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Cover Page

Order ID : Q2646

Project ID : North Arlington, NJ

Client : Environmental Restoration, LLC

Lab Sample Number	Client Sample Number
Q2646-01	FRAC TANK
Q2646-03	FRAC TANK

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: 7/26/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

Alliance TECHNICAL GROUP

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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

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **Q2646**

	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:** **07/26/2025**

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LAB CHRONICLE

OrderID:	Q2646	**OrderDate:**	7/18/2025 11:47:00 AM
Client:	Environmental Restoration, LLC	**Project:**	North Arlington, NJ
Contact:	Steve Motta	**Location:**	O11,VOA Lab

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2646-01	**FRAC TANK**	**Water**			**07/18/25**			**07/18/25**
			Mercury	7470A		07/21/25	07/22/25	
			Metals ICP-TAL	6010D		07/21/25	07/22/25	
Q2646-03	**FRAC TANK**	**TCLP**			**07/18/25**			**07/18/25**
			TCLP ICP Metals	6010D		07/21/25	07/22/25	
			TCLP Mercury	7470A		07/21/25	07/22/25	

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Hit Summary Sheet
SW-846

SDG No.:	Q2646	**Order ID:**	Q2646
Client:	Environmental Restoration, LLC	**Project ID:**	North Arlington, NJ

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : FRAC TANK								
Q2646-03	FRAC TANK	TCLP	Barium	741		72.8	500	ug/L

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SAMPLE DATA

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Report of Analysis

Client:	Environmental Restoration, LLC	Date Collected:	07/18/25
Project:	North Arlington, NJ	Date Received:	07/18/25
Client Sample ID:	FRAC TANK	SDG No.:	Q2646
Lab Sample ID:	Q2646-03	Matrix:	TCLP
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-38-2	Arsenic	25.6	U	1	25.6	100	ug/L	07/21/25 12:30	07/22/25 13:46	6010D	SW3050
7440-39-3	Barium	741	N	1	72.8	500	ug/L	07/21/25 12:30	07/22/25 13:46	6010D	SW3050
7440-43-9	Cadmium	2.50	U	1	2.50	30.0	ug/L	07/21/25 12:30	07/22/25 13:46	6010D	SW3050
7440-47-3	Chromium	10.6	U	1	10.6	50.0	ug/L	07/21/25 12:30	07/22/25 13:46	6010D	SW3050
7439-92-1	Lead	11.5	U	1	11.5	60.0	ug/L	07/21/25 12:30	07/22/25 13:46	6010D	SW3050
7439-97-6	Mercury	0.76	UN	1	0.76	2.00	ug/L	07/21/25 14:10	07/22/25 16:49	7470A	
7782-49-2	Selenium	48.2	U	1	48.2	100	ug/L	07/21/25 12:30	07/22/25 13:46	6010D	SW3050
7440-22-4	Silver	8.10	U	1	8.10	50.0	ug/L	07/21/25 12:30	07/22/25 13:46	6010D	SW3050

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	TCLP ICP Metals				

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

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

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Environmental Restoration, LLC

SDG No.: Q2646

Contract: ENVI60

Lab Code: ACE

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV36	Mercury	3.82	4.0	96	90 - 110	CV	07/22/2025	15:13	LB136570

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV34	Mercury	4.50	5.0	90	90 - 110	CV	07/22/2025	15:17	LB136570
CCV35	Mercury	4.91	5.0	98	90 - 110	CV	07/22/2025	15:54	LB136570
CCV36	Mercury	5.27	5.0	105	90 - 110	CV	07/22/2025	16:28	LB136570
CCV37	Mercury	5.14	5.0	103	90 - 110	CV	07/22/2025	16:58	LB136570
CCV38	Mercury	4.98	5.0	100	90 - 110	CV	07/22/2025	17:31	LB136570
CCV39	Mercury	4.96	5.0	99	90 - 110	CV	07/22/2025	18:15	LB136570
CCV40	Mercury	5.05	5.0	101	90 - 110	CV	07/22/2025	18:56	LB136570

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Arsenic	3880	4000	97	90 - 110	P	07/22/2025	12:03	LB136571
	Barium	8140	8000	102	90 - 110	P	07/22/2025	12:03	LB136571
	Cadmium	1950	2000	98	90 - 110	P	07/22/2025	12:03	LB136571
	Chromium	819	800	102	90 - 110	P	07/22/2025	12:03	LB136571
	Lead	3800	4000	95	90 - 110	P	07/22/2025	12:03	LB136571
	Selenium	3880	4000	97	90 - 110	P	07/22/2025	12:03	LB136571
	Silver	1040	1000	104	90 - 110	P	07/22/2025	12:03	LB136571

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Arsenic	21.8	20.0	109	80 - 120	P	07/22/2025	12:10	LB136571
	Barium	101	100	102	80 - 120	P	07/22/2025	12:10	LB136571
	Cadmium	5.75	6.0	96	80 - 120	P	07/22/2025	12:10	LB136571
	Chromium	10.8	10.0	108	80 - 120	P	07/22/2025	12:10	LB136571
	Lead	13.2	12.0	110	80 - 120	P	07/22/2025	12:10	LB136571
	Selenium	21.7	20.0	109	80 - 120	P	07/22/2025	12:10	LB136571
	Silver	10.4	10.0	104	80 - 120	P	07/22/2025	12:10	LB136571

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Arsenic	5010	5000	100	90 - 110	P	07/22/2025	13:00	LB136571
	Barium	10100	10000	101	90 - 110	P	07/22/2025	13:00	LB136571
	Cadmium	2470	2500	99	90 - 110	P	07/22/2025	13:00	LB136571
	Chromium	984	1000	98	90 - 110	P	07/22/2025	13:00	LB136571
	Lead	4920	5000	98	90 - 110	P	07/22/2025	13:00	LB136571
	Selenium	5030	5000	101	90 - 110	P	07/22/2025	13:00	LB136571
	Silver	1260	1250	100	90 - 110	P	07/22/2025	13:00	LB136571
CCV02	Arsenic	5090	5000	102	90 - 110	P	07/22/2025	14:05	LB136571
	Barium	10500	10000	105	90 - 110	P	07/22/2025	14:05	LB136571
	Cadmium	2490	2500	100	90 - 110	P	07/22/2025	14:05	LB136571
	Chromium	976	1000	98	90 - 110	P	07/22/2025	14:05	LB136571
	Lead	4970	5000	99	90 - 110	P	07/22/2025	14:05	LB136571
	Selenium	5100	5000	102	90 - 110	P	07/22/2025	14:05	LB136571
	Silver	1280	1250	102	90 - 110	P	07/22/2025	14:05	LB136571
CCV03	Arsenic	5210	5000	104	90 - 110	P	07/22/2025	15:20	LB136571
	Barium	10600	10000	106	90 - 110	P	07/22/2025	15:20	LB136571
	Cadmium	2560	2500	102	90 - 110	P	07/22/2025	15:20	LB136571
	Chromium	1010	1000	101	90 - 110	P	07/22/2025	15:20	LB136571
	Lead	5110	5000	102	90 - 110	P	07/22/2025	15:20	LB136571
	Selenium	5230	5000	104	90 - 110	P	07/22/2025	15:20	LB136571
	Silver	1310	1250	105	90 - 110	P	07/22/2025	15:20	LB136571
CCV04	Arsenic	5220	5000	104	90 - 110	P	07/22/2025	16:13	LB136571
	Barium	10800	10000	108	90 - 110	P	07/22/2025	16:13	LB136571
	Cadmium	2560	2500	102	90 - 110	P	07/22/2025	16:13	LB136571
	Chromium	1010	1000	101	90 - 110	P	07/22/2025	16:13	LB136571
	Lead	5100	5000	102	90 - 110	P	07/22/2025	16:13	LB136571
	Selenium	5240	5000	105	90 - 110	P	07/22/2025	16:13	LB136571
	Silver	1320	1250	105	90 - 110	P	07/22/2025	16:13	LB136571
CCV05	Arsenic	5170	5000	104	90 - 110	P	07/22/2025	17:14	LB136571
	Barium	10700	10000	107	90 - 110	P	07/22/2025	17:14	LB136571
	Cadmium	2560	2500	102	90 - 110	P	07/22/2025	17:14	LB136571
	Chromium	1020	1000	102	90 - 110	P	07/22/2025	17:14	LB136571
	Lead	5120	5000	102	90 - 110	P	07/22/2025	17:14	LB136571
	Selenium	5180	5000	104	90 - 110	P	07/22/2025	17:14	LB136571

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Environmental Restoration, LLC

SDG No.: Q2646

Contract: ENVI60

Lab Code: ACE

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Silver	1320	1250	106	90 - 110	P	07/22/2025	17:14	LB136571
CCV06	Arsenic	5170	5000	103	90 - 110	P	07/22/2025	18:05	LB136571
	Barium	10700	10000	107	90 - 110	P	07/22/2025	18:05	LB136571
	Cadmium	2560	2500	102	90 - 110	P	07/22/2025	18:05	LB136571
	Chromium	1040	1000	104	90 - 110	P	07/22/2025	18:05	LB136571
	Lead	5120	5000	102	90 - 110	P	07/22/2025	18:05	LB136571
	Selenium	5170	5000	103	90 - 110	P	07/22/2025	18:05	LB136571
	Silver	1330	1250	107	90 - 110	P	07/22/2025	18:05	LB136571
CCV07	Arsenic	5190	5000	104	90 - 110	P	07/22/2025	18:54	LB136571
	Barium	10600	10000	106	90 - 110	P	07/22/2025	18:54	LB136571
	Cadmium	2570	2500	103	90 - 110	P	07/22/2025	18:54	LB136571
	Chromium	1010	1000	101	90 - 110	P	07/22/2025	18:54	LB136571
	Lead	5130	5000	103	90 - 110	P	07/22/2025	18:54	LB136571
	Selenium	5190	5000	104	90 - 110	P	07/22/2025	18:54	LB136571
	Silver	1320	1250	105	90 - 110	P	07/22/2025	18:54	LB136571
CCV08	Arsenic	5260	5000	105	90 - 110	P	07/22/2025	19:19	LB136571
	Barium	10800	10000	108	90 - 110	P	07/22/2025	19:19	LB136571
	Cadmium	2580	2500	103	90 - 110	P	07/22/2025	19:19	LB136571
	Chromium	1050	1000	105	90 - 110	P	07/22/2025	19:19	LB136571
	Lead	5150	5000	103	90 - 110	P	07/22/2025	19:19	LB136571
	Selenium	5290	5000	106	90 - 110	P	07/22/2025	19:19	LB136571
	Silver	1330	1250	107	90 - 110	P	07/22/2025	19:19	LB136571

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Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Arsenic	20.5	20.0	103	65 - 135	P	07/22/2025	12:32	LB136571
	Barium	99.5	100	100	65 - 135	P	07/22/2025	12:32	LB136571
	Cadmium	5.65	6.0	94	65 - 135	P	07/22/2025	12:32	LB136571
	Chromium	10.5	10.0	106	65 - 135	P	07/22/2025	12:32	LB136571
	Lead	12.4	12.0	103	65 - 135	P	07/22/2025	12:32	LB136571
	Selenium	21.2	20.0	106	65 - 135	P	07/22/2025	12:32	LB136571
	Silver	9.69	10.0	97	65 - 135	P	07/22/2025	12:32	LB136571
CRA	Mercury	0.19	0.2	93	70 - 130	CV	07/22/2025	15:22	LB136570

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB36	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	15:15	LB136570

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB34	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	15:20	LB136570
CCB35	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	15:59	LB136570
CCB36	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	16:30	LB136570
CCB37	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	17:00	LB136570
CCB38	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	17:33	LB136570
CCB39	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	18:20	LB136570
CCB40	Mercury	0.076	+/-0.2	U	0.20	CV	07/22/2025	18:58	LB136570

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	12:27	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	12:27	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	12:27	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	12:27	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	12:27	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	12:27	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	12:27	LB136571

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	13:05	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	13:05	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	13:05	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	13:05	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	13:05	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	13:05	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	13:05	LB136571
CCB02	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	14:09	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	14:09	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	14:09	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	14:09	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	14:09	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	14:09	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	14:09	LB136571
CCB03	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	15:26	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	15:26	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	15:26	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	15:26	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	15:26	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	15:26	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	15:26	LB136571
CCB04	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	16:17	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	16:17	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	16:17	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	16:17	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	16:17	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	16:17	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	16:17	LB136571
CCB05	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	17:18	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	17:18	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	17:18	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	17:18	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	17:18	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	17:18	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	17:18	LB136571
CCB06	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	18:09	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	18:09	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	18:09	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	18:09	LB136571

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Lead	2.30	+/-6	U	12.0	P	07/22/2025	18:09	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	18:09	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	18:09	LB136571
CCB07	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	18:58	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	18:58	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	18:58	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	18:58	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	18:58	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	18:58	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	18:58	LB136571
CCB08	Arsenic	5.12	+/-10	U	20.0	P	07/22/2025	19:23	LB136571
	Barium	14.6	+/-50	U	100	P	07/22/2025	19:23	LB136571
	Cadmium	0.50	+/-3	U	6.00	P	07/22/2025	19:23	LB136571
	Chromium	2.12	+/-5	U	10.0	P	07/22/2025	19:23	LB136571
	Lead	2.30	+/-6	U	12.0	P	07/22/2025	19:23	LB136571
	Selenium	9.64	+/-10	U	20.0	P	07/22/2025	19:23	LB136571
	Silver	1.62	+/-5	U	10.0	P	07/22/2025	19:23	LB136571

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Metals
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PREPARATION BLANK SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168926TB		**WATER**		**Batch Number:**	**PB168960**		**Prep Date:**	**07/21/2025**	
	Mercury	0.76	<2	U	2.00	CV	07/22/2025	17:57	LB136570

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168960BL		**WATER**		**Batch Number:**	**PB168960**		**Prep Date:**	**07/21/2025**	
	Mercury	0.076	<0.2	U	0.20	CV	07/22/2025	16:37	LB136570

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Metals
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PREPARATION BLANK SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168926TB		**WATER**		**Batch Number:**	**PB168941**		**Prep Date:**	**07/21/2025**	
	Arsenic	25.6	<50	U	100	P	07/22/2025	16:09	LB136571
	Barium	72.8	<250	U	500	P	07/22/2025	16:09	LB136571
	Cadmium	2.50	<15	U	30.0	P	07/22/2025	16:09	LB136571
	Chromium	10.6	<25	U	50.0	P	07/22/2025	16:09	LB136571
	Lead	11.5	<30	U	60.0	P	07/22/2025	16:09	LB136571
	Selenium	48.2	<50	U	100	P	07/22/2025	16:09	LB136571
	Silver	8.10	<25	U	50.0	P	07/22/2025	16:09	LB136571

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB168941BL		**WATER**		**Batch Number:**	**PB168941**		**Prep Date:**	**07/21/2025**	
	Arsenic	25.6	<50	U	100	P	07/22/2025	14:56	LB136571
	Barium	72.8	<250	U	500	P	07/22/2025	14:56	LB136571
	Cadmium	2.50	<15	U	30.0	P	07/22/2025	14:56	LB136571
	Chromium	10.6	<25	U	50.0	P	07/22/2025	14:56	LB136571
	Lead	11.5	<30	U	60.0	P	07/22/2025	14:56	LB136571
	Selenium	48.2	<50	U	100	P	07/22/2025	14:56	LB136571
	Silver	8.10	<25	U	50.0	P	07/22/2025	14:56	LB136571

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INTERFERENCE CHECK SAMPLE

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

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

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Arsenic	10.7			-20	20	07/22/2025	12:37	LB136571
	Barium	2.26	6.0	38	-94	106	07/22/2025	12:37	LB136571
	Cadmium	-1.25	1.0	125	-5	7	07/22/2025	12:37	LB136571
	Chromium	55.9	52.0	108	42	62	07/22/2025	12:37	LB136571
	Lead	-3.81			-12	12	07/22/2025	12:37	LB136571
	Selenium	-9.01			-20	20	07/22/2025	12:37	LB136571
	Silver	3.81			-10	10	07/22/2025	12:37	LB136571
ICSAB01	Arsenic	103	104	99	88.4	120	07/22/2025	12:48	LB136571
	Barium	494	537	92	437	637	07/22/2025	12:48	LB136571
	Cadmium	914	972	94	826	1120	07/22/2025	12:48	LB136571
	Chromium	536	542	99	460	624	07/22/2025	12:48	LB136571
	Lead	42.1	49.0	86	37	61	07/22/2025	12:48	LB136571
	Selenium	40.7	46.0	88	26	66	07/22/2025	12:48	LB136571
	Silver	210	201	104	170	232	07/22/2025	12:48	LB136571

METAL QC DATA

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MATRIX SPIKE SUMMARY

client: Environmental Restoration, LLC **level:** low **sdg no.:** Q2646

contract: ENVI60 **lab code:** ACE

matrix: Water **sample id:** Q2649-24 **client id:** WC-6MS

Percent Solids for Sample: NA **Spiked ID:** Q2649-24MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	87 - 113	4230		100	U	4000	106		P
Barium	ug/L	88 - 113	2520		1260		1000	127	N	P
Cadmium	ug/L	88 - 113	1010		30.0	U	1000	101		P
Chromium	ug/L	90 - 113	2030		50.0	U	2000	102		P
Lead	ug/L	86 - 113	4900		64.2		5000	97		P
Mercury	ug/L	82 - 119	26.3		2.00	U	40.0	66	N	CV
Selenium	ug/L	83 - 114	10700		100	U	10000	107		P
Silver	ug/L	84 - 115	394		50.0	U	380	104		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: Environmental Restoration, LLC **level:** low **sdg no.:** Q2646

contract: ENVI60 **lab code:** ACE

matrix: Water **sample id:** Q2649-24 **client id:** WC-6MSD

Percent Solids for Sample: NA **Spiked ID:** Q2649-24MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	87 - 113	4100		100	U	4000	102		P
Barium	ug/L	88 - 113	2690		1260		1000	144	N	P
Cadmium	ug/L	88 - 113	984		30.0	U	1000	98		P
Chromium	ug/L	90 - 113	2000		50.0	U	2000	100		P
Lead	ug/L	86 - 113	4770		64.2		5000	94		P
Mercury	ug/L	82 - 119	27.3		2.00	U	40.0	68	N	CV
Selenium	ug/L	83 - 114	10300		100	U	10000	103		P
Silver	ug/L	84 - 115	388		50.0	U	380	102		P

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Metals
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POST DIGEST SPIKE SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Matrix: Water **Level:** LOW **Client ID:** WC-6A

Sample ID: Q2649-24 **Spiked ID:** Q2649-24A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Barium	ug/L	88 - 113	2410		1260		1000	115	N	P
Mercury	ug/L	82 - 119	32.6		2.00	U	40.0	82	N	CV

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Environmental Restoration, LLC **Level:** LOW **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Matrix: Water **Sample ID:** Q2649-24 **Client ID:** WC-6DUP

Percent Solids for Sample: NA **Duplicate ID** Q2649-24DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	100	U	100	U			P
Barium	ug/L	20	1260		1470		15		P
Cadmium	ug/L	20	30.0	U	30.0	U			P
Chromium	ug/L	20	50.0	U	50.0	U			P
Lead	ug/L	20	64.2		75.6		16		P
Mercury	ug/L	20	2.00	U	2.00	U			CV
Selenium	ug/L	20	100	U	100	U			P
Silver	ug/L	20	50.0	U	50.0	U			P

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

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Environmental Restoration, LLC **Level:** LOW **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Matrix: Water **Sample ID:** Q2649-24MS **Client ID:** WC-6MSD

Percent Solids for Sample: NA **Duplicate ID** Q2649-24MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	4230		4100		3		P
Barium	ug/L	20	2520		2690		7		P
Cadmium	ug/L	20	1010		984		3		P
Chromium	ug/L	20	2030		2000		1		P
Lead	ug/L	20	4900		4770		3		P
Mercury	ug/L	20	26.3		27.3		4		CV
Selenium	ug/L	20	10700		10300		4		P
Silver	ug/L	20	394		388		2		P

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

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168941BS							
Arsenic	ug/L	4000	3990		100	87 - 113	P
Barium	ug/L	1000	1080		108	88 - 113	P
Cadmium	ug/L	1000	976		98	88 - 113	P
Chromium	ug/L	2000	2050		102	90 - 113	P
Lead	ug/L	5000	4910		98	86 - 113	P
Selenium	ug/L	10000	10100		101	83 - 114	P
Silver	ug/L	380	398		105	84 - 115	P

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB168960BS							
Mercury	ug/L	4.0	4.00		100	82 - 119	CV

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

WC-6L

Lab Name: Alliance **Contract:** ENVI60

Lab Code: ACE **Lb No.:** lb136571 **Lab Sample ID :** Q2649-24L **SDG No.:** Q2646

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	100	U	500	U			P
Barium	1260		1300	J	3		P
Cadmium	30.0	U	150	U			P
Chromium	50.0	U	250	U			P
Lead	64.2		89.1	J	39		P
Mercury	2.00	U	10.0	U			CV
Selenium	100	U	500	U			P
Silver	50.0	U	250	U			P

METAL PREPARATION & INSTRUMENT DATA

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ICP INTERELEMENT CORRECTION FACTORS

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Al	Ca	Fe	Mg	Ag
Arsenic	193.759	0.0000000	0.0000000	-0.0000440	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	-0.0001440	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	-0.0001490	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: As	Ba	Be	Cd	Co
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0002870
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	-0.0003570
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Cr	Cu	K	Mn	Mo
Arsenic	193.759	-0.0029000	0.0000000	0.0000000	0.0000000	0.0004900
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000070	0.0002200	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0007460	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	-0.0000120

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Na	Ni	Pb	Sb	Se
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Selenium	196.090	0.0000000	0.0000000	0.0003330	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave-Length (nm)	ICP Interelement Correction Factors For: Sn	Ti	Tl	V	Zn
Arsenic	193.759	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.409	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000630	0.0001280	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0001110	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Selenium	196.090	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	-0.0007420	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE **Method:**

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB168941**						
PB168926TB	PB168926TB	MB	WATER	07/21/2025	5.0	25.0	
PB168941BL	PB168941BL	MB	WATER	07/21/2025	5.0	25.0	
PB168941BS	PB168941BS	LCS	WATER	07/21/2025	5.0	25.0	
Q2646-03	FRAC TANK	SAM	WATER	07/21/2025	5.0	25.0	
Q2649-24DUP	WC-6DUP	DUP	WATER	07/21/2025	5.0	25.0	
Q2649-24MS	WC-6MS	MS	WATER	07/21/2025	5.0	25.0	
Q2649-24MSD	WC-6MSD	MSD	WATER	07/21/2025	5.0	25.0	

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SAMPLE PREPARATION SUMMARY

Client: Environmental Restoration, LLC **SDG No.:** Q2646

Contract: ENVI60 **Lab Code:** ACE **Method:**

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB168960**						
PB168926TB	PB168926TB	MB	WATER	07/21/2025	3.0	30.0	
PB168960BL	PB168960BL	MB	WATER	07/21/2025	30.0	30.0	
PB168960BS	PB168960BS	LCS	WATER	07/21/2025	30.0	30.0	
Q2646-03	FRAC TANK	SAM	WATER	07/21/2025	3.0	30.0	
Q2649-24DUP	WC-6DUP	DUP	WATER	07/21/2025	3.0	30.0	
Q2649-24MS	WC-6MS	MS	WATER	07/21/2025	3.0	30.0	
Q2649-24MSD	WC-6MSD	MSD	WATER	07/21/2025	3.0	30.0	

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

metals
- 14 -
ANALYSIS RUN LOG

Client: Environmental Restoration, LLC **Contract:** ENVI60

Lab code: ACE **Sdg no.:** Q2646

Instrument id number: **Method:** **Run number:** LB136570

Start date: 07/22/2025 **End date:** 07/22/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1429	HG
S0.2	S0.2	1	1431	HG
S2.5	S2.5	1	1434	HG
S5	S5	1	1436	HG
S7.5	S7.5	1	1438	HG
S10	S10	1	1452	HG
ICV36	ICV36	1	1513	HG
ICB36	ICB36	1	1515	HG
CCV34	CCV34	1	1517	HG
CCB34	CCB34	1	1520	HG
CRA	CRA	1	1522	HG
CCV35	CCV35	1	1554	HG
CCB35	CCB35	1	1559	HG
CCV36	CCV36	1	1628	HG
CCB36	CCB36	1	1630	HG
PB168960BL	PB168960BL	1	1637	HG
PB168960BS	PB168960BS	1	1642	HG
Q2646-03	FRAC TANK	1	1649	HG
CCV37	CCV37	1	1658	HG
CCB37	CCB37	1	1700	HG
Q2649-24DUP	WC-6DUP	1	1709	HG
Q2649-24MS	WC-6MS	1	1711	HG
Q2649-24MSD	WC-6MSD	1	1714	HG
CCV38	CCV38	1	1731	HG
CCB38	CCB38	1	1733	HG
PB168926TB	PB168926TB	1	1757	HG
CCV39	CCV39	1	1815	HG
CCB39	CCB39	1	1820	HG
Q2649-24L	WC-6L	5	1827	HG
Q2649-24A	WC-6A	1	1829	HG
CCV40	CCV40	1	1856	HG
CCB40	CCB40	1	1858	HG

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metals
- 14 -
ANALYSIS RUN LOG

Client: Environmental Restoration, LLC **Contract:** ENVI60

Lab code: ACE **Sdg no.:** Q2646

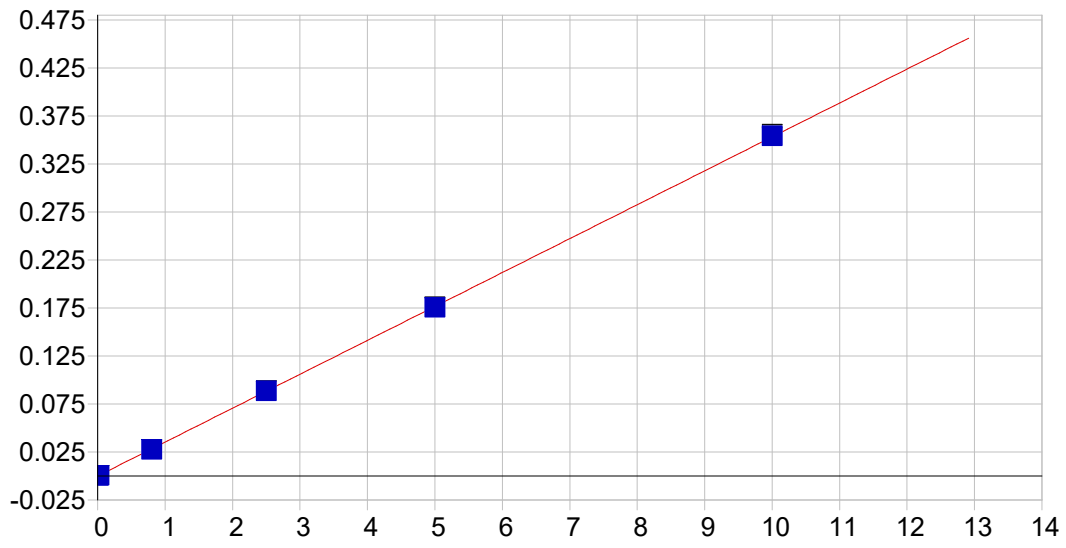
Instrument id number: **Method:** **Run number:** LB136571

Start date: 07/22/2025 **End date:** 07/22/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1111	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1116	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1120	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1124	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1128	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1133	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1203	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1210	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1227	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1232	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1237	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1248	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1300	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1305	Ag,As,Ba,Cd,Cr,Pb,Se
Q2646-03	FRAC TANK	1	1346	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1405	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1409	Ag,As,Ba,Cd,Cr,Pb,Se
Q2649-24DUP	WC-6DUP	1	1425	Ag,As,Ba,Cd,Cr,Pb,Se
Q2649-24L	WC-6L	5	1430	Ag,As,Ba,Cd,Cr,Pb,Se
Q2649-24MS	WC-6MS	1	1434	Ag,As,Ba,Cd,Cr,Pb,Se
Q2649-24MSD	WC-6MSD	1	1438	Ag,As,Ba,Cd,Cr,Pb,Se
Q2649-24A	WC-6A	1	1442	Ba
PB168941BL	PB168941BL	1	1456	Ag,As,Ba,Cd,Cr,Pb,Se
PB168941BS	PB168941BS	1	1501	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1520	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1526	Ag,As,Ba,Cd,Cr,Pb,Se
PB168926TB	PB168926TB	1	1609	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1613	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1617	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1714	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1718	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1805	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1809	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1854	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1858	Ag,As,Ba,Cd,Cr,Pb,Se
CCV08	CCV08	1	1919	Ag,As,Ba,Cd,Cr,Pb,Se
CCB08	CCB08	1	1923	Ag,As,Ba,Cd,Cr,Pb,Se

METAL
RAW DATA

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



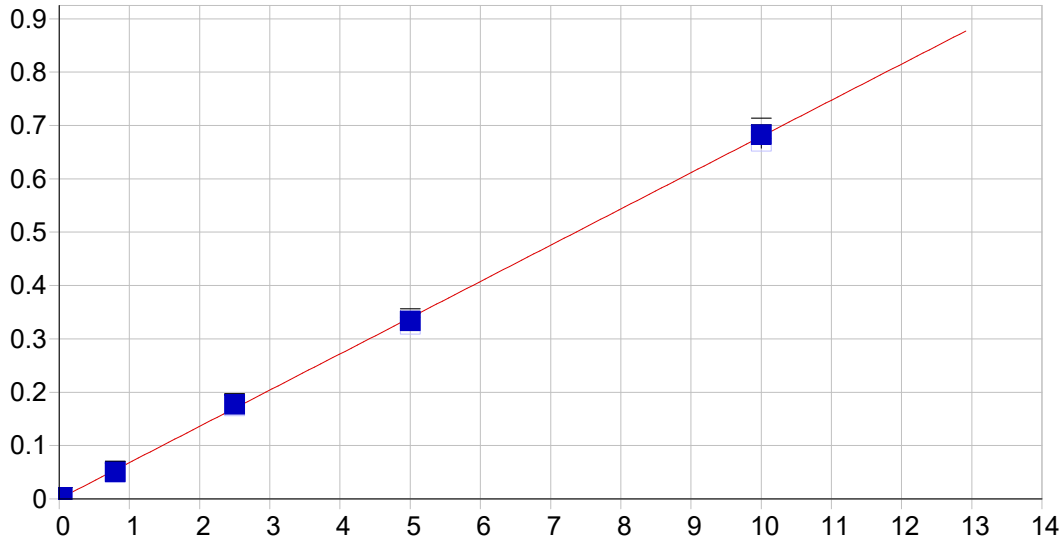
As 189.042 {479}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000047	Re-Slope:	1.000000
A1 (Gain):	0.035325	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.002991		
Predicted MQL:	0.009969		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00005	.000	1
S1	.02000	.02075	.001	3.77	.00068	.000	1
S3	2.5000	2.5092	.009	.367	.08849	.000	1
S4	5.0000	4.9751	-.025	-.498	.17551	.000	1
S5	10.000	10.031	.031	.309	.35391	.002	1
S2	.80000	.78406	-.016	-1.99	.02762	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



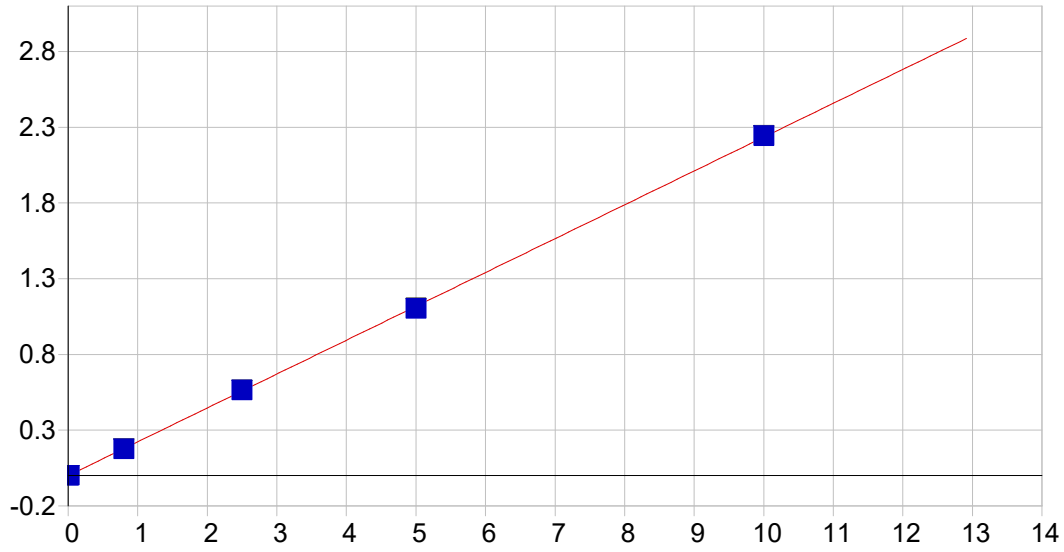
Tl 190.856 {477}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000125	Re-Slope:	1.000000
A1 (Gain):	0.067919	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999686	Status:	OK.
Std Error of Est:	0.000055		
Predicted MDL:	0.001964		
Predicted MQL:	0.006546		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00013	.000	1
S1	.04000	.04006	.000	.160	.00267	.000	1
S3	2.5000	2.6070	.107	4.28	.17407	.002	1
S4	5.0000	4.9046	-.095	-1.91	.32700	.005	1
S5	10.000	10.048	.048	.480	.67009	.012	1
S2	.80000	.74034	-.060	-7.46	.04941	.002	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



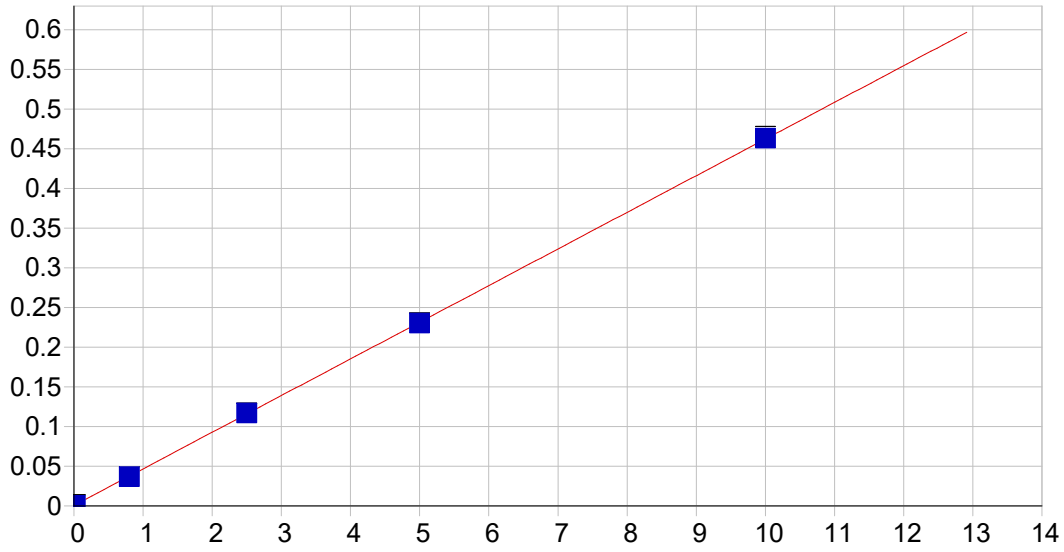
Pb 220.353 {453}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000035	Re-Slope:	1.000000
A1 (Gain):	0.223473	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	0.000034		
Predicted MDL:	0.001264		
Predicted MQL:	0.004213		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00004	.000	1
S1	.01200	.01244	.000	3.63	.00269	.000	1
S3	2.5000	2.5255	.025	1.02	.56377	.001	1
S4	5.0000	4.9409	-.059	-1.18	1.1030	.002	1
S5	10.000	10.042	.042	.422	2.2418	.002	1
S2	.80000	.79103	-.009	-1.12	.17656	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



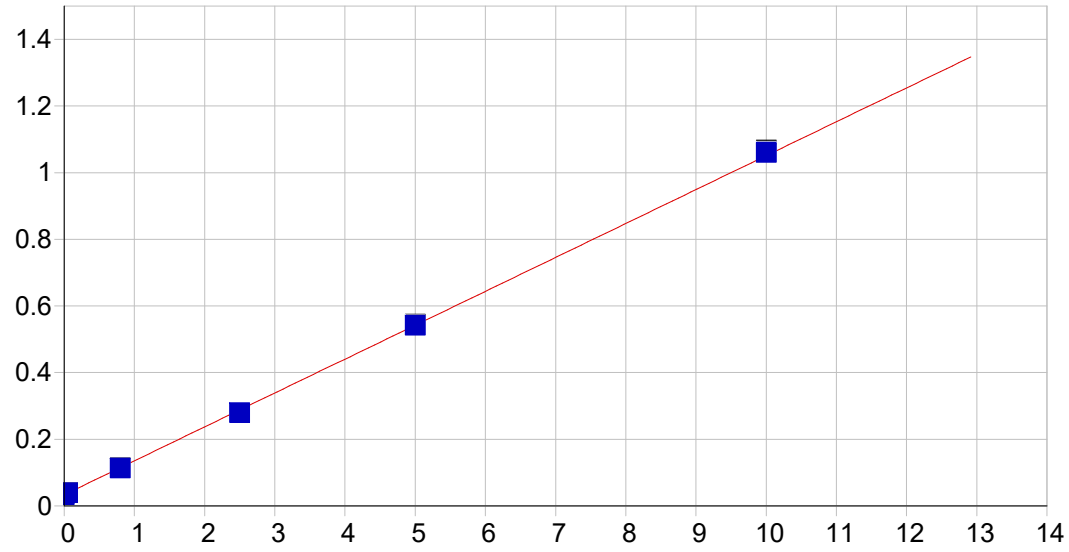
Se 196.090 {472}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000516	Re-Slope:	1.000000
A1 (Gain):	0.046189	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999980	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.003858		
Predicted MQL:	0.012859		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00052	.000	1
S1	.02000	.01883	-.001	-5.83	.00139	.000	1
S3	2.5000	2.5215	.022	.860	.11695	.000	1
S4	5.0000	4.9724	-.028	-.551	.23013	.001	1
S5	10.000	10.022	.022	.223	.46331	.003	1
S2	.80000	.78488	-.015	-1.89	.03676	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



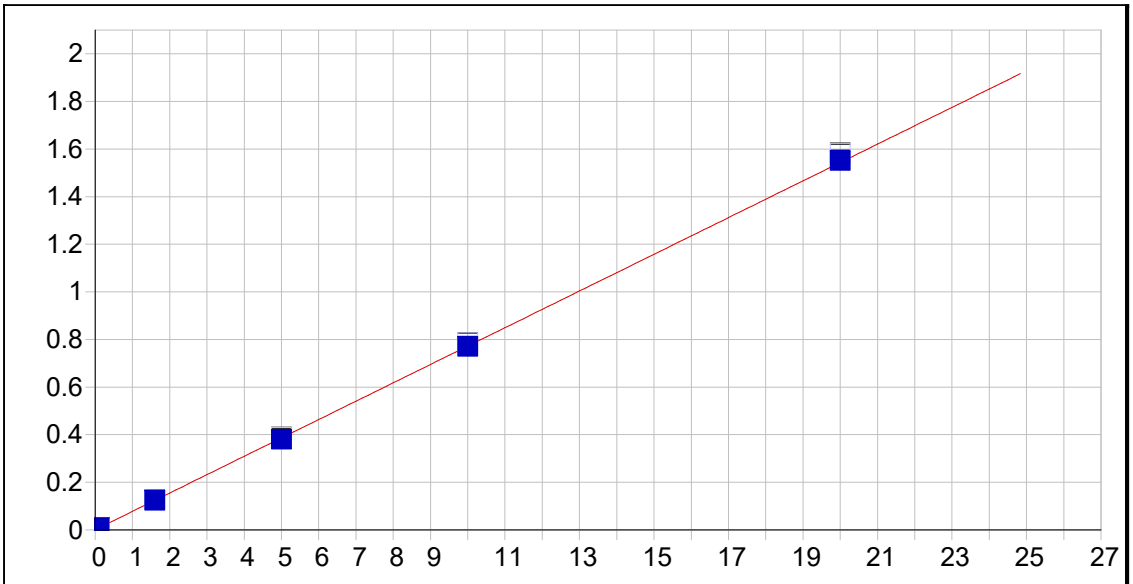
Sb 206.833 {463}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.033506	Re-Slope:	1.000000
A1 (Gain):	0.101739	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000069		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.03351	.000	1
S1	.05000	.06039	.010	20.8	.03966	.000	1
S3	2.5000	2.4178	-.082	-3.29	.28018	.000	1
S4	5.0000	4.9975	-.003	-.050	.54333	.002	1
S5	10.000	10.093	.093	.929	1.0631	.005	1
S2	.80000	.78147	-.019	-2.32	.11323	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



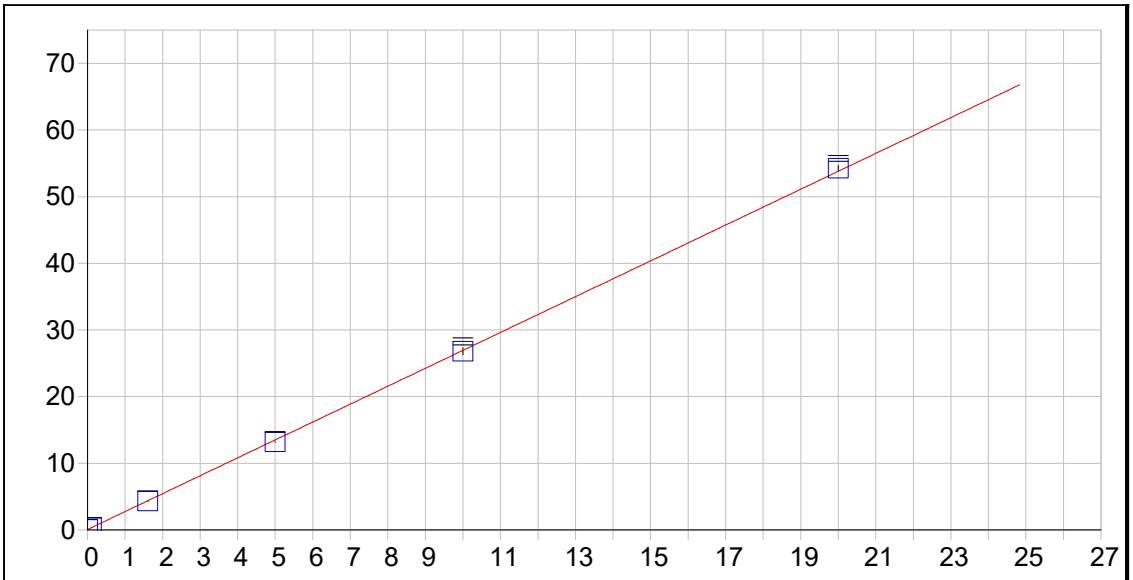
Al 396.152 { 85}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000764	Re-Slope:	1.000000
A1 (Gain):	0.077145	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.011697		
Predicted MQL:	0.038992		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00076	.000	1
S1	.10000	.10712	.007	7.12	.00963	.000	1
S3	5.0000	4.9216	-.078	-1.57	.38792	.002	1
S4	10.000	9.9834	-.017	-.166	.78589	.001	1
S5	20.000	20.096	.096	.480	1.5810	.003	1
S2	1.6000	1.5915	-.008	-.528	.12594	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



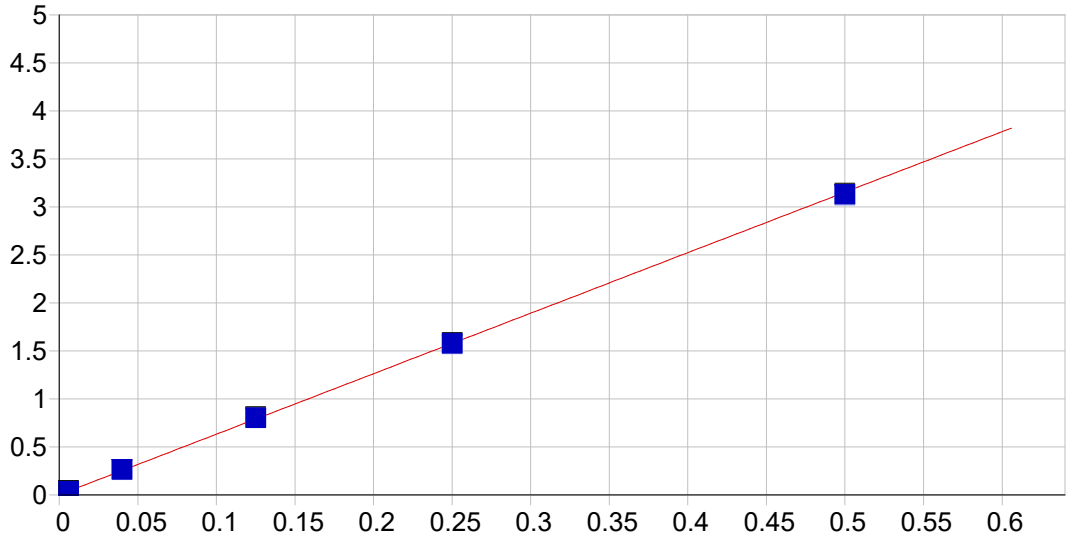
Ba 493.409 { 68}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.066940	Re-Slope:	1.000000
A1 (Gain):	2.686888	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999944	Status:	OK.
Std Error of Est:	0.002105		
Predicted MDL:	0.000858		
Predicted MQL:	0.002859		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.06695	.002	1
S1	.10000	.09712	-.003	-2.88	.32789	.003	1
S3	5.0000	4.8926	-.107	-2.15	13.213	.040	1
S4	10.000	9.9519	-.048	-.481	26.807	.522	1
S5	20.000	20.168	.168	.841	54.257	.449	1
S2	1.6000	1.5901	-.010	-.616	4.3395	.005	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



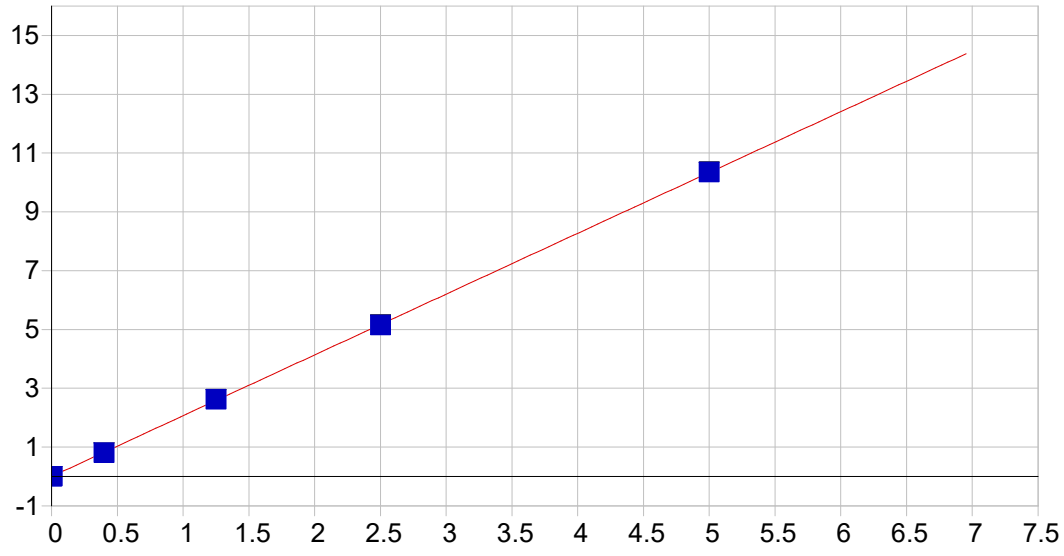
Be 234.861 {144}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001775	Re-Slope:	1.000000
A1 (Gain):	6.303664	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999933	Status:	OK.
Std Error of Est:	0.000209		
Predicted MDL:	0.000075		
Predicted MQL:	0.000250		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00177	.000	1
S1	.00600	.00625	.000	4.18	.04089	.001	1
S3	.12500	.12719	.002	1.75	.79998	.010	1
S4	.25000	.24969	-.000	-.122	1.5687	.009	1
S5	.50000	.49648	-.004	-.705	3.1173	.011	1
S2	.04000	.04139	.001	3.48	.26157	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



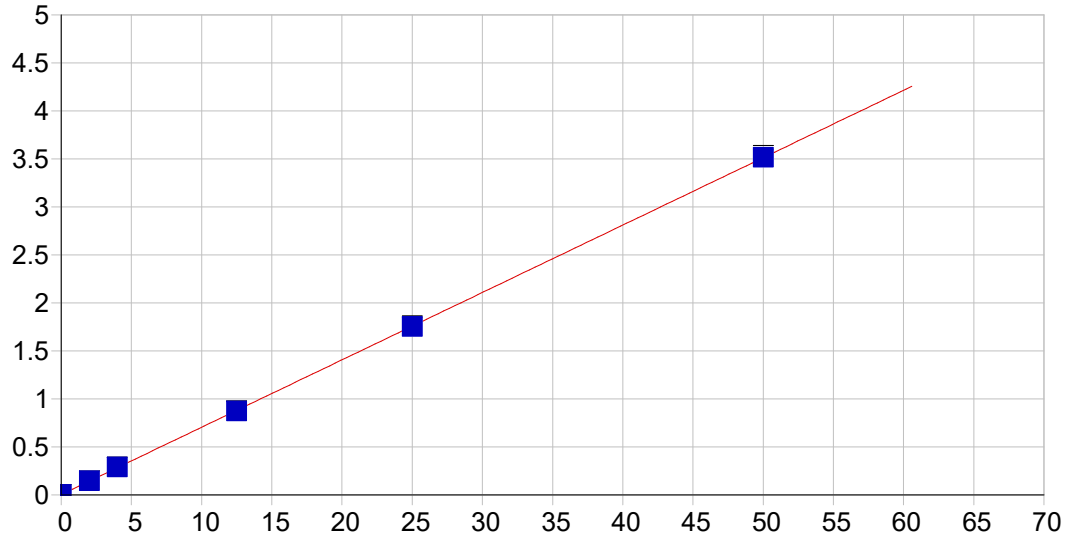
Cd 226.502 {449}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000657	Re-Slope:	1.000000
A1 (Gain):	2.068118	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000151		
Predicted MDL:	0.000105		
Predicted MQL:	0.000351		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00066	.000	1
S1	.00600	.00562	-.000	-6.36	.01101	.000	1
S3	1.2500	1.2671	.017	1.37	2.6216	.005	1
S4	2.5000	2.4904	-.010	-.384	5.1534	.009	1
S5	5.0000	5.0038	.004	.075	10.355	.007	1
S2	.40000	.38911	-.011	-2.72	.80465	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



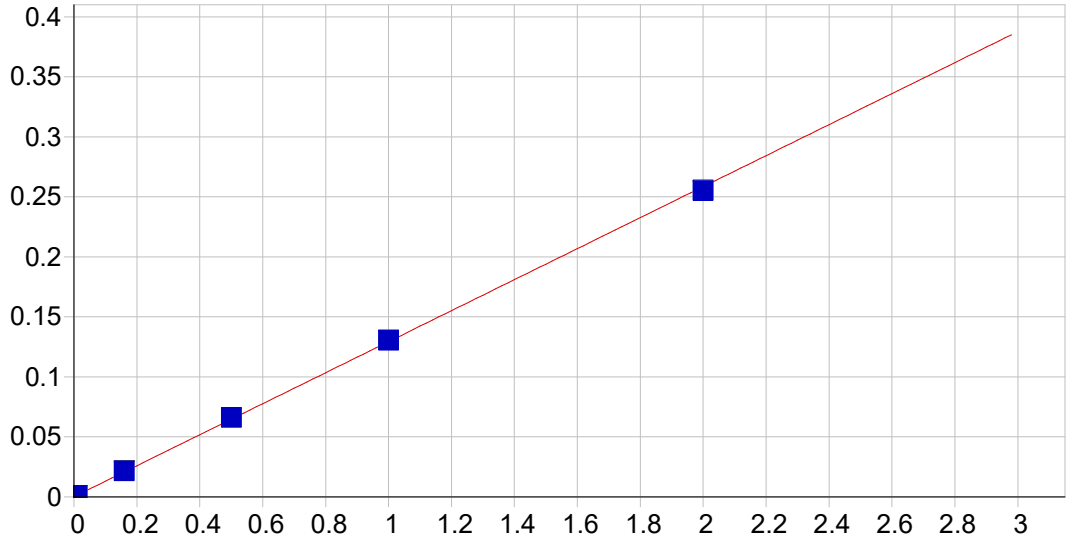
Ca 373.690 { 90}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003269	Re-Slope:	1.000000
A1 (Gain):	0.070186	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000224		
Predicted MDL:	0.010727		
Predicted MQL:	0.035756		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00006	-.000	.000	.00326	.001	1
S2	4.0000	4.0726	.073	1.82	.28911	.002	1
S3	12.500	12.389	-.111	-.889	.87279	.005	1
S4	25.000	24.942	-.058	-.232	1.7538	.006	1
S5	50.000	50.054	.054	.108	3.5164	.022	1
S1	2.0000	2.0425	.042	2.12	.14662	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



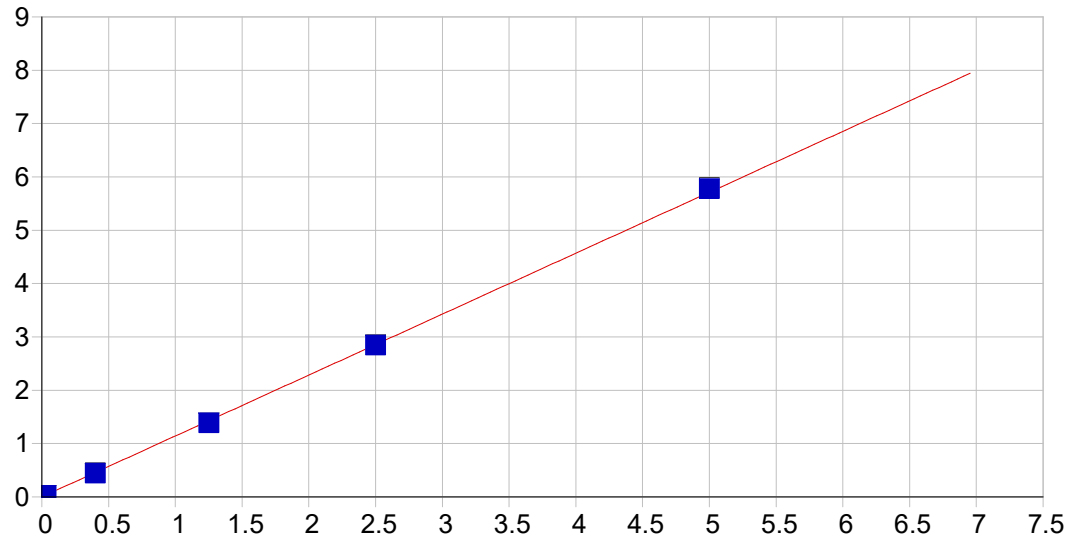
Cr 267.716 {126}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000158	Re-Slope:	1.000000
A1 (Gain):	0.129156	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999863	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.000499		
Predicted MQL:	0.001663		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00016	.000	1
S1	.01000	.01125	.001	12.5	.00161	.000	1
S3	.50000	.51037	.010	2.07	.06610	.000	1
S4	1.0000	1.0088	.009	.880	.13050	.000	1
S5	2.0000	1.9738	-.026	-1.31	.25519	.000	1
S2	.16000	.16580	.006	3.63	.02158	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



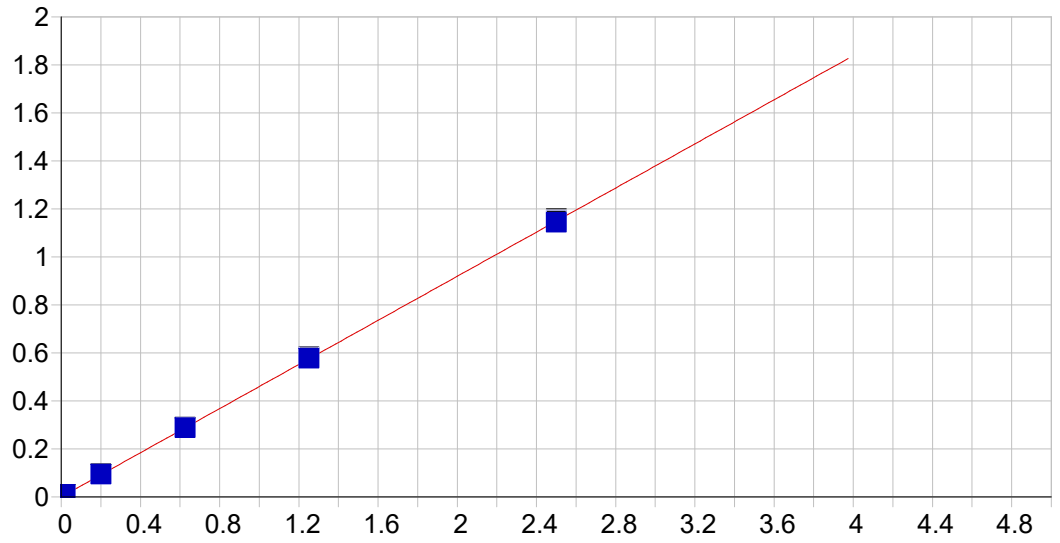
Co 228.616 {448}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000108	Re-Slope:	1.000000
A1 (Gain):	1.142351	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	0.000346		
Predicted MDL:	0.000188		
Predicted MQL:	0.000628		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00011	.000	1
S1	.03000	.02902	-.001	-3.25	.03312	.000	1
S3	1.2500	1.2142	-.036	-2.87	1.3895	.002	1
S4	2.5000	2.4908	-.009	-.370	2.8503	.004	1
S5	5.0000	5.0569	.057	1.14	5.7866	.006	1
S2	.40000	.38913	-.011	-2.72	.44540	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



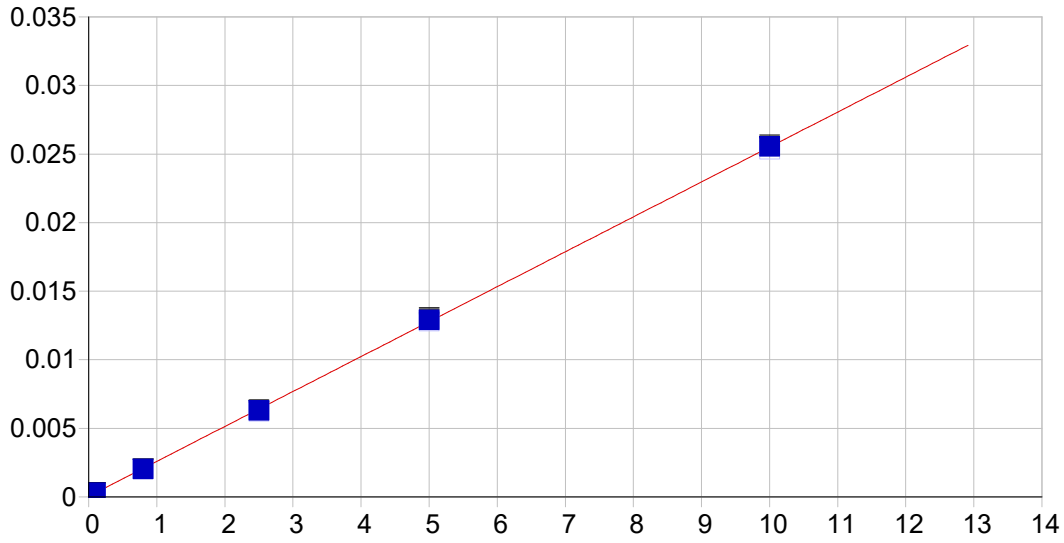
Cu 224.700 {450}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000521	Re-Slope:	1.000000
A1 (Gain):	0.459489	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000035		
Predicted MDL:	0.000557		
Predicted MQL:	0.001857		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00052	.000	1
S1	.02000	.02075	.001	3.75	.01016	.000	1
S3	.62500	.62522	.000	.036	.29020	.001	1
S4	1.2500	1.2554	.005	.429	.58214	.001	1
S5	2.5000	2.4893	-.011	-.428	1.1539	.004	1
S2	.20000	.20436	.004	2.18	.09519	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



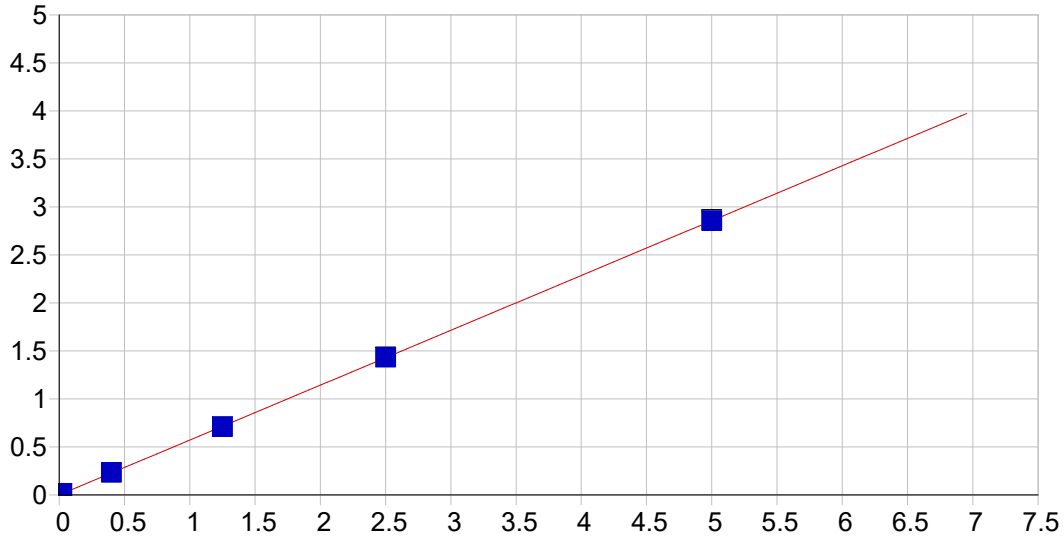
Fe 240.488 {140}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000045	Re-Slope:	1.000000
A1 (Gain):	0.002547	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.008883		
Predicted MQL:	0.029609		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00004	.000	1
S1	.10000	.09734	-.003	-2.66	.00029	.000	1
S3	2.5000	2.4516	-.048	-1.94	.00623	.000	1
S4	5.0000	5.0512	.051	1.02	.01280	.000	1
S5	10.000	10.017	.017	.170	.02534	.000	1
S2	.80000	.78281	-.017	-2.15	.00202	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



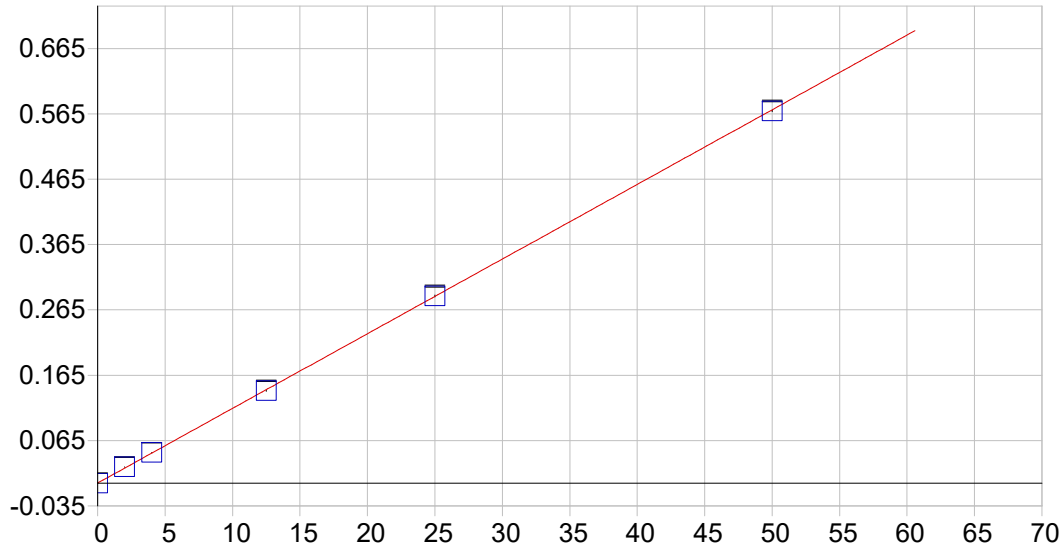
Mn 257.610 {131}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000487	Re-Slope:	1.000000
A1 (Gain):	0.571550	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000042		
Predicted MDL:	0.000507		
Predicted MQL:	0.001689		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00049	.000	1
S1	.02000	.02064	.001	3.19	.01229	.000	1
S3	1.2500	1.2408	-.009	-.737	.70980	.004	1
S4	2.5000	2.5055	.005	.219	1.4328	.002	1
S5	5.0000	4.9976	-.002	-.048	2.8574	.009	1
S2	.40000	.40549	.005	1.37	.23229	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



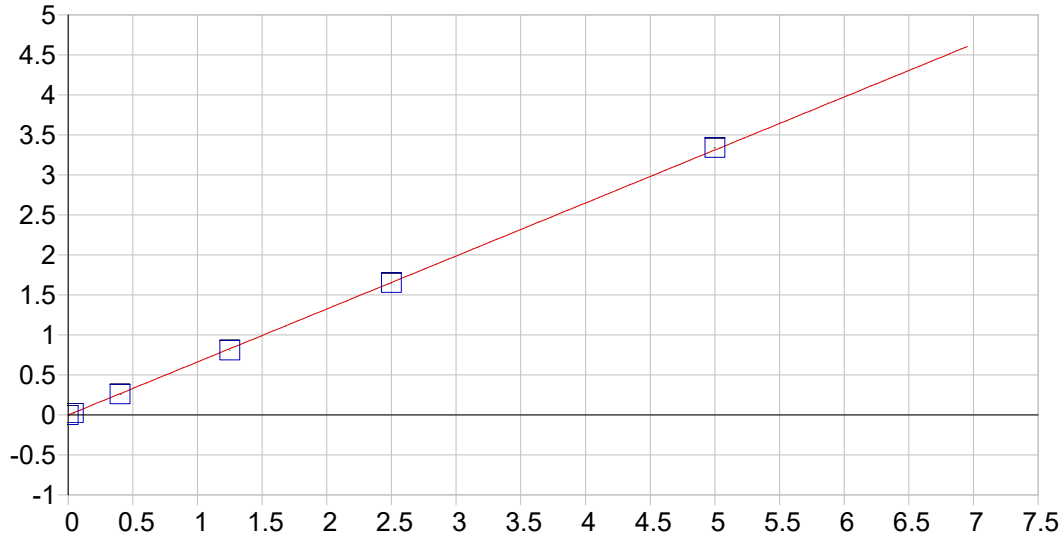
Mg 279.079 {121}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.011425	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999922	Status:	OK.
Std Error of Est:	0.000075		
Predicted MDL:	0.028705		
Predicted MQL:	0.095684		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00017	-.000	.000	.00002	.000	1
S2	4.0000	4.0775	.077	1.94	.04661	.000	1
S3	12.500	12.373	-.127	-1.02	.14138	.001	1
S4	25.000	25.048	.048	.194	.28621	.001	1
S5	50.000	49.852	-.148	-.296	.56960	.001	1
S1	2.0000	2.1494	.149	7.47	.02458	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



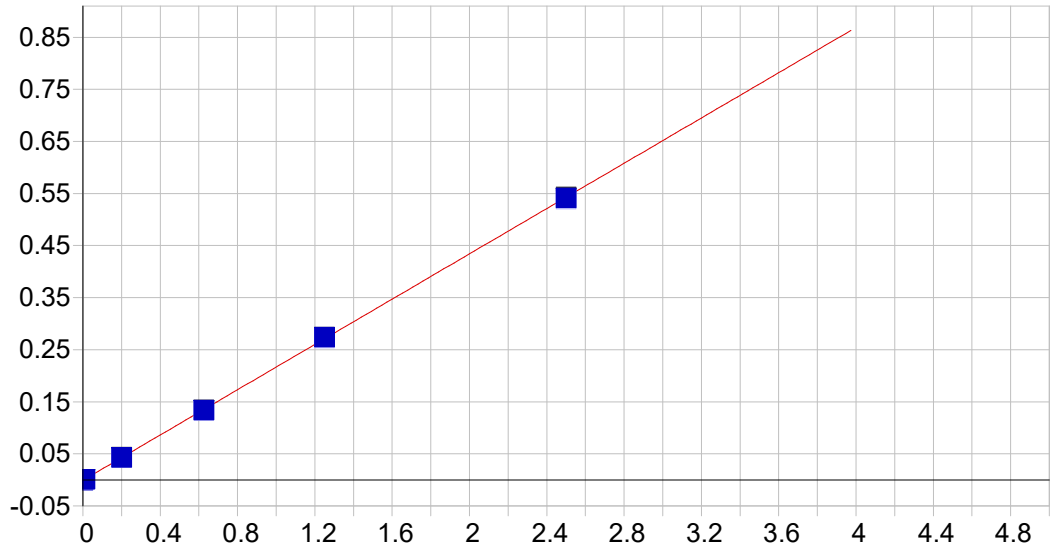
Ni 231.604 {446}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000471	Re-Slope:	1.000000
A1 (Gain):	0.662365	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999939	Status:	OK.
Std Error of Est:	0.000172		
Predicted MDL:	0.000345		
Predicted MQL:	0.001151		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00047	.000	1
S1	.04000	.03948	-.001	-1.31	.02568	.000	1
S3	1.2500	1.2218	-.028	-2.26	.80881	.001	1
S4	2.5000	2.4944	-.006	-.224	1.6517	.003	1
S5	5.0000	5.0415	.041	.829	3.3388	.004	1
S2	.40000	.39285	-.007	-1.79	.25974	.001	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



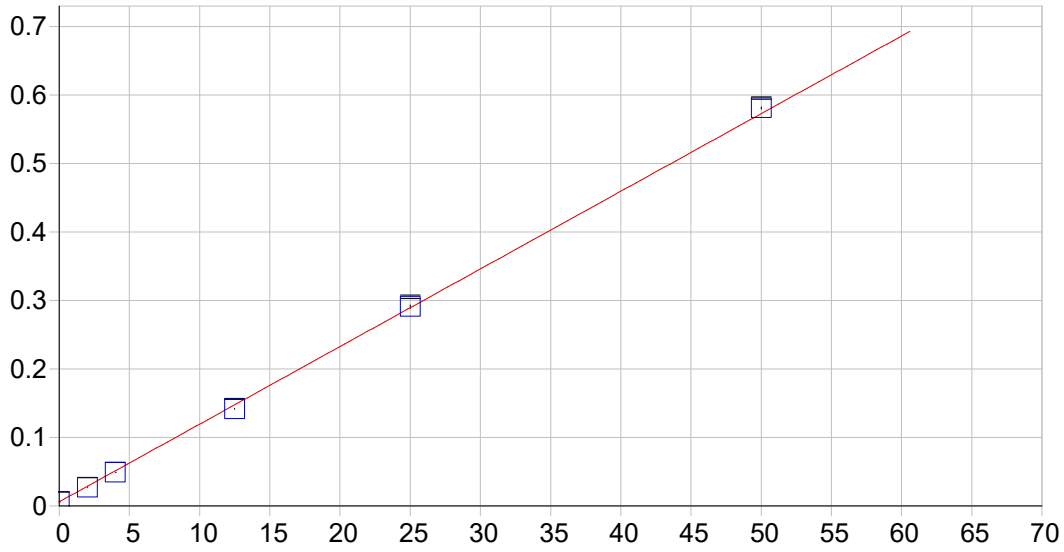
Ag 328.068 {103}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000773	Re-Slope:	1.000000
A1 (Gain):	0.217448	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999971	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.000534		
Predicted MQL:	0.001780		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00077	.000	1
S1	.01000	.00929	-.001	-7.10	.00123	.000	1
S3	.62500	.61835	-.007	-1.06	.13303	.000	1
S4	1.2500	1.2619	.012	.952	.27231	.000	1
S5	2.5000	2.4939	-.006	-.243	.53889	.001	1
S2	.20000	.20153	.002	.764	.04284	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



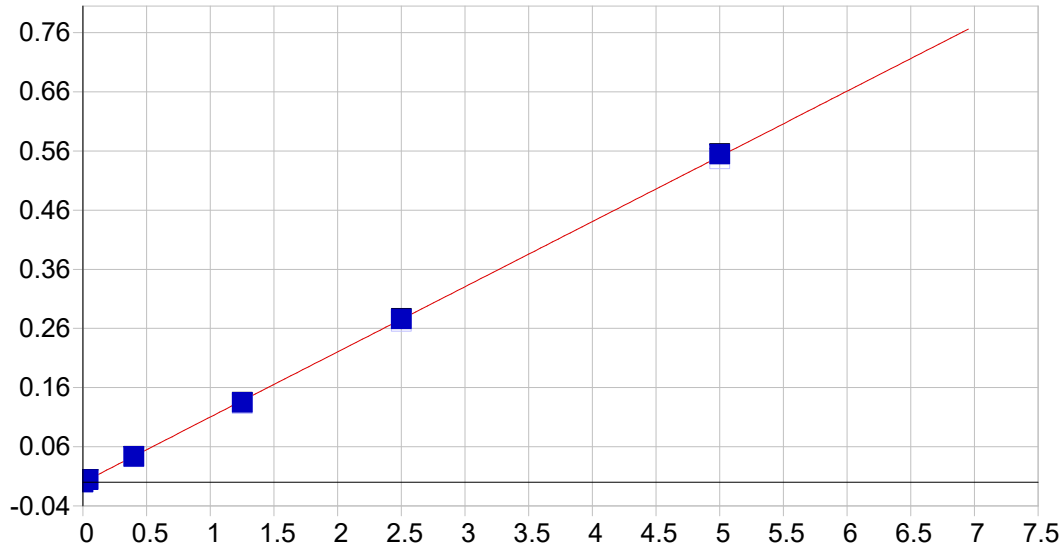
Na 589.592 { 57}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005971	Re-Slope:	1.000000
A1 (Gain):	0.011339	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999701	Status:	OK.
Std Error of Est:	0.000147		
Predicted MDL:	0.014676		
Predicted MQL:	0.048920		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00030	.000	.000	.00597	.000	1
S2	4.0000	3.7977	-.202	-5.06	.04903	.000	1
S3	12.500	11.974	-.526	-4.21	.14174	.001	1
S4	25.000	25.146	.146	.584	.29110	.003	1
S5	50.000	50.736	.736	1.47	.58126	.002	1
S1	2.0000	1.8463	-.154	-7.68	.02691	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



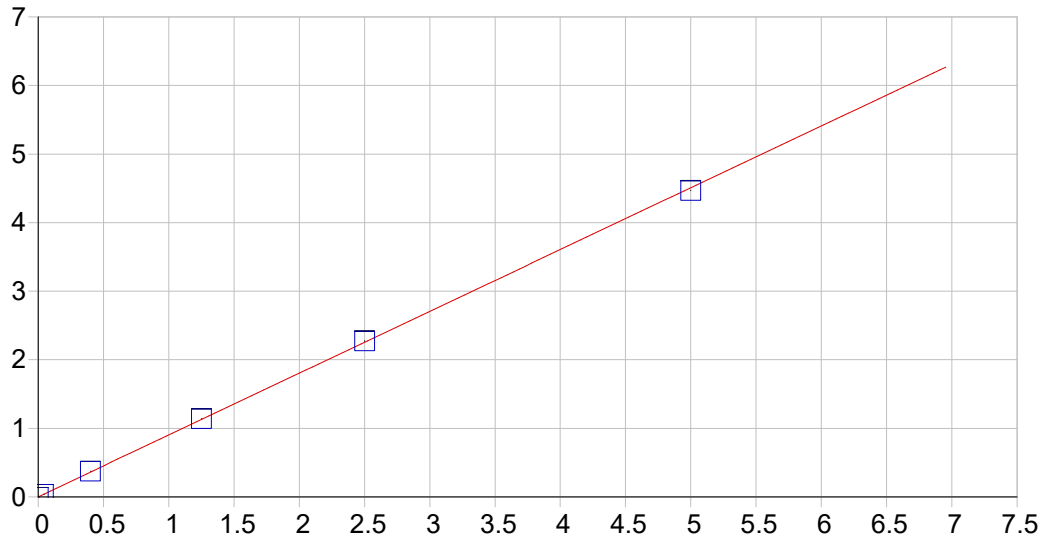
V 292.402 {115}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.110183	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999944	Status:	OK.
Std Error of Est:	0.000027		
Predicted MDL:	0.003255		
Predicted MQL:	0.010851		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00001	.000	1
S1	.04000	.03849	-.002	-3.77	.00407	.000	1
S3	1.2500	1.2212	-.029	-2.30	.13254	.001	1
S4	2.5000	2.5030	.003	.121	.27176	.001	1
S5	5.0000	5.0323	.032	.646	.54643	.001	1
S2	.40000	.39492	-.005	-1.27	.04286	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



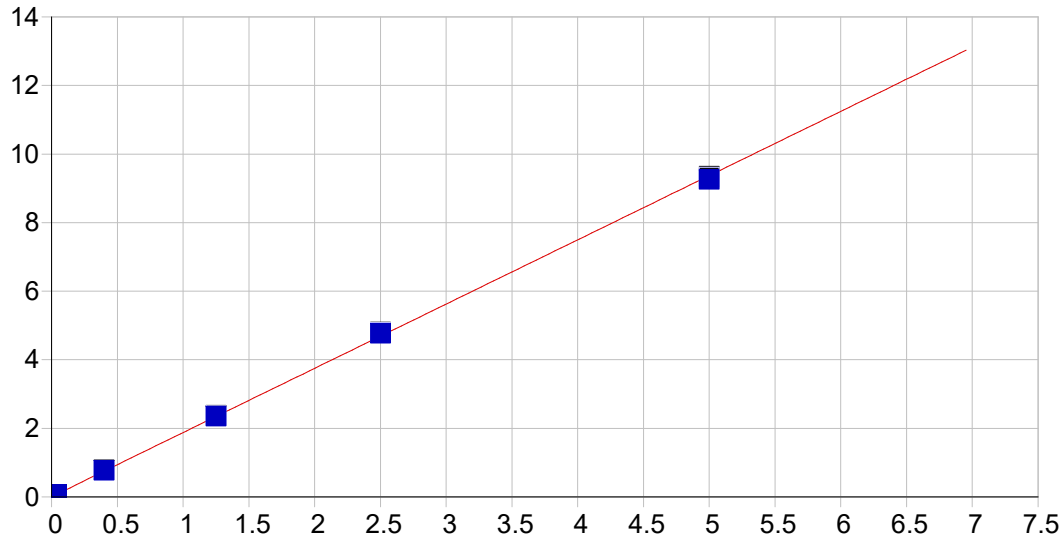
Zn 206.200 {464}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001549	Re-Slope:	1.000000
A1 (Gain):	0.901448	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999942	Status:	OK.
Std Error of Est:	0.000228		
Predicted MDL:	0.000175		
Predicted MQL:	0.000585		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00155	.000	1
S1	.04000	.04096	.001	2.40	.03847	.000	1
S3	1.2500	1.2635	.014	1.08	1.1405	.001	1
S4	2.5000	2.5194	.019	.776	2.2727	.004	1
S5	5.0000	4.9546	-.045	-.908	4.4679	.003	1
S2	.40000	.41152	.012	2.88	.37251	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



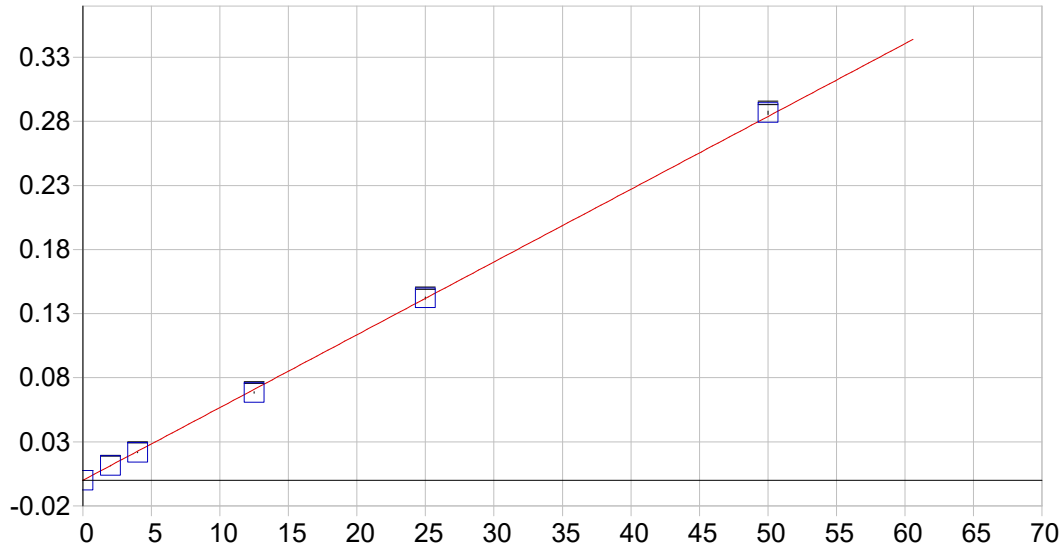
Zn 213.856 {158}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003552	Re-Slope:	1.000000
A1 (Gain):	1.873585	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000606		
Predicted MDL:	0.000292		
Predicted MQL:	0.000975		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00355	.000	1
S1	.04000	.04092	.001	2.30	.08074	.001	1
S3	1.2500	1.2531	.003	.250	2.3677	.010	1
S4	2.5000	2.5431	.043	1.73	4.8009	.008	1
S5	5.0000	4.9419	-.058	-1.16	9.3278	.025	1
S2	.40000	.41092	.011	2.73	.77865	.002	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



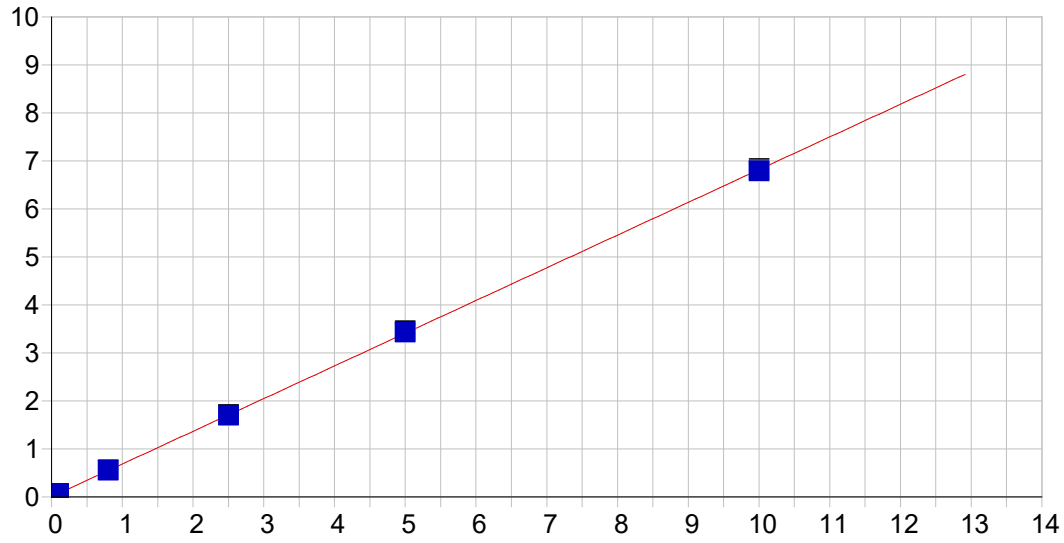
K 766.490 { 44}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.005677	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999854	Status:	OK.
Std Error of Est:	0.000051		
Predicted MDL:	0.034213		
Predicted MQL:	0.114044		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00010	.000	.000	-.00002	.000	1
S2	4.0000	3.8382	-.162	-4.05	.02177	.000	1
S3	12.500	12.069	-.431	-3.45	.06850	.001	1
S4	25.000	25.047	.047	.189	.14218	.001	1
S5	50.000	50.526	.526	1.05	.28683	.001	1
S1	2.0000	2.0204	.020	1.02	.01145	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



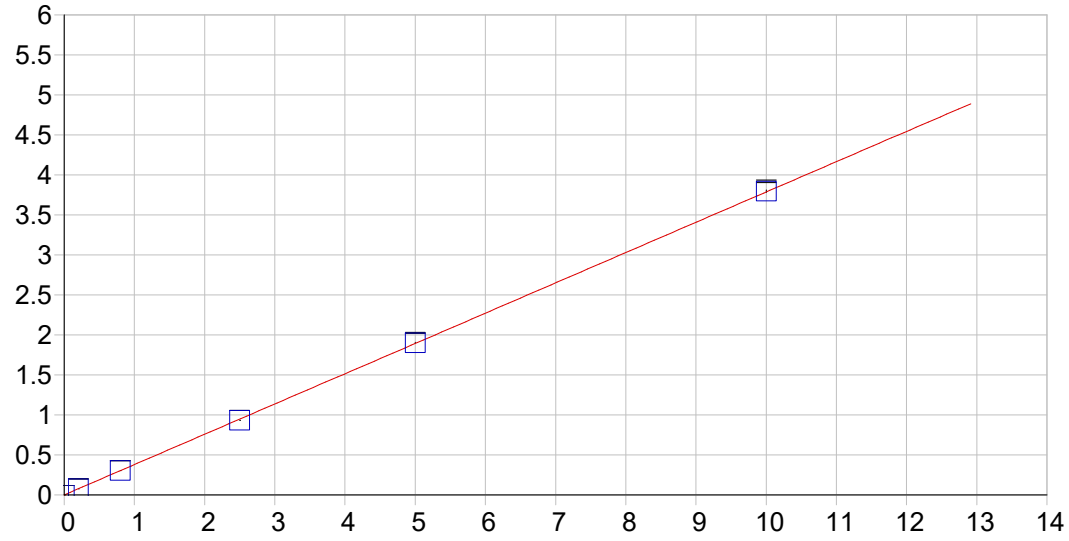
B 249.678 {135}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003575	Re-Slope:	1.000000
A1 (Gain):	0.681394	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000196		
Predicted MDL:	0.000853		
Predicted MQL:	0.002843		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00357	.000	1
S1	.10000	.10113	.001	1.13	.07208	.001	1
S3	2.5000	2.4864	-.014	-.543	1.6917	.016	1
S4	5.0000	5.0335	.033	.670	3.4211	.026	1
S5	10.000	9.9683	-.032	-.317	6.7713	.043	1
S2	.80000	.81068	.011	1.34	.55400	.003	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



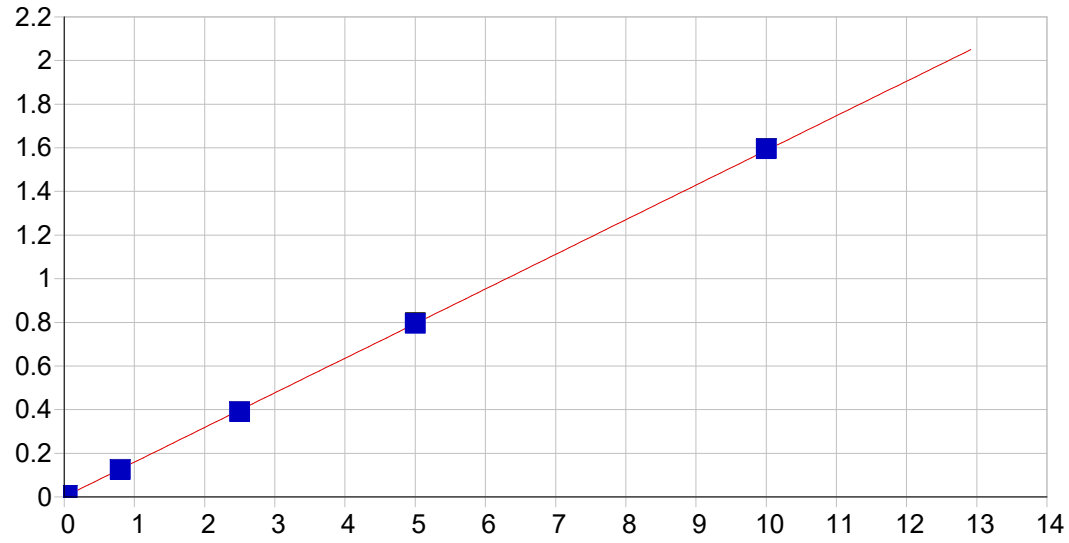
Mo 202.030 {467}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000393	Re-Slope:	1.000000
A1 (Gain):	0.378600	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000195		
Predicted MDL:	0.000410		
Predicted MQL:	0.001365		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00040	.000	1
S1	.20000	.19761	-.002	-1.20	.07521	.000	1
S3	2.5000	2.4578	-.042	-1.69	.93092	.001	1
S4	5.0000	5.0199	.020	.397	1.9009	.006	1
S5	10.000	10.025	.025	.254	3.7960	.015	1
S2	.80000	.79931	-.001	-.086	.30301	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



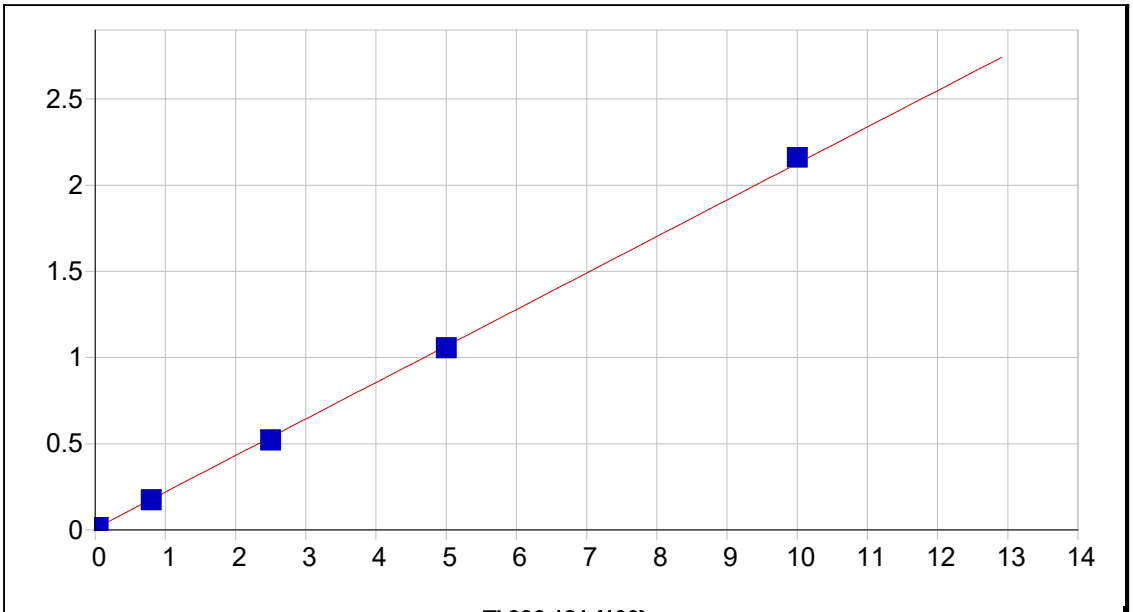
Sn 189.989 {478}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000600	Re-Slope:	1.000000
A1 (Gain):	0.158719	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	0.000043		
Predicted MDL:	0.000641		
Predicted MQL:	0.002137		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00060	.000	1
S1	.04000	.04060	.001	1.50	.00704	.000	1
S3	2.5000	2.4587	-.041	-1.65	.39043	.000	1
S4	5.0000	5.0038	.004	.075	.79398	.002	1
S5	10.000	10.052	.052	.520	1.5944	.000	1
S2	.80000	.78496	-.015	-1.88	.12506	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



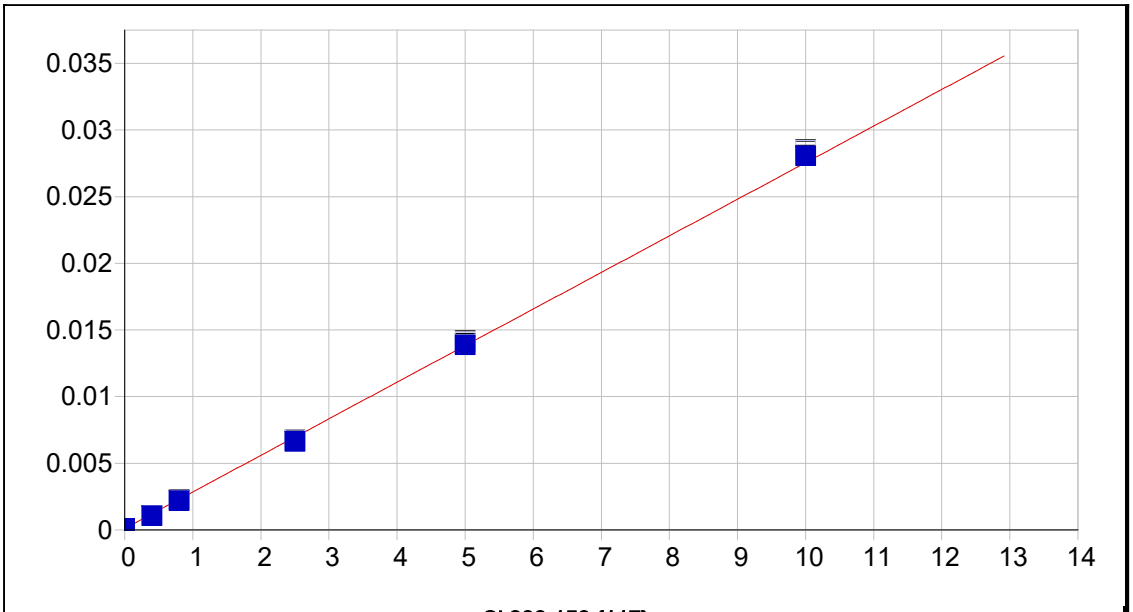
Ti 336.121 {100}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.008379	Re-Slope:	1.000000
A1 (Gain):	0.211731	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999809	Status:	OK.
Std Error of Est:	0.000137		
Predicted MDL:	0.002099		
Predicted MQL:	0.006995		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00838	.000	1
S1	.04000	.04000	-.000	-.004	.01684	.000	1
S3	2.5000	2.4119	-.088	-3.52	.51886	.002	1
S4	5.0000	4.9424	-.058	-1.15	1.0545	.002	1
S5	10.000	10.166	.166	1.66	2.1600	.000	1
S2	.80000	.77995	-.020	-2.51	.17346	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



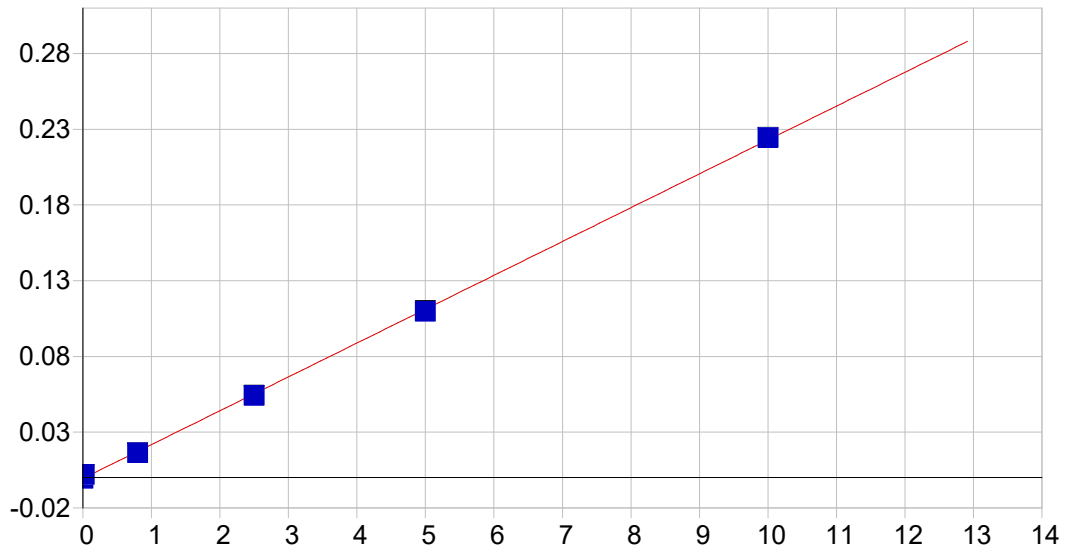
Si 288.158 {117}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000103	Re-Slope:	1.000000
A1 (Gain):	0.002745	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999553	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.013966		
Predicted MQL:	0.046553		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00008	.000	.000	.00010	.000	1
S1	.40000	.35135	-.049	-12.2	.00107	.000	1
S3	2.5000	2.3787	-.121	-4.85	.00673	.000	1
S4	5.0000	5.0200	.020	.400	.01409	.000	1
S5	10.000	10.187	.187	1.87	.02848	.000	1
S2	.80000	.76203	-.038	-4.75	.00223	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



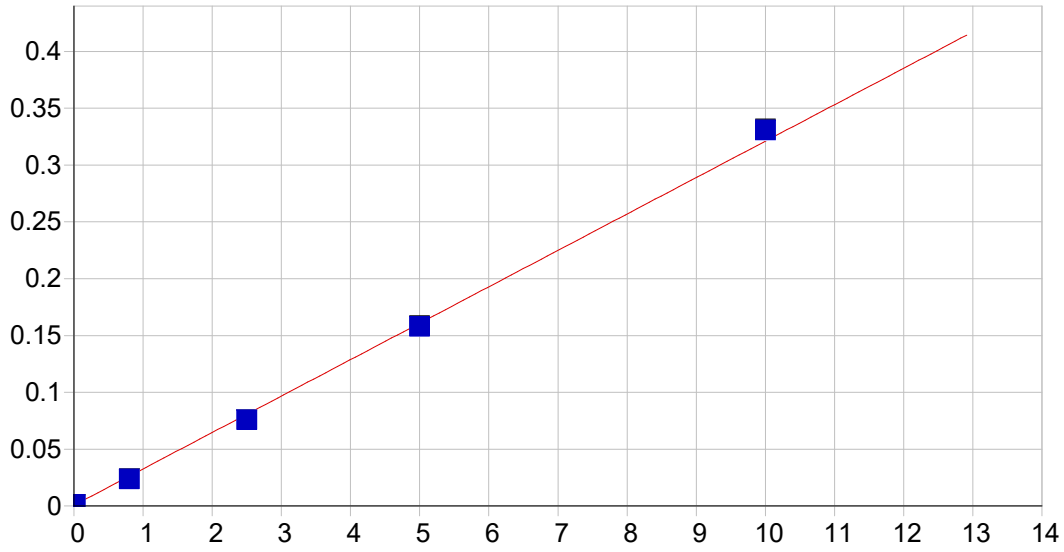
P 177.495 {490}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000545	Re-Slope:	1.000000
A1 (Gain):	0.022344	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.988094	Status:	OK.
Std Error of Est:	0.000082		
Predicted MDL:	0.003130		
Predicted MQL:	0.010432		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00009	-.000	.000	-.00055	.000	1
S1	.02000	.11366	.094	468.	.00199	.000	1
S3	2.5000	2.4469	-.053	-2.13	.05412	.000	1
S4	5.0000	4.9342	-.066	-1.32	.10969	.000	1
S5	10.000	10.070	.070	.698	.22442	.000	1
S2	.80000	.75526	-.045	-5.59	.01633	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



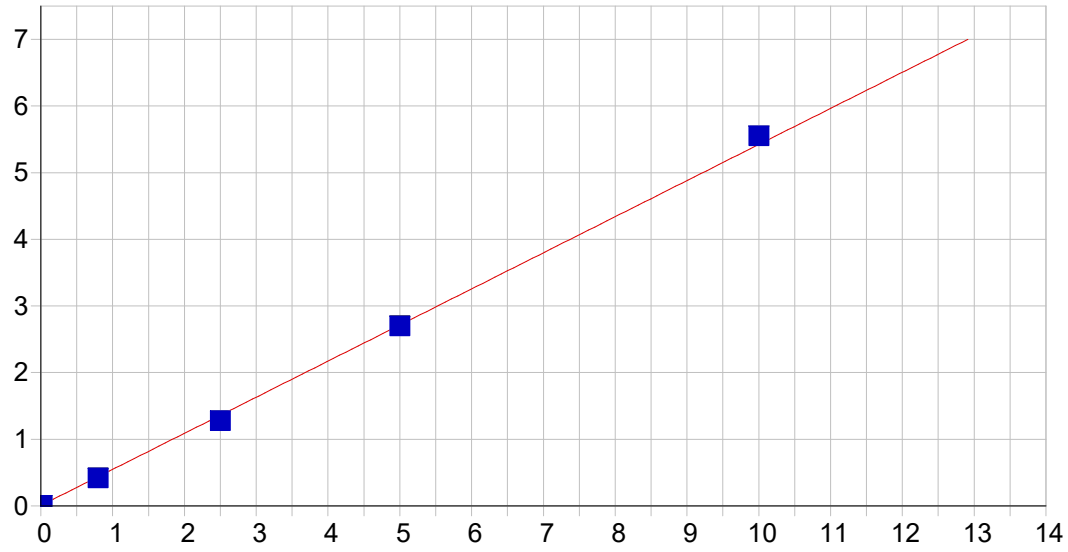
S 182.034 {485}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000524	Re-Slope:	1.000000
A1 (Gain):	0.032057	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999239	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	0.002831		
Predicted MQL:	0.009436		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00052	.000	1
S1	.02000	.01588	-.004	-20.6	.00101	.000	1
S3	2.5000	2.3517	-.148	-5.93	.07570	.000	1
S4	5.0000	4.9161	-.084	-1.68	.15770	.000	1
S5	10.000	10.311	.311	3.11	.33023	.001	1
S2	.80000	.72493	-.075	-9.38	.02370	.000	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



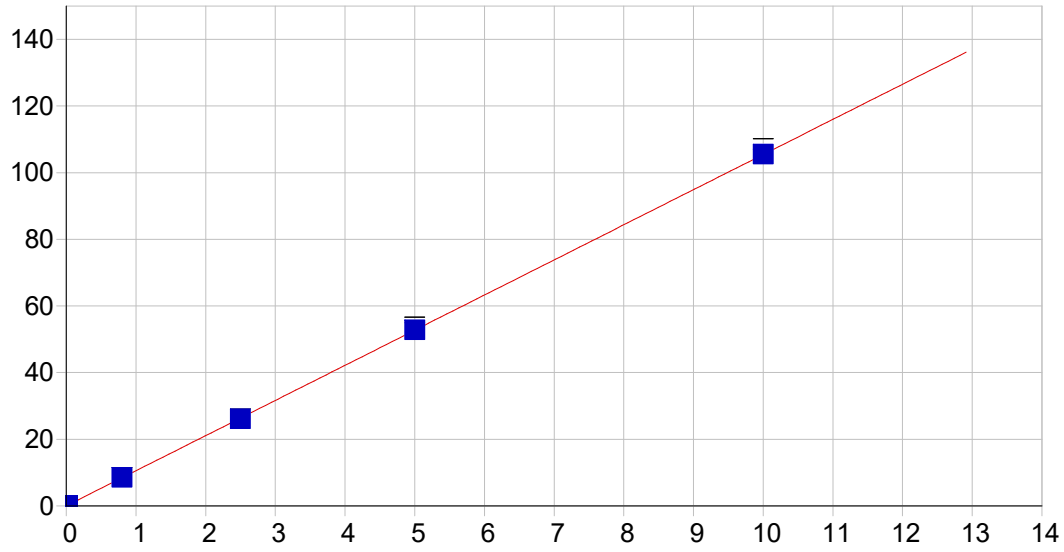
Li 670.784 { 50}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005894	Re-Slope:	1.000000
A1 (Gain):	0.541731	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999484	Status:	OK.
Std Error of Est:	0.000408		
Predicted MDL:	0.003396		
Predicted MQL:	0.011321		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00590	.001	1
S5	10.000	10.235	.235	2.35	5.5531	.004	1
S4	5.0000	4.9684	-.032	-.633	2.6988	.001	1
S3	2.5000	2.3453	-.155	-6.19	1.2771	.005	1
S1	.02000	.01484	-.005	-25.8	.01411	.001	1
S2	.80000	.75679	-.043	-5.40	.41609	.003	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



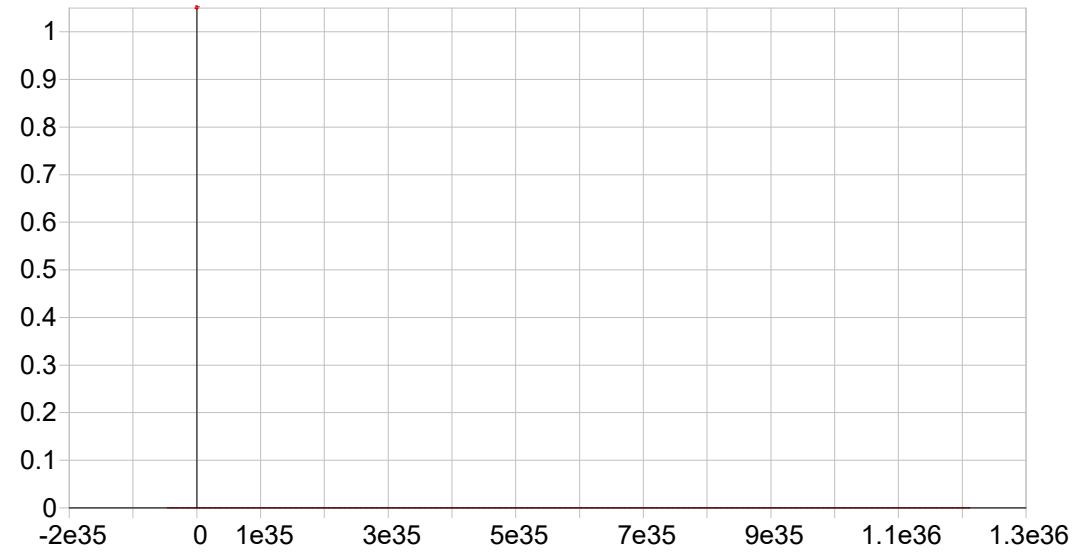
Sr 407.771 { 83}

Date of Fit:	7/22/2025 12:53:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002511	Re-Slope:	1.000000
A1 (Gain):	10.544344	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.001080		
Predicted MDL:	0.000090		
Predicted MQL:	0.000300		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00251	.001	1
S1	.02000	.01984	-.000	-.806	.21271	.001	1
S3	2.5000	2.4745	-.025	-1.02	26.120	.067	1
S4	5.0000	5.0085	.009	.171	52.865	.854	1
S5	10.000	10.010	.010	.100	105.65	1.59	1
S2	.80000	.80717	.007	.896	8.5217	.005	1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

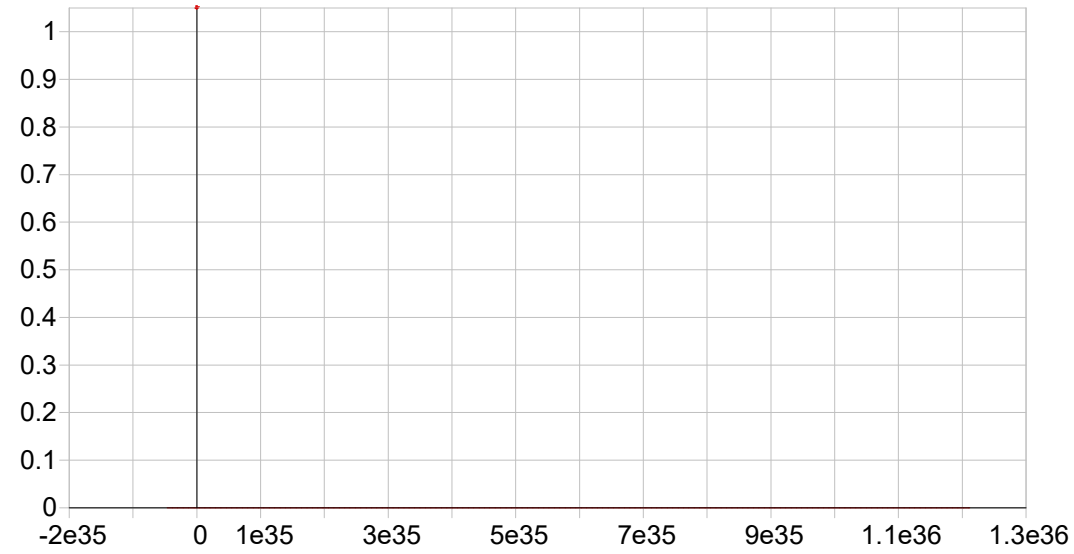


Y 224.306 {450}*

Date of Fit:	7/22/2025 12:53:22	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}*

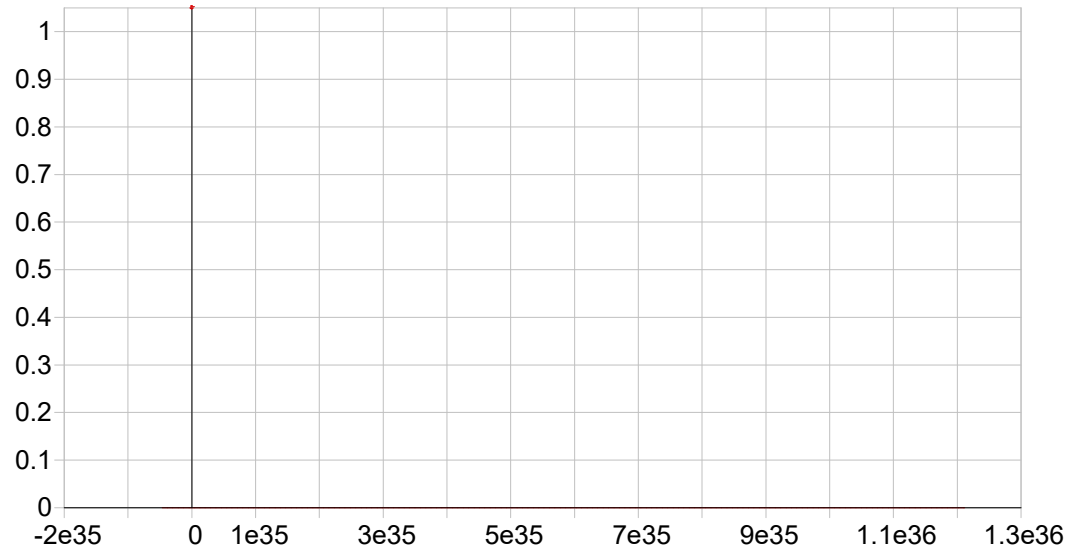
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

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

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

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



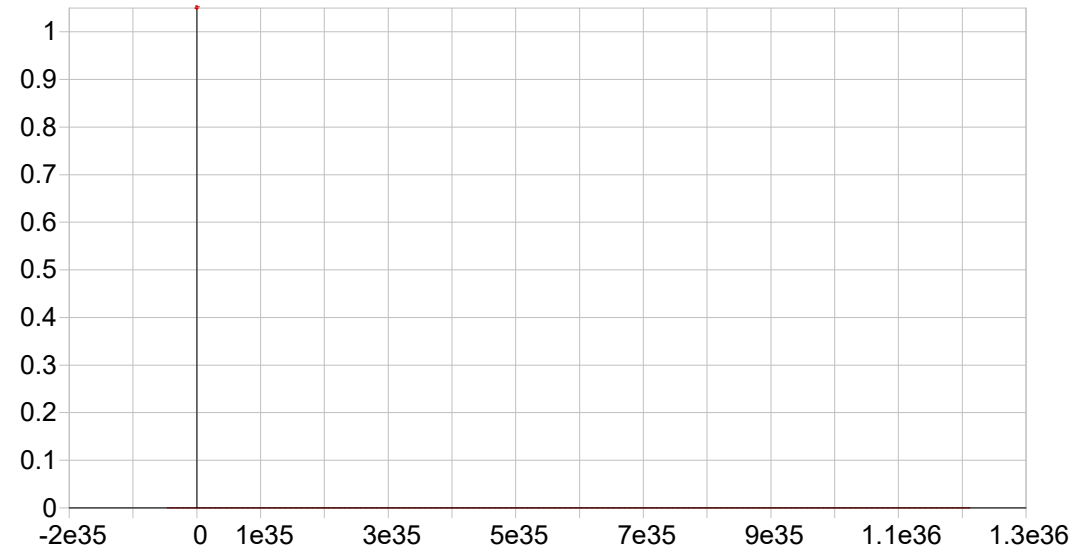
Y 371.030 { 91}*

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

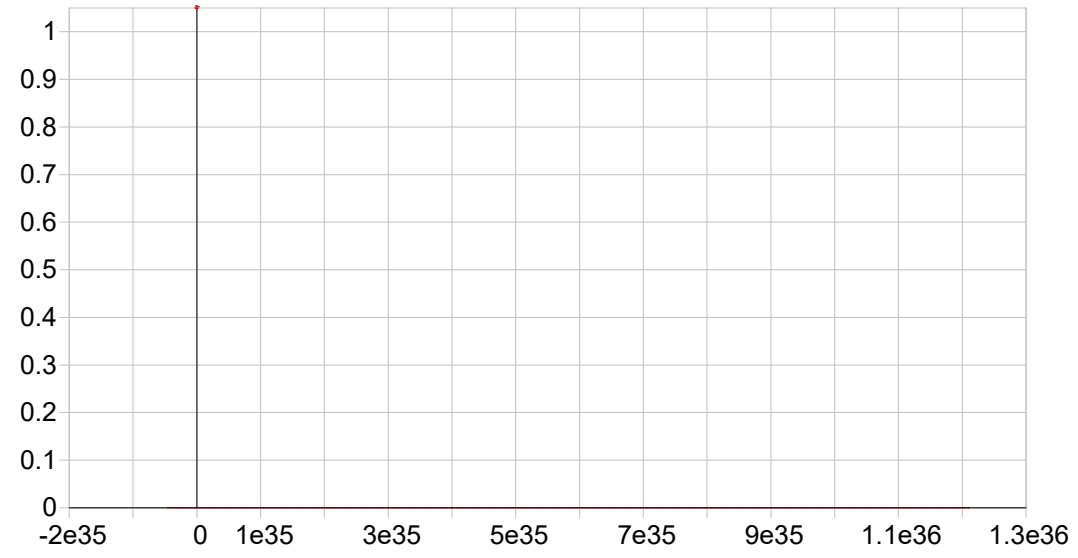
Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571



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:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.000000		Status:	Warning	Zero Gain	
Std Error of Est:		0.000000					
Predicted MDL:		n/a					
Predicted MQL:		n/a					

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

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S0 Acquired: 7/22/2025 11:11:58 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00005**	**.00013**	**-.00004**	**.00052**	**.03351**	**.00076**	**.06695**	**.00177**
Stddev	.00004	.00011	.00017	.00006	.00007	.00043	.00188	.00026
%RSD	82.529	84.357	467.58	11.840	.19905	56.617	2.8144	14.596
#1	-.00001	.00004	.00014	.00050	.03344	.00073	.06913	.00204
#2	-.00009	.00024	-.00006	.00058	.03357	.00035	.06585	.00175
#3	-.00004	.00010	-.00019	.00046	.03351	.00121	.06588	.00152

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00066**	**.00326**	**.00016**	**.00011**	**.00052**	**.00004**	**.00049**	**.00002**
Stddev	.00010	.00059	.00008	.00008	.00024	.00002	.00014	.00012
%RSD	14.769	17.942	48.350	68.266	45.311	44.108	27.889	731.54
#1	-.00076	.00294	.00017	.00019	.00074	.00006	.00061	.00009
#2	-.00065	.00291	.00008	.00003	.00056	.00002	.00034	.00008
#3	-.00056	.00394	.00023	.00011	.00027	.00005	.00050	-.00012

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00047**	**-.00077**	**.00597**	**-.00001**	**.00355**	**-.00002**	**.00357**	**.00040**
Stddev	.00024	.00008	.00003	.00029	.00028	.00005	.00017	.00009
%RSD	50.348	9.8199	.46705	3035.9	7.9577	340.74	4.8139	23.951
#1	-.00023	-.00072	.00600	.00031	.00335	-.00007	.00364	.00043
#2	-.00070	-.00086	.00598	-.00024	.00343	.00004	.00370	.00047
#3	-.00048	-.00074	.00594	-.00010	.00387	-.00001	.00338	.00029

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00060**	**.00838**	**.00010**	**-.00055**	**.00052**	**.00590**	**.00251**
Stddev	.00003	.00001	.00001	.00005	.00005	.00139	.00080
%RSD	5.5736	.13979	8.3650	8.4380	9.3221	23.535	32.044
#1	.00057	.00837	.00009	-.00057	.00051	.00516	.00343
#2	.00059	.00838	.00011	-.00058	.00058	.00503	.00220
#3	.00064	.00839	.00010	-.00049	.00048	.00750	.00191

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S0 Acquired: 7/22/2025 11:11:58 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5824.9**	**91853.**	**8713.9**	**4887.6**	**6885.9**
Stddev	6.8	283.	72.1	9.0	15.0
%RSD	.11636	.30850	.82726	.18448	.21726
#1	5817.1	91573.	8789.9	4891.0	6875.5
#2	5828.2	92139.	8705.3	4894.5	6879.1
#3	5829.4	91845.	8646.5	4877.4	6903.0

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S1 Acquired: 7/22/2025 11:16:21 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00068**	**.00267**	**.00269**	**.00139**	**.03966**	**.00963**	**.32789**	**.04089**
Stddev	.00007	.00013	.00018	.00013	.00011	.00034	.00257	.00082
%RSD	10.049	4.7044	6.7662	9.4857	.27660	3.4906	.78366	1.9943
#1	.00065	.00282	.00270	.00142	.03955	.00943	.32587	.04020
#2	.00076	.00258	.00287	.00150	.03977	.00943	.32702	.04069
#3	.00064	.00262	.00251	.00124	.03967	.01001	.33078	.04179

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01101**	**.14662**	**.00161**	**.03312**	**.01016**	**.00029**	**.01229**	**.02458**
Stddev	.00016	.00077	.00005	.00021	.00018	.00002	.00015	.00014
%RSD	1.4845	.52406	2.9056	.62317	1.7800	6.5480	1.2024	.57392
#1	.01091	.14599	.00159	.03290	.01020	.00029	.01216	.02448
#2	.01120	.14640	.00158	.03331	.00996	.00031	.01245	.02451
#3	.01091	.14748	.00167	.03315	.01032	.00027	.01226	.02474

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02568**	**.00123**	**.02691**	**.00407**	**.08074**	**.01145**	**.07208**	**.07521**
Stddev	.00016	.00007	.00023	.00012	.00060	.00018	.00146	.00021
%RSD	.63607	5.5335	.86107	2.9385	.74435	1.5664	2.0298	.27819
#1	.02552	.00115	.02716	.00400	.08137	.01166	.07047	.07497
#2	.02566	.00128	.02686	.00400	.08070	.01131	.07246	.07531
#3	.02585	.00125	.02670	.00420	.08017	.01139	.07332	.07535

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00704**	**.01684**	**.00107**	**.00199**	**.00101**	**.01411**	**.21271**
Stddev	.00003	.00027	.00001	.00006	.00003	.00109	.00101
%RSD	.40265	1.5953	.98329	3.1106	3.0298	7.7042	.47626
#1	.00701	.01706	.00106	.00194	.00100	.01349	.21287
#2	.00707	.01692	.00107	.00206	.00098	.01347	.21163
#3	.00703	.01654	.00108	.00198	.00104	.01536	.21363

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S1 Acquired: 7/22/2025 11:16:21 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5945.4	92924.	8716.3	4947.7	6948.3
Stddev	5.9	447.	88.9	21.9	10.7
%RSD	.09860	.48109	1.0202	.44282	.15434
#1	5952.1	92604.	8805.1	4923.1	6960.6
#2	5942.1	93435.	8716.5	4954.9	6943.2
#3	5941.9	92733.	8627.3	4965.1	6941.1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S2 Acquired: 7/22/2025 11:20:43 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02762**	**.04941**	**.17656**	**.03676**	**.11323**	**.12594**	**4.3395**	**.26157**
Stddev	.00007	.00197	.00051	.00013	.00018	.00143	.0054	.00092
%RSD	.23661	3.9956	.29029	.34249	.15805	1.1371	.12435	.35291
#1	.02766	.05136	.17713	.03674	.11307	.12630	4.3376	.26079
#2	.02766	.04945	.17640	.03689	.11342	.12436	4.3352	.26259
#3	.02754	.04742	.17614	.03664	.11321	.12715	4.3455	.26133

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.80465**	**.28911**	**.02158**	**.44540**	**.09519**	**.00202**	**.23229**	**.04661**
Stddev	.00052	.00179	.00026	.00057	.00003	.00003	.00088	.00032
%RSD	.06480	.62029	1.1965	.12746	.02769	1.2848	.38051	.68863
#1	.80484	.28704	.02162	.44606	.09516	.00199	.23199	.04635
#2	.80504	.29005	.02182	.44503	.09521	.00204	.23160	.04650
#3	.80405	.29023	.02131	.44512	.09519	.00203	.23329	.04697

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.25974**	**.04284**	**.04903**	**.04286**	**.77865**	**.02177**	**.55400**	**.30301**
Stddev	.00061	.00016	.00016	.00015	.00193	.00039	.00288	.00037
%RSD	.23409	.37321	.33602	.35777	.24731	1.7713	.52037	.12209
#1	.26044	.04302	.04921	.04285	.77764	.02210	.55423	.30259
#2	.25937	.04277	.04899	.04271	.77744	.02188	.55102	.30321
#3	.25941	.04272	.04889	.04302	.78087	.02135	.55677	.30324

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.12506**	**.17346**	**.00223**	**.01633**	**.02370**	**.41609**	**8.5217**
Stddev	.00035	.00037	.00002	.00003	.00027	.00341	.0049
%RSD	.27851	.21127	.89642	.18682	1.1388	.81886	.05702
#1	.12541	.17332	.00225	.01629	.02397	.41461	8.5167
#2	.12471	.17318	.00223	.01635	.02343	.41367	8.5220
#3	.12506	.17387	.00221	.01634	.02369	.41999	8.5264

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S2 Acquired: 7/22/2025 11:20:43 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5830.7	92539.	8720.1	4898.3	6734.8
Stddev	7.2	323.	22.1	3.6	16.9
%RSD	.12309	.34935	.25347	.07306	.25111
#1	5825.2	92437.	8737.9	4895.0	6715.3
#2	5838.8	92280.	8727.0	4902.1	6743.7
#3	5828.2	92902.	8695.3	4897.8	6745.3

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S3 Acquired: 7/22/2025 11:24:50 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.08849**	**.17407**	**.56377**	**.11695**	**.28018**	**.38792**	**13.213**	**.79998**
Stddev	.00019	.00166	.00062	.00006	.00030	.00196	.040	.01019
%RSD	.21766	.95615	.11015	.05440	.10548	.50598	.30591	1.2740
#1	.08868	.17422	.56376	.11692	.28038	.39013	13.257	.81001
#2	.08850	.17565	.56315	.11702	.27984	.38637	13.178	.80031
#3	.08830	.17234	.56440	.11691	.28032	.38726	13.203	.78963

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.6216**	**.87279**	**.06610**	**1.3895**	**.29020**	**.00623**	**.70980**	**.14138**
Stddev	.0046	.00547	.00011	.0022	.00059	.00005	.00417	.00093
%RSD	.17362	.62615	.16336	.15438	.20171	.77026	.58710	.65851
#1	2.6202	.87904	.06621	1.3891	.29015	.00622	.71413	.14244
#2	2.6180	.87044	.06600	1.3876	.28964	.00619	.70946	.14069
#3	2.6267	.86889	.06610	1.3919	.29081	.00629	.70582	.14102

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.80881**	**.13303**	**.14174**	**.13254**	**2.3677**	**.06850**	**1.6917**	**.93092**
Stddev	.00121	.00018	.00071	.00079	.0099	.00058	.0160	.00070
%RSD	.14940	.13725	.50406	.59297	.41796	.84561	.94788	.07567
#1	.80909	.13291	.14115	.13345	2.3567	.06833	1.7069	.93049
#2	.80748	.13293	.14154	.13207	2.3759	.06803	1.6932	.93173
#3	.80985	.13324	.14253	.13211	2.3704	.06915	1.6749	.93054

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.39043**	**.51886**	**.00673**	**.05412**	**.07570**	**1.2771**	**26.120**
Stddev	.00031	.00200	.00002	.00015	.00019	.0049	.067
%RSD	.07914	.38548	.23673	.27520	.24754	.38075	.25589
#1	.39023	.52054	.00674	.05395	.07569	1.2826	26.194
#2	.39027	.51940	.00675	.05420	.07590	1.2748	26.099
#3	.39079	.51665	.00672	.05421	.07552	1.2737	26.065

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S3 Acquired: 7/22/2025 11:24:50 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5676.1	89915.	8632.3	4804.8	6383.3
Stddev	7.0	301.	78.1	21.8	13.5
%RSD	.12406	.33438	.90423	.45401	.21120
#1	5672.9	89808.	8545.7	4823.6	6381.1
#2	5684.1	90254.	8654.2	4809.8	6397.7
#3	5671.2	89682.	8697.1	4780.9	6371.0

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S4 Acquired: 7/22/2025 11:28:57 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.17551**	**.32700**	**1.1030**	**.23013**	**.54333**	**.78589**	**26.807**	**1.5687**
Stddev	.00036	.00457	.0025	.00073	.00170	.00078	.522	.0094
%RSD	.20345	1.3984	.22327	.31830	.31206	.09876	1.9461	.60043
#1	.17518	.33218	1.1039	.22943	.54177	.78580	27.399	1.5790
#2	.17545	.32526	1.1002	.23006	.54308	.78517	26.605	1.5667
#3	.17589	.32355	1.1048	.23089	.54513	.78671	26.416	1.5604

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.1534**	**1.7538**	**.13050**	**2.8503**	**.58214**	**.01280**	**1.4328**	**.28621**
Stddev	.0090	.0057	.00017	.0041	.00148	.00017	.0023	.00137
%RSD	.17436	.32375	.12998	.14315	.25347	1.3174	.15900	.47938
#1	5.1492	1.7602	.13052	2.8513	.58049	.01264	1.4354	.28778
#2	5.1473	1.7519	.13066	2.8458	.58259	.01279	1.4311	.28557
#3	5.1637	1.7493	.13032	2.8537	.58333	.01297	1.4318	.28527

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.6517**	**.27231**	**.29110**	**.27176**	**4.8009**	**.14218**	**3.4211**	**1.9009**
Stddev	.0030	.00014	.00258	.00096	.0083	.00077	.0263	.0061
%RSD	.18334	.05115	.88622	.35353	.17385	.54462	.76807	.32038
#1	1.6524	.27220	.28813	.27287	4.8085	.14129	3.4505	1.8958
#2	1.6484	.27247	.29232	.27115	4.8022	.14272	3.4127	1.8992
#3	1.6544	.27225	.29283	.27127	4.7920	.14254	3.4000	1.9077

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.79398**	**1.0545**	**.01409**	**.10969**	**.15770**	**2.6988**	**52.865**
Stddev	.00246	.0017	.00011	.00035	.00037	.0013	.854
%RSD	.30929	.16494	.76935	.32065	.23373	.04890	1.6162
#1	.79439	1.0536	.01396	.10942	.15791	2.6988	53.822
#2	.79134	1.0533	.01413	.10956	.15728	2.7000	52.178
#3	.79620	1.0565	.01417	.11009	.15792	2.6974	52.595

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S4 Acquired: 7/22/2025 11:28:57 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5617.5	90473.	8801.6	4709.0	6235.1
Stddev	12.6	298.	87.5	19.1	6.5
%RSD	.22487	.32965	.99409	.40543	.10359
#1	5631.5	90299.	8709.3	4693.7	6236.5
#2	5614.1	90301.	8812.2	4702.9	6240.7
#3	5606.9	90817.	8883.3	4730.4	6228.1

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S5 Acquired: 7/22/2025 11:33:10 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.35391	.67009	2.2418	.46331	1.0631	1.5810	54.257	3.1173
Stddev	.00157	.01248	.0018	.00251	.0048	.0029	.449	.0115
%RSD	.44362	1.8629	.07955	.54145	.45119	.18227	.82792	.36819
#1	.35264	.66144	2.2413	.46051	1.0583	1.5800	53.754	3.1093
#2	.35343	.68440	2.2403	.46406	1.0631	1.5842	54.399	3.1304
#3	.35567	.66443	2.2438	.46536	1.0679	1.5787	54.618	3.1121

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	10.355	3.5164	.25519	5.7866	1.1539	.02534	2.8574	.56960
Stddev	.007	.0219	.00043	.0065	.0043	.00011	.0086	.00143
%RSD	.07028	.62134	.16733	.11190	.37688	.42643	.30251	.25055
#1	10.360	3.4969	.25547	5.7835	1.1500	.02527	2.8490	.56922
#2	10.347	3.5122	.25540	5.7822	1.1532	.02528	2.8571	.57118
#3	10.358	3.5400	.25469	5.7940	1.1586	.02546	2.8662	.56840

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.3388	.53889	.58126	.54643	9.3278	.28683	6.7713	3.7960
Stddev	.0037	.00130	.00153	.00116	.0248	.00140	.0431	.0151
%RSD	.11220	.24098	.26349	.21203	.26556	.48671	.63591	.39822
#1	3.3373	.53749	.58300	.54526	9.3082	.28683	6.7229	3.7812
#2	3.3360	.53913	.58012	.54758	9.3196	.28543	6.8054	3.7955
#3	3.3431	.54005	.58065	.54645	9.3556	.28822	6.7857	3.8114

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.5944	2.1600	.02848	.22442	.33023	5.5531	105.65
Stddev	.0003	.0003	.00005	.00021	.00074	.0036	1.59
%RSD	.02112	.01466	.18366	.09575	.22506	.06403	1.5018
#1	1.5941	2.1597	.02854	.22417	.32953	5.5571	103.86
#2	1.5943	2.1600	.02844	.22454	.33101	5.5522	106.22
#3	1.5948	2.1604	.02845	.22455	.33015	5.5501	106.88

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: S5 Acquired: 7/22/2025 11:33:10 Type: Cal
Method: 6010-200.7 NEW(v53) Mode: IR Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5434.2**	**90663.**	**8740.0**	**4632.6**	**5909.8**
Stddev	16.4	250.	54.9	23.0	5.7
%RSD	.30216	.27527	.62833	.49743	.09699
#1	5449.4	90939.	8798.1	4658.9	5912.1
#2	5436.3	90454.	8689.0	4622.5	5913.9
#3	5416.8	90595.	8733.0	4616.3	5903.2

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICV01 Acquired: 7/22/2025 12:03:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.877991**	**3.771399**	**3.802615**	**3.883450**	**4.102947**	**8.035224**
Stddev	.002375	.039876	.009232	.009796	.006284	.044215
%RSD	.0612378	1.057313	.2427719	.2522474	.1531658	.5502672
#1	3.875479	3.725463	3.797673	3.872372	4.101507	8.024112
#2	3.878293	3.797105	3.796907	3.887009	4.097508	7.997624
#3	3.880200	3.791627	3.813266	3.890969	4.109827	8.083934

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.139261**	**.2033695**	**1.952984**	**20.31288**	**.8186175**	**2.033805**
Stddev	.037616	.0034641	.003652	.07494	.0057135	.004382
%RSD	.4621517	1.703347	.1869901	.3689411	.6979436	.2154722
#1	8.181767	.2020209	1.952113	20.29651	.8236094	2.031549
#2	8.110268	.2007826	1.949847	20.24748	.8123860	2.031010
#3	8.125750	.2073051	1.956993	20.39466	.8198571	2.038855

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.028649**	**4.058856**	**2.029944**	**20.19512**	**2.037898**	**1.036078**
Stddev	.001781	.045881	.003944	.10632	.004164	.001385
%RSD	.1731386	1.130403	.1942991	.5264815	.2043246	.1336822
#1	1.029131	4.111681	2.027654	20.13059	2.035355	1.037522
#2	1.026677	4.035944	2.027680	20.13693	2.035637	1.035950
#3	1.030140	4.028943	2.034498	20.31784	2.042704	1.034761

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**19.60033**	**2.009771**	**2.050405**	**19.88966**	**3.943270**	**4.056519**
Stddev	.16833	.008166	.004281	.24908	.053945	.005027
%RSD	.8587940	.4062955	.2087784	1.252305	1.368026	.1239232
#1	19.78882	2.003750	2.045498	20.10760	3.895214	4.058991
#2	19.54715	2.006496	2.053377	19.94322	3.932977	4.050734
#3	19.46502	2.019065	2.052339	19.61816	4.001620	4.059831

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICV01 Acquired: 7/22/2025 12:03:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**4.003468**	**3.923360**	F **3.545041**	**3.868633**	**3.964447**	**3.718652**
Stddev	.007831	.013707	.024104	.012609	.015509	.017176
%RSD	.1956080	.3493745	.6799431	.3259415	.3912036	.4618946
#1	4.001172	3.911995	3.556371	3.883102	3.955338	3.701722
#2	3.997042	3.919503	3.561393	3.862806	3.955649	3.718171
#3	4.012191	3.938583	3.517359	3.859991	3.982355	3.736064

Elem	Sr4077
Units	ppm
Avg	**4.112143**
Stddev	.041623
%RSD	1.012199
#1	4.153562
#2	4.070319
#3	4.112548

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5674.106**	**91929.00**	**8828.841**	**4771.465**	**6313.122**
Stddev	2.780	374.31	95.908	14.351	7.337
%RSD	.0489896	.4071771	1.086303	.3007746	.1162116
#1	5675.918	91498.22	8900.667	4779.018	6320.857
#2	5675.493	92174.89	8865.928	4754.914	6312.248
#3	5670.905	92113.89	8719.927	4780.462	6306.263

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: LLICV01 Acquired: 7/22/2025 12:10:21 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0218335**	**.0394859**	**.0132478**	**.0217301**	**.0525141**	**.1080063**
Stddev	.0018563	.0005644	.0013218	.0020799	.0009243	.0086269
%RSD	8.501914	1.429426	9.977214	9.571521	1.759997	7.987417
#1	.0197189	.0395251	.0146426	.0228852	.0527345	.1108187
#2	.0231946	.0400298	.0120138	.0193290	.0533081	.1148761
#3	.0225868	.0389029	.0130871	.0229760	.0514995	.0983242

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1014511**	**.0063010**	**.0057527**	**2.132009**	**.0107665**	**.0298230**
Stddev	.0002695	.0000509	.0000238	.009130	.0003387	.0000137
%RSD	.2656286	.8075298	.4139753	.4282458	3.146285	.0459063
#1	.1015604	.0063473	.0057296	2.122790	.0104739	.0298375
#2	.1016488	.0063093	.0057514	2.141047	.0106880	.0298102
#3	.1011442	.0062466	.0057772	2.132191	.0111376	.0298214

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0216691**	**.1071180**	**.0219559**	**2.196966**	**.0408721**	**.0104021**
Stddev	.0002501	.0013781	.0005588	.011695	.0004748	.0007509
%RSD	1.154428	1.286491	2.545102	.5323390	1.161769	7.218389
#1	.0213866	.1055820	.0216911	2.208241	.0413637	.0100245
#2	.0218625	.1082460	.0215787	2.197765	.0408365	.0112668
#3	.0217582	.1075260	.0225978	2.184891	.0404160	.0099150

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.836943**	**.0404138**	**.0425793**	**2.096919**	**.1071641**	**.2055257**
Stddev	.017057	.0036754	.0001933	.020794	.0006348	.0001212
%RSD	.9285349	9.094464	.4540027	.9916429	.5923159	.0589652
#1	1.819993	.0371741	.0423937	2.075816	.1077226	.2056347
#2	1.836730	.0444079	.0425646	2.097554	.1072959	.2053952
#3	1.854105	.0396595	.0427795	2.117389	.1064738	.2055473

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: LLICV01 Acquired: 7/22/2025 12:10:21 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0413888	.0421387	.3437351	F .1063364	F .0158238	F .0119024
Stddev	.0001359	.0003519	.0033986	.0013199	.0008680	.0006901
%RSD	.3283471	.8351848	.9887390	1.241217	5.485475	5.797741
#1	.0415007	.0423062	.3474360	.1069860	.0153467	.0126313
#2	.0414280	.0423756	.3430154	.1072054	.0168257	.0112591
#3	.0412375	.0417343	.3407540	.1048176	.0152990	.0118168

Elem	Sr4077
Units	ppm
Avg	.0206928
Stddev	.0001014
%RSD	.4897632
#1	.0206122
#2	.0208066
#3	.0206597

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5795.760	95274.33	8837.705	4886.562	6788.031
Stddev	8.809	150.77	47.681	14.857	13.765
%RSD	.1519818	.1582493	.5395208	.3040329	.2027776
#1	5793.246	95436.40	8810.450	4870.530	6778.439
#2	5788.482	95138.23	8809.904	4889.290	6781.853
#3	5805.552	95248.37	8892.762	4899.866	6803.803

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICB01 Acquired: 7/22/2025 12:27:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000150**	**-.001896**	**.0004995**	**.0001204**	**-.017975**	**-.009895**	**-.001905**
Stddev	.001669	.001200	.0006809	.0022800	.000828	.004340	.000692
%RSD	1113.572	63.29918	136.3144	1893.959	4.608893	43.85616	36.34616
#1	.001284	-.002513	-.000251	-.002293	-.017253	-.014233	-.001551
#2	.000248	-.002661	.001079	.002238	-.018880	-.005554	-.001461
#3	-.001982	-.000513	.000670	.000416	-.017792	-.009898	-.002703

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000071**	**.0000805**	**.0396341**	**.0003527**	**.0001875**	**.0004190**	**.0041671**
Stddev	.000072	.0000718	.0034855	.0001577	.0001456	.0003163	.0063771
%RSD	101.8164	89.23636	8.794247	44.71058	77.64959	75.49272	153.0361
#1	.000012	.0000447	.0435791	.0005309	.0001974	.0004737	.0052905
#2	-.000120	.0000336	.0369712	.0002313	.0000372	.0007043	-.002697
#3	-.000104	.0001631	.0383520	.0002958	.0003278	.0000789	.009908

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000256**	**-.005977**	**.0002224**	**-.000205**	**-.109906**	**-.002943**	**.0008094**
Stddev	.000410	.011367	.0003642	.000209	.003454	.001818	.0000749
%RSD	160.2919	190.1602	163.7893	101.9558	3.142304	61.77355	9.252528
#1	-.000195	-.019028	.0004668	-.000358	-.113499	-.000852	.0007230
#2	.000120	-.000665	-.000196	-.000289	-.109606	-.004154	.0008568
#3	-.000693	.001761	.000396	.000033	-.106612	-.003823	.0008482

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0392133**	**-.000271**	**.0003277**	**.0033872**	**.0025169**	**.0049253**	**.0057566**
Stddev	.0032691	.000550	.0001594	.0005143	.0016803	.0070824	.0003800
%RSD	8.336711	202.9422	48.62712	15.18393	66.76034	143.7965	6.601130
#1	.0419988	-.000803	.0001664	.0031422	.0031559	-.002047	.0058340
#2	.0356142	.000296	.0003318	.0030412	.0006108	.012113	.0053439
#3	.0400269	-.000307	.0004850	.0039782	.0037839	.004710	.0060919

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICB01 Acquired: 7/22/2025 12:27:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.005829**	**-.006168**	**-.000003**
Stddev	.001009	.000770	.000036
%RSD	17.30238	12.48048	1273.133
#1	-.006895	-.006612	-.000000
#2	-.004889	-.006612	.000031
#3	-.005703	-.005279	-.000040

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5803.488**	**95634.73**	**9059.876**	**4880.040**	**6844.222**
Stddev	5.578	277.80	55.883	12.187	3.974
%RSD	.0961075	.2904762	.6168220	.2497333	.0580687
#1	5802.500	95940.63	9027.097	4893.618	6843.377
#2	5798.471	95565.39	9124.402	4876.451	6840.739
#3	5809.494	95398.18	9028.129	4870.050	6848.551

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CRI01 Acquired: 7/22/2025 12:32:21 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0205155**	**.0396162**	**.0123592**	**.0212332**	**.0545094**	**.1022436**
Stddev	.0019371	.0004634	.0012488	.0003527	.0016262	.0039233
%RSD	9.442312	1.169588	10.10409	1.661129	2.983420	3.837201
#1	.0182862	.0399431	.0133119	.0214946	.0527770	.0989286
#2	.0214711	.0398194	.0128202	.0213729	.0560032	.1012273
#3	.0217890	.0390859	.0109455	.0208320	.0547480	.1065751

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0994600**	**.0059951**	**.0056546**	**2.102848**	**.0105453**	**.0296025**
Stddev	.0011187	.0000918	.0000780	.012403	.0002355	.0003630
%RSD	1.124817	1.530975	1.378965	.5898124	2.233068	1.226220
#1	.0984362	.0058964	.0055914	2.103856	.0106280	.0291904
#2	.1006541	.0060778	.0057417	2.114717	.0102796	.0298747
#3	.0992896	.0060112	.0056307	2.089972	.0107282	.0297425

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0215734**	**.1077998**	**.0225157**	**2.173038**	**.0412098**	**.0096921**
Stddev	.0002685	.0060235	.0004749	.015002	.0002138	.0005877
%RSD	1.244411	5.587706	2.109105	.6903891	.5188662	6.063569
#1	.0212651	.1086497	.0219958	2.159829	.0410476	.0100283
#2	.0217002	.1013964	.0226247	2.169936	.0411298	.0100346
#3	.0217550	.1133532	.0229267	2.189349	.0414522	.0090135

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.768914**	**.0351815**	**.0438251**	**2.031684**	**.1004724**	**.2023004**
Stddev	.020912	.0021661	.0001926	.034293	.0012379	.0007137
%RSD	1.182201	6.156934	.4394761	1.687926	1.232053	.3527866
#1	1.780067	.0326804	.0439506	2.021965	.0992212	.2028317
#2	1.744790	.0364501	.0436033	2.003299	.1016965	.2025803
#3	1.781886	.0364141	.0439213	2.069788	.1004994	.2014892

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CRI01 Acquired: 7/22/2025 12:32:21 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0414851	.0425570	.3426392	F .1157704	.0143973	F .0115811
Stddev	.0008060	.0024129	.0076100	.0033041	.0023843	.0004687
%RSD	1.942883	5.669751	2.220982	2.853983	16.56099	4.047363
#1	.0407728	.0405115	.3486640	.1187785	.0116826	.0112933
#2	.0423600	.0452180	.3340872	.1162986	.0161521	.0113280
#3	.0413223	.0419416	.3451666	.1122340	.0153572	.0121220

Elem	Sr4077
Units	ppm
Avg	.0202172
Stddev	.0000792
%RSD	.3915674
#1	.0201321
#2	.0202307
#3	.0202887

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5733.061	95458.71	9061.069	4880.641	6691.589
Stddev	13.356	265.09	85.989	14.539	13.931
%RSD	.2329596	.2777030	.9489934	.2978845	.2081793
#1	5718.418	95715.83	9159.480	4872.132	6675.724
#2	5744.573	95473.98	9000.435	4897.428	6701.822
#3	5736.191	95186.31	9023.293	4872.363	6697.220

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSA01 Acquired: 7/22/2025 12:37:04 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106702	.0092964	-.003808	-.009014	-.002097	252.3147
Stddev	.0014513	.0038138	.002385	.003628	.000708	1.3557
%RSD	13.60098	41.02459	62.63446	40.25497	33.74610	.5372860
#1	.0089965	.0049090	-.005689	-.011848	-.002732	251.6375
#2	.0115794	.0111616	-.004609	-.004924	-.002225	251.4311
#3	.0114347	.0118187	-.001125	-.010268	-.001334	253.8755

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022624	.0005406	-.001248	241.7068	.0559268	.0022237
Stddev	.0011142	.0000262	.000217	.3990	.0005726	.0002173
%RSD	49.24997	4.839530	17.40859	.1650907	1.023859	9.773510
#1	.0034444	.0005104	-.001126	241.8897	.0562957	.0019737
#2	.0012314	.0005563	-.001499	241.2491	.0562175	.0023296
#3	.0021115	.0005551	-.001120	241.9816	.0552671	.0023677

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0208886	101.5795	.0077899	255.9808	.0037804	.0038127
Stddev	.0009531	.6132	.0006938	.3542	.0005598	.0008041
%RSD	4.562610	.6036198	8.905846	.1383737	14.80849	21.08956
#1	.0206426	101.0922	.0082540	256.1610	.0039962	.0036762
#2	.0200826	102.2680	.0081233	256.2087	.0042003	.0046764
#3	.0219405	101.3784	.0069924	255.5728	.0031448	.0030857

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0630590	.0047641	.0024760	.1985441	.0414048	-.000088
Stddev	.0151695	.0007866	.0002041	.0201862	.0028797	.000737
%RSD	24.05607	16.51068	8.242713	10.16709	6.954888	839.7024
#1	.0517530	.0054664	.0023304	.2123854	.0387687	-.000304
#2	.0802984	.0049118	.0023882	.1753817	.0444780	.000733
#3	.0571256	.0039142	.0027093	.2078652	.0409677	-.000693

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSA01 Acquired: 7/22/2025 12:37:04 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000118**	**-.001842**	**.0151901**	**.0108174**	**-.015733**	F **.0484419**
Stddev	.000561	.002126	.0124807	.0038121	.003146	.0017386
%RSD	475.0129	115.4173	82.16328	35.24041	19.99610	3.589059
#1	-.000347	-.002491	.0268395	.0147480	-.013917	.0469187
#2	.000521	-.003568	.0167130	.0105682	-.019366	.0503360
#3	-.000528	.000533	.0020179	.0071360	-.013916	.0480710

Elem	Sr4077
Units	ppm
Avg	**.0044400**
Stddev	.0007563
%RSD	17.03392
#1	.0048764
#2	.0035667
#3	.0048769

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5152.992**	**84411.67**	**8671.647**	**4327.363**	**5558.184**
Stddev	10.533	376.33	39.223	6.190	12.181
%RSD	.2044151	.4458327	.4523147	.1430420	.2191516
#1	5154.108	84311.20	8626.390	4323.075	5555.812
#2	5162.924	84095.76	8695.786	4324.555	5571.376
#3	5141.946	84828.04	8692.766	4334.459	5547.363

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSAB01 Acquired: 7/22/2025 12:48:17 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1027990**	**.1043271**	**.0420547**	**.0407162**	**.5829719**	**251.3580**
Stddev	.0014414	.0021087	.0005694	.0011325	.0018712	1.5687
%RSD	1.402133	2.021256	1.353898	2.781526	.3209675	.6240714
#1	.1013500	.1059535	.0426239	.0404801	.5848530	252.0824
#2	.1028143	.1019446	.0420550	.0397202	.5811108	252.4335
#3	.1042327	.1050832	.0414851	.0419481	.5829521	249.5580

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4937986**	**.4742278**	**.9143248**	**242.7067**	**.5355813**	**.4798261**
Stddev	.0021214	.0025422	.0003436	1.9323	.0020928	.0002695
%RSD	.4295992	.5360743	.0375805	.7961511	.3907497	.0561700
#1	.4962384	.4756618	.9140379	244.7814	.5340885	.4801256
#2	.4927675	.4757290	.9142310	242.3803	.5346820	.4796031
#3	.4923900	.4712926	.9147056	240.9583	.5379734	.4797497

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4762280**	**100.7207**	**.4856484**	**255.0961**	**.9609545**	**.2095231**
Stddev	.0003964	.6002	.0020407	.7092	.0004727	.0006891
%RSD	.0832399	.5959408	.4202081	.2780100	.0491934	.3289066
#1	.4766393	100.8168	.4879639	255.9036	.9612274	.2088463
#2	.4761962	100.0782	.4848693	254.5748	.9604086	.2094990
#3	.4758484	101.2670	.4841119	254.8098	.9612275	.2102239

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039765**	**.4606250**	**1.017466**	**-.045993**	**.9765279**	**1.016140**
Stddev	.0044739	.0009848	.004292	.009046	.0032627	.001722
%RSD	112.5090	.2138025	.4217859	19.66887	.3341100	.1694923
#1	.0003266	.4595508	1.019384	-.039761	.9794803	1.016361
#2	.0026353	.4608391	1.020464	-.041849	.9770783	1.014318
#3	.0089675	.4614853	1.012550	-.056369	.9730250	1.017741

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSAB01 Acquired: 7/22/2025 12:48:17 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9973294	.9568407	.9349662	F .0118446	F -.011697	F .0505877
Stddev	.0045555	.0022710	.0214549	.0035734	.003040	.0017047
%RSD	.4567647	.2373456	2.294726	30.16892	25.98780	3.369814
#1	.9994405	.9544011	.9107427	.0159695	-.013809	.0513611
#2	1.000446	.9572275	.9425806	.0096924	-.008213	.0486334
#3	.992101	.9588934	.9515755	.0098718	-.013068	.0517687

Elem	Sr4077
Units	ppm
Avg	F .0056151
Stddev	.0011088
%RSD	19.74626
#1	.0063165
#2	.0061921
#3	.0043368

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5192.448	85090.56	8662.393	4336.096	5601.008
Stddev	3.088	184.68	57.484	21.969	7.993
%RSD	.0594710	.2170366	.6636013	.5066639	.1427007
#1	5189.910	85167.99	8617.421	4314.746	5596.124
#2	5191.548	85223.92	8642.600	4334.906	5596.668
#3	5195.886	84879.77	8727.158	4358.636	5610.231

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSADLX20 Acquired: 7/22/2025 12:52:26 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000050**	**-.000982**	**.0000924**	**-.002161**	**-.000909**	**12.14693**	**-.000710**
Stddev	.001387	.002772	.0006404	.002094	.000904	.04137	.000589
%RSD	2788.001	282.1670	692.7846	96.92125	99.46976	.3405928	82.94814
#1	-.001168	-.004020	-.000647	-.000182	-.001953	12.12482	-.001386
#2	.001503	-.000335	.000470	-.004354	-.000374	12.12132	-.000432
#3	-.000484	.001409	.000455	-.001946	-.000400	12.19466	-.000311

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001376**	**.0000389**	**12.31387**	**.0027344**	**.0003280**	**.0022103**	**4.889200**
Stddev	.0000631	.0000799	.07638	.0005364	.0000733	.0004252	.035878
%RSD	45.87938	205.6108	.6202564	19.61579	22.34690	19.23867	.7338148
#1	.0000918	.0000207	12.24805	.0025741	.0004123	.0017504	4.909658
#2	.0001113	.0001263	12.29594	.0022965	.0002921	.0025893	4.847773
#3	.0002096	-.000030	12.39761	.0033327	.0002795	.0022913	4.910168

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000861**	**12.55451**	**.0003826**	**-.000244**	**-.114325**	**-.000802**	**.0005989**
Stddev	.0005430	.04809	.0002164	.000153	.007455	.001075	.0000698
%RSD	630.6880	.3830175	56.56608	62.58052	6.520614	133.9504	11.65571
#1	-.000228	12.55854	.0002087	-.000068	-.106376	-.001418	.0006136
#2	.000713	12.50454	.0006250	-.000339	-.115437	-.001428	.0005229
#3	-.000227	12.60046	.0003141	-.000324	-.121160	.000439	.0006602

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.085195**	**-.000126**	**.0002959**	**.0019865**	**.0037507**	**.0070959**	**.0008110**
Stddev	.011636	.000510	.0001600	.0001881	.0021224	.0023070	.0026843
%RSD	13.65763	405.8046	54.08095	9.467674	56.58597	32.51190	330.9857
#1	-.073149	.000019	.0004688	.0018398	.0013147	.0079743	.0030199
#2	-.086065	-.000692	.0002659	.0019213	.0052006	.0044787	-.002177
#3	-.096372	.000297	.0001530	.0021986	.0047369	.0088347	.001590

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSADLX20 Acquired: 7/22/2025 12:52:26 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.008718**	**-.007685**	**.0002107**
Stddev	.002276	.003165	.0001377
%RSD	26.10453	41.18802	65.36902
#1	-.006938	-.009187	.0000824
#2	-.011283	-.004048	.0003563
#3	-.007934	-.009820	.0001935

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5718.368**	**92599.71**	**8882.179**	**4752.655**	**6676.270**
Stddev	9.589	51.11	58.836	6.136	15.236
%RSD	.1676843	.0551947	.6624035	.1291020	.2282172
#1	5728.191	92560.21	8947.956	4745.623	6679.854
#2	5717.881	92657.43	8864.014	4756.919	6689.396
#3	5709.032	92581.48	8834.568	4755.424	6659.561

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSABDLX20 Acquired: 7/22/2025 12:56:43 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042504	.0057753	.0017497	.0016220	.0282551	11.78560	.0238820
Stddev	.0018988	.0012448	.0002869	.0019561	.0012727	.02034	.0008606
%RSD	44.67282	21.55355	16.39902	120.6022	4.504464	.1725594	3.603464
#1	.0021015	.0069158	.0020810	.0017327	.0296403	11.78666	.0246387
#2	.0057018	.0059627	.0015876	.0035205	.0279880	11.76475	.0229459
#3	.0049479	.0044475	.0015806	-.000387	.0271372	11.80539	.0240615

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0237474	.0444314	11.99519	.0264440	.0231303	.0249959	4.760900
Stddev	.0000791	.0000560	.03996	.0002302	.0001252	.0001595	.040458
%RSD	.3331837	.1261315	.3331445	.8706150	.5412079	.6379822	.8497987
#1	.0236946	.0444258	11.96263	.0266822	.0230427	.0251234	4.789898
#2	.0237093	.0443784	11.98316	.0264271	.0230745	.0248171	4.778123
#3	.0238384	.0444901	12.03979	.0262226	.0232737	.0250473	4.714681

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0244836	12.13202	.0471431	.0100034	-.114719	.0204475	.0492102
Stddev	.0001337	.02860	.0002166	.0006176	.011266	.0014889	.0003635
%RSD	.5459717	.2357231	.4594082	6.174320	9.820832	7.281529	.7387554
#1	.0244633	12.16504	.0473931	.0106416	-.112991	.0220216	.0494059
#2	.0243613	12.11562	.0470225	.0094086	-.104416	.0202591	.0487907
#3	.0246263	12.11540	.0470136	.0099600	-.126749	.0190618	.0494339

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.113412	-.000342	.0000639	.0022435	.0043383	.0043828	.0014883
Stddev	.019215	.000509	.0003696	.0004001	.0000599	.0029888	.0002309
%RSD	16.94269	148.8003	578.4735	17.83538	1.380446	68.19303	15.51767
#1	-.109028	-.000770	.0001184	.0021424	.0043003	.0065870	.0012416
#2	-.096767	-.000478	-.000330	.0019036	.0044073	.0055804	.0016993
#3	-.134440	.000221	.000403	.0026844	.0043072	.0009810	.0015239

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: ICSABDLX20 Acquired: 7/22/2025 12:56:43 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.007184	-.006759	.0002111
Stddev	.002197	.002475	.0001065
%RSD	30.58854	36.62260	50.47355
#1	-.009340	-.008128	.0001622
#2	-.007264	-.003901	.0001377
#3	-.004947	-.008246	.0003333

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5678.952	92359.00	8907.154	4767.834	6587.940
Stddev	1.099	225.46	34.848	8.587	6.397
%RSD	.0193500	.2441151	.3912333	.1800976	.0971001
#1	5680.099	92467.37	8905.837	4768.574	6594.937
#2	5677.908	92099.81	8942.642	4776.026	6586.493
#3	5678.849	92509.81	8872.983	4758.901	6582.391

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV01 Acquired: 7/22/2025 13:00:56 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.011047**	**5.166205**	**4.923636**	**5.034678**	**5.048602**	**10.00188**	**10.13640**
Stddev	.031498	.102279	.007243	.030471	.028748	.02220	.10443
%RSD	.6285714	1.979769	.1471045	.6052270	.5694314	.2219279	1.030198
#1	4.977543	5.048914	4.916897	5.003709	5.021880	10.02210	10.10114
#2	5.015542	5.212891	4.922717	5.035701	5.044908	9.97813	10.05417
#3	5.040055	5.236810	4.931295	5.064625	5.079019	10.00543	10.25389

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2465823**	**2.474458**	**25.49801**	**.9837533**	**2.483824**	**1.257466**	**5.030741**
Stddev	.0010867	.005460	.17913	.0020961	.002467	.004943	.002042
%RSD	.4406938	.2206406	.7025337	.2130680	.0993171	.3930586	.0405912
#1	.2474245	2.469819	25.60387	.9835586	2.481113	1.254490	5.032981
#2	.2453557	2.473080	25.29118	.9859400	2.484425	1.254737	5.028984
#3	.2469668	2.480474	25.59897	.9817615	2.485935	1.263172	5.030259

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.533094**	**24.95707**	**2.490865**	**1.256720**	**24.50390**	**2.501227**	**2.531970**
Stddev	.009573	.13737	.002868	.002680	.20645	.001912	.002626
%RSD	.3779264	.5504404	.1151574	.2132156	.8425104	.0764451	.1037159
#1	2.539522	25.04758	2.488370	1.253831	24.40580	2.502520	2.530467
#2	2.522092	24.79900	2.490226	1.257205	24.74111	2.499030	2.535003
#3	2.537669	25.02464	2.493999	1.259124	24.36479	2.502131	2.530441

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**24.86603**	**5.039691**	**5.077413**	**4.989556**	**4.943429**	**4.899527**	**4.920297**
Stddev	.14435	.037701	.021445	.016268	.003898	.032907	.017319
%RSD	.5805180	.7480850	.4223642	.3260423	.0788580	.6716292	.3519894
#1	24.81826	5.049401	5.061215	4.978904	4.943372	4.870310	4.900775
#2	25.02821	4.998085	5.069292	4.981483	4.947355	4.935174	4.926303
#3	24.75162	5.071587	5.101733	5.008282	4.939559	4.893097	4.933814

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV01 Acquired: 7/22/2025 13:00:56 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.947776**	**4.945125**	**5.142370**
Stddev	.021304	.003392	.088690
%RSD	.4305855	.0685831	1.724684
#1	4.923194	4.945942	5.073392
#2	4.959254	4.948034	5.111305
#3	4.960881	4.941400	5.242414

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5583.829**	**91879.10**	**8809.685**	**4709.728**	**6222.025**
Stddev	17.796	182.78	55.646	12.723	12.483
%RSD	.3186972	.1989331	.6316401	.2701406	.2006299
#1	5586.372	92066.61	8792.531	4711.466	6223.810
#2	5600.216	91701.45	8871.888	4721.493	6233.520
#3	5564.899	91869.25	8764.637	4696.226	6208.746

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB01 Acquired: 7/22/2025 13:05:32 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0012413**	**.0002300**	**.0020584**	**-.000524**	**.0002808**	**-.001687**	**.0002002**
Stddev	.0026033	.0008387	.0005324	.002160	.0012168	.003991	.0008862
%RSD	209.7259	364.6101	25.86379	412.2551	433.3899	236.4779	442.7141
#1	.0009180	-.000707	.0015726	.001281	.0013904	-.002107	.0010635
#2	.0039911	.000912	.0026276	-.002917	-.001020	.002496	-.000707
#3	-.001185	.000485	.0019751	.000064	.000472	-.005452	.000244

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000018**	**.0002580**	**.0473352**	**-.000157**	**.0002686**	**.0002690**	**-.005562**
Stddev	.000032	.0000063	.0046445	.000216	.0001085	.0006939	.005235
%RSD	175.7635	2.431132	9.811994	137.5475	40.38709	257.9396	94.12221
#1	.000016	.0002594	.0442571	-.000217	.0002819	.0008220	-.011429
#2	-.000047	.0002511	.0526776	.000083	.0001541	-.000510	-.003891
#3	-.000024	.0002634	.0450708	-.000337	.0003699	.000495	-.001367

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002562**	**-.000078**	**.0001900**	**.0000033**	**-.163627**	**-.000542**	**.0008407**
Stddev	.0005064	.005889	.0001676	.0002746	.008529	.002034	.0001916
%RSD	197.6412	7578.934	88.21017	8248.541	5.212402	374.8896	22.78757
#1	.0002645	.004725	.0003798	-.000286	-.155431	-.000506	.0006360
#2	-.000254	-.006648	.0000622	.000261	-.172454	.001473	.0008705
#3	.000758	.001690	.0001281	.000035	-.162996	-.002594	.0010157

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.102310**	**.0032234**	**.0009932**	**.0034830**	**.0066376**	**.0007939**	**.0030166**
Stddev	.020779	.0008706	.0002020	.0007883	.0021581	.0084624	.0011100
%RSD	20.31028	27.01033	20.33912	22.63200	32.51326	1065.929	36.79802
#1	-.096210	.0042287	.0007760	.0043923	.0048683	-.001769	.0042655
#2	-.125456	.0027267	.0010283	.0029921	.0060024	-.006091	.0021424
#3	-.085263	.0027147	.0011754	.0030647	.0090420	.010242	.0026419

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB01 Acquired: 7/22/2025 13:05:32 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006754	-.008959	.0002693
Stddev	.001125	.003356	.0001205
%RSD	16.65057	37.46142	44.73153
#1	-.006909	-.005880	.0003881
#2	-.007794	-.012537	.0001473
#3	-.005560	-.008462	.0002725

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5755.360	93648.49	8614.615	4802.088	6853.247
Stddev	7.859	232.54	67.164	18.734	12.254
%RSD	.1365432	.2483075	.7796536	.3901188	.1788052
#1	5748.951	93889.40	8591.882	4812.416	6841.646
#2	5764.128	93425.35	8690.195	4780.463	6866.064
#3	5753.000	93630.72	8561.767	4813.384	6852.032

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2640-01 Acquired: 7/22/2025 13:11:50 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0256460**	**-.004710**	**.1364763**	**-.003235**	**.0010587**	**51.83033**
Stddev	.0002792	.002571	.0009133	.002140	.0010871	.13447
%RSD	1.088667	54.57945	.6692206	66.16517	102.6835	.2594380
#1	.0257836	-.003624	.1375270	-.005299	.0019382	51.77404
#2	.0253247	-.007646	.1358718	-.001026	-.000157	51.98379
#3	.0258297	-.002861	.1360302	-.003380	.001395	51.73315

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4790882**	**.0021986**	**-.000315**	**55.64791**	**.1951588**	**.0251552**
Stddev	.0015820	.0001055	.000061	.33680	.0014005	.0002203
%RSD	.3302137	4.799996	19.27582	.6052328	.7176079	.8757695
#1	.4775803	.0021213	-.000361	55.26087	.1935460	.0253932
#2	.4807351	.0021556	-.000246	55.87432	.1958623	.0251141
#3	.4789491	.0023188	-.000338	55.80855	.1960680	.0249584

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1446263**	**45.26036**	**.5469340**	**14.74179**	**.0592268**	**.0025684**
Stddev	.0006714	.14172	.0021147	.05543	.0002235	.0001320
%RSD	.4641992	.3131294	.3866448	.3760068	.3773503	5.140202
#1	.1447985	45.24259	.5444925	14.73900	.0591345	.0027188
#2	.1451949	45.12836	.5481897	14.79856	.0594816	.0025150
#3	.1438857	45.41014	.5481198	14.68780	.0590642	.0024716

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**89.69305**	**.1380724**	**.2309060**	**95.62361**	**.1333603**	**.2090052**
Stddev	.25982	.0014918	.0018102	.21934	.0004176	.0004104
%RSD	.2896716	1.080425	.7839331	.2293795	.3131356	.1963795
#1	89.61142	.1373250	.2328789	95.40849	.1336148	.2092096
#2	89.48384	.1371022	.2305172	95.61539	.1335878	.2085327
#3	89.98387	.1397902	.2293218	95.84694	.1328784	.2092733

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2640-01 Acquired: 7/22/2025 13:11:50 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001786	1.454846	F 83.50184	1.913011	19.04203	.0875925
Stddev	.000357	.008437	.19064	.005239	.09957	.0030388
%RSD	19.99721	.5799275	.2283071	.2738420	.5228908	3.469202
#1	-.002192	1.463942	83.47767	1.919000	18.94004	.0848965
#2	-.001521	1.447276	83.32444	1.909284	19.04705	.0908854
#3	-.001643	1.453321	83.70342	1.910747	19.13898	.0869955

Elem	Sr4077
Units	ppm
Avg	.2332963
Stddev	.0010400
%RSD	.4457754
#1	.2323917
#2	.2344326
#3	.2330647

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5892.202	96636.40	9723.460	4927.335	5978.234
Stddev	6.392	88.60	40.230	37.444	6.346
%RSD	.1084844	.0916875	.4137390	.7599213	.1061508
#1	5885.093	96686.53	9758.143	4885.290	5974.397
#2	5897.476	96688.56	9679.356	4939.627	5985.559
#3	5894.036	96534.09	9732.882	4957.087	5974.747

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2641-02 Acquired: 7/22/2025 13:15:54 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.005983**	**-.003926**	**.0009194**	**.0046470**	**.0014778**	**.2299141**	**.0704091**
Stddev	.001517	.001276	.0003550	.0034521	.0013426	.0071750	.0001410
%RSD	25.34816	32.49370	38.61334	74.28548	90.85119	3.120740	.2001820
#1	-.006470	-.004400	.0013187	.0025584	.0023484	.2242652	.0705330
#2	-.004283	-.004896	.0007999	.0086316	.0021536	.2379872	.0702558
#3	-.007196	-.002481	.0006396	.0027511	-.000068	.2274900	.0704385

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000202**	**-.000181**	**163.7148**	**.0123682**	**-.000132**	**.0022442**	**.0399523**
Stddev	.000073	.000090	.8756	.0002491	.000032	.0003428	.0050493
%RSD	36.17274	49.88193	.5348604	2.014102	23.98908	15.27531	12.63821
#1	-.000277	-.000197	162.9248	.0126553	-.000167	.0021661	.0437218
#2	-.000132	-.000262	164.6563	.0122396	-.000106	.0026194	.0342155
#3	-.000196	-.000084	163.5634	.0122097	-.000123	.0019472	.0419197

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0020495**	**.0409502**	**.0012925**	**-.000544**	**304.2057**	**.0010436**	**.0064003**
Stddev	.0003245	.0145780	.0004232	.000181	4.9536	.0015584	.0005409
%RSD	15.83401	35.59926	32.73978	33.20701	1.628368	149.3193	8.451552
#1	.0016802	.0251042	.0016846	-.000431	299.4353	-.000489	.0061049
#2	.0021796	.0537921	.0013489	-.000752	303.8576	.000994	.0060713
#3	.0022888	.0439541	.0008439	-.000449	309.3241	.002626	.0070246

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.001174**	**.0027938**	**.0037739**	**-.004235**	**-.000528**	**.7956366**	**.0096312**
Stddev	.034697	.0006862	.0003761	.000246	.003111	.0079594	.0032253
%RSD	3.465610	24.56109	9.966310	5.802629	589.3382	1.000384	33.48768
#1	1.006166	.0033902	.0035702	-.004518	.002651	.7889233	.0119807
#2	1.033105	.0020438	.0035437	-.004074	-.000669	.8044294	.0109591
#3	.964252	.0029474	.0042080	-.004114	-.003566	.7935572	.0059540

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2641-02 Acquired: 7/22/2025 13:15:54 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.190744	-.000822	1.042136
Stddev	.017251	.002104	.002692
%RSD	.5406537	255.9439	.2582998
#1	3.201332	-.002621	1.040278
#2	3.200062	.001491	1.045223
#3	3.170838	-.001336	1.040907

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5262.702	87883.19	8777.224	4435.434	5775.425
Stddev	4.677	176.16	57.556	9.313	5.664
%RSD	.0888745	.2004460	.6557386	.2099590	.0980755
#1	5257.653	88055.24	8834.227	4445.978	5768.889
#2	5266.887	87703.19	8719.131	4431.993	5778.501
#3	5263.567	87891.13	8778.314	4428.332	5778.887

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2645-03 Acquired: 7/22/2025 13:20:20 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002302**	**-.002781**	**-.000433**	**.0064074**	**.0011908**	**.0022519**	**.1293763**
Stddev	.002732	.000630	.000892	.0035138	.0003544	.0058972	.0009210
%RSD	118.7209	22.64627	206.2157	54.83969	29.76260	261.8733	.7118582
#1	-.000996	-.002687	-.001324	.0025219	.0013836	-.000986	.1302671
#2	-.000467	-.002203	.000461	.0093621	.0014071	.009059	.1294339
#3	-.005442	-.003452	-.000435	.0073382	.0007818	-.001317	.1284279

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000161**	**-.000091**	**.7867627**	**-.000192**	**.0006818**	**.0023236**	**.0119792**
Stddev	.000058	.000083	.0090049	.000275	.0000930	.0004724	.0030722
%RSD	35.95465	92.09407	1.144548	143.0461	13.64676	20.33030	25.64617
#1	-.000128	-.000110	.7928100	-.000507	.0005890	.0019299	.0095730
#2	-.000128	.000001	.7910645	.000002	.0006813	.0021934	.0154397
#3	-.000229	-.000163	.7764138	-.000072	.0007751	.0028474	.0109249

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0209591**	**.3173074**	**-.000116**	**-.000041**	**367.4098**	**-.002357**	**.1895539**
Stddev	.0005236	.0146225	.000107	.000410	3.8174	.001452	.0003869
%RSD	2.498252	4.608297	91.89174	992.8874	1.039006	61.59583	.2041272
#1	.0215536	.3180986	-.000016	.000306	371.6588	-.001359	.1893283
#2	.0207576	.3023054	-.000104	-.000493	366.3016	-.004022	.1900007
#3	.0205663	.3315182	-.000228	.000063	364.2692	-.001690	.1893328

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5699711**	**.0643881**	**.0010191**	**-.001998**	**.0050812**	**.6382665**	**.0097620**
Stddev	.0421568	.0004223	.0000739	.000338	.0018154	.0192150	.0007833
%RSD	7.396297	.6558386	7.254967	16.91849	35.72676	3.010494	8.023621
#1	.5387763	.0642752	.0010038	-.002287	.0031890	.6599396	.0092752
#2	.5532055	.0648553	.0010995	-.001626	.0052462	.6233161	.0093452
#3	.6179314	.0640337	.0009541	-.002082	.0068084	.6315439	.0106655

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2645-03 Acquired: 7/22/2025 13:20:20 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	7.097858	-.013469	.0109898
Stddev	.064734	.002436	.0001378
%RSD	.9120241	18.08927	1.254029
#1	7.172593	-.013591	.0108440
#2	7.059266	-.010974	.0111180
#3	7.061714	-.015842	.0110074

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5432.828	89513.88	8943.369	4554.702	6022.546
Stddev	12.310	212.88	39.922	5.034	3.169
%RSD	.2265774	.2378219	.4463915	.1105276	.0526225
#1	5425.067	89576.78	8942.343	4549.182	6018.909
#2	5426.395	89688.23	8903.970	4559.040	6024.007
#3	5447.021	89276.63	8983.795	4555.883	6024.720

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-04 Acquired: 7/22/2025 13:24:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002995**	**-.002614**	**.0058105**	**.0042964**	**.0004934**	**.1089935**	**.2950936**
Stddev	.000626	.000189	.0006016	.0028930	.0009527	.0036845	.0016426
%RSD	20.90030	7.231924	10.35345	67.33460	193.0732	3.380454	.5566436
#1	-.002624	-.002630	.0051202	.0021986	.0012026	.1087808	.2968531
#2	-.003718	-.002795	.0060885	.0075968	-.000589	.1054200	.2936004
#3	-.002643	-.002418	.0062228	.0030939	.000867	.1127798	.2948273

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000980**	**.0007236**	**10.30584**	**.0070174**	**.0035449**	**.0370821**	**.1125611**
Stddev	.0000043	.0000369	.06943	.0002204	.0001305	.0003349	.0050659
%RSD	4.371756	5.098458	.6737298	3.141147	3.679971	.9030896	4.500590
#1	.0001025	.0006811	10.36565	.0071589	.0035730	.0372990	.1087548
#2	.0000977	.0007474	10.32219	.0071298	.0034028	.0372510	.1106174
#3	.0000939	.0007424	10.22970	.0067634	.0036591	.0366964	.1183110

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3132128**	**1.804958**	**.0060105**	**-.000097**	**436.3877**	**-.000574**	**.1574629**
Stddev	.0012027	.012591	.0003236	.000581	1.5155	.001026	.0007454
%RSD	.3839803	.6975601	5.384703	599.4555	.3472790	178.6945	.4733787
#1	.3141444	1.816048	.0060543	.000429	436.6786	.000383	.1582170
#2	.3136390	1.807556	.0056672	.000002	437.7366	-.001656	.1567265
#3	.3118551	1.791271	.0063100	-.000721	434.7478	-.000449	.1574453

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.605756**	**.0368455**	**.0011237**	**-.001690**	**.0044928**	**1.859704**	**.0187438**
Stddev	.032468	.0008415	.0001402	.000322	.0019251	.012085	.0029328
%RSD	2.021971	2.283873	12.47284	19.04752	42.84917	.6498331	15.64702
#1	1.606803	.0375227	.0011228	-.001611	.0067148	1.873137	.0217359
#2	1.637688	.0359034	.0012643	-.002045	.0033251	1.849714	.0186217
#3	1.572778	.0371103	.0009840	-.001416	.0034386	1.856262	.0158740

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-04 Acquired: 7/22/2025 13:24:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4729492	-.009924	.0656716
Stddev	.0063080	.001817	.0003167
%RSD	1.333758	18.31333	.4821753
#1	.4672534	-.011739	.0660333
#2	.4718653	-.008104	.0655377
#3	.4797290	-.009929	.0654440

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5334.404	88309.61	8957.597	4487.192	5844.694
Stddev	8.859	315.87	43.241	21.158	11.896
%RSD	.1660723	.3576846	.4827331	.4715247	.2035345
#1	5337.229	88150.62	8909.975	4463.140	5846.613
#2	5341.506	88104.83	8968.411	4502.933	5855.515
#3	5324.477	88673.39	8994.405	4495.502	5831.956

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-08 Acquired: 7/22/2025 13:29:09 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002225**	**-.003302**	**.0082687**	**.0028026**	**.0007519**	**.1619160**	**.3666755**
Stddev	.003337	.000774	.0017158	.0020697	.0007013	.0028774	.0008108
%RSD	149.9641	23.43931	20.75066	73.84985	93.26523	1.777071	.2211170
#1	-.005019	-.003637	.0097501	.0051504	.0015094	.1616364	.3673329
#2	-.003126	-.002417	.0086675	.0020156	.0006213	.1591887	.3657695
#3	.001470	-.003853	.0063887	.0012418	.0001251	.1649230	.3669239

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000573**	**.0001548**	**15.54779**	**.0003982**	**.0007455**	**.0118913**	**.0707851**
Stddev	.0000367	.0000155	.08829	.0000678	.0000811	.0007375	.0025511
%RSD	63.93482	10.02175	.5678787	17.02378	10.88299	6.202118	3.604060
#1	.0000153	.0001532	15.60590	.0004730	.0007040	.0117131	.0690073
#2	.0000824	.0001402	15.44619	.0003806	.0006935	.0112592	.0696399
#3	.0000743	.0001711	15.59129	.0003409	.0008390	.0127016	.0737082

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0940996**	**.8349722**	**.0015423**	**-.000151**	**322.6023**	**-.000795**	**.1024527**
Stddev	.0002480	.0137847	.0000696	.000320	4.7600	.003352	.0004432
%RSD	.2635480	1.650919	4.513537	212.0165	1.475489	421.7532	.4325777
#1	.0943744	.8285406	.0015840	-.000205	327.2442	-.004472	.1019756
#2	.0938926	.8255787	.0014620	-.000441	322.8302	-.000002	.1028515
#3	.0940317	.8507973	.0015811	.000193	317.7324	.002089	.1025311

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.741889**	**.0412908**	**.0006969**	**-.002776**	**.0064549**	**2.181679**	**.0196437**
Stddev	.014250	.0001960	.0001343	.000803	.0004000	.007329	.0010812
%RSD	.8181026	.4747203	19.26518	28.93648	6.197103	.3359389	5.504051
#1	1.737049	.0412004	.0005508	-.003352	.0066659	2.173236	.0197671
#2	1.730689	.0415157	.0007251	-.001859	.0067052	2.185409	.0206580
#3	1.757929	.0411563	.0008149	-.003119	.0059935	2.186394	.0185061

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-08 Acquired: 7/22/2025 13:29:09 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4739581	-.008445	.1600976
Stddev	.0016911	.002683	.0005192
%RSD	.3568004	31.76978	.3242916
#1	.4730335	-.005353	.1606130
#2	.4729309	-.010159	.1595747
#3	.4759099	-.009824	.1601052

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5465.685	91925.02	9160.190	4630.054	6060.626
Stddev	26.941	74.06	27.738	4.838	17.598
%RSD	.4929106	.0805672	.3028128	.1044929	.2903659
#1	5470.273	91862.15	9137.082	4624.505	6063.552
#2	5490.037	92006.66	9190.951	4632.273	6076.577
#3	5436.745	91906.25	9152.536	4633.385	6041.748

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-12 Acquired: 7/22/2025 13:33:36 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002179**	**-.004151**	**.0090927**	**.0018782**	**.0002828**	**.2822931**	**.7268658**
Stddev	.002535	.001215	.0006094	.0005731	.0008826	.0045088	.0016913
%RSD	116.3352	29.28440	6.701730	30.51285	312.0644	1.597197	.2326898
#1	-.003261	-.005351	.0097714	.0024578	-.000349	.2770870	.7281010
#2	-.003994	-.002921	.0085926	.0013119	.001291	.2848516	.7249381
#3	.000717	-.004180	.0089141	.0018649	-.000094	.2849406	.7275582

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003164**	**.0000692**	**12.76262**	**-.000071**	**.0056487**	**.0118879**	**.0095467**
Stddev	.0000159	.0000994	.12704	.000274	.0001551	.0001537	.0006927
%RSD	5.014844	143.7346	.9954143	385.5917	2.744889	1.293273	7.255434
#1	.0003250	-.000038	12.88482	-.000314	.0056118	.0117364	.0103450
#2	.0002981	.000158	12.63124	-.000125	.0058189	.0118835	.0091045
#3	.0003262	.000088	12.77178	.000226	.0055155	.0120437	.0091907

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1427447**	**4.120619**	**.0047028**	**-.000230**	**375.6381**	**-.003825**	**.1173251**
Stddev	.0004785	.044918	.0000721	.000246	2.6838	.001372	.0002144
%RSD	.3352131	1.090085	1.533752	106.8848	.7144538	35.87760	.1827714
#1	.1430602	4.167671	.0046738	-.000505	373.2022	-.003074	.1171323
#2	.1429799	4.078192	.0046496	-.000155	378.5151	-.002992	.1175561
#3	.1421942	4.115996	.0047849	-.000031	375.1969	-.005409	.1172868

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.429431**	**.0482096**	**.0008360**	**-.000897**	**.0054366**	**.8298937**	**.0167007**
Stddev	.030239	.0005604	.0000977	.000451	.0019266	.0084822	.0011186
%RSD	2.115437	1.162490	11.68661	50.28163	35.43706	1.022082	6.697864
#1	1.418950	.0485924	.0009335	-.001367	.0063727	.8256885	.0155093
#2	1.405828	.0484701	.0007381	-.000854	.0032208	.8396569	.0168642
#3	1.463516	.0475663	.0008364	-.000468	.0067161	.8243356	.0177285

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-12 Acquired: 7/22/2025 13:33:36 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5981588	-.007303	.0975648
Stddev	.0047115	.003362	.0002771
%RSD	.7876726	46.03766	.2839906
#1	.5936536	-.009868	.0975733
#2	.5977701	-.008544	.0972835
#3	.6030526	-.003497	.0978375

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5473.749	91852.77	9519.117	4605.771	5985.488
Stddev	6.099	190.54	94.855	31.542	7.318
%RSD	.1114144	.2074380	.9964697	.6848278	.1222595
#1	5480.396	91632.78	9430.806	4569.810	5993.935
#2	5468.411	91965.68	9619.383	4618.750	5981.076
#3	5472.441	91959.85	9507.164	4628.752	5981.453

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-16 Acquired: 7/22/2025 13:38:02 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.004744**	**-.003417**	**.0340168**	**.0050097**	**.0016319**	**.1112073**	**.5751434**
Stddev	.001005	.002154	.0011851	.0039004	.0016726	.0038144	.0030055
%RSD	21.19418	63.03187	3.483796	77.85671	102.4966	3.430000	.5225699
#1	-.005337	-.005021	.0335680	.0034556	-.000115	.1155911	.5782899
#2	-.005312	-.000969	.0331216	.0094475	.001792	.1093851	.5723021
#3	-.003583	-.004260	.0353607	.0021259	.003218	.1086458	.5748383

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000127**	**.0001131**	**24.44060**	**.0878469**	**-.000101**	**.0069975**	**.1120080**
Stddev	.000024	.0000510	.16825	.0011335	.000064	.0003247	.0052406
%RSD	18.65242	45.11160	.6883936	1.290265	63.37980	4.640065	4.678764
#1	-.000109	.0001608	24.54151	.0891215	-.000170	.0070606	.1179316
#2	-.000117	.0001193	24.24638	.0869520	-.000091	.0066459	.1101168
#3	-.000153	.0000593	24.53392	.0874673	-.000043	.0072860	.1079754

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0591568**	**3.084541**	**.0040257**	**-.000044**	**390.2795**	**-.001965**	**.1346410**
Stddev	.0005183	.016349	.0001045	.000310	4.1777	.001724	.0001295
%RSD	.8761534	.5300352	2.596754	699.8676	1.070450	87.72010	.0961898
#1	.0595700	3.078866	.0039080	-.000401	393.3450	-.000367	.1345387
#2	.0585752	3.071787	.0041079	.000161	391.9725	-.001736	.1347866
#3	.0593251	3.102972	.0040610	.000107	385.5210	-.003791	.1345977

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.032472**	**.0623344**	**.0011397**	**-.002429**	**.0059074**	**2.343308**	**.0793752**
Stddev	.004371	.0000676	.0000467	.000468	.0018939	.032944	.0006094
%RSD	.1441547	.1083737	4.100659	19.28239	32.06054	1.405894	.7677140
#1	3.034535	.0623618	.0011891	-.002489	.0073078	2.355459	.0799260
#2	3.027450	.0623839	.0010962	-.002865	.0037525	2.368452	.0794790
#3	3.035429	.0622574	.0011338	-.001934	.0066618	2.306014	.0787206

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-16 Acquired: 7/22/2025 13:38:02 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7302378	-.004643	.1391304
Stddev	.0018449	.002141	.0005280
%RSD	.2526374	46.11863	.3794897
#1	.7319800	-.007041	.1395894
#2	.7283051	-.003965	.1385534
#3	.7304284	-.002923	.1392484

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5398.172	89803.97	9287.764	4490.517	5977.849
Stddev	9.156	377.86	22.860	9.384	7.192
%RSD	.1696154	.4207621	.2461333	.2089750	.1203033
#1	5399.527	89562.57	9276.896	4483.812	5970.031
#2	5406.575	89609.91	9314.031	4486.498	5984.182
#3	5388.414	90239.43	9272.365	4501.242	5979.334

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-20 Acquired: 7/22/2025 13:42:27 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002158**	**-.006603**	**.0146783**	**.0043837**	**.0017281**	**.1785211**	**.4611522**
Stddev	.000896	.001119	.0006043	.0020844	.0012555	.0041119	.0011449
%RSD	41.52845	16.94622	4.116914	47.55024	72.64999	2.303293	.2482751
#1	-.001608	-.005565	.0140312	.0047283	.0017415	.1744421	.4603283
#2	-.003192	-.006455	.0147758	.0062743	.0029769	.1826651	.4606688
#3	-.001673	-.007789	.0152279	.0021484	.0004660	.1784560	.4624596

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000036**	**.0007847**	**15.68571**	**.0000581**	**.0010014**	**.0160676**	**.0433400**
Stddev	.000038	.0001001	.01894	.0003256	.0001716	.0001459	.0081021
%RSD	104.5897	12.75313	.1207455	560.2011	17.13132	.9080129	18.69438
#1	-.000062	.0007200	15.67957	.0002610	.0010822	.0159345	.0395620
#2	.000007	.0008999	15.70696	-.000317	.0011176	.0162236	.0378168
#3	-.000054	.0007342	15.67061	.000231	.0008044	.0160447	.0526411

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0257341**	**3.145434**	**.0037993**	**-.000069**	**367.9350**	**-.002462**	**.2299112**
Stddev	.0004519	.032767	.0003998	.000027	2.0449	.001009	.0006351
%RSD	1.756140	1.041748	10.52373	39.31234	.5557725	40.98339	.2762287
#1	.0253749	3.111537	.0033639	-.000093	369.9026	-.001672	.2291972
#2	.0255859	3.176941	.0038842	-.000075	368.0816	-.002116	.2304129
#3	.0262415	3.147824	.0041500	-.000039	365.8207	-.003599	.2301235

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.280083**	**.0500289**	**.0009230**	**-.002276**	**.0063204**	**.9621365**	**.0227937**
Stddev	.020786	.0004352	.0005001	.000502	.0012877	.0055084	.0040874
%RSD	1.623764	.8698381	54.18572	22.05550	20.37384	.5725140	17.93191
#1	1.271825	.0499388	.0009912	-.001823	.0073019	.9630640	.0197046
#2	1.264695	.0496459	.0003922	-.002816	.0067970	.9671223	.0274285
#3	1.303728	.0505021	.0013854	-.002190	.0048624	.9562233	.0212481

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-20 Acquired: 7/22/2025 13:42:27 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4868061	-.009057	.1049435
Stddev	.0038857	.001288	.0001569
%RSD	.7982025	14.21788	.1495242
#1	.4837925	-.010433	.1047874
#2	.4854341	-.008859	.1049420
#3	.4911916	-.007880	.1051012

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5496.148	92346.73	9347.161	4615.172	6079.221
Stddev	1.228	298.03	43.464	10.955	13.700
%RSD	.0223445	.3227263	.4649918	.2373724	.2253534
#1	5494.738	92020.04	9396.908	4606.309	6064.670
#2	5496.724	92603.75	9328.031	4627.420	6091.871
#3	5496.983	92416.40	9316.543	4611.788	6081.121

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2646-03 Acquired: 7/22/2025 13:46:54 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001766**	**-.004136**	**.0010195**	**.0019272**	**.0021104**	**.2722065**	**.1481386**
Stddev	.001111	.002005	.0006833	.0031220	.0019997	.0179397	.0010319
%RSD	62.89050	48.47862	67.01899	161.9978	94.75546	6.590457	.6965971
#1	-.001366	-.002722	.0011001	.0046782	.0013386	.2756895	.1492880
#2	-.003022	-.003255	.0002996	-.001466	.0043809	.2527808	.1478361
#3	-.000911	-.006431	.0016590	.002569	.0006116	.2881493	.1472918

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000199**	**-.000348**	**109.9598**	**.0017123**	**.0018265**	**.0040354**	**8.091363**
Stddev	.000020	.000076	.1755	.0004553	.0002271	.0003332	.029325
%RSD	10.27891	21.75430	.1596396	26.58758	12.43452	8.255847	.3624294
#1	-.000220	-.000394	109.8326	.0013206	.0018981	.0042332	8.058333
#2	-.000180	-.000389	110.1601	.0016045	.0020092	.0036508	8.114339
#3	-.000196	-.000260	109.8868	.0022118	.0015722	.0042222	8.101417

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2778543**	**9.856389**	**.0124213**	**.0001726**	**46.08025**	**.0053922**	**.0515740**
Stddev	.0002335	.059169	.0001040	.0001341	.18278	.0008433	.0002135
%RSD	.0840483	.6003073	.8372582	77.68004	.3966628	15.63874	.4140286
#1	.2779953	9.901943	.0125372	.0001631	45.97583	.0048413	.0517497
#2	.2775847	9.877709	.0123363	.0000436	46.29130	.0063629	.0513363
#3	.2779828	9.789515	.0123903	.0003113	45.97361	.0049722	.0516360

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.86233**	**.0850309**	**.0011722**	**-.003101**	**.0085725**	**2.646594**	**2.253956**
Stddev	.08750	.0004668	.0000664	.000356	.0023779	.012880	.014570
%RSD	.5516002	.5489931	5.667092	11.49130	27.73839	.4866791	.6464371
#1	15.76345	.0845263	.0011574	-.003301	.0063454	2.631731	2.258338
#2	15.92973	.0854474	.0011144	-.002689	.0110768	2.654512	2.237698
#3	15.89381	.0851189	.0012448	-.003312	.0082951	2.653537	2.265833

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2646-03 Acquired: 7/22/2025 13:46:54 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.527450	.0122325	.5631060
Stddev	.021652	.0013558	.0005929
%RSD	.6138014	11.08334	.1052913
#1	3.544099	.0135226	.5626624
#2	3.502973	.0123555	.5637794
#3	3.535277	.0108194	.5628762

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5510.937	94375.64	9252.222	4618.443	6283.069
Stddev	.992	197.89	31.099	9.552	6.785
%RSD	.0180035	.2096843	.3361232	.2068174	.1079951
#1	5511.983	94390.27	9217.583	4610.014	6285.039
#2	5510.009	94170.83	9261.338	4628.818	6288.651
#3	5510.820	94565.81	9277.743	4616.497	6275.516

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24 Acquired: 7/22/2025 13:51:07 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.003323**	**-.003709**	**.0128470**	**.0026556**	**.0012406**	**.4719841**	**.2516053**
Stddev	.001224	.000834	.0019391	.0048675	.0008911	.0007532	.0015440
%RSD	36.81797	22.48322	15.09407	183.2937	71.82511	.1595876	.6136487
#1	-.002248	-.003784	.0120099	.0044396	.0004399	.4711862	.2527040
#2	-.003067	-.002840	.0150641	-.002852	.0010814	.4720833	.2522719
#3	-.004655	-.004502	.0114671	.006379	.0022006	.4726828	.2498400

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001093**	**-.000011**	**4.001631**	**.0008635**	**.0045927**	**.0126017**	**.0238269**
Stddev	.0000104	.000060	.036843	.0001399	.0000897	.0001954	.0083143
%RSD	9.488534	546.7045	.9206960	16.20272	1.952756	1.550697	34.89470
#1	.0001195	.000030	4.022759	.0010223	.0046654	.0124533	.0164173
#2	.0000987	.000017	4.023045	.0007584	.0044925	.0128231	.0328186
#3	.0001098	-.000080	3.959089	.0008098	.0046204	.0125286	.0222447

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0422107**	**2.825814**	**.0031128**	**-.000270**	**303.6355**	**.0000166**	**.1503457**
Stddev	.0003315	.029278	.0003316	.000378	2.8256	.0009958	.0002661
%RSD	.7853184	1.036085	10.65169	140.1939	.9305949	6015.022	.1769982
#1	.0424719	2.859171	.0027969	.000134	301.0529	-.001119	.1503896
#2	.0423223	2.813893	.0034581	-.000329	303.2000	.000427	.1500603
#3	.0418378	2.804377	.0030833	-.000615	306.6536	.000741	.1505871

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7762742**	**.0608731**	**.0011418**	**-.001411**	**.0038015**	**.2454808**	**.0235990**
Stddev	.0129127	.0005967	.0000397	.000515	.0009813	.0177579	.0028234
%RSD	1.663419	.9802839	3.474577	36.49716	25.81323	7.233925	11.96427
#1	.7636827	.0610798	.0011757	-.000901	.0042419	.2477043	.0265217
#2	.7756542	.0613391	.0010982	-.001931	.0044853	.2267159	.0208866
#3	.7894857	.0602005	.0011516	-.001399	.0026771	.2620223	.0233885

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24 Acquired: 7/22/2025 13:51:07 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**1.827478**	**-.010216**	**.0370793**
Stddev	.001594	.003467	.0000698
%RSD	.0872370	33.93646	.1882964
#1	1.826944	-.006215	.0369998
#2	1.829270	-.012095	.0371075
#3	1.826219	-.012339	.0371306

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5521.669**	**92693.89**	**9327.986**	**4649.127**	**6123.041**
Stddev	12.949	189.05	84.978	23.461	11.570
%RSD	.2345141	.2039499	.9110028	.5046261	.1889594
#1	5536.459	92884.37	9283.289	4627.271	6136.390
#2	5516.174	92690.98	9274.684	4646.193	6116.840
#3	5512.373	92506.31	9425.984	4673.917	6115.893

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV02 Acquired: 7/22/2025 14:05:33 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.087680**	**4.807280**	**4.965771**	**5.104377**	**5.148089**	**10.07335**	**10.47697**
Stddev	.012341	.131622	.012188	.028459	.017688	.02261	.09284
%RSD	.2425681	2.737963	.2454440	.5575473	.3435892	.2244579	.8861424
#1	5.075233	4.700663	4.952878	5.075124	5.132339	10.07034	10.38424
#2	5.087896	4.766788	4.967330	5.106037	5.144701	10.05238	10.47676
#3	5.099912	4.954391	4.977104	5.131970	5.167226	10.09731	10.56992

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2497515**	**2.494537**	**25.95043**	**.9755130**	**2.509457**	**1.277580**	**5.017034**
Stddev	.0023020	.005735	.27573	.0067225	.004657	.004517	.022872
%RSD	.9217218	.2298926	1.062521	.6891202	.1855884	.3535575	.4558932
#1	.2472079	2.491536	25.66380	.9692631	2.506239	1.273201	5.030644
#2	.2503547	2.490925	25.97371	.9826249	2.507334	1.277316	5.029831
#3	.2516918	2.501149	26.21378	.9746511	2.514797	1.282223	4.990628

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.568001**	**24.74639**	**2.523136**	**1.275903**	**23.14711**	**2.512226**	**2.574747**
Stddev	.016434	.09983	.004929	.000675	.20895	.005333	.005174
%RSD	.6399604	.4034036	.1953526	.0529290	.9026874	.2123017	.2009491
#1	2.551958	24.64366	2.521219	1.275156	23.29220	2.518344	2.569172
#2	2.567245	24.75248	2.519453	1.276085	23.24152	2.508555	2.575673
#3	2.584800	24.84303	2.528735	1.276470	22.90762	2.509780	2.579395

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.60942**	**5.179119**	**5.146556**	**5.007215**	**4.978675**	**4.849918**	**4.863045**
Stddev	.11746	.042048	.022813	.013183	.007685	.034784	.011278
%RSD	.4586670	.8118672	.4432643	.2632701	.1543582	.7172127	.2319043
#1	25.56541	5.149378	5.126096	4.996286	4.984916	4.870386	4.850237
#2	25.74253	5.160754	5.142416	5.003504	4.981018	4.869613	4.871487
#3	25.52032	5.227225	5.171155	5.021855	4.970092	4.809755	4.867412

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV02 Acquired: 7/22/2025 14:05:33 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.964307**	**5.003480**	**5.280916**
Stddev	.021903	.009844	.043824
%RSD	.4412129	.1967389	.8298591
#1	4.946882	5.013785	5.246750
#2	4.957143	4.994174	5.265672
#3	4.988895	5.002481	5.330327

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5505.607**	**92021.40**	**8726.601**	**4605.176**	**6154.865**
Stddev	16.033	461.81	93.483	13.368	9.929
%RSD	.2912082	.5018506	1.071239	.2902746	.1613149
#1	5523.179	92540.26	8819.761	4616.292	6163.651
#2	5501.865	91655.41	8727.246	4608.893	6156.851
#3	5491.776	91868.52	8632.798	4590.344	6144.093

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB02 Acquired: 7/22/2025 14:09:41 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018715	.0006443	.0008448	.0014704	.0008100	-.013386	.0005277
Stddev	.0015152	.0018668	.0004116	.0016288	.0010089	.005553	.0004051
%RSD	80.96112	289.7337	48.72539	110.7776	124.5519	41.48120	76.76880
#1	.0004434	-.000354	.0012140	.0019467	.0019268	-.019113	.0009364
#2	.0034608	.002798	.0009195	.0028079	.0005387	-.013021	.0005205
#3	.0017103	-.000511	.0004009	-.000344	-.000036	-.008025	.0001263

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000215	.0001675	.0474802	-.000100	.0002802	.0004364	-.002871
Stddev	.0000098	.0000653	.0018105	.000204	.0002098	.0004158	.002461
%RSD	45.71486	38.94783	3.813147	203.7741	74.87984	95.27964	85.74268
#1	.0000162	.0000961	.0461221	-.000308	.0001433	-.000019	-.003724
#2	.0000154	.0001825	.0467827	-.000094	.0001756	.000533	-.004792
#3	.0000328	.0002240	.0495357	.000101	.0005217	.000795	-.000096

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000315	-.012863	.0001220	.0000900	.3470009	-.002642	.0009849
Stddev	.000502	.011269	.0001760	.0003501	.0161393	.001844	.0002063
%RSD	159.2342	87.60955	144.2534	388.8124	4.651088	69.79969	20.94627
#1	-.000614	-.012802	-.000081	-.000313	.3646893	-.002455	.0008615
#2	-.000596	-.001624	.000236	.000315	.3432377	-.000898	.0012231
#3	.000264	-.024162	.000210	.000269	.3330756	-.004572	.0008701

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4146666	.0019980	.0010116	.0032477	.0069527	.0018935	.0038812
Stddev	.0120947	.0001271	.0002021	.0009709	.0015506	.0052121	.0015300
%RSD	2.916734	6.360469	19.97368	29.89402	22.30243	275.2664	39.41980
#1	.4080297	.0020597	.0010337	.0032488	.0054287	.0013926	.0054181
#2	.4073432	.0018519	.0007994	.0022763	.0069009	-.003050	.0023583
#3	.4286267	.0020826	.0012017	.0042180	.0085287	.007338	.0038673

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB02 Acquired: 7/22/2025 14:09:41 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.003650**	**-.007750**	**.0002280**
Stddev	.001006	.002731	.0000379
%RSD	27.54816	35.23738	16.60851
#1	-.003205	-.005197	.0002715
#2	-.004802	-.010630	.0002091
#3	-.002944	-.007425	.0002032

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5721.687**	**94749.78**	**8855.966**	**4793.116**	**6822.060**
Stddev	10.162	260.80	65.232	21.417	7.846
%RSD	.1775968	.2752498	.7365846	.4468385	.1150127
#1	5729.075	94802.12	8784.558	4800.073	6822.571
#2	5725.887	94980.44	8870.915	4810.189	6829.639
#3	5710.099	94466.79	8912.426	4769.084	6813.971

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24DUP Acquired: 7/22/2025 14:25:56 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001155**	**-.003503**	**.0151298**	**.0036385**	**.0023730**	**.5565806**	**.2936960**
Stddev	.002627	.001729	.0012859	.0035919	.0002539	.0026985	.0008942
%RSD	227.3776	49.37216	8.499495	98.71834	10.70001	.4848381	.3044559
#1	.001861	-.003347	.0141904	.0073772	.0023477	.5536220	.2945544
#2	-.002385	-.001856	.0146035	.0033245	.0026386	.5589066	.2937637
#3	-.002943	-.005304	.0165954	.0002140	.0021327	.5572133	.2927699

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001865**	**.0000178**	**4.699635**	**.0005099**	**.0055724**	**.0146679**	**.0175302**
Stddev	.0000398	.0000708	.013423	.0003304	.0001294	.0004622	.0110394
%RSD	21.32792	397.0458	.2856213	64.80119	2.321903	3.150834	62.97374
#1	.0002118	-.000008	4.714921	.0001292	.0057218	.0141408	.0048149
#2	.0001407	.000098	4.694211	.0006780	.0054974	.0150039	.0231069
#3	.0002071	-.000036	4.689772	.0007225	.0054980	.0148589	.0246687

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0472260**	**3.331868**	**.0033504**	**.0000381**	**347.1932**	**-.003585**	**.1709856**
Stddev	.0001774	.028473	.0003139	.0003284	5.0082	.001265	.0008866
%RSD	.3756601	.8545802	9.369591	862.0355	1.442487	35.28310	.5185145
#1	.0470349	3.364624	.0032325	-.000000	352.3201	-.002198	.1699955
#2	.0472576	3.317942	.0031125	.000384	342.3127	-.003882	.1717062
#3	.0473855	3.313037	.0037062	-.000270	346.9467	-.004674	.1712550

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7159042**	**.0751878**	**.0008108**	**-.001666**	**.0060479**	**.2881204**	**.0270213**
Stddev	.0139899	.0004469	.0001066	.000296	.0017544	.0189184	.0022882
%RSD	1.954163	.5943342	13.14861	17.77823	29.00865	6.566141	8.468138
#1	.7136973	.0751976	.0007610	-.001706	.0066230	.2982640	.0249530
#2	.7308664	.0747361	.0009332	-.001352	.0040781	.2662934	.0266316
#3	.7031488	.0756297	.0007381	-.001940	.0074426	.2998038	.0294794

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24DUP Acquired: 7/22/2025 14:25:56 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.122191	-.009986	.0434477
Stddev	.004058	.002426	.0001564
%RSD	.1912383	24.28989	.3599607
#1	2.126773	-.012253	.0436250
#2	2.120750	-.010278	.0433294
#3	2.119050	-.007428	.0433887

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5401.940	89810.40	8704.091	4526.925	5939.024
Stddev	15.271	328.24	11.981	5.359	24.649
%RSD	.2827000	.3654851	.1376450	.1183894	.4150390
#1	5417.500	89446.57	8690.976	4531.335	5962.083
#2	5401.347	90084.31	8706.836	4520.960	5941.946
#3	5386.975	89900.33	8714.460	4528.480	5913.045

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24LX5 Acquired: 7/22/2025 14:30:20 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000739**	**.0001951**	**.0035647**	**-.001273**	**-.000485**	**.1019741**	**.0519465**
Stddev	.000949	.0007616	.0011955	.002864	.001130	.0047082	.0004143
%RSD	128.3698	390.4123	33.53808	225.0374	233.2508	4.617060	.7974990
#1	-.000035	.0005794	.0049389	-.002342	-.000386	.1051605	.0522543
#2	-.000364	-.000682	.0027633	.001972	-.001661	.0965661	.0521097
#3	-.001818	.000688	.0029920	-.003448	.000593	.1041956	.0514754

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000040**	**.0000652**	**.8620570**	**-.000197**	**.0010084**	**.0028671**	**-.001212**
Stddev	.000014	.0000757	.0105097	.000506	.0001152	.0003288	.004313
%RSD	35.09433	116.1332	1.219137	257.2303	11.42401	11.46735	355.8696
#1	-.000052	.0001191	.8587099	-.000457	.0008757	.0025308	.001756
#2	-.000025	.0000979	.8738326	-.000520	.0010657	.0028828	-.006160
#3	-.000044	-.000021	.8536286	.000387	.0010836	.0031878	.000768

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0087721**	**.6212865**	**.0003611**	**.0001874**	**58.80459**	**-.001802**	**.0313117**
Stddev	.0003051	.0214351	.0002424	.0004391	.12822	.000572	.0000171
%RSD	3.478256	3.450109	67.12054	234.3649	.2180359	31.77530	.0545331
#1	.0088859	.6449110	.0003215	.0002867	58.90166	-.002461	.0313304
#2	.0090038	.6030810	.0006209	-.000293	58.65924	-.001435	.0313079
#3	.0084264	.6158674	.0001410	.000568	58.85286	-.001508	.0312969

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7027433**	**.0123724**	**.0001795**	**.0000700**	**.0044677**	**.0581214**	**.0040855**
Stddev	.0334436	.0004094	.0002543	.0007934	.0016371	.0104189	.0045734
%RSD	4.759002	3.309119	141.6819	1132.757	36.64262	17.92601	111.9414
#1	.6918443	.0121235	.0003333	.0004711	.0033103	.0567424	.0022009
#2	.6761088	.0121488	-.000114	.0005828	.0063408	.0691612	.0007556
#3	.7402768	.0128449	.000319	-.000844	.0037520	.0484608	.0093001

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24LX5 Acquired: 7/22/2025 14:30:20 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3771156	-.004347	.0079743
Stddev	.0027345	.000583	.0000289
%RSD	.7251011	13.40458	.3627951
#1	.3786925	-.003833	.0079951
#2	.3739581	-.004228	.0079413
#3	.3786962	-.004980	.0079866

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5473.530	91834.36	9043.295	4632.824	6240.545
Stddev	19.752	129.71	27.802	10.606	22.320
%RSD	.3608688	.1412400	.3074322	.2289319	.3576584
#1	5468.276	91981.93	9073.031	4620.753	6243.498
#2	5456.935	91782.78	9038.904	4637.068	6216.896
#3	5495.378	91738.39	9017.949	4640.650	6261.241

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24MS Acquired: 7/22/2025 14:34:40 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8464043**	**1.918992**	**.9791237**	**2.135604**	**.8628949**	**2.641684**	**.5047331**
Stddev	.0042429	.032157	.0039720	.009737	.0036880	.013231	.0012085
%RSD	.5012855	1.675719	.4056696	.4559173	.4274030	.5008720	.2394402
#1	.8425240	1.893845	.9824110	2.126318	.8593408	2.656914	.5060645
#2	.8457541	1.907907	.9747102	2.134758	.8626402	2.633016	.5044298
#3	.8509347	1.955225	.9802500	2.145736	.8667037	2.635123	.5037052

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1912958**	**.2026359**	**5.742980**	**.4055588**	**.2178265**	**.3252137**	**3.373335**
Stddev	.0009316	.0003231	.019579	.0008053	.0006059	.0007807	.006935
%RSD	.4870035	.1594445	.3409218	.1985621	.2781706	.2400704	.2055924
#1	.1923162	.2024189	5.764540	.4047843	.2171577	.3244815	3.375767
#2	.1910808	.2024816	5.726308	.4063917	.2179827	.3251245	3.378726
#3	.1904905	.2030072	5.738092	.4055004	.2183390	.3260353	3.365511

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2643229**	**5.322476**	**.5357195**	**.0787567**	**354.5314**	**.3174160**	**.3967370**
Stddev	.0002517	.029534	.0007360	.0002973	6.7996	.0009813	.0007943
%RSD	.0952204	.5548982	.1373799	.3774955	1.917914	.3091547	.2002031
#1	.2642553	5.303968	.5354171	.0784159	349.9294	.3184425	.3976057
#2	.2646015	5.356537	.5351829	.0789631	362.3416	.3164872	.3965573
#3	.2641119	5.306924	.5365585	.0788910	351.3233	.3173184	.3960479

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.01039**	**.3480795**	**.4507610**	**.7361866**	**.2096609**	**1.225753**	**6.051165**
Stddev	.08511	.0025089	.0013627	.0020261	.0022630	.002349	.016278
%RSD	.7086061	.7207824	.3023167	.2752204	1.079371	.1916584	.2690008
#1	11.91666	.3509266	.4495564	.7339010	.2121121	1.228439	6.068414
#2	12.03167	.3461920	.4504864	.7368967	.2076511	1.224738	6.049006
#3	12.08283	.3471200	.4522401	.7377622	.2092193	1.224082	6.036074

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24MS Acquired: 7/22/2025 14:34:40 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.120118	.1872947	.2543054
Stddev	.005673	.0030649	.0009032
%RSD	.2675853	1.636419	.3551826
#1	2.114428	.1843526	.2548610
#2	2.125774	.1904692	.2547920
#3	2.120153	.1870624	.2532632

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5414.362	91038.27	9141.675	4510.536	5938.876
Stddev	10.422	341.82	48.192	21.030	4.694
%RSD	.1924805	.3754707	.5271699	.4662392	.0790339
#1	5416.642	91163.75	9095.800	4505.141	5937.032
#2	5423.454	90651.44	9137.334	4492.729	5944.211
#3	5402.989	91299.62	9191.891	4533.738	5935.384

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24MSD Acquired: 7/22/2025 14:38:48 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8190926	1.779691	.9530216	2.068085	1.231100	2.660752	.5386941
Stddev	.0028720	.045909	.0023411	.003974	.008371	.010834	.0019629
%RSD	.3506277	2.579614	.2456522	.1921402	.6799741	.4071778	.3643752
#1	.8205955	1.726680	.9504484	2.066812	1.239489	2.651321	.5371584
#2	.8157810	1.806120	.9535908	2.064904	1.222746	2.658351	.5380183
#3	.8209012	1.806273	.9550256	2.072539	1.231066	2.672586	.5409056

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1950053	.1968652	6.320800	.4009159	.2121831	.3159239	3.224894
Stddev	.0014686	.0003094	.026670	.0006754	.0001342	.0006547	.005106
%RSD	.7531115	.1571367	.4219411	.1684604	.0632289	.2072450	.1583397
#1	.1938091	.1967039	6.318186	.4009743	.2121376	.3166354	3.230528
#2	.1945624	.1972218	6.295533	.4002132	.2120776	.3153469	3.220572
#3	.1966444	.1966698	6.348681	.4015602	.2123341	.3157894	3.223582

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2595100	5.671828	.5203989	.0775112	388.5770	.3091904	.4103484
Stddev	.0018560	.014536	.0006382	.0004790	3.4567	.0012923	.0018237
%RSD	.7152097	.2562781	.1226321	.6179514	.8895680	.4179554	.4444359
#1	.2596148	5.655218	.5211293	.0774320	387.2006	.3084639	.4121512
#2	.2576037	5.678049	.5201181	.0770768	392.5098	.3084249	.4103894
#3	.2613114	5.682218	.5199493	.0780249	386.0206	.3106825	.4085045

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.00094	.3620634	.6420594	1.056946	.3007550	1.609800	5.943780
Stddev	.04126	.0024794	.0012266	.001947	.0022371	.007377	.018753
%RSD	.3437695	.6847924	.1910446	.1842029	.7438237	.4582541	.3155064
#1	12.04810	.3609038	.6431218	1.057095	.2983482	1.618107	5.933699
#2	11.97149	.3603763	.6407170	1.054928	.3011460	1.607280	5.932224
#3	11.98324	.3649101	.6423395	1.058813	.3027708	1.604013	5.965418

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24MSD Acquired: 7/22/2025 14:38:48 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.318868	.1888401	.2572899
Stddev	.009666	.0009349	.0009304
%RSD	.4168385	.4950932	.3616002
#1	2.307781	.1889994	.2565541
#2	2.323298	.1896852	.2569801
#3	2.325524	.1878358	.2583357

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5435.820	89091.50	8737.450	4487.496	5931.767
Stddev	13.233	211.29	46.071	26.623	7.002
%RSD	.2434338	.2371652	.5272781	.5932597	.1180436
#1	5430.712	88882.66	8747.566	4456.888	5934.268
#2	5450.845	89305.16	8777.623	4500.327	5937.175
#3	5425.902	89086.66	8687.162	4505.273	5923.858

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24A Acquired: 7/22/2025 14:42:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8259564**	**1.842126**	**.9630423**	**2.093492**	**.8802248**	**2.748345**	**.4821253**
Stddev	.0068117	.055812	.0025066	.005714	.0015064	.016239	.0003972
%RSD	.8247003	3.029762	.2602736	.2729517	.1711359	.5908505	.0823904
#1	.8254230	1.900630	.9644384	2.097842	.8818018	2.736212	.4816716
#2	.8194271	1.789466	.9601485	2.095613	.8788006	2.766792	.4822941
#3	.8330190	1.836283	.9645398	2.087020	.8800719	2.742029	.4824103

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1939600**	**.1985266**	**5.617515**	**.4009290**	**.2130150**	**.3186249**	**3.285039**
Stddev	.0005912	.0006639	.015488	.0016208	.0006664	.0011079	.018855
%RSD	.3048332	.3344086	.2757040	.4042546	.3128304	.3477050	.5739533
#1	.1943574	.1984538	5.627934	.4025467	.2127846	.3193788	3.306807
#2	.1932806	.1979021	5.599718	.4009351	.2124943	.3173529	3.274522
#3	.1942422	.1992239	5.624893	.3993052	.2137660	.3191431	3.273790

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2550676**	**5.263090**	**.5262479**	**.0772037**	**319.8750**	**.3125141**	**.3825750**
Stddev	.0012448	.004703	.0009206	.0001806	3.6782	.0022562	.0011404
%RSD	.4880176	.0893495	.1749466	.2339071	1.149876	.7219617	.2980754
#1	.2545048	5.266181	.5259511	.0774062	323.7354	.3126885	.3812741
#2	.2542037	5.265411	.5255123	.0771452	316.4113	.3101758	.3830486
#3	.2564944	5.257678	.5272804	.0770596	319.4783	.3146781	.3834022

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.65679**	**.3495512**	**.4599379**	**.7553155**	**.2129205**	**1.201411**	**5.968557**
Stddev	.02810	.0012712	.0012125	.0028624	.0019657	.006822	.026454
%RSD	.2410659	.3636643	.2636246	.3789617	.9232092	.5678125	.4432224
#1	11.64717	.3496828	.4604770	.7574764	.2111980	1.198389	5.962545
#2	11.68844	.3482193	.4585493	.7520692	.2125016	1.209222	5.945627
#3	11.63476	.3507515	.4607873	.7564009	.2150619	1.196623	5.997500

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-24A Acquired: 7/22/2025 14:42:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.951297	.1900584	.2499861
Stddev	.008707	.0012324	.0006332
%RSD	.4461999	.6484508	.2533054
#1	1.956490	.1894040	.2492608
#2	1.941246	.1914800	.2504288
#3	1.956157	.1892911	.2502688

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5396.334	90716.32	8814.407	4502.630	5923.449
Stddev	5.241	249.22	11.578	13.301	9.464
%RSD	.0971207	.2747254	.1313552	.2953961	.1597685
#1	5391.403	90448.33	8813.798	4517.961	5922.246
#2	5401.838	90759.50	8826.278	4494.175	5933.456
#3	5395.763	90941.13	8803.145	4495.753	5914.644

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168919TB Acquired: 7/22/2025 14:47:03 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.004569**	**-.003335**	**-.000144**	**.0026860**	**-.000187**	**-.005403**	**-.003324**
Stddev	.002137	.002681	.001128	.0025832	.000861	.004108	.000735
%RSD	46.76968	80.40210	784.2136	96.17455	459.5991	76.03856	22.11540
#1	-.002573	-.000290	.000989	.0010523	-.000710	-.006835	-.002976
#2	-.004310	-.005342	-.001267	.0056641	-.000659	-.008604	-.004168
#3	-.006823	-.004372	-.000153	.0013415	.000806	-.000770	-.002827

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000229**	**-.000002**	**-.019142**	**.0002652**	**-.000208**	**.0009104**	**-.006018**
Stddev	.000038	.000067	.004038	.0001352	.000179	.0000686	.006687
%RSD	16.68329	3135.967	21.09509	50.96013	86.17929	7.529864	111.1161
#1	-.000193	-.000010	-.022833	.0001093	-.000004	.0008461	-.010330
#2	-.000269	-.000065	-.019764	.0003381	-.000339	.0009027	.001685
#3	-.000224	.000068	-.014829	.0003483	-.000280	.0009825	-.009410

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0056615**	**.0167602**	**.0007709**	**.0000212**	**402.4093**	**-.000943**	**.0020267**
Stddev	.0001331	.0175471	.0003586	.0003036	1.8920	.003990	.0000408
%RSD	2.351444	104.6954	46.51988	1433.691	.4701698	423.1389	2.015855
#1	.0055333	.0121279	.0010593	.0003716	401.5156	.001334	.0020540
#2	.0056524	.0019939	.0008840	-.000162	401.1296	-.005550	.0020463
#3	.0057990	.0361587	.0003694	-.000147	404.5826	.001387	.0019797

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1614709**	**-.001518**	**.0012469**	**-.001318**	**.0068808**	**.0077721**	**.0085882**
Stddev	.0157859	.000273	.0002416	.000609	.0017854	.0059093	.0053719
%RSD	9.776304	17.99566	19.37470	46.22731	25.94745	76.03176	62.54922
#1	.1623422	-.001396	.0013648	-.001541	.0081874	.0025702	.0044797
#2	.1452674	-.001326	.0014070	-.000629	.0076086	.0141973	.0066179
#3	.1768030	-.001830	.0009690	-.001785	.0048465	.0065489	.0146670

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168919TB Acquired: 7/22/2025 14:47:03 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0689919	-.010796	-.000042
Stddev	.0018156	.002337	.000030
%RSD	2.631631	21.64701	70.90973
#1	.0683463	-.009072	-.000008
#2	.0675873	-.013456	-.000056
#3	.0710421	-.009859	-.000063

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5298.368	88836.88	9023.981	4454.936	5855.840
Stddev	17.382	389.57	64.464	12.436	20.972
%RSD	.3280657	.4385174	.7143580	.2791620	.3581311
#1	5313.009	89036.87	9060.188	4456.565	5873.827
#2	5302.939	89085.84	9062.201	4466.478	5860.886
#3	5279.158	88387.94	8949.554	4441.765	5832.805

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168941BL Acquired: 7/22/2025 14:56:57 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000030**	**-.000417**	**.0014566**	**-.001458**	**-.001107**	**.0045257**	**.0006144**
Stddev	.001669	.001699	.0015152	.001198	.001141	.0086267	.0004666
%RSD	5569.494	407.3616	104.0230	82.18219	103.0690	190.6161	75.94108
#1	-.000373	-.001199	.0010752	-.002682	.000207	-.004135	.0001012
#2	.001784	-.001584	.0001686	-.000287	-.001850	.013118	.0007288
#3	-.001501	.001532	.0031261	-.001404	-.001676	.004594	.0010131

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000164**	**.0001330**	**.0060593**	**.0005211**	**.0001099**	**.0005982**	**.0038640**
Stddev	.0000686	.0000301	.0097451	.0003248	.0000437	.0008971	.0055147
%RSD	417.5231	22.66354	160.8286	62.32816	39.74557	149.9527	142.7197
#1	-.000023	.0001100	-.004289	.0005101	.0001539	.0013828	.0041606
#2	-.000023	.0001218	.007406	.0008512	.0001093	.0007916	.0092245
#3	.000096	.0001671	.015061	.0002019	.0000666	-.000380	-.001793

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000110**	**.0036947**	**.0002059**	**.0005894**	**.5206065**	**-.002118**	**.0006288**
Stddev	.0002979	.0349126	.0002402	.0007240	.0266340	.001378	.0002206
%RSD	2717.849	944.9291	116.6676	122.8369	5.115950	65.07286	35.08366
#1	-.000037	-.032275	-.000005	.0008030	.5440219	-.002822	.0006737
#2	-.000260	.005916	.000467	.0011826	.5261662	-.003003	.0003892
#3	.000330	.037444	.000156	-.000217	.4916315	-.000530	.0008235

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.4928602**	**-.001368**	**.0000382**	**.0004555**	**.0068195**	**.0023465**	**.0002927**
Stddev	.0253441	.000311	.0002580	.0002243	.0013909	.0107542	.0029450
%RSD	5.142239	22.72249	675.5792	49.25230	20.39584	458.3095	1006.058
#1	.5220773	-.001673	.0000694	.0002015	.0058783	.0139105	.0017780
#2	.4768043	-.001052	.0002792	.0006266	.0061631	.0004835	.0021993
#3	.4796992	-.001379	-.000234	.0005383	.0084171	-.007354	-.003099

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168941BL Acquired: 7/22/2025 14:56:57 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.008059	-.009317	-.000067
Stddev	.000454	.002178	.000009
%RSD	5.635598	23.37411	14.11881
#1	-.007834	-.007675	-.000071
#2	-.007762	-.008489	-.000056
#3	-.008582	-.011787	-.000073

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5575.023	90693.70	8397.877	4620.022	6618.773
Stddev	12.518	190.77	18.096	2.731	18.207
%RSD	.2245430	.2103435	.2154794	.0591085	.2750810
#1	5587.502	90663.09	8416.972	4617.339	6631.483
#2	5575.101	90520.09	8395.675	4619.929	6626.922
#3	5562.466	90897.93	8380.983	4622.798	6597.915

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168941BS Acquired: 7/22/2025 15:01:18 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7988378**	**2.067492**	**.9815327**	**2.022367**	**.8553299**	**2.105953**
Stddev	.0037271	.038572	.0016091	.005689	.0017235	.009720
%RSD	.4665658	1.865643	.1639418	.2812797	.2014975	.4615498
#1	.7948182	2.057822	.9802013	2.024284	.8534628	2.095630
#2	.7995156	2.034674	.9810760	2.015967	.8568600	2.107300
#3	.8021794	2.109978	.9833208	2.026849	.8556668	2.114930

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2161180**	**.2119854**	**.1951268**	**1.109900**	**.4097824**	**.2053100**
Stddev	.0007336	.0012218	.0003477	.011490	.0005471	.0005918
%RSD	.3394520	.5763716	.1781939	1.035185	.1335017	.2882256
#1	.2159421	.2113378	.1948194	1.096662	.4104131	.2047599
#2	.2169235	.2133947	.1950569	1.115762	.4094974	.2052340
#3	.2154883	.2112237	.1955042	1.117275	.4094366	.2059361

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3236226**	**3.140880**	**.2195795**	**2.115213**	**.5192282**	**.0795144**
Stddev	.0003780	.028219	.0006348	.019752	.0008874	.0002287
%RSD	.1168033	.8984309	.2890788	.9338283	.1708998	.2876165
#1	.3231862	3.122210	.2190254	2.136780	.5188984	.0796989
#2	.3238441	3.127088	.2202720	2.110857	.5185529	.0795857
#3	.3238376	3.173342	.2194409	2.098002	.5202332	.0792585

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.071940**	**.3128452**	**.2202356**	**10.32565**	**.3227625**	**.4318715**
Stddev	.020069	.0019739	.0009568	.03304	.0017668	.0012078
%RSD	.6532923	.6309624	.4344228	.3199653	.5474018	.2796712
#1	3.082340	.3106735	.2195162	10.33488	.3220680	.4315952
#2	3.048806	.3133316	.2213214	10.28898	.3247710	.4308258
#3	3.084674	.3145304	.2198691	10.35309	.3214485	.4331936

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168941BS Acquired: 7/22/2025 15:01:18 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7240549	.2119683	.8725958	5.788229	F -.005636	.1898461
Stddev	.0031346	.0022497	.0114510	.006400	.003032	.0030703
%RSD	.4329183	1.061317	1.312289	.1105608	53.79500	1.617237
#1	.7217017	.2098425	.8616737	5.782120	-.003083	.1866108
#2	.7228497	.2117382	.8716026	5.787682	-.004838	.1902083
#3	.7276131	.2143241	.8845110	5.794884	-.008988	.1927192

Elem	Sr4077
Units	ppm
Avg	.2139502
Stddev	.0003494
%RSD	.1633177
#1	.2137336
#2	.2137638
#3	.2143533

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5542.646	90769.77	8405.642	4609.184	6449.874
Stddev	7.861	263.91	50.578	3.499	10.373
%RSD	.1418288	.2907469	.6017137	.0759047	.1608323
#1	5548.313	90913.02	8457.667	4611.978	6459.154
#2	5545.954	90931.09	8356.647	4605.260	6451.793
#3	5533.672	90465.21	8402.613	4610.313	6438.675

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168932BL Acquired: 7/22/2025 15:05:19 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000646**	**-.001315**	**.0016332**	**-.001088**	**-.001002**	**-.008093**
Stddev	.002009	.000214	.0005020	.002905	.001014	.009685
%RSD	311.0322	16.27926	30.73972	266.9817	101.1842	119.6740
#1	.000060	-.001107	.0019906	-.003068	-.001976	-.006589
#2	-.002912	-.001302	.0018499	-.002443	.000048	.000752
#3	.000914	-.001535	.0010592	.002247	-.001079	-.018443

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011540**	**.0000517**	**.0000689**	**.0016856**	**-.000104**	**.0000437**
Stddev	.0013088	.0000801	.0000587	.0040888	.000046	.0001269
%RSD	113.4137	154.8629	85.21293	242.5672	43.72400	290.6068
#1	.0008740	.0000147	.0000914	.0048187	-.000157	.0001811
#2	.0025802	.0001437	.0000023	-.002940	-.000075	-.000069
#3	.0000079	-.000003	.0001131	.003178	-.000081	.000019

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004831**	**-.007385**	**-.000268**	**.0141930**	**.0002260**	**.0003514**
Stddev	.0002929	.007649	.000197	.0306554	.0003245	.0005177
%RSD	60.62369	103.5739	73.39672	215.9893	143.5734	147.3395
#1	.0006874	-.014683	-.000448	.0227222	.0002860	.0000407
#2	.0001476	-.008042	-.000058	-.019824	.0005164	.0009490
#3	.0006144	.000571	-.000298	.039681	-.000124	.0000644

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1879162**	**-.001828**	**.0002993**	**.2367766**	**-.000860**	**.0001586**
Stddev	.0040729	.000758	.0002148	.0269888	.000259	.0002753
%RSD	2.167408	41.48472	71.76894	11.39842	30.07082	173.5917
#1	.1849419	-.002627	.0005340	.2672946	-.001158	.0000387
#2	.1925583	-.001737	.0002517	.2269840	-.000729	.0004735
#3	.1862483	-.001119	.0001123	.2160512	-.000693	-.000036

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168932BL Acquired: 7/22/2025 15:05:19 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003143	.0056377	-.007202	.0005673	-.007859	F -.010051
Stddev	.0004211	.0013682	.018127	.0022135	.002087	.001915
%RSD	133.9642	24.26879	251.6919	390.1971	26.55269	19.05086
#1	.0001316	.0057806	.013696	.0030417	-.010199	-.009073
#2	.0000154	.0042037	-.018681	-.000115	-.007189	-.012257
#3	.0007959	.0069289	-.016621	-.001225	-.006190	-.008823

Elem	Sr4077
Units	ppm
Avg	-.000132
Stddev	.000065
%RSD	48.69275
#1	-.000067
#2	-.000135
#3	-.000196

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5690.603	92417.36	8512.771	4688.101	6756.432
Stddev	9.810	248.11	3.851	8.539	7.231
%RSD	.1723905	.2684651	.0452328	.1821462	.1070292
#1	5700.614	92438.27	8514.127	4678.907	6762.939
#2	5690.187	92159.46	8515.759	4695.783	6757.711
#3	5681.007	92654.36	8508.425	4689.612	6748.647

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168932BS Acquired: 7/22/2025 15:15:41 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8052159**	**2.137502**	**.9814645**	**2.049954**	**.8620849**	**2.107479**
Stddev	.0056128	.091360	.0032950	.011088	.0023553	.016182
%RSD	.6970552	4.274131	.3357252	.5408697	.2732050	.7678600
#1	.7994944	2.032877	.9789524	2.039146	.8596463	2.124880
#2	.8054399	2.201514	.9802458	2.049414	.8622617	2.104676
#3	.8107133	2.178114	.9851953	2.061302	.8643469	2.092881

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2155586**	**.2116864**	**.1954455**	**1.117648**	**.4159962**	**.2050732**
Stddev	.0012549	.0006014	.0008016	.003947	.0018948	.0005157
%RSD	.5821782	.2840932	.4101233	.3531970	.4554788	.2514719
#1	.2142507	.2119533	.1945322	1.116725	.4179824	.2044782
#2	.2156722	.2109978	.1957717	1.121975	.4157979	.2053516
#3	.2167529	.2121082	.1960324	1.114243	.4142084	.2053899

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3247762**	**3.167306**	**.2187312**	**2.120567**	**.5194591**	**.0800583**
Stddev	.0012529	.020593	.0011895	.030372	.0018255	.0006649
%RSD	.3857783	.6501729	.5438150	1.432252	.3514309	.8304938
#1	.3243475	3.143666	.2187939	2.085533	.5174552	.0808088
#2	.3237939	3.176906	.2175116	2.139463	.5198946	.0795429
#3	.3261872	3.181346	.2198881	2.136706	.5210275	.0798232

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.966882**	**.3139008**	**.2209669**	**10.34042**	**.3194192**	**.4344645**
Stddev	.009443	.0010205	.0008969	.06734	.0012787	.0021756
%RSD	.3182766	.3250866	.4059191	.6512167	.4003263	.5007501
#1	2.960929	.3148251	.2219120	10.26408	.3207972	.4321211
#2	2.977770	.3140716	.2201274	10.39136	.3182709	.4348521
#3	2.961946	.3128057	.2208612	10.36582	.3191894	.4364201

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168932BS Acquired: 7/22/2025 15:15:41 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7267149**	**.2112958**	**.8905480**	**5.835058**	F **-.006381**	**.1883970**
Stddev	.0044904	.0010482	.0102069	.031126	.003448	.0030984
%RSD	.6178980	.4960860	1.146135	.5334311	54.03698	1.644625
#1	.7222607	.2117461	.8894603	5.799324	-.007559	.1884189
#2	.7266434	.2100976	.9012551	5.849593	-.002498	.1852877
#3	.7312405	.2120435	.8809285	5.856259	-.009086	.1914845

Elem	Sr4077
Units	ppm
Avg	**.2130274**
Stddev	.0007736
%RSD	.3631668
#1	.2129178
#2	.2123144
#3	.2138500

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5519.762**	**90613.74**	**8522.671**	**4629.804**	**6440.406**
Stddev	24.119	264.00	9.258	18.496	22.199
%RSD	.4369486	.2913419	.1086225	.3995041	.3446900
#1	5498.314	90719.89	8520.030	4618.015	6424.840
#2	5545.871	90313.19	8532.962	4620.276	6465.826
#3	5515.100	90808.14	8515.021	4651.122	6430.550

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV03 Acquired: 7/22/2025 15:20:59 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.214094**	**5.074358**	**5.110597**	**5.225142**	**5.245097**	**10.48381**	**10.63991**
Stddev	.028410	.142830	.027511	.029850	.019630	.02170	.17544
%RSD	.5448744	2.814746	.5383038	.5712697	.3742510	.2070270	1.648884
#1	5.189154	4.942965	5.100176	5.198366	5.231318	10.50186	10.43755
#2	5.208107	5.053726	5.089819	5.219735	5.236399	10.48983	10.73294
#3	5.245020	5.226382	5.141796	5.257326	5.267573	10.45972	10.74925

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2616537**	**2.560272**	**26.75350**	**1.006844**	**2.564763**	**1.305499**	**5.145818**
Stddev	.0029434	.009904	.09843	.004576	.010689	.005803	.052504
%RSD	1.124908	.3868174	.3679110	.4544458	.4167755	.4445415	1.020331
#1	.2599175	2.558892	26.72517	1.005428	2.561700	1.301835	5.114337
#2	.2599914	2.551130	26.67234	1.011960	2.555939	1.302471	5.206429
#3	.2650521	2.570793	26.86299	1.003143	2.576649	1.312190	5.116686

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.664539**	**25.89700**	**2.585430**	**1.313333**	**23.59112**	**2.612920**	**2.648058**
Stddev	.002468	.02791	.009917	.001171	.35242	.004564	.008768
%RSD	.0926291	.1077755	.3835618	.0891743	1.493849	.1746586	.3310957
#1	2.662620	25.92677	2.580555	1.314365	23.55888	2.608835	2.655736
#2	2.663675	25.89280	2.578895	1.313574	23.95856	2.612080	2.638504
#3	2.667323	25.87142	2.596841	1.312060	23.25594	2.617846	2.649934

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.76468**	**5.420717**	**5.269037**	**5.168052**	**5.150724**	**4.955757**	**5.088944**
Stddev	.32624	.066613	.024914	.025014	.003512	.052128	.035307
%RSD	1.266231	1.228865	.4728298	.4840107	.0681864	1.051858	.6938002
#1	25.74635	5.406661	5.249824	5.160037	5.152124	4.967773	5.082190
#2	26.09969	5.362254	5.260100	5.148028	5.153320	5.000826	5.057502
#3	25.44798	5.493237	5.297186	5.196091	5.146728	4.898670	5.127140

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV03 Acquired: 7/22/2025 15:20:59 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.088886**	**5.128471**	**5.408299**
Stddev	.040236	.017575	.056229
%RSD	.7906672	.3426922	1.039672
#1	5.064733	5.139099	5.344189
#2	5.066590	5.138129	5.449249
#3	5.135334	5.108185	5.431459

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5332.576**	**88168.69**	**8241.721**	**4448.009**	**5947.462**
Stddev	20.218	480.76	67.561	14.492	26.322
%RSD	.3791472	.5452724	.8197402	.3258123	.4425686
#1	5341.915	88338.60	8275.115	4431.394	5949.727
#2	5346.436	87626.05	8286.083	4458.044	5972.578
#3	5309.376	88541.42	8163.966	4454.588	5920.081

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB03 Acquired: 7/22/2025 15:26:19 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001135**	**-.000301**	**.0011511**	**.0022309**	**-.001700**	**-.013545**	**.0013484**
Stddev	.001500	.000930	.0004685	.0031839	.001243	.001086	.0013427
%RSD	132.1763	308.5494	40.69786	142.7202	73.15238	8.014884	99.57902
#1	.000583	-.000949	.0008898	.0058727	-.002098	-.014269	.0015061
#2	-.001806	-.000720	.0008715	.0008460	-.000306	-.014069	-.000066
#3	-.002181	.000764	.0016919	-.000026	-.002695	-.012297	.002605

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000061**	**.0000923**	**.0470520**	**-.000207**	**.0002736**	**.0003922**	**-.007940**
Stddev	.0000229	.0000273	.0026942	.000102	.0001000	.0004585	.002849
%RSD	377.7351	29.62220	5.726062	49.21684	36.54678	116.8995	35.88132
#1	-.000014	.0001238	.0484322	-.000162	.0003749	.0008632	-.008967
#2	.000031	.0000753	.0439474	-.000136	.0001750	.0003664	-.010134
#3	.000001	.0000778	.0487766	-.000324	.0002707	-.000053	-.004720

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000113**	**.0380178**	**.0000436**	**.0006944**	**.0564248**	**-.001162**	**.0004539**
Stddev	.000093	.0103462	.0003457	.0001798	.0115574	.001750	.0002161
%RSD	82.25948	27.21409	791.9722	25.88749	20.48289	150.5391	47.60551
#1	-.000189	.0394810	-.000223	.0008389	.0665337	-.001278	.0006305
#2	-.000142	.0475545	.000434	.0007512	.0438251	-.002851	.0005183
#3	-.000009	.0270179	-.000081	.0004931	.0589158	.000643	.0002130

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1736166**	**.0038999**	**.0006467**	**.0030132**	**.0053671**	**-.006076**	**-.000561**
Stddev	.0280460	.0006234	.0002874	.0007972	.0007690	.023168	.002870
%RSD	16.15397	15.98528	44.43489	26.45698	14.32840	381.3399	511.3456
#1	.1799399	.0041621	.0009296	.0038046	.0044968	.019184	-.001050
#2	.1429488	.0031882	.0003551	.0030248	.0056494	-.026337	-.003155
#3	.1979612	.0043494	.0006554	.0022103	.0059551	-.011074	.002521

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB03 Acquired: 7/22/2025 15:26:19 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006625	-.006772	.0001214
Stddev	.002131	.002239	.0001001
%RSD	32.16796	33.06548	82.44918
#1	-.008143	-.006935	.0000509
#2	-.004189	-.004456	.0000772
#3	-.007545	-.008925	.0002359

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5547.664	89999.94	8287.188	4578.130	6597.006
Stddev	7.560	172.68	35.887	10.147	11.904
%RSD	.1362772	.1918723	.4330448	.2216449	.1804390
#1	5546.557	89977.94	8297.477	4589.734	6601.303
#2	5555.716	89839.30	8316.807	4573.739	6606.165
#3	5540.718	90182.56	8247.280	4570.918	6583.551

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2633-02 Acquired: 7/22/2025 15:31:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002755**	**-.004280**	**.0003698**	**-.000619**	**.0048098**	**.1434503**	**.0215244**
Stddev	.0012870	.001206	.0010201	.001396	.0011652	.0128529	.0011081
%RSD	467.0963	28.17033	275.8353	225.5689	24.22614	8.959821	5.147864
#1	.0013223	-.002950	.0002415	-.002071	.0059016	.1287428	.0224785
#2	.0006656	-.004588	.0014480	.000714	.0049447	.1490826	.0217858
#3	-.001161	-.005302	-.000580	-.000500	.0035830	.1525256	.0203091

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000186**	**.0000269**	**25.67357**	**.0031533**	**-.000070**	**.0053662**	**.0123734**
Stddev	.000022	.0000703	.07288	.0003905	.000174	.0006813	.0036371
%RSD	11.73997	261.3425	.2838733	12.38290	249.9106	12.69659	29.39424
#1	-.000168	.0000182	25.65735	.0027457	-.000241	.0060584	.0143848
#2	-.000181	.0001012	25.61017	.0035241	.000107	.0046963	.0081749
#3	-.000210	-.000039	25.75319	.0031902	-.000074	.0053438	.0145605

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0097870**	**.7741410**	**.0008048**	**.0005318**	**41.23633**	**-.000793**	**.1674264**
Stddev	.0006473	.0296878	.0001256	.0002714	.09759	.001774	.0008690
%RSD	6.614079	3.834935	15.60862	51.03116	.2366527	223.7774	.5190413
#1	.0103878	.7743532	.0006603	.0008444	41.14843	.000451	.1665630
#2	.0091015	.7443476	.0008883	.0003958	41.34134	-.000005	.1674152
#3	.0098716	.8037221	.0008658	.0003554	41.21922	-.002825	.1683010

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.287793**	**.0297111**	**.0018951**	**-.002964**	**.0075986**	**4.712646**	**.1041738**
Stddev	.027108	.0013112	.0003295	.000478	.0010509	.009599	.0039451
%RSD	.5126522	4.413282	17.38772	16.11069	13.83004	.2036888	3.787022
#1	5.318155	.0295867	.0019337	-.002583	.0087169	4.703286	.1028930
#2	5.266021	.0284665	.0015480	-.002808	.0074475	4.712185	.1086002
#3	5.279202	.0310801	.0022037	-.003500	.0066315	4.722468	.1010283

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2633-02 Acquired: 7/22/2025 15:31:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**2.791202**	**-.007069**	**.0931982**
Stddev	.013027	.002622	.0000954
%RSD	.4667109	37.09099	.1024048
#1	2.776452	-.009072	.0933083
#2	2.796024	-.004102	.0931397
#3	2.801131	-.008035	.0931465

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5475.576**	**89442.12**	**8319.357**	**4527.500**	**6275.244**
Stddev	25.443	161.52	32.693	11.106	16.256
%RSD	.4646552	.1805887	.3929693	.2453116	.2590462
#1	5490.562	89337.37	8291.857	4522.139	6283.752
#2	5489.966	89628.13	8355.504	4520.091	6285.480
#3	5446.199	89360.85	8310.710	4540.270	6256.500

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-01 Acquired: 7/22/2025 15:36:00 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003383	-.004222	.0050377	.0044605	.0020621	.0528834	.0042445
Stddev	.0031006	.001245	.0007789	.0016728	.0011670	.0075351	.0007248
%RSD	916.6755	29.47874	15.46124	37.50173	56.59034	14.24860	17.07738
#1	.0030172	-.003489	.0055663	.0030602	.0010819	.0541429	.0046820
#2	-.003058	-.005659	.0041432	.0063129	.0017515	.0447978	.0046437
#3	.001056	-.003518	.0054036	.0040085	.0033530	.0597094	.0034078

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000150	-.000031	4.744418	.0001456	.0071779	.0608548	1.554232
Stddev	.000021	.000032	.010087	.0005274	.0000958	.0002386	.011165
%RSD	14.22367	103.6592	.2126128	362.2786	1.334875	.3920147	.7183550
#1	-.000136	-.000065	4.732771	-.000462	.0072850	.0610329	1.562467
#2	-.000174	-.000022	4.750382	.000411	.0071005	.0605838	1.558704
#3	-.000139	-.000004	4.750100	.000488	.0071480	.0609478	1.541524

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0189122	1.810857	.0092134	-.000028	15.00731	.0005373	.0427529
Stddev	.0003004	.022268	.0004091	.000555	.09963	.0039709	.0001939
%RSD	1.588235	1.229711	4.439769	1974.285	.6638933	739.1053	.4535555
#1	.0187101	1.788587	.0087785	-.000584	14.97515	-.003295	.0425697
#2	.0192573	1.810861	.0092713	.000526	15.11905	.004634	.0427330
#3	.0187691	1.833123	.0095905	-.000026	14.92773	.000272	.0429560

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9287934	.0093640	.0007397	-.002550	.0080333	6.262931	.0064033
Stddev	.0213393	.0011794	.0003667	.000288	.0012702	.056619	.0010706
%RSD	2.297526	12.59539	49.57606	11.30411	15.81160	.9040295	16.71919
#1	.9510957	.0096612	.0011630	-.002220	.0088451	6.251528	.0051799
#2	.9267152	.0103663	.0005193	-.002683	.0065695	6.324384	.0071688
#3	.9085693	.0080643	.0005368	-.002749	.0086853	6.212882	.0068613

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-01 Acquired: 7/22/2025 15:36:00 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.430059**	**-.011213**	**.0241698**
Stddev	.020565	.001714	.0000942
%RSD	.3787260	15.28904	.3896548
#1	5.414906	-.009577	.0240809
#2	5.453469	-.011067	.0242685
#3	5.421802	-.012996	.0241598

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5700.141**	**91056.53**	**8365.824**	**4647.885**	**6725.013**
Stddev	26.553	191.76	30.701	24.759	30.947
%RSD	.4658316	.2105941	.3669835	.5326973	.4601726
#1	5716.311	91015.52	8365.051	4676.318	6752.431
#2	5714.616	90888.60	8396.904	4631.087	6731.151
#3	5669.495	91265.48	8335.516	4636.249	6691.457

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02 Acquired: 7/22/2025 15:40:15 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002776**	**-.003576**	**.0016623**	**.0029171**	**.0005582**	**.0506386**	**.0050326**
Stddev	.001782	.001664	.0004415	.0012123	.0012917	.0053625	.0004319
%RSD	64.18617	46.53087	26.55860	41.55752	231.4070	10.58964	8.582644
#1	-.000764	-.002523	.0012357	.0015963	.0006614	.0452289	.0048031
#2	-.003408	-.005494	.0021173	.0039790	.0017951	.0507344	.0055309
#3	-.004155	-.002710	.0016341	.0031762	-.000782	.0559525	.0047639

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000192**	**-.000038**	**4.494025**	**-.000162**	**.0070842**	**.0051916**	**.1092379**
Stddev	.000007	.000027	.011784	.000220	.0000696	.0002203	.0058561
%RSD	3.603722	69.72924	.2622046	135.7011	.9826454	4.244298	5.360842
#1	-.000199	-.000015	4.500894	.000066	.0071638	.0052672	.1026951
#2	-.000186	-.000032	4.480419	-.000179	.0070349	.0049434	.1110303
#3	-.000190	-.000067	4.500762	-.000374	.0070538	.0053642	.1139883

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0199090**	**1.747032**	**.0092667**	**.0000625**	**13.98121**	**-.002171**	**.0388794**
Stddev	.0001863	.028430	.0001959	.0002206	.01959	.002759	.0003119
%RSD	.9358194	1.627317	2.113861	353.0151	.1400951	127.0909	.8021245
#1	.0201177	1.764844	.0090408	.0003171	13.95860	-.000466	.0388678
#2	.0198501	1.762007	.0093697	-.000060	13.99223	-.000692	.0385735
#3	.0197593	1.714245	.0093896	-.000070	13.99282	-.005353	.0391970

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8597653**	**.0087073**	**.0007868**	**-.002267**	**.0079418**	**5.815387**	**.0062703**
Stddev	.0032928	.0008206	.0004732	.000315	.0006033	.025071	.0020847
%RSD	.3829836	9.423745	60.14383	13.90195	7.595801	.4311115	33.24686
#1	.8567599	.0092524	.0012829	-.002523	.0072465	5.788422	.0040602
#2	.8592510	.0077636	.0007371	-.002364	.0083257	5.837993	.0082014
#3	.8632849	.0091060	.0003404	-.001915	.0082532	5.819745	.0065493

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02 Acquired: 7/22/2025 15:40:15 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.155460**	**-.011872**	**.0247953**
Stddev	.032360	.000855	.0002083
%RSD	.6276862	7.201591	.8401056
#1	5.125621	-.012786	.0250140
#2	5.150901	-.011737	.0245992
#3	5.189857	-.011092	.0247726

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5682.465**	**93455.03**	**8440.565**	**4714.569**	**6671.193**
Stddev	3.768	274.26	2.766	12.395	9.675
%RSD	.0663032	.2934669	.0327732	.2629127	.1450254
#1	5680.919	93727.66	8441.182	4714.591	6662.264
#2	5686.760	93179.17	8437.543	4702.162	6681.472
#3	5679.716	93458.26	8442.971	4726.953	6669.843

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02DUP Acquired: 7/22/2025 15:44:32 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002104**	**-.002893**	**.0019712**	**.0018519**	**.0007587**	**.0633076**	**.0043968**
Stddev	.000661	.002064	.0016690	.0017223	.0001111	.0066294	.0007868
%RSD	31.40305	71.33194	84.67043	93.00466	14.64928	10.47170	17.89406
#1	-.001693	-.003842	.0006928	.0003217	.0006763	.0558945	.0051012
#2	-.002866	-.000526	.0013614	.0015169	.0007147	.0653609	.0045414
#3	-.001753	-.004311	.0038593	.0037171	.0008851	.0686674	.0035478

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000159**	**-.000065**	**4.721737**	**-.000060**	**.0073815**	**.0057670**	**.1161991**
Stddev	.000043	.000119	.026260	.000178	.0001391	.0001573	.0110858
%RSD	26.81878	181.8492	.5561521	296.0673	1.884411	2.727195	9.540339
#1	-.000135	.000049	4.717378	-.000025	.0074995	.0059483	.1265619
#2	-.000134	-.000189	4.697929	-.000253	.0072282	.0056855	.1045097
#3	-.000208	-.000057	4.749904	.000098	.0074169	.0056671	.1175258

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0210525**	**1.784717**	**.0095426**	**.0003383**	**14.54767**	**-.001635**	**.0406639**
Stddev	.0003089	.018901	.0001246	.0004507	.03575	.001246	.0001395
%RSD	1.467109	1.059050	1.305658	133.2476	.2457148	76.22406	.3429232
#1	.0213840	1.793618	.0095557	.0006090	14.58081	-.002411	.0406127
#2	.0207728	1.763009	.0094120	.0005878	14.55241	-.002297	.0408217
#3	.0210007	1.797525	.0096602	-.000182	14.50979	-.000197	.0405574

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9308223**	**.0082994**	**.0011064**	**-.002719**	**.0079717**	**6.033783**	**.0069592**
Stddev	.0234651	.0005519	.0001968	.000619	.0002936	.023705	.0017641
%RSD	2.520897	6.650003	17.78695	22.75064	3.683384	.3928754	25.34936
#1	.9538524	.0080153	.0009109	-.002258	.0076874	6.016092	.0049406
#2	.9316692	.0089355	.0011038	-.002477	.0079539	6.060718	.0077320
#3	.9069452	.0079475	.0013045	-.003422	.0082739	6.024540	.0082050

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02DUP Acquired: 7/22/2025 15:44:32 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.359541**	**-.010603**	**.0258287**
Stddev	.023363	.003462	.0000578
%RSD	.4359056	32.65290	.2236342
#1	5.372389	-.006606	.0257742
#2	5.332574	-.012564	.0258227
#3	5.373660	-.012640	.0258893

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5608.000**	**93205.42**	**8436.407**	**4659.645**	**6545.449**
Stddev	8.245	203.59	38.624	21.617	3.385
%RSD	.1470235	.2184302	.4578229	.4639253	.0517126
#1	5615.511	93064.76	8443.297	4636.121	6544.166
#2	5609.310	93438.87	8471.122	4678.637	6549.288
#3	5599.178	93112.62	8394.801	4664.178	6542.893

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02LX5 Acquired: 7/22/2025 15:48:49 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006733**	**-.000944**	**.0013478**	**.0003756**	**-.000276**	**.0180614**	**.0024568**
Stddev	.0005787	.001341	.0002960	.0002245	.000579	.0148715	.0007287
%RSD	85.95508	141.9541	21.95801	59.77944	209.4887	82.33855	29.66106
#1	.0001648	-.001460	.0010763	.0001528	-.000407	.0265651	.0016219
#2	.0013031	.000577	.0016633	.0003721	.000357	.0267296	.0027835
#3	.0005521	-.001950	.0013038	.0006018	-.000778	.0008895	.0029650

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000055**	**-.000114**	**.8942138**	**-.000313**	**.0014280**	**.0015729**	**.0165392**
Stddev	.000049	.000037	.0088861	.000154	.0001906	.0004262	.0046314
%RSD	88.42426	32.34229	.9937379	49.03812	13.34690	27.09920	28.00276
#1	-.000033	-.000081	.8911355	-.000137	.0012504	.0010810	.0167114
#2	-.000111	-.000154	.8872761	-.000417	.0016293	.0018322	.0210821
#3	-.000022	-.000108	.9042297	-.000386	.0014042	.0018056	.0118241

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040350**	**.3433882**	**.0013663**	**.0006627**	**2.650920**	**-.000457**	**.0083435**
Stddev	.0002219	.0185917	.0000908	.0001870	.003238	.003387	.0002210
%RSD	5.499245	5.414202	6.646475	28.21764	.1221533	741.2615	2.648790
#1	.0042482	.3594892	.0014171	.0004904	2.652905	.001458	.0083588
#2	.0040516	.3230405	.0012615	.0008615	2.652672	-.004367	.0081153
#3	.0038053	.3476350	.0014204	.0006361	2.647183	.001538	.0085565

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2931155**	**.0014126**	**.0001286**	**-.000386**	**.0089914**	**1.137145**	**.0012695**
Stddev	.0288487	.0003592	.0001107	.000246	.0018461	.008963	.0028802
%RSD	9.842079	25.42552	86.05240	63.85886	20.53200	.7881931	226.8776
#1	.2800021	.0017955	.0001636	-.000670	.0104675	1.127877	-.001446
#2	.2731529	.0013590	.0000047	-.000250	.0069215	1.137788	.000965
#3	.3261915	.0010833	.0002176	-.000238	.0095852	1.145768	.004290

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02LX5 Acquired: 7/22/2025 15:48:49 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.037461	-.007188	.0048477
Stddev	.006095	.000477	.0000612
%RSD	.5874663	6.643331	1.261856
#1	1.036650	-.007440	.0048095
#2	1.031812	-.007485	.0048152
#3	1.043920	-.006637	.0049182

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5584.146	91141.38	8257.710	4592.144	6587.237
Stddev	8.598	167.41	60.332	18.478	9.199
%RSD	.1539777	.1836779	.7306142	.4023853	.1396437
#1	5593.631	90986.00	8188.413	4570.986	6597.859
#2	5581.943	91318.66	8298.556	4600.334	6581.917
#3	5576.863	91119.47	8286.161	4605.111	6581.936

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02MS Acquired: 7/22/2025 15:53:09 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7429227**	**1.702792**	**.8940259**	**1.817813**	**.7875087**	**2.026309**	**.2065065**
Stddev	.0045994	.030959	.0012379	.004951	.0028669	.008625	.0011599
%RSD	.6190997	1.818134	.1384576	.2723333	.3640415	.4256506	.5616945
#1	.7385963	1.708128	.8929638	1.812297	.7841988	2.018858	.2052353
#2	.7424182	1.730736	.8937287	1.821872	.7892102	2.024310	.2075074
#3	.7477536	1.669512	.8953853	1.819269	.7891173	2.035757	.2067767

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1910301**	**.1793190**	**5.511691**	**.3887883**	**.1978382**	**.3022111**	**3.063132**
Stddev	.0014561	.0004099	.029253	.0017898	.0003898	.0006731	.014840
%RSD	.7622432	.2286082	.5307397	.4603657	.1970439	.2227328	.4844713
#1	.1901100	.1789498	5.500139	.3884269	.1975408	.3028689	3.057167
#2	.1927089	.1792471	5.544956	.3907312	.1976943	.3022408	3.052202
#3	.1902714	.1797602	5.489978	.3872067	.1982796	.3015236	3.080026

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2250747**	**3.679786**	**.4891518**	**.0720861**	**16.92845**	**.2981758**	**.2426373**
Stddev	.0008745	.011215	.0007045	.0002514	.02935	.0042330	.0005344
%RSD	.3885497	.3047688	.1440201	.3487028	.1734016	1.419641	.2202449
#1	.2254760	3.668912	.4890279	.0723755	16.91372	.3027026	.2427689
#2	.2256766	3.691313	.4885176	.0719614	16.90939	.2975092	.2420494
#3	.2240716	3.679134	.4899100	.0719216	16.96226	.2943156	.2430936

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.25592**	**.2832668**	**.4272788**	**.6794475**	**.2007941**	**6.681682**	**5.388014**
Stddev	.00792	.0013808	.0005133	.0009441	.0017272	.022454	.012870
%RSD	.0772150	.4874628	.1201302	.1389548	.8602066	.3360506	.2388646
#1	10.25103	.2833011	.4267628	.6786276	.1989733	6.701397	5.373793
#2	10.25168	.2846302	.4272842	.6804797	.2009995	6.657242	5.391387
#3	10.26506	.2818692	.4277894	.6792352	.2024094	6.686408	5.398861

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02MS Acquired: 7/22/2025 15:53:09 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.059477	.1744019	.2243167
Stddev	.005631	.0018588	.0011263
%RSD	.1112987	1.065792	.5020971
#1	5.053666	.1747738	.2233199
#2	5.064909	.1723854	.2255385
#3	5.059855	.1760467	.2240916

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5597.525	91682.83	8417.363	4642.683	6518.859
Stddev	8.627	229.98	52.563	13.113	9.027
%RSD	.1541264	.2508485	.6244557	.2824374	.1384705
#1	5596.562	91816.79	8445.493	4641.483	6518.238
#2	5606.593	91417.27	8356.721	4656.355	6528.179
#3	5589.419	91814.44	8449.874	4630.212	6510.158

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02MSD Acquired: 7/22/2025 15:57:07 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7793814	1.948657	.9375006	1.928217	.8258322	2.117694	.2145381
Stddev	.0034673	.053412	.0038386	.010471	.0033766	.008353	.0008838
%RSD	.4448762	2.740965	.4094538	.5430633	.4088687	.3944552	.4119628
#1	.7781696	1.896499	.9335492	1.917751	.8232912	2.124434	.2144579
#2	.7766826	1.946232	.9377372	1.928206	.8245416	2.120299	.2154592
#3	.7832919	2.003241	.9412155	1.938694	.8296637	2.108349	.2136971

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1991835	.1881369	5.771987	.4087721	.2074123	.3163737	3.190940
Stddev	.0020227	.0004342	.048758	.0009148	.0003963	.0009491	.023178
%RSD	1.015517	.2307668	.8447358	.2238026	.1910879	.2999822	.7263683
#1	.2004652	.1876366	5.778674	.4085187	.2069552	.3154763	3.165180
#2	.2002337	.1883589	5.817055	.4097869	.2076216	.3162776	3.197534
#3	.1968517	.1884152	5.720230	.4080107	.2076602	.3173672	3.210107

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2358089	3.842800	.5128003	.0746331	18.04773	.3111898	.2551146
Stddev	.0005770	.030681	.0012459	.0005681	.13441	.0023962	.0014751
%RSD	.2446965	.7983969	.2429539	.7611957	.7447549	.7700236	.5782145
#1	.2351694	3.827284	.5116819	.0752841	17.97096	.3108287	.2564397
#2	.2362906	3.822975	.5125760	.0743780	17.96931	.3089947	.2553790
#3	.2359668	3.878139	.5141431	.0742374	18.20294	.3137461	.2535252

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.76412	.2924061	.4483936	.7142028	.2082792	7.096826	5.644106
Stddev	.04870	.0030607	.0022454	.0016670	.0013953	.063802	.018584
%RSD	.4524407	1.046725	.5007639	.2334041	.6699381	.8990271	.3292575
#1	10.74171	.2941825	.4462731	.7123437	.2071870	7.063092	5.627804
#2	10.73065	.2941639	.4481618	.7147003	.2077995	7.056971	5.640171
#3	10.81999	.2888719	.4507459	.7155644	.2098511	7.170413	5.664341

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02MSD Acquired: 7/22/2025 15:57:07 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.436916	.1825914	.2337754
Stddev	.037551	.0019745	.0007164
%RSD	.6906598	1.081366	.3064386
#1	5.403390	.1814910	.2341166
#2	5.429866	.1848709	.2342574
#3	5.477492	.1814123	.2329522

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5531.200	90800.18	8402.757	4604.270	6435.032
Stddev	10.440	90.43	79.601	16.676	15.444
%RSD	.1887447	.0995940	.9473225	.3621823	.2399999
#1	5531.446	90702.38	8359.764	4585.015	6434.791
#2	5541.514	90817.40	8353.897	4613.787	6450.596
#3	5520.639	90880.77	8494.610	4614.008	6419.711

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02A Acquired: 7/22/2025 16:01:04 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8013110**	**1.914776**	**.9605975**	**1.974799**	**.8439459**	**2.178490**	**.2201925**
Stddev	.0040681	.061639	.0030072	.005592	.0006846	.017350	.0015820
%RSD	.5076849	3.219132	.3130513	.2831712	.0811237	.7964123	.7184460
#1	.7967519	1.874193	.9574170	1.968547	.8439735	2.189677	.2193991
#2	.8026104	1.884429	.9609808	1.976528	.8446163	2.158503	.2191643
#3	.8045707	1.985704	.9633946	1.979323	.8432479	2.187288	.2220141

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2072912**	**.1920528**	**5.639981**	**.4194509**	**.2121841**	**.3244441**	**3.216879**
Stddev	.0031692	.0003954	.048108	.0007928	.0003892	.0009267	.034319
%RSD	1.528885	.2059085	.8529855	.1890117	.1834422	.2856322	1.066837
#1	.2040942	.1919345	5.597208	.4202752	.2126201	.3239003	3.253001
#2	.2073474	.1917301	5.630672	.4193838	.2120607	.3239180	3.212932
#3	.2104320	.1924940	5.692064	.4186938	.2118715	.3255142	3.184705

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2405197**	**3.829367**	**.5251064**	**.0771441**	**17.28102**	**.3205596**	**.2616357**
Stddev	.0007444	.026887	.0002746	.0000967	.29251	.0017909	.0002634
%RSD	.3094811	.7021341	.0522868	.1253573	1.692648	.5586698	.1006745
#1	.2396684	3.798893	.5247908	.0772401	17.58981	.3215478	.2615406
#2	.2408427	3.839465	.5252909	.0771456	17.24514	.3184923	.2619335
#3	.2410480	3.849743	.5252373	.0770467	17.00811	.3216386	.2614331

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.96611**	**.3073283**	**.4558422**	**.7269298**	**.2125990**	**6.768218**	**5.787384**
Stddev	.20285	.0043705	.0004100	.0025177	.0008370	.077750	.010890
%RSD	1.849819	1.422087	.0899346	.3463510	.3936814	1.148750	.1881641
#1	11.18892	.3030481	.4555481	.7241586	.2116633	6.848797	5.787199
#2	10.91725	.3071532	.4556679	.7275542	.2128576	6.762213	5.776588
#3	10.79214	.3117837	.4563105	.7290766	.2132762	6.693645	5.798366

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2644-02A Acquired: 7/22/2025 16:01:04 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.206911	.1881477	.2402597
Stddev	.033893	.0012531	.0005198
%RSD	.6509156	.6660123	.2163454
#1	5.172644	.1891740	.2408344
#2	5.207672	.1885178	.2398224
#3	5.240416	.1867512	.2401223

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5606.096	92004.47	8379.574	4661.406	6514.207
Stddev	12.885	59.00	129.904	8.836	11.950
%RSD	.2298330	.0641275	1.550243	.1895513	.1834430
#1	5597.086	91942.42	8514.761	4671.268	6506.249
#2	5600.348	92011.14	8368.269	4654.212	6508.423
#3	5620.854	92059.85	8255.693	4658.737	6527.948

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2646-01 Acquired: 7/22/2025 16:05:02 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000768**	**-.002853**	**.0064132**	**.0066938**	**.0049003**	**.7424458**	**.0377864**
Stddev	.000793	.001089	.0018047	.0015492	.0003786	.0159954	.0002740
%RSD	103.2825	38.18374	28.14002	23.14424	7.725941	2.154416	.7251900
#1	-.001490	-.002440	.0046687	.0057794	.0047485	.7510328	.0374800
#2	.000081	-.002031	.0062984	.0084825	.0046213	.7239907	.0380079
#3	-.000894	-.004089	.0082726	.0058194	.0053313	.7523139	.0378714

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000144**	**.0000339**	**43.18148**	**.0073939**	**.0010009**	**.0562324**	**4.280110**
Stddev	.000020	.0000332	.03657	.0006908	.0000702	.0005214	.003289
%RSD	13.63201	97.95508	.0846818	9.343269	7.017829	.9272333	.0768411
#1	-.000129	.0000138	43.17512	.0066027	.0009818	.0566850	4.283837
#2	-.000137	.0000722	43.14851	.0077012	.0009422	.0563500	4.278873
#3	-.000166	.0000156	43.22081	.0078777	.0010788	.0556623	4.277619

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1542726**	**3.920026**	**.0129512**	**.0007918**	**15.71967**	**.0073361**	**.1558734**
Stddev	.0004842	.037955	.0001141	.0006415	.05070	.0003589	.0005900
%RSD	.3138647	.9682454	.8810297	81.01945	.3225125	4.892029	.3784988
#1	.1547911	3.881811	.0129288	.0011558	15.77024	.0072127	.1552530
#2	.1538323	3.920549	.0128499	.0011684	15.71992	.0070553	.1564273
#3	.1541943	3.957717	.0130748	.0000511	15.66885	.0077405	.1559401

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.856505**	**.0178111**	**.0021878**	**.0077246**	**.0259177**	**1.683120**	**1.249208**
Stddev	.041095	.0007721	.0004152	.0005465	.0005458	.002263	.002560
%RSD	.7016952	4.335116	18.97769	7.074688	2.106038	.1344413	.2049074
#1	5.896046	.0169993	.0017289	.0071619	.0260903	1.685726	1.247236
#2	5.859453	.0178977	.0025373	.0082533	.0263563	1.681980	1.248287
#3	5.814016	.0185363	.0022974	.0077584	.0253064	1.681653	1.252101

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2646-01 Acquired: 7/22/2025 16:05:02 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**4.066714**	**-.001570**	**.2158754**
Stddev	.014881	.001520	.0008748
%RSD	.3659274	96.83542	.4052399
#1	4.083648	-.001507	.2167177
#2	4.060775	-.000082	.2149713
#3	4.055719	-.003121	.2159374

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5480.014**	**90612.49**	**8502.594**	**4557.445**	**6305.484**
Stddev	1.547	236.81	31.128	11.559	2.175
%RSD	.0282306	.2613465	.3661014	.2536338	.0344905
#1	5480.289	90845.52	8534.262	4567.626	6306.318
#2	5478.348	90372.07	8501.485	4544.880	6303.016
#3	5481.406	90619.87	8472.036	4559.828	6307.119

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168926TB Acquired: 7/22/2025 16:09:16 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.001884**	**-.004688**	**.0007803**	**.0038518**	**.0010551**	**.0004210**	**-.000230**
Stddev	.001770	.002564	.0016873	.0018716	.0011321	.0078744	.000329
%RSD	93.95272	54.68263	216.2267	48.59032	107.2996	1870.657	142.8120
#1	-.000446	-.003362	-.001101	.0058538	-.000230	.0008762	.000124
#2	-.001345	-.007643	.002160	.0035554	.001907	.0080579	-.000290
#3	-.003860	-.003059	.001282	.0021460	.001488	-.007671	-.000525

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000213**	**-.000061**	**.0087912**	**.0008925**	**-.000115**	**.0025121**	**.0166404**
Stddev	.000036	.000013	.0083999	.0003145	.000103	.0008699	.0053363
%RSD	17.00893	21.63536	95.54896	35.24303	89.57111	34.62834	32.06834
#1	-.000192	-.000076	.0062711	.0011051	-.000007	.0015083	.0203537
#2	-.000254	-.000052	.0181627	.0010413	-.000127	.0029817	.0105253
#3	-.000191	-.000055	.0019399	.0005312	-.000211	.0030462	.0190423

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0049437**	**.0120788**	**.0009870**	**.0005870**	**377.5482**	**-.003026**	**.0026441**
Stddev	.0002908	.0115173	.0003633	.0002278	2.1059	.001450	.0001154
%RSD	5.883062	95.35091	36.81056	38.80353	.5577704	47.91577	4.366123
#1	.0052595	.0250405	.0012170	.0003552	378.8103	-.002749	.0026995
#2	.0046870	.0030206	.0005681	.0005952	375.1172	-.001735	.0025114
#3	.0048845	.0081753	.0011758	.0008106	378.7173	-.004595	.0027213

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.016910**	**-.001247**	**.0007528**	**-.001654**	**.0075842**	**.0065975**	**.0058131**
Stddev	.007471	.001003	.0001450	.000429	.0015699	.0087189	.0026280
%RSD	44.17923	80.45793	19.26345	25.95424	20.69907	132.1552	45.20747
#1	-.017365	-.001897	.0006030	-.001478	.0060313	.0015617	.0028643
#2	-.009223	-.001752	.0007627	-.001340	.0091705	.0166653	.0066676
#3	-.024144	-.000092	.0008925	-.002143	.0075509	.0015656	.0079075

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168926TB Acquired: 7/22/2025 16:09:16 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0742617	-.013832	.0000051
Stddev	.0019753	.001676	.0000136
%RSD	2.659899	12.11395	264.5577
#1	.0754321	-.014628	.0000172
#2	.0753719	-.011907	-.000010
#3	.0719811	-.014961	.000008

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5285.119	87324.85	8506.956	4408.142	5825.503
Stddev	26.583	152.20	72.547	11.917	28.069
%RSD	.5029742	.1742904	.8527966	.2703446	.4818378
#1	5282.378	87151.41	8590.462	4420.532	5813.436
#2	5312.967	87436.10	8470.956	4407.131	5857.589
#3	5260.014	87387.05	8459.449	4396.762	5805.485

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV04 Acquired: 7/22/2025 16:13:44 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.223397**	**5.151292**	**5.099030**	**5.240840**	**5.277653**	**10.47543**	**10.77437**
Stddev	.011087	.013096	.011811	.013642	.010903	.01842	.03772
%RSD	.2122507	.2542280	.2316235	.2603100	.2065892	.1758420	.3501122
#1	5.219496	5.161348	5.106232	5.226598	5.268590	10.45583	10.79626
#2	5.214789	5.136483	5.085399	5.242130	5.274617	10.47808	10.73082
#3	5.235907	5.156045	5.105458	5.253792	5.289753	10.49238	10.79605

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2567552**	**2.557423**	**26.98568**	**1.010525**	**2.567714**	**1.309749**	**5.269437**
Stddev	.0020998	.004061	.10456	.002333	.004652	.003382	.027256
%RSD	.8178235	.1587859	.3874703	.2308744	.1811769	.2582390	.5172467
#1	.2549168	2.559095	27.04131	1.007869	2.569074	1.307594	5.294685
#2	.2563053	2.552793	26.86506	1.011464	2.562533	1.308006	5.273085
#3	.2590435	2.560381	27.05066	1.012243	2.571534	1.313647	5.240540

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.671623**	**25.90875**	**2.588310**	**1.316581**	**23.83827**	**2.620334**	**2.657493**
Stddev	.002205	.07138	.005429	.004945	.14092	.001284	.007136
%RSD	.0825507	.2755006	.2097536	.3755581	.5911337	.0490108	.2685290
#1	2.674141	25.93620	2.589340	1.322273	23.99923	2.621802	2.661920
#2	2.670034	25.82772	2.582439	1.314122	23.77841	2.619422	2.661298
#3	2.670695	25.96233	2.593150	1.313349	23.73716	2.619776	2.649261

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.46863**	**5.301509**	**5.305404**	**5.160059**	**5.181581**	**5.074107**	**5.067455**
Stddev	.11783	.011819	.010768	.014026	.001869	.023857	.003163
%RSD	.4451816	.2229421	.2029602	.2718269	.0360756	.4701764	.0624256
#1	26.60397	5.292765	5.295479	5.170008	5.180890	5.095105	5.063803
#2	26.41313	5.296806	5.303880	5.144017	5.183698	5.079050	5.069345
#3	26.38880	5.314956	5.316853	5.166153	5.180156	5.048165	5.069219

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV04 Acquired: 7/22/2025 16:13:44 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.096835**	**5.146198**	**5.423348**
Stddev	.007908	.006888	.068578
%RSD	.1551605	.1338390	1.264488
#1	5.095967	5.145315	5.478649
#2	5.089396	5.153484	5.346614
#3	5.105141	5.139794	5.444781

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5343.614**	**88308.88**	**8432.053**	**4442.699**	**5970.583**
Stddev	5.801	238.54	37.234	9.142	2.739
%RSD	.1085583	.2701215	.4415802	.2057738	.0458824
#1	5349.876	88063.11	8455.693	4432.529	5968.971
#2	5342.543	88539.46	8451.333	4445.334	5973.746
#3	5338.423	88324.07	8389.132	4450.235	5969.032

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB04 Acquired: 7/22/2025 16:17:56 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0014375**	**.0010341**	**.0006866**	**-.001203**	**-.000623**	**-.003646**	**.0004577**
Stddev	.0023431	.0007051	.0010553	.002978	.001070	.007570	.0013631
%RSD	162.9949	68.19299	153.6951	247.4856	171.7469	207.6195	297.8217
#1	.0035218	.0017054	.0018010	.000463	-.000227	-.011832	-.000564
#2	-.001099	.0002994	-.000297	-.004641	-.001835	.003101	.002005
#3	.001890	.0010973	.000556	.000569	.000192	-.002208	-.000068

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000040**	**.0000911**	**.0461769**	**.0000283**	**.0000853**	**.0006113**	**-.006504**
Stddev	.000091	.0000682	.0101376	.0005480	.0000469	.0002423	.006185
%RSD	226.4164	74.85136	21.95373	1934.515	54.92825	39.63288	95.10133
#1	.000058	.0000130	.0560492	-.000114	.0001372	.0008905	-.013645
#2	-.000056	.0001386	.0357935	.000634	.0000728	.0004862	-.002988
#3	-.000121	.0001218	.0466879	-.000434	.0000460	.0004571	-.002877

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000401**	**.0130094**	**.0001177**	**.0003442**	**.1969519**	**-.001873**	**.0001144**
Stddev	.000281	.0195662	.0002831	.0004321	.0128675	.001081	.0000386
%RSD	70.05492	150.4003	240.5867	125.5229	6.533333	57.70256	33.78547
#1	-.000692	.0328289	-.000157	.0007722	.2107421	-.003049	.0000746
#2	-.000131	.0124923	.000101	.0003522	.1948471	-.000922	.0001518
#3	-.000380	-.006293	.000409	-.000092	.1852666	-.001649	.0001166

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3203412**	**.0036179**	**.0008723**	**.0031504**	**.0058781**	**-.005716**	**.0016784**
Stddev	.0307613	.0004061	.0002448	.0002863	.0014713	.008546	.0040287
%RSD	9.602667	11.22612	28.06488	9.086513	25.03057	149.5019	240.0358
#1	.3539747	.0040452	.0009986	.0028477	.0044656	-.008552	-.001631
#2	.3134160	.0035716	.0010283	.0031869	.0074020	-.012484	.006165
#3	.2936328	.0032368	.0005902	.0034168	.0057668	.003887	.000501

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB04 Acquired: 7/22/2025 16:17:56 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006402	-.007231	.0000367
Stddev	.002306	.002741	.0001120
%RSD	36.01467	37.90954	305.5124
#1	-.004121	-.009631	-.000030
#2	-.008731	-.004244	.000166
#3	-.006355	-.007817	-.000026

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5545.671	91381.68	8401.883	4616.586	6599.738
Stddev	5.334	134.47	46.514	8.720	2.810
%RSD	.0961876	.1471537	.5536137	.1888913	.0425809
#1	5545.948	91236.45	8439.981	4613.006	6599.014
#2	5550.862	91406.70	8350.048	4610.226	6602.839
#3	5540.204	91501.88	8415.621	4626.527	6597.360

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168933BL Acquired: 7/22/2025 16:22:15 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006930**	**-.000546**	**.0010713**	**-.002820**	**-.000830**	**.0086718**	**.0005500**
Stddev	.0014673	.001447	.0010030	.005161	.001868	.0010218	.0004153
%RSD	211.7220	264.9938	93.62431	182.9915	225.0720	11.78251	75.49628
#1	-.000990	-.000481	.0016444	.001181	-.001371	.0076529	.0003742
#2	.001368	-.002025	-.000087	-.000997	.001249	.0086663	.0002516
#3	.001701	.000867	.001656	-.008646	-.002368	.0096964	.0010243

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000056**	**-.000014**	**-.002901**	**.0002076**	**.0001490**	**.0003313**	**-.002251**
Stddev	.0000436	.000095	.007439	.0002993	.0000641	.0002769	.002055
%RSD	783.7689	683.6066	256.3983	144.1751	43.04149	83.59430	91.30995
#1	.0000542	-.000061	-.009973	-.000130	.0001996	.0002081	-.002345
#2	-.000030	.000096	.004858	.000312	.0001705	.0001374	-.004257
#3	-.000008	-.000077	-.003589	.000441	.0000769	.0006485	-.000150

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000078**	**.0316529**	**.0001554**	**.0006365**	**.0655750**	**-.002386**	**.0005566**
Stddev	.000334	.0525658	.0002571	.0003476	.0115300	.001353	.0001116
%RSD	429.8994	166.0693	165.4725	54.60897	17.58293	56.71135	20.04766
#1	-.000023	-.002412	-.000141	.0009309	.0739748	-.003341	.0006348
#2	-.000435	.092192	.000298	.0002531	.0703207	-.002978	.0004288
#3	.000225	.005179	.000309	.0007255	.0524295	-.000838	.0006062

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1779008**	**.0014718**	**.0004654**	**.0004073**	**.0083510**	**-.001603**	**.0006316**
Stddev	.0308185	.0010323	.0002763	.0001736	.0010156	.009670	.0036577
%RSD	17.32340	70.14060	59.36111	42.63042	12.16163	603.1482	579.1399
#1	.2022126	.0018041	.0007678	.0005932	.0095206	-.001119	.0039598
#2	.1432398	.0003143	.0004020	.0002495	.0078404	-.011507	-.003284
#3	.1882500	.0022971	.0002263	.0003791	.0076919	.007816	.001219

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168933BL Acquired: 7/22/2025 16:22:15 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.008125**	**-.009704**	**-.000118**
Stddev	.000614	.001700	.000054
%RSD	7.552700	17.51440	45.22828
#1	-.008558	-.011041	-.000065
#2	-.007423	-.010280	-.000118
#3	-.008395	-.007792	-.000172

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5545.651**	**90481.37**	**8359.537**	**4611.664**	**6605.155**
Stddev	10.582	197.60	33.402	8.526	14.943
%RSD	.1908176	.2183843	.3995668	.1848847	.2262356
#1	5535.553	90254.63	8326.172	4601.855	6589.720
#2	5544.742	90572.68	8392.976	4617.297	6606.191
#3	5556.659	90616.79	8359.462	4615.840	6619.553

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-01 Acquired: 7/22/2025 16:36:35 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1801009	.0372663	.3320883	-.107806	-.036321	301.2588	2.693452
Stddev	.0041540	.0041976	.0043954	.003004	.001450	7.1352	.007969
%RSD	2.306472	11.26371	1.323571	2.786217	3.992428	2.368466	.2958549
#1	.1822281	.0336903	.3299268	-.111098	-.037349	306.0479	2.689787
#2	.1827605	.0362209	.3371460	-.105216	-.036953	304.6701	2.702594
#3	.1753142	.0418878	.3291922	-.107103	-.034663	293.0582	2.687976

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0264613	-.003676	34.96796	.4330706	.4436782	1.152653	837.1302
Stddev	.0003297	.000838	.29876	.0016373	.0002309	.001546	2.5209
%RSD	1.246109	22.79116	.8543681	.3780774	.0520358	.1341132	.3011367
#1	.0264017	-.003175	35.01092	.4326903	.4435488	1.154018	834.4842
#2	.0268168	-.004643	35.24291	.4316568	.4435410	1.152967	839.5040
#3	.0261655	-.003210	34.65005	.4348646	.4439447	1.150975	837.4022

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.70815	103.1405	.6053043	.0155268	14.07940	.4499145	1.302796
Stddev	.08271	.4630	.0006422	.0011072	.14846	.0036263	.001870
%RSD	.5623688	.4488540	.1060881	7.130547	1.054455	.8059927	.1435327
#1	14.69942	102.7453	.6047154	.0143106	13.94013	.4457394	1.304718
#2	14.79488	103.6498	.6052086	.0157937	14.06247	.4522785	1.302687
#3	14.63014	103.0263	.6059890	.0164762	14.23560	.4517256	1.300983

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.69477	^ *****	.0030396	.0204491	4.914755	4.737092	9.879174
Stddev	.16735	-----	.0006770	.0022354	.030466	.103185	.022478
%RSD	.8497030	-----	22.27390	10.93150	.6198784	2.178231	.2275253
#1	19.51977	^ -----	.0034856	.0182586	4.904796	4.619062	9.856444
#2	19.71130	^ -----	.0022605	.0203619	4.948954	4.810206	9.879686
#3	19.85324	^ -----	.0033726	.0227269	4.890515	4.782007	9.901391

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-01 Acquired: 7/22/2025 16:36:35 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1335404	.9694966	-.492040
Stddev	.0051566	.0052632	.001709
%RSD	3.861451	.5428753	.3472379
#1	.1323658	.9647295	-.490072
#2	.1391830	.9751446	-.493146
#3	.1290724	.9686157	-.492902

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5724.946	94700.40	9579.143	4765.204	5359.878
Stddev	1.700	321.49	95.776	10.401	7.975
%RSD	.0296879	.3394845	.9998417	.2182754	.1487958
#1	5726.749	95071.13	9554.212	4761.401	5368.506
#2	5724.717	94498.34	9498.298	4757.240	5352.777
#3	5723.373	94531.72	9684.920	4776.972	5358.349

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-05 Acquired: 7/22/2025 16:40:54 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1295667	.0212326	.2347547	-.073060	-.025549	173.5545	1.494534
Stddev	.0024099	.0039712	.0007519	.004095	.001223	.0489	.001746
%RSD	1.859997	18.70333	.3202831	5.604774	4.786149	.0281828	.1168523
#1	.1272061	.0171691	.2349620	-.070371	-.026913	173.5016	1.494694
#2	.1294710	.0251045	.2339209	-.077772	-.024551	173.5638	1.492714
#3	.1320231	.0214243	.2353812	-.071036	-.025184	173.5981	1.496195

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0191838	-.002547	31.99948	.3188561	.2440655	.6927278	527.6986
Stddev	.0002687	.000125	.14829	.0017112	.0002444	.0041519	.9964
%RSD	1.400548	4.913783	.4634267	.5366545	.1001203	.5993483	.1888275
#1	.0189478	-.002658	32.06457	.3198181	.2439412	.6893609	528.0319
#2	.0194762	-.002572	32.10410	.3198696	.2439082	.6914557	528.4857
#3	.0191275	-.002412	31.82977	.3168804	.2443470	.6973669	526.5783

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.235079	52.94721	.3509725	.0147599	5.100663	.4245901	.8578444
Stddev	.013310	.21126	.0012821	.0003397	.035007	.0012352	.0005904
%RSD	.1441223	.3990095	.3652890	2.301495	.6863315	.2909219	.0688276
#1	9.238670	52.71660	.3498129	.0145405	5.088688	.4236928	.8582896
#2	9.246224	52.99363	.3507553	.0151512	5.073214	.4240787	.8571746
#3	9.220342	53.13141	.3523493	.0145879	5.140087	.4259989	.8580690

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.85637	^ *****	.0120601	.0177566	4.273333	4.987897	7.090020
Stddev	.06176	-----	.0002922	.0011657	.002433	.069577	.016472
%RSD	.3664107	-----	2.422798	6.565060	.0569374	1.394916	.2323259
#1	16.87888	^ -----	.0119069	.0169981	4.272049	5.015778	7.073063
#2	16.78650	^ -----	.0123970	.0171729	4.271810	4.908704	7.091038
#3	16.90371	^ -----	.0118763	.0190989	4.276139	5.039210	7.105959

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-05 Acquired: 7/22/2025 16:40:54 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.1198838	.5951316	-.222811
Stddev	.0023690	.0004837	.000654
%RSD	1.976083	.0812813	.2933957
#1	.1225471	.5955938	-.222580
#2	.1190927	.5951721	-.223549
#3	.1180115	.5946289	-.222304

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5844.625	96349.37	9481.034	4882.163	5670.801
Stddev	10.095	106.02	47.332	18.821	3.937
%RSD	.1727285	.1100325	.4992269	.3855043	.0694327
#1	5854.489	96418.24	9507.364	4879.889	5671.550
#2	5845.072	96402.58	9426.392	4902.018	5674.311
#3	5834.314	96227.29	9509.347	4864.583	5666.543

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-09 Acquired: 7/22/2025 16:45:06 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0778292	.0231712	.5213358	-.061878	-.026034	253.9940	2.845480
Stddev	.0015109	.0028937	.0033096	.001595	.001140	1.1496	.007601
%RSD	1.941339	12.48822	.6348386	2.577179	4.379427	.4525910	.2671139
#1	.0778358	.0242995	.5247644	-.062844	-.027169	254.9969	2.842322
#2	.0793368	.0198834	.5181596	-.062753	-.024888	254.2454	2.854150
#3	.0763150	.0253308	.5210834	-.060038	-.026046	252.7395	2.839967

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0200534	.0035939	30.49002	.3313898	1.654704	.6321500	518.9067
Stddev	.0000437	.0002619	.17314	.0010847	.003802	.0005531	1.0309
%RSD	.2177832	7.286107	.5678576	.3273245	.2297936	.0874951	.1986758
#1	.0200094	.0034333	30.40149	.3326265	1.655311	.6324239	518.5608
#2	.0200967	.0038961	30.68953	.3305996	1.650635	.6325127	518.0932
#3	.0200541	.0034524	30.37905	.3309433	1.658166	.6315134	520.0661

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.81684	64.42842	.7029781	.0093291	6.251080	.3229611	1.154185
Stddev	.06426	.09067	.0018742	.0002478	.009913	.0035273	.000921
%RSD	.3242864	.1407289	.2666100	2.655903	.1585840	1.092160	.0798344
#1	19.78014	64.32400	.7030749	.0092992	6.261101	.3203883	1.153198
#2	19.89104	64.47403	.7010574	.0090977	6.241278	.3269819	1.155022
#3	19.77932	64.48723	.7048021	.0095905	6.250862	.3215130	1.154337

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.91244	^ *****	.0133489	.0170517	3.383614	3.873393	5.815051
Stddev	.03093	-----	.0008404	.0010700	.004688	.036663	.011282
%RSD	.1478923	-----	6.295479	6.274790	.1385395	.9465257	.1940155
#1	20.94454	^ -----	.0132426	.0164623	3.382494	3.915068	5.818579
#2	20.90996	^ -----	.0125668	.0182868	3.388760	3.846110	5.802426
#3	20.88283	^ -----	.0142374	.0164060	3.379587	3.859000	5.824147

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-09 Acquired: 7/22/2025 16:45:06 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.051956	.8238347	-.237849
Stddev	.003041	.0032917	.001550
%RSD	.2891128	.3995563	.6517959
#1	1.055307	.8202837	-.238024
#2	1.049371	.8244365	-.236219
#3	1.051189	.8267841	-.239304

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6390.755	104994.6	10297.87	5323.497	5561.729
Stddev	4.887	212.2	36.92	3.756	10.680
%RSD	.0764621	.2020909	.3585500	.0705611	.1920258
#1	6395.744	104907.2	10307.64	5326.869	5559.271
#2	6385.978	104840.1	10257.04	5319.449	5573.424
#3	6390.542	105236.6	10328.92	5324.173	5552.493

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168933BS Acquired: 7/22/2025 16:49:25 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7903619**	**1.939090**	**.9759317**	**1.992325**	**.8270585**	**2.110408**
Stddev	.0081927	.032823	.0061061	.010488	.0046834	.003005
%RSD	1.036581	1.692678	.6256699	.5264062	.5662676	.1423766
#1	.7828048	1.902903	.9711945	1.983208	.8221745	2.108802
#2	.7892122	1.947424	.9737778	1.989980	.8274894	2.108547
#3	.7990688	1.966942	.9828229	2.003787	.8315115	2.113874

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2157237**	**.2174242**	**.1943185**	**1.093962**	**.4142975**	**.2042686**
Stddev	.0014850	.0008759	.0008895	.001946	.0007603	.0006057
%RSD	.6883871	.4028384	.4577309	.1779121	.1835172	.2965414
#1	.2172868	.2178636	.1940702	1.091817	.4136953	.2039512
#2	.2143316	.2179933	.1935797	1.095614	.4151518	.2038875
#3	.2155528	.2164156	.1953058	1.094457	.4140452	.2049671

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.3230259**	**3.090332**	**.2189910**	**2.094180**	**.5176114**	**.0793468**
Stddev	.0009149	.006682	.0003770	.032417	.0021585	.0004515
%RSD	.2832414	.2162331	.1721516	1.547975	.4170086	.5689930
#1	.3220158	3.094455	.2193357	2.102912	.5164608	.0795990
#2	.3232625	3.082623	.2190487	2.121337	.5162719	.0788256
#3	.3237992	3.093920	.2185884	2.058291	.5201014	.0796159

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.749678**	**.3118693**	**.2191427**	**9.972085**	**.3279380**	**.4196410**
Stddev	.004212	.0039288	.0010981	.046032	.0020594	.0018690
%RSD	.1531707	1.259767	.5010736	.4616043	.6279733	.4453716
#1	2.745573	.3074297	.2182148	9.935047	.3302329	.4177067
#2	2.749470	.3132812	.2188583	9.957588	.3273299	.4197794
#3	2.753989	.3148971	.2203549	10.02362	.3262511	.4214369

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168933BS Acquired: 7/22/2025 16:49:25 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7013051	.2046948	.8333951	5.839732	F -.005003	.1886037
Stddev	.0022988	.0029693	.0096626	.023838	.001472	.0021359
%RSD	.3277856	1.450598	1.159421	.4082103	29.42907	1.132469
#1	.6996831	.2071682	.8364874	5.835305	-.003786	.1866481
#2	.7002964	.2014018	.8411330	5.818417	-.006640	.1882802
#3	.7039358	.2055145	.8225649	5.865473	-.004584	.1908829

Elem	Sr4077
Units	ppm
Avg	.2132583
Stddev	.0004701
%RSD	.2204494
#1	.2137809
#2	.2128699
#3	.2131240

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5563.172	90499.31	8216.782	4657.120	6478.394
Stddev	18.573	133.06	42.527	12.702	19.814
%RSD	.3338509	.1470292	.5175571	.2727429	.3058515
#1	5569.300	90455.08	8168.811	4645.588	6480.881
#2	5577.906	90648.85	8231.676	4670.734	6496.847
#3	5542.309	90394.00	8249.858	4655.037	6457.453

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-13 Acquired: 7/22/2025 16:53:26 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1677610**	**.0267404**	**1.167579**	**-.093791**	**-.076323**	**139.2373**	**3.657668**
Stddev	.0020494	.0026083	.004335	.002305	.001141	.2751	.007014
%RSD	1.221601	9.754145	.3712700	2.457845	1.495473	.1975453	.1917618
#1	.1658154	.0293283	1.162748	-.092775	-.075014	139.4512	3.657140
#2	.1699004	.0241122	1.168859	-.092168	-.077110	138.9270	3.650932
#3	.1675673	.0267807	1.171129	-.096429	-.076845	139.3336	3.664930

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0184252**	**.0039106**	**57.24797**	**.3978054**	**.2833233**	**1.026611**	**670.5504**
Stddev	.0004019	.0009577	.20635	.0011493	.0007110	.006274	7.4846
%RSD	2.181206	24.48948	.3604496	.2889172	.2509664	.6111723	1.116189
#1	.0184438	.0039493	57.42025	.3984641	.2828793	1.025377	667.6195
#2	.0180143	.0029342	57.01928	.3964782	.2829471	1.021044	679.0570
#3	.0188175	.0048484	57.30437	.3984737	.2841434	1.033410	664.9748

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.443546**	**76.80144**	**.5397325**	**.0121920**	**13.72057**	**.4070488**	**1.822510**
Stddev	.028242	.09247	.0031145	.0021486	.08945	.0016074	.005932
%RSD	.3794159	.1204007	.5770377	17.62295	.6519748	.3948947	.3254851
#1	7.462399	76.85435	.5374732	.0112689	13.72564	.4080538	1.824700
#2	7.411075	76.69466	.5384390	.0146479	13.80739	.4078978	1.827036
#3	7.457163	76.85529	.5432853	.0106593	13.62869	.4051949	1.815795

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**22.28162**	**^ *******	**.0063342**	**5.012638**	**3.846151**	**3.121023**	**12.31424**
Stddev	.08484	-----	.0002936	.009217	.005183	.040540	.00955
%RSD	.3807643	-----	4.634733	.1838826	.1347663	1.298919	.0775357
#1	22.25954	^ -----	.0060057	5.005573	3.840467	3.128533	12.31453
#2	22.37532	^ -----	.0065709	5.009277	3.850616	3.077253	12.30455
#3	22.21001	^ -----	.0064260	5.023065	3.847371	3.157282	12.32364

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-13 Acquired: 7/22/2025 16:53:26 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**1.270073**	**.7739407**	**-.195326**
Stddev	.005751	.0022838	.008012
%RSD	.4528200	.2950868	4.101620
#1	1.264218	.7726674	-.192131
#2	1.270288	.7765773	-.204442
#3	1.275714	.7725775	-.189406

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5845.776**	**96361.72**	**9556.957**	**4839.361**	**5451.311**
Stddev	7.966	300.52	43.587	32.963	7.968
%RSD	.1362770	.3118694	.4560769	.6811444	.1461730
#1	5854.953	96523.92	9539.747	4832.635	5460.316
#2	5840.637	96014.95	9606.521	4810.280	5448.445
#3	5841.738	96546.30	9524.602	4875.168	5445.173

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17 Acquired: 7/22/2025 16:57:37 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1949207	.0137671	.0698123	-.068903	-.023172	87.48115	.2754251
Stddev	.0016334	.0003480	.0018708	.003974	.001738	.10347	.0003766
%RSD	.8379604	2.527725	2.679735	5.767045	7.501914	.1182772	.1367430
#1	.1954274	.0135887	.0709265	-.064999	-.024383	87.37393	.2750797
#2	.1962407	.0141681	.0676525	-.068766	-.023953	87.48911	.2753689
#3	.1930941	.0135445	.0708581	-.072943	-.021180	87.58041	.2758266

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0145600	-.003808	15.28111	.5928888	.0494047	.5774825	514.8992
Stddev	.0002379	.000149	.14669	.0013532	.0004533	.0014178	1.5378
%RSD	1.633876	3.910619	.9599294	.2282325	.9175903	.2455087	.2986532
#1	.0148276	-.003654	15.12323	.5941273	.0489785	.5765517	516.0429
#2	.0144800	-.003817	15.30693	.5930946	.0493546	.5791142	513.1510
#3	.0143725	-.003952	15.41318	.5914445	.0498810	.5767815	515.5036

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6915483	5.011432	.0616194	.0077874	.7712827	.6813461	.3503370
Stddev	.0035891	.026602	.0004343	.0011340	.0177927	.0024945	.0013599
%RSD	.5189911	.5308305	.7048701	14.56147	2.306895	.3661122	.3881762
#1	.6874775	5.039597	.0621132	.0087563	.7915605	.6832930	.3487757
#2	.6942565	4.986733	.0614487	.0065402	.7640051	.6822110	.3509729
#3	.6929109	5.007965	.0612964	.0080657	.7582825	.6785343	.3512626

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.22903	^ *****	.0057404	.0155808	1.025086	2.926615	10.71676
Stddev	.09384	-----	.0000870	.0003439	.000882	.023744	.02885
%RSD	.7673680	-----	1.515948	2.206969	.0860687	.8113290	.2691749
#1	12.23329	^ -----	.0058024	.0153626	1.024969	2.944445	10.74665
#2	12.32067	^ -----	.0057779	.0159771	1.024268	2.935739	10.71455
#3	12.13313	^ -----	.0056409	.0154025	1.026021	2.899662	10.68909

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17 Acquired: 7/22/2025 16:57:37 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3567124	.2081620	-.387505
Stddev	.0009994	.0010185	.001669
%RSD	.2801723	.4892955	.4306368
#1	.3573231	.2077798	-.389073
#2	.3555590	.2093163	-.385751
#3	.3572551	.2073898	-.387691

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5979.875	98148.92	9403.344	4959.149	5945.613
Stddev	10.610	65.94	66.253	11.011	7.182
%RSD	.1774261	.0671851	.7045728	.2220347	.1207943
#1	5991.834	98136.81	9454.099	4970.541	5953.764
#2	5976.199	98220.07	9427.540	4958.341	5942.861
#3	5971.592	98089.87	9328.394	4948.564	5940.214

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17DUP Acquired: 7/22/2025 17:01:51 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2370752	.0206724	.8743076	-.073015	-.011562	88.60150	.5359700
Stddev	.0019937	.0025890	.0022522	.001857	.001166	.16336	.0019005
%RSD	.8409524	12.52391	.2575978	2.543400	10.08801	.1843788	.3545910
#1	.2385591	.0234698	.8747106	-.072479	-.012614	88.46464	.5344431
#2	.2348090	.0201870	.8718812	-.075081	-.010308	88.55750	.5353683
#3	.2378576	.0183605	.8763311	-.071485	-.011765	88.78235	.5380985

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0189237	-.006727	19.46282	.5044771	.0933616	1.653604	548.9610
Stddev	.0001103	.000470	.06221	.0040524	.0006151	.006608	1.0706
%RSD	.5826452	6.990713	.3196118	.8032793	.6588267	.3996198	.1950152
#1	.0188450	-.006939	19.49479	.5065535	.0926517	1.647258	548.6263
#2	.0190498	-.007053	19.39113	.5070705	.0937352	1.653109	550.1589
#3	.0188764	-.006188	19.50254	.4998074	.0936980	1.660446	548.0977

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.403813	7.309853	.1427785	.0122384	2.733775	.6572932	8.503533
Stddev	.005311	.023535	.0007543	.0006524	.007769	.0021122	.009092
%RSD	.3783041	.3219625	.5282893	5.330448	.2841736	.3213458	.1069204
#1	1.402968	7.333529	.1419732	.0114857	2.727167	.6549541	8.513681
#2	1.398976	7.286462	.1434684	.0125892	2.742333	.6578646	8.500790
#3	1.409496	7.309568	.1428939	.0126402	2.731825	.6590609	8.496129

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.52911	^ *****	.0109491	.2663252	1.263330	3.791386	10.83310
Stddev	.05040	-----	.0000968	.0011064	.003719	.031933	.03276
%RSD	.4371706	-----	.8845356	.4154305	.2943709	.8422389	.3024338
#1	11.55035	^ -----	.0110610	.2650597	1.259652	3.758110	10.82656
#2	11.56542	^ -----	.0108942	.2668061	1.263252	3.821780	10.80410
#3	11.47156	^ -----	.0108922	.2671098	1.267088	3.794269	10.86864

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17DUP Acquired: 7/22/2025 17:01:51 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.7157531	.2339436	-.396687
Stddev	.0067675	.0018732	.001177
%RSD	.9455103	.8006880	.2965867
#1	.7208882	.2350380	-.396603
#2	.7080843	.2317808	-.397904
#3	.7182867	.2350122	-.395555

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5960.100	98961.58	9617.872	4988.504	5949.092
Stddev	17.123	281.29	20.934	14.284	10.677
%RSD	.2873017	.2842439	.2176586	.2863326	.1794704
#1	5978.578	99008.25	9638.252	4996.600	5957.416
#2	5956.955	98659.87	9618.942	4996.901	5952.806
#3	5944.767	99216.62	9596.424	4972.012	5937.055

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17LX5 Acquired: 7/22/2025 17:06:02 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0430594	.0048483	.0128196	-.011766	-.006654	19.36842	.0628829
Stddev	.0036231	.0024886	.0010252	.003133	.002074	.03705	.0007503
%RSD	8.414070	51.32947	7.997243	26.62980	31.17379	.1913017	1.193163
#1	.0463846	.0035073	.0117859	-.013462	-.004343	19.39590	.0629235
#2	.0391982	.0033178	.0138362	-.008150	-.008354	19.38306	.0636120
#3	.0435954	.0077197	.0128366	-.013684	-.007266	19.32628	.0621131

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030206	-.002722	3.447587	.1340211	.0097833	.1305015	118.0528
Stddev	.0001142	.000102	.011956	.0008224	.0001863	.0008053	.4603
%RSD	3.780451	3.752288	.3467925	.6136756	1.904538	.6170502	.3899047
#1	.0029590	-.002636	3.449011	.1335031	.0099181	.1314285	118.5832
#2	.0031524	-.002835	3.458767	.1349694	.0098612	.1301007	117.7575
#3	.0029505	-.002694	3.434983	.1335907	.0095707	.1299753	117.8178

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1572447	1.161010	.0122837	.0026544	.1810223	.1511673	.0780041
Stddev	.0004457	.019282	.0003313	.0003717	.0052830	.0025783	.0000998
%RSD	.2834302	1.660783	2.696833	14.00347	2.918432	1.705578	.1279650
#1	.1571994	1.145790	.0125125	.0022259	.1825041	.1534772	.0779170
#2	.1577114	1.182693	.0119039	.0028474	.1751566	.1516388	.0781131
#3	.1568235	1.154548	.0124348	.0028899	.1854061	.1483857	.0779823

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.729683	-.007135	.0009878	.0017563	.2339002	.6413250	2.137949
Stddev	.006063	.001975	.0003705	.0003364	.0033689	.0159789	.017763
%RSD	.2221110	27.67552	37.51266	19.15317	1.440307	2.491539	.8308392
#1	2.735088	-.005567	.0014156	.0020104	.2315159	.6542263	2.158060
#2	2.730835	-.009352	.0007818	.0018837	.2377542	.6462978	2.131379
#3	2.723127	-.006485	.0007660	.0013748	.2324303	.6234511	2.124406

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17LX5 Acquired: 7/22/2025 17:06:02 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0590850	.0404552	-.089434
Stddev	.0044522	.0022343	.000356
%RSD	7.535200	5.522934	.3985483
#1	.0597684	.0429606	-.089829
#2	.0543306	.0386691	-.089136
#3	.0631559	.0397361	-.089337

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5697.780	92794.89	8643.793	4741.072	6414.123
Stddev	2.830	101.02	29.759	28.483	5.415
%RSD	.0496738	.1088589	.3442849	.6007677	.0844261
#1	5695.708	92824.65	8677.941	4728.765	6408.154
#2	5701.005	92877.69	8630.045	4773.639	6418.720
#3	5696.628	92682.34	8623.394	4720.812	6415.495

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17MS Acquired: 7/22/2025 17:10:12 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9158983**	**1.771247**	**1.175959**	**1.461956**	**.4445648**	**110.1434**
Stddev	.0088067	.041278	.002188	.005121	.0023400	.2305
%RSD	.9615335	2.330450	.1860365	.3502572	.5263575	.2092685
#1	.9061018	1.801724	1.173480	1.456066	.4418970	109.8897
#2	.9231585	1.787745	1.176777	1.464452	.4462695	110.2005
#3	.9184347	1.724272	1.177619	1.465350	.4455280	110.3399

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5427091**	**.1841346**	**.1799104**	**19.28228**	**.8795972**	**.2753836**
Stddev	.0021863	.0014334	.0004319	.01932	.0055736	.0009579
%RSD	.4028490	.7784451	.2400422	.1001850	.6336548	.3478551
#1	.5403774	.1834407	.1798490	19.26574	.8830838	.2744375
#2	.5430368	.1831803	.1795125	19.27758	.8731691	.2753604
#3	.5447130	.1857829	.1803697	19.30351	.8825387	.2763530

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.030279**	**643.0501**	**1.065218**	**11.76152**	**.6008085**	**.0801141**
Stddev	.006262	2.2907	.003475	.04293	.0017383	.0009215
%RSD	.6077844	.3562182	.3262216	.3650016	.2893231	1.150278
#1	1.023997	641.5186	1.062156	11.72366	.5992722	.0792296
#2	1.030320	645.6835	1.064504	11.75275	.6004580	.0810687
#3	1.036520	641.9483	1.068995	11.80816	.6026954	.0800441

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.496740**	**1.008471**	**1.379950**	**25.21004**	^ *****	**.3923934**
Stddev	.018079	.007786	.001250	.04939	-----	.0004516
%RSD	.5170301	.7720600	.0905476	.1959258	-----	.1150914
#1	3.484329	1.002405	1.378853	25.23491	^ -----	.3919641
#2	3.517483	1.017251	1.381310	25.24206	^ -----	.3928644
#3	3.488408	1.005758	1.379687	25.15316	^ -----	.3923518

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17MS Acquired: 7/22/2025 17:10:12 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7638934	1.380891	4.516019	F 18.57170	.5858023	.4488212
Stddev	.0006657	.003896	.032361	.05774	.0048279	.0009746
%RSD	.0871432	.2821546	.7165802	.3109185	.8241545	.2171399
#1	.7642701	1.377544	4.483271	18.50640	.5841603	.4479852
#2	.7631248	1.385168	4.516807	18.59269	.5912371	.4498916
#3	.7642853	1.379960	4.547978	18.61601	.5820096	.4485867

Elem	Sr4077
Units	ppm
Avg	-.311599
Stddev	.002020
%RSD	.6481318
#1	-.310560
#2	-.313926
#3	-.310310

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6002.880	98463.84	9584.354	4984.285	5808.423
Stddev	12.863	203.91	24.134	9.716	13.933
%RSD	.2142743	.2070947	.2518036	.1949239	.2398697
#1	6016.372	98358.02	9605.556	4982.336	5821.733
#2	6001.511	98334.59	9589.415	4975.691	5809.595
#3	5990.756	98698.91	9558.091	4994.827	5793.942

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV05 Acquired: 7/22/2025 17:14:16 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.173035**	**4.999324**	**5.115301**	**5.180031**	**5.210542**	**10.43281**	**10.69386**
Stddev	.009931	.032541	.011183	.011445	.017673	.04543	.10919
%RSD	.1919773	.6509127	.2186231	.2209504	.3391715	.4354743	1.021023
#1	5.170748	4.967137	5.117955	5.180124	5.222127	10.42498	10.62072
#2	5.164447	4.998627	5.103029	5.168539	5.190201	10.39179	10.81936
#3	5.183910	5.032209	5.124918	5.191430	5.219298	10.48164	10.64149

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2633223**	**2.560512**	**27.12059**	**1.022223**	**2.564102**	**1.303418**	**5.297751**
Stddev	.0004411	.007220	.05066	.002598	.006204	.002966	.010971
%RSD	.1675300	.2819921	.1867900	.2541529	.2419400	.2275705	.2070965
#1	.2631297	2.558233	27.07331	1.025221	2.565030	1.303736	5.289408
#2	.2638270	2.554706	27.11441	1.020627	2.557486	1.300306	5.293665
#3	.2630102	2.568597	27.17406	1.020821	2.569788	1.306213	5.310179

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.676969**	**26.08985**	**2.585570**	**1.321811**	**23.80981**	**2.608893**	**2.652272**
Stddev	.011999	.11175	.006305	.002130	.11959	.008817	.010607
%RSD	.4482448	.4283292	.2438657	.1611121	.5022769	.3379744	.3999028
#1	2.665929	25.99419	2.585461	1.321329	23.90424	2.607911	2.652922
#2	2.675238	26.21268	2.579321	1.324140	23.67533	2.600608	2.662538
#3	2.689740	26.06268	2.591930	1.319963	23.84985	2.618161	2.641355

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.00766**	**5.395672**	**5.254357**	**5.165327**	**5.145819**	**5.035906**	**5.167819**
Stddev	.09893	.014099	.012230	.010385	.017419	.012079	.006360
%RSD	.3803924	.2613110	.2327632	.2010485	.3385097	.2398525	.1230706
#1	26.09010	5.379660	5.253521	5.160821	5.142586	5.048763	5.173258
#2	25.89796	5.406227	5.242565	5.157957	5.130244	5.024795	5.160826
#3	26.03493	5.401129	5.266983	5.177204	5.164629	5.034160	5.169373

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV05 Acquired: 7/22/2025 17:14:16 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.081846**	**5.056995**	**5.433231**
Stddev	.019248	.024785	.010936
%RSD	.3787676	.4901152	.2012882
#1	5.079141	5.054206	5.442248
#2	5.064093	5.033723	5.421065
#3	5.102304	5.083057	5.436379

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5395.892**	**87038.40**	**8224.609**	**4459.022**	**6013.646**
Stddev	18.615	218.32	27.476	9.779	19.984
%RSD	.3449869	.2508299	.3340724	.2193151	.3323164
#1	5403.592	86962.95	8246.665	4464.943	6021.057
#2	5409.421	86867.80	8193.831	4447.735	6028.866
#3	5374.662	87284.43	8233.332	4464.389	5991.015

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB05 Acquired: 7/22/2025 17:18:27 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0018311**	**.0002981**	**.0008292**	**-.001987**	**.0006807**	**-.005105**	**.0010252**
Stddev	.0013023	.0013723	.0002920	.001276	.0009195	.003435	.0008436
%RSD	71.12047	460.2940	35.21519	64.23923	135.0769	67.28305	82.28730
#1	.0003384	-.000162	.0011495	-.003204	.0015926	-.001984	.0017505
#2	.0027350	-.000785	.0007605	-.000659	.0006958	-.004545	.0012257
#3	.0024201	.001841	.0005777	-.002098	-.000246	-.008785	.0000994

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000361**	**.0000878**	**.0417332**	**-.000227**	**.0002652**	**.0002199**	**-.003702**
Stddev	.0000341	.0000325	.0103019	.000292	.0000720	.0005695	.005464
%RSD	94.63247	37.00601	24.68501	128.4727	27.15553	259.0070	147.5859
#1	-.000001	.0000793	.0529366	-.000519	.0002121	-.000142	-.009995
#2	.000067	.0001237	.0326687	-.000227	.0002362	-.000075	-.000161
#3	.000042	.0000604	.0395944	.000065	.0003471	.000876	-.000950

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.000451**	**.0108486**	**-.000186**	**.0003498**	**.0020775**	**-.001077**	**.0003491**
Stddev	.000446	.0106233	.000157	.0000120	.0028335	.002538	.0003494
%RSD	99.06780	97.92279	84.64516	3.442795	136.3909	235.6868	100.0844
#1	-.000883	.0033341	-.000077	.0003389	.0030582	.001199	-.000039
#2	.000008	.0230025	-.000366	.0003627	-.001116	-.000615	.000448
#3	-.000477	.0062093	-.000114	.0003477	.004290	-.003814	.000638

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1425116**	**.0030999**	**.0009007**	**.0032968**	**.0077860**	**.0081011**	**.0019242**
Stddev	.0211288	.0003447	.0000807	.0001447	.0021074	.0092380	.0022952
%RSD	14.82599	11.11999	8.960408	4.387863	27.06655	114.0350	119.2815
#1	.1657743	.0027464	.0008706	.0034075	.0065422	.0154562	.0028503
#2	.1372491	.0031181	.0009921	.0033499	.0065966	.0111144	.0036117
#3	.1245115	.0034351	.0008393	.0031331	.0102192	-.002267	-.000689

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB05 Acquired: 7/22/2025 17:18:27 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.005952**	**-.009480**	**.0000195**
Stddev	.000291	.001241	.0000186
%RSD	4.895928	13.09309	95.41188
#1	-.005671	-.010039	.0000410
#2	-.005932	-.010344	.0000101
#3	-.006253	-.008058	.0000074

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5556.915**	**92132.54**	**8386.056**	**4714.124**	**6609.333**
Stddev	7.565	177.11	31.277	6.877	11.905
%RSD	.1361352	.1922319	.3729655	.1458901	.1801229
#1	5554.585	92327.35	8377.961	4721.065	6605.338
#2	5565.371	92089.03	8420.585	4707.312	6622.722
#3	5550.789	91981.24	8359.622	4713.994	6599.940

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17MSD Acquired: 7/22/2025 17:22:48 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9818185**	**1.725263**	**1.377065**	**1.516498**	**.4274330**	**111.2709**
Stddev	.0049785	.028458	.004485	.003049	.0017583	.1108
%RSD	.5070708	1.649500	.3256992	.2010814	.4113640	.0995549
#1	.9864781	1.696125	1.375896	1.513327	.4294604	111.2908
#2	.9824044	1.752989	1.373280	1.519409	.4263248	111.1515
#3	.9765730	1.726674	1.382019	1.516758	.4265139	111.3703

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5814807**	**.1913682**	**.1871058**	**20.12099**	**1.165520**	**.2833312**
Stddev	.0000477	.0013103	.0000521	.09835	.003334	.0003408
%RSD	.0082072	.6846813	.0278631	.4887839	.2860498	.1202728
#1	.5814582	.1925800	.1871571	20.11554	1.169033	.2829379
#2	.5815355	.1899778	.1870529	20.02547	1.165128	.2835196
#3	.5814484	.1915468	.1871074	20.22194	1.162400	.2835362

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.171241**	**690.4887**	**1.124257**	**11.11652**	**.6162694**	**.0814891**
Stddev	.001065	.9881	.003653	.01356	.0021198	.0005259
%RSD	.0909511	.1431076	.3249618	.1219807	.3439772	.6454259
#1	1.170108	691.0697	1.121988	11.13061	.6151980	.0820925
#2	1.171393	689.3477	1.122311	11.10357	.6148991	.0811278
#3	1.172222	691.0485	1.128471	11.11538	.6187110	.0812471

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.689230**	**1.142872**	**1.427057**	**25.19187**	**^ *****	**.3679486**
Stddev	.006160	.004088	.001830	.13720	-----	.0006129
%RSD	.1669736	.3576607	.1282563	.5446078	-----	.1665605
#1	3.683316	1.146469	1.428194	25.03520	^ -----	.3682107
#2	3.695610	1.138427	1.424945	25.29055	^ -----	.3672482
#3	3.688766	1.143719	1.428030	25.24985	^ -----	.3683868

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17MSD Acquired: 7/22/2025 17:22:48 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7775769	1.579555	4.388108	F 19.32129	.6503677	.4766543
Stddev	.0012453	.003682	.007809	.05366	.0055976	.0018402
%RSD	.1601496	.2331243	.1779687	.2777110	.8606830	.3860561
#1	.7774564	1.583640	4.382349	19.26088	.6522701	.4784761
#2	.7763962	1.578535	4.396997	19.33961	.6440669	.4766904
#3	.7788780	1.576490	4.384977	19.36339	.6547662	.4747964

Elem	Sr4077
Units	ppm
Avg	-.343968
Stddev	.000769
%RSD	.2237055
#1	-.344210
#2	-.343106
#3	-.344587

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5920.520	98707.25	9570.430	4968.422	5714.145
Stddev	5.112	306.96	38.405	18.685	.847
%RSD	.0863359	.3109826	.4012887	.3760842	.0148289
#1	5915.330	99018.60	9567.606	4983.854	5714.016
#2	5920.680	98698.27	9610.169	4973.765	5715.049
#3	5925.549	98404.87	9533.515	4947.647	5713.369

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17A Acquired: 7/22/2025 17:26:53 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.9105457**	**1.949194**	**1.036605**	**1.688064**	**.7413937**	**88.56490**	**.4641216**
Stddev	.0027160	.080470	.004362	.003340	.0020111	.18913	.0015215
%RSD	.2982843	4.128394	.4207577	.1978329	.2712545	.2135471	.3278251
#1	.9131421	1.882718	1.031594	1.685706	.7391676	88.71748	.4647559
#2	.9077241	2.038656	1.039551	1.691886	.7430792	88.62391	.4652233
#3	.9107709	1.926208	1.038669	1.686602	.7419344	88.35330	.4623855

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1983293**	**.1934421**	**16.03775**	**.9643806**	**.2584628**	**.8426131**	**525.5521**
Stddev	.0015025	.0010934	.04008	.0033528	.0008667	.0029231	5.4598
%RSD	.7575770	.5652363	.2498838	.3476680	.3353371	.3469097	1.038874
#1	.1971610	.1921845	15.99352	.9672253	.2574985	.8397715	530.9618
#2	.2000242	.1941678	16.04809	.9606840	.2587131	.8456114	520.0435
#3	.1978027	.1939740	16.07164	.9652326	.2591768	.8424563	525.6510

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8772387**	**6.850722**	**.5866141**	**.0859876**	**3.553564**	**.9582465**	**.5419147**
Stddev	.0008231	.004910	.0013654	.0022159	.051855	.0038600	.0016690
%RSD	.0938273	.0716766	.2327599	2.577014	1.459245	.4028239	.3079822
#1	.8764743	6.850770	.5856408	.0882077	3.602224	.9626636	.5400321
#2	.8781100	6.855608	.5860266	.0837759	3.499016	.9555215	.5432129
#3	.8771318	6.845787	.5881749	.0859791	3.559452	.9565543	.5424990

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**21.77779**	**^ *****	**.4010240**	**.7462483**	**1.203440**	**3.758245**	**16.59364**
Stddev	.18054	-----	.0013996	.0014925	.004169	.034640	.06220
%RSD	.8290068	-----	.3490108	.1999997	.3464399	.9216960	.3748129
#1	21.96109	^ -----	.3997773	.7445555	1.205735	3.797293	16.53663
#2	21.60014	^ -----	.4007566	.7468148	1.205957	3.731214	16.58433
#3	21.77215	^ -----	.4025380	.7473746	1.198627	3.746229	16.65997

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-17A Acquired: 7/22/2025 17:26:53 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.3569994	.3920771	-.206421
Stddev	.0011902	.0056875	.005045
%RSD	.3333996	1.450612	2.444120
#1	.3573582	.3976308	-.211160
#2	.3579689	.3862646	-.201117
#3	.3556710	.3923359	-.206986

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5952.580	96705.44	9362.037	4921.655	5899.445
Stddev	17.008	68.00	94.564	11.162	21.671
%RSD	.2857175	.0703155	1.010078	.2268016	.3673479
#1	5958.917	96670.07	9450.515	4931.227	5918.597
#2	5965.509	96783.83	9262.381	4909.394	5903.818
#3	5933.314	96662.42	9373.215	4924.345	5875.921

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-21 Acquired: 7/22/2025 17:30:58 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1376133	.0225749	.4053295	-.113441	-.036572	231.7921	.5763450
Stddev	.0022012	.0009908	.0010494	.004032	.002925	1.5192	.0011975
%RSD	1.599577	4.388753	.2589028	3.553848	7.999023	.6554347	.2077713
#1	.1398182	.0228296	.4061405	-.117459	-.037550	233.2967	.5777245
#2	.1354158	.0234135	.4041443	-.109396	-.033282	230.2586	.5755734
#3	.1376060	.0214817	.4057036	-.113466	-.038882	231.8209	.5757371

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0331818	.0003901	15.92988	.3198765	.1505492	.8530879	796.0148
Stddev	.0004738	.0004427	.06272	.0005126	.0003212	.0046031	6.1439
%RSD	1.427987	113.4887	.3937042	.1602566	.2133804	.5395858	.7718386
#1	.0326783	.0000575	15.86878	.3197465	.1509066	.8524004	795.5456
#2	.0336190	.0008925	15.92677	.3204417	.1504563	.8579961	790.1189
#3	.0332480	.0002202	15.99410	.3194415	.1502846	.8488672	802.3799

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.562654	28.99222	.1791627	^ *****	6.827262	.6825870	.6335543
Stddev	.009827	.06889	.0012686	-----	.031231	.0035892	.0022535
%RSD	.3834771	.2376095	.7080841	-----	.4574391	.5258200	.3556859
#1	2.551757	28.91323	.1778594	^ -----	6.860445	.6784866	.6336439
#2	2.565361	29.02360	.1792352	^ -----	6.798443	.6841158	.6357617
#3	2.570844	29.03983	.1803935	^ -----	6.822899	.6851588	.6312575

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.78200	^ *****	-.002384	.0235720	3.975973	3.326743	6.416608
Stddev	.12879	-----	.000491	.0017703	.005426	.036000	.025861
%RSD	.5912532	-----	20.58428	7.510266	.1364654	1.082146	.4030289
#1	21.86658	^ -----	-.001818	.0251375	3.981388	3.365116	6.399413
#2	21.63378	^ -----	-.002690	.0239277	3.975994	3.321402	6.404062
#3	21.84563	^ -----	-.002643	.0216509	3.970536	3.293712	6.446348

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2649-21 Acquired: 7/22/2025 17:30:58 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**2.194191**	**.4539783**	**-.592360**
Stddev	.009175	.0044079	.005702
%RSD	.4181657	.9709484	.9626015
#1	2.202407	.4576694	-.591986
#2	2.184290	.4490977	-.586855
#3	2.195877	.4551677	-.598240

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6315.554**	**104028.3**	**10210.34**	**5292.026**	**5504.336**
Stddev	17.417	329.7	28.38	3.476	18.326
%RSD	.2757776	.3168977	.2779149	.0656831	.3329314
#1	6325.769	103849.9	10241.23	5288.233	5513.443
#2	6325.449	104408.7	10204.34	5295.060	5516.325
#3	6295.443	103826.3	10185.44	5292.783	5483.241

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2658-01 Acquired: 7/22/2025 17:35:15 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0211499**	**-.000645**	**.0686893**	**-.023261**	**.0083614**	**107.3939**
Stddev	.0083354	.002464	.0038098	.002397	.0022480	.2205
%RSD	39.41110	382.2956	5.546440	10.30654	26.88580	.2053284
#1	.0300779	-.000355	.0694628	-.026018	.0057916	107.2157
#2	.0197996	.001662	.0645521	-.021662	.0093292	107.6405
#3	.0135720	-.003241	.0720530	-.022103	.0099635	107.3256

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5852738**	**.0040353**	**.0010320**	F **2269.512**	**.1525284**	**.0256294**
Stddev	.0014955	.0000916	.0000559	7.098	.0004350	.0002505
%RSD	.2555215	2.270743	5.419772	.3127746	.2851677	.9773070
#1	.5848785	.0039805	.0009754	2277.665	.1524240	.0255365
#2	.5840158	.0039844	.0010872	2266.166	.1530061	.0254387
#3	.5869273	.0041411	.0010333	2264.704	.1521552	.0259131

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1109578**	**59.59524**	**1.784789**	**475.7214**	**.0991257**	**.0004749**
Stddev	.0002929	.11960	.001608	1.6048	.0006963	.0007009
%RSD	.2640073	.2006923	.0900785	.3373442	.7023968	147.5983
#1	.1107425	59.55207	1.784663	474.2626	.0988406	.0004166
#2	.1112914	59.73044	1.783247	477.4404	.0999192	.0012032
#3	.1108396	59.50322	1.786455	475.4611	.0986171	-.000195

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.04546**	**.1487986**	**1.375127**	**56.81137**	**.2614610**	**.0079414**
Stddev	.02310	.0021437	.001673	.07715	.0006779	.0001875
%RSD	.1917887	1.440647	.1216598	.1358009	.2592941	2.360791
#1	12.02482	.1466738	1.374352	56.85604	.2620908	.0080327
#2	12.07042	.1487613	1.377047	56.85577	.2607434	.0077258
#3	12.04114	.1509606	1.373982	56.72228	.2615488	.0080657

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2658-01 Acquired: 7/22/2025 17:35:15 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0141369	3.390944	8.880170	2.535428	F 99.40519	.5619572
Stddev	.0005158	.006923	.062436	.008547	.17945	.0031264
%RSD	3.648858	.2041490	.7030951	.3371139	.1805277	.5563459
#1	.0136099	3.385547	8.809082	2.544773	99.58870	.5654959
#2	.0141599	3.398749	8.926112	2.533505	99.39679	.5595689
#3	.0146408	3.388537	8.905316	2.528005	99.23008	.5608069

Elem	Sr4077
Units	ppm
Avg	7.954569
Stddev	.018015
%RSD	.2264765
#1	7.960909
#2	7.968557
#3	7.934241

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4693.865	79327.60	8295.997	3953.094	4486.655
Stddev	6.119	42.00	22.917	3.493	2.142
%RSD	.1303688	.0529420	.2762443	.0883692	.0477443
#1	4700.144	79366.81	8295.993	3954.313	4488.258
#2	4693.533	79283.28	8318.916	3949.155	4487.485
#3	4687.919	79332.72	8273.081	3955.815	4484.222

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2658-02 Acquired: 7/22/2025 17:39:37 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0258481	-.004070	1.063363	-.029355	.0095978	129.1466
Stddev	.0010261	.001359	.002232	.005276	.0041649	.3348
%RSD	3.969829	33.37514	.2099354	17.97202	43.39445	.2592318
#1	.0248940	-.005300	1.062495	-.026688	.0098953	128.9511
#2	.0269336	-.004299	1.065899	-.035432	.0136059	129.5332
#3	.0257166	-.002612	1.061695	-.025945	.0052921	128.9555

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6707064	.0043523	.0004309	1949.883	.9228952	.0389284
Stddev	.0011356	.0000538	.0001567	10.456	.0004104	.0006053
%RSD	.1693158	1.236717	36.35902	.5362283	.0444703	1.554837
#1	.6696601	.0043807	.0005958	1949.929	.9226064	.0396262
#2	.6719140	.0043860	.0002840	1960.315	.9233650	.0385459
#3	.6705450	.0042902	.0004130	1939.404	.9227141	.0386130

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3691461	114.1192	4.380244	100.0201	.2829638	.0133063
Stddev	.0011618	.4291	.003937	.1127	.0009972	.0002136
%RSD	.3147306	.3760287	.0898731	.1126370	.3524071	1.605101
#1	.3696209	114.0981	4.376174	99.9790	.2829518	.0133350
#2	.3678220	114.5585	4.380527	100.1475	.2819727	.0135041
#3	.3699952	113.7010	4.384032	99.9338	.2839670	.0130798

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.799451	.5334539	2.578999	24.65460	.2574189	.0418925
Stddev	.068716	.0015136	.001936	.14492	.0016718	.0007535
%RSD	.7809098	.2837346	.0750785	.5878139	.6494460	1.798686
#1	8.799865	.5350652	2.581152	24.65169	.2555410	.0412692
#2	8.867959	.5332346	2.578446	24.80097	.2579704	.0416784
#3	8.730529	.5320619	2.577400	24.51116	.2587452	.0427299

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2658-02 Acquired: 7/22/2025 17:39:37 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0445043	4.909244	.8540855	5.048862	F 107.0003	.4064427
Stddev	.0006421	.011165	.0224648	.016340	.3974	.0107488
%RSD	1.442752	.2274217	2.630271	.3236306	.3713960	2.644611
#1	.0438971	4.903254	.8363721	5.062334	107.0309	.4024355
#2	.0451763	4.922126	.8793539	5.030687	106.5885	.3982731
#3	.0444394	4.902353	.8465306	5.053567	107.3815	.4186195

Elem	Sr4077
Units	ppm
Avg	11.85274
Stddev	.04022
%RSD	.3393541
#1	11.83175
#2	11.82735
#3	11.89911

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4968.413	81485.95	8513.900	4097.504	4765.120
Stddev	8.020	155.87	36.022	2.156	4.596
%RSD	.1614176	.1912835	.4230940	.0526127	.0964486
#1	4969.943	81580.42	8540.406	4096.894	4761.584
#2	4975.558	81306.04	8528.408	4095.719	4770.315
#3	4959.738	81571.38	8472.887	4099.899	4763.462

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168951BL Acquired: 7/22/2025 17:43:57 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0017639**	**-.000430**	**.0014935**	**-.001388**	**.0002184**	**-.003885**	**.0007645**
Stddev	.0019732	.001148	.0012257	.001675	.0003054	.003418	.0011222
%RSD	111.8676	266.7651	82.07241	120.6510	139.8497	87.96696	146.7931
#1	-.000504	-.001599	.0027665	-.000713	-.000007	-.007580	.0020055
#2	.002709	-.000388	.0013928	-.000156	.000566	-.003237	.0004670
#3	.003087	.000696	.0003212	-.003295	.000096	-.000838	-.000179

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000225**	**-.000052**	**.0112965**	**-.000347**	**.0000552**	**.0000900**	**-.013323**
Stddev	.0000374	.000092	.0081552	.000635	.0000711	.0002990	.001123
%RSD	165.8316	174.8642	72.19204	182.7912	128.7647	332.3641	8.430598
#1	.0000271	.000033	.0031928	-.000556	.0001356	.0000977	-.012279
#2	-.000017	-.000041	.0195021	-.000852	.0000007	.0003850	-.014512
#3	.000057	-.000149	.0111945	.000366	.0000293	-.000213	-.013179

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001886**	**.0160487**	**-.000039**	**.0007043**	**.1858532**	**-.001159**	**.0001654**
Stddev	.0003858	.0249436	.000203	.0005775	.0116992	.002004	.0001730
%RSD	204.6114	155.4250	524.2996	81.99310	6.294864	172.9243	104.6165
#1	.0002172	-.003996	.000184	.0013023	.1979623	-.003464	.0000378
#2	-.000211	.043983	-.000086	.0001498	.1849850	.000165	.0000961
#3	.000559	.008158	-.000213	.0006609	.1746123	-.000177	.0003624

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1043600**	**-.000867**	**-.000148**	**-.000771**	**.0075183**	**.0030744**	**-.000240**
Stddev	.0169914	.000439	.000284	.000525	.0026465	.0070238	.001258
%RSD	16.28154	50.56659	192.0420	68.12011	35.20098	228.4602	524.0706
#1	.0955529	-.000381	-.000425	-.001062	.0077122	.0055588	.001085
#2	.0935801	-.001233	.000142	-.001085	.0047801	-.004854	-.001417
#3	.1239469	-.000989	-.000160	-.000165	.0100625	.008518	-.000387

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168951BL Acquired: 7/22/2025 17:43:57 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0055294	-.009320	.0000597
Stddev	.0021916	.001794	.0000985
%RSD	39.63653	19.25167	164.9573
#1	.0062659	-.011013	.0000631
#2	.0072579	-.007439	-.000040
#3	.0030643	-.009508	.000156

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5572.429	91467.82	8267.382	4640.055	6601.517
Stddev	4.003	318.03	16.738	7.392	6.874
%RSD	.0718432	.3476988	.2024640	.1593168	.1041272
#1	5572.223	91834.14	8280.998	4638.792	6598.818
#2	5576.532	91307.09	8248.694	4633.376	6609.331
#3	5568.533	91262.24	8272.455	4647.998	6596.403

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168951BS Acquired: 7/22/2025 17:48:18 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8062529	1.961925	.9917140	2.043156	.8583748	2.136357
Stddev	.0022047	.086062	.0028412	.002580	.0026784	.003644
%RSD	.2734514	4.386631	.2864975	.1262912	.3120350	.1705562
#1	.8086885	1.863381	.9884378	2.045292	.8587301	2.140463
#2	.8056770	2.000084	.9932012	2.040289	.8555365	2.133509
#3	.8043934	2.022311	.9935030	2.043888	.8608579	2.135100

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2196607	.2213841	.1965116	1.128147	.4224494	.2075623
Stddev	.0005293	.0004966	.0005773	.004622	.0017161	.0005542
%RSD	.2409421	.2243369	.2937558	.4097343	.4062259	.2669993
#1	.2200562	.2215780	.1960346	1.132271	.4244214	.2070388
#2	.2198664	.2217545	.1963468	1.129019	.4212947	.2075053
#3	.2190594	.2208198	.1971533	1.123151	.4216322	.2081427

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3274372	3.188634	.2239426	2.157054	.5246751	.0812549
Stddev	.0007555	.013781	.0009889	.013585	.0010448	.0003154
%RSD	.2307259	.4321792	.4416005	.6297813	.1991264	.3881523
#1	.3280662	3.204298	.2250497	2.146816	.5241204	.0812563
#2	.3265992	3.183227	.2231466	2.172465	.5240246	.0809388
#3	.3276461	3.178377	.2236317	2.151882	.5258802	.0815696

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.969580	.3164675	.2245879	10.21033	.3322969	.4325421
Stddev	.011773	.0049600	.0005145	.02741	.0005991	.0011077
%RSD	.3964692	1.567286	.2290746	.2684090	.1802915	.2560962
#1	2.977654	.3221301	.2244763	10.24178	.3316991	.4312725
#2	2.975014	.3128932	.2251490	10.19158	.3322944	.4330423
#3	2.956071	.3143792	.2241384	10.19763	.3328973	.4333116

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: PB168951BS Acquired: 7/22/2025 17:48:18 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7218382**	**.2141015**	**.8622505**	**5.981384**	F **.0012340**	**.1914215**
Stddev	.0024758	.0013719	.0078359	.023903	.0007800	.0024421
%RSD	.3429837	.6407910	.9087683	.3996279	63.20822	1.275762
#1	.7206138	.2141500	.8681674	5.960342	.0006101	.1931993
#2	.7202133	.2127060	.8652202	5.976436	.0021085	.1886370
#3	.7246876	.2154486	.8533638	6.007374	.0009834	.1924283

Elem	Sr4077
Units	ppm
Avg	**.2167998**
Stddev	.0001661
%RSD	.0765992
#1	.2169439
#2	.2168372
#3	.2166182

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5551.280**	**88974.56**	**8145.652**	**4577.144**	**6488.071**
Stddev	5.434	569.63	33.018	20.738	9.284
%RSD	.0978885	.6402180	.4053461	.4530692	.1430910
#1	5548.359	88351.52	8108.400	4553.381	6497.259
#2	5557.550	89103.48	8157.248	4586.469	6488.261
#3	5547.932	89468.68	8171.308	4591.583	6478.694

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-01 Acquired: 7/22/2025 17:52:19 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2040630**	**-.008193**	**.5732076**	**-.050464**	**-.014679**	**243.0092**
Stddev	.0012396	.001710	.0024881	.003444	.001766	1.9052
%RSD	.6074477	20.87349	.4340637	6.823969	12.02850	.7839961
#1	.2051753	-.006627	.5729007	-.046644	-.015650	242.0394
#2	.2042869	-.010018	.5708872	-.051420	-.012641	241.7840
#3	.2027267	-.007933	.5758349	-.053329	-.015746	245.2041

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.712431**	**.0132411**	**.0149442**	**54.64247**	**.5237049**	**.2727699**
Stddev	.006182	.0001674	.0001780	.33599	.0009156	.0005657
%RSD	.3609876	1.264212	1.191270	.6148819	.1748221	.2073791
#1	1.705391	.0132012	.0147420	54.43562	.5226768	.2724575
#2	1.714928	.0130973	.0150134	54.46165	.5244321	.2724294
#3	1.716973	.0134249	.0150773	55.03014	.5240060	.2734229

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.430770**	**441.8089**	**7.026810**	**112.1180**	**.4782907**	**.0144874**
Stddev	.003693	.7282	.015042	.2699	.0012579	.0005001
%RSD	.2581192	.1648297	.2140680	.2407071	.2629956	3.451848
#1	1.427758	441.7100	7.017953	112.2389	.4772901	.0147204
#2	1.429663	442.5816	7.018298	111.8088	.4778793	.0148284
#3	1.434890	441.1352	7.044178	112.3063	.4797028	.0139133

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.257173**	**.7195885**	**1.722747**	**84.15636**	**^ *******	**.0189165**
Stddev	.015217	.0060160	.004106	.20607	-----	.0006293
%RSD	.6741605	.8360315	.2383561	.2448661	-----	3.326882
#1	2.264794	.7194347	1.722412	84.04228	.0428095	.0181999
#2	2.267075	.7256800	1.727011	84.39424	.0430590	.0191700
#3	2.239652	.7136510	1.718819	84.03255	^ -----	.0193795

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-01 Acquired: 7/22/2025 17:52:19 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0584562	18.46722	2.639753	F 19.40362	10.73250	.6627325
Stddev	.0009961	.00466	.017506	.10315	.05784	.0007453
%RSD	1.704056	.0252350	.6631520	.5315773	.5389242	.1124559
#1	.0580060	18.46544	2.651673	19.28606	10.66580	.6619830
#2	.0595979	18.47251	2.647930	19.47895	10.76882	.6634735
#3	.0577646	18.46372	2.619655	19.44584	10.76288	.6627410

Elem	Sr4077
Units	ppm
Avg	-.197455
Stddev	.001300
%RSD	.6585946
#1	-.198153
#2	-.198257
#3	-.195955

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6411.252	107384.6	10799.75	5381.084	5319.146
Stddev	2.795	68.0	57.00	16.518	7.511
%RSD	.0436016	.0632991	.5278226	.3069681	.1412076
#1	6414.479	107306.2	10803.40	5362.064	5327.736
#2	6409.691	107427.0	10854.85	5389.359	5315.887
#3	6409.586	107420.6	10741.01	5391.829	5313.815

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-03 Acquired: 7/22/2025 17:56:36 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2033092	-.007435	.5760090	-.053234	-.014419	238.9129
Stddev	.0002951	.006001	.0012808	.005733	.002516	2.1875
%RSD	.1451491	80.71540	.2223647	10.76910	17.44954	.9156091
#1	.2029730	-.011980	.5768373	-.053326	-.017003	236.6940
#2	.2034292	-.009693	.5745337	-.058920	-.011977	241.0676
#3	.2035254	-.000632	.5766561	-.047455	-.014277	238.9770

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.679809	.0134711	.0147333	54.27185	.5216306	.2791393
Stddev	.002216	.0000444	.0004677	.14221	.0020534	.0006577
%RSD	.1319255	.3296363	3.174615	.2620362	.3936587	.2356140
#1	1.677251	.0134206	.0151040	54.14425	.5237556	.2784366
#2	1.681114	.0134887	.0148882	54.42517	.5214790	.2792410
#3	1.681063	.0135040	.0142078	54.24612	.5196571	.2797401

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.509752	434.4916	7.212081	107.2281	.4689262	.0105980
Stddev	.002381	1.6114	.005747	.2208	.0006509	.0016502
%RSD	.1577380	.3708616	.0796837	.2058792	.1388005	15.57092
#1	1.511239	432.6786	7.212101	107.4396	.4686513	.0087357
#2	1.507006	435.7605	7.217818	106.9991	.4684579	.0118786
#3	1.511012	435.0356	7.206325	107.2456	.4696694	.0111798

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.148000	.6790607	1.668415	79.98736	^ *****	.0145709
Stddev	.007789	.0017668	.002689	.26291	-----	.0010198
%RSD	.3625929	.2601889	.1611723	.3286947	-----	6.998590
#1	2.141312	.6771604	1.671483	79.72512	^ -----	.0133950
#2	2.156551	.6806538	1.666464	80.25094	^ -----	.0152134
#3	2.146138	.6793680	1.667299	79.98603	^ -----	.0151042

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-03 Acquired: 7/22/2025 17:56:36 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0716020	18.47640	3.764570	F 18.60154	10.50641	.6542545
Stddev	.0005989	.01085	.004937	.08105	.09237	.0010392
%RSD	.8364009	.0587386	.1311426	.4357318	.8791816	.1588354
#1	.0711087	18.47480	3.765598	18.63069	10.55321	.6554354
#2	.0714290	18.46644	3.759200	18.66399	10.56601	.6534796
#3	.0722683	18.48797	3.768913	18.50995	10.40000	.6538486

Elem	Sr4077
Units	ppm
Avg	-.185902
Stddev	.000825
%RSD	.4439458
#1	-.184958
#2	-.186486
#3	-.186262

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6552.507	108206.5	10613.74	5446.927	5483.896
Stddev	7.618	188.6	14.41	5.550	3.532
%RSD	.1162558	.1742522	.1357768	.1018893	.0644124
#1	6544.171	108253.2	10621.78	5449.628	5480.681
#2	6559.107	107999.0	10597.10	5440.544	5487.677
#3	6554.242	108367.3	10622.33	5450.609	5483.329

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-05 Acquired: 7/22/2025 18:00:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1950628**	**-.008524**	**.5377690**	**-.047401**	**-.013253**	**232.8207**
Stddev	.0015243	.003075	.0009691	.001353	.000524	1.2710
%RSD	.7814483	36.07378	.1801995	2.855149	3.955496	.5459278
#1	.1964881	-.011176	.5374622	-.048878	-.013671	234.2862
#2	.1952446	-.009242	.5369904	-.047103	-.013422	232.0192
#3	.1934558	-.005154	.5388543	-.046221	-.012665	232.1566

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.619007**	**.0125272**	**.0134758**	**54.73005**	**.4807749**	**.2579271**
Stddev	.001510	.0001433	.0005847	.17439	.0016451	.0005180
%RSD	.0932977	1.143733	4.339138	.3186397	.3421752	.2008388
#1	1.620729	.0125522	.0139735	54.57934	.4819971	.2575375
#2	1.618387	.0123730	.0128318	54.92106	.4789044	.2577289
#3	1.617905	.0126563	.0136221	54.68974	.4814231	.2585150

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.366157**	**426.7208**	**6.907414**	**105.0635**	**.4549962**	**.0139325**
Stddev	.001848	4.0193	.008411	.1885	.0013768	.0008287
%RSD	.1352341	.9418929	.1217679	.1793826	.3026031	5.948371
#1	1.366461	423.1485	6.899000	105.1543	.4539179	.0131722
#2	1.364176	431.0728	6.907419	104.8468	.4545237	.0148159
#3	1.367833	425.9412	6.915822	105.1893	.4565471	.0138093

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.086866**	**.6618073**	**1.636243**	**78.63426**	**.0278349**	**.0140137**
Stddev	.008041	.0072459	.004361	.16413	.0115874	.0001008
%RSD	.3853151	1.094861	.2665526	.2087253	41.62890	.7195263
#1	2.085338	.6700041	1.641259	78.78821	.0232036	.0141137
#2	2.079699	.6562558	1.634131	78.65300	.0410216	.0140155
#3	2.095562	.6591620	1.633341	78.46156	.0192795	.0139121

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-05 Acquired: 7/22/2025 18:00:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0548762	17.78695	2.355609	F 18.28659	10.04814	.6294072
Stddev	.0008698	.01942	.009155	.02847	.02172	.0009420
%RSD	1.585072	.1091809	.3886614	.1557073	.2161797	.1496671
#1	.0547067	17.80184	2.365467	18.26811	10.05434	.6295733
#2	.0541036	17.76498	2.353987	18.27228	10.06609	.6302551
#3	.0558183	17.79402	2.347374	18.31938	10.02399	.6283932

Elem	Sr4077
Units	ppm
Avg	-.187122
Stddev	.003850
%RSD	2.057475
#1	-.183416
#2	-.191101
#3	-.186847

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6515.092	107719.0	10817.76	5417.136	5484.190
Stddev	14.848	122.2	22.26	9.972	3.660
%RSD	.2278967	.1134822	.2057692	.1840838	.0667423
#1	6526.073	107843.0	10842.90	5406.928	5488.093
#2	6498.199	107715.4	10800.56	5426.854	5483.644
#3	6521.004	107598.6	10809.81	5417.626	5480.834

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV06 Acquired: 7/22/2025 18:05:14 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.171335**	**4.642905**	**5.119290**	**5.171666**	**5.236715**	**10.49250**	**10.69883**
Stddev	.006691	.110812	.010696	.010014	.007862	.00967	.04150
%RSD	.1293843	2.386702	.2089421	.1936340	.1501297	.0921910	.3879040
#1	5.178304	4.739695	5.124692	5.177524	5.232316	10.48601	10.74655
#2	5.164962	4.666990	5.106970	5.160103	5.232037	10.48787	10.67117
#3	5.170738	4.522031	5.126209	5.177371	5.245792	10.50362	10.67878

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2644620**	**2.557238**	**27.11052**	**1.039623**	**2.574855**	**1.302377**	**5.390109**
Stddev	.0007820	.006612	.05288	.000309	.003838	.002065	.019090
%RSD	.2957103	.2585726	.1950710	.0297021	.1490714	.1585565	.3541743
#1	.2653103	2.563176	27.11740	1.039923	2.578349	1.302227	5.368104
#2	.2637698	2.550112	27.15964	1.039306	2.570747	1.300392	5.399993
#3	.2643060	2.558427	27.05454	1.039639	2.575469	1.304513	5.402232

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.698721**	**26.37457**	**2.589686**	**1.332935**	**24.60134**	**2.633004**	**2.692274**
Stddev	.009671	.12388	.004884	.002563	.06871	.008198	.005108
%RSD	.3583614	.4696901	.1885817	.1923181	.2792764	.3113456	.1897311
#1	2.689018	26.23699	2.592869	1.330094	24.54156	2.623894	2.687738
#2	2.708360	26.40949	2.584063	1.335075	24.58606	2.639787	2.697807
#3	2.698784	26.47725	2.592125	1.333635	24.67640	2.635329	2.691278

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**26.31396**	**5.357014**	**5.255795**	**5.145756**	**5.204765**	**5.183157**	**5.144631**
Stddev	.04689	.008663	.004786	.020326	.006325	.029809	.006436
%RSD	.1781974	.1617159	.0910543	.3950023	.1215263	.5751120	.1250987
#1	26.26325	5.366980	5.256633	5.162597	5.197987	5.149426	5.140347
#2	26.35575	5.352778	5.250646	5.123179	5.205798	5.194084	5.141515
#3	26.32287	5.351284	5.260107	5.151493	5.210510	5.205961	5.152032

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV06 Acquired: 7/22/2025 18:05:14 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.022741**	**5.040103**	**5.437676**
Stddev	.018619	.002127	.038858
%RSD	.3706993	.0422109	.7146066
#1	5.044158	5.038141	5.392857
#2	5.010401	5.039803	5.458254
#3	5.013664	5.042364	5.461917

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5426.393**	**85827.69**	**8209.636**	**4416.874**	**6052.573**
Stddev	4.374	285.90	13.133	16.870	14.898
%RSD	.0806134	.3331147	.1599712	.3819536	.2461450
#1	5424.063	86143.62	8214.843	4432.334	6040.443
#2	5431.439	85586.77	8194.698	4398.880	6069.202
#3	5423.676	85752.66	8219.368	4419.407	6048.075

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB06 Acquired: 7/22/2025 18:09:25 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014622	.0000396	.0004754	.0009098	-.000888	-.007377	-.000001
Stddev	.0020205	.0013522	.0005780	.0033372	.001466	.007468	.001324
%RSD	138.1863	3414.769	121.5975	366.8080	165.0537	101.2330	247668.6
#1	-.000681	-.001207	.0003958	.0016858	-.002234	-.015957	-.000222
#2	.001736	.001477	.0010891	-.002747	-.001103	-.002343	-.001200
#3	.003332	-.000151	-.000059	.003791	.000673	-.003831	.001421

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000044	.0000565	-.019842	-.000381	.0000450	.0003520	-.010401
Stddev	.000038	.0000706	.007969	.000241	.0000808	.0002506	.003662
%RSD	86.06101	125.0593	40.16100	63.42806	179.5435	71.18120	35.20885
#1	-.000000	.0000876	-.024897	-.000577	-.000038	.0003298	-.013263
#2	-.000064	.0001062	-.010656	-.000453	.000124	.0006129	-.011667
#3	-.000067	-.000024	-.023973	-.000111	.000049	.0001133	-.006274

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000410	.0091647	-.000050	.0005770	.0176847	-.001922	.0005997
Stddev	.000328	.0097268	.000206	.0002701	.0147719	.003348	.0001050
%RSD	79.85080	106.1333	408.0411	46.81221	83.52917	174.1954	17.50987
#1	-.000652	.0188808	-.000286	.0008196	.0012645	.001920	.0007193
#2	-.000541	.0091859	.000094	.0002859	.0218959	-.004211	.0005568
#3	-.000037	-.000573	.000041	.0006255	.0298937	-.003475	.0005228

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1771615	.0031072	.0009579	-.000864	.0078699	.0035141	.0007319
Stddev	.0076604	.0004534	.0003716	.000012	.0027045	.0138351	.0015940
%RSD	4.323968	14.59358	38.78882	1.401559	34.36476	393.6989	217.7774
#1	.1859364	.0025883	.0013864	-.000860	.0073929	-.005973	.0010923
#2	.1737397	.0034275	.0007620	-.000855	.0054357	.019389	-.001011
#3	.1718084	.0033057	.0007253	-.000878	.0107811	-.002874	.002115

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB06 Acquired: 7/22/2025 18:09:25 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006027	-.009611	-.000017
Stddev	.000531	.000946	.000042
%RSD	8.817873	9.839776	245.2620
#1	-.005956	-.010432	.000014
#2	-.006591	-.008577	-.000000
#3	-.005535	-.009823	-.000064

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5576.284	91939.84	8305.713	4662.509	6584.306
Stddev	13.635	132.04	13.807	4.162	5.835
%RSD	.2445213	.1436198	.1662402	.0892588	.0886131
#1	5590.455	92085.62	8300.138	4664.425	6590.483
#2	5575.140	91905.65	8295.564	4657.735	6583.548
#3	5563.256	91828.26	8321.436	4665.368	6578.888

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-07 Acquired: 7/22/2025 18:13:46 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1845424	-.006565	.4884788	-.043360	-.013724	217.0098	1.553015
Stddev	.0024367	.005171	.0022671	.003395	.001841	2.9286	.001083
%RSD	1.320397	78.76851	.4641044	7.828603	13.41445	1.349528	.0697129
#1	.1873480	-.007342	.4896468	-.041109	-.012863	215.4155	1.553125
#2	.1829560	-.001049	.4899237	-.047265	-.015838	215.2242	1.551881
#3	.1833230	-.011303	.4858659	-.041707	-.012472	220.3896	1.554038

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0117179	.0105292	53.79250	.4639202	.2396501	1.299358	396.8665
Stddev	.0001654	.0001253	.16429	.0012220	.0006768	.002307	1.6146
%RSD	1.411263	1.189580	.3054160	.2634040	.2824100	.1775489	.4068328
#1	.0118743	.0105792	53.86807	.4651897	.2403247	1.298712	397.7449
#2	.0115448	.0103867	53.60402	.4638188	.2389711	1.297443	397.8515
#3	.0117346	.0106218	53.90540	.4627521	.2396543	1.301919	395.0032

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.518448	98.29693	.4177878	.0132543	1.894442	.6135563	1.534134
Stddev	.012205	.17538	.0004119	.0006182	.015295	.0022354	.002557
%RSD	.1872352	.1784204	.0985880	4.664082	.8073552	.3643269	.1667058
#1	6.506599	98.15873	.4181160	.0133680	1.902705	.6153078	1.535038
#2	6.517766	98.23782	.4179218	.0138077	1.903828	.6110386	1.536116
#3	6.530980	98.49422	.4173256	.0125871	1.876793	.6143224	1.531247

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	73.02683	.0373468	.0134557	.0518873	16.60981	1.950062	16.59504
Stddev	.32299	.0129347	.0002738	.0004568	.04338	.019804	.09667
%RSD	.4422893	34.63403	2.035027	.8803967	.2611865	1.015559	.5824966
#1	73.19068	.0443890	.0137620	.0523899	16.56484	1.969368	16.67770
#2	73.23506	.0452324	.0132345	.0517748	16.65141	1.951023	16.48875
#3	72.65475	.0224190	.0133706	.0514973	16.61318	1.929795	16.61868

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-07 Acquired: 7/22/2025 18:13:46 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**11.43578**	**.5919313**	**-.165576**
Stddev	.07210	.0021922	.001783
%RSD	.6305179	.3703409	1.076778
#1	11.48516	.5896785	-.166215
#2	11.35303	.5940574	-.166952
#3	11.46914	.5920581	-.163562

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6372.655**	**105515.9**	**10414.37**	**5293.086**	**5510.515**
Stddev	3.104	46.5	51.30	5.103	4.821
%RSD	.0487107	.0440565	.4925874	.0964074	.0874899
#1	6369.097	105476.9	10437.60	5293.347	5504.995
#2	6374.058	105503.5	10449.95	5287.858	5513.902
#3	6374.810	105567.4	10355.56	5298.053	5512.648

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-09 Acquired: 7/22/2025 18:17:57 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009971	-.002034	.0005153	-.007628	-.003971	-.003912	-.018586
Stddev	.0003766	.000326	.0001957	.000709	.000330	.004177	.000296
%RSD	37.76673	16.01604	37.97955	9.289835	8.318736	106.7889	1.590225
#1	.0012800	-.001673	.0005277	-.008430	-.004328	-.008074	-.018262
#2	.0005697	-.002307	.0007045	-.007089	-.003677	-.003941	-.018841
#3	.0011417	-.002123	.0003137	-.007364	-.003907	.000280	-.018655

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000141	.0002492	-.042328	-.001034	-.000020	-.000586	-.011980
Stddev	.000011	.0000304	.000623	.000022	.000050	.000051	.001358
%RSD	7.752041	12.20697	1.471114	2.087810	246.7468	8.739106	11.33893
#1	-.000136	.0002156	-.043026	-.001057	-.000073	-.000645	-.010826
#2	-.000153	.0002750	-.042130	-.001031	.000026	-.000552	-.013477
#3	-.000133	.0002569	-.041829	-.001014	-.000014	-.000561	-.011636

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000451	-.000210	.0004136	.0000964	-.514213	.0003959	-.000704
Stddev	.000057	.001942	.0000486	.0001779	.003083	.0010872	.000296
%RSD	12.58819	924.7015	11.73711	184.5080	.5995533	274.6073	42.05805
#1	-.000460	-.001202	.0004177	.0002708	-.511609	.0016511	-.000367
#2	-.000391	-.001455	.0003632	-.000085	-.513413	-.000212	-.000920
#3	-.000503	.002027	.0004600	.000103	-.517618	-.000251	-.000827

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.080281	-.002481	-.000575	-.003467	.0067514	-.031769	-.017377
Stddev	.007738	.000318	.000045	.000127	.0006264	.004073	.000243
%RSD	9.638110	12.81930	7.877730	3.651144	9.278274	12.82206	1.398268
#1	-.085698	-.002169	-.000524	-.003583	.0060303	-.028340	-.017099
#2	-.071420	-.002805	-.000611	-.003332	.0071615	-.036271	-.017549
#3	-.083727	-.002468	-.000589	-.003486	.0070623	-.030696	-.017482

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-09 Acquired: 7/22/2025 18:17:57 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**-.014021**	**-.012201**	**-.000155**
Stddev	.000373	.000412	.000015
%RSD	2.660934	3.377390	9.393703
#1	-.014312	-.011752	-.000150
#2	-.013600	-.012288	-.000172
#3	-.014152	-.012562	-.000144

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**25004.36**	**372382.4**	**26010.33**	**20962.19**	**28854.77**
Stddev	155.04	3499.7	286.13	65.70	166.29
%RSD	.6200355	.9398062	1.100065	.3134190	.5763071
#1	25183.17	375108.0	25868.48	21029.69	29046.78
#2	24922.41	368435.8	25822.83	20958.43	28757.35
#3	24907.50	373603.5	26339.67	20898.45	28760.17

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-11 Acquired: 7/22/2025 18:22:25 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2812096	.0014212	.4119258	-.030593	-.010443	183.9034	1.413564
Stddev	.0051217	.0041733	.0020422	.003495	.000494	.0945	.000893
%RSD	1.821291	293.6374	.4957813	11.42474	4.730320	.0513840	.0631476
#1	.2792636	-.002000	.4102955	-.034628	-.010981	183.9763	1.412629
#2	.2773462	.000192	.4142166	-.028615	-.010010	183.9374	1.413655
#3	.2870190	.006071	.4112655	-.028535	-.010338	183.7967	1.414407

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0097766	.0086395	107.0172	.2803589	.1759991	.8051096	298.6868
Stddev	.0001807	.0000937	.5617	.0010353	.0007532	.0030066	1.3980
%RSD	1.848068	1.084600	.5248336	.3692914	.4279747	.3734398	.4680428
#1	.0099838	.0087475	107.2980	.2814248	.1759168	.8064228	297.0744
#2	.0096939	.0085897	106.3705	.2802947	.1752904	.8016697	299.4244
#3	.0096521	.0085812	107.3831	.2793571	.1767901	.8072362	299.5614

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.260566	73.90823	.3184792	.0126176	3.840053	.4365325	1.198240
Stddev	.012051	.04102	.0013750	.0007369	.032835	.0014002	.003401
%RSD	.1924876	.0555036	.4317409	5.840281	.8550748	.3207633	.2837945
#1	6.265581	73.95424	.3194820	.0117778	3.815927	.4349622	1.195682
#2	6.246817	73.87546	.3169118	.0129192	3.877446	.4369841	1.196939
#3	6.269299	73.89501	.3190439	.0131560	3.826787	.4376512	1.202099

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	61.77658	.1514082	.0150969	.0244740	11.34793	2.136595	15.91668
Stddev	.36609	.0111138	.0003905	.0006555	.00553	.020639	.04878
%RSD	.5925971	7.340271	2.586773	2.678293	.0486978	.9659637	.3064663
#1	61.35423	.1386391	.0146763	.0244793	11.35431	2.130735	15.96763
#2	62.00317	.1566840	.0154480	.0238158	11.34479	2.159530	15.87041
#3	61.97233	.1589014	.0151665	.0251267	11.34469	2.119520	15.91200

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-11 Acquired: 7/22/2025 18:22:25 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**13.57438**	**.4092294**	**.1540718**
Stddev	.06441	.0010825	.0014291
%RSD	.4744804	.2645193	.9275539
#1	13.59572	.4079910	.1557188
#2	13.50201	.4097018	.1531602
#3	13.62541	.4099954	.1533363

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6364.136**	**105111.4**	**10654.54**	**5289.673**	**5606.917**
Stddev	22.521	255.7	88.46	8.188	15.088
%RSD	.3538663	.2432513	.8302335	.1547924	.2690964
#1	6366.485	104896.7	10552.48	5297.185	5598.917
#2	6385.390	105043.1	10708.96	5290.889	5624.320
#3	6340.533	105394.3	10702.19	5280.945	5597.514

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-13 Acquired: 7/22/2025 18:26:27 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2668965	-.001153	.3774574	-.029569	-.009832	174.3759	1.347525
Stddev	.0020347	.004532	.0010338	.001560	.002173	.5023	.001628
%RSD	.7623614	393.2170	.2738880	5.274427	22.09845	.2880733	.1208289
#1	.2688800	.001916	.3785272	-.031060	-.007363	173.7982	1.346466
#2	.2669954	-.006358	.3773813	-.029699	-.010679	174.6195	1.349400
#3	.2648142	.000984	.3764638	-.027949	-.011452	174.7100	1.346710

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0093774	.0087998	110.6298	.2586466	.1644335	.7944519	277.8276
Stddev	.0000461	.0001377	.3387	.0005444	.0000767	.0019546	.5345
%RSD	.4910230	1.564955	.3061684	.2104720	.0466312	.2460282	.1923757
#1	.0093832	.0089192	110.2843	.2580803	.1645188	.7950060	277.4278
#2	.0093288	.0086491	110.6438	.2586933	.1643704	.7922801	278.4347
#3	.0094203	.0088309	110.9612	.2591661	.1644113	.7960697	277.6203

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.267612	69.50259	.3039190	.0090423	4.046928	.4297234	1.214359
Stddev	.019402	.34687	.0009682	.0004379	.021187	.0030047	.002190
%RSD	.3095526	.4990752	.3185779	4.842754	.5235429	.6992193	.1803041
#1	6.248184	69.16745	.3030340	.0085450	4.059902	.4262681	1.212914
#2	6.267664	69.48022	.3037700	.0093703	4.058404	.4311795	1.216878
#3	6.286987	69.86010	.3049531	.0092117	4.022478	.4317226	1.213285

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	59.75091	.1153727	.0150281	.0234277	11.12171	2.069486	15.32171
Stddev	.28667	.0051969	.0002232	.0006653	.03523	.013712	.05005
%RSD	.4797764	4.504423	1.485435	2.839673	.3167929	.6625870	.3266818
#1	59.72969	.1182449	.0151930	.0227245	11.08106	2.056859	15.37142
#2	60.04761	.1184995	.0151172	.0240471	11.14050	2.067527	15.27132
#3	59.47544	.1093736	.0147741	.0235115	11.14356	2.084072	15.32238

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2639-13 Acquired: 7/22/2025 18:26:27 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**15.08031**	**.3903650**	**.1807445**
Stddev	.02622	.0022987	.0004643
%RSD	.1738708	.5888644	.2568765
#1	15.11053	.3894818	.1803618
#2	15.06359	.3929744	.1812610
#3	15.06680	.3886389	.1806107

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6317.183**	**106443.4**	**10468.32**	**5308.985**	**5639.761**
Stddev	14.024	22.2	42.83	5.244	9.204
%RSD	.2219956	.0208305	.4091736	.0987734	.1631938
#1	6319.973	106420.1	10491.87	5302.964	5639.880
#2	6329.603	106445.7	10494.22	5311.446	5648.904
#3	6301.974	106464.3	10418.88	5312.547	5630.498

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01 Acquired: 7/22/2025 18:30:30 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0675546	.0050548	.0754007	-.019180	-.009496	64.91688	.2936405
Stddev	.0014123	.0020236	.0002616	.003388	.002239	.04153	.0010214
%RSD	2.090533	40.03246	.3469440	17.66634	23.57783	.0639733	.3478307
#1	.0678336	.0034740	.0751550	-.021808	-.007191	64.89430	.2934075
#2	.0688064	.0043550	.0753713	-.015356	-.011663	64.96480	.2927557
#3	.0660236	.0073354	.0756757	-.020376	-.009633	64.89153	.2947582

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066472	-.002243	17.44384	.1988620	.0629634	.2440637	180.1549
Stddev	.0001888	.000058	.06218	.0009710	.0002932	.0008349	.5183
%RSD	2.840794	2.593510	.3564308	.4882702	.4656362	.3420704	.2877084
#1	.0064292	-.002215	17.37692	.1979827	.0630948	.2436582	179.6020
#2	.0067581	-.002310	17.45477	.1986993	.0631678	.2450239	180.6298
#3	.0067544	-.002205	17.49982	.1999041	.0626275	.2435091	180.2329

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.334305	18.74337	.0924042	.0062726	1.570176	.2528623	.3035938
Stddev	.001861	.01753	.0003296	.0008594	.008448	.0061547	.0009245
%RSD	.1394654	.0935155	.3566770	13.70026	.5380181	2.434001	.3045320
#1	1.332608	18.75359	.0920715	.0052915	1.566476	.2591078	.3046472
#2	1.336295	18.75339	.0927306	.0066342	1.579843	.2468027	.3029171
#3	1.334012	18.72313	.0924104	.0068921	1.564210	.2526764	.3032171

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.110290	.0059504	.0038205	.0091836	.9022224	1.496561	3.702370
Stddev	.020342	.0058429	.0002627	.0005354	.0023414	.008204	.006264
%RSD	.3980682	98.19374	6.877256	5.829571	.2595147	.5481744	.1691789
#1	5.098752	-.000718	.0035570	.0086321	.9009272	1.487398	3.698264
#2	5.133778	.010174	.0038220	.0097012	.9049252	1.499062	3.699266
#3	5.098339	.008396	.0040825	.0092175	.9008147	1.503223	3.709579

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01 Acquired: 7/22/2025 18:30:30 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2775501	.1191334	-.147125
Stddev	.0050363	.0024934	.000552
%RSD	1.814568	2.092930	.3753953
#1	.2748131	.1182069	-.146543
#2	.2744749	.1172360	-.147642
#3	.2833623	.1219574	-.147189

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5945.261	97750.06	9339.712	4976.425	6249.655
Stddev	8.941	286.42	15.133	25.723	4.663
%RSD	.1503967	.2930165	.1620323	.5168961	.0746052
#1	5943.384	98016.19	9355.757	4957.731	6249.247
#2	5937.407	97446.94	9337.686	4965.782	6245.209
#3	5954.992	97787.04	9325.694	5005.761	6254.508

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01DUP Acquired: 7/22/2025 18:34:36 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0655194	.0056786	.0706176	-.017811	-.009715	62.44070	.2997759
Stddev	.0013081	.0002696	.0013420	.000882	.001979	.03295	.0003616
%RSD	1.996468	4.746877	1.900374	4.950459	20.37058	.0527689	.1206320
#1	.0643790	.0057240	.0692023	-.017472	-.011984	62.40549	.2997006
#2	.0669473	.0053892	.0707786	-.017149	-.008815	62.47079	.3001693
#3	.0652321	.0059225	.0718718	-.018812	-.008345	62.44583	.2994579

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0061710	-.001925	6.329083	.1889530	.0664269	.2304895	173.6908
Stddev	.0001442	.000032	.017803	.0003877	.0000667	.0009405	.7650
%RSD	2.336236	1.685550	.2812920	.2051966	.1004038	.4080596	.4404442
#1	.0063311	-.001959	6.320258	.1888298	.0663655	.2313971	173.5532
#2	.0060514	-.001894	6.317417	.1893874	.0664173	.2295192	174.5153
#3	.0061304	-.001923	6.349575	.1886419	.0664979	.2305522	173.0040

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.368556	11.72139	.0880467	.0056728	1.656224	.2427767	.3089103
Stddev	.000631	.02929	.0002166	.0003279	.007019	.0008723	.0006455
%RSD	.0461051	.2498738	.2460073	5.780492	.4238131	.3593039	.2089551
#1	1.368417	11.75215	.0878207	.0056954	1.664162	.2417722	.3096508
#2	1.369245	11.71817	.0880670	.0053342	1.653676	.2432138	.3086132
#3	1.368006	11.69384	.0882525	.0059888	1.650835	.2433440	.3084668

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.109019	.0126661	.0041226	.0106705	.9591365	1.511435	3.374121
Stddev	.036489	.0038789	.0007791	.0006922	.0004826	.001941	.013529
%RSD	.7142021	30.62443	18.89770	6.486630	.0503159	.1283910	.4009515
#1	5.104610	.0145280	.0032468	.0100737	.9593564	1.511236	3.386402
#2	5.147512	.0152630	.0043821	.0114293	.9594699	1.513468	3.376341
#3	5.074935	.0082072	.0047387	.0105086	.9585831	1.509602	3.359619

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01DUP Acquired: 7/22/2025 18:34:36 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2547984	.1124055	-.143446
Stddev	.0046705	.0019399	.000658
%RSD	1.833035	1.725824	.4588889
#1	.2584629	.1142930	-.143356
#2	.2495394	.1125064	-.144145
#3	.2563928	.1104171	-.142838

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5998.544	96503.80	9213.509	4971.530	6354.324
Stddev	8.654	203.12	32.829	7.561	7.797
%RSD	.1442762	.2104831	.3563165	.1520863	.1226979
#1	6000.825	96541.37	9213.914	4975.403	6357.684
#2	6005.829	96284.51	9246.133	4962.818	6359.877
#3	5988.977	96685.52	9180.479	4976.370	6345.411

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01LX5 Acquired: 7/22/2025 18:38:41 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138193	.0018936	.0161047	-.007191	-.003637	13.98742	.0629081
Stddev	.0018370	.0017354	.0003310	.003906	.001649	.06105	.0004897
%RSD	13.29288	91.64486	2.055328	54.31510	45.34356	.4364890	.7783825
#1	.0136448	.0023167	.0158992	-.003778	-.005437	14.05752	.0632567
#2	.0157374	.0033782	.0159283	-.006344	-.002199	13.94590	.0623483
#3	.0120759	-.000014	.0164865	-.011451	-.003275	13.95884	.0631193

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014989	-.000711	3.835822	.0426134	.0124286	.0541891	37.40303
Stddev	.0000772	.000040	.029849	.0002622	.0002138	.0003051	.12813
%RSD	5.149786	5.564857	.7781752	.6152699	1.720453	.5630660	.3425641
#1	.0015832	-.000756	3.870287	.0426935	.0123146	.0543642	37.40027
#2	.0014816	-.000681	3.818965	.0428261	.0122960	.0543662	37.53252
#3	.0014318	-.000695	3.818215	.0423205	.0126753	.0538367	37.27631

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2944207	4.141945	.0181834	.0007984	.3064771	.0524845	.0648111
Stddev	.0004262	.010509	.0002977	.0001486	.0098187	.0009992	.0002099
%RSD	.1447666	.2537198	1.637027	18.61502	3.203715	1.903808	.3239027
#1	.2946908	4.133148	.0185173	.0006290	.3063830	.0521539	.0650095
#2	.2939294	4.139104	.0179457	.0009066	.3163426	.0536071	.0648326
#3	.2946421	4.153582	.0180873	.0008597	.2967059	.0516925	.0645913

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.166913	-.011885	.0007622	.0003204	.1999384	.3096736	.7328285
Stddev	.052706	.001576	.0003184	.0006693	.0012382	.0022805	.0035828
%RSD	4.516725	13.25724	41.77668	208.9060	.6192708	.7364200	.4889033
#1	1.117211	-.013626	.0005847	-.000415	.1998914	.3074552	.7367980
#2	1.222182	-.010557	.0005720	.000482	.2011995	.3095541	.7298343
#3	1.161348	-.011474	.0011297	.000894	.1987245	.3120115	.7318532

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01LX5 Acquired: 7/22/2025 18:38:41 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0506105	.0181185	-.030295
Stddev	.0008767	.0020242	.000155
%RSD	1.732258	11.17173	.5102844
#1	.0501075	.0203132	-.030277
#2	.0516228	.0177175	-.030458
#3	.0501011	.0163249	-.030150

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5743.594	93669.97	8364.905	4788.919	6607.575
Stddev	8.064	116.01	55.295	16.191	9.032
%RSD	.1404071	.1238526	.6610357	.3380892	.1366923
#1	5745.016	93785.24	8303.963	4782.365	6606.868
#2	5750.852	93553.23	8411.871	4807.359	6616.940
#3	5734.913	93671.43	8378.882	4777.032	6598.917

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01MS Acquired: 7/22/2025 18:42:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.7924076**	**1.832494**	**1.049654**	**1.727434**	**.4491539**	**76.11179**	**.5025949**
Stddev	.0017198	.042342	.002842	.014795	.0003080	.06770	.0024771
%RSD	.2170339	2.310622	.2707691	.8564490	.0685730	.0889513	.4928555
#1	.7923488	1.812238	1.046640	1.719332	.4494918	76.05934	.5018953
#2	.7941561	1.881159	1.052286	1.744510	.4490811	76.18822	.5053465
#3	.7907180	1.804085	1.050036	1.718460	.4488889	76.08781	.5005428

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2048727**	**.1947647**	**8.463243**	**.6289548**	**.2741696**	**.5419308**	**181.4563**
Stddev	.0013895	.0014211	.069565	.0043191	.0009888	.0032357	1.2563
%RSD	.6782035	.7296609	.8219680	.6867064	.3606458	.5970636	.6923548
#1	.2040913	.1940491	8.422754	.6338424	.2734867	.5392402	182.7374
#2	.2064770	.1964014	8.543569	.6256519	.2753035	.5455211	180.2264
#3	.2040500	.1938436	8.423406	.6273703	.2737188	.5410311	181.4051

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.600040**	**15.68592**	**.6220993**	**.0775527**	**4.459386**	**.5552985**	**.5338140**
Stddev	.005474	.01167	.0019137	.0006363	.060485	.0013816	.0015664
%RSD	.3421106	.0744200	.3076198	.8204741	1.356363	.2488080	.2934373
#1	1.596370	15.69617	.6213059	.0782826	4.510521	.5565800	.5339149
#2	1.606332	15.67321	.6242821	.0772600	4.392619	.5554806	.5321996
#3	1.597419	15.68837	.6207098	.0771153	4.475018	.5538348	.5353275

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.78758**	**.2617292**	**.3956150**	**.7187780**	**1.146113**	**5.140899**	**9.444581**
Stddev	.12900	.0063630	.0020826	.0040929	.001287	.040725	.067213
%RSD	.8171251	2.431154	.5264229	.5694175	.1122897	.7921789	.7116560
#1	15.91162	.2674931	.3945744	.7162482	1.146904	5.174292	9.390159
#2	15.65412	.2549012	.3980128	.7235000	1.146806	5.095528	9.519711
#3	15.79700	.2627932	.3942578	.7165858	1.144627	5.152876	9.423873

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01MS Acquired: 7/22/2025 18:42:55 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2731417	.3158828	.0568749
Stddev	.0040603	.0021838	.0014831
%RSD	1.486525	.6913260	2.607656
#1	.2700445	.3156197	.0555186
#2	.2777385	.3181863	.0584585
#3	.2716420	.3138426	.0566474

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5903.199	96706.49	8841.727	4944.131	6197.132
Stddev	22.986	383.06	75.920	12.280	25.142
%RSD	.3893804	.3961056	.8586589	.2483748	.4057031
#1	5923.567	96264.20	8880.215	4930.532	6218.277
#2	5878.277	96923.78	8754.271	4954.409	6169.332
#3	5907.752	96931.50	8890.695	4947.451	6203.788

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01MSD Acquired: 7/22/2025 18:46:52 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8061710**	**1.777718**	**1.047467**	**1.738954**	**.4665641**	**77.91222**	**.5118099**
Stddev	.0026440	.069278	.003525	.013001	.0022955	.07741	.0004814
%RSD	.3279741	3.896994	.3365356	.7476202	.4920060	.0993586	.0940553
#1	.8074826	1.732966	1.050755	1.742979	.4686913	77.84631	.5113661
#2	.8031276	1.742672	1.043745	1.724417	.4668701	77.89288	.5117420
#3	.8079029	1.857517	1.047902	1.749467	.4641309	77.99747	.5123217

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1996678**	**.1961077**	**7.900072**	**.5922195**	**.2763657**	**.5396664**	**181.5319**
Stddev	.0008407	.0005880	.021309	.0009012	.0007593	.0009541	.3843
%RSD	.4210628	.2998400	.2697292	.1521702	.2747608	.1767963	.2117125
#1	.1987021	.1959976	7.906755	.5912397	.2764131	.5397639	181.9113
#2	.2002362	.1955826	7.876223	.5924058	.2755838	.5386673	181.5416
#3	.2000652	.1967430	7.917239	.5930129	.2771002	.5405680	181.1428

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.619181**	**15.97424**	**.6280871**	**.0798568**	**4.515492**	**.5507374**	**.5412220**
Stddev	.002274	.05791	.0017871	.0001475	.045580	.0009085	.0005543
%RSD	.1404180	.3625029	.2845338	.1846939	1.009419	.1649631	.1024148
#1	1.618042	15.93769	.6299011	.0800122	4.550114	.5508445	.5415093
#2	1.617702	15.94402	.6263282	.0798395	4.532512	.5497801	.5405831
#3	1.621799	16.04100	.6280319	.0797188	4.463851	.5515876	.5415737

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**15.90899**	**.2556570**	**.4059029**	**.7190741**	**1.132357**	**2.222979**	**9.560950**
Stddev	.05685	.0023200	.0001721	.0026710	.002605	.016345	.053344
%RSD	.3573482	.9074668	.0424019	.3714532	.2300562	.7352578	.5579331
#1	15.93391	.2571564	.4057100	.7179816	1.132885	2.225834	9.591730
#2	15.94913	.2529847	.4059578	.7171226	1.129529	2.237708	9.499355
#3	15.84393	.2568298	.4060409	.7221182	1.134658	2.205395	9.591767

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01MSD Acquired: 7/22/2025 18:46:52 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2344121	.3126415	.0539211
Stddev	.0027524	.0021978	.0005357
%RSD	1.174165	.7029872	.9933922
#1	.2373892	.3110972	.0533405
#2	.2319602	.3151577	.0540268
#3	.2338869	.3116696	.0543960

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5903.058	97301.31	9152.547	4948.333	6178.940
Stddev	14.073	205.80	23.833	8.826	10.938
%RSD	.2384016	.2115039	.2603954	.1783551	.1770158
#1	5886.900	97122.82	9172.939	4938.270	6167.577
#2	5909.641	97254.70	9158.355	4954.757	6189.396
#3	5912.633	97526.41	9126.347	4951.973	6179.845

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01A Acquired: 7/22/2025 18:50:49 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.8158272**	**1.890016**	**1.055335**	**1.807052**	**.7806169**	**66.06232**	**.4900589**
Stddev	.0042317	.028595	.003382	.005142	.0005964	.03219	.0015456
%RSD	.5186961	1.512963	.3204750	.2845464	.0764066	.0487234	.3153877
#1	.8121382	1.865096	1.051440	1.804236	.7812733	66.02592	.4884118
#2	.8148968	1.883716	1.057044	1.803933	.7801083	66.08702	.4914775
#3	.8204467	1.921236	1.057522	1.812987	.7804690	66.07402	.4902876

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1989714**	**.1970493**	**18.11316**	**.5837902**	**.2732267**	**.5382807**	**179.9995**
Stddev	.0009120	.0005012	.01710	.0007996	.0005971	.0014639	.9055
%RSD	.4583672	.2543291	.0944292	.1369669	.2185519	.2719596	.5030349
#1	.1999903	.1966658	18.09413	.5846678	.2727101	.5371862	178.9780
#2	.1982315	.1968659	18.11812	.5835998	.2730895	.5377124	180.7033
#3	.1986923	.1976164	18.12724	.5831029	.2738805	.5399436	180.3171

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.518327**	**20.35946**	**.6201556**	**.0803941**	**4.407000**	**.5511220**	**.5090927**
Stddev	.001324	.06163	.0014560	.0001610	.013716	.0042269	.0006302
%RSD	.0872060	.3027043	.2347739	.2002608	.3112257	.7669545	.1237896
#1	1.519798	20.38098	.6188254	.0805548	4.404530	.5465014	.5090427
#2	1.517956	20.28996	.6199302	.0803948	4.421783	.5520707	.5084889
#3	1.517229	20.40745	.6217111	.0802328	4.394687	.5547939	.5097463

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.78893**	**.2867436**	**.4155162**	**.7423462**	**1.084398**	**2.380272**	**9.726164**
Stddev	.09098	.0020343	.0009142	.0028968	.003553	.038018	.023829
%RSD	.6151576	.7094461	.2200100	.3902267	.3276916	1.597214	.2449984
#1	14.68429	.2845852	.4151768	.7396589	1.083107	2.336498	9.705126
#2	14.83330	.2886255	.4148202	.7419648	1.088417	2.405025	9.721325
#3	14.84921	.2870200	.4165515	.7454148	1.081671	2.399293	9.752041

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-01A Acquired: 7/22/2025 18:50:49 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2752370	.3048569	.0534497
Stddev	.0030764	.0015904	.0008205
%RSD	1.117729	.5216852	1.535088
#1	.2736060	.3041676	.0541705
#2	.2787855	.3066757	.0525569
#3	.2733195	.3037275	.0536219

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5877.871	96710.48	9199.846	4908.982	6143.244
Stddev	9.788	176.41	31.360	5.339	8.916
%RSD	.1665202	.1824084	.3408723	.1087599	.1451296
#1	5872.203	96913.06	9166.113	4907.546	6146.614
#2	5889.173	96590.72	9228.114	4904.508	6149.983
#3	5872.236	96627.66	9205.312	4914.892	6133.135

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV07 Acquired: 7/22/2025 18:54:47 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.187065**	**4.572224**	**5.129606**	**5.186230**	**5.254204**	**10.38734**
Stddev	.008553	.103663	.011135	.006694	.006761	.02373
%RSD	.1648998	2.267237	.2170732	.1290810	.1286838	.2284406
#1	5.179478	4.547726	5.140125	5.178522	5.250548	10.38260
#2	5.185380	4.685942	5.117943	5.189573	5.250058	10.36634
#3	5.196335	4.483004	5.130750	5.190594	5.262006	10.41308

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.61662**	**.2665914**	**2.569379**	**26.85674**	**1.010326**	**2.576692**
Stddev	.12612	.0011899	.002463	.19300	.002463	.002829
%RSD	1.187950	.4463553	.0958535	.7186184	.2438102	.1098049
#1	10.73186	.2672076	2.572212	26.65059	1.009875	2.579604
#2	10.48189	.2652198	2.568181	26.88652	1.008120	2.573953
#3	10.63611	.2673469	2.567745	27.03312	1.012984	2.576520

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.307865**	**5.136067**	**2.684990**	**26.21155**	**2.597365**	**1.316304**
Stddev	.002199	.021620	.007808	.12233	.000960	.002544
%RSD	.1681723	.4209461	.2907887	.4666966	.0369482	.1932761
#1	1.308083	5.111115	2.676943	26.28994	2.598392	1.314720
#2	1.305564	5.147873	2.685492	26.07059	2.596491	1.314953
#3	1.309947	5.149214	2.692534	26.27412	2.597211	1.319238

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**23.33950**	**2.621452**	**2.650582**	**25.15491**	F **5.532857**	**5.270310**
Stddev	.02704	.004552	.012124	.13668	.015833	.005400
%RSD	.1158589	.1736332	.4574112	.5433354	.2861647	.1024680
#1	23.31149	2.618397	2.639514	25.00586	5.535243	5.269531
#2	23.36545	2.626683	2.648692	25.18452	5.515967	5.265341
#3	23.34155	2.619275	2.663540	25.27436	5.547362	5.276057

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV07 Acquired: 7/22/2025 18:54:47 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.155120**	**5.162470**	**4.930994**	**5.173381**	**5.031831**	**4.980569**
Stddev	.009732	.009424	.021414	.008545	.008341	.008546
%RSD	.1887847	.1825411	.4342695	.1651715	.1657616	.1715821
#1	5.166253	5.170129	4.908528	5.173583	5.033417	4.970740
#2	5.150875	5.151947	4.933282	5.164736	5.039266	4.984732
#3	5.148230	5.165335	4.951172	5.181822	5.022812	4.986236

Elem	Sr4077
Units	ppm
Avg	**5.370459**
Stddev	.066132
%RSD	1.231400
#1	5.347332
#2	5.318996
#3	5.445048

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5435.425**	**89085.22**	**8180.077**	**4499.391**	**6060.021**
Stddev	6.223	273.37	22.045	22.727	11.820
%RSD	.1144842	.3068689	.2694910	.5051152	.1950570
#1	5428.267	89349.00	8185.079	4525.262	6047.929
#2	5439.548	89103.49	8199.192	4490.269	6060.582
#3	5438.460	88803.17	8155.962	4482.642	6071.550

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB07 Acquired: 7/22/2025 18:58:58 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007640	.0002848	.0006849	.0007800	.0013863	-.010005	-.001112
Stddev	.0015766	.0006347	.0006197	.0007739	.0007766	.010960	.000463
%RSD	206.3487	222.8557	90.48358	99.22473	56.02178	109.5460	41.60880
#1	.0007548	-.000437	.0008243	.0013152	.0008162	.001665	-.001597
#2	.0023452	.000537	.0012230	-.000107	.0022708	-.011600	-.000676
#3	-.000808	.000755	.0000074	.001132	.0010718	-.020080	-.001061

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000011	.0000718	.0147268	.0019402	.0000032	.0004160	.0251851
Stddev	.000035	.0001497	.0051772	.0002846	.0001522	.0000670	.0051689
%RSD	322.6720	208.4128	35.15517	14.67121	4721.322	16.10811	20.52364
#1	.000005	.0000308	.0087498	.0022645	.0000783	.0004658	.0220977
#2	.000014	-.000053	.0176116	.0018242	.0001033	.0004425	.0311525
#3	-.000051	.000238	.0178189	.0017318	-.000172	.0003398	.0223052

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043104	.0234441	.0003230	.0004502	-.018610	-.002425	.0179135
Stddev	.0004081	.0195610	.0001074	.0000618	.004709	.001605	.0003838
%RSD	9.467802	83.43703	33.26401	13.73164	25.30248	66.17752	2.142775
#1	.0043136	.0309052	.0002084	.0003923	-.014781	-.003750	.0174848
#2	.0047168	.0012505	.0004215	.0004431	-.017181	-.000641	.0180305
#3	.0039007	.0381764	.0003390	.0005153	-.023867	-.002885	.0182253

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1855818	.0029141	.0011261	-.000709	.0050024	.0054273	.0009059
Stddev	.0155919	.0004281	.0002339	.000563	.0013134	.0026991	.0011871
%RSD	8.401637	14.69063	20.77210	79.43600	26.25600	49.73133	131.0515
#1	.1924154	.0033376	.0013692	-.001358	.0065172	.0075229	.0005329
#2	.1677398	.0029233	.0011063	-.000422	.0041802	.0023817	-.000050
#3	.1965901	.0024815	.0009026	-.000347	.0043098	.0063773	.002235

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB07 Acquired: 7/22/2025 18:58:58 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0051718	-.006959	.0000374
Stddev	.0024393	.001802	.0000202
%RSD	47.16570	25.89752	54.09573
#1	.0028346	-.008604	.0000142
#2	.0049790	-.005033	.0000465
#3	.0077018	-.007241	.0000514

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5682.814	91962.17	8369.015	4684.087	6795.997
Stddev	13.320	229.16	28.047	14.635	14.236
%RSD	.2343901	.2491931	.3351295	.3124367	.2094832
#1	5693.930	92210.91	8401.400	4671.563	6810.230
#2	5686.463	91915.98	8352.584	4700.175	6796.004
#3	5668.050	91759.62	8353.062	4680.525	6781.757

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-02 Acquired: 7/22/2025 19:03:17 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0648486	.0067202	.1109706	-.024234	-.010867	152.7512	.4516478
Stddev	.0044889	.0008540	.0016826	.001827	.002260	.2988	.0008823
%RSD	6.922041	12.70855	1.516305	7.539419	20.79414	.1956095	.1953532
#1	.0627972	.0057570	.1096398	-.024064	-.010509	153.0076	.4526431
#2	.0617520	.0073851	.1104100	-.022499	-.008808	152.8229	.4509619
#3	.0699967	.0070186	.1128620	-.026141	-.013285	152.4231	.4513383

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077068	-.000026	33.93744	.3682102	.0956696	.3858744	221.6865
Stddev	.0001524	.000032	.20466	.0002906	.0002357	.0012985	.4776
%RSD	1.977366	124.8161	.6030373	.0789198	.2463697	.3365002	.2154255
#1	.0078293	-.000053	34.15192	.3682384	.0953986	.3861544	221.1953
#2	.0077548	-.000034	33.74428	.3679066	.0958271	.3844587	221.7150
#3	.0075361	.000010	33.91613	.3684857	.0957831	.3870100	222.1492

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.893411	28.16306	.1815672	.0076700	.5941013	.3767543	.4357007
Stddev	.005014	.07079	.0004524	.0002578	.0091240	.0033530	.0001313
%RSD	.2648193	.2513571	.2491726	3.361143	1.535770	.8899754	.0301478
#1	1.899164	28.23254	.1813505	.0074311	.5932221	.3803888	.4356660
#2	1.891095	28.16562	.1812639	.0076357	.5854487	.3760928	.4358459
#3	1.889973	28.09103	.1820872	.0079433	.6036331	.3737813	.4355902

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.554687	.0328142	.0034048	.0136029	1.903913	1.528399	3.994684
Stddev	.044178	.0047150	.0002423	.0001341	.003726	.014580	.014789
%RSD	.4623729	14.36873	7.115442	.9857764	.1957128	.9539302	.3702110
#1	9.525114	.0299478	.0036307	.0135115	1.908163	1.538108	3.982862
#2	9.605470	.0302387	.0034347	.0137568	1.902371	1.535455	3.989922
#3	9.533476	.0382560	.0031489	.0135404	1.901205	1.511633	4.011267

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-02 Acquired: 7/22/2025 19:03:17 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.236886	.1907943	-.138292
Stddev	.029051	.0017511	.000590
%RSD	.5547410	.9177708	.4268872
#1	5.210791	.1925378	-.137628
#2	5.231679	.1908093	-.138490
#3	5.268189	.1890358	-.138758

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6454.654	103932.6	10111.98	5325.626	6036.715
Stddev	10.503	148.9	56.40	9.180	7.821
%RSD	.1627259	.1432949	.5577583	.1723807	.1295542
#1	6448.343	103799.8	10050.98	5323.355	6038.179
#2	6466.779	103904.4	10122.74	5335.729	6043.701
#3	6448.839	104093.6	10162.23	5317.795	6028.266

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-03 Acquired: 7/22/2025 19:07:20 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0676198	.0058019	.1015545	-.015953	-.008035	119.8841	.3687670
Stddev	.0031224	.0026647	.0019581	.001185	.000812	.1872	.0011473
%RSD	4.617608	45.92886	1.928157	7.429578	10.10617	.1561779	.3111256
#1	.0640182	.0051497	.0992941	-.014724	-.008229	119.7835	.3679643
#2	.0692769	.0035238	.1027323	-.017089	-.007144	120.1002	.3700811
#3	.0695644	.0087322	.1026371	-.016047	-.008733	119.7688	.3682556

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0064831	-.001330	6.620593	.3232115	.0882202	.3107792	189.6468
Stddev	.0000201	.000145	.010929	.0019429	.0001758	.0017200	.4784
%RSD	.3102694	10.88598	.1650774	.6011124	.1993186	.5534407	.2522421
#1	.0064776	-.001200	6.612845	.3242994	.0880329	.3089243	189.1077
#2	.0065054	-.001303	6.615841	.3243666	.0882458	.3110919	190.0205
#3	.0064663	-.001486	6.633094	.3209684	.0883818	.3123213	189.8123

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.865267	17.41659	.1415099	.0068280	2.519190	.2598264	.3989959
Stddev	.004290	.04025	.0005565	.0000561	.014386	.0011771	.0012676
%RSD	.2299867	.2311197	.3932496	.8217167	.5710686	.4530499	.3177022
#1	1.861441	17.41509	.1411572	.0068922	2.502959	.2587055	.3998171
#2	1.869905	17.37711	.1412211	.0067885	2.524243	.2610527	.3996346
#3	1.864456	17.45757	.1421515	.0068032	2.530369	.2597210	.3975360

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.851099	.0219044	.0027943	.0132525	1.732249	1.463545	3.251621
Stddev	.034353	.0032050	.0002063	.0007106	.001287	.010382	.007150
%RSD	.4375586	14.63173	7.382725	5.362392	.0742777	.7093666	.2199009
#1	7.861428	.0182298	.0026272	.0139118	1.730825	1.474874	3.244084
#2	7.879103	.0233611	.0027308	.0133461	1.732591	1.461273	3.252472
#3	7.812767	.0241222	.0030249	.0124997	1.733330	1.454487	3.258308

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-03 Acquired: 7/22/2025 19:07:20 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2297226	.1602726	-.155073
Stddev	.0013116	.0018574	.000460
%RSD	.5709483	1.158881	.2968541
#1	.2286224	.1591215	-.154545
#2	.2293712	.1624153	-.155286
#3	.2311740	.1592809	-.155388

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6247.772	100413.7	9681.039	5133.092	6197.454
Stddev	14.035	353.9	28.348	4.807	8.660
%RSD	.2246372	.3524414	.2928176	.0936496	.1397305
#1	6263.457	100534.6	9673.434	5135.407	6205.429
#2	6243.461	100015.2	9657.270	5136.303	6198.691
#3	6236.399	100691.3	9712.414	5127.565	6188.242

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-04 Acquired: 7/22/2025 19:11:24 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0596186	.0064939	.1142428	-.017288	-.007120	121.8762	.3883898
Stddev	.0029098	.0034892	.0006657	.005225	.001593	.0625	.0006755
%RSD	4.880733	53.73069	.5826921	30.22367	22.36827	.0512605	.1739232
#1	.0605989	.0105229	.1134826	-.013595	-.006457	121.9085	.3880772
#2	.0563453	.0044578	.1147215	-.015002	-.008937	121.8042	.3891650
#3	.0619117	.0045011	.1145244	-.023266	-.005966	121.9160	.3879273

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056717	-.001788	10.00184	.3059818	.0695658	.2910297	165.3827
Stddev	.0001014	.000105	.04421	.0007682	.0001973	.0019447	.4871
%RSD	1.787649	5.848468	.4420358	.2510589	.2835857	.6682190	.2945483
#1	.0056112	-.001745	9.95835	.3057492	.0696400	.2899585	165.2545
#2	.0056152	-.001907	10.00045	.3053569	.0693422	.2898560	165.9211
#3	.0057888	-.001712	10.04674	.3068395	.0697153	.2932745	164.9725

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.605546	16.88060	.1329046	.0055057	.7755982	.2304562	.3515516
Stddev	.001052	.04946	.0002810	.0004247	.0097201	.0004631	.0007018
%RSD	.0655005	.2929983	.2114276	7.714366	1.253236	.2009529	.1996257
#1	1.605072	16.89918	.1325854	.0057086	.7777327	.2302413	.3523532
#2	1.604816	16.82454	.1331149	.0057910	.7649883	.2309877	.3512534
#3	1.606752	16.91807	.1330133	.0050176	.7840737	.2301395	.3510481

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.044393	.0077519	.0025369	.0113868	1.461190	1.502046	2.952179
Stddev	.056776	.0036791	.0005546	.0001820	.004325	.006698	.008185
%RSD	.7057806	47.46078	21.86145	1.598676	.2959979	.4459005	.2772579
#1	8.044466	.0098081	.0023855	.0112566	1.457862	1.496842	2.946706
#2	8.101133	.0099431	.0020738	.0113090	1.466079	1.509603	2.948242
#3	7.987581	.0035043	.0031515	.0115948	1.459630	1.499694	2.961589

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-04 Acquired: 7/22/2025 19:11:24 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.312858	.1437799	-.120004
Stddev	.005139	.0042436	.000439
%RSD	.3914532	2.951449	.3654459
#1	1.308512	.1427077	-.119804
#2	1.311532	.1484567	-.120507
#3	1.318530	.1401752	-.119701

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6028.814	98911.79	9458.946	5063.829	6130.440
Stddev	13.911	286.02	38.416	27.043	17.599
%RSD	.2307498	.2891700	.4061354	.5340498	.2870810
#1	6040.498	99192.57	9484.712	5033.328	6140.692
#2	6032.519	98620.79	9477.333	5073.282	6140.509
#3	6013.426	98922.01	9414.792	5084.877	6110.118

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-05 Acquired: 7/22/2025 19:15:30 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0715736	.0041183	.1068836	-.021724	-.009141	113.3970	.3440688
Stddev	.0004107	.0046760	.0015690	.003091	.000940	.1046	.0005624
%RSD	.5738216	113.5415	1.467938	14.22708	10.28900	.0922113	.1634634
#1	.0711401	.0023477	.1057224	-.020815	-.010053	113.3558	.3436695
#2	.0719569	.0094211	.1086686	-.019189	-.009195	113.5159	.3447120
#3	.0716237	.0005862	.1062598	-.025167	-.008174	113.3194	.3438249

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074366	-.000269	9.138572	.2422565	.0797147	.3329085	201.4647
Stddev	.0000832	.000267	.026556	.0018793	.0003452	.0005432	1.7850
%RSD	1.118370	99.27112	.2905905	.7757416	.4330766	.1631692	.8860169
#1	.0073406	-.000406	9.159862	.2429975	.0793413	.3326881	202.5539
#2	.0074856	.000039	9.108815	.2401197	.0797803	.3335273	199.4047
#3	.0074836	-.000440	9.147040	.2436523	.0800224	.3325101	202.4355

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.400181	14.50697	.1354187	.0069530	4.623846	.3158804	.3566145
Stddev	.001070	.03560	.0003886	.0009162	.050111	.0024191	.0014596
%RSD	.0764032	.2454155	.2869944	13.17730	1.083742	.7658371	.4092993
#1	1.400705	14.54599	.1354846	.0077141	4.663301	.3160025	.3567846
#2	1.400888	14.47625	.1357702	.0059361	4.567464	.3182361	.3550773
#3	1.398951	14.49867	.1350014	.0072088	4.640774	.3134025	.3579816

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.980168	.0046823	.0032439	.0132758	1.524826	1.651410	3.944713
Stddev	.035614	.0048307	.0001875	.0010679	.000725	.007152	.001951
%RSD	.5102152	103.1693	5.779578	8.043855	.0475186	.4330646	.0494574
#1	7.004537	.0050104	.0031205	.0139608	1.525580	1.649516	3.946566
#2	6.939296	-.000304	.0034596	.0138213	1.524135	1.645397	3.944895
#3	6.996671	.009341	.0031515	.0120454	1.524763	1.659319	3.942677

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: Q2651-05 Acquired: 7/22/2025 19:15:30 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8547898	.1389393	-.154086
Stddev	.0055101	.0021954	.001841
%RSD	.6446171	1.580096	1.194590
#1	.8499346	.1387529	-.155241
#2	.8536563	.1368431	-.151963
#3	.8607786	.1412219	-.155053

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6266.918	103007.8	9835.397	5284.647	6156.235
Stddev	2.318	578.7	20.118	14.756	3.346
%RSD	.0369901	.5618293	.2045465	.2792211	.0543577
#1	6268.812	102672.3	9856.725	5273.655	6156.155
#2	6267.608	103676.1	9816.760	5301.418	6159.621
#3	6264.333	102675.0	9832.706	5278.869	6152.930

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV08 Acquired: 7/22/2025 19:19:35 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**5.256530**	**5.014776**	**5.150043**	**5.294709**	**5.335577**	**10.57196**	**10.77899**
Stddev	.006510	.132197	.009780	.014036	.004722	.01722	.05938
%RSD	.1238501	2.636152	.1898947	.2650896	.0885086	.1628637	.5508729
#1	5.263688	5.111105	5.158732	5.304363	5.330956	10.55991	10.71498
#2	5.250962	4.864061	5.151945	5.278608	5.335379	10.56428	10.78973
#3	5.254940	5.069161	5.139453	5.301157	5.340395	10.59168	10.83227

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2699039**	**2.579726**	**27.21730**	**1.047494**	**2.598449**	**1.317416**	**5.335716**
Stddev	.0021206	.005217	.21255	.002002	.004527	.002568	.006432
%RSD	.7856876	.2022362	.7809532	.1910825	.1742331	.1949356	.1205509
#1	.2687448	2.584210	27.05450	1.048326	2.600748	1.317583	5.343141
#2	.2686154	2.580967	27.13963	1.045211	2.601366	1.319897	5.332140
#3	.2723514	2.574000	27.45776	1.048946	2.593233	1.314769	5.331866

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.717257**	**26.60485**	**2.611956**	**1.334867**	**24.48492**	**2.659524**	**2.708963**
Stddev	.008229	.04142	.004388	.002195	.16035	.004116	.004083
%RSD	.3028320	.1556907	.1680072	.1644261	.6548752	.1547474	.1507126
#1	2.710312	26.58970	2.611893	1.332373	24.58103	2.654928	2.706777
#2	2.715113	26.57313	2.616375	1.335724	24.57391	2.660775	2.706439
#3	2.726345	26.65171	2.607599	1.336504	24.29981	2.662869	2.713673

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**25.93946**	**5.460395**	**5.337848**	**5.214773**	**5.239584**	**5.112044**	**5.196210**
Stddev	.09400	.046558	.009368	.010957	.006562	.012468	.027188
%RSD	.3623816	.8526547	.1754937	.2101183	.1252450	.2438854	.5232362
#1	25.98737	5.427369	5.345039	5.227399	5.233773	5.102117	5.227241
#2	25.99986	5.440171	5.327254	5.207756	5.246701	5.107978	5.176570
#3	25.83116	5.513646	5.341250	5.209165	5.238279	5.126037	5.184818

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCV08 Acquired: 7/22/2025 19:19:35 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	**5.141680**	**5.069847**	**5.451775**
Stddev	.024699	.006457	.075419
%RSD	.4803631	.1273665	1.383393
#1	5.163339	5.076010	5.377978
#2	5.114782	5.063131	5.448629
#3	5.146918	5.070399	5.528718

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5449.315**	**87569.60**	**8224.858**	**4505.368**	**6089.019**
Stddev	11.512	188.95	67.278	4.663	17.169
%RSD	.2112477	.2157708	.8179896	.1035045	.2819609
#1	5439.546	87783.16	8275.960	4507.592	6076.062
#2	5446.392	87424.14	8249.980	4508.503	6082.502
#3	5462.006	87501.50	8148.633	4500.009	6108.492

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB08 Acquired: 7/22/2025 19:23:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0022661**	**.0004058**	**.0006134**	**.0013334**	**-.000508**	**.0002798**
Stddev	.0021528	.0017094	.0004884	.0055752	.000106	.0079741
%RSD	94.99840	421.2312	79.62466	418.1325	20.84396	2849.599
#1	.0026042	-.000736	.0000514	.0003554	-.000414	-.005589
#2	-.000036	-.000417	.0008534	-.003688	-.000488	-.002930
#3	.004230	.002371	.0009354	.007333	-.000623	.009359

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.002086**	**-.000096**	**.0000946**	**-.020962**	**.0003224**	**.0001957**
Stddev	.000786	.000059	.0000890	.001698	.0005271	.0000839
%RSD	37.69429	61.30112	94.02017	8.098504	163.4936	42.88074
#1	-.002789	-.000097	.0001320	-.022170	.0009301	.0002926
#2	-.002233	-.000037	.0001588	-.019021	.0000478	.0001464
#3	-.001237	-.000155	-.000007	-.021696	-.000011	.0001481

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000908**	**-.005715**	**-.000019**	**-.016562**	**.0001325**	**.0002922**
Stddev	.0004550	.001689	.000137	.017241	.0001776	.0003464
%RSD	500.8798	29.55311	716.1602	104.1026	134.0614	118.5391
#1	.0003554	-.007380	.000062	-.036254	.0002719	.0000770
#2	.0003516	-.004003	.000058	-.009252	.0001930	.0001079
#3	-.000435	-.005761	-.000178	-.004180	-.000067	.0006918

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.081216**	**-.005895**	**.0001188**	**.1220875**	**.0025353**	**.0012376**
Stddev	.018335	.001366	.0001035	.0176168	.0007257	.0001289
%RSD	22.57607	23.17619	87.10611	14.42963	28.62503	10.41822
#1	-.081909	-.006819	.0002247	.1331737	.0033466	.0011644
#2	-.062544	-.006539	.0001139	.1313151	.0023111	.0013865
#3	-.099196	-.004325	.0000179	.1017737	.0019481	.0011620

Reviewed By:jaswal
On:7/23/2025 3:53:24 PM
Inst Id :P4
LB :LB136571

Sample Name: CCB08 Acquired: 7/22/2025 19:23:45 Type: Unk
Method: 6010-200.7 NEW(v53) Mode: CONC Corr. Factor: 1.000000
User: Jaswal Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000526	.0050912	.0013317	.0003528	-.006571	F -.010306
Stddev	.000166	.0010997	.0103378	.0019763	.003247	.000503
%RSD	31.50596	21.59880	776.2972	560.1584	49.41268	4.879372
#1	-.000370	.0039164	.0132323	.0025435	-.010173	-.010537
#2	-.000700	.0060958	-.005426	-.001296	-.003870	-.009729
#3	-.000508	.0052615	-.003811	-.000189	-.005670	-.010651

Elem	Sr4077
Units	ppm
Avg	.0000693
Stddev	.0000503
%RSD	72.54992
#1	.0001186
#2	.0000181
#3	.0000712

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5616.363	94093.94	8592.299	4789.859	6638.038
Stddev	6.559	210.08	45.979	8.821	12.234
%RSD	.1167830	.2232621	.5351143	.1841697	.1842970
#1	5619.053	93874.71	8632.354	4793.163	6632.947
#2	5621.149	94113.62	8602.450	4796.551	6651.995
#3	5608.886	94293.48	8542.093	4779.862	6629.171

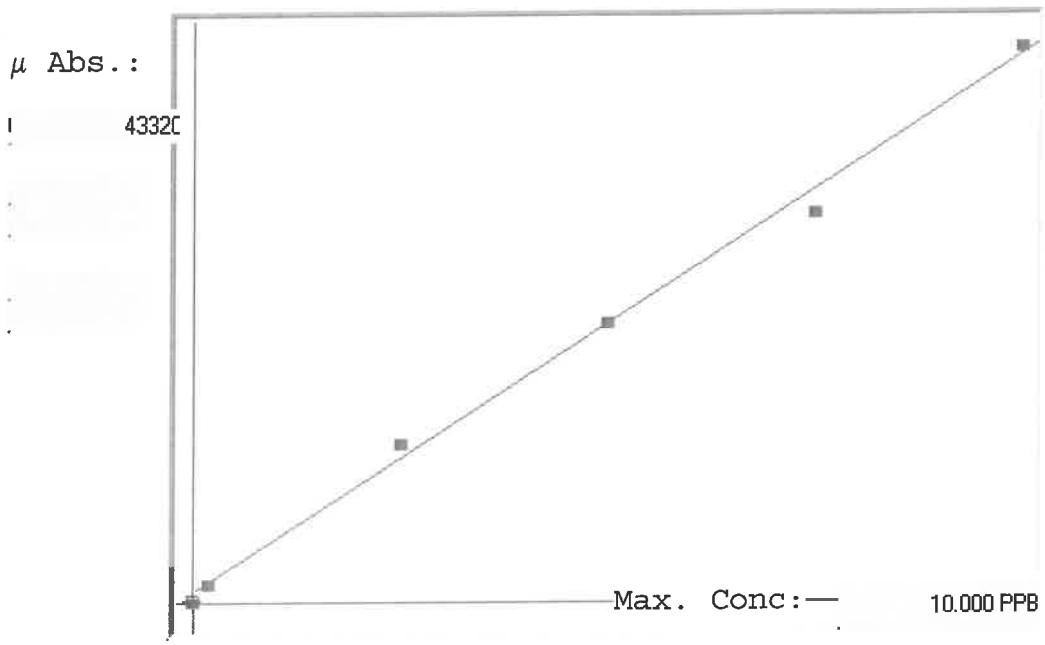
Reviewed By:jaswal
On:7/23/2025 3:56:59 PM
Inst Id :CV1
LB :LB136570

LB136570

7470A

INSTRUMENT ID: CV1

Linear



A= 0.0000e+000

B= 2.3856e-004

C= -1.8142e-001

Rho= 0.9982633

Accept=Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	%D
0.0	0.000	-0.124	-0.124	241	0.000	241	0				-5
0.2	0.200	0.190	-0.010	1557	0.0 %	1557					12
2.5	2.500	2.799	0.299	12493	0.0 %	12493					1
5.0	5.000	5.070	0.070	22011	0.0 %	22011					-5
7.5	7.500	7.112	-0.388	30573	0.0 %	30573					2
10.0	10.000	10.153	0.153	43320	0.0 %	43320					

Reviewed By:jaswal
On:7/23/2025 3:56:59 PM
Inst Id :CV1
LB :LB136570

LB136570 INSTRUMENYT ID : CV1

Method: 7470A Operator: Admin Date of Analysis: 22 Jul 2025 14:15:11

Type	Sample ID	Extended ID	Conc.	µ Abs.	Units	Type	Stnd Conc	Method	Date
S	0.0 - 1	50	-	241	PPB	Std	0.00000	7470A	22 Jul 2025 14:29:33
S	0.2 - 1	502	-	1557	PPB	Std	0.20000	7470A	22 Jul 2025 14:31:50
S	2.5 - 1	52.5	-	12493	PPB	Std	2.50000	7470A	22 Jul 2025 14:34:07
S	5.0 - 1	35	-	22011	PPB	Std	5.00000	7470A	22 Jul 2025 14:36:24
S	7.5 - 1	595	-	30573	PPB	Std	7.50000	7470A	22 Jul 2025 14:38:42
S	10.0 - 1	512	-	43320	PPB	Std	10.00000	7470A	22 Jul 2025 14:52:12
U	ICV36 - 1	ICV36	3.8238	16789	PPB	SMPL		7470A	22 Jul 2025 15:13:16
U	ICB36 - 1	ICB36	-0.0519	543	PPB	SMPL		7470A	22 Jul 2025 15:15:31
U	CCV34 - 1	CCV34	4.5013	19629	PPB	SMPL		7470A	22 Jul 2025 15:17:49
U	CCB34 - 1	CCB34	-0.0559	526	PPB	SMPL		7470A	22 Jul 2025 15:20:03
U	CRA - 1	CRA	0.1864	1542	PPB	SMPL		7470A	22 Jul 2025 15:22:21
U	HighStd - 1	HighStd	10.1214	43187	PPB	SMPL		7470A	22 Jul 2025 15:24:36
U	ChkStd - 1	ChkStd	7.0053	30125	PPB	SMPL		7470A	22 Jul 2025 15:26:52
U	PB168959BL - 1	PBW	0.0099	802	PPB	SMPL		7470A	22 Jul 2025 15:32:34
U	PB168959BS - 1	LCSW	3.8245	16792	PPB	SMPL		7470A	22 Jul 2025 15:37:25
U	Q2638-02 - 1	OU4-TS-31-071725	0.0810	1100	PPB	SMPL		7470A	22 Jul 2025 15:39:41
U	Q2638-04 - 1	OU4-TS-32-071725	0.3515	2234	PPB	SMPL		7470A	22 Jul 2025 15:42:00
U	Q2638-06 - 1	OU4-TS-33-071725	0.0528	982	PPB	SMPL		7470A	22 Jul 2025 15:44:18
U	Q2638-08 - 1	OU4-TS-34-071725	0.0023	770	PPB	SMPL		7470A	22 Jul 2025 15:46:39
U	Q2638-10 - 1	OU4-TS-35-071725	0.2773	1923	PPB	SMPL		7470A	22 Jul 2025 15:48:56
U	CCV35 - 1	CCV35	4.9145	21361	PPB	SMPL		7470A	22 Jul 2025 15:54:01
U	CCB35 - 1	CCB35	-0.0264	650	PPB	SMPL		7470A	22 Jul 2025 15:59:13
U	Q2638-12 - 1	OU4-TS-36-071725	0.3014	2024	PPB	SMPL		7470A	22 Jul 2025 16:01:28
U	Q2638-14 - 1	OU4-TS-37-071725	0.1721	1482	PPB	SMPL		7470A	22 Jul 2025 16:03:44
U	Q2639-02 - 1	OU4-TS-38-071725	0.1943	1575	PPB	SMPL		7470A	22 Jul 2025 16:06:02
U	Q2639-04 - 1	OU4-TS-39-071725	0.1094	1219	PPB	SMPL		7470A	22 Jul 2025 16:08:20
U	Q2639-06 - 1	OU4-TS-40-071725	0.0915	1144	PPB	SMPL		7470A	22 Jul 2025 16:10:38
U	Q2639-08 - 1	OU4-TS-41-071725	0.0760	1079	PPB	SMPL		7470A	22 Jul 2025 16:12:56
U	Q2639-10 - 1	OU4-TS-42-071725	-0.0349	614	PPB	SMPL		7470A	22 Jul 2025 16:15:15
U	Q2639-12 - 1	OU4-TS-43-071725	-0.0082	726	PPB	SMPL		7470A	22 Jul 2025 16:17:33
U	Q2639-14 - 1	OU4-TS-44-071725	0.0273	875	PPB	SMPL		7470A	22 Jul 2025 16:19:51
U	Q2639-14DUP - 1	OU4-TS-44-071725DUP	0.0049	781	PPB	SMPL		7470A	22 Jul 2025 16:22:06
U	CCV36 - 1	CCV36	5.2652	22831	PPB	SMPL		7470A	22 Jul 2025 16:28:19
U	CCB36 - 1	CCB36	-0.0564	524	PPB	SMPL		7470A	22 Jul 2025 16:30:34
U	Q2639-14MS - 1	OU4-TS-44-071725MS	3.6564	16087	PPB	SMPL		7470A	22 Jul 2025 16:32:52
U	Q2639-14MSD - 1	OU4-TS-44-071725MSD	3.6261	15960	PPB	SMPL		7470A	22 Jul 2025 16:35:08
U	PB168960BL - 1	PBW	-0.0865	398	PPB	SMPL		7470A	22 Jul 2025 16:37:25
U	PB168960BS - 1	LCSW	3.9985	17521	PPB	SMPL		7470A	22 Jul 2025 16:42:19
U	Q2641-02 - 1	P001-CONCRETE001-01	-0.1695	50	PPB	SMPL		7470A	22 Jul 2025 16:44:35
U	Q2645-03 - 1	RW5B-CARBON-20250716	-0.1783	13	PPB	SMPL		7470A	22 Jul 2025 16:46:53
U	Q2646-03 - 1	FRAC TANK	-0.0648	489	PPB	SMPL		7470A	22 Jul 2025 16:49:10
U	Q2649-04 - 1	WC-1	-0.1826	-5	PPB	SMPL		7470A	22 Jul 2025 16:51:27
U	Q2649-08 - 1	WC-2	-0.1719	40	PPB	SMPL		7470A	22 Jul 2025 16:53:44
U	Q2649-12 - 1	WC-3	-0.1783	13	PPB	SMPL		7470A	22 Jul 2025 16:56:00
U	CCV37 - 1	CCV37	5.1354	22287	PPB	SMPL		7470A	22 Jul 2025 16:58:15
U	CCB37 - 1	CCB37	-0.0590	513	PPB	SMPL		7470A	22 Jul 2025 17:00:32
U	Q2649-16 - 1	WC-4	-0.0166	691	PPB	SMPL		7470A	22 Jul 2025 17:02:50
U	Q2649-20 - 1	WC-5	-0.0266	649	PPB	SMPL		7470A	22 Jul 2025 17:05:05
U	Q2649-24 - 1	WC-6	-0.0123	709	PPB	SMPL		7470A	22 Jul 2025 17:07:21
U	Q2649-24DUP - 1	WC-6DUP	-0.0085	725	PPB	SMPL		7470A	22 Jul 2025 17:09:37
U	Q2649-24MS - 1	WC-6MS	2.6258	11767	PPB	SMPL		7470A	22 Jul 2025 17:11:53
U	Q2649-24MSD - 1	WC-6MSD	2.7345	12223	PPB	SMPL		7470A	22 Jul 2025 17:14:09
U	PB168961BL - 1	PBW	-0.0655	486	PPB	SMPL		7470A	22 Jul 2025 17:21:53
U	PB168961BS - 1	LCSW	3.8427	16868	PPB	SMPL		7470A	22 Jul 2025 17:24:10
U	Q2640-01 - 1	ELMORA-WATER	-0.0545	532	PPB	SMPL		7470A	22 Jul 2025 17:26:27
U	Q2640-01DUP - 1	ELMORA-WATERDUP	-0.0402	592	PPB	SMPL		7470A	22 Jul 2025 17:28:44
U	CCV38 - 1	CCV38	4.9823	21645	PPB	SMPL		7470A	22 Jul 2025 17:31:01
U	CCB38 - 1	CCB38	-0.0705	465	PPB	SMPL		7470A	22 Jul 2025 17:33:18
U	Q2640-01MS - 1	ELMORA-WATERMS	2.6217	11750	PPB	SMPL		7470A	22 Jul 2025 17:35:36
U	Q2640-01MSD - 1	ELMORA-WATERMSD	2.4137	10878	PPB	SMPL		7470A	22 Jul 2025 17:37:52
U	Q2646-01 - 1	FRAC TANK	-0.1757	24	PPB	SMPL		7470A	22 Jul 2025 17:40:10
U	Q2655-03 - 1	71125	74.2586	312034	PPB	SMPL		7470A	22 Jul 2025 17:42:29
U	Q2655-04 - 1	71425	3.2704	14469	PPB	SMPL		7470A	22 Jul 2025 17:44:47
U	Q2660-05 - 1	MOO-25-0220	-0.5180	-1411	PPB	SMPL		7470A	22 Jul 2025 17:48:02
U	PB168959TB - 1	PB168959TB	-0.0268	648	PPB	SMPL		7470A	22 Jul 2025 17:53:25
U	PB168919TB - 1	PB168919TB	0.0068	789	PPB	SMPL		7470A	22 Jul 2025 17:55:41
U	PB168926TB - 1	PB168926TB	0.0271	874	PPB	SMPL		7470A	22 Jul 2025 17:57:58
U	CCV39 - 1	CCV39	4.9608	21555	PPB	SMPL		7470A	22 Jul 2025 18:15:04
U	CCB39 - 1	CCB39	-0.0476	561	PPB	SMPL		7470A	22 Jul 2025 18:20:12
U	Q2639-14LX5 - 1		-0.1266	230	PPB	SMPL		7470A	22 Jul 2025 18:22:28
U	Q2639-14A - 1		3.5232	15529	PPB	SMPL		7470A	22 Jul 2025 18:24:44
U	Q2649-24LX5 - 1		-0.0922	374	PPB	SMPL		7470A	22 Jul 2025 18:27:00
U	Q2649-24A - 1		3.2615	14432	PPB	SMPL		7470A	22 Jul 2025 18:29:19
U	Q2640-01LX5 - 1		-0.1044	323	PPB	SMPL		7470A	22 Jul 2025 18:31:35
U	Q2640-01A - 1		3.3279	14710	PPB	SMPL		7470A	22 Jul 2025 18:33:53
U	Q2655-03DLX10 - 1		6.9521	29902	PPB	SMPL		7470A	22 Jul 2025 18:48:15
U	CCV40 - 1	CCV40	5.0484	21922	PPB	SMPL		7470A	22 Jul 2025 18:56:05
U	CCB40 - 1	CCB40	-0.0932	370	PPB	SMPL		7470A	22 Jul 2025 18:58:23

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB168941

SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pippete ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

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

Start Digest Date: 07/21/2025 **Time :** 12:30 **Temp :** 96 °C

End Digest Date: 07/21/2025 **Time :** 15:32 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SJS

Supervisor Signature:

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	3.00	M6158
1:1 HCL	5.00	MP85156
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK#1 CELL#50 96C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
07/21/25 16:32	SJS Met dig	Metals Lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB168941

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB168919TB	PB168919TB	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	12
PB168926TB	PB168926TB	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	13
PB168941BL	PBW941	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	14
PB168941BS	LCS941	<2	5	25	Colorless	Colorless	Clear	Clear	M6007,M6015	15
Q2622-04	2819	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	16
Q2641-02	P001-CONCRETE001-01	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	17
Q2645-03	RW5B-CARBON-20250716	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	18
Q2646-03	FRAC TANK	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	19
Q2649-04	WC-1	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	20
Q2649-08	WC-2	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	21
Q2649-12	WC-3	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	22
Q2649-16	WC-4	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	23
Q2649-20	WC-5	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	24
Q2649-24	WC-6	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	25
Q2649-24MS	WC-6MS	<2	5	25	Colorless	Colorless	Clear	Clear	M6007,M6015	27
Q2649-24MSD	WC-6MSD	<2	5	25	Colorless	Colorless	Clear	Clear	M6007,M6015	28
Q2649-24DUP	WC-6DUP	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	26

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB168919

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
PB168919TB	LEB919	10	N/A	2000	N/A	N/A	N/A	4.93	1.0	T-1
Q2622-04	2819	01	100.01	2000	N/A	N/A	N/A	3.5	1.0	T-1
Q2641-02	P001-CONCRETE001-01	02	100.02	2000	N/A	N/A	N/A	11.5	1.5	T-1
Q2645-03	RW5B-CARBON-20250716	03	100.03	2000	N/A	N/A	N/A	3.0	1.5	T-1
Q2649-04	WC-1	04	100.02	2000	N/A	N/A	N/A	5.5	1.0	T-1
Q2649-08	WC-2	05	100.03	2000	N/A	N/A	N/A	7.2	1.5	T-1
Q2649-12	WC-3	06	100.04	2000	N/A	N/A	N/A	7.0	1.0	T-1
Q2649-16	WC-4	07	100.02	2000	N/A	N/A	N/A	3.5	1.5	T-1
Q2649-20	WC-5	08	100.02	2000	N/A	N/A	N/A	3.5	1.0	T-1
Q2649-24	WC-6	09	100.03	2000	N/A	N/A	N/A	4.0	1.5	T-1

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB168926

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
PB168926TB	LEB926	N/A	N/A	N/A	N/A	N/A	N/A	4.93	1.5	N/A
Q2646-03	FRAC TANK	N/A	N/A	N/A	N/A	N/A	N/A	4.5	1.0	N/A

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB168960

SOP ID : M7470A-Mercury-20

SDG No : NA

Matrix : WATER

Pippete ID: HG A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #1

Block ID: 1. HG HOT BLOCK#3 2. N/A

Start Digest Date: 07/21/2025 **Time :** 14:10 **Temp :** 95 °C

End Digest Date: 07/21/2025 **Time :** 16:10 **Temp :** 95 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature:

Supervisor Signature:

Temp : 1. 95°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP86433
CCV	30mL	MP86435
CRA	30mL	MP86437
Blank Spike	0.48mL	MP86425
Matrix Spike	0.48mL	MP86425

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.25mL	MP85892
KMnO4 (5%)	4.5mL	MP85893
K2S2O8 (5%)	2.4mL	MP85894
Hydroxylamine HCL (12%)	1.8mL	MP85895
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Wt(g)/Vol(ml)	Comment
0.0 ppb	S0	30mL	MP86426
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30mL	MP86428
2.5 ppb	S2.5	30mL	MP86429
5.0 ppb	S5.0	30mL	MP86430
7.5 ppb	S7.5	30mL	MP86431
10.0 ppb	S10.0	30mL	MP86432
ICV	ICV	30mL	MP86433
ICB	ICB	30mL	MP86434
CCV	CCV	30mL	MP86435
CCB	CCB	30mL	MP86436
CRI	CRI	30mL	MP86437
CHK STD	CHK STD	30mL	MP86438

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
7/21/25 @ 16:10	MB - Dig. Lab	MB - metals lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB168960

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB168919TB	PB168919TB	3	30	<2	N/A	3-23
PB168926TB	PB168926TB	3	30	<2	N/A	24
PB168960BL	PBW960	30	30	<2	N/A	25
PB168960BS	LCS960	30	30	<2	MP86425	26
Q2641-02	P001-CONCRETE001-01	3	30	<2	N/A	27
Q2645-03	RW5B-CARBON-20250716	3	30	<2	N/A	28
Q2646-03	FRAC TANK	3	30	<2	N/A	29
Q2649-04	WC-1	3	30	<2	N/A	30
Q2649-08	WC-2	3	30	<2	N/A	31
Q2649-12	WC-3	3	30	<2	N/A	32
Q2649-16	WC-4	3	30	<2	N/A	33
Q2649-20	WC-5	3	30	<2	N/A	34
Q2649-24	WC-6	3	30	<2	N/A	35
Q2649-24DUP	WC-6DUP	3	30	<2	N/A	36
Q2649-24MS	WC-6MS	3	30	<2	MP86425	37
Q2649-24MSD	WC-6MSD	3	30	<2	MP86425	38

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB168919

SOP ID : M1311-TCLP-16

SDG No : N/A

Weigh By : JP

Balance ID : WC SC-7

pH Meter ID : WC PH METER-1

Extraction By : JP

Filter By : JP

Pippete ID : WC

Tumbler ID : T-1

TCLP Filter ID : 115525

Start Prep Date : 07/18/2025 **Time :** 17:00

End Prep Date : 07/19/2025 **Time :** 11:25

Combination Ratio : 20

ZHE Cleaning Batch : N/A

Initial Room Temperature: 24 °C

Final Room Temperature: 22 °C

TCLP Technician Signature : JP

Supervisor By : 12

Standared Name	MLS USED	STD REF. # FROM LOG
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

Chemical Used	ML/SAMPLE U	Lot Number
TCLP-FLUID-1	N/A	WP112804
HCL-TCLP,1N	N/A	WP112797
HNO3-TCLP,1N	N/A	WP112799
pH Strips	N/A	W1931,W1934,W3171,W3172
pH Strips	W1940,W1941,W1942	W3166,W1938,W1939,
1 Liter Amber	N/A	90924-08
120ml Plastic bottle	N/A	2738
1:1 HNO3	N/A	MP84041

Extraction Conformance/Non-Conformance Comments:

Matrix spikes are added after fiftration and before preservation. TUMBLER T-1 checked,30 rpm. Particle size reduction is not required. Q2649-24 IS USED FOR MS-MSD.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
07/21/25 11:30	JP ICP Room	SLS. RJ/EXT
	Preparation Group	Analysis Group INST DJ

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

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB136570

Review By	MOHAN	Review On	7/23/2025 3:54:41 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:56:59 PM

STD. NAME	STD REF.#
ICAL Standard	MP86427,MP86428,MP86429,MP86430,MP86431,MP86432
ICV Standard	MP86433
CCV Standard	MP86435
ICSA Standard	
CRI Standard	MP86437
LCS Standard	
Chk Standard	MP86434,MP86436,MP8646538,MP86423

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	07/22/25 14:29		MOHAN	OK
2	S0.2	S0.2	CAL2	07/22/25 14:31		MOHAN	OK
3	S2.5	S2.5	CAL3	07/22/25 14:34		MOHAN	OK
4	S5	S5	CAL4	07/22/25 14:36		MOHAN	OK
5	S7.5	S7.5	CAL5	07/22/25 14:38		MOHAN	OK
6	S10	S10	CAL6	07/22/25 14:52		MOHAN	OK
7	ICV36	ICV36	ICV	07/22/25 15:13		MOHAN	OK
8	ICB36	ICB36	ICB	07/22/25 15:15		MOHAN	OK
9	CCV34	CCV34	CCV	07/22/25 15:17		MOHAN	OK
10	CCB34	CCB34	CCB	07/22/25 15:20		MOHAN	OK
11	CRA	CRA	CRDL	07/22/25 15:22		MOHAN	OK
12	HighStd	HighStd	HIGH STD	07/22/25 15:24		MOHAN	OK
13	ChkStd	ChkStd	SAM	07/22/25 15:26		MOHAN	OK
14	PB168959BL	PB168959BL	MB	07/22/25 15:32		MOHAN	OK
15	PB168959BS	PB168959BS	LCS	07/22/25 15:37		MOHAN	OK
16	Q2638-02	OU4-TS-31-071725	SAM	07/22/25 15:39		MOHAN	OK
17	Q2638-04	OU4-TS-32-071725	SAM	07/22/25 15:42		MOHAN	OK
18	Q2638-06	OU4-TS-33-071725	SAM	07/22/25 15:44		MOHAN	OK

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

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB136570

Review By	MOHAN	Review On	7/23/2025 3:54:41 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:56:59 PM

STD. NAME	STD REF.#
ICAL Standard	MP86427,MP86428,MP86429,MP86430,MP86431,MP86432
ICV Standard	MP86433
CCV Standard	MP86435
ICSA Standard	
CRI Standard	MP86437
LCS Standard	
Chk Standard	MP86434,MP86436,MP8646538,MP86423

19	Q2638-08	OU4-TS-34-071725	SAM	07/22/25 15:46		MOHAN	OK
20	Q2638-10	OU4-TS-35-071725	SAM	07/22/25 15:48		MOHAN	OK
21	CCV35	CCV35	CCV	07/22/25 15:54		MOHAN	OK
22	CCB35	CCB35	CCB	07/22/25 15:59		MOHAN	OK
23	Q2638-12	OU4-TS-36-071725	SAM	07/22/25 16:01		MOHAN	OK
24	Q2638-14	OU4-TS-37-071725	SAM	07/22/25 16:03		MOHAN	OK
25	Q2639-02	OU4-TS-38-071725	SAM	07/22/25 16:06		MOHAN	OK
26	Q2639-04	OU4-TS-39-071725	SAM	07/22/25 16:08		MOHAN	OK
27	Q2639-06	OU4-TS-40-071725	SAM	07/22/25 16:10		MOHAN	OK
28	Q2639-08	OU4-TS-41-071725	SAM	07/22/25 16:12		MOHAN	OK
29	Q2639-10	OU4-TS-42-071725	SAM	07/22/25 16:15		MOHAN	OK
30	Q2639-12	OU4-TS-43-071725	SAM	07/22/25 16:17		MOHAN	OK
31	Q2639-14	OU4-TS-44-071725	SAM	07/22/25 16:19		MOHAN	OK
32	Q2639-14DUP	OU4-TS-44-071725DU	DUP	07/22/25 16:22		MOHAN	OK
33	CCV36	CCV36	CCV	07/22/25 16:28		MOHAN	OK
34	CCB36	CCB36	CCB	07/22/25 16:30		MOHAN	OK
35	Q2639-14MS	OU4-TS-44-071725MS	MS	07/22/25 16:32		MOHAN	OK
36	Q2639-14MSD	OU4-TS-44-071725MS	MSD	07/22/25 16:35		MOHAN	OK
37	PB168960BL	PB168960BL	MB	07/22/25 16:37		MOHAN	OK
38	PB168960BS	PB168960BS	LCS	07/22/25 16:42		MOHAN	OK

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Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB136570

Review By	MOHAN	Review On	7/23/2025 3:54:41 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:56:59 PM

STD. NAME	STD REF.#
ICAL Standard	MP86427,MP86428,MP86429,MP86430,MP86431,MP86432
ICV Standard	MP86433
CCV Standard	MP86435
ICSA Standard	
CRI Standard	MP86437
LCS Standard	
Chk Standard	MP86434,MP86436,MP8646538,MP86423

39	Q2641-02	P001-CONCRETE001	SAM	07/22/25 16:44		MOHAN	OK
40	Q2645-03	RW5B-CARBON-2025	SAM	07/22/25 16:46		MOHAN	OK
41	Q2646-03	FRAC TANK	SAM	07/22/25 16:49		MOHAN	OK
42	Q2649-04	WC-1	SAM	07/22/25 16:51		MOHAN	OK
43	Q2649-08	WC-2	SAM	07/22/25 16:53		MOHAN	OK
44	Q2649-12	WC-3	SAM	07/22/25 16:56		MOHAN	OK
45	CCV37	CCV37	CCV	07/22/25 16:58		MOHAN	OK
46	CCB37	CCB37	CCB	07/22/25 17:00		MOHAN	OK
47	Q2649-16	WC-4	SAM	07/22/25 17:02		MOHAN	OK
48	Q2649-20	WC-5	SAM	07/22/25 17:05		MOHAN	OK
49	Q2649-24	WC-6	SAM	07/22/25 17:07		MOHAN	OK
50	Q2649-24DUP	WC-6DUP	DUP	07/22/25 17:09		MOHAN	OK
51	Q2649-24MS	WC-6MS	MS	07/22/25 17:11		MOHAN	OK
52	Q2649-24MSD	WC-6MSD	MSD	07/22/25 17:14		MOHAN	OK
53	PB168961BL	PB168961BL	MB	07/22/25 17:21		MOHAN	OK
54	PB168961BS	PB168961BS	LCS	07/22/25 17:24		MOHAN	OK
55	Q2640-01	ELMORA-WATER	SAM	07/22/25 17:26		MOHAN	OK
56	Q2640-01DUP	ELMORA-WATERDUP	DUP	07/22/25 17:28		MOHAN	OK
57	CCV38	CCV38	CCV	07/22/25 17:31		MOHAN	OK
58	CCB38	CCB38	CCB	07/22/25 17:33		MOHAN	OK

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Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB136570

Review By	MOHAN	Review On	7/23/2025 3:54:41 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:56:59 PM

STD. NAME	STD REF.#
ICAL Standard	MP86427,MP86428,MP86429,MP86430,MP86431,MP86432
ICV Standard	MP86433
CCV Standard	MP86435
ICSA Standard	
CRI Standard	MP86437
LCS Standard	
Chk Standard	MP86434,MP86436,MP8646538,MP86423

59	Q2640-01MS	ELMORA-WATERMS	MS	07/22/25 17:35		MOHAN	OK
60	Q2640-01MSD	ELMORA-WATERMSI	MSD	07/22/25 17:37		MOHAN	OK
61	Q2646-01	FRAC TANK	SAM	07/22/25 17:40		MOHAN	OK
62	Q2655-03	71125	SAM	07/22/25 17:42	Hg high	MOHAN	Dilution
63	Q2655-04	71425	SAM	07/22/25 17:44		MOHAN	OK
64	Q2660-05	MOO-25-0220	SAM	07/22/25 17:48		MOHAN	OK
65	PB168959TB	PB168959TB	MB	07/22/25 17:53		MOHAN	OK
66	PB168919TB	PB168919TB	MB	07/22/25 17:55		MOHAN	OK
67	PB168926TB	PB168926TB	MB	07/22/25 17:57		MOHAN	OK
68	CCV39	CCV39	CCV	07/22/25 18:15		MOHAN	OK
69	CCB39	CCB39	CCB	07/22/25 18:20		MOHAN	OK
70	Q2639-14L	OU4-TS-44-071725L	SD	07/22/25 18:22		MOHAN	OK
71	Q2639-14A	OU4-TS-44-071725A	PS	07/22/25 18:24		MOHAN	OK
72	Q2649-24L	WC-6L	SD	07/22/25 18:27		MOHAN	OK
73	Q2649-24A	WC-6A	PS	07/22/25 18:29		MOHAN	OK
74	Q2640-01L	ELMORA-WATERL	SD	07/22/25 18:31		MOHAN	OK
75	Q2640-01A	ELMORA-WATERA	PS	07/22/25 18:33		MOHAN	OK
76	Q2655-03DL	71125DL	SAM	07/22/25 18:48	10X for Hg	MOHAN	Confirms
77	CCV40	CCV40	CCV	07/22/25 18:56		MOHAN	OK
78	CCB40	CCB40	CCB	07/22/25 18:58		MOHAN	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB136571

Review By	Janvi	Review On	7/23/2025 3:54:08 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:53:24 PM

STD. NAME	STD REF.#
ICAL Standard	MP86452,MP86453,MP86454,MP86455,MP86456,MP86458
ICV Standard	MP86494
CCV Standard	MP86462
ICSA Standard	MP86460,MP86495
CRI Standard	MP86458
LCS Standard	
Chk Standard	MP86463,MP86464

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	07/22/25 11:11		Jaswal	OK
2	S1	S1	CAL2	07/22/25 11:16		Jaswal	OK
3	S2	S2	CAL3	07/22/25 11:20		Jaswal	OK
4	S3	S3	CAL4	07/22/25 11:24		Jaswal	OK
5	S4	S4	CAL5	07/22/25 11:28		Jaswal	OK
6	S5	S5	CAL6	07/22/25 11:33		Jaswal	OK
7	ICV01	ICV01	ICV	07/22/25 12:03		Jaswal	OK
8	LLICV01	LLICV01	LLICV	07/22/25 12:10		Jaswal	OK
9	ICB01	ICB01	ICB	07/22/25 12:27		Jaswal	OK
10	CRI01	CRI01	CRDL	07/22/25 12:32		Jaswal	OK
11	ICSA01	ICSA01	ICSA	07/22/25 12:37		Jaswal	OK
12	ICSAB01	ICSAB01	ICSAB	07/22/25 12:48		Jaswal	OK
13	ICSADL	ICSADL	ICSA	07/22/25 12:52		Jaswal	OK
14	ICSABDL	ICSABDL	ICSAB	07/22/25 12:56		Jaswal	OK
15	CCV01	CCV01	CCV	07/22/25 13:00		Jaswal	OK
16	CCB01	CCB01	CCB	07/22/25 13:05		Jaswal	OK
17	Q2640-01	ELMORA-WATER	SAM	07/22/25 13:11		Jaswal	OK
18	Q2641-02	P001-CONCRETE001	SAM	07/22/25 13:15		Jaswal	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB136571

Review By	Janvi	Review On	7/23/2025 3:54:08 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:53:24 PM

STD. NAME	STD REF.#
ICAL Standard	MP86452,MP86453,MP86454,MP86455,MP86456,MP86458
ICV Standard	MP86494
CCV Standard	MP86462
ICSA Standard	MP86460,MP86495
CRI Standard	MP86458
LCS Standard	
Chk Standard	MP86463,MP86464

19	Q2645-03	RW5B-CARBON-2025	SAM	07/22/25 13:20		Jaswal	OK
20	Q2649-04	WC-1	SAM	07/22/25 13:24		Jaswal	OK
21	Q2649-08	WC-2	SAM	07/22/25 13:29		Jaswal	OK
22	Q2649-12	WC-3	SAM	07/22/25 13:33		Jaswal	OK
23	Q2649-16	WC-4	SAM	07/22/25 13:38		Jaswal	OK
24	Q2649-20	WC-5	SAM	07/22/25 13:42	Confirm TCLP (Ba,Zn)	Jaswal	Not Ok
25	Q2646-03	FRAC TANK	SAM	07/22/25 13:46		Jaswal	OK
26	Q2649-24	WC-6	SAM	07/22/25 13:51		Jaswal	OK
27	CCV02	CCV02	CCV	07/22/25 14:05		Jaswal	OK
28	CCB02	CCB02	CCB	07/22/25 14:09		Jaswal	OK
29	Q2649-24DUP	WC-6DUP	DUP	07/22/25 14:25		Jaswal	OK
30	Q2649-24L	WC-6L	SD	07/22/25 14:30		Jaswal	OK
31	Q2649-24MS	WC-6MS	MS	07/22/25 14:34		Jaswal	OK
32	Q2649-24MSD	WC-6MSD	MSD	07/22/25 14:38		Jaswal	OK
33	Q2649-24A	WC-6A	PS	07/22/25 14:42	0.1ml of M6004,M6013 in 10ml sample	Jaswal	OK
34	PB168919TB	PB168919TB	MB	07/22/25 14:47		Jaswal	OK
35	PB168941BL	PB168941BL	MB	07/22/25 14:56		Jaswal	OK
36	PB168941BS	PB168941BS	LCS	07/22/25 15:01		Jaswal	OK
37	PB168932BL	PB168932BL	MB	07/22/25 15:05		Jaswal	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB136571

Review By	Janvi	Review On	7/23/2025 3:54:08 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:53:24 PM

STD. NAME	STD REF.#
ICAL Standard	MP86452,MP86453,MP86454,MP86455,MP86456,MP86458
ICV Standard	MP86494
CCV Standard	MP86462
ICSA Standard	MP86460,MP86495
CRI Standard	MP86458
LCS Standard	
Chk Standard	MP86463,MP86464

38	PB168932BS	PB168932BS	LCS	07/22/25 15:15		Jaswal	OK
39	CCV03	CCV03	CCV	07/22/25 15:20		Jaswal	OK
40	CCB03	CCB03	CCB	07/22/25 15:26		Jaswal	OK
41	Q2633-02	FIBER-GLASS-TANK	SAM	07/22/25 15:31		Jaswal	OK
42	Q2644-01	RW8-SP100-2025071	SAM	07/22/25 15:36		Jaswal	OK
43	Q2644-02	RW8-SP303-2025071	SAM	07/22/25 15:40		Jaswal	OK
44	Q2644-02DUP	RW8-SP303-2025071	DUP	07/22/25 15:44		Jaswal	OK
45	Q2644-02L	RW8-SP303-2025071	SD	07/22/25 15:48		Jaswal	OK
46	Q2644-02MS	RW8-SP303-2025071	MS	07/22/25 15:53		Jaswal	OK
47	Q2644-02MSD	RW8-SP303-2025071	MSD	07/22/25 15:57		Jaswal	OK
48	Q2644-02A	RW8-SP303-2025071	PS	07/22/25 16:01	0.1ml of M6004,M6013 in 10ml sample	Jaswal	OK
49	Q2646-01	FRAC TANK	SAM	07/22/25 16:05		Jaswal	OK
50	PB168926TB	PB168926TB	MB	07/22/25 16:09		Jaswal	OK
51	CCV04	CCV04	CCV	07/22/25 16:13		Jaswal	OK
52	CCB04	CCB04	CCB	07/22/25 16:17		Jaswal	OK
53	PB168933BL	PB168933BL	MB	07/22/25 16:22		Jaswal	OK
54	Q2649-01	WC-1	SAM	07/22/25 16:36		Jaswal	OK
55	Q2649-05	WC-2	SAM	07/22/25 16:40		Jaswal	OK
56	Q2649-09	WC-3	SAM	07/22/25 16:45		Jaswal	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB136571

Review By	Janvi	Review On	7/23/2025 3:54:08 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:53:24 PM

STD. NAME	STD REF.#
ICAL Standard	MP86452,MP86453,MP86454,MP86455,MP86456,MP86458
ICV Standard	MP86494
CCV Standard	MP86462
ICSA Standard	MP86460,MP86495
CRI Standard	MP86458
LCS Standard	
Chk Standard	MP86463,MP86464

57	PB168933BS	PB168933BS	LCS	07/22/25 16:49		Jaswal	OK
58	Q2649-13	WC-4	SAM	07/22/25 16:53		Jaswal	OK
59	Q2649-17	WC-5	SAM	07/22/25 16:57		Jaswal	OK
60	Q2649-17DUP	WC-5DUP	DUP	07/22/25 17:01		Jaswal	OK
61	Q2649-17L	WC-5L	SD	07/22/25 17:06		Jaswal	OK
62	Q2649-17MS	WC-5MS	MS	07/22/25 17:10	MS/MSD, DUP RPD fail for 50% parameters	Jaswal	OK
63	CCV05	CCV05	CCV	07/22/25 17:14		Jaswal	OK
64	CCB05	CCB05	CCB	07/22/25 17:18		Jaswal	OK
65	Q2649-17MSD	WC-5MSD	MSD	07/22/25 17:22	MS/MSD, DUP RPD fail for 50% parameters	Jaswal	OK
66	Q2649-17A	WC-5A	PS	07/22/25 17:26	0.1ml of M6004,M6013 in 10ml sample.	Jaswal	OK
67	Q2649-21	WC-6	SAM	07/22/25 17:30	Ag oversaturated	Jaswal	Dilution
68	Q2658-01	PAD-072125-1	SAM	07/22/25 17:35		Jaswal	OK
69	Q2658-02	PAD-072125-2	SAM	07/22/25 17:39		Jaswal	OK
70	PB168951BL	PB168951BL	MB	07/22/25 17:43		Jaswal	OK
71	PB168951BS	PB168951BS	LCS	07/22/25 17:48		Jaswal	OK
72	Q2639-01	OU4-TS-38-071725	SAM	07/22/25 17:52		Jaswal	OK
73	Q2639-03	OU4-TS-39-071725	SAM	07/22/25 17:56		Jaswal	OK
74	Q2639-05	OU4-TS-40-071725	SAM	07/22/25 18:00		Jaswal	OK
75	CCV06	CCV06	CCV	07/22/25 18:05		Jaswal	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB136571

Review By	Janvi	Review On	7/23/2025 3:54:08 PM
Supervise By	jaswal	Supervise On	7/23/2025 3:53:24 PM

STD. NAME	STD REF.#
ICAL Standard	MP86452,MP86453,MP86454,MP86455,MP86456,MP86458
ICV Standard	MP86494
CCV Standard	MP86462
ICSA Standard	MP86460,MP86495
CRI Standard	MP86458
LCS Standard	
Chk Standard	MP86463,MP86464

76	CCB06	CCB06	CCB	07/22/25 18:09		Jaswal	OK
77	Q2639-07	OU4-TS-41-071725	SAM	07/22/25 18:13		Jaswal	OK
78	Q2639-09	OU4-TS-42-071725	SAM	07/22/25 18:17	Confirm result	Jaswal	Not Ok
79	Q2639-11	OU4-TS-43-071725	SAM	07/22/25 18:22		Jaswal	OK
80	Q2639-13	OU4-TS-44-071725	SAM	07/22/25 18:26		Jaswal	OK
81	Q2651-01	MH 2-1	SAM	07/22/25 18:30		Jaswal	OK
82	Q2651-01DUP	MH 2-1DUP	DUP	07/22/25 18:34		Jaswal	OK
83	Q2651-01L	MH 2-1L	SD	07/22/25 18:38		Jaswal	OK
84	Q2651-01MS	MH 2-1MS	MS	07/22/25 18:42		Jaswal	OK
85	Q2651-01MSD	MH 2-1MSD	MSD	07/22/25 18:46		Jaswal	OK
86	Q2651-01A	MH 2-1A	PS	07/22/25 18:50	0.1ml of M0.1ml of M6004,M6013 in 10ml sample.	Jaswal	OK
87	CCV07	CCV07	CCV	07/22/25 18:54		Jaswal	OK
88	CCB07	CCB07	CCB	07/22/25 18:58		Jaswal	OK
89	Q2651-02	MH 6-5	SAM	07/22/25 19:03		Jaswal	OK
90	Q2651-03	MH 7-6	SAM	07/22/25 19:07		Jaswal	OK
91	Q2651-04	MH 8-7	SAM	07/22/25 19:11		Jaswal	OK
92	Q2651-05	MH 9-8	SAM	07/22/25 19:15		Jaswal	OK
93	CCV08	CCV08	CCV	07/22/25 19:19		Jaswal	OK
94	CCB08	CCB08	CCB	07/22/25 19:23		Jaswal	OK

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB168926

SOP ID : M1311-TCLP-16

SDG No : N/A

Weigh By : N/A

Balance ID : N/A

pH Meter ID : WC PH METER-1

Extraction By : JP

Filter By : JP

Pippete ID : N/A

Tumbler ID : N/A

TCLP Filter ID : 115525

Start Prep Date : N/A **Time :** N/A

End Prep Date : N/A **Time :** N/A

Combination Ratio : N/A

ZHE Cleaning Batch : N/A

Initial Room Temperature: N/A

Final Room Temperature: N/A

TCLP Technician Signature : JP

Supervisor By : IZ

Standared Name	MLS USED	STD REF. # FROM LOG
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

Chemical Used	ML/SAMPLE U	Lot Number
N/A	N/A	N/A
N/A	N/A	N/A
HNO3-TCLP,1N	N/A	WP112799
pH Strips	N/A	W1931,W1934,W3171,W3172
pH Strips	W1940,W1941,W1942	W3166,W1938,W1939,
1 Liter Amber	N/A	90924-08
120ml Plastic bottle	N/A	2738
1:1 HNO3	N/A	MP84041

Extraction Conformance/Non-Conformance Comments:

Matrix spikes are added after fiftration and before preservation. q2646-03 is used for MS-MSD.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
07/21/25 1130	JP Lab Room	SKS. RJ / Lab
	Preparation Group	Analysis Group Inorg

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB168926

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
PB168926TB	LEB926	N/A	N/A	N/A	N/A	N/A	N/A	4.93	1.5	N/A
Q2646-03	FRAC TANK	N/A	N/A	N/A	N/A	N/A	N/A	4.5	1.0	N/A

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
PB168926TB	LEB926	N/A	N/A	N/A	N/A	N/A	N/A
Q2646-03	FRAC TANK	N/A	N/A	N/A	N/A	<0.5	N/A

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Prep Standard - Chemical Standard Summary

Order ID : Q2646

Test : TCLP ICP Metals,TCLP Mercury

Prepbatch ID : PB168941,PB168960,

Sequence ID/Qc Batch ID: LB136570,LB136571,LB136571,

Standard ID :
MP85156,MP86423,MP86425,MP86427,MP86428,MP86429,MP86430,MP86431,MP86432,MP86433,MP86434,MP86435,MP86436,MP86437,MP86452,MP86453,MP86454,MP86455,MP86456,MP86457,MP86458,MP86460,MP86462,MP86463,MP86464,MP8646538,MP86494,MP86495,

Chemical ID :
M5062,M5467,M5470,M5499,M5658,M5747,M5748,M5751,M5798,M5799,M5800,M5801,M5811,M5814,M5816,M5820,M5882,M5942,M5962,M5970,M5984,M5985,M5996,M5997,M6007,M6015,M6021,M6023,M6028,M6030,M6032,M6058,M6076,M6077,M6127,M6128,M6137,M6142,M6144,M6145,M6146,M6151,M6152,M6155,M6158,M6159,M6161,M6162,M6163,M6164,M6165,W3112,

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Metals STANDARD PREPARATION LOG

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

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP86423	07/21/2025	07/22/2025	Mohan Bera	None	None	Sarabjit Jaswal 07/23/2025

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6151 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP86425	07/21/2025	07/22/2025	Mohan Bera	None	None	Sarabjit Jaswal 07/23/2025

FROM 1.00000ml of M6162 + 2.50000ml of M5062 + 96.50000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2750	Hg 0.05ppb	MP86427	07/21/2025	07/22/2025	Mohan Bera	None	None	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 247.45000ml of W3112 + 0.05000ml of MP86425 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1341	Hg 0.2 PPB STD	MP86428	07/21/2025	07/22/2025	Mohan Bera	None	None	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 247.30000ml of W3112 + 0.20000ml of MP86425 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1342	Hg 2.5 PPB STD	MP86429	07/21/2025	07/22/2025	Mohan Bera	None	None	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 245.00000ml of W3112 + 2.50000ml of MP86425 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1343	Hg 5.0 PPB STD	MP86430	07/21/2025	07/22/2025	Mohan Bera	None	None	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 242.50000ml of W3112 + 5.00000ml of MP86425 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1344	Hg 7.5 PPB STD	MP86431	07/21/2025	07/22/2025	Mohan Bera	None	None	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 240.00000ml of W3112 + 7.50000ml of MP86425 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1345	Hg 10.0 PPB STD	MP86432	07/21/2025	07/22/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 237.50000ml of W3112 + 10.00000ml of MP86425 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP86433	07/21/2025	07/22/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6161 + 2.50000ml of M6162 + 245.00000ml of W3112 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1351	ICB (Hg 0.00 PPB SOLUTION)	MP86434	07/21/2025	07/22/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP86435	07/21/2025	07/22/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 07/23/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6162 + 10.00000ml of MP86425 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1352	CCB (Hg 0.00 PPB SOLUTION)	MP86436	07/21/2025	07/22/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 07/23/2025

FROM 495.00000ml of W3112 + 5.00000ml of M6162 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP86437	07/21/2025	07/22/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 07/23/2025

FROM 2.50000ml of M6162 + 247.30000ml of W3112 + 0.20000ml of MP86425 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP86452	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

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

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP86453	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 5.00000ml of M5467 + 5.00000ml of M5470 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5970 + 5.00000ml of M5996 + 5.00000ml of M5997 + 5.00000ml of M6077 + 5.00000ml of M6146 + 455.00000ml of MP86452 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP86454	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 50.00000ml of MP86452 + 50.00000ml of MP86453 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP86455	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 25.00000ml of MP86453 + 75.00000ml of MP86452 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP86456	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 16.00000ml of MP86453 + 184.00000ml of MP86452 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP86457	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.05000ml of M6159 + 0.06000ml of M5747 + 0.10000ml of M5470 + 0.10000ml of M5751 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6145 + 0.25000ml of M5467 + 0.25000ml of M6146 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5499 + 1.00000ml of M5942 + 1.00000ml of M6127 + 1.00000ml of M6142 + 1.00000ml of M6144 + 2.00000ml of M5816 + 89.29000ml of MP86452 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP86458	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 2.00000ml of MP86457 + 98.00000ml of MP86452 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP86460	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 25.00000ml of M6152 + 225.00000ml of MP86452 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP86462	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 50.00000ml of MP86452 + 50.00000ml of MP86453 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP86463	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 1.00000ml of M5984 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6162 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP86464	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/23/2025

FROM 200.00000ml of M6162 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
4163	NEW ICV-060925	MP86494	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/24/2025

FROM 0.20000ml of M6058 + 0.40000ml of M6163 + 0.40000ml of M6164 + 0.40000ml of M6165 + 98.60000ml of MP86452 = Final Quantity: 50.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP86495	07/18/2025	08/08/2025	Janvi Patel	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 07/24/2025

FROM 0.10000ml of M6076 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.90000ml of MP86452 = Final Quantity: 100.000 ml

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	04/14/2025 / jaswal	03/16/2023 / jaswal	M5470

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	04/17/2025 / Janvi	03/17/2023 / bin	M5499

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

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

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

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

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

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	12/29/2026	05/20/2024 / Jaswal	02/09/2024 / jaswal	M5816

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

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

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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.	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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	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

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	V2-MEB746173	01/29/2026	01/29/2025 / JANVI	08/22/2024 / Jaswal	M6058

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

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

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

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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	CGSI1-1 / SILICON 125mL 1000ug/mL	V2-SI744713	07/10/2029	01/14/2025 / Jaswal	10/03/2024 / Jaswal	M6137

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

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

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 #
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

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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	08/24/2025	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 #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV 5 0415	07/31/2025	05/01/2025 / mohan	03/30/2024 / mohan	M6161

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-1-125ML / EPA CLP ICP Verification Standard1	V2-MEB744107	05/22/2029	06/09/2025 / jaswal	06/06/2025 / jaswal	M6163

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-2-125ML / EPA CLP ICP Verification Standard2	U2-MEB733713	06/01/2028	06/09/2025 / jaswal	06/09/2025 / jaswal	M6164

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	QCP-CICV-3-125ML / EPA CLP ICP Verification Standard3	V2-MEB749572	01/02/2030	06/09/2025 / jaswal	06/09/2025 / jaswal	M6165

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

Certificate of Analysis

ThermoFisher SCIENTIFIC

M5882 M3

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)

Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6032

R: 8/5/24

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CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**010924**	**Solvent:**	24002546	Nitric Acid	
Description:	**Barium (Ba)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	010927				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

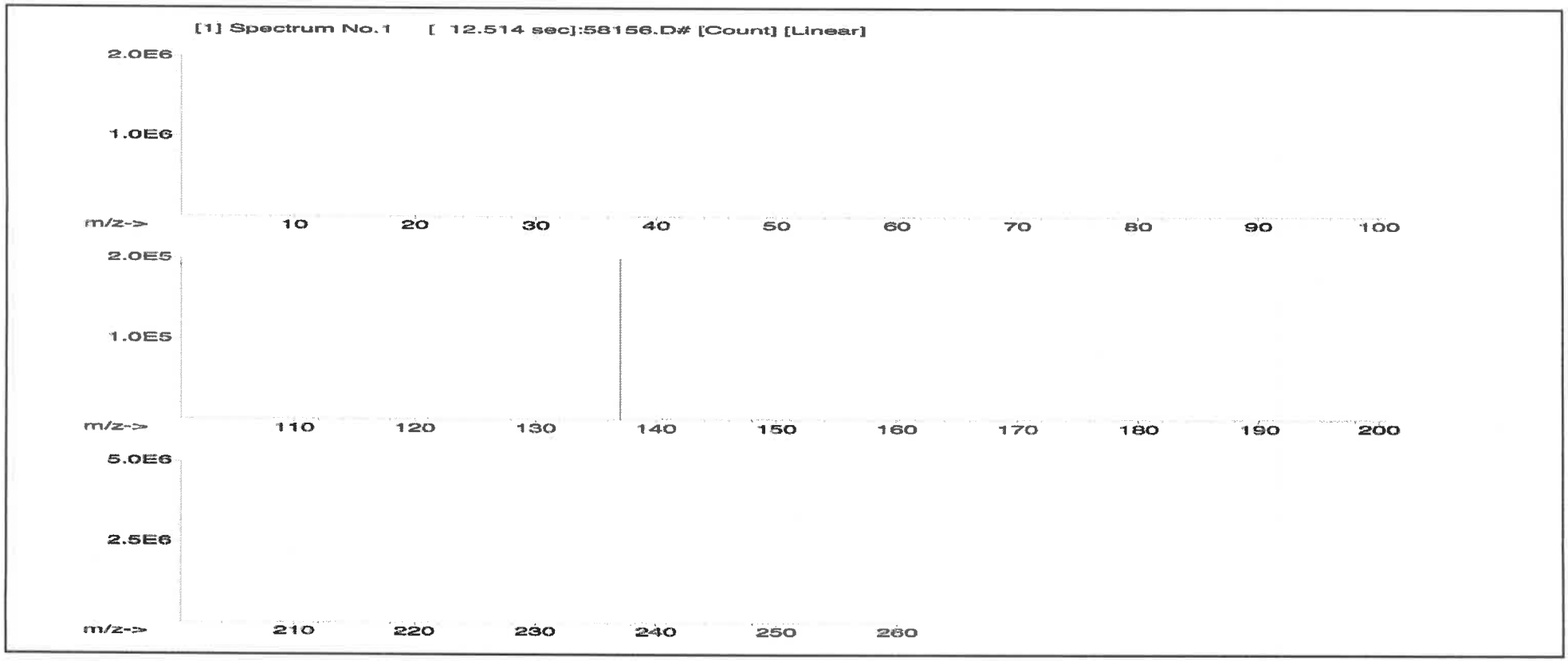
Giovanni Esposito

Formulated By:	Giovanni Esposito	010924

Pedro Rentas

Reviewed By:	Pedro L. Rentas	010924

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	**1000.1**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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M6028

R 8/5/24

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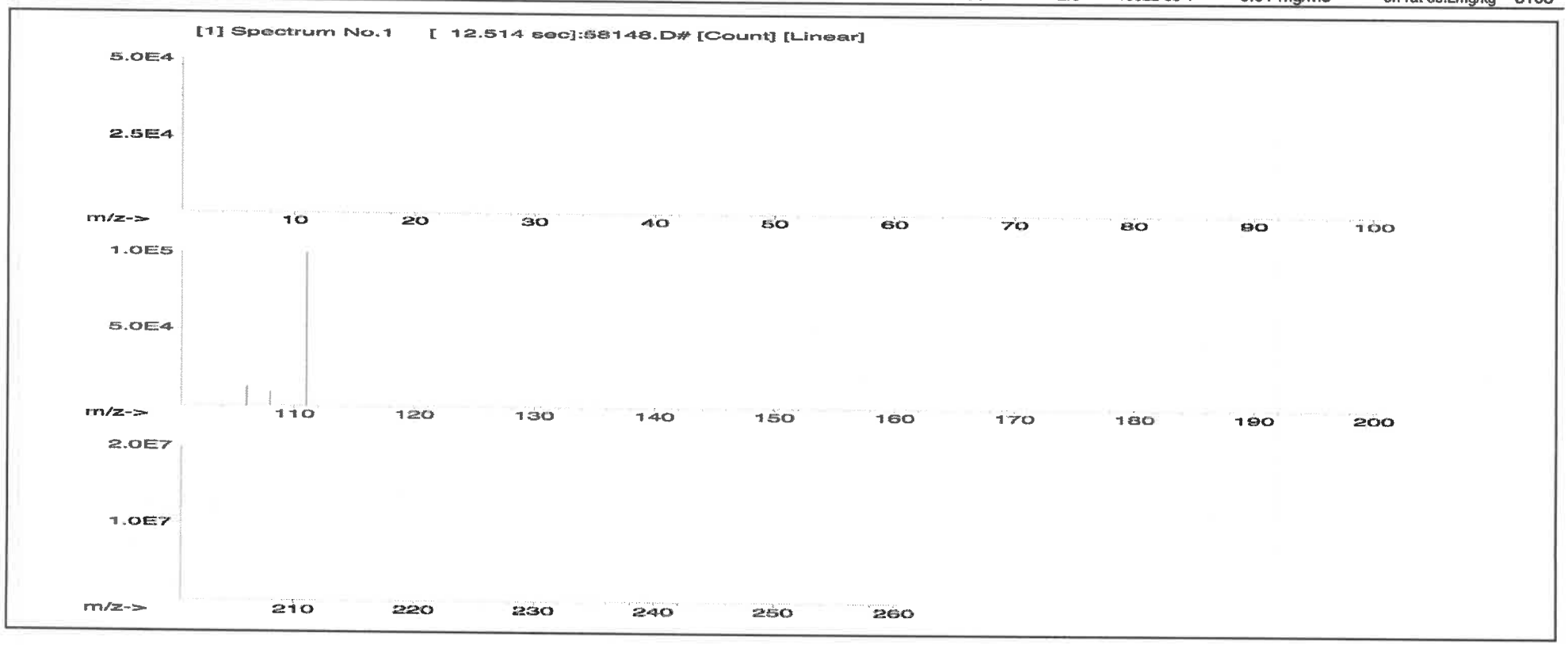
CERTIFIED WEIGHT REPORT:

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
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	070124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

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Certified Reference Material CRM

R : 01/03/24. M5810, M5811

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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

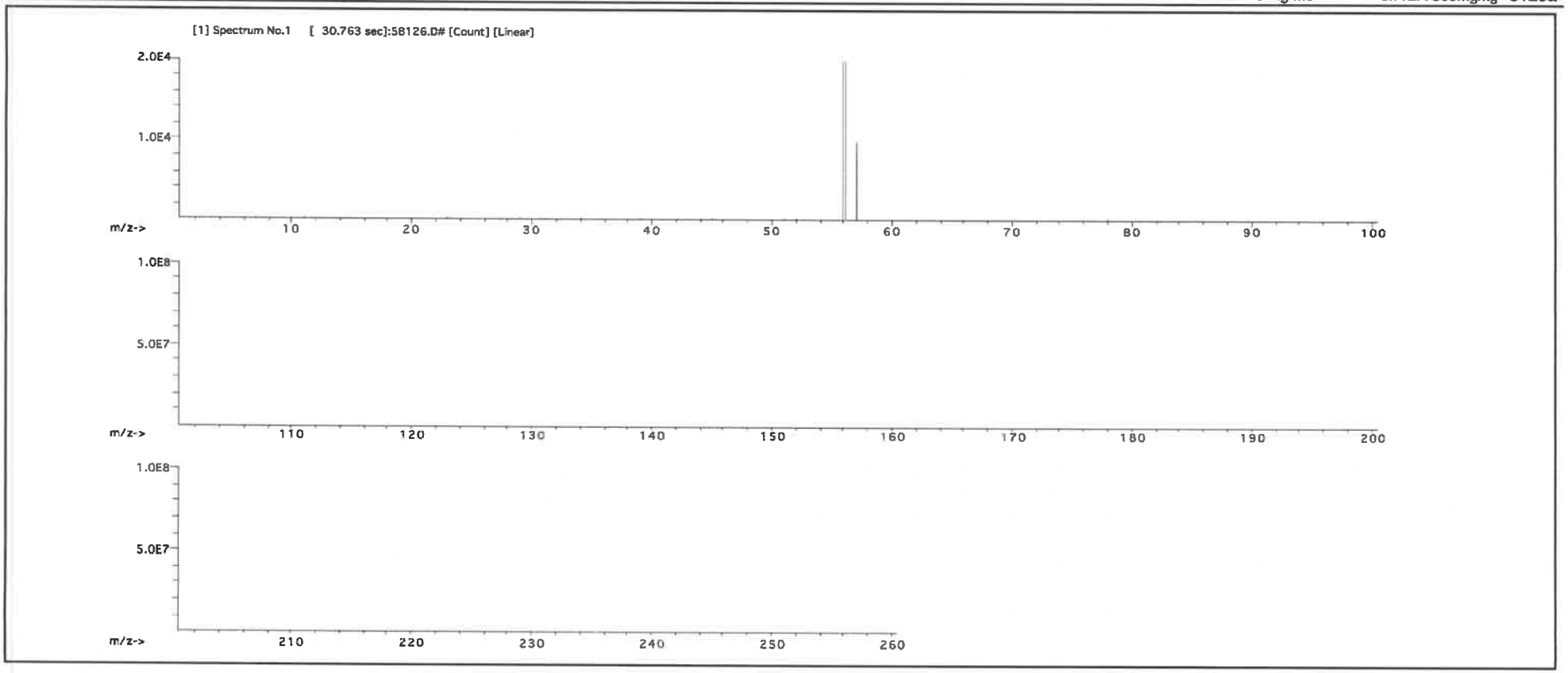
	Lot #		
Solvent:	21110221	Nitric Acid	
5.0%	250.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.12	Flask Uncertainty		

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.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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RD:05/14/2024

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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

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2023

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

11.2 Lot Expiration Date

- March 17, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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M5062
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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	S2-HG709270
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	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 (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

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 - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO_3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO_3 / LDPE container, stable in 10% HNO_3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO_3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO_3 / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxide (Soluble in HNO_3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

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 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

- 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 22, 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 Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certified Reference Material CRM

M5467 R: 03/01/23 (LA)

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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

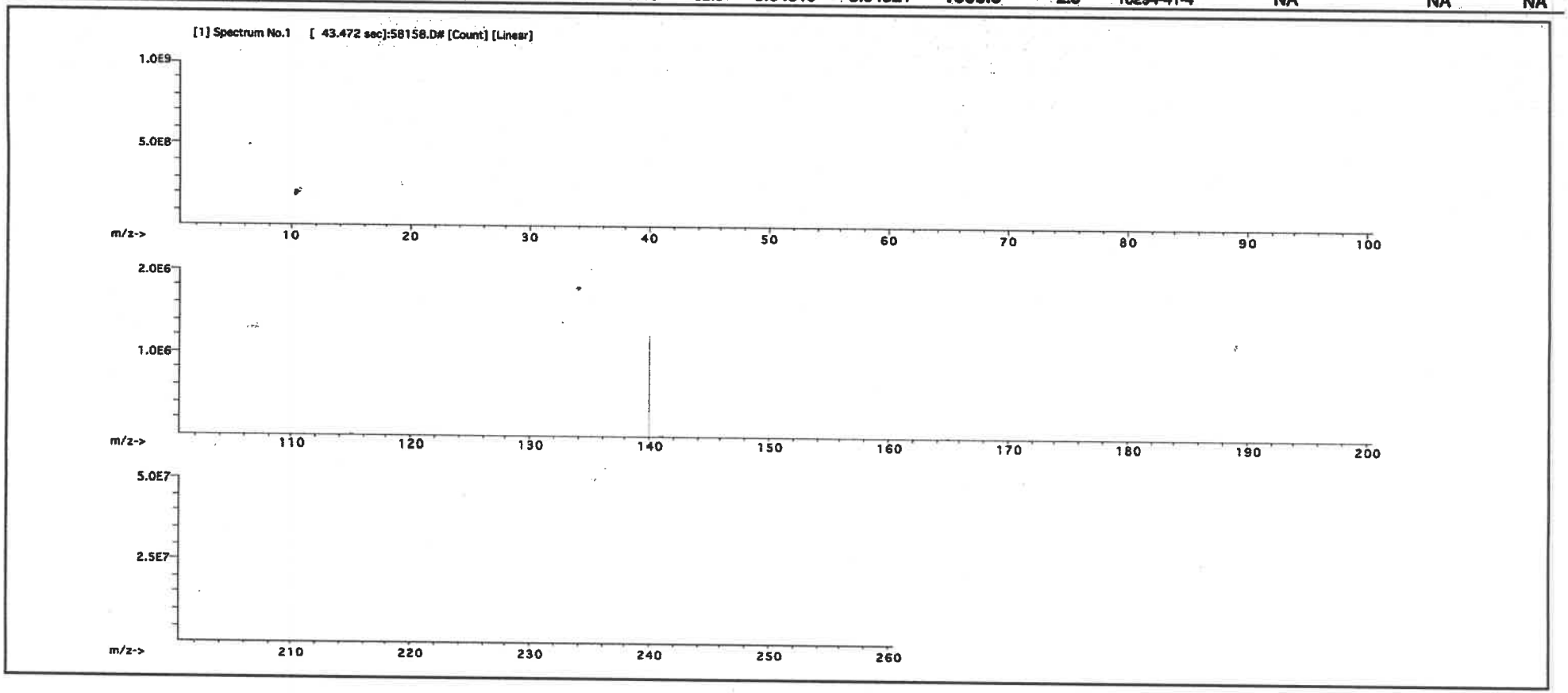
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

		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.
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* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

M5493 - M5708
Rad on 4/14/23
JMG

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 2

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	≥ 99.0 %	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	≤ 0.005 %	0.003 %
Iodide (I)	≤ 0.002 %	< 0.002 %
Bromide (Br)	≤ 0.01 %	< 0.01 %
Chlorate and Nitrate (as NO_3)	≤ 0.003 %	< 0.001 %
ACS - Phosphate (PO_4)	≤ 5 ppm	< 5 ppm
Sulfate (SO_4)	≤ 0.004 %	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Calcium (Ca)	≤ 0.002 %	< 0.001 %
Magnesium (Mg)	≤ 0.001 %	< 0.001 %
Potassium (K)	≤ 0.005 %	0.001 %

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC

James T Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

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M5658 R! 8/25/23

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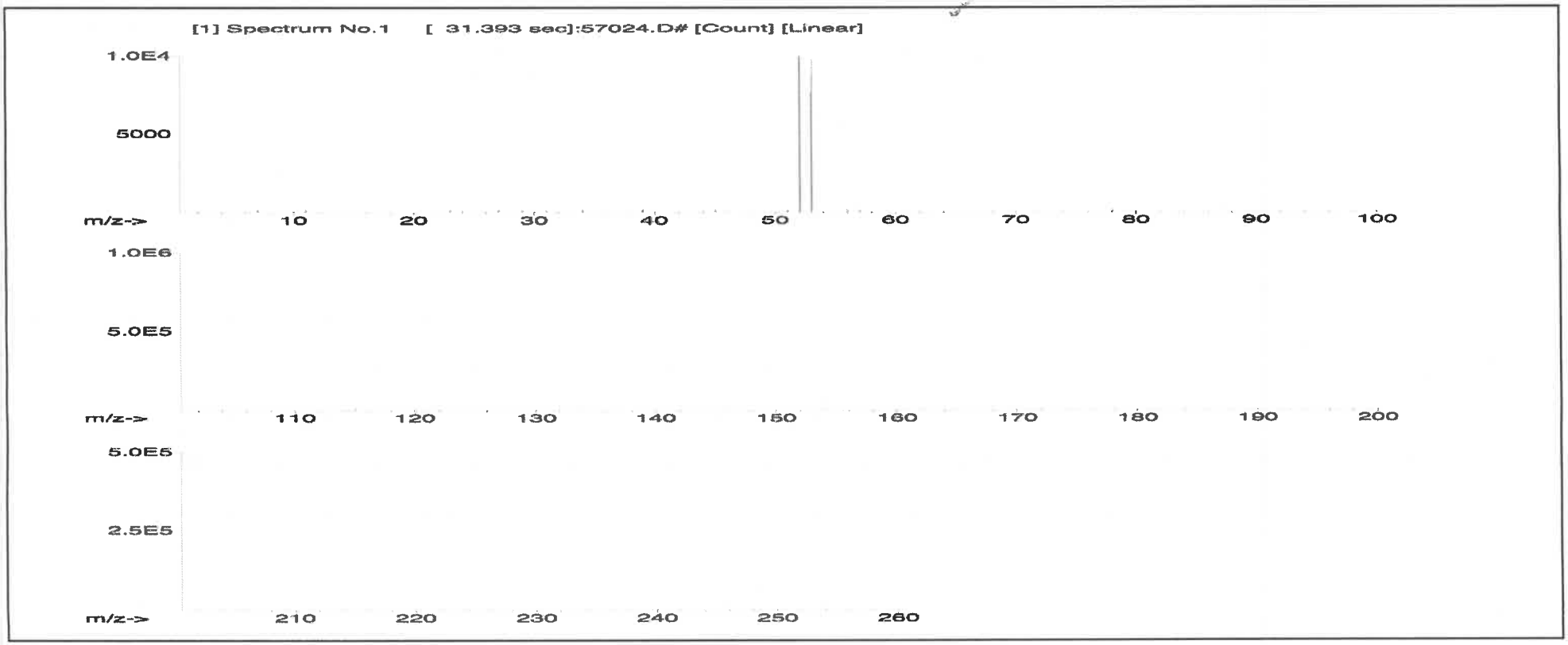
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



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.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 12/20/23 M5747

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

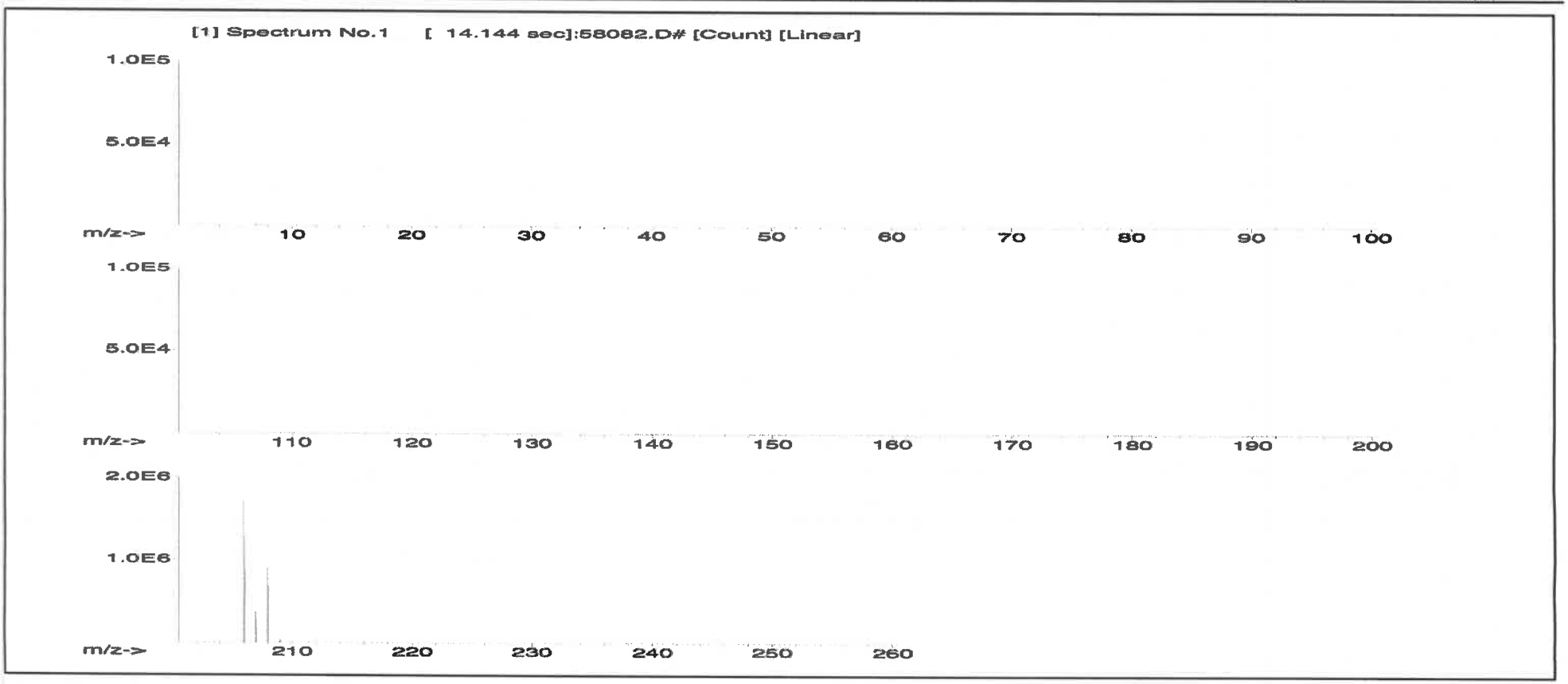
Weight shown below was diluted to (mL): 3000.41 ± 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 12/20/23 M5748

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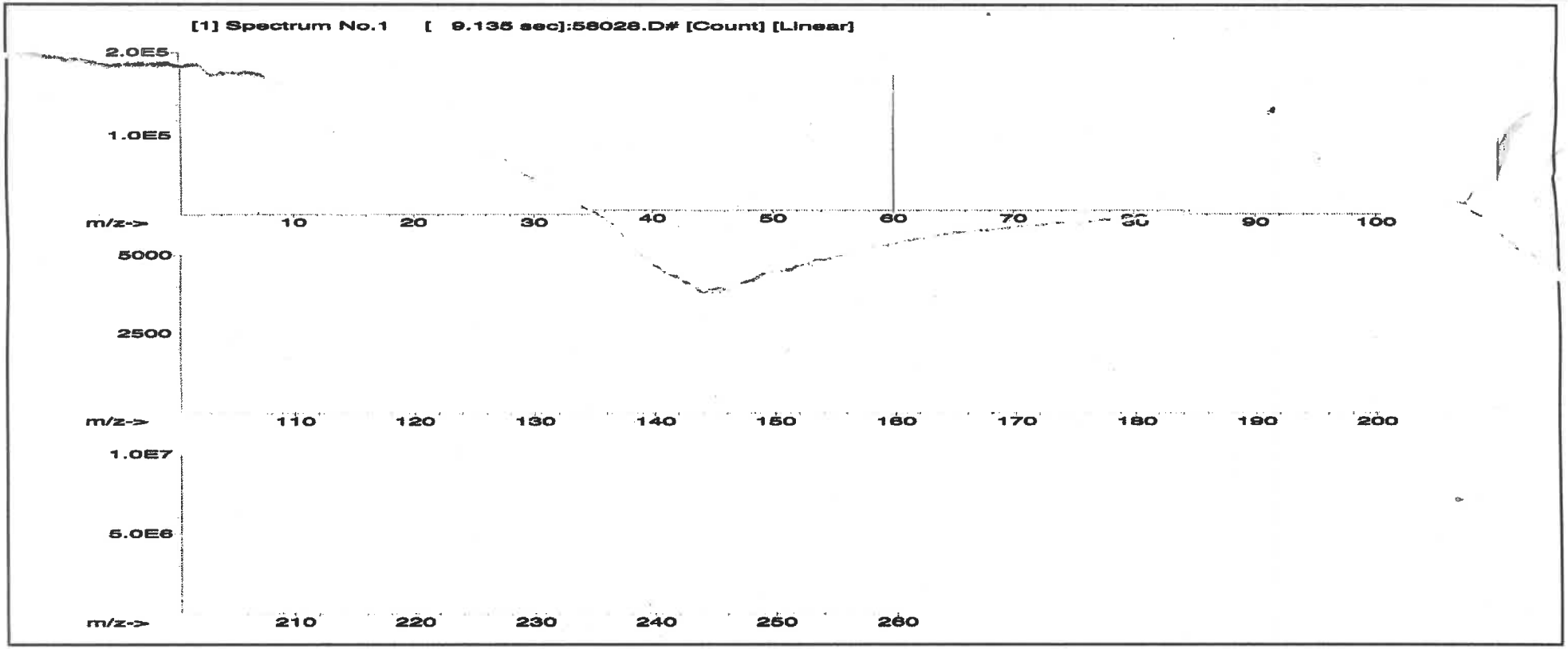
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.1000	200.0	0.084	1000	10000.4	**1000.0**	2.2	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



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:

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Certified Reference Material CRM

R: 8/25/23 M5751

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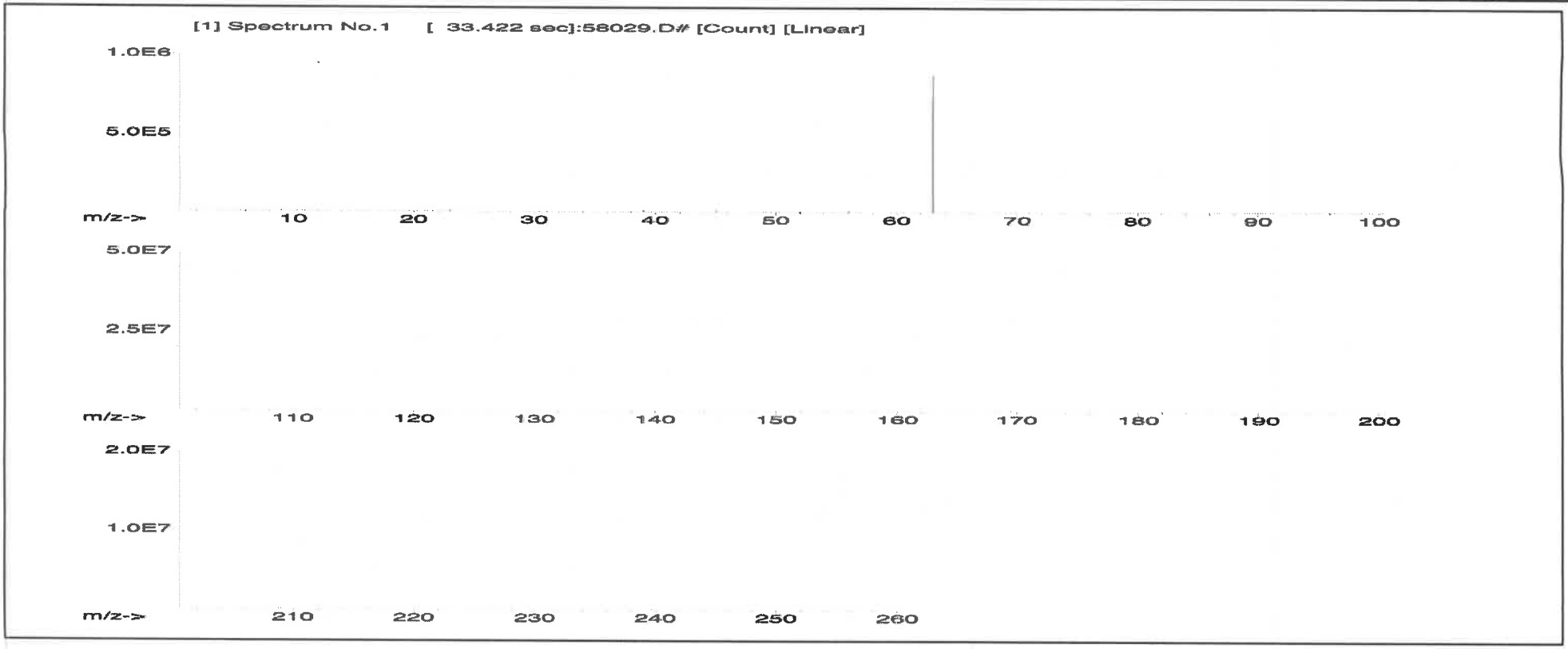
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58029**	21110221	Nitric Acid	
Lot Number:	**071723**			
Description:	**Copper (Cu)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	071723
Reviewed By:	Pedro L. Rentas	071723

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	022723	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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:

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Certified Reference Material CRM

R: 02/09/24 M5798

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AR-1539 Certificate Number
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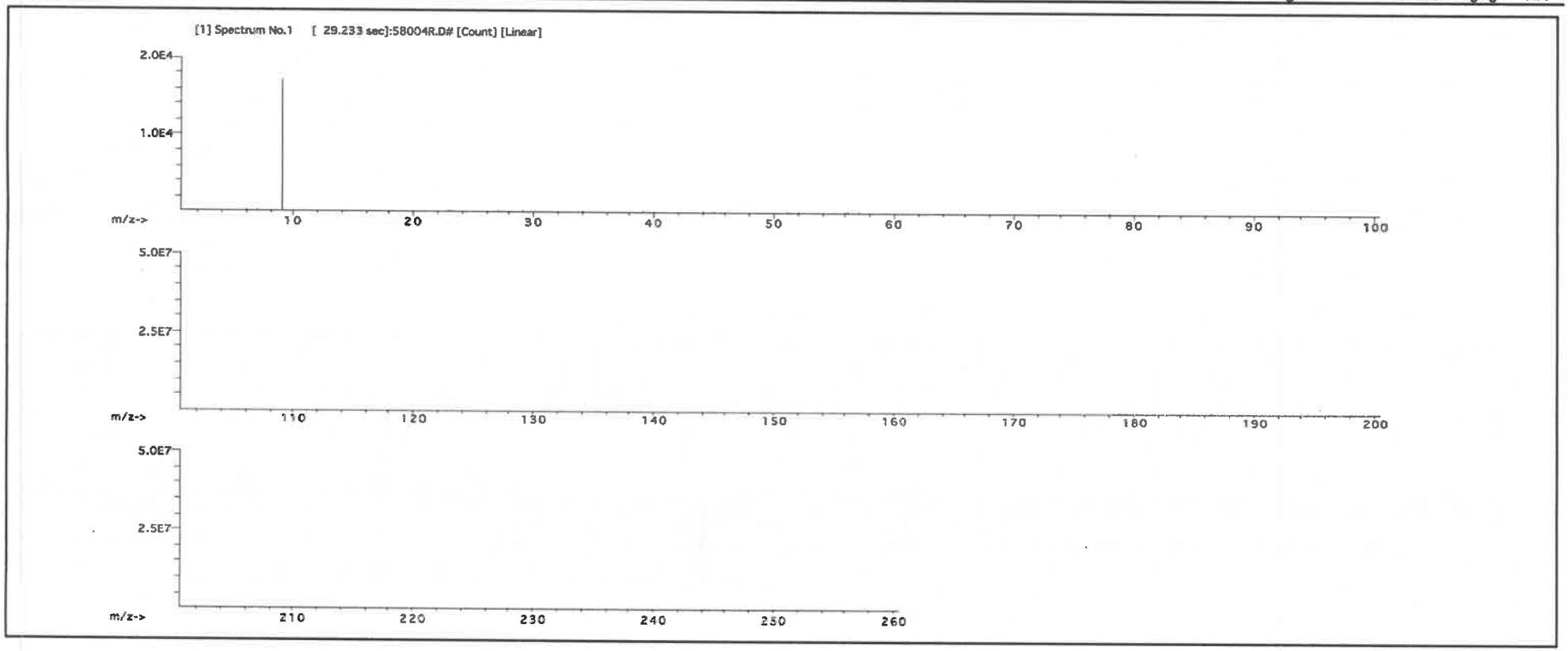
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**	24002546	Nitric Acid	
Lot Number:	**102523**			
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



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.
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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

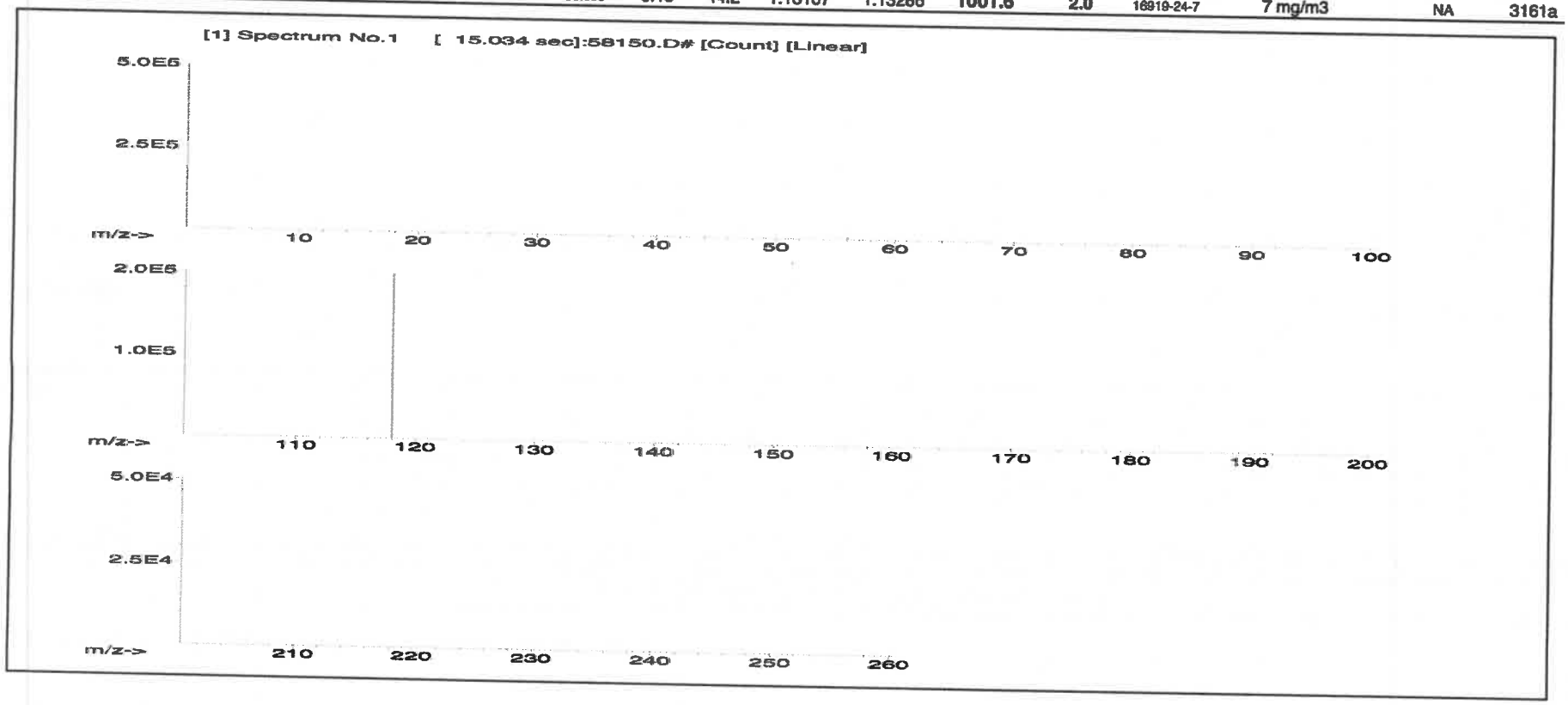
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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.
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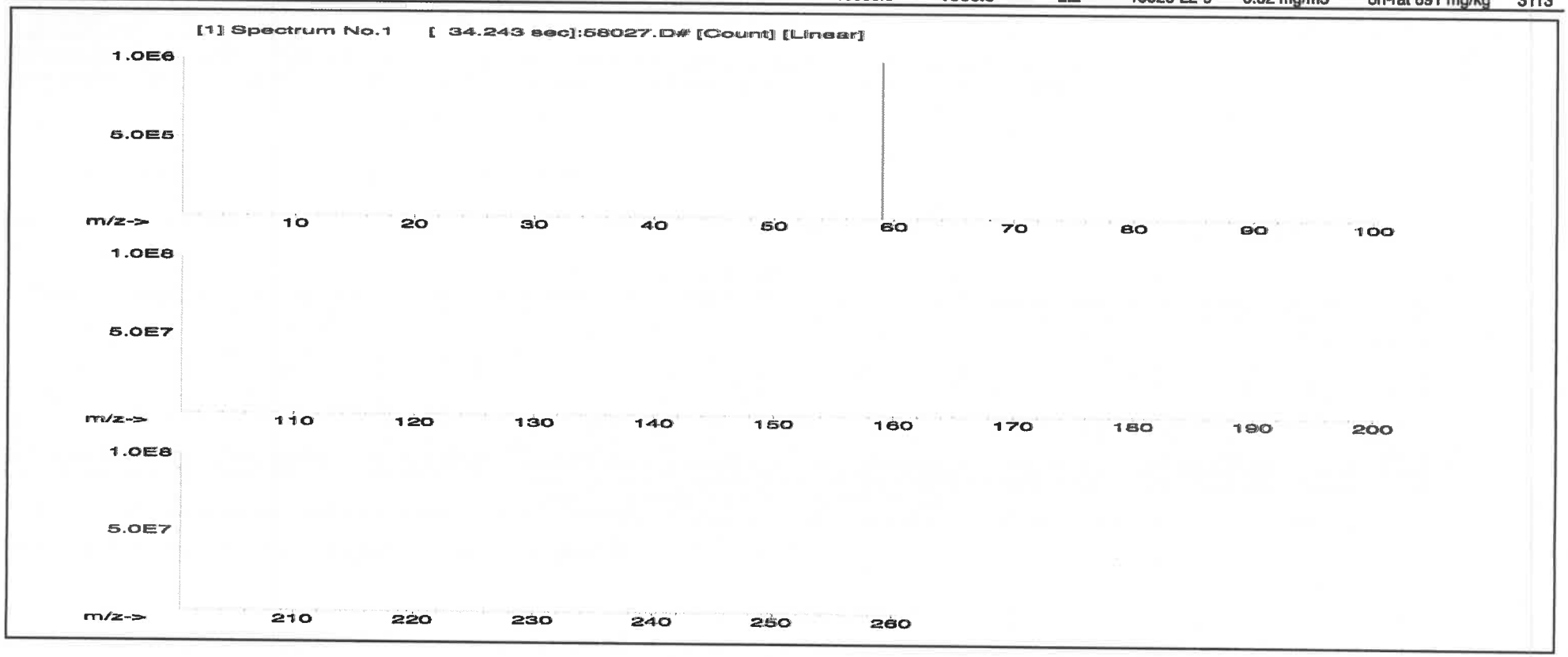
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**				
		2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	**2.2**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



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

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

(T)= Target analyte

Physical Characterization:

Certified by:

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

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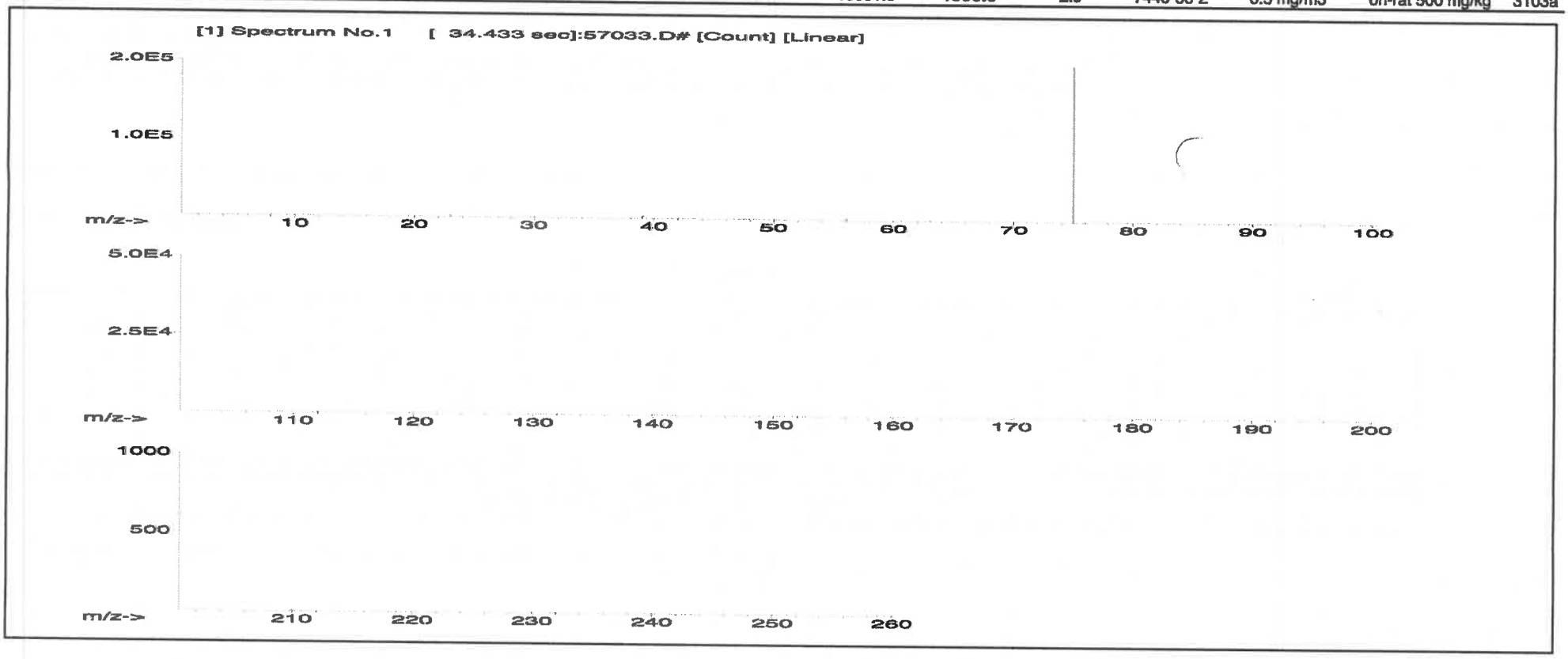
CERTIFIED **WEIGHT** REPORT:

		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.

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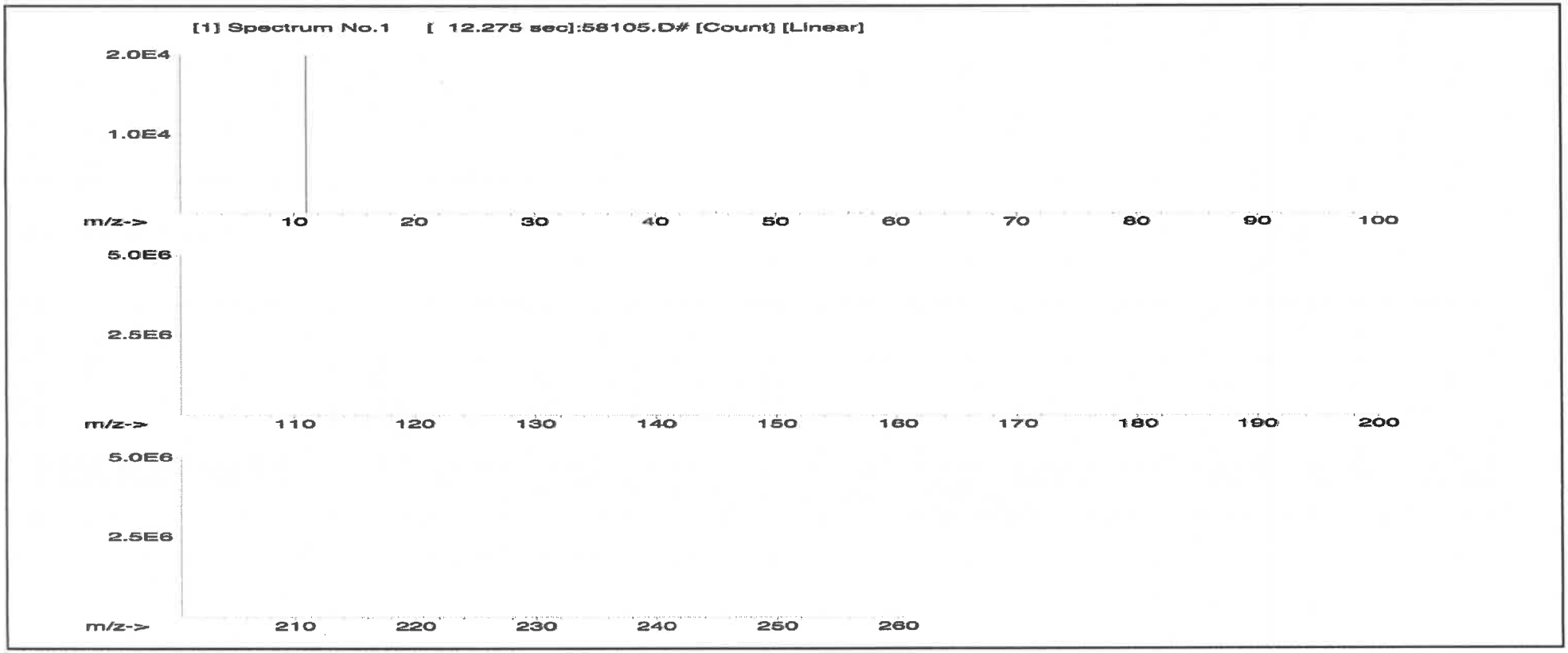
CERTIFIED WEIGHT REPORT:

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:

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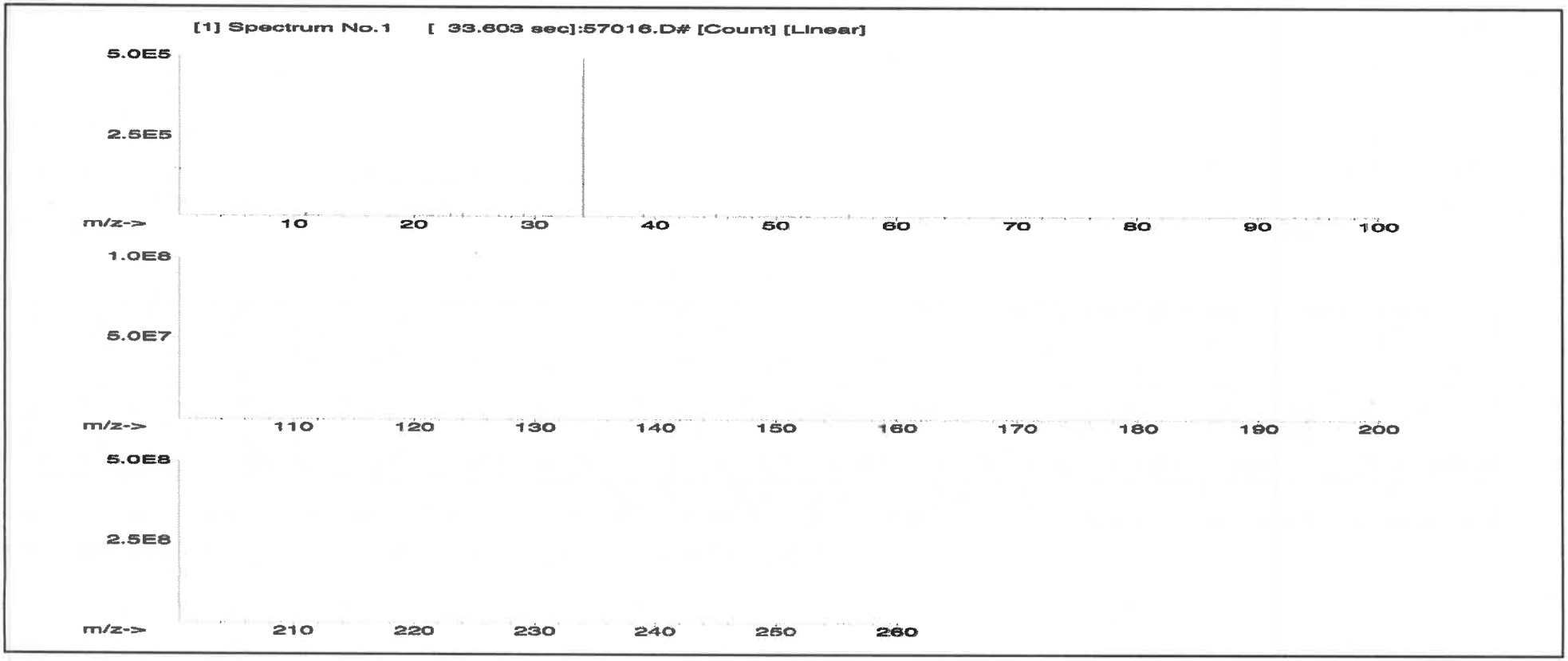
CERTIFIED WEIGHT REPORT:

Part Number:	**57016**	**Solvent:**	**Lot #** 122923	ASTM Type 1 Water
Lot Number:	**122923**			
Description:	**Sulfur (S)**			
Expiration Date:	122926			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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

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

(T) = Target analyte

Physical Characterization:

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Certified by:

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R: 02/09/24 M5820

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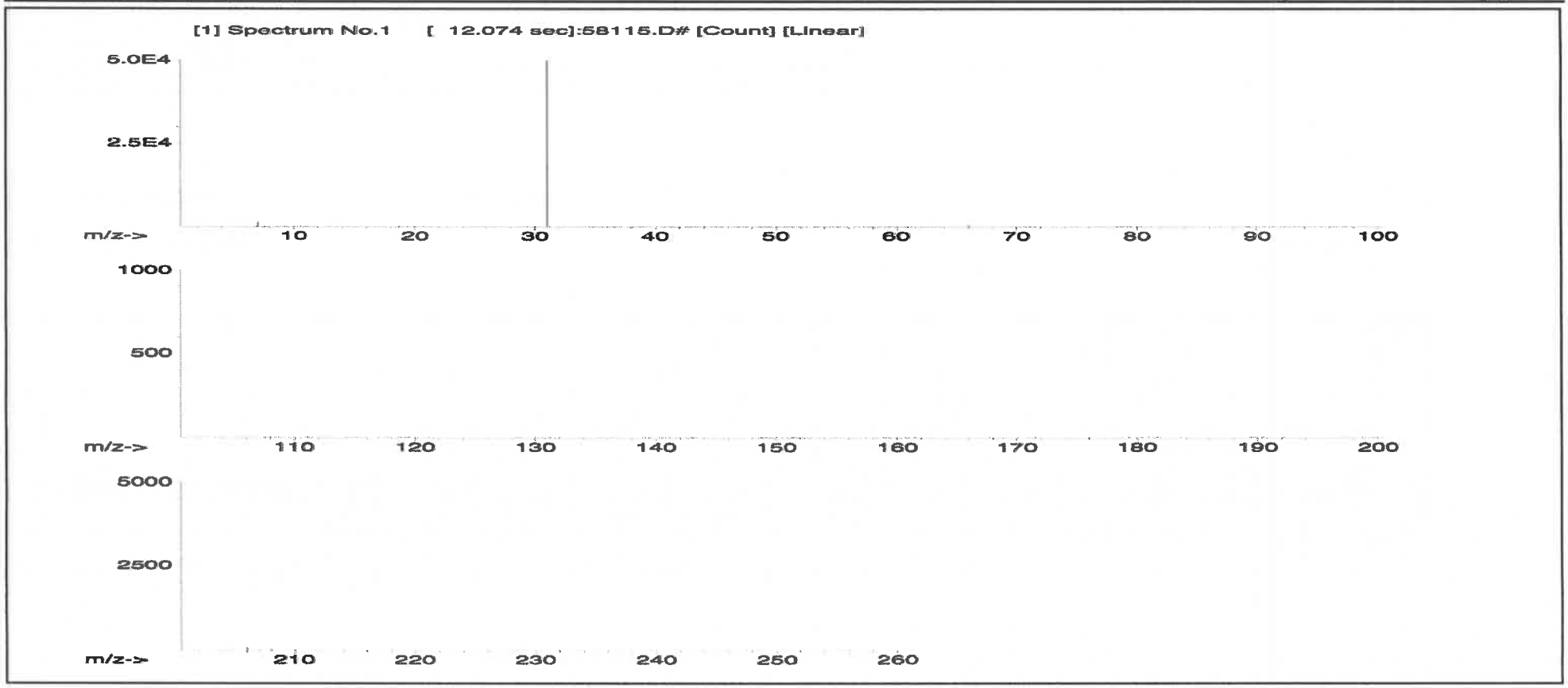
CERTIFIED WEIGHT REPORT:

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).

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO_3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

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

11.2 Lot Expiration Date

- **June 17, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5962 R! 06/14/24.

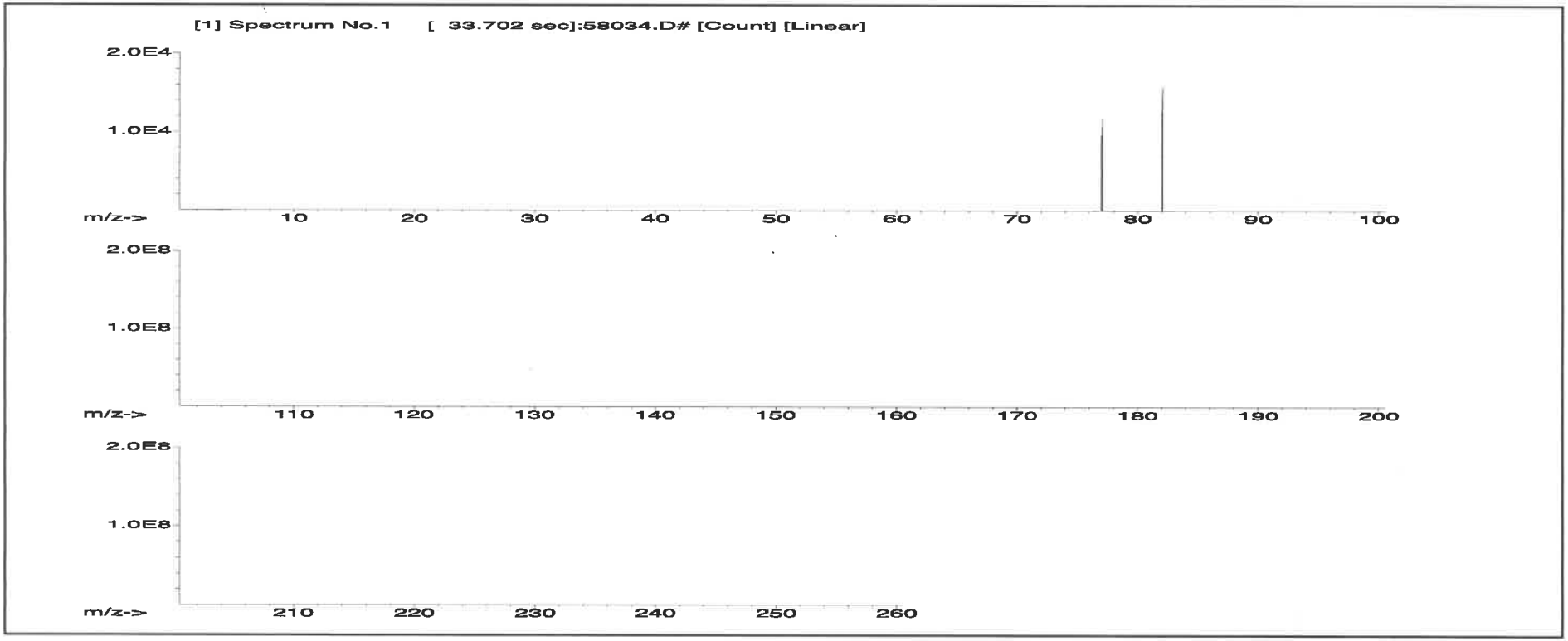
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



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.
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Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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

CERTIFIED WEIGHT REPORT:

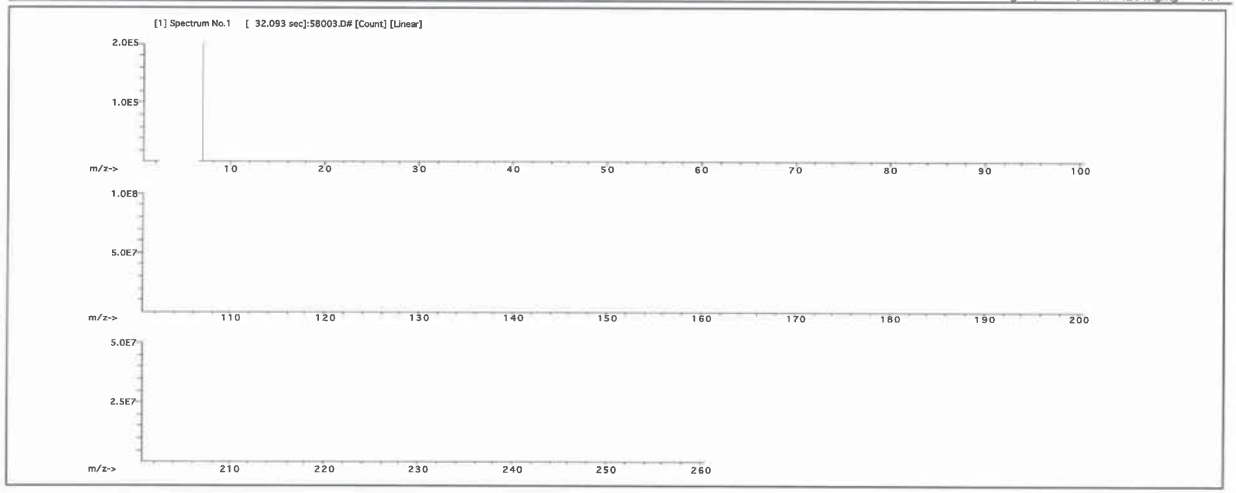
		Lot #	Solvent:
Part Number:	**57003**	24002546	Nitric Acid
Lot Number:	**062124**		
Description:	**Lithium (Li)**		
		2.0%	5.0 (mL) Nitric Acid
Expiration Date:	062127		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05 Balance Uncertainty	
Volume shown below was diluted to (mL):	250.11	0.016 Flask Uncertainty	

Giovanni Esposito

Formulated By: Giovanni Esposito 062124

Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

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Certificate of Analysis

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H2O)x+2

Chemical Compatibility -Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

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

11.2 Lot Expiration Date

- February 20, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

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

11.2 Lot Expiration Date

- February 21, 2028

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea:
	Calcium, Potassium,
	Magnesium, Sodium,
	2 000 µg/mL ea:
	Aluminum, Barium,
	1 000 µg/mL ea:
	Iron,
	500 µg/mL ea:
	Nickel, Vanadium,
	Zinc, Cobalt,
	Manganese,
	250 µg/mL ea:
	Silver, Copper,
	200 µg/mL ea:
	Chromium,
	50 µg/mL ea:
	Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = (\Sigma((w_i)^2\,(u_{char\ i})^2))^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

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

11.2 Lot Expiration Date

- January 27, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-3
Lot Number:	T2-MEB727800
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 500 µg/mL ea: Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**1 000 ± 7 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.2 µg/mL**
Lead, Pb	**1 000 ± 4 µg/mL**	**Selenium, Se**	**1 000 ± 6 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.042 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 21, 2022

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

11.2 Lot Expiration Date

- December 21, 2027

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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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-MEB746172
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

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

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, 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**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 12, 2024

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

11.2 Lot Expiration Date

- August 12, 2029

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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EXP.: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746762
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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**

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

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Certificate of Analysis

M6074
M6075
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M6077

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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 (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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.

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HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

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

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- September 06, 2029

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

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12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT:

R → 1/13/25

M 6127

			Lot #	
Part Number:	**58112**	**Solvent:**	24012496	Nitric Acid
Lot Number:	**112124**			
Description:	**Magnesium (Mg)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	112127			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

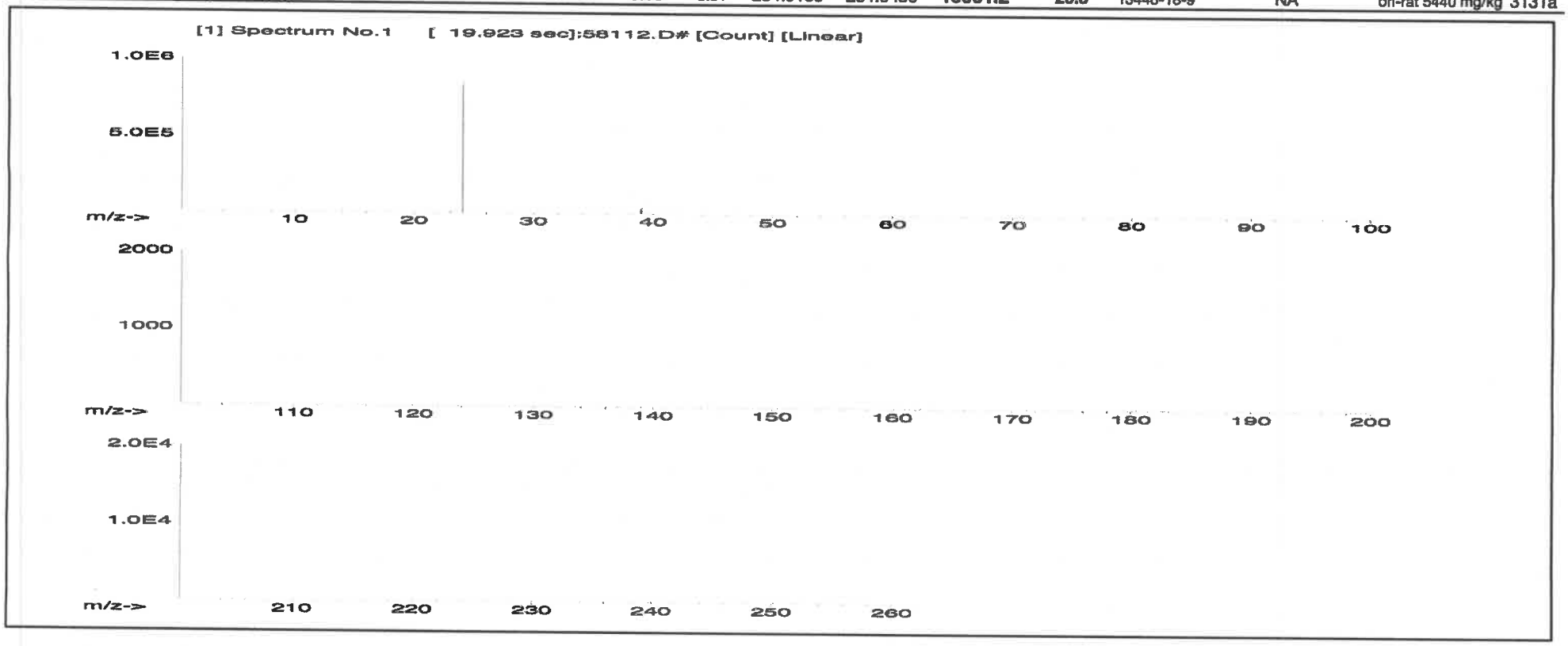
Giovanni Esposito

Formulated By:	Giovanni Esposito	112124

Pedro Rentas

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).

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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	

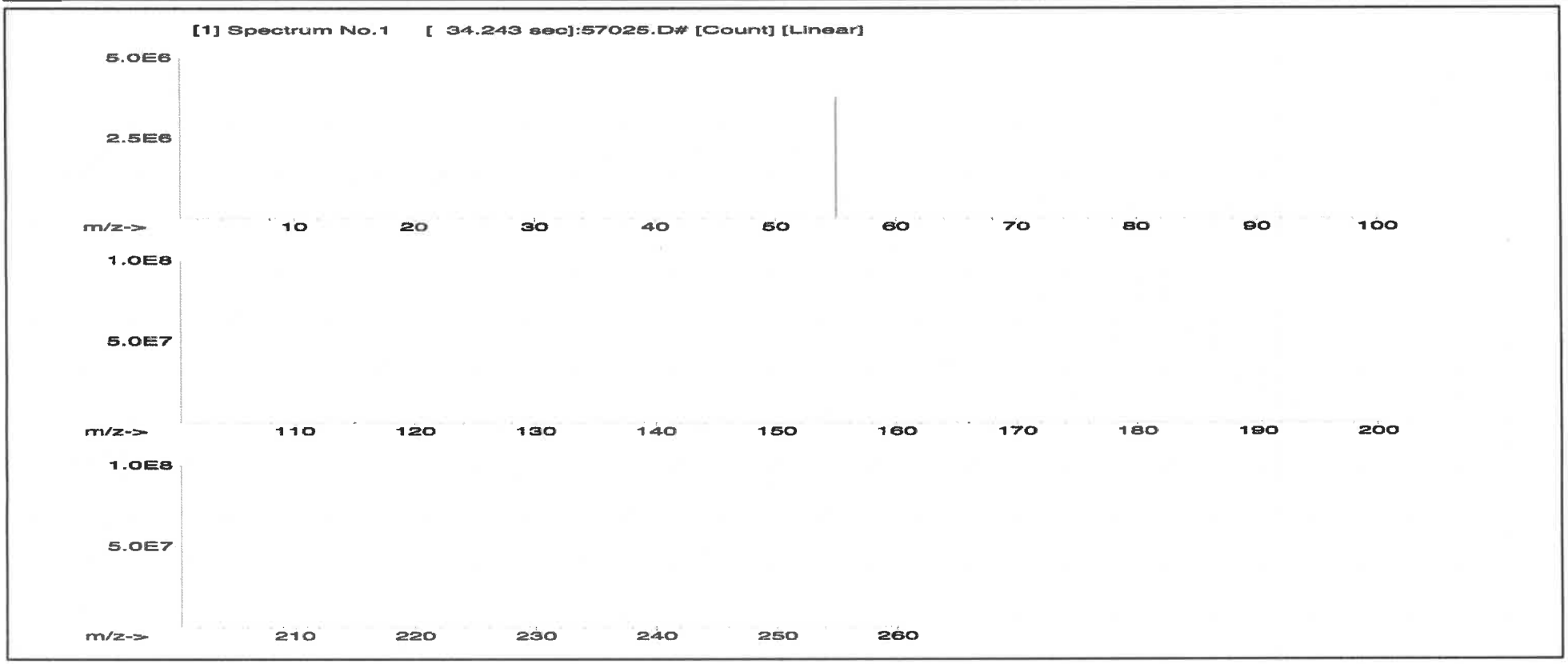
Giovanni Esposito

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).

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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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

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u_{ts} = transport stability standard uncertainty

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- 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

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Certified Reference Material CRM

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CERTIFIED WEIGHT REPORT:

R-> 1/13/25

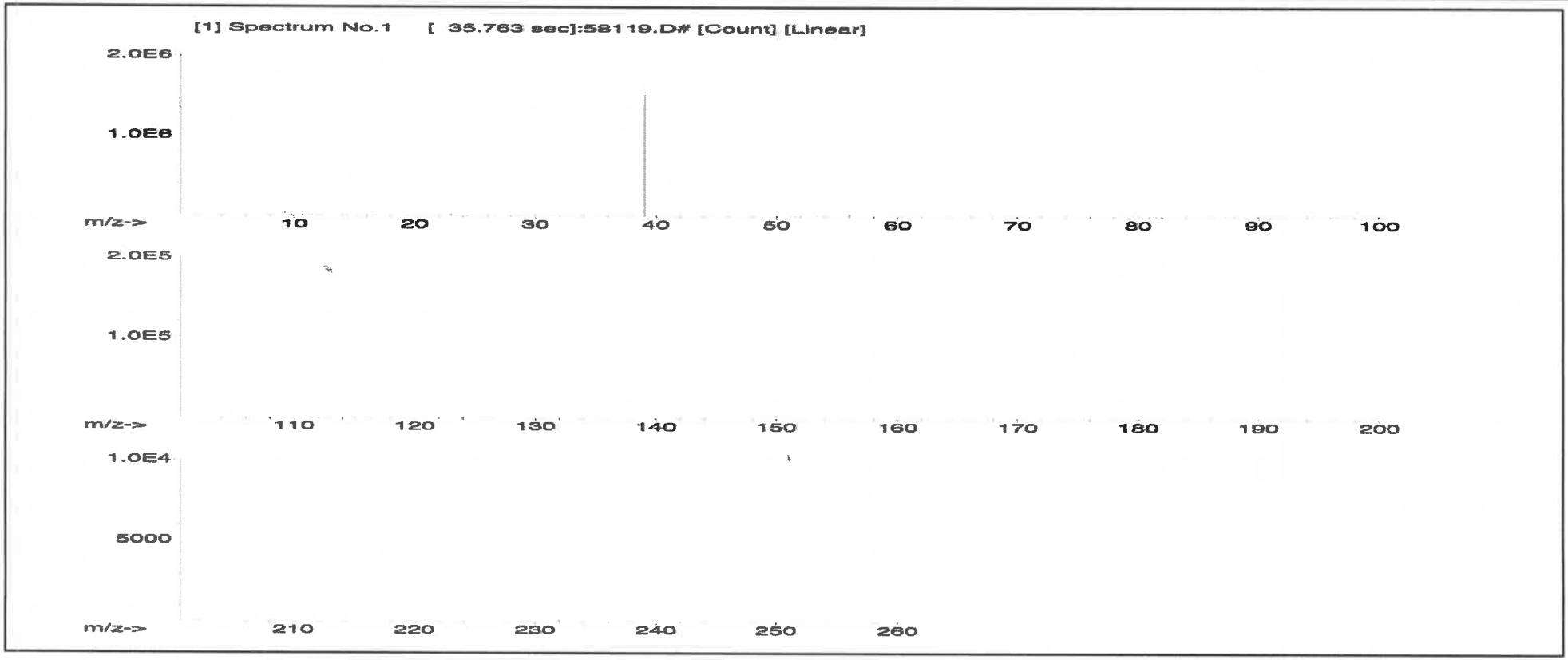
Part Number:	**57119**		**Lot #**		
Lot Number:	**103024**	**Solvent:**	24002546	Nitric Acid	
Description:	**Potassium (K)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	103027				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.1	0.15	Flask Uncertainty		

M6141
M6142
M6143

Giovanni Esposito

Formulated By:	Giovanni Esposito	103024
Reviewed By:	Pedro L. Rentas	103024

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD062022A1	10000	99.999	0.10	37.7	106.1040	######	**10001.1**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3750 mg/kg	3141a



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

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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

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Certified Reference Material CRM

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CERTIFIED WEIGHT REPORT:

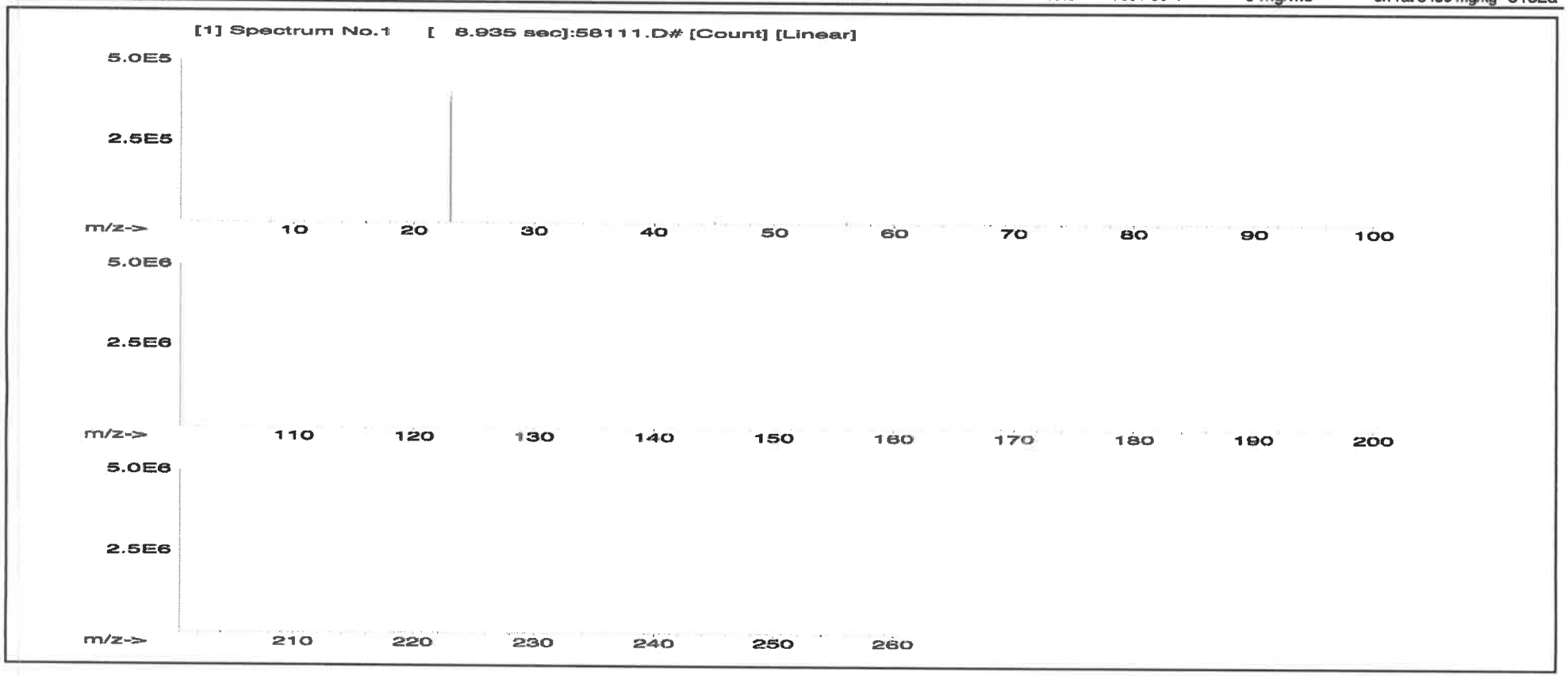
R->1/13/25

M6144

			Lot #	
Part Number:	**58111**	**Solvent:**	24002546	Nitric Acid
Lot Number:	**072424**			
Description:	**Sodium (Na)**	2%	80.0 (mL)	Nitric Acid
Expiration Date:	072427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.2	0.10	Flask Uncertainty	

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	148.7096	######	**10000.0**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



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

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

(T) = Target analyte

Physical Characterization:

Certified by:

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

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

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CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 121724
Description: Zinc (Zn)

R → 1/13/25

M6145

Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

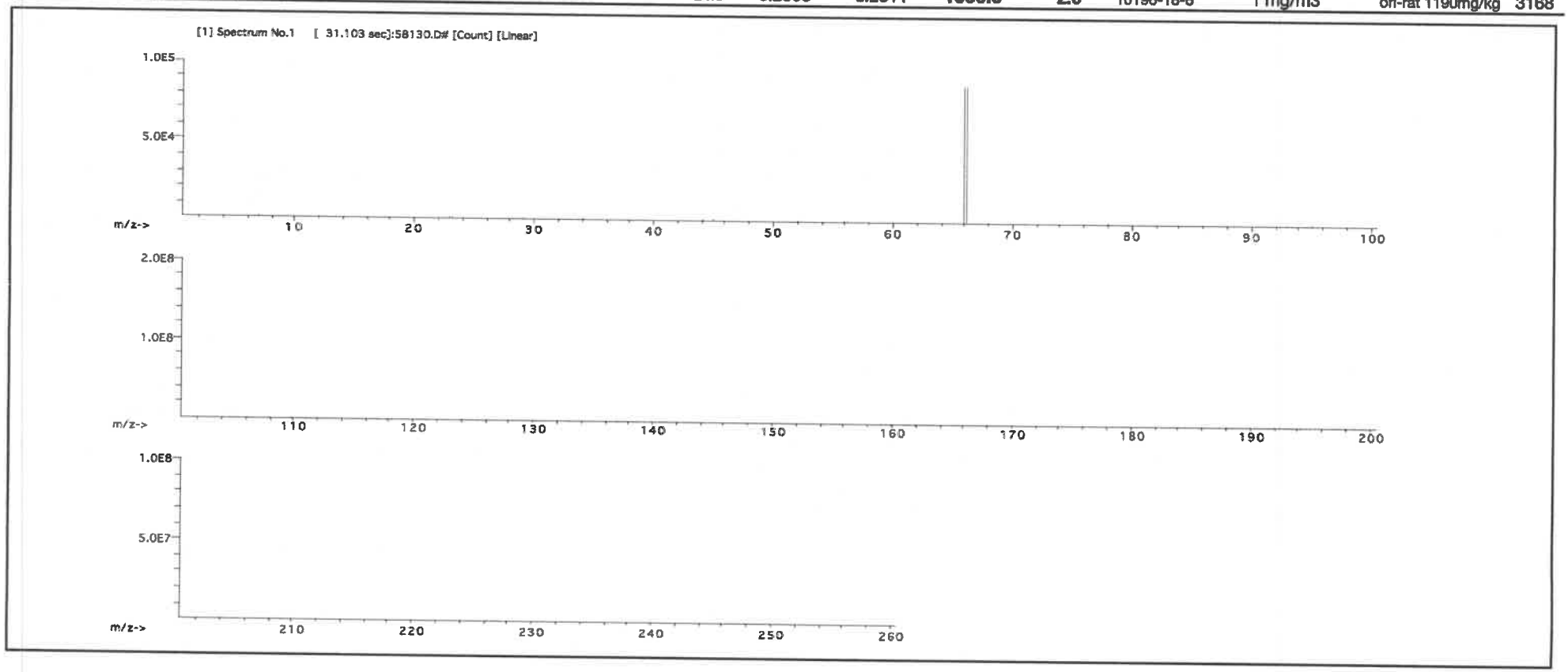
		Lot #	
Solvent:	24012496	Nitric Acid	
	2%	40.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 2000.1 0.10 Flask Uncertainty

Aleah O'Brady

Formulated By:	Aleah O'Brady	121724
Reviewed By:	Pedro L. Rentas	121724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	8.2308	8.2311	**1000.0**	**2.0**	10196-18-6	1 mg/m3	ori-rat 1190mg/kg	3168



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.
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Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R→ 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

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

Test	Specification	Result
Trace Impurities - Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities - Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities - Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities - Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

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

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R-02102/2025

M-6158

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

m-6162

R. Date :- 04/27/2025

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	0.1 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	0.1 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 1 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 1 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	< 1 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	1 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 1.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	13 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	5 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

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

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	QCP-CICV-1
Lot Number:	V2-MEB744107
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	2 500 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 1 000 µg/mL ea: Aluminum, Barium, 500 µg/mL ea: Iron, 250 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 125 µg/mL ea: Silver, Copper, 100 µg/mL ea: Chromium, 25 µg/mL ea: Beryllium

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

Density: 1.081 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	120618
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	200413
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information (https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver)

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 22, 2024

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

11.2 Lot Expiration Date

- **May 22, 2029**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

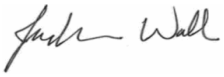
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor

Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	QCP-CICV-2
Lot Number:	U2-MEB733713
Matrix:	3% (w/v) Tartaric acid 1% (v/v) HNO3
Value / Analyte(s):	500 µg/mL ea: Antimony

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

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

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

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Sb	ICP Assay	3102a	140911

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

Characterization of CRM/RM by Two or More Methods

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

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

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$
w_i = the weighting factors for each method calculated using the inverse square of the variance:
$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2
$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method
u_{bb} = bottle to bottle homogeneity standard uncertainty
u_{lts} = long term stability standard uncertainty (storage)
u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with
$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2
$u_{char\ a}$ = the errors from characterization
u_{bb} = bottle to bottle homogeneity standard uncertainty
u_{lts} = long term stability standard uncertainty (storage)
u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 01, 2023

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

11.2 Lot Expiration Date

- **June 01, 2028**

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

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

11.3 Period of Validity

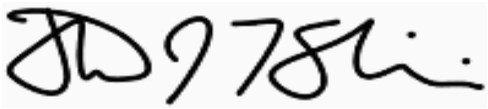
- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Certificate of Analysis

300 Technology Drive
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inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	QCP-CICV-3
Lot Number:	V2-MEB749572
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	500 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 250 µg/mL ea: Cadmium

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**500.0 ± 3.1 µg/mL**	**Cadmium, Cd**	**250.1 ± 1.1 µg/mL**
Lead, Pb	**500.0 ± 2.3 µg/mL**	**Selenium, Se**	**500.0 ± 3.2 µg/mL**
Thallium, Tl	**500.0 ± 3.0 µg/mL**		

Density: 1.040 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

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

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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 02, 2025

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

11.2 Lot Expiration Date

- **January 02, 2030**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

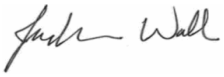
12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Justin Dirico
Stock Processing Supervisor

Certificate Approved By:

Jodie Wall
Stock VSM Coordinator



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6030

R: 8/5/24

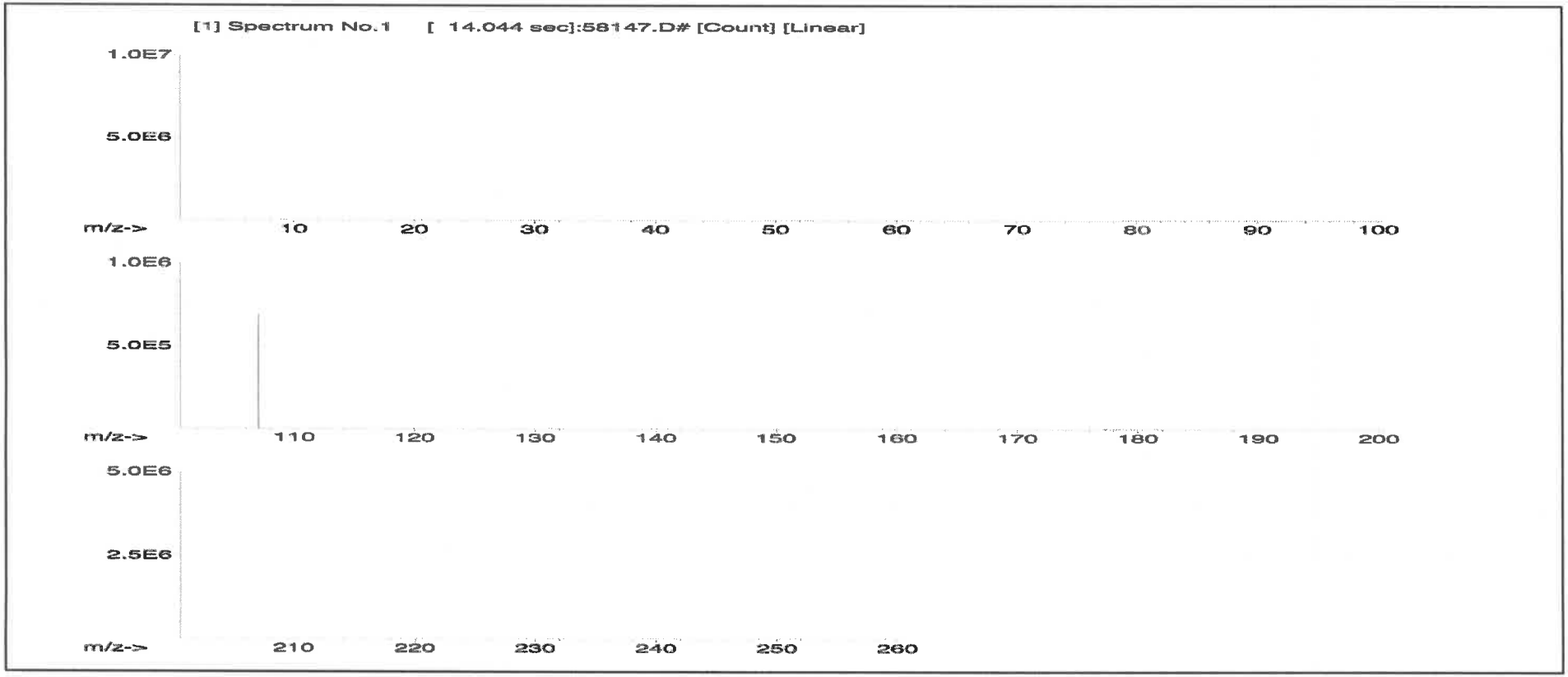
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**57047**			**Lot #**	
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		

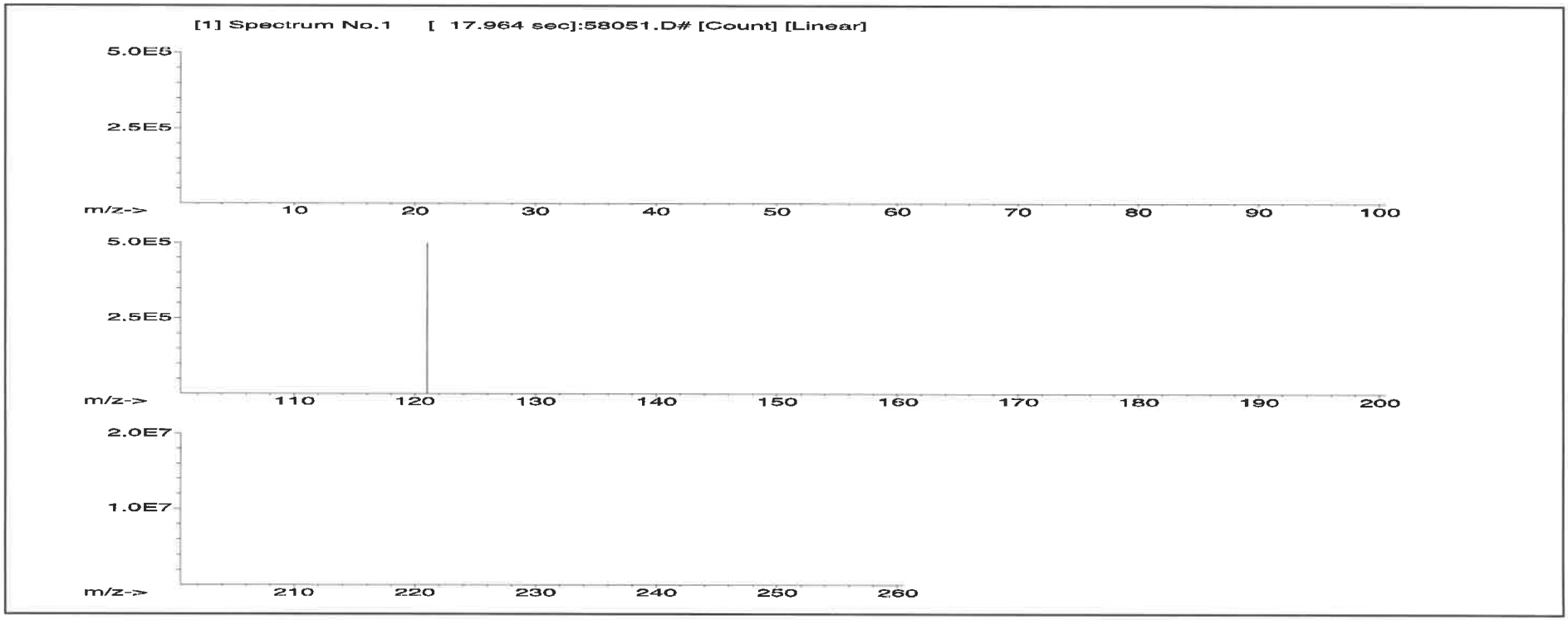
Giovanni Esposito

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

M6023

R ! 8/5/24

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

CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

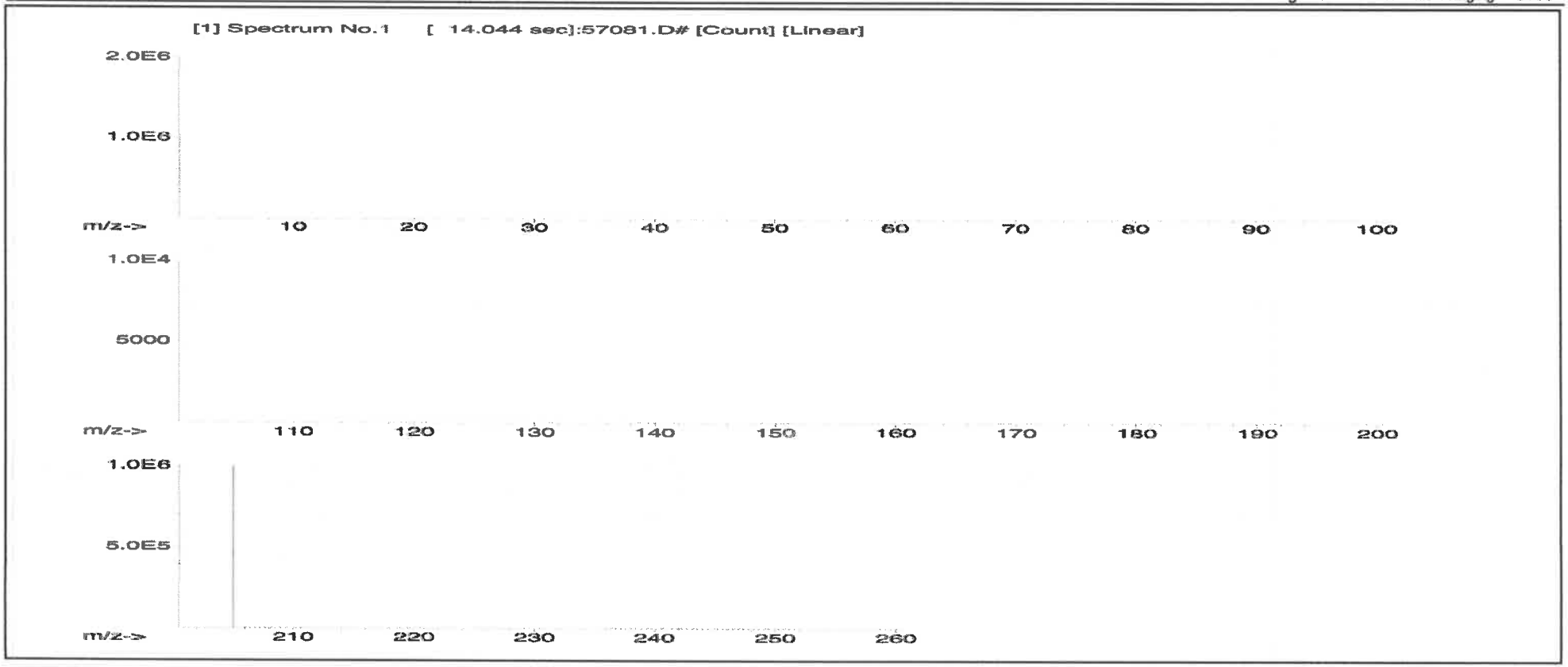
Aleah O'Brady

Formulated By:	Aleah O'Brady	062724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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

Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**			
Description:	**Vanadium (V)**	24002546	Nitric Acid	
		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	

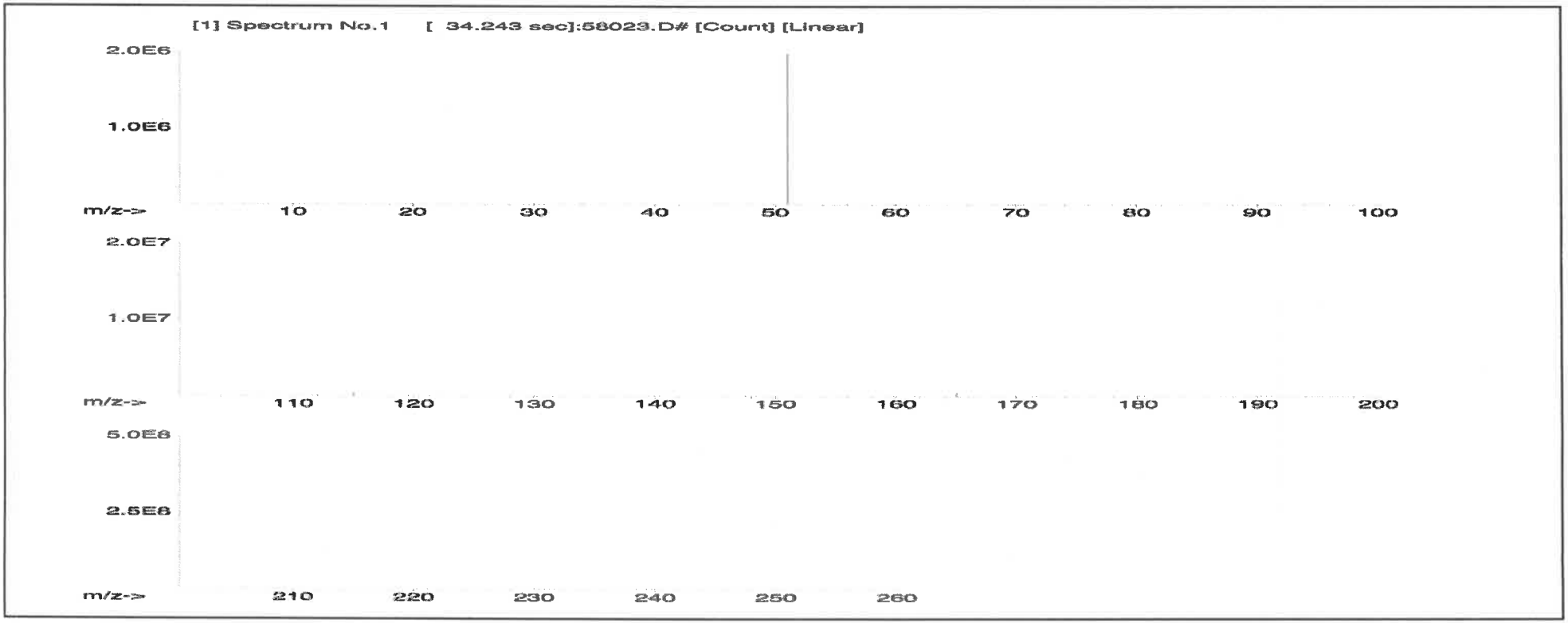
Aleah O'Brady

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:

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

Certified by:

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

SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO. Q 2646
QUOTE NO.
COC Number 2047597

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: ENVIRONMENTAL RESTORATION
ADDRESS: 627 COURT ST
CITY BINGHAMTON STATE NY ZIP 13901
ATTENTION: STEVE MOTTA
PHONE: 3146037026 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: GREENTOPIA
PROJECT NO. GR217 LOCATION: N. ARLINGTON
PROJECT MANAGER: STEVE MOTTA
e-mail: S.MOTTA@ERLLC.COM
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: " PO#: GR217
ADDRESS: 627 COURT ST
CITY BINGHAMTON STATE: NY ZIP: 13901
ATTENTION: STEVE PHONE: 3146037026

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ 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 2 (Results + QC)
- ❑ Level 3 (Results + QC + Raw Data)
- ❑ Level 4 (QC + Full Raw Data)
- ❑ NJ Reduced ❑ US EPA CLP
- ❑ NYS ASP A ❑ NYS ASP B
- ❑ Other _____
- ❑ EDD FORMAT _____

ANALYSIS

1: TOX 2: TCLP HERB. PEST BUD 3. BTU 4 FLASHPOINT 5 PCB 6 PH/TSS/EXT 7 VOC-TCLVOA 8 TCLPVOA 9 METALS/MERC

PRESERVATIVES

COMMENTS

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
1. 1	FRACTANK	LIQ		X	7/18	0930	1	✓						✓			H2SO4
2. 2	FRACTANK			X			2		✓								
3. 3	FRACTANK			X			1			✓							
4. 4	FRACTANK			X			1				✓						
5. 5	FRAC TANK			X			1					✓					
6. 6	FRAC TANK			X			1						✓				
7. 8	FRACTANK			X			2							✓			HCL
8. 9	FRAC TANK			X			2								✓		
9. 10	FRAC TANK			X			1									✓	
10.				X													

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. STEVE MOTTA	7/18 1018	1 7-18-25 1018
2.		2.
3.	7-18-25 1220	3.

Conditions of bottles or coolers at receipt: ❑ COMPLIANT ❑ NON COMPLIANT ❑ COOLER TEMP 3.1 °C
Comments:

Page 1 of 1

CLIENT: ❑ Hand Delivered ❑ Other

Shipment Complete ❑ YES ❑ NO

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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

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q2646 ENVI60
Client Name : Environmental Restoration,
Client Contact : Steve Motta
Invoice Name : Environmental Restoration,
Invoice Contact : Steve Motta

Order Date : 7/18/2025 11:47:00 AM
Project Name : North Arlington, NJ
Receive DateTime : 7/18/2025 ~~2:00:00~~ PM 12:20:00
Purchase Order :

Project Mgr :
Report Type : NJ Reduced
EDD Type : Excel NJ
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q2646-01	FRAC TANK	Water	07/18/2025	09:30					
					VOC-TCLVOA-10		8260D		10 Bus. Days

Relinguished By :
Date / Time : 7-18-25 1300

Received By : Sam
Date / Time : 07/18/25 13:00

Storage Area : VOA Refridgerator Room