev	.0005359	.006542	.0008837	.034856	.000287	.0009829
%RSD	48.25661	25.76654	244.4276	204.1783	220.5617	288.0312
#1	.0014468	-.032884	.0006833	-.015725	-.000453	.0014558
#2	.0013926	-.022480	-.000638	-.052582	.000093	-.000031
#3	.0004926	-.020809	.001039	.017092	-.000029	-.000401

Elem	Na8183	V_2924	Zn2138	K_7698	P_1774	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0761262**	**-.010177**	**-.000837**	**.0138550**	**-.001306**	**.0167497**
Stddev	.0012379	.010447	.000377	.0002738	.001535	.0004757
%RSD	1.626134	102.6515	45.02225	1.976180	117.5674	2.840347
#1	.0763182	-.010285	-.001224	.0140238	-.002819	.0171211
#2	.0748036	-.020570	-.000471	.0135390	-.001349	.0162134
#3	.0772570	.000323	-.000816	.0140020	.000251	.0169146

Reviewed By:
On:
Inst Id :P5
LB :LB136236

Sample Name: CCB07 Acquired: 6/23/2025 19:28:46 Type: Unk
Method: METHOD 6010D, 200.7(v20) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	Mo2020	S_1820	Si2516	Sn1899	Ti3361	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003720	.0013218	.0044245	.0000253	-.000099	F .0538043
Stddev	.0003153	.0003028	.0020176	.0005585	.001673	.0005265
%RSD	84.78387	22.90559	45.60124	2203.440	1696.939	.9784482
#1	.0003096	.0016335	.0065111	.0006562	-.001002	.0544047
#2	.0007138	.0010289	.0024837	-.000174	-.001126	.0535865
#3	.0000924	.0013030	.0042787	-.000406	.001832	.0534217

Elem	Sr4077
Units	ppm
Avg	-.000081
Stddev	.000033
%RSD	41.40881
#1	-.000119
#2	-.000064
#3	-.000058

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5083.594	41020.76	2228.528	3622.156	5714.931
Stddev	17.146	250.06	3.690	12.156	16.729
%RSD	.3372877	.6095933	.1656002	.3355906	.2927164
#1	5063.939	41278.52	2224.518	3635.065	5695.616
#2	5091.356	40779.18	2229.285	3610.929	5724.789
#3	5095.486	41004.57	2231.782	3620.474	5724.388

Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB168564

SOP ID : M3050B-Digestion-20

SDG No : N/A

Matrix : SOIL

Pippete ID: ICP A

Balance ID : M SC-2

Filter paper ID : N/A

pH Strip ID : N/A

Hood ID : #3

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

Start Digest Date: 06/20/2025 **Time :** 10:05 **Temp :** 96 °C

End Digest Date: 06/20/2025 **Time :** 12:10 **Temp :** 96 °C

Digestion tube ID: M6054

Block thermometer ID: MET-DIG. #2

Dig Technician Signature: SLB.

Supervisor Signature: JSP

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	1.00	M6007
LFS-2	1.00	M6015
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
CONC: HNO3	5.00	M6158
1:1 HNO3	10.00	MP84041
30% H2O2	3.00	M6162
Conc. HCL	10.00	M6151
PTFE Boiling Stones	N/A	M5581
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#2 CELL#35 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
06/20/25 13:10	SLB, met. dig	JSP Metlab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Metals Preparation Sheet

PB168564

Lab Sample ID	Client Sample ID	pH	Initial Weight (g)	Final Vol (ml)	Color Before	Color After	Texture	Artifact	Comment	Prep Pos
PB168564BL	PBS564	N/A	2.00	100	Colorless	Colorless	Fine	N/A	N/A	1
PB168564BS	LCS564	N/A	2.00	100	Colorless	Colorless	Fine	N/A	M6007,M6015	2
Q2362-01	TP-11	N/A	2.16	100	Brown	Yellow	Medium	N/A	N/A	3
Q2362-05	EP-6	N/A	2.12	100	Brown	Yellow	Medium	N/A	N/A	4
Q2363-01	GCAP1	N/A	2.21	100	Brown	Yellow	Medium	N/A	N/A	5
Q2364-01	GAV1A	N/A	2.41	100	Brown	Yellow	Medium	N/A	N/A	6
Q2364-02	GAV1B	N/A	2.26	100	Brown	Yellow	Medium	N/A	N/A	7
Q2364-02MS	GAV1BMS	N/A	2.28	100	Brown	Yellow	Medium	N/A	M6007,M6015	9
Q2364-02MSD	GAV1BMSD	N/A	2.40	100	Brown	Yellow	Medium	N/A	M6007,M6015	10
Q2364-02DUP	GAV1BDUP	N/A	2.44	100	Brown	Yellow	Medium	N/A	N/A	8
Q2364-03	GAV2A	N/A	2.13	100	Brown	Yellow	Medium	N/A	N/A	11
Q2364-04	GAV2B	N/A	2.20	100	Brown	Yellow	Medium	N/A	N/A	12
Q2367-01	EP-4	N/A	2.29	100	Brown	Yellow	Medium	N/A	N/A	13
Q2367-05	EP-5	N/A	2.49	100	Brown	Yellow	Medium	N/A	N/A	14
Q2371-04	RPXY42025	N/A	2.25	100	Brown	Yellow	Medium	N/A	N/A	15
Q2371-05	BBXY42025	N/A	2.30	100	Brown	Yellow	Medium	N/A	N/A	16

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB168564 **WorkList ID :** 190296 **Department :** Digestion **Date :** 06-20-2025 09:37:30

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2362-01	TP-11	Solid	Metals ICP-TAL	Cool 4 deg C	PSEG03	D52	06/18/2025	6010D
Q2362-05	EP-6	Solid	Metals ICP-TAL	Cool 4 deg C	PSEG03	D52	06/18/2025	6010D
Q2363-01	GCAP1	Solid	Metals Group3	Cool 4 deg C	GENV01	D51	06/18/2025	6010D
Q2364-01	GAV1A	Solid	Metals ICP-TAL	Cool 4 deg C	GENV01	D51	06/18/2025	6010D
Q2364-02	GAV1B	Solid	Metals ICP-TAL	Cool 4 deg C	GENV01	D51	06/18/2025	6010D
Q2364-03	GAV2A	Solid	Metals ICP-TAL	Cool 4 deg C	GENV01	D51	06/18/2025	6010D
Q2364-04	GAV2B	Solid	Metals ICP-TAL	Cool 4 deg C	GENV01	D51	06/18/2025	6010D
Q2367-01	EP-4	Solid	Metals ICP-TAL	Cool 4 deg C	GENV01	D51	06/18/2025	6010D
Q2367-05	EP-5	Solid	Metals ICP-TAL	Cool 4 deg C	PSEG03	D61	06/19/2025	6010D
Q2371-04	RPXY42025	Solid	Metals Group4	Cool 4 deg C	PSEG03	D61	06/19/2025	6010D
Q2371-05	BBXY42025	Solid	Metals Group4	Cool 4 deg C	GENV01	D51	06/19/2025	6010D
					GENV01	D51	06/19/2025	6010D

Date/Time 06/20/25 9:50
Raw Sample Received by: SLS. met. div
Raw Sample Relinquished by: CL

Date/Time 06/20/25 10:50
Raw Sample Received by: CL
Raw Sample Relinquished by: SLS. met. div

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 6/23/2025

OVENTEMP IN Celsius(°C): 108
Time IN: 17:10
In Date: 06/20/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:28
Out Date: 06/21/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB136215

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q2371-04	RPXY42025	1	1.14	10.84	11.98	10.84	89.5	
Q2371-05	BBX42025	2	1.12	10.76	11.88	10.44	86.6	
Q2371-06	GBUFF1	3	1.19	10.41	11.6	10.24	86.9	
Q2378-05	SVOC-GPC-BLANK	4	1.00	1.00	2.00	2.00	100.0	
Q2378-06	PEST-GPC-BLANK	5	1.00	1.00	2.00	2.00	100.0	
Q2378-07	PEST-GPC-BLANK-SPIKE	6	1.00	1.00	2.00	2.00	100.0	
Q2378-08	PCB-GPC-BLANK	7	1.00	1.00	2.00	2.00	100.0	
Q2378-09	PCB-GPC-BLANK-SPIKE	8	1.00	1.00	2.00	2.00	100.0	
Q2378-10	SVOC-GPC2-BLANK	9	1.00	1.00	2.00	2.00	100.0	
Q2378-11	PEST-GPC2-BLANK	10	1.00	1.00	2.00	2.00	100.0	
Q2378-12	PEST-GPC2-BLANK-SPIKE	11	1.00	1.00	2.00	2.00	100.0	
Q2378-13	PCB-GPC2-BLANK	12	1.00	1.00	2.00	2.00	100.0	
Q2378-14	PCB-GCP2-BLANK-SPIKE	13	1.00	1.00	2.00	2.00	100.0	
Q2380-01	72-11948	14	1.14	10.65	11.79	10.6	88.8	
Q2380-02	72-11948-E2	15	1.15	10.35	11.5	10.17	87.1	
Q2380-03	VNJ-211	16	1.19	10.67	11.86	10.22	84.6	
Q2380-04	VNJ-211-E2	17	1.19	10.63	11.82	9.91	82.0	
Q2380-05	RBR-200059	18	1.15	10.83	11.98	11.45	95.1	
Q2380-06	RBR-200059-E2	19	1.18	10.22	11.4	10.00	86.3	
Q2381-01	291431	20	1.17	10.23	11.4	9.76	84.0	
Q2381-02	291431-E2	21	1.14	9.98	11.12	9.5	83.8	
Q2381-03	VNJ-207	22	1.16	10.61	11.77	10.41	87.2	
Q2381-04	VNJ-207-E2	23	1.14	10.26	11.4	9.93	85.7	
Q2381-05	72-11929	24	1.18	10.26	11.44	10.57	91.5	
Q2381-06	72-11929-E2	25	1.16	10.32	11.48	10.62	91.7	
Q2383-01	RT-5376	26	1.19	10.54	11.73	11.21	95.1	
Q2383-02	RT-5376-E2	27	1.14	10.31	11.45	10.9	94.7	
Q2384-01	OK-01-6202025	28	1.19	10.47	11.66	10.52	89.1	

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 6/23/2025

OVENTEMP IN Celsius(°C): 108
Time IN: 17:10
In Date: 06/20/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:28
Out Date: 06/21/2025
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB136215

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
Q2384-02	OK-01-6202025-E2	29	1.19	10.62	11.81	10.96	92.0	
Q2386-01	SU-1-062025	30	1.13	10.19	11.32	10.05	87.5	
Q2387-01	AUD-25-101	31	1.00	1.00	2.00	2.00	100.0	wipe sample
Q2387-02	AUD-25-102	32	1.00	1.00	2.00	2.00	100.0	wipe sample
Q2387-03	AUD-25-103	33	1.00	1.00	2.00	2.00	100.0	wipe sample
Q2388-01	TP-12	34	1.12	10.86	11.98	10.9	90.1	
Q2388-02	TP-12-EPH	35	1.16	10.65	11.81	10.72	89.8	
Q2388-03	TP-12-VOC	36	1.13	10.84	11.97	10.8	89.2	
Q2389-01	MH-J-I	37	1.15	10.70	11.85	10.67	89.0	
Q2389-02	MH-J-I-EPH	38	1.19	10.63	11.82	10.61	88.6	
Q2389-03	MH-J-I-VOC	39	1.16	10.48	11.64	10.45	88.6	
Q2391-01	AUD-1623	40	1.15	10.35	11.5	10.9	94.2	

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

WORKLIST(Hardcopy Internal Chain)

VB 13215

WorkList Name : %1-062025 **WorkList ID :** 190284 **Department :** Wet-Chemistry **Date :** 06-20-2025 08:17:23

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2371-04	RPXY42025	Solid	Percent Solids	Cool 4 deg C	GENV01	D51	06/19/2025	Chemtech -SO
Q2371-05	BBX42025	Solid	Percent Solids	Cool 4 deg C	GENV01	D51	06/19/2025	Chemtech -SO
Q2371-06	GBUFF1	Solid	Percent Solids	Cool 4 deg C	GENV01	D51	06/19/2025	Chemtech -SO
Q2378-05	SVOC-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-06	PEST-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-07	PEST-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-08	PCB-GPC-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-09	PCB-GPC-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-10	SVOC-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-11	PEST-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-12	PEST-GPC2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-13	PCB-GPC2-BLANK	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2378-14	PCB-GCP2-BLANK-SPIKE	Solid	Percent Solids	Cool 4 deg C	CHEM02	D41	06/13/2025	Chemtech -SO
Q2380-01	72-11948	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2380-02	72-11948-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2380-03	VNJ-211	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2380-04	VNJ-211-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2380-05	RBR-200059	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2380-06	RBR-200059-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2381-01	291431	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2381-02	291431-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO

Date/Time 06/20/25 15:10

Raw Sample Received by: [signature]

Raw Sample Relinquished by: [signature]

Date/Time 06/20/25 17:20

Raw Sample Received by: [signature]

Raw Sample Relinquished by: [signature]

WORKLIST(Hardcopy Internal Chain)

VB 13215

WorkList Name : %1-062025 **WorkList ID :** 190284 **Department :** Wet-Chemistry **Date :** 06-20-2025 08:17:23

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q2381-03	VNJ-207	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2381-04	VNJ-207-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2381-05	72-11929	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2381-06	72-11929-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2383-01	RT-5376	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2383-02	RT-5376-E2	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2384-01	OK-01-6202025	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO
Q2384-02	OK-01-6202025-E2	Solid	Percent Solids	Cool 4 deg C	PSEG05	D51	06/20/2025	Chemtech -SO
Q2386-01	SU-01-062025	Solid	Percent Solids	Cool 4 deg C	PSEG05	D51	06/20/2025	Chemtech -SO
Q2387-01	AUD-25-101	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2387-02	AUD-25-102	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2387-03	AUD-25-103	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2388-01	TP-12	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2388-02	TP-12-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2388-03	TP-12-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2389-01	MH-J-I	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2389-02	MH-J-I-EPH	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2389-03	MH-J-I-VOC	Solid	Percent Solids	Cool 4 deg C	PSEG03	D51	06/20/2025	Chemtech -SO
Q2391-01	AUD-1633	Solid	Percent Solids	Cool 4 deg C	PSEG03	D41	06/20/2025	Chemtech -SO

Date/Time 06/20/25 15:10

Raw Sample Received by:

Raw Sample Relinquished by:

Date/Time 06/20/25 17:20

Raw Sample Received by:

Raw Sample Relinquished by:

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB136236

Review By	jaswal	Review On	6/24/2025 4:50:49 AM
Supervise By	Janvi	Supervise On	6/24/2025 9:15:41 AM

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

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	06/23/25 11:53		Jaswal	OK
2	S1	S1	CAL2	06/23/25 11:58		Jaswal	OK
3	S2	S2	CAL3	06/23/25 12:02		Jaswal	OK
4	S3	S3	CAL4	06/23/25 12:07		Jaswal	OK
5	S4	S4	CAL5	06/23/25 12:11		Jaswal	OK
6	S5	S5	CAL6	06/23/25 12:15		Jaswal	OK
7	ICV01	ICV01	ICV	06/23/25 12:34		Jaswal	OK
8	LLICV01	LLICV01	LLICV	06/23/25 13:09		Jaswal	OK
9	ICB01	ICB01	ICB	06/23/25 13:19		Jaswal	OK
10	CRI01	CRI01	CRDL	06/23/25 13:23		Jaswal	OK
11	ICSA01	ICSA01	ICSA	06/23/25 13:27		Jaswal	OK
12	ICSAB01	ICSAB01	ICSAB	06/23/25 13:43		Jaswal	OK
13	ICSADL	ICSADL	ICSA	06/23/25 13:47		Jaswal	OK
14	ICSABDL	ICSABDL	ICSAB	06/23/25 13:52		Jaswal	OK
15	CCV01	CCV01	CCV	06/23/25 13:56		Jaswal	OK
16	CCB01	CCB01	CCB	06/23/25 14:05		Jaswal	OK
17	Q2347-01	TP-10	SAM	06/23/25 14:09		Jaswal	OK
18	Q2354-01	3321	SAM	06/23/25 14:14		Jaswal	OK

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB136236

Review By	jaswal	Review On	6/24/2025 4:50:49 AM
Supervise By	Janvi	Supervise On	6/24/2025 9:15:41 AM

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

19	Q2355-01	3897	SAM	06/23/25 14:18		Jaswal	OK
20	Q2355-03	20071	SAM	06/23/25 14:22		Jaswal	OK
21	PB168553BL	PB168553BL	MB	06/23/25 14:27		Jaswal	OK
22	PB168553BS	PB168553BS	LCS	06/23/25 14:31		Jaswal	OK
23	PB168535BL	PB168535BL	MB	06/23/25 14:36		Jaswal	OK
24	PB168535BS	PB168535BS	LCS	06/23/25 14:40		Jaswal	OK
25	PB168514TB	PB168514TB	MB	06/23/25 14:44		Jaswal	OK
26	PB168544TB	PB168544TB	MB	06/23/25 14:49		Jaswal	OK
27	CCV02	CCV02	CCV	06/23/25 14:54		Jaswal	OK
28	CCB02	CCB02	CCB	06/23/25 14:58		Jaswal	OK
29	PB168565BL	PB168565BL	MB	06/23/25 15:02		Jaswal	OK
30	PB168565BS	PB168565BS	LCS	06/23/25 15:07		Jaswal	OK
31	PB168564BL	PB168564BL	MB	06/23/25 15:11		Jaswal	OK
32	PB168564BS	PB168564BS	LCS	06/23/25 15:16		Jaswal	OK
33	Q2354-02	3321	SAM	06/23/25 15:20		Jaswal	OK
34	Q2355-02	3897	SAM	06/23/25 15:25		Jaswal	OK
35	Q2362-04	TP-11	SAM	06/23/25 15:29		Jaswal	OK
36	Q2362-08	EP-6	SAM	06/23/25 15:34		Jaswal	OK
37	Q2367-04	EP-4	SAM	06/23/25 15:38		Jaswal	OK
38	Q2367-08	EP-5	SAM	06/23/25 15:43		Jaswal	OK

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB136236

Review By	jaswal	Review On	6/24/2025 4:50:49 AM
Supervise By	Janvi	Supervise On	6/24/2025 9:15:41 AM

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

39	CCV03	CCV03	CCV	06/23/25 15:47		Jaswal	OK
40	CCB03	CCB03	CCB	06/23/25 15:52		Jaswal	OK
41	Q2367-08DUP	EP-5DUP	DUP	06/23/25 15:57		Jaswal	OK
42	Q2367-08L	EP-5L	SD	06/23/25 16:02		Jaswal	OK
43	Q2367-08MS	EP-5MS	MS	06/23/25 16:06		Jaswal	OK
44	Q2367-08MSD	EP-5MSD	MSD	06/23/25 16:11		Jaswal	OK
45	Q2367-08A	EP-5A	PS	06/23/25 16:15		Jaswal	OK
46	Q2362-01	TP-11	SAM	06/23/25 16:20		Jaswal	OK
47	Q2362-05	EP-6	SAM	06/23/25 16:24		Jaswal	OK
48	Q2363-01	GCAP1	SAM	06/23/25 16:28		Jaswal	OK
49	Q2364-01	GAV1A	SAM	06/23/25 16:33		Jaswal	OK
50	Q2364-02	GAV1B	SAM	06/23/25 16:37		Jaswal	OK
51	CCV04	CCV04	CCV	06/23/25 16:51		Jaswal	OK
52	CCB04	CCB04	CCB	06/23/25 16:56		Jaswal	OK
53	Q2364-02DUP	GAV1BDUP	DUP	06/23/25 17:01		Jaswal	OK
54	Q2364-02L	GAV1BL	SD	06/23/25 17:06		Jaswal	OK
55	Q2364-02MS	GAV1BMS	MS	06/23/25 17:10		Jaswal	OK
56	Q2364-02MSD	GAV1BMSD	MSD	06/23/25 17:14		Jaswal	OK
57	Q2364-02A	GAV1BA	PS	06/23/25 17:19		Jaswal	OK
58	Q2364-03	GAV2A	SAM	06/23/25 17:23		Jaswal	OK

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB136236

Review By	jaswal	Review On	6/24/2025 4:50:49 AM
Supervise By	Janvi	Supervise On	6/24/2025 9:15:41 AM

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

59	Q2364-04	GAV2B	SAM	06/23/25 17:27	Zn high	Jaswal	Dilution
60	Q2367-01	EP-4	SAM	06/23/25 17:32		Jaswal	OK
61	Q2367-05	EP-5	SAM	06/23/25 17:36		Jaswal	OK
62	Q2371-04	RPXY42025	SAM	06/23/25 17:41		Jaswal	OK
63	CCV05	CCV05	CCV	06/23/25 17:45		Jaswal	OK
64	CCB05	CCB05	CCB	06/23/25 17:49		Jaswal	OK
65	Q2371-05	BBX42025	SAM	06/23/25 17:54		Jaswal	OK
66	PB168551BL	PB168551BL	MB	06/23/25 17:58	LCS fail for Cr,K,Ag	Jaswal	Not Ok
67	PB168551BS	PB168551BS	LCS	06/23/25 18:03	LCS fail for Cr,K,Ag	Jaswal	Not Ok
68	Q2351-01	FAIRLAWN-SUMP	SAM	06/23/25 18:07		Jaswal	OK
69	Q2354-05	3311	SAM	06/23/25 18:12	K oversaturated	Jaswal	Dilution
70	Q2344-01	MW-1	SAM	06/23/25 18:16		Jaswal	OK
71	Q2344-02	MW-1	SAM	06/23/25 18:20		Jaswal	OK
72	Q2344-03	MW-3	SAM	06/23/25 18:25		Jaswal	OK
73	Q2344-04	MW-3	SAM	06/23/25 18:30		Jaswal	OK
74	Q2344-05	MW-4	SAM	06/23/25 18:34		Jaswal	OK
75	CCV06	CCV06	CCV	06/23/25 18:39		Jaswal	OK
76	CCB06	CCB06	CCB	06/23/25 18:43		Jaswal	OK
77	Q2344-06	MW-4	SAM	06/23/25 18:48		Jaswal	OK
78	Q2344-07	MW-2	SAM	06/23/25 18:52		Jaswal	OK

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

Instrument ID: P5

Daily Analysis Runlog For Sequence/QCBatch ID # LB136236

Review By	jaswal	Review On	6/24/2025 4:50:49 AM
Supervise By	Janvi	Supervise On	6/24/2025 9:15:41 AM

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

79	Q2344-07DUP	MW-2DUP	DUP	06/23/25 18:57		Jaswal	OK
80	Q2344-07L	MW-2L	SD	06/23/25 19:02		Jaswal	OK
81	Q2344-07MS	MW-2MS	MS	06/23/25 19:06		Jaswal	OK
82	Q2344-07MSD	MW-2MSD	MSD	06/23/25 19:10		Jaswal	OK
83	Q2344-07A	MW-2A	PS	06/23/25 19:15		Jaswal	OK
84	Q2344-08	MW-2	SAM	06/23/25 19:19		Jaswal	OK
85	CCV07	CCV07	CCV	06/23/25 19:24		Jaswal	OK
86	CCB07	CCB07	CCB	06/23/25 19:28		Jaswal	OK

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

Prep Standard - Chemical Standard Summary

Order ID : Q2371

Test : Metals Group4

Prepbatch ID : PB168564,

Sequence ID/Qc Batch ID: LB136236,LB136236,LB136236,

Standard ID :
MP84041,MP85867,MP85868,MP85869,MP85870,MP85871,MP85872,MP85873,MP85874,MP85875,MP85876,MP85877,MP85896,MP85897,

Chemical ID :
M5466,M5467,M5471,M5581,M5658,M5697,M5747,M5748,M5798,M5799,M5800,M5801,M5811,M5814,M5820,M5942,M5962,M5969,M5970,M5984,M5985,M5996,M5997,M6007,M6015,M6021,M6023,M6028,M6030,M6032,M6077,M6126,M6127,M6128,M6137,M6138,M6142,M6144,M6145,M6146,M6150,M6151,M6152,M6155,M6158,M6159,M6162,W3112,

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

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
169	1:1HNO3	MP84041	01/14/2025	07/14/2025	Eman Mughal	None	None	Sarabjit Jaswal 01/16/2025

FROM 1250.00000ml of M6126 + 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)	MP85867	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

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

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

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP85868	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 5.00000ml of M5467 + 5.00000ml of M5471 + 5.00000ml of M5820 + 5.00000ml of M5969 + 5.00000ml of M5970 + 5.00000ml of M5996 + 5.00000ml of M5997 + 5.00000ml of M6077 + 5.00000ml of M6146 + 455.00000ml of MP85867 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP85869	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

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

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

Metals STANDARD PREPARATION LOG

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

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

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

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

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

Metals STANDARD PREPARATION LOG

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

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

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

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

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

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP85874	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

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

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

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

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

Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP85876	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 1.00000ml of M5984 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6162 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP85877	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 200.00000ml of M6162 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

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

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	MP85896	06/02/2025	06/13/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.05000ml of M6159 + 0.06000ml of M5747 + 0.10000ml of M5471 + 0.10000ml of M5697 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5969 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5942 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6145 + 0.25000ml of M5466 + 0.25000ml of M6146 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M6127 + 1.00000ml of M6138 + 1.00000ml of M6142 + 1.00000ml of M6144 + 2.00000ml of M6137 + 90.03000ml of MP85867 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP85897	06/02/2025	06/23/2025	Janvi Patel	METALS_SCALE_3 (M SC-3)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/14/2025

FROM 2.00000ml of MP85896 + 90.03000ml of MP85867 = Final Quantity: 100.000 ml

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	26397-103 / PTFE BOILING STONES	W126678	03/20/2026	03/20/2025 /	06/12/2023 / jaswal	M5581

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	03/17/2028	06/19/2025 / MOHAN	05/14/2024 / Jaswal	M6015

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

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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 /	01/13/2025 / Jaswal	M6145

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

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

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6032

R: 8/5/24

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

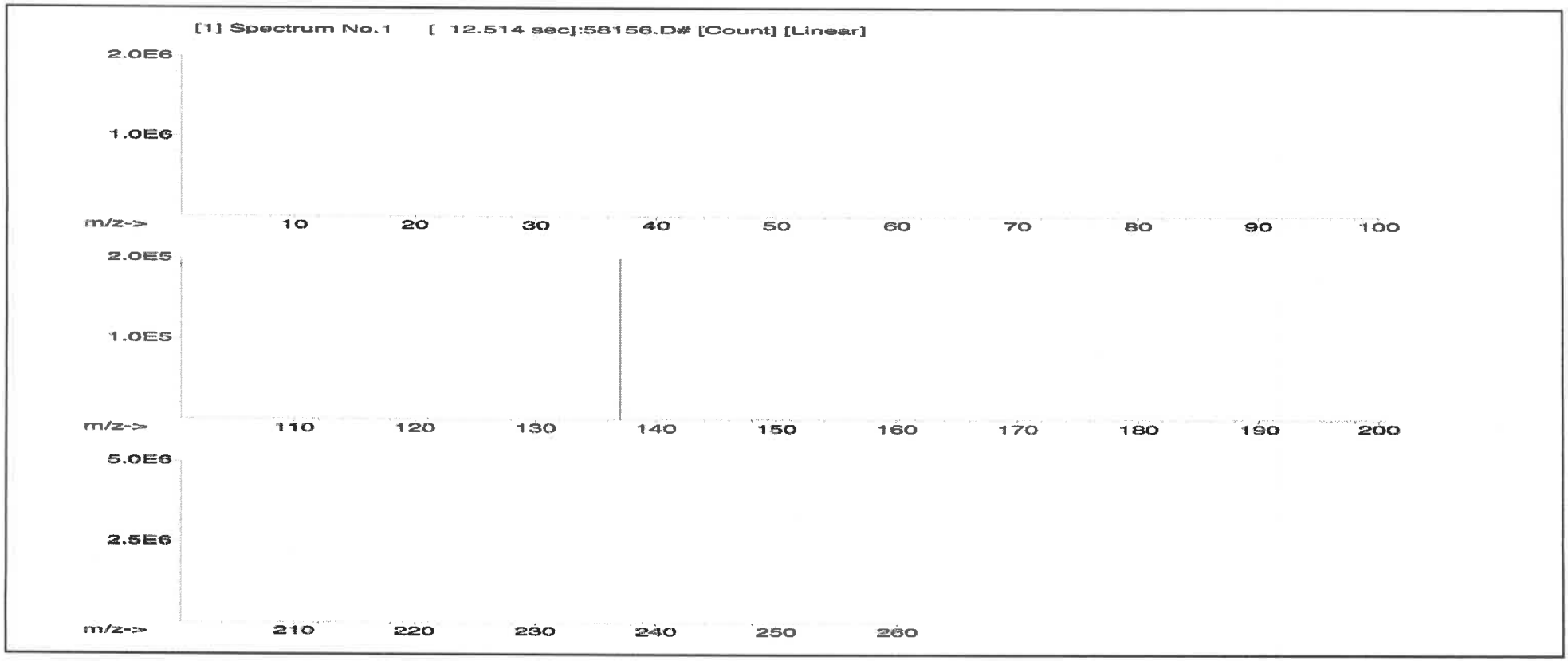
CERTIFIED WEIGHT REPORT:

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
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



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).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R 8/5/24

M6028

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

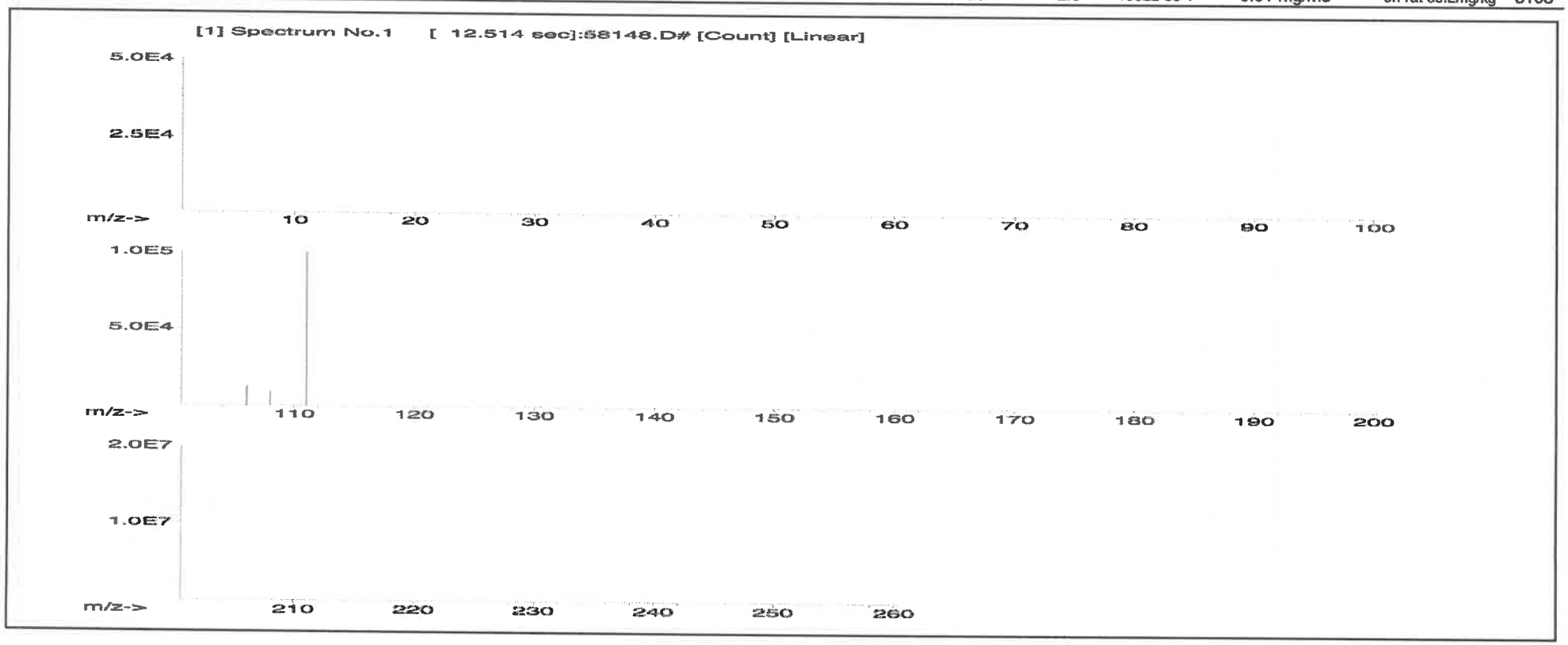
CERTIFIED WEIGHT REPORT:

Part Number:	**57048**		**Lot #**		
Lot Number:	**070124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Cadmium (Cd)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	070127				
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		

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



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).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R : 01/03/24. M5810, M5811

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

CERTIFIED WEIGHT REPORT:

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

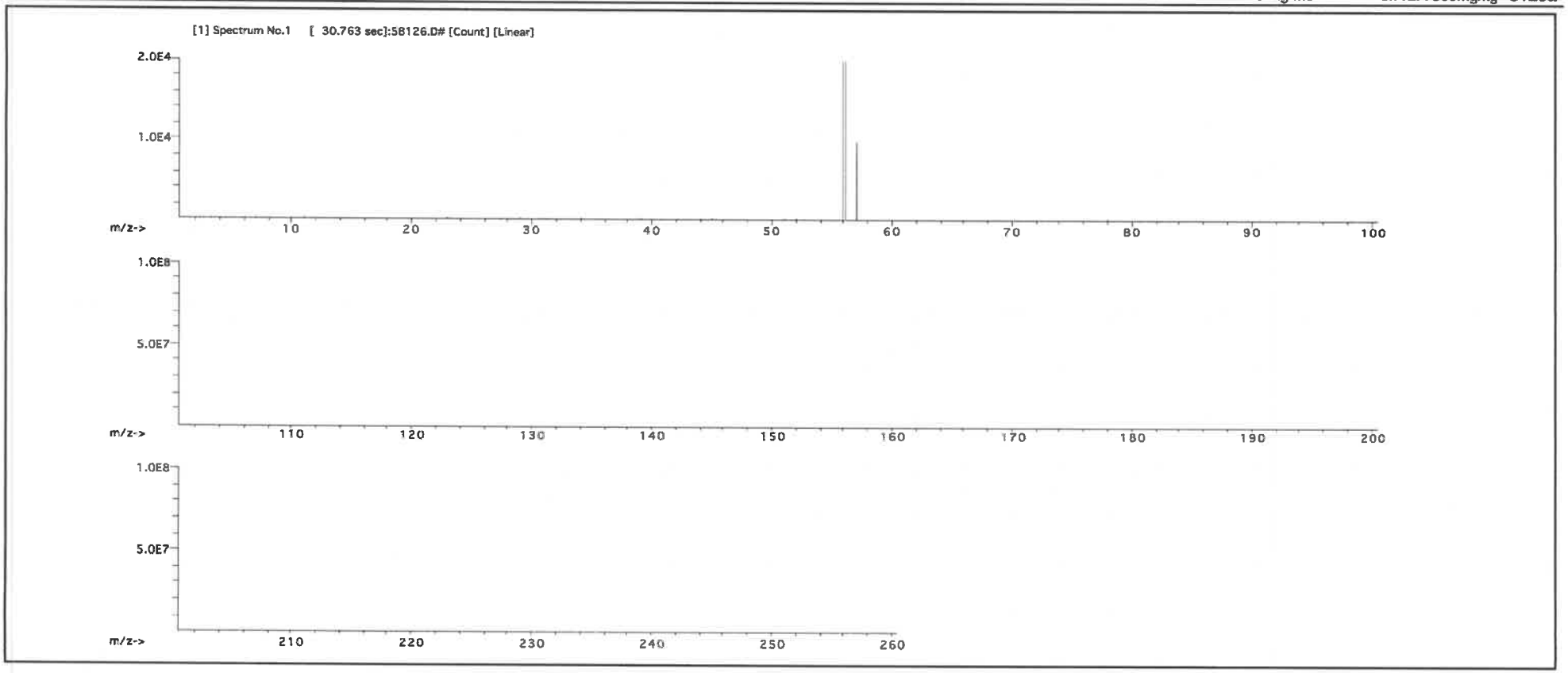
Expiration Date: 051526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1 ± 0.12 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
	5.0%	250.0 (mL)	Nitric Acid
	5E-05	Balance Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	051523
Reviewed By:	Pedro L. Rentas	051523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

INORGANIC VENTURES™

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

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

Assay Information:

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

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

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

11.2 Lot Expiration Date

- **August 30, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2023

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

11.2 Lot Expiration Date

- March 17, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

IN 5466
R: 03/01/23 BH

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

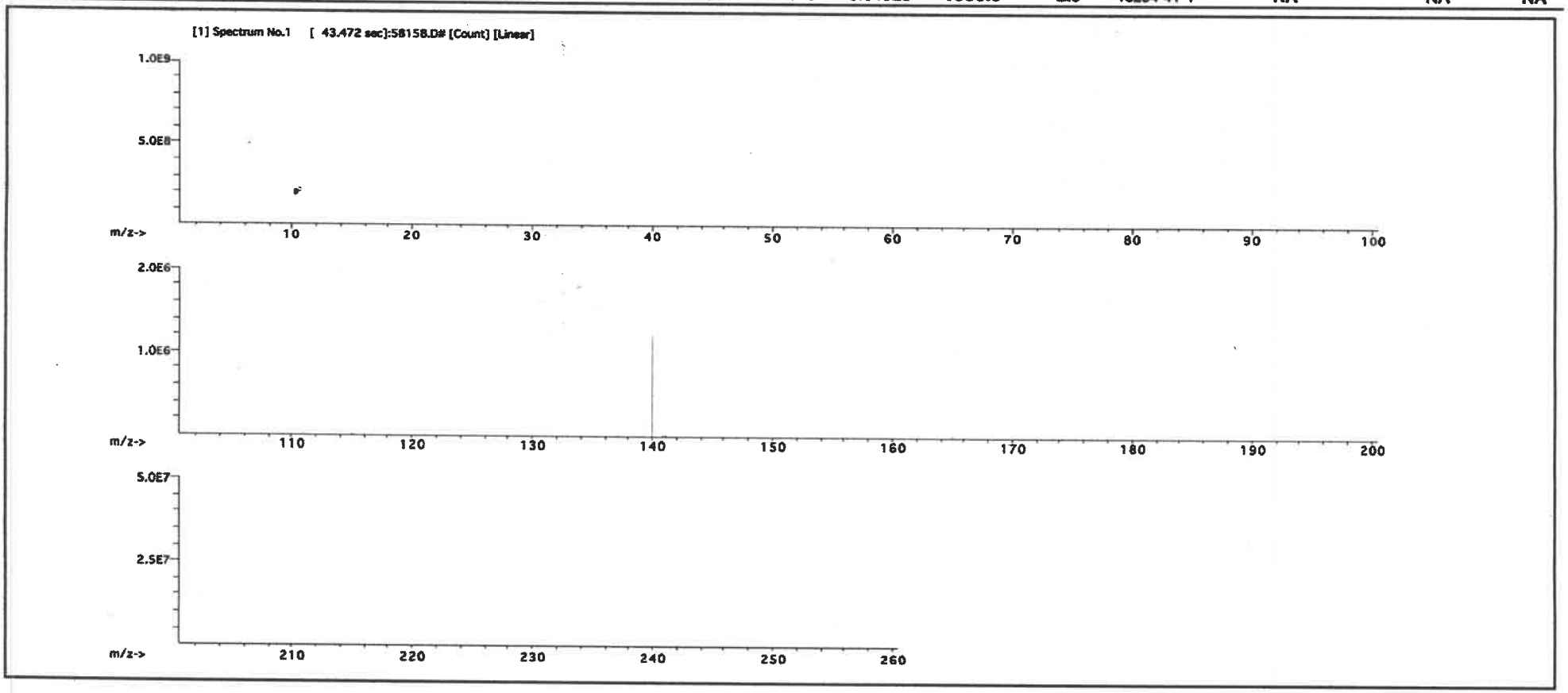
Part Number: 57058
Lot Number: 061322
Description: Cerium (Ce)

Expiration Date: 061325
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12 5E-05 Balance Uncertainty 0.058 Flask Uncertainty

	Lot #	
Solvent:	20510011	Nitric Acid
2%	20.0 (mL)	Nitric Acid

Formulated By:	Lawrence Barry	061322
Reviewed By:	Pedro L. Rentas	061322

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	3.04923	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.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5467 R: 03/01/23 (LA)

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

CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

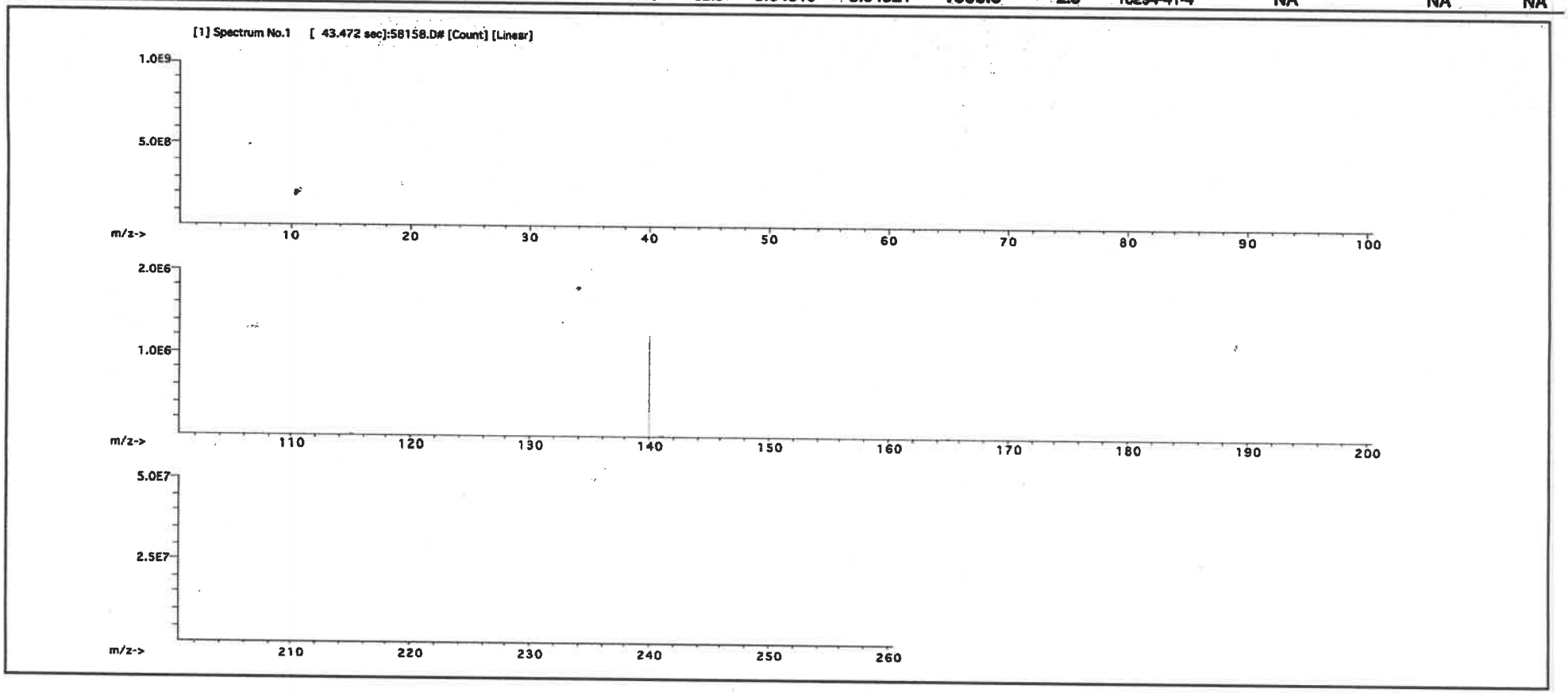
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	**1000.0**	**2.0**	10294-41-4	NA	NA	NA



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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

RD: 06/12/2023, M5581, M5582, M5583, M5584, M5585

JENSEN INERT PRODUCTS

MATERIAL CERTIFICATE OF COMPLIANCE

DATE: JUNE 12, 2023

CUSTOMER:	PCI SCIENTIFIC SUPPLY, INC
PURCHASE ORDER NO.	6054931
CATALOG NO.	BOI5021-450L
PRODUCT DESCRIPTION:	BOILING STONES, TFE, 454GMS
QUANTITY:	10 EACH
LOT NO.	W126678
SPECIFICATION (S):	Made from Virgin PTFE Resin

We certify that we have complied with the terms and conditions of the above Purchase Order and the Part Specifications in the manufacturing of the above product.

Laura Valencia

Laura Valencia
Quality Assurance Inspector

F:U:J:CF:PCISCI:COC-68118-BOI5021-061223

3773 NW 126th Avenue • Coral Springs, Florida 33065 • Fax (954) 344-2008 • 1-800 446-3781
Email: jensen@jenseninert.com Visit our Web Site at www.jenseninert.com

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5658 R ! 8/25/23

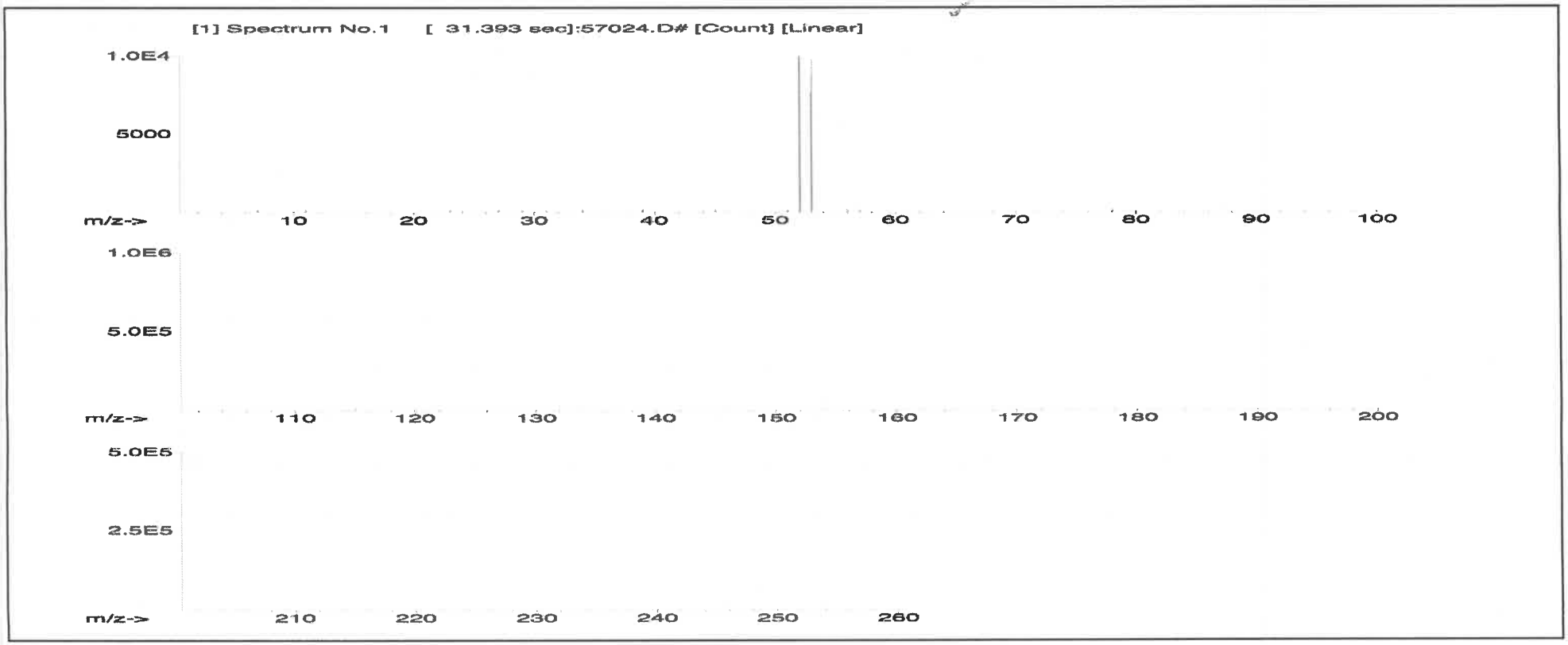
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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.

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5697 R: 10/27/23

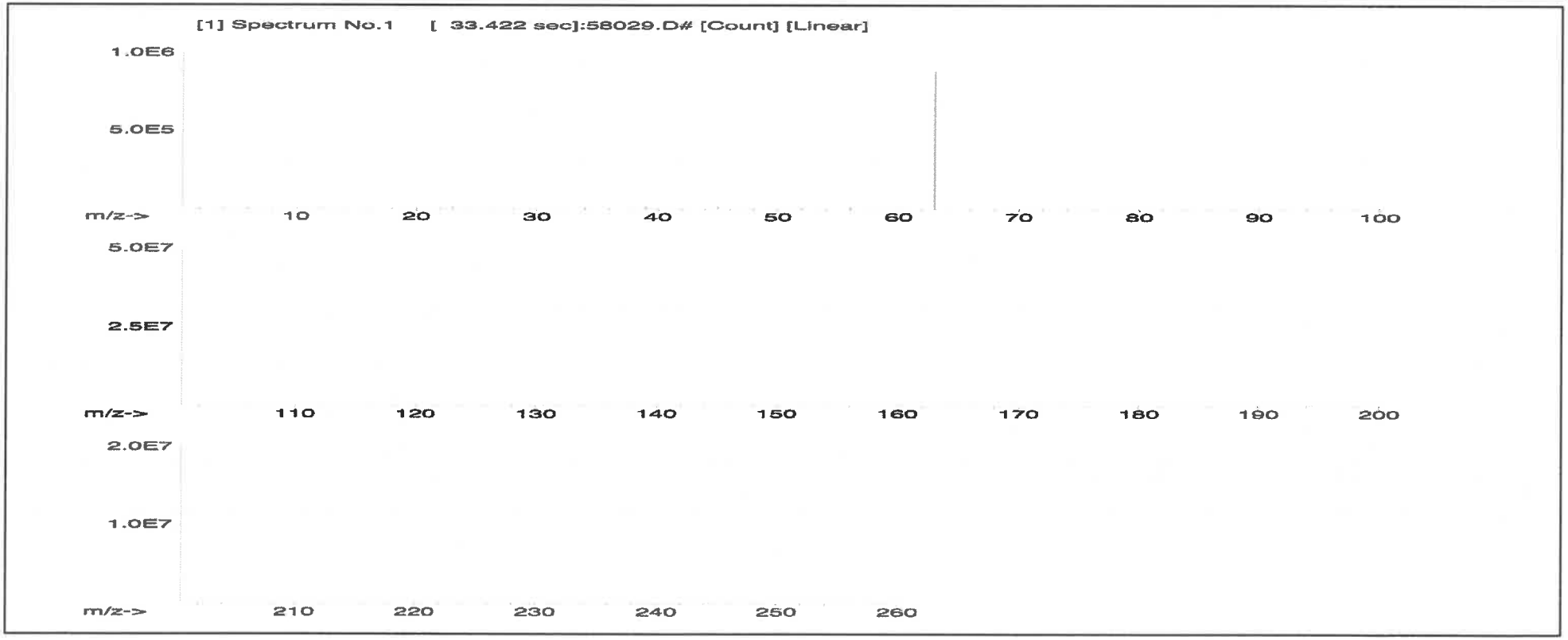
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Copper (Cu)**			
		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. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 12/20/23 M5747

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

CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

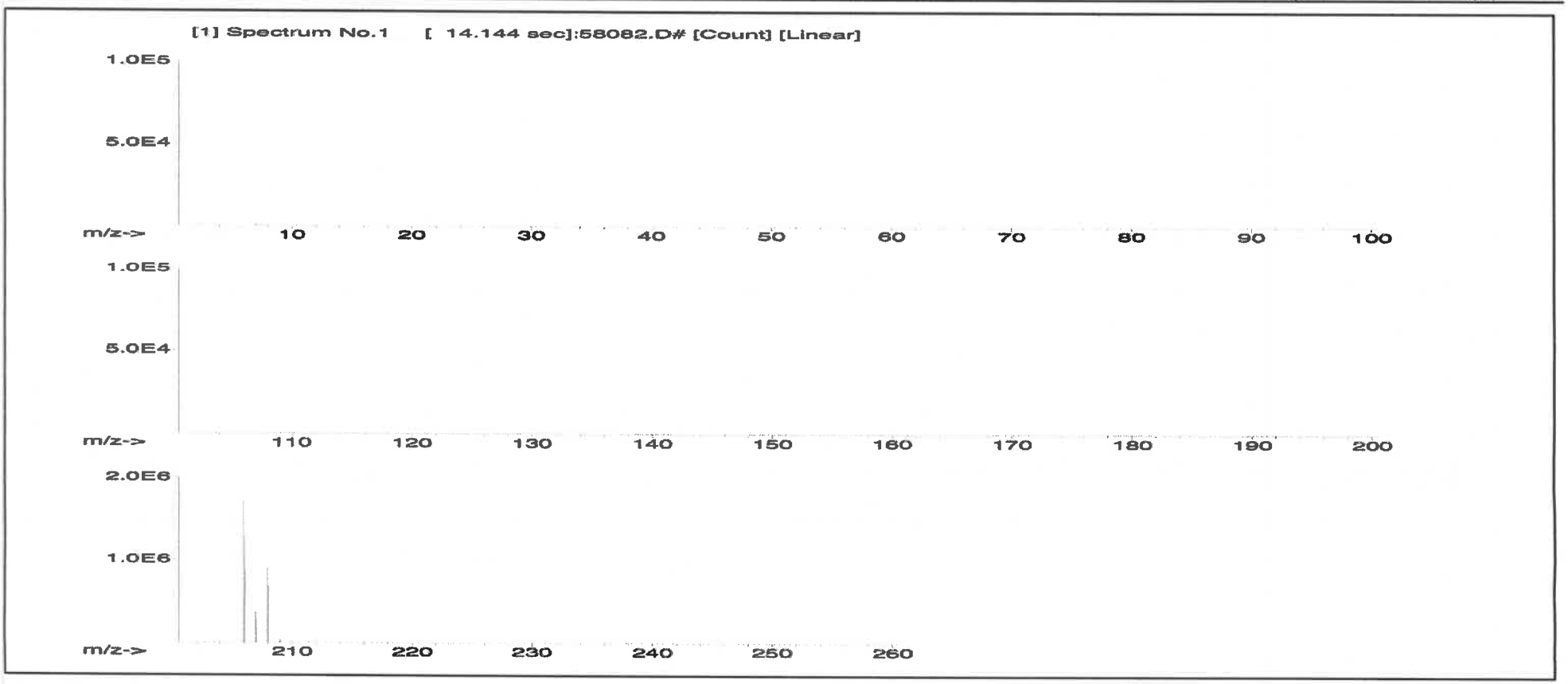
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 12/20/23 M5748

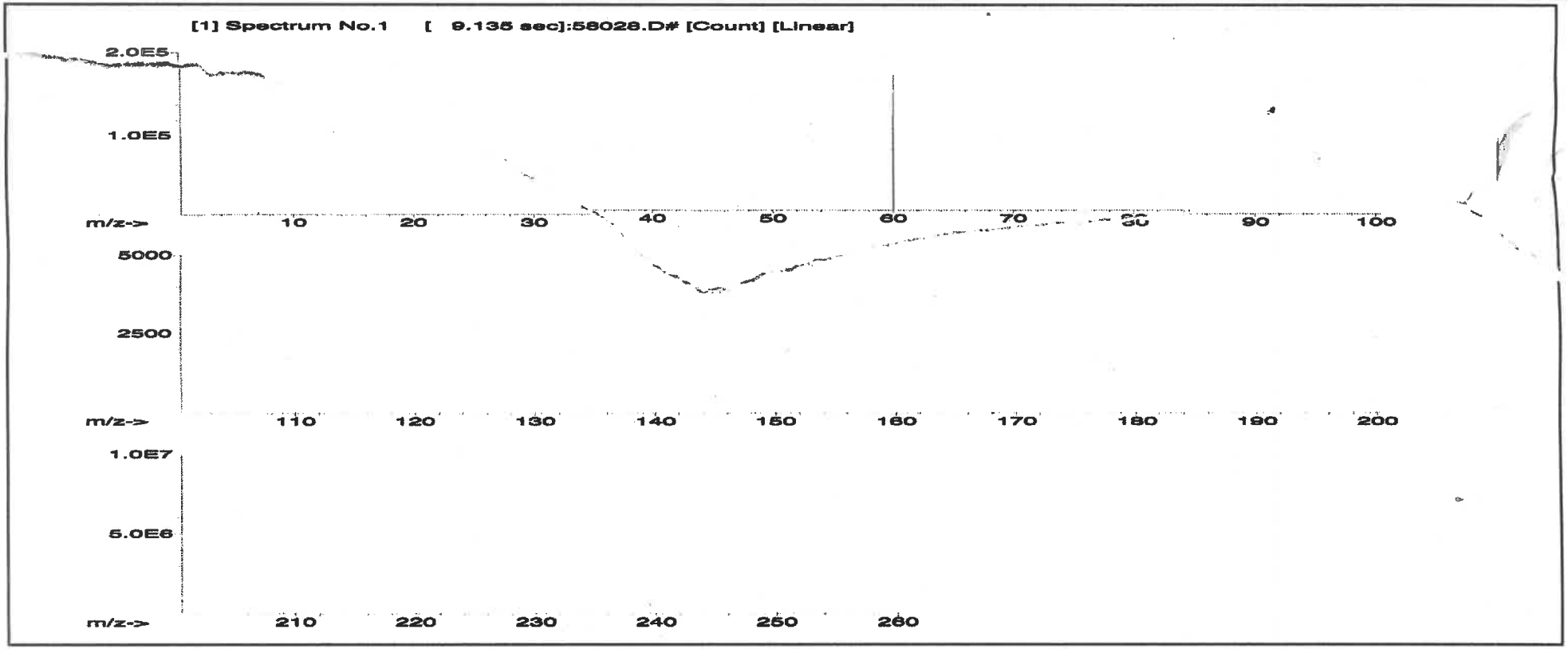
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5798

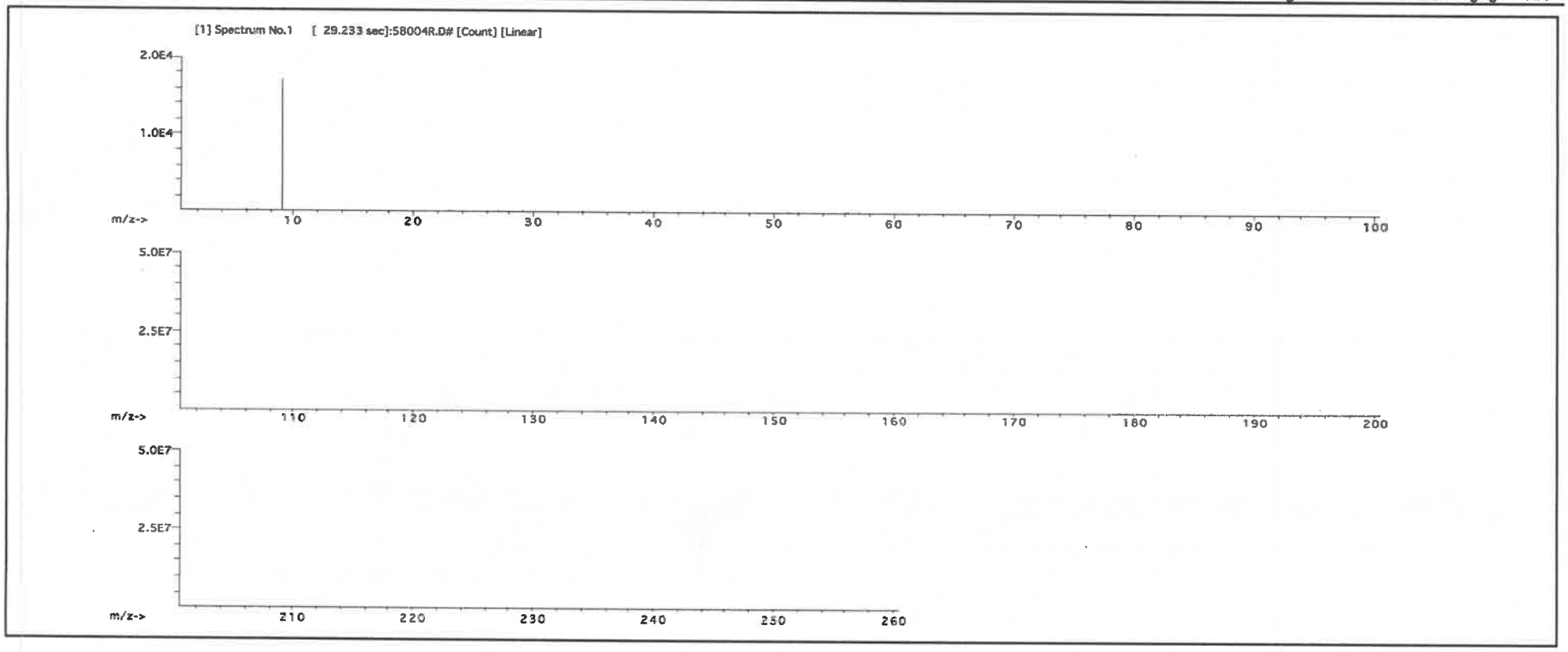
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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.

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R? 02/09/24 IV15799

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

CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

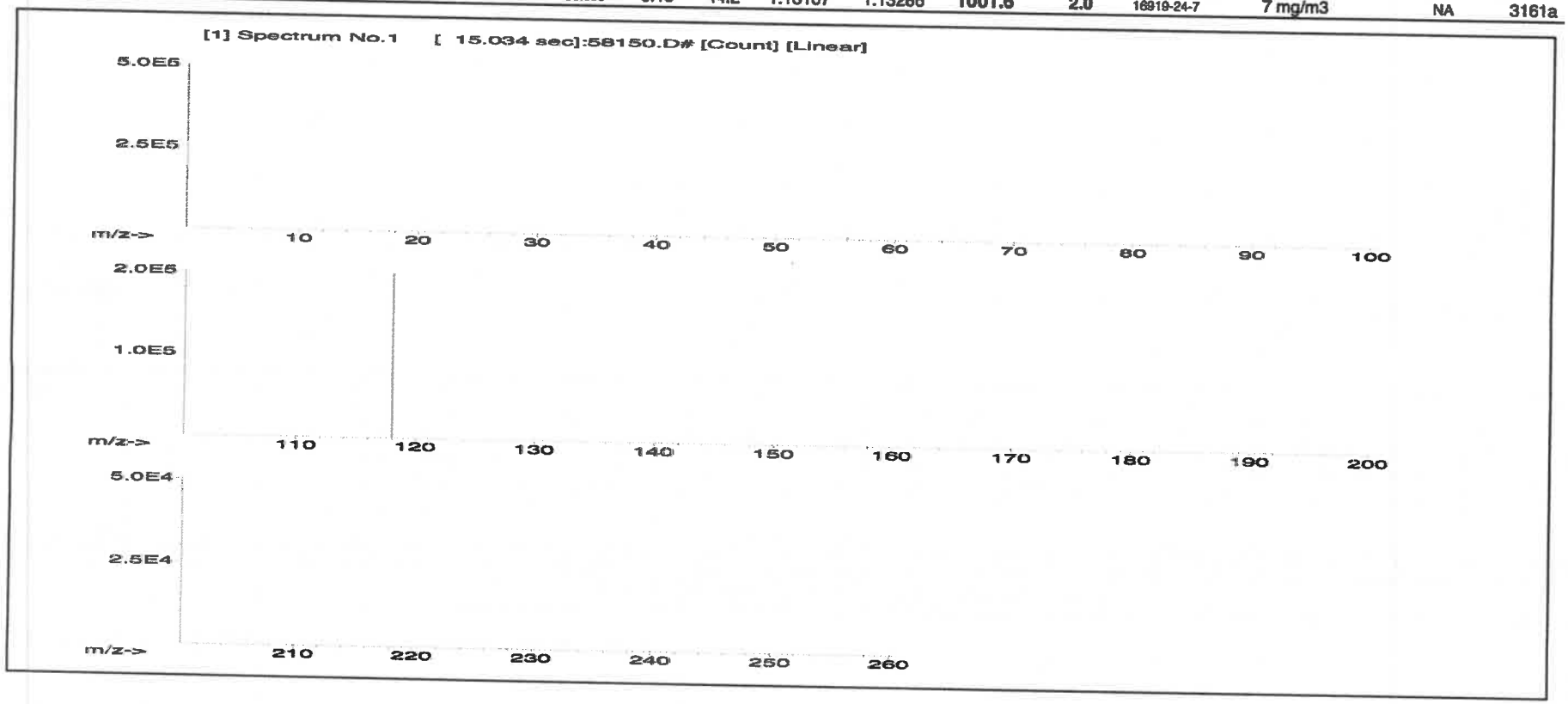
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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



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:

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 IM5800 BH

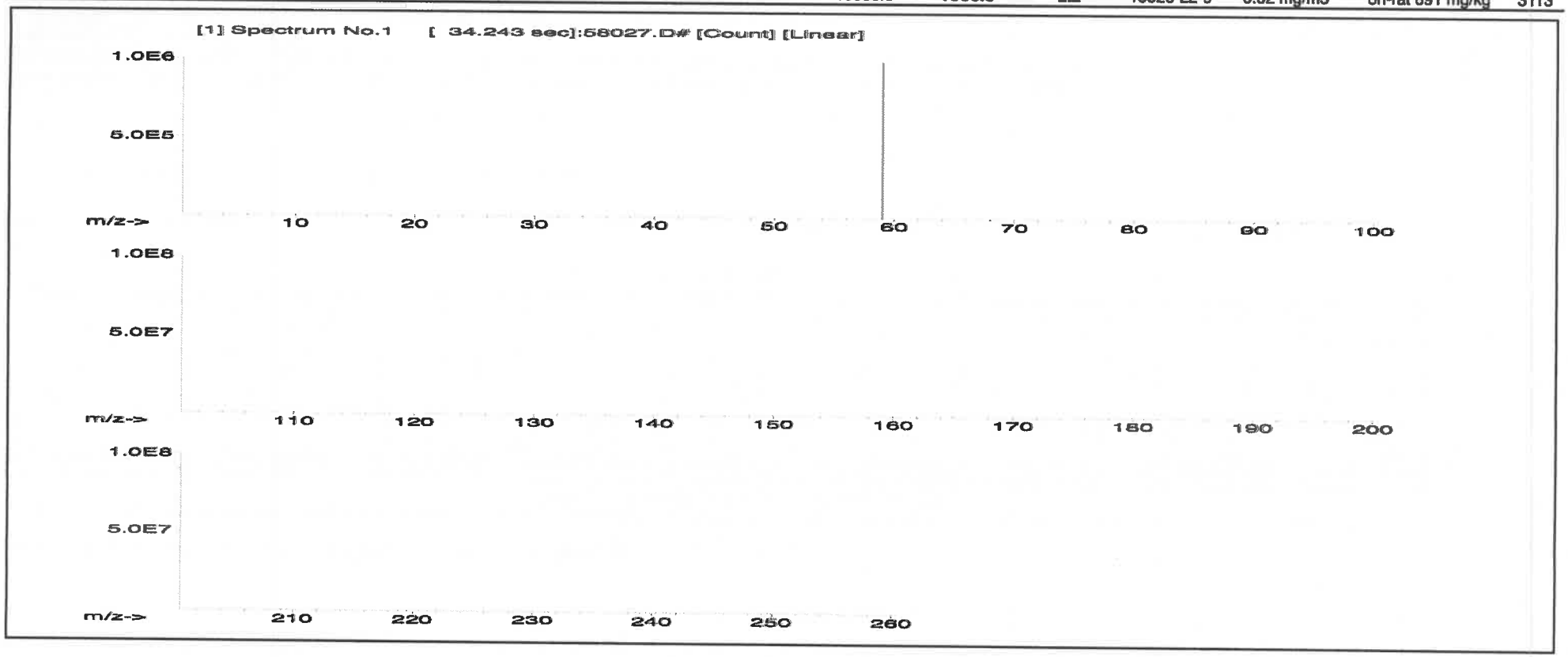
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 IM5801 BH

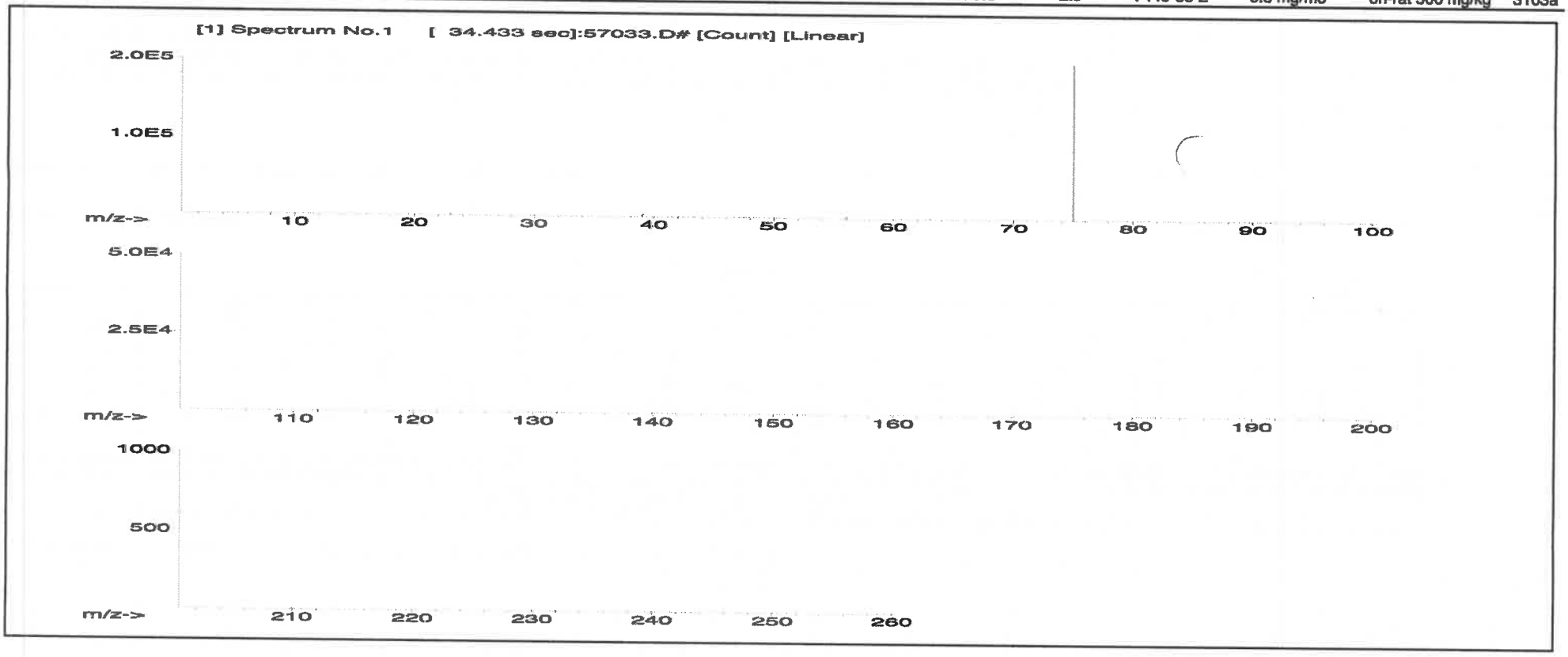
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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.

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

A: 02/09/24 M.5814

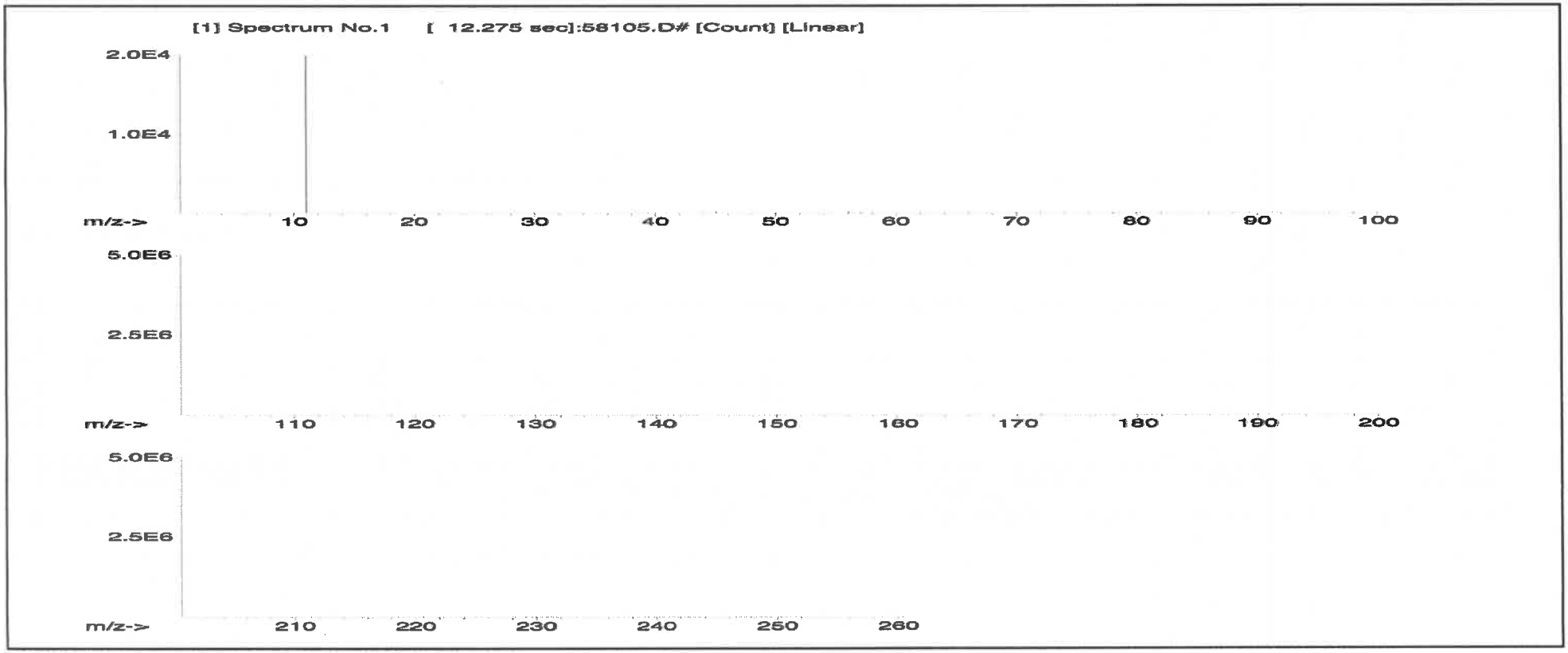
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**Solvent:**	MKBQ8597V	Ammonium hydroxide
Lot Number:	**071123**				
Description:	**Boron (B)**		2.0%	40.0 (mL)	Ammonium hydroxide
Expiration Date:	071126				
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):	1999.48	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. 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



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 02/09/24 M5820

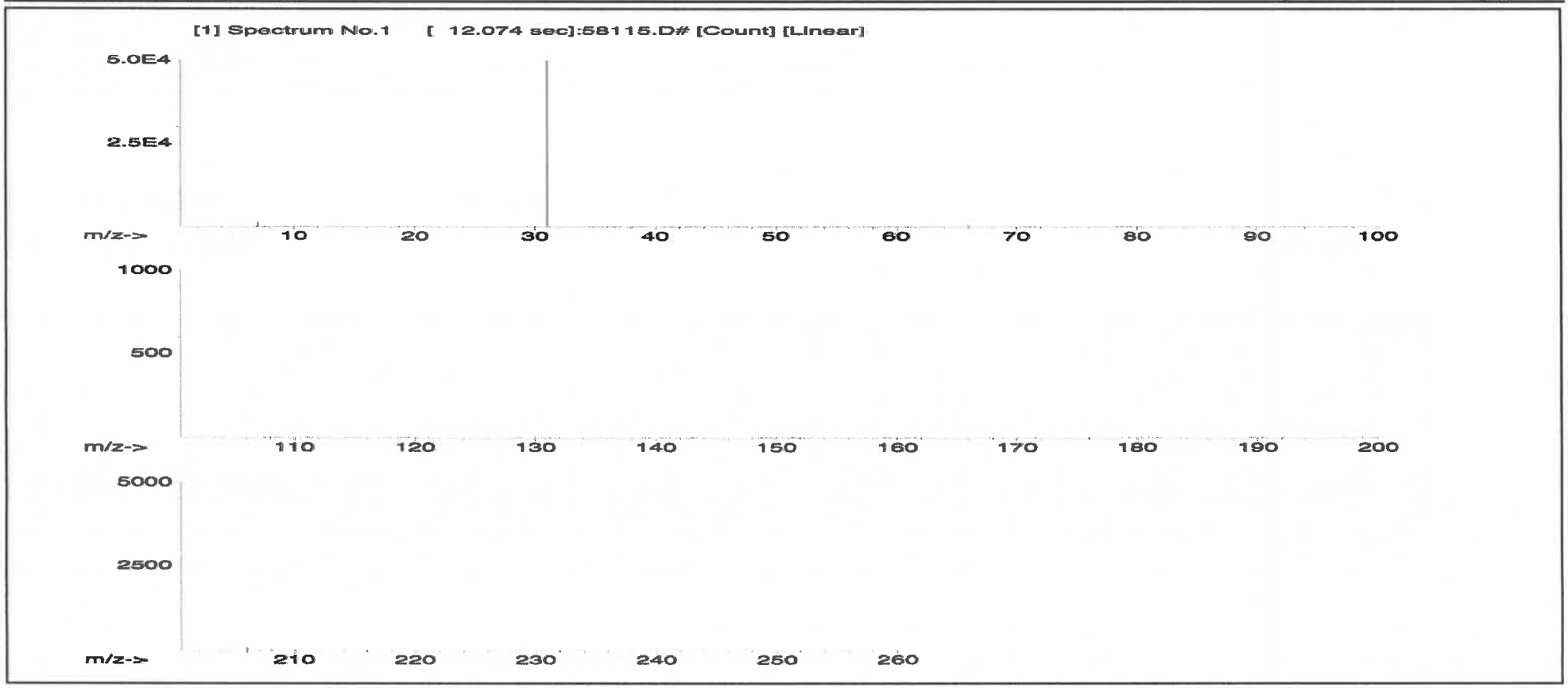
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Lot #**		
Lot Number:	**091123**	**Solvent:**	24002546	Nitric Acid	
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



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.

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

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

R: 02/22/24 M5942

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	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, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- **June 17, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5962 R! 06/14/24.

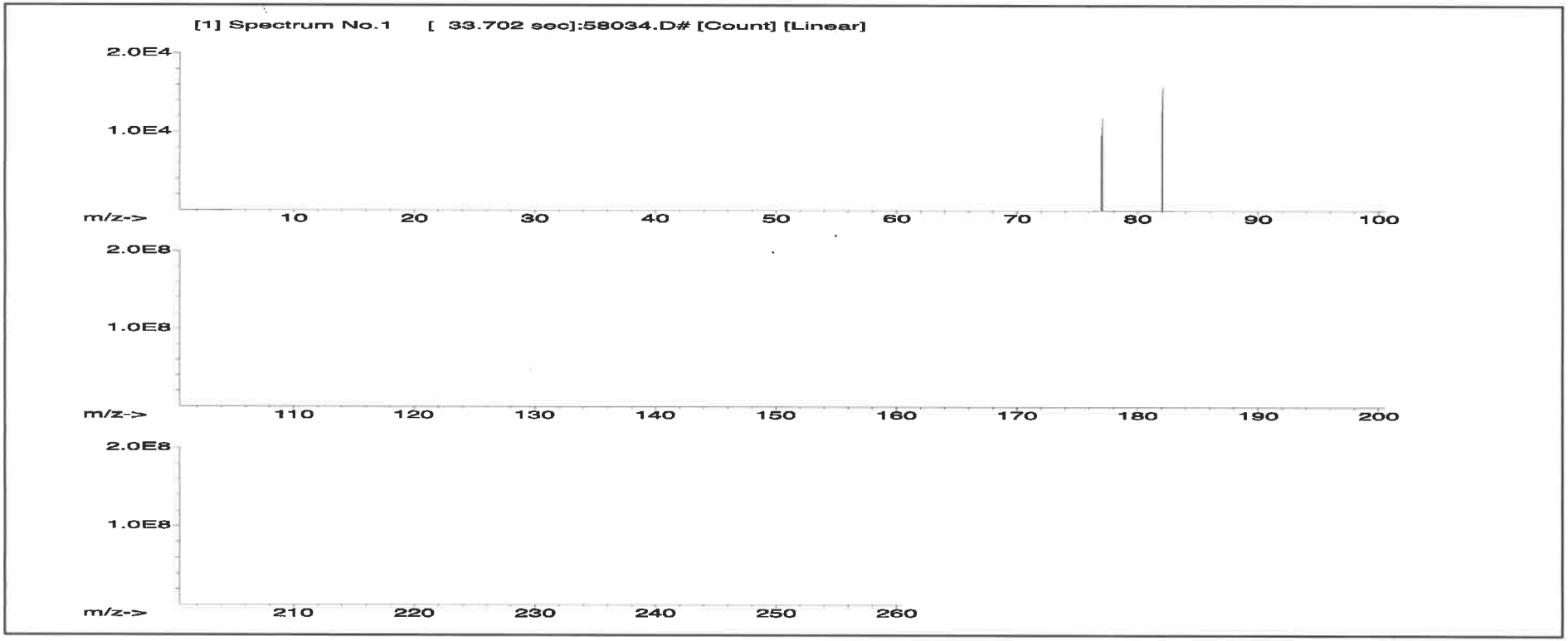
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



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).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5969 R: 06/11/24

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

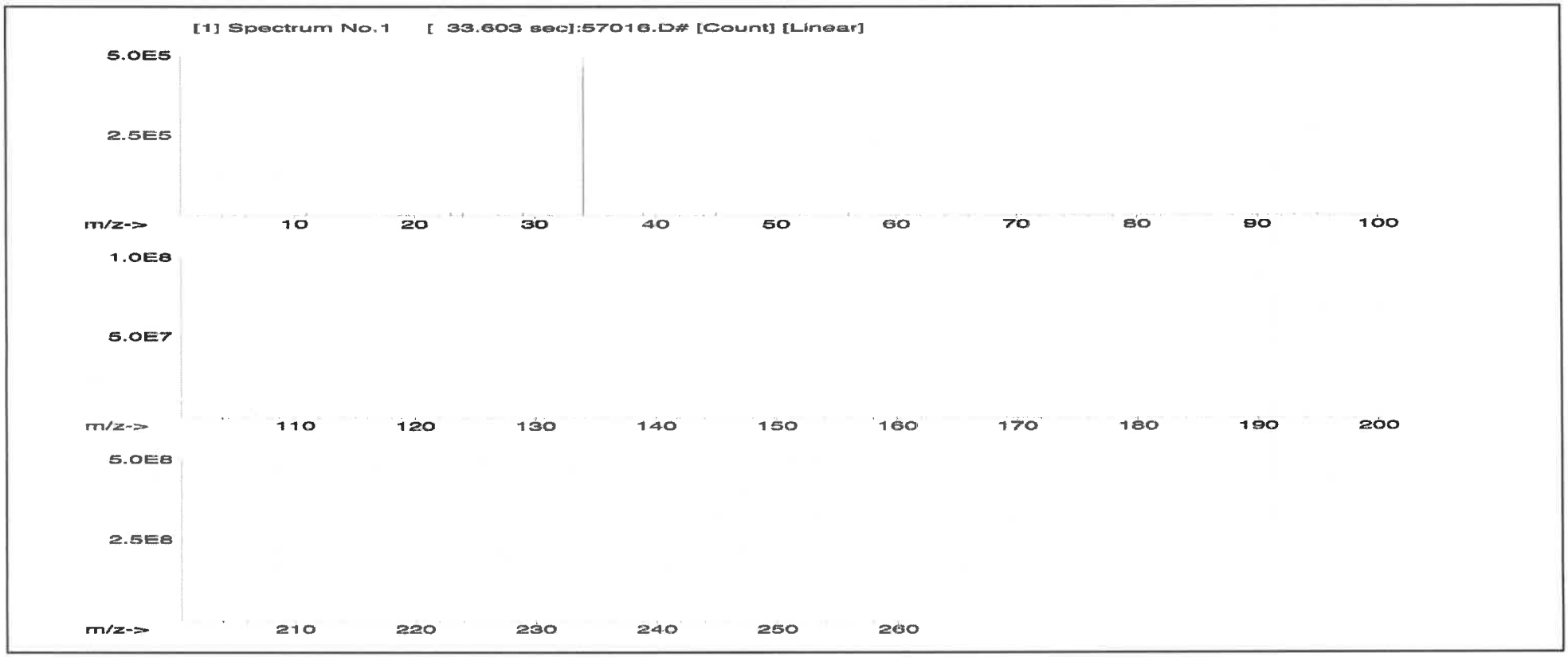
CERTIFIED WEIGHT REPORT:

Part Number:	**57016**	**Solvent:**	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	

Lot #

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



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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

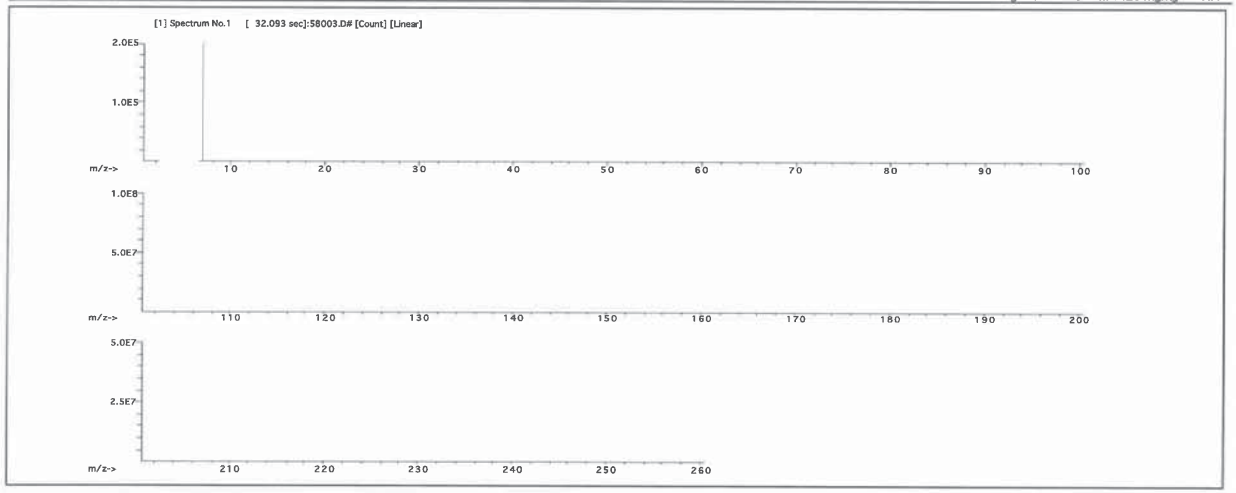
CERTIFIED WEIGHT REPORT:

		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

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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).

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

MS984
R:6/14/24

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	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

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

MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

R: 2/22/24
M5996

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = (\Sigma((w_i)^2\,(u_{char\ i})^2))^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

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

11.2 Lot Expiration Date

- January 27, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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

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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 21, 2022

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

11.2 Lot Expiration Date

- December 21, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

M6074
M6075
M6076
M6077

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

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

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R -> 11/12/24

M6126

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

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

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

CERTIFIED WEIGHT REPORT:

R -> 1/13/25

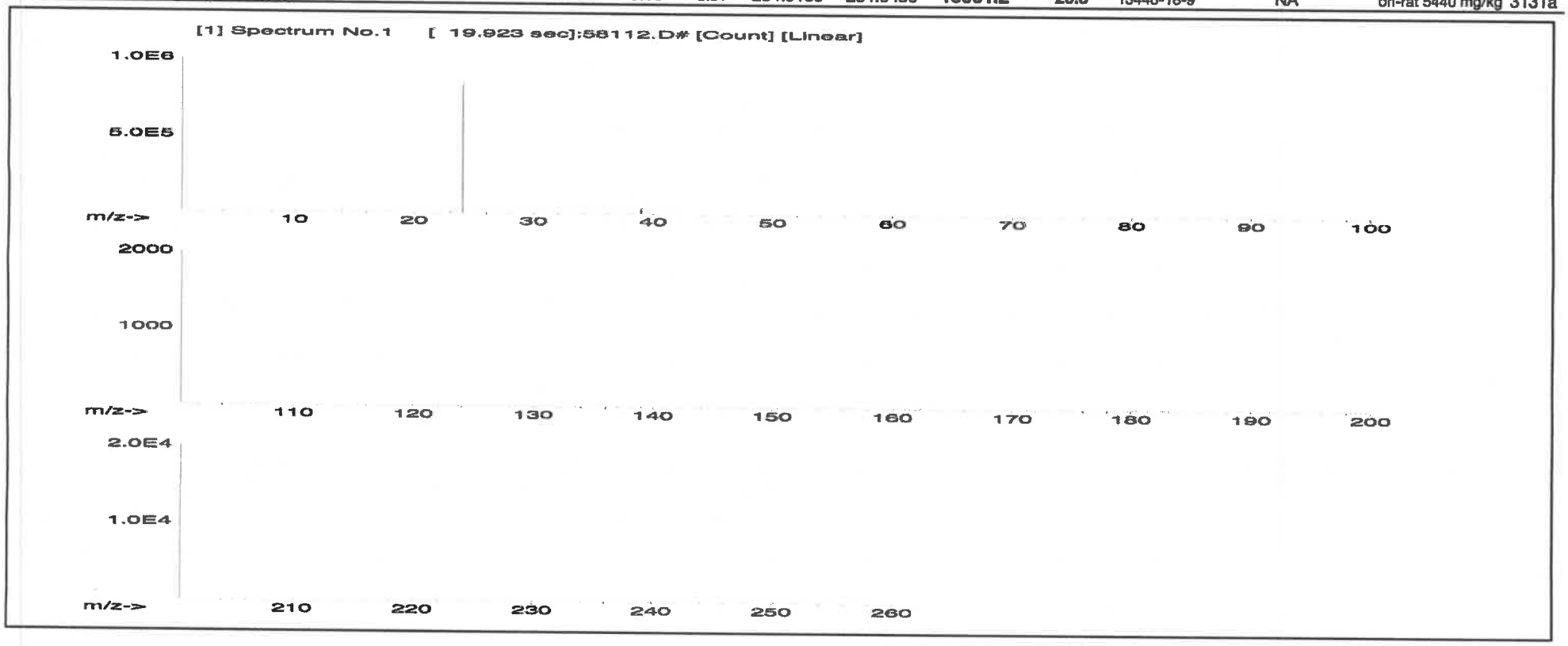
M 6127

			Lot #	
Part Number:	**58112**	**Solvent:**	24012496	Nitric Acid
Lot Number:	**112124**			
Description:	**Magnesium (Mg)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	112127			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	112124
Reviewed By:	Pedro L. Rentas	112124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9183	234.9459	**10001.2**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



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).

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->1/13/28

M6128

Part Number:	**58025**	**Solvent:**	**Lot #** 24002546	Nitric Acid
Lot Number:	**101124**			
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	

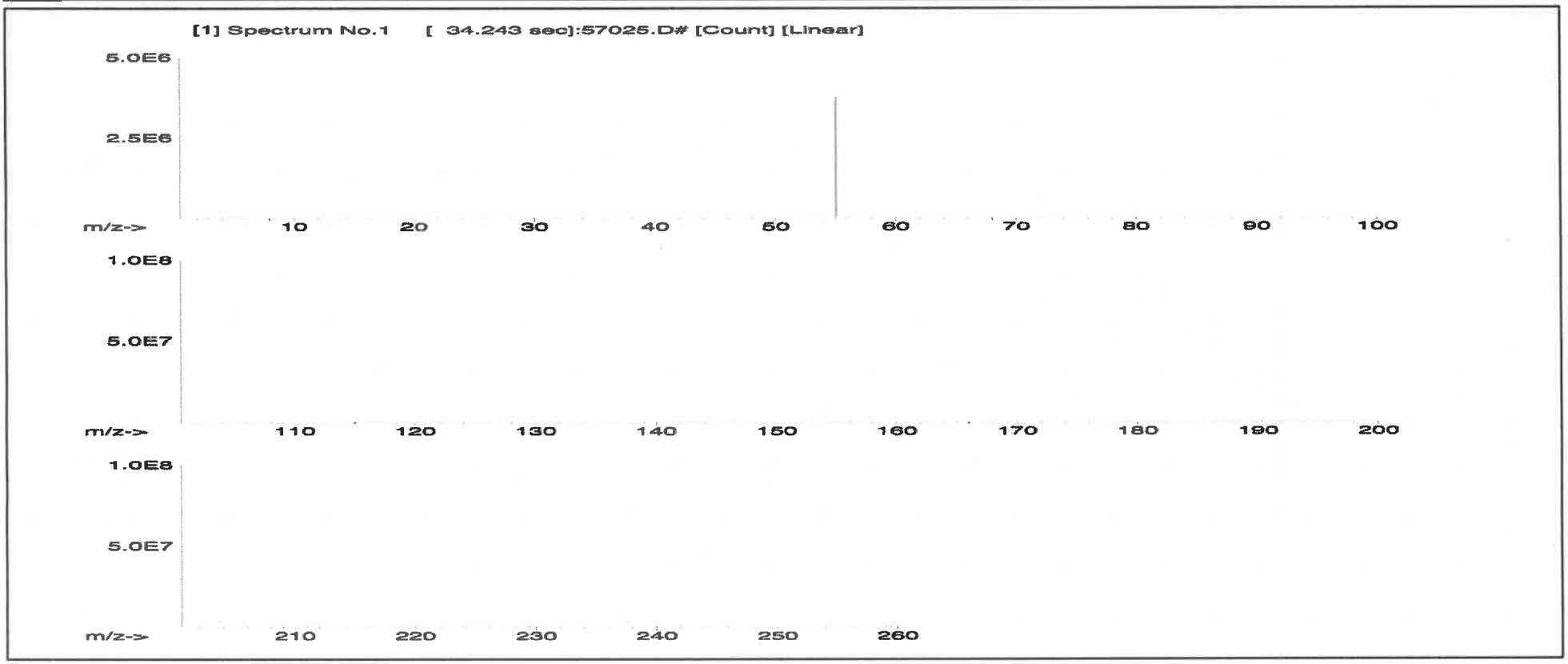
Giovanni Esposito

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



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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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

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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

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

11.2 Lot Expiration Date

- **July 10, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

M6138
R->1/13/25

CERTIFIED WEIGHT REPORT:

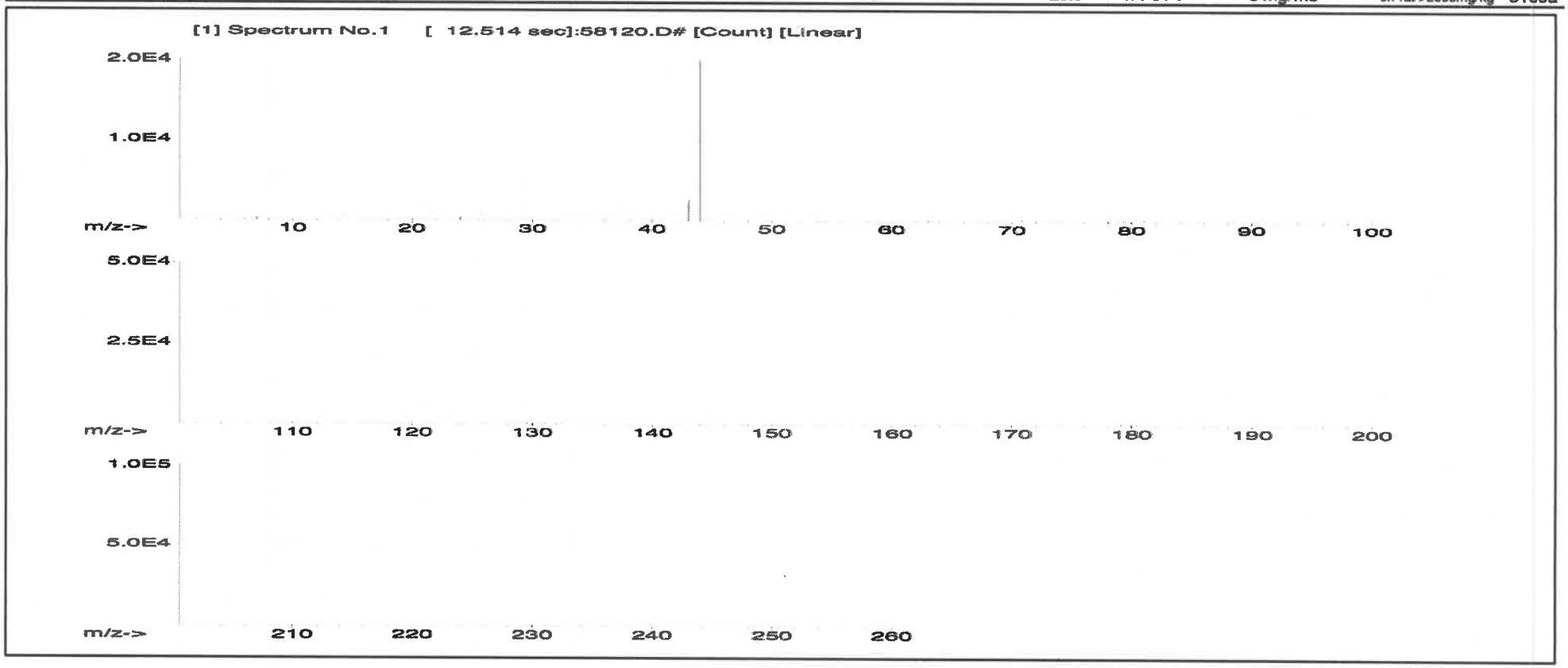
Part Number: 58120
Lot Number: 121824
Description: Calcium (Ca)
Expiration Date: 121827
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.1

	Lot #		
Solvent:	24012496	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.15	Flask 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



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.

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

R-> 1/13/25

Part Number: 57119
Lot Number: 103024
Description: Potassium (K)

M6141
M6142
M6143

Expiration Date: 103027
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

		Lot #	
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

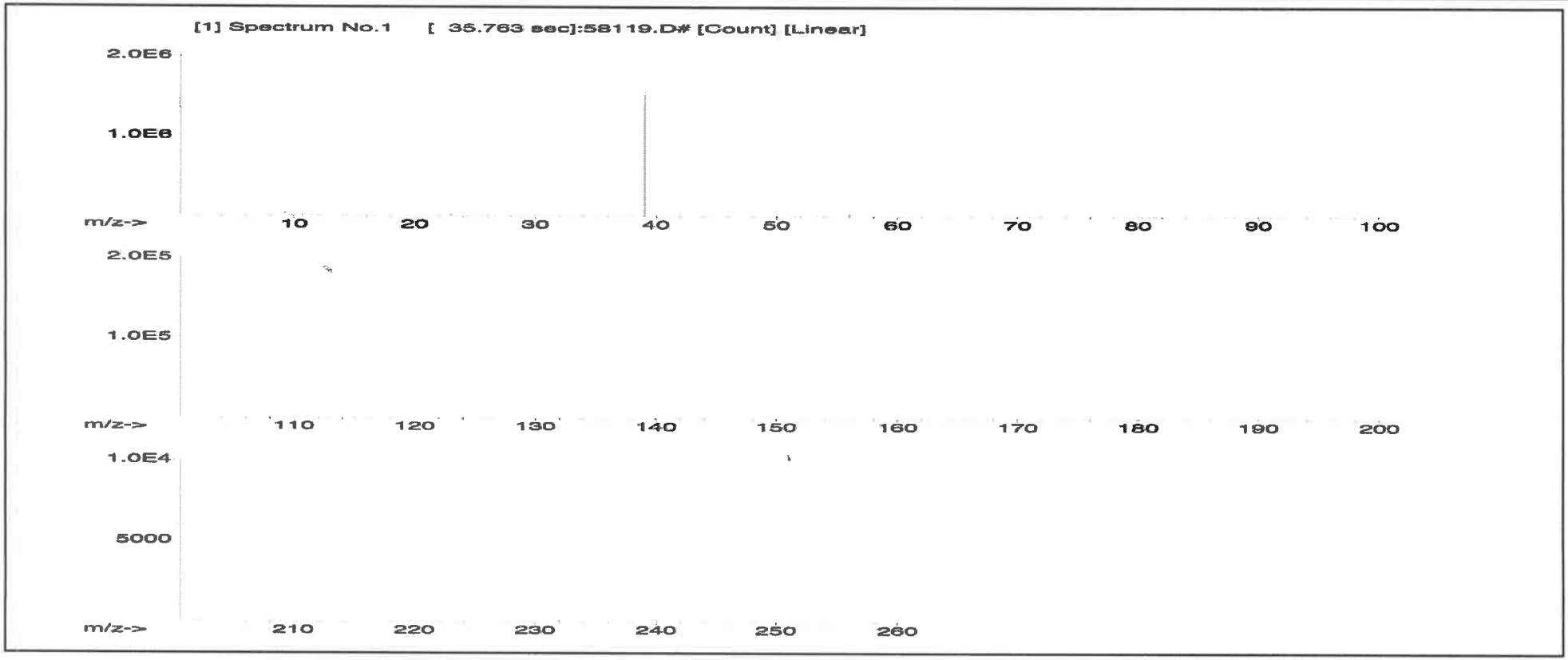
5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 4000.1 0.15 Flask Uncertainty

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



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

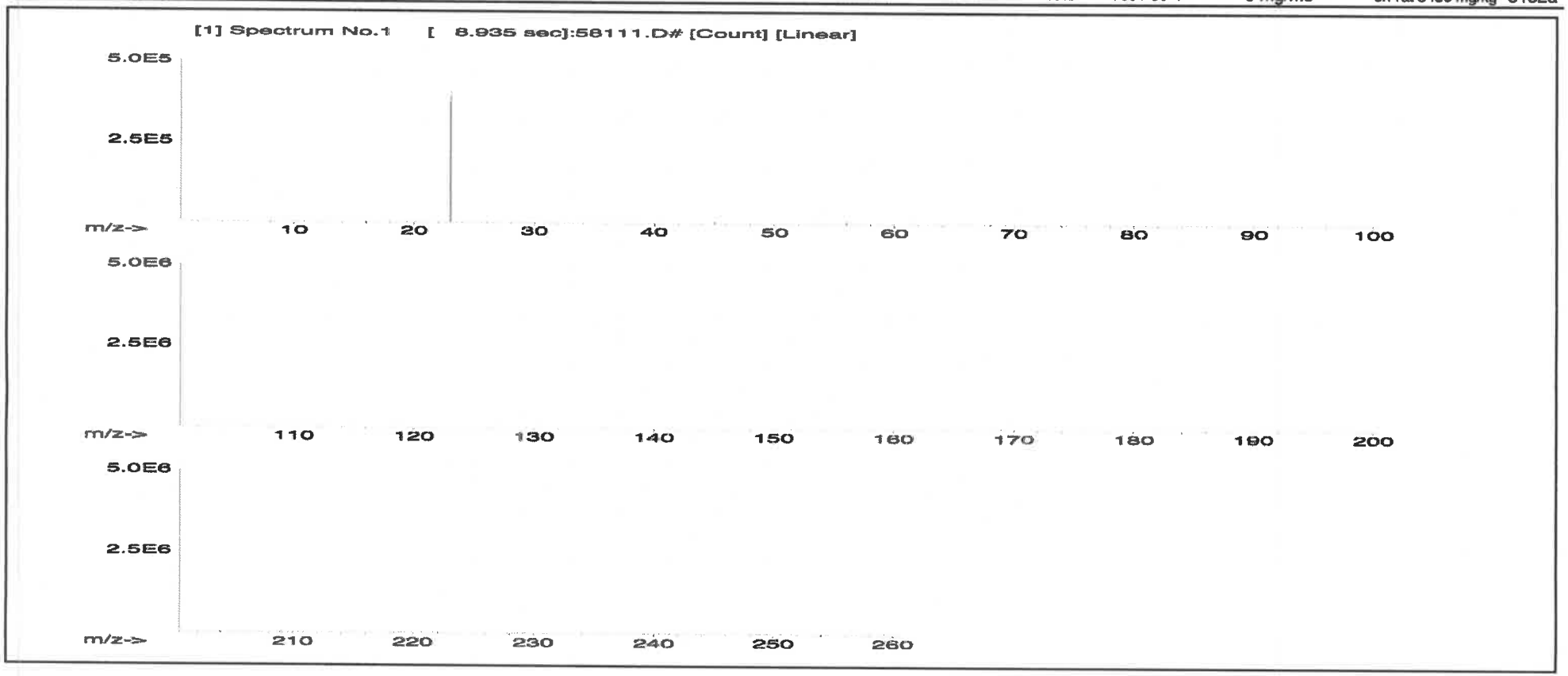
CERTIFIED WEIGHT REPORT:

R->1/13/25

Part Number:	**58111**		**Lot #**		
Lot Number:	**072424**	**Solvent:**	24002546	Nitric Acid	
Description:	**Sodium (Na)**				
		MG144 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



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

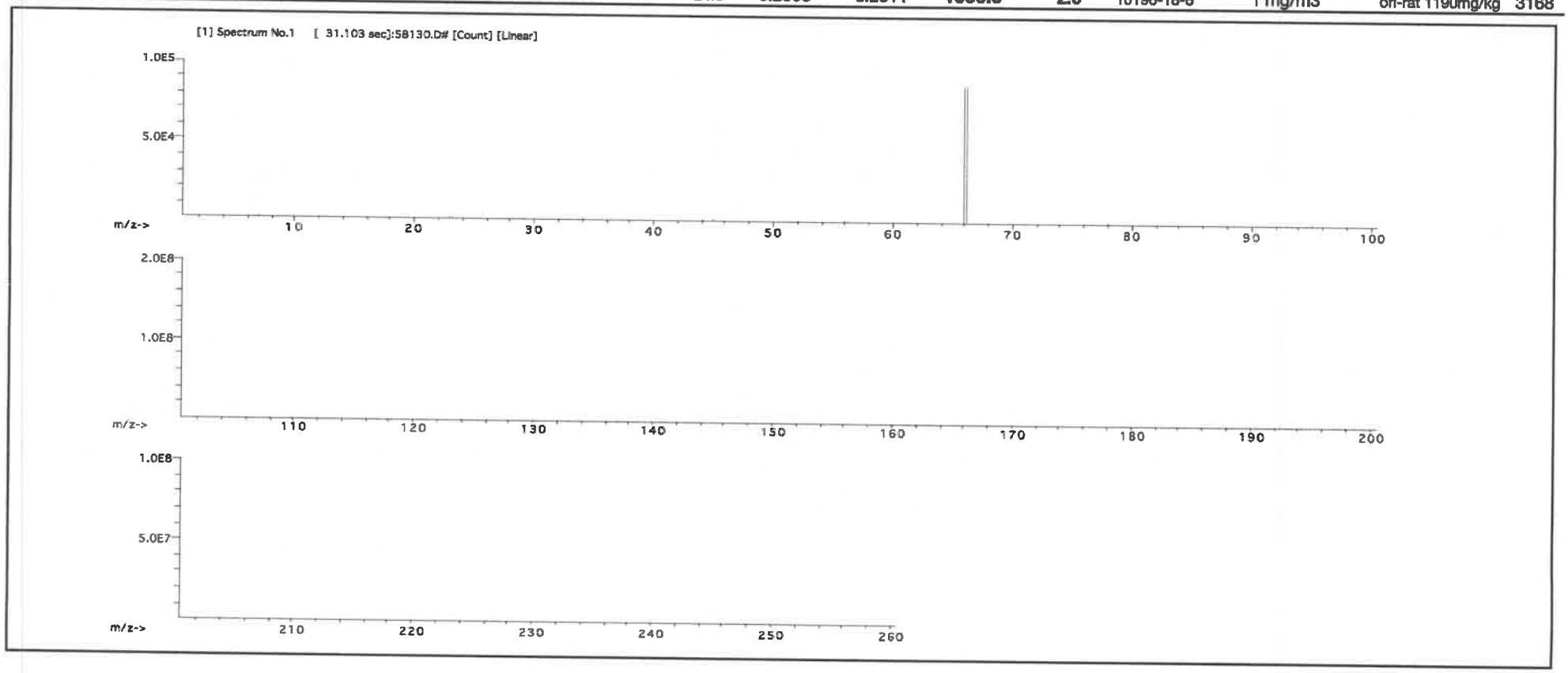
CERTIFIED WEIGHT REPORT:

Part Number:	**58030**	R → 1/13/25	**Solvent:**	**Lot #** 24012496	Nitric Acid
Lot Number:	**121724**				
Description:	**Zinc (Zn)**	M6145	2%	40.0 (mL)	Nitric Acid
Expiration Date:	121727				
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	121724
Reviewed By:	Pedro L. Rentas	121724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	8.2308	8.2311	**1000.0**	**2.0**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

M6150

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | 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, Bioscience Production

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

m-5162

R. Date :- 04/27/2025

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	0.1 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	0.1 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 1 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 1 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	< 1 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	1 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 1.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	13 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	5 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

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

M6030

R: 8/5/24

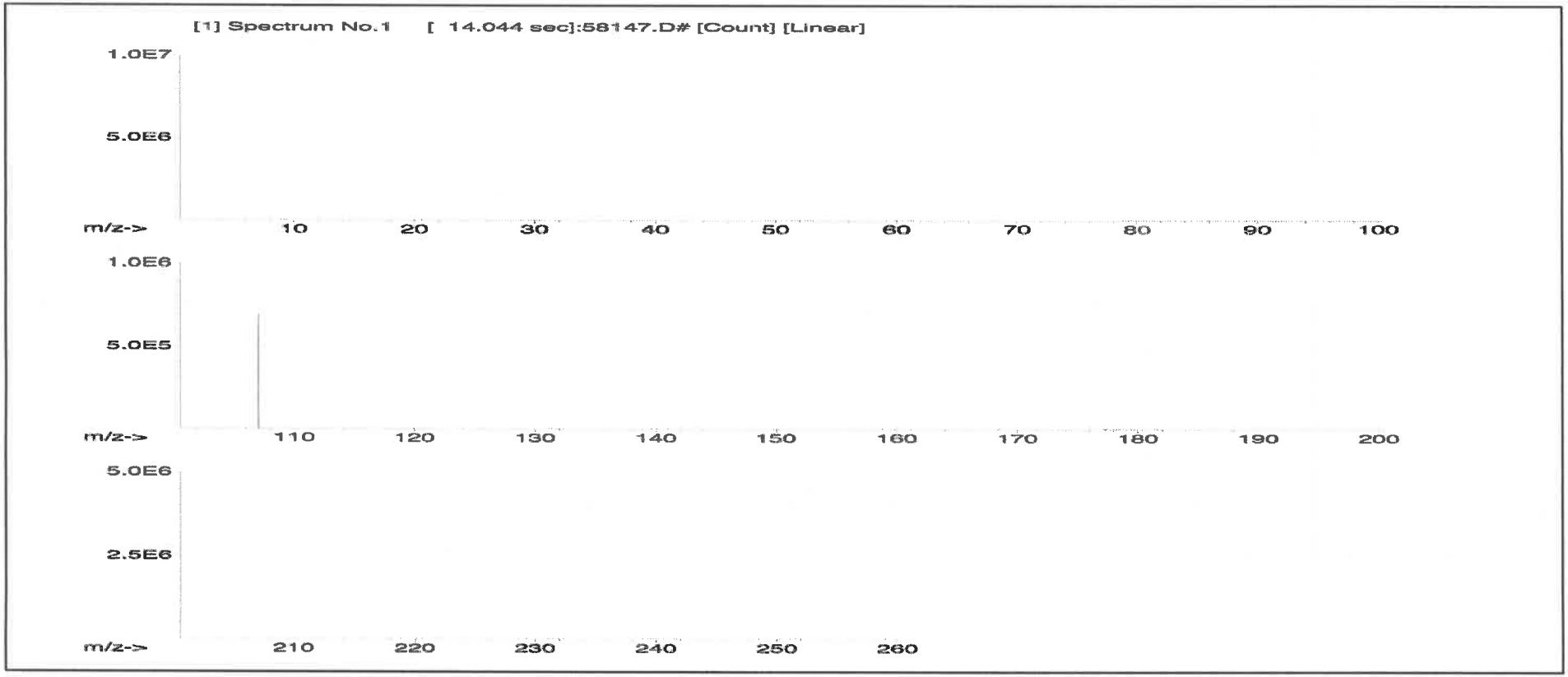
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57047**		**Lot #**		
Lot Number:	**122823**	**Solvent:**	24002546	Nitric Acid	
Description:	**Silver (Ag)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	122826				
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):	4000.30	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



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:

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).

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 10/18/24

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

CERTIFIED WEIGHT REPORT:

MG146

		Lot #	Solvent:	
Part Number:	**57051**	24002546	Nitric Acid	
Lot Number:	**071724**			
Description:	**Antimony (Sb)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071727			
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):	2000.26	0.058	Flask Uncertainty	

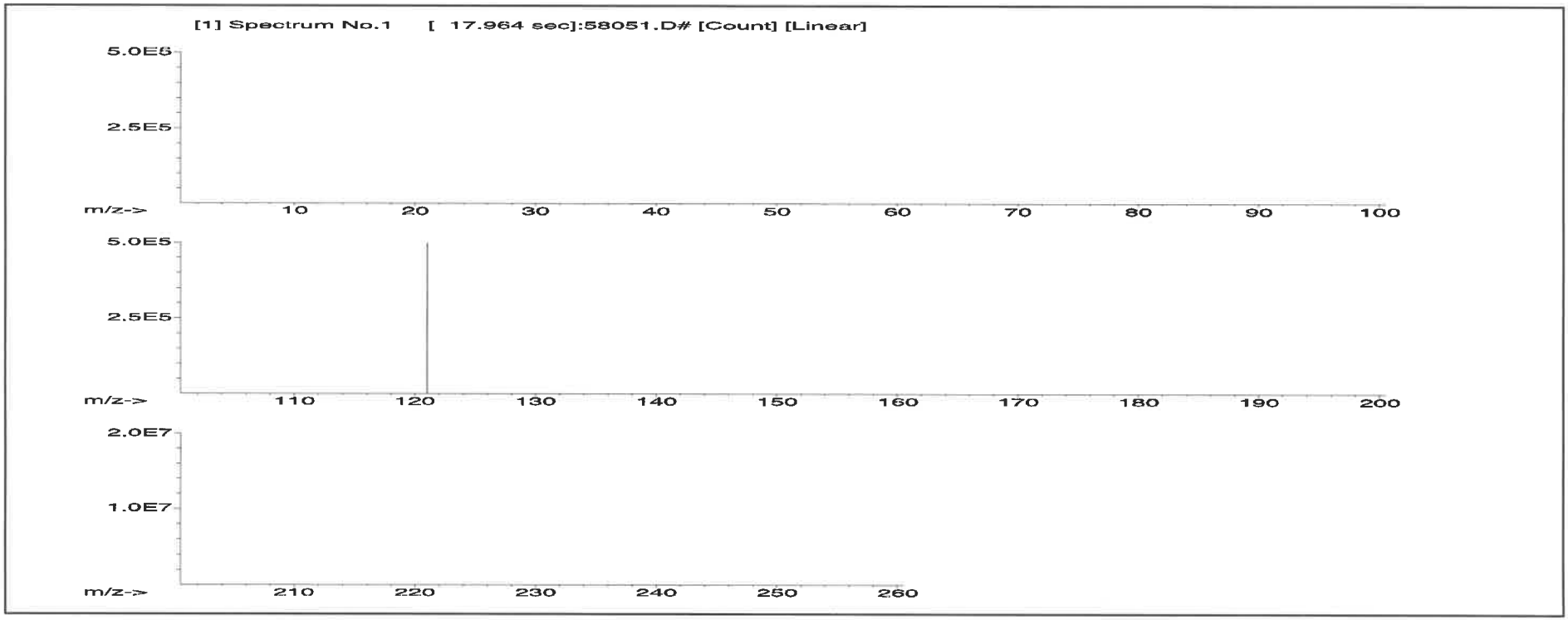
Giovanni Esposito

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



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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

APTIM

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6152

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

APTIM

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6155

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

R: 8/5/24 M6019

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 888.01
ACCREDITED Reference Material Producer Certificate 888.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_6^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

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

11.2 Lot Expiration Date

- **March 03, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R ! 8/5/24

M6023

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

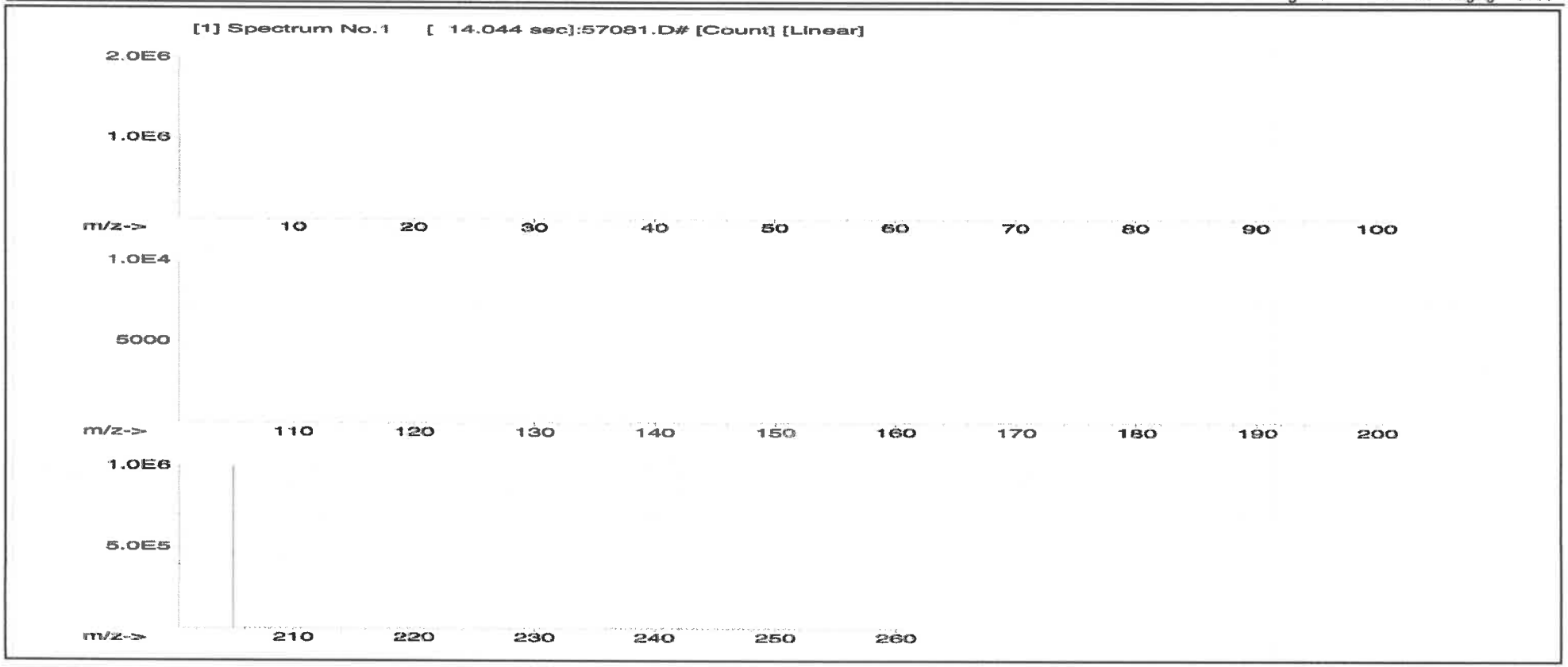
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	062724
Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6021

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

Bc. 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	

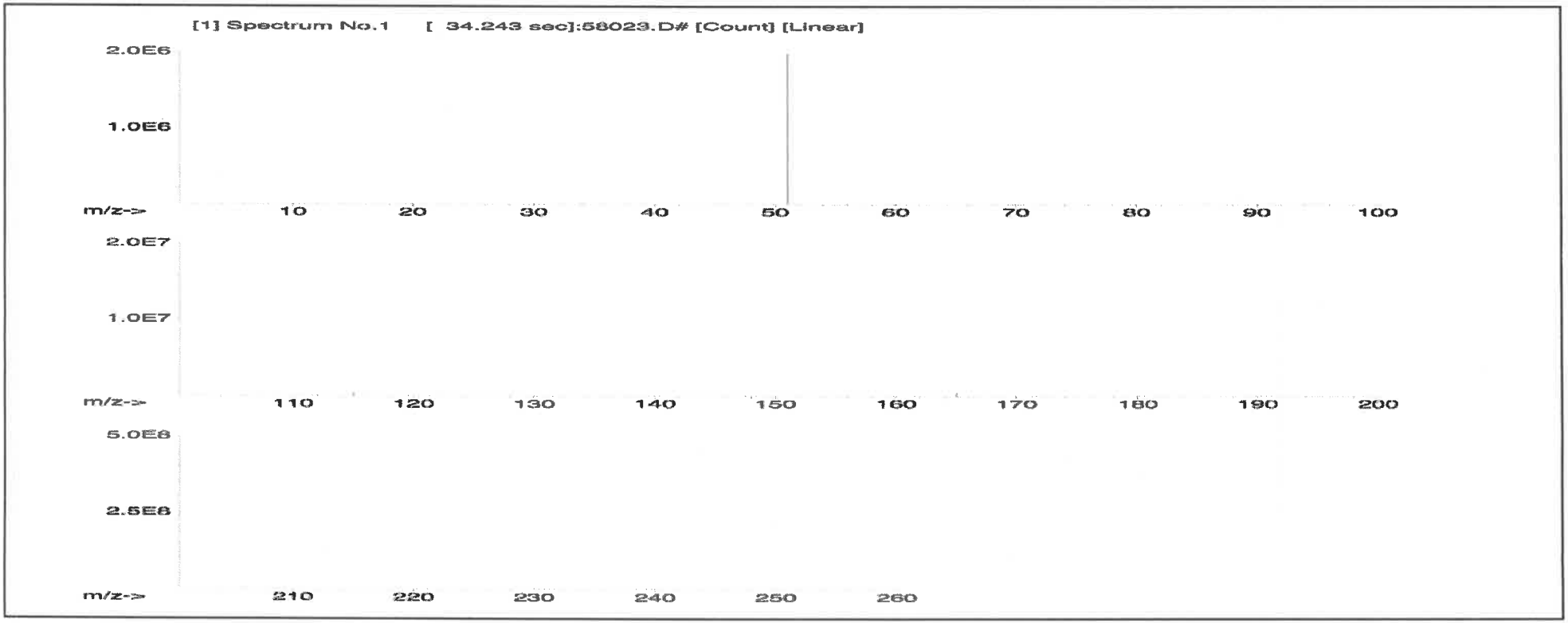
Aleah O'Brady

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



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

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

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

(T) = Target analyte

Physical Characterization:

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).

SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO.
QUOTE NO. Q2371
COC Number 2046406

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: G Environmental
ADDRESS: 8 CARRIAGE
CITY Succasunna STATE: NJ ZIP:
ATTENTION:
PHONE: FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Buff
PROJECT NO.: LOCATION:
PROJECT MANAGER: GL
e-mail:
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO GEP PO#:
ADDRESS: 8 CARRIAGE
CITY Succasunna STATE: NJ ZIP: 07876
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) STANDARD DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) X NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data) ☐ Other
X EDD FORMAT excel, PDF

ANALYSIS

1 TL VOCs 2 Fe+Mn No Sulfate 3 4 5 6 7 8 9

ALLIANCE 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
								RAM Inv									← Specify Preservatives A-HCl D-NaOH B-HN03 E-ICE C-H2SO4 F-OTHER
1.	RPX4 2025	Soil		X	6/19/25	1045	4	X	X	X							
2.	BBX4 2025	Soil		X	6/19/25	1045	4	X	X	X							
3.	GBuff1	Soil		X	6/19/25	1245	4	X									
4.																	
5.								1155									
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	1445 6/19/25	1.
2.		2.
3.		3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 2.1 °C
Comments: IR Gun #1

Page ____ of

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete ☐ YES ☐ NO

Copyright © 2024

WHITE - ALLIANCE COPY FOR RETURN TO CLIENT YELLOW - ALLIANCE COPY PINK - SAMPLER COPY

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

QA Control Code: A2070148

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID :	Q2371 GENV01	**Order Date :**	6/19/2025 2:53:00 PM	**Project Mgr :**	
Client Name :	G Environmental	**Project Name :**	Buff	**Report Type :**	NJ Reduced
Client Contact :	Gary Landis	**Receive DateTime :**	6/19/2025 2:45:00 PM	**EDD Type :**	NJ HAZSITE
Invoice Name :	G Environmental	**Purchase Order :**		**Hard Copy Date :**	
Invoice Contact :	Gary Landis			**Date Signoff :**	

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q2371-04	RPXY42025	Solid	06/19/2025	10:45					
					VOC-TCLVOA-10		8260D		10 Bus. Days
Q2371-05	~~BXY42025~~ BBX42025	Solid	06/19/2025	~~10:55~~ 11:55					
					VOC-TCLVOA-10		8260D		10 Bus. Days
Q2371-06	GBUFF1	Solid	06/19/2025	12:45					
					VOC-TCLVOA-10		8260D		10 Bus. Days

Relinguished By : _____
Date / Time : 6/19/25 1528

Received By : _____
Date / Time : 06/19/25 15:28

Storage Area : **VOA Refridgerator Room**