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

DATA PACKAGE

METALS

PROJECT NAME : NYCDDC SANTWOBR BROOKLYN BRIDGE BBMCR

RU2 ENGINEERING, LLC

2 Melinda Drive

Monroe Township, NJ - 08831

Phone No: 732-261-2236

ORDER ID : Q1206

ATTENTION : Rutu Manani

Laboratory Certification ID # 20012

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Cover Page

Order ID : Q1206

Project ID : NYCDDC SANTWOBR Brooklyn Bridge BBMCR

Client : RU2 Engineering, LLC

Lab Sample Number	Client Sample Number
Q1206-01	JPP-20.1-012725
Q1206-02	JPP-20.1-012725
Q1206-03	JPP-20.1-012725
Q1206-04	JPP-20.1-012725
Q1206-05	JPP-16.3-012725
Q1206-06	JPP-16.3-012725
Q1206-07	JPP-16.3-012725
Q1206-08	JPP-16.3-012725

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: 2/10/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

RU2 Engineering, LLC
Project Name: NYCDDC SANTWOBR Brooklyn Bridge BBMCR
Project # N/A
Chemtech Project # Q1206
Test Name: TCLP Mercury,TCLP ICP Metals

A. Number of Samples and Date of Receipt:
8 Solid samples were received on 01/28/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-TAL, METALS-TAL, Paint Filter, PCB, Pesticide-TCL, RCRA CHARACTERISTICS, Reactive Cyanide, Reactive Sulfide, SVOC-TCL BNA -20, TCLP BNA, TCLP Extraction, TCLP Herbicide, TCLP ICP Metals, TCLP Mercury, TCLP Pesticide, TCLP VOA, TCLP ZHE Extraction, TCLP-FULL and VOCMS Group1. This data package contains results for TCLP Mercury,TCLP ICP Metals.

C. Analytical Techniques:
The analysis of TCLP ICP Metals was based on method 6010D, digestion based on method 3010 (waters). The analysis and digestion of TCLP Mercury was based on method 7470A and TCLP extraction method was 1311.

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

E. Additional Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed

above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

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

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers **"P"** for ICP instrument **"PM"** for ICP when Microwave Digestion is used **"CV"** for Manual Cold Vapor AA **"AV"** for automated Cold Vapor AA **"CA"** for MIDI-Distillation Spectrophotometric **"AS"** for Semi –Automated Spectrophotometric **"C"** for Manual Spectrophotometric **"T"** for Titrimetric **"NR"** for analyte not required to be analyzed
OR	Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

ALLIANCE 284 Sheffield Street, Mountainside New Jersey 07092

NEW JERSEY LAB ID#: 20012: NEW YORK LAB ID#: 11376

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: Q1206 MATRIX: TCLP

METHOD: 6010D,7470A,1311

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

ADDITIONAL COMMENTS:

_____ _____

QA REVIEW Date

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1206

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

QA Review Signature: SOHIL JODHANI **Date:** 02/10/2025

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LAB CHRONICLE

OrderID:	Q1206	**OrderDate:**	1/28/2025 11:18:51 AM
Client:	RU2 Engineering, LLC	**Project:**	NYCDDC SANTWOBR Brooklyn Bridge BBMCR
Contact:	Rutu Manani	**Location:**	E11,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1206-03	**JPP-20.1-012725**	**SOIL**			**01/27/25**			**01/28/25**
			Mercury	7471B		01/29/25	01/30/25	
			Metals ICP-TAL	6010D		01/29/25	01/30/25	
Q1206-04	**JPP-20.1-012725**	**TCLP**			**01/27/25**			**01/28/25**
			TCLP ICP Metals	6010D		01/29/25	01/30/25	
			TCLP Mercury	7470A		01/29/25	01/30/25	
Q1206-07	**JPP-16.3-012725**	**SOIL**			**01/27/25**			**01/28/25**
			Mercury	7471B		01/29/25	01/30/25	
			Metals ICP-TAL	6010D		01/29/25	01/30/25	
Q1206-08	**JPP-16.3-012725**	**TCLP**			**01/27/25**			**01/28/25**
			TCLP ICP Metals	6010D		01/29/25	01/30/25	
			TCLP Mercury	7470A		01/29/25	01/30/25	

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Hit Summary Sheet
SW-846

SDG No.: Q1206 **Order ID:** Q1206

Client: RU2 Engineering, LLC **Project ID:** NYCDDC SANTWOBR Brooklyn Bridge

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : JPP-20.1-012725								
Q1206-04	JPP-20.1-012725	TCLP	Barium	567		62.8	500	ug/L
Q1206-04	JPP-20.1-012725	TCLP	Lead	89.8		35.1	60.0	ug/L
Client ID : JPP-16.3-012725								
Q1206-08	JPP-16.3-012725	TCLP	Barium	332	J	62.8	500	ug/L

SAMPLE DATA

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Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/27/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/28/25
Client Sample ID:	JPP-20.1-012725	SDG No.:	Q1206
Lab Sample ID:	Q1206-04	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	100	U	1	34.8	100	ug/L	01/29/25 12:30	01/30/25 13:29	SW6010	SW3050
7440-39-3	Barium	567		1	62.8	500	ug/L	01/29/25 12:30	01/30/25 13:29	SW6010	SW3050
7440-43-9	Cadmium	30.0	U	1	0.94	30.0	ug/L	01/29/25 12:30	01/30/25 13:29	SW6010	SW3050
7440-47-3	Chromium	50.0	U	1	6.60	50.0	ug/L	01/29/25 12:30	01/30/25 13:29	SW6010	SW3050
7439-92-1	Lead	89.8		1	35.1	60.0	ug/L	01/29/25 12:30	01/30/25 13:29	SW6010	SW3050
7439-97-6	Mercury	2.00	U	1	0.81	2.00	ug/L	01/29/25 14:40	01/30/25 10:18	SW7470A	
7782-49-2	Selenium	100	U	1	58.8	100	ug/L	01/29/25 12:30	01/30/25 13:29	SW6010	SW3050
7440-22-4	Silver	50.0	U	1	5.80	50.0	ug/L	01/29/25 12:30	01/30/25 13:29	SW6010	SW3050

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	TCLP-FULL				

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

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

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Report of Analysis

Client:	RU2 Engineering, LLC	Date Collected:	01/27/25
Project:	NYCDDC SANTWOBR Brooklyn Bridge BBMCR	Date Received:	01/28/25
Client Sample ID:	JPP-16.3-012725	SDG No.:	Q1206
Lab Sample ID:	Q1206-08	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	100	U	1	34.8	100	ug/L	01/29/25 12:30	01/30/25 13:41	SW6010	SW3050
7440-39-3	Barium	332	J	1	62.8	500	ug/L	01/29/25 12:30	01/30/25 13:41	SW6010	SW3050
7440-43-9	Cadmium	30.0	U	1	0.94	30.0	ug/L	01/29/25 12:30	01/30/25 13:41	SW6010	SW3050
7440-47-3	Chromium	50.0	U	1	6.60	50.0	ug/L	01/29/25 12:30	01/30/25 13:41	SW6010	SW3050
7439-92-1	Lead	60.0	U	1	35.1	60.0	ug/L	01/29/25 12:30	01/30/25 13:41	SW6010	SW3050
7439-97-6	Mercury	2.00	U	1	0.81	2.00	ug/L	01/29/25 14:40	01/30/25 10:21	SW7470A	
7782-49-2	Selenium	100	U	1	58.8	100	ug/L	01/29/25 12:30	01/30/25 13:41	SW6010	SW3050
7440-22-4	Silver	50.0	U	1	5.80	50.0	ug/L	01/29/25 12:30	01/30/25 13:41	SW6010	SW3050

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	TCLP-FULL				

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: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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
ICV75	Mercury	4.12	4.0	103	90 - 110	CV	01/30/2025	09:48	LB134479

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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
CCV87	Mercury	5.27	5.0	105	90 - 110	CV	01/30/2025	09:52	LB134479
CCV88	Mercury	5.35	5.0	107	90 - 110	CV	01/30/2025	10:27	LB134479
CCV89	Mercury	5.04	5.0	101	90 - 110	CV	01/30/2025	10:53	LB134479
CCV90	Mercury	5.07	5.0	101	90 - 110	CV	01/30/2025	11:15	LB134479

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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	1040	1000	104	90 - 110	P	01/30/2025	11:49	LB134493
	Barium	470	520	90	90 - 110	P	01/30/2025	11:49	LB134493
	Cadmium	502	510	98	90 - 110	P	01/30/2025	11:49	LB134493
	Chromium	522	520	100	90 - 110	P	01/30/2025	11:49	LB134493
	Lead	1000	1000	100	90 - 110	P	01/30/2025	11:49	LB134493
	Selenium	1040	1000	104	90 - 110	P	01/30/2025	11:49	LB134493
	Silver	252	250	101	90 - 110	P	01/30/2025	11:49	LB134493

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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	21.3	20.0	107	80 - 120	P	01/30/2025	11:56	LB134493
	Barium	83.9	100	84	80 - 120	P	01/30/2025	11:56	LB134493
	Cadmium	5.60	6.0	93	80 - 120	P	01/30/2025	11:56	LB134493
	Chromium	9.80	10.0	98	80 - 120	P	01/30/2025	11:56	LB134493
	Lead	12.2	12.0	102	80 - 120	P	01/30/2025	11:56	LB134493
	Selenium	19.1	20.0	96	80 - 120	P	01/30/2025	11:56	LB134493
	Silver	10.4	10.0	104	80 - 120	P	01/30/2025	11:56	LB134493

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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	4950	5000	99	90 - 110	P	01/30/2025	12:41	LB134493
	Barium	9130	10000	91	90 - 110	P	01/30/2025	12:41	LB134493
	Cadmium	2420	2500	97	90 - 110	P	01/30/2025	12:41	LB134493
	Chromium	988	1000	99	90 - 110	P	01/30/2025	12:41	LB134493
	Lead	4840	5000	97	90 - 110	P	01/30/2025	12:41	LB134493
	Selenium	5010	5000	100	90 - 110	P	01/30/2025	12:41	LB134493
	Silver	1210	1250	97	90 - 110	P	01/30/2025	12:41	LB134493
CCV02	Arsenic	5000	5000	100	90 - 110	P	01/30/2025	13:33	LB134493
	Barium	9200	10000	92	90 - 110	P	01/30/2025	13:33	LB134493
	Cadmium	2420	2500	97	90 - 110	P	01/30/2025	13:33	LB134493
	Chromium	988	1000	99	90 - 110	P	01/30/2025	13:33	LB134493
	Lead	4830	5000	97	90 - 110	P	01/30/2025	13:33	LB134493
	Selenium	5050	5000	101	90 - 110	P	01/30/2025	13:33	LB134493
	Silver	1200	1250	96	90 - 110	P	01/30/2025	13:33	LB134493
CCV03	Arsenic	4880	5000	98	90 - 110	P	01/30/2025	14:34	LB134493
	Barium	9430	10000	94	90 - 110	P	01/30/2025	14:34	LB134493
	Cadmium	2490	2500	100	90 - 110	P	01/30/2025	14:34	LB134493
	Chromium	985	1000	98	90 - 110	P	01/30/2025	14:34	LB134493
	Lead	4910	5000	98	90 - 110	P	01/30/2025	14:34	LB134493
	Selenium	5010	5000	100	90 - 110	P	01/30/2025	14:34	LB134493
	Silver	1210	1250	97	90 - 110	P	01/30/2025	14:34	LB134493
CCV04	Arsenic	4890	5000	98	90 - 110	P	01/30/2025	15:25	LB134493
	Barium	9350	10000	94	90 - 110	P	01/30/2025	15:25	LB134493
	Cadmium	2370	2500	95	90 - 110	P	01/30/2025	15:25	LB134493
	Chromium	1000	1000	100	90 - 110	P	01/30/2025	15:25	LB134493
	Lead	4750	5000	95	90 - 110	P	01/30/2025	15:25	LB134493
	Selenium	4950	5000	99	90 - 110	P	01/30/2025	15:25	LB134493
	Silver	1220	1250	98	90 - 110	P	01/30/2025	15:25	LB134493
CCV05	Arsenic	4830	5000	97	90 - 110	P	01/30/2025	16:24	LB134493
	Barium	9330	10000	93	90 - 110	P	01/30/2025	16:24	LB134493
	Cadmium	2370	2500	95	90 - 110	P	01/30/2025	16:24	LB134493
	Chromium	991	1000	99	90 - 110	P	01/30/2025	16:24	LB134493
	Lead	4740	5000	95	90 - 110	P	01/30/2025	16:24	LB134493
	Selenium	4860	5000	97	90 - 110	P	01/30/2025	16:24	LB134493

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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	1210	1250	97	90 - 110	P	01/30/2025	16:24	LB134493
CCV06	Arsenic	4970	5000	99	90 - 110	P	01/30/2025	17:19	LB134493
	Barium	9260	10000	93	90 - 110	P	01/30/2025	17:19	LB134493
	Cadmium	2440	2500	98	90 - 110	P	01/30/2025	17:19	LB134493
	Chromium	1010	1000	101	90 - 110	P	01/30/2025	17:19	LB134493
	Lead	4880	5000	98	90 - 110	P	01/30/2025	17:19	LB134493
	Selenium	4970	5000	100	90 - 110	P	01/30/2025	17:19	LB134493
	Silver	1230	1250	99	90 - 110	P	01/30/2025	17:19	LB134493
CCV07	Arsenic	4970	5000	99	90 - 110	P	01/30/2025	18:11	LB134493
	Barium	9620	10000	96	90 - 110	P	01/30/2025	18:11	LB134493
	Cadmium	2440	2500	98	90 - 110	P	01/30/2025	18:11	LB134493
	Chromium	1020	1000	102	90 - 110	P	01/30/2025	18:11	LB134493
	Lead	4880	5000	98	90 - 110	P	01/30/2025	18:11	LB134493
	Selenium	5000	5000	100	90 - 110	P	01/30/2025	18:11	LB134493
	Silver	1270	1250	101	90 - 110	P	01/30/2025	18:11	LB134493
CCV08	Arsenic	5000	5000	100	90 - 110	P	01/30/2025	18:45	LB134493
	Barium	9470	10000	95	90 - 110	P	01/30/2025	18:45	LB134493
	Cadmium	2430	2500	97	90 - 110	P	01/30/2025	18:45	LB134493
	Chromium	1010	1000	101	90 - 110	P	01/30/2025	18:45	LB134493
	Lead	4860	5000	97	90 - 110	P	01/30/2025	18:45	LB134493
	Selenium	5030	5000	101	90 - 110	P	01/30/2025	18:45	LB134493
	Silver	1250	1250	100	90 - 110	P	01/30/2025	18:45	LB134493

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Metals

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CRDL STANDARD FOR AA & ICP

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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
CRA	Mercury	0.19	0.2	97	40 - 160	CV	01/30/2025	09:59	LB134479
CRI01	Arsenic	21.5	20.0	107	40 - 160	P	01/30/2025	12:05	LB134493
	Barium	90.1	100	90	40 - 160	P	01/30/2025	12:05	LB134493
	Cadmium	5.56	6.0	93	40 - 160	P	01/30/2025	12:05	LB134493
	Chromium	9.97	10.0	100	40 - 160	P	01/30/2025	12:05	LB134493
	Lead	10.9	12.0	91	40 - 160	P	01/30/2025	12:05	LB134493
	Selenium	18.4	20.0	92	40 - 160	P	01/30/2025	12:05	LB134493
	Silver	11.1	10.0	111	40 - 160	P	01/30/2025	12:05	LB134493

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB75	Mercury	0.20	+/-0.20	U	0.20	CV	01/30/2025	09:50	LB134479

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB87	Mercury	0.20	+/-0.20	U	0.20	CV	01/30/2025	09:54	LB134479
CCB88	Mercury	0.20	+/-0.20	U	0.20	CV	01/30/2025	10:30	LB134479
CCB89	Mercury	0.20	+/-0.20	U	0.20	CV	01/30/2025	10:58	LB134479
CCB90	Mercury	0.20	+/-0.20	U	0.20	CV	01/30/2025	11:17	LB134479

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	12:00	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	12:00	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	12:00	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	12:00	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	12:00	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	12:00	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	12:00	LB134493

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	12:47	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	12:47	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	12:47	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	12:47	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	12:47	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	12:47	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	12:47	LB134493
CCB02	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	13:37	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	13:37	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	13:37	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	13:37	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	13:37	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	13:37	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	13:37	LB134493
CCB03	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	14:38	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	14:38	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	14:38	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	14:38	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	14:38	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	14:38	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	14:38	LB134493
CCB04	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	15:29	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	15:29	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	15:29	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	15:29	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	15:29	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	15:29	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	15:29	LB134493
CCB05	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	16:28	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	16:28	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	16:28	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	16:28	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	16:28	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	16:28	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	16:28	LB134493
CCB06	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	17:24	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	17:24	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	17:24	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	17:24	LB134493

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	17:24	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	17:24	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	17:24	LB134493
CCB07	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	18:15	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	18:15	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	18:15	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	18:15	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	18:15	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	18:15	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	18:15	LB134493
CCB08	Arsenic	20.0	+/-20.0	U	20.0	P	01/30/2025	18:51	LB134493
	Barium	100	+/-100	U	100	P	01/30/2025	18:51	LB134493
	Cadmium	6.00	+/-6.00	U	6.00	P	01/30/2025	18:51	LB134493
	Chromium	10.0	+/-10.0	U	10.0	P	01/30/2025	18:51	LB134493
	Lead	12.0	+/-12.0	U	12.0	P	01/30/2025	18:51	LB134493
	Selenium	20.0	+/-20.0	U	20.0	P	01/30/2025	18:51	LB134493
	Silver	10.0	+/-10.0	U	10.0	P	01/30/2025	18:51	LB134493

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Metals
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PREPARATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB166318TB		**WATER**		**Batch Number:**	**PB166355**		**Prep Date:**	**01/29/2025**	
	Mercury	2.00	<2.00	U	2.00	CV	01/30/2025	11:03	LB134479
Sample ID	**Analyte**	**Result (ug/L)**	**Acceptance Limit**	**Conc Qual**	**CRQL ug/L**	**M**	**Analysis Date**	**Analysis Time**	**Run**
PB166355BL		**WATER**		**Batch Number:**	**PB166355**		**Prep Date:**	**01/29/2025**	
	Mercury	0.20	<0.20	U	0.20	CV	01/30/2025	10:11	LB134479

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Metals
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PREPARATION BLANK SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB166318TB		**WATER**		**Batch Number:**	**PB166342**		**Prep Date:**	**01/29/2025**	
	Arsenic	100	<100	U	100	P	01/30/2025	14:55	LB134493
	Barium	500	<500	U	500	P	01/30/2025	14:55	LB134493
	Cadmium	30.0	<30.0	U	30.0	P	01/30/2025	14:55	LB134493
	Chromium	50.0	<50.0	U	50.0	P	01/30/2025	14:55	LB134493
	Lead	60.0	<60.0	U	60.0	P	01/30/2025	14:55	LB134493
	Selenium	100	<100	U	100	P	01/30/2025	14:55	LB134493
	Silver	50.0	<50.0	U	50.0	P	01/30/2025	14:55	LB134493
Sample ID	**Analyte**	**Result (ug/L)**	**Acceptance Limit**	**Conc Qual**	**CRQL ug/L**	**M**	**Analysis Date**	**Analysis Time**	**Run**
PB166342BL		**WATER**		**Batch Number:**	**PB166342**		**Prep Date:**	**01/29/2025**	
	Arsenic	100	<100	U	100	P	01/30/2025	15:00	LB134493
	Barium	500	<500	U	500	P	01/30/2025	15:00	LB134493
	Cadmium	30.0	<30.0	U	30.0	P	01/30/2025	15:00	LB134493
	Chromium	50.0	<50.0	U	50.0	P	01/30/2025	15:00	LB134493
	Lead	60.0	<60.0	U	60.0	P	01/30/2025	15:00	LB134493
	Selenium	100	<100	U	100	P	01/30/2025	15:00	LB134493
	Silver	50.0	<50.0	U	50.0	P	01/30/2025	15:00	LB134493

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Metals
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INTERFERENCE CHECK SAMPLE

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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	-3.20			-20	20	01/30/2025	12:10	LB134493
	Barium	1.95	6.0	32	-94	106	01/30/2025	12:10	LB134493
	Cadmium	-0.88	1.0	88	-5	7	01/30/2025	12:10	LB134493
	Chromium	56.0	52.0	108	42	62	01/30/2025	12:10	LB134493
	Lead	6.67			-12	12	01/30/2025	12:10	LB134493
	Selenium	-14.4			-20	20	01/30/2025	12:10	LB134493
	Silver	-0.54			-10	10	01/30/2025	12:10	LB134493
ICSAB01	Arsenic	118	104	114	88.4	120	01/30/2025	12:28	LB134493
	Barium	456	537	85	437	637	01/30/2025	12:28	LB134493
	Cadmium	1020	972	105	826	1120	01/30/2025	12:28	LB134493
	Chromium	583	542	108	460	624	01/30/2025	12:28	LB134493
	Lead	57.1	49.0	116	37	61	01/30/2025	12:28	LB134493
	Selenium	36.8	46.0	80	26	66	01/30/2025	12:28	LB134493
	Silver	222	201	110	170	232	01/30/2025	12:28	LB134493

METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: RU2 Engineering, LLC **level:** low **sdg no.:** Q1206

contract: RUTW01 **lab code:** CHEM **case no.:** Q1206 **sas no.:** Q1206

matrix: Water **sample id:** Q1209-08 **client id:** WC-5MS

Percent Solids for Sample: NA **Spiked ID:** Q1209-08MS **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	75 - 125	4090		100	U	4000	102		P
Barium	ug/L	75 - 125	1840		1020		1000	82		P
Cadmium	ug/L	75 - 125	970		30.0	U	1000	97		P
Chromium	ug/L	75 - 125	2050		50.0	U	2000	102		P
Lead	ug/L	75 - 125	4760		60.0	U	5000	95		P
Mercury	ug/L	75 - 125	43.2		2.00	U	40.0	108		CV
Selenium	ug/L	75 - 125	9800		100	U	10000	98		P
Silver	ug/L	75 - 125	363		50.0	U	380	96		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: RU2 Engineering, LLC **level:** low **sdg no.:** Q1206

contract: RUTW01 **lab code:** CHEM **case no.:** Q1206 **sas no.:** Q1206

matrix: Water **sample id:** Q1209-08 **client id:** WC-5MSD

Percent Solids for Sample: NA **Spiked ID:** Q1209-08MSD **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	75 - 125	4110		100	U	4000	103		P
Barium	ug/L	75 - 125	1860		1020		1000	84		P
Cadmium	ug/L	75 - 125	972		30.0	U	1000	97		P
Chromium	ug/L	75 - 125	2050		50.0	U	2000	102		P
Lead	ug/L	75 - 125	4770		60.0	U	5000	95		P
Mercury	ug/L	75 - 125	41.6		2.00	U	40.0	104		CV
Selenium	ug/L	75 - 125	9850		100	U	10000	98		P
Silver	ug/L	75 - 125	367		50.0	U	380	97		P

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Metals
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Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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

Sample ID: **Spiked ID:**

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

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: RU2 Engineering, LLC **Level:** LOW **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Matrix: Water **Sample ID:** Q1209-08 **Client ID:** WC-5DUP

Percent Solids for Sample: NA **Duplicate ID** Q1209-08DUP **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	1020		1000		2		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	60.0	U	60.0	U			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: RU2 Engineering, LLC **Level:** LOW **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Matrix: Water **Sample ID:** Q1209-08MS **Client ID:** WC-5MSD

Percent Solids for Sample: NA **Duplicate ID** Q1209-08MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	4090		4110		0		P
Barium	ug/L	20	1840		1860		1		P
Cadmium	ug/L	20	970		972		0		P
Chromium	ug/L	20	2050		2050		0		P
Lead	ug/L	20	4760		4770		0		P
Mercury	ug/L	20	43.2		41.6		4		CV
Selenium	ug/L	20	9800		9850		1		P
Silver	ug/L	20	363		367		1		P

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

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LABORATORY CONTROL SAMPLE SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB166342BS							
Arsenic	ug/L	4000	4010		100	80 - 120	P
Barium	ug/L	1000	889		89	80 - 120	P
Cadmium	ug/L	1000	955		96	80 - 120	P
Chromium	ug/L	2000	2050		102	80 - 120	P
Lead	ug/L	5000	4820		96	80 - 120	P
Selenium	ug/L	10000	9890		99	80 - 120	P
Silver	ug/L	380	372		98	80 - 120	P

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LABORATORY CONTROL SAMPLE SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB166355BS							
Mercury	ug/L	4.0	4.51		113	80 - 120	CV

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

WC-5L

Lab Name: Chemtech Consulting Group **Contract:** RUTW01

Lab Code: CHEM **Lb No.:** lb134493 **Lab Sample ID :** Q1209-08L **SDG No.:** Q1206

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	1020		976	J	4		P
Cadmium	30.0	U	150	U			P
Chromium	50.0	U	250	U			P
Lead	60.0	U	300	U			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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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Case No.:** Q1206 **SAS No.:** Q1206

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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Metals
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SAMPLE PREPARATION SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Method:**

Case No.: Q1206 **SAS No.:** Q1206

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB166342**						
PB166318TB	PB166318TB	MB	WATER	01/29/2025	5.0	25.0	
PB166342BL	PB166342BL	MB	WATER	01/29/2025	5.0	25.0	
PB166342BS	PB166342BS	LCS	WATER	01/29/2025	5.0	25.0	
Q1206-04	JPP-20.1-012725	SAM	WATER	01/29/2025	5.0	25.0	
Q1206-08	JPP-16.3-012725	SAM	WATER	01/29/2025	5.0	25.0	
Q1209-08DUP	WC-5DUP	DUP	WATER	01/29/2025	5.0	25.0	
Q1209-08MS	WC-5MS	MS	WATER	01/29/2025	5.0	25.0	
Q1209-08MSD	WC-5MSD	MSD	WATER	01/29/2025	5.0	25.0	

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Metals
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SAMPLE PREPARATION SUMMARY

Client: RU2 Engineering, LLC **SDG No.:** Q1206

Contract: RUTW01 **Lab Code:** CHEM **Method:**

Case No.: Q1206 **SAS No.:** Q1206

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB166355**						
PB166318TB	PB166318TB	MB	WATER	01/29/2025	3.0	30.0	
PB166355BL	PB166355BL	MB	WATER	01/29/2025	30.0	30.0	
PB166355BS	PB166355BS	LCS	WATER	01/29/2025	30.0	30.0	
Q1206-04	JPP-20.1-012725	SAM	WATER	01/29/2025	3.0	30.0	
Q1206-08	JPP-16.3-012725	SAM	WATER	01/29/2025	3.0	30.0	
Q1209-08DUP	WC-5DUP	DUP	WATER	01/29/2025	3.0	30.0	
Q1209-08MS	WC-5MS	MS	WATER	01/29/2025	3.0	30.0	
Q1209-08MSD	WC-5MSD	MSD	WATER	01/29/2025	3.0	30.0	

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metals
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ANALYSIS RUN LOG

Client: RU2 Engineering, LLC **Contract:** RUTW01

Lab code: CHEM **Case no.:** Q1206 **Sas no.:** Q1206 **Sdg no.:** Q1206

Instrument id number: **Method:** **Run number:** LB134479

Start date: 01/30/2025 **End date:** 01/30/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	0928	HG
S0.2	S0.2	1	0930	HG
S2.5	S2.5	1	0933	HG
S5	S5	1	0938	HG
S7.5	S7.5	1	0942	HG
S10	S10	1	0945	HG
ICV75	ICV75	1	0948	HG
ICB75	ICB75	1	0950	HG
CCV87	CCV87	1	0952	HG
CCB87	CCB87	1	0954	HG
CRA	CRA	1	0959	HG
PB166355BL	PB166355BL	1	1011	HG
PB166355BS	PB166355BS	1	1014	HG
Q1206-04	JPP-20.1-012725	1	1018	HG
Q1206-08	JPP-16.3-012725	1	1021	HG
CCV88	CCV88	1	1027	HG
CCB88	CCB88	1	1030	HG
Q1209-08DUP	WC-5DUP	1	1043	HG
Q1209-08MS	WC-5MS	1	1045	HG
Q1209-08MSD	WC-5MSD	1	1048	HG
CCV89	CCV89	1	1053	HG
CCB89	CCB89	1	1058	HG
PB166318TB	PB166318TB	1	1103	HG
Q1209-08L	WC-5L	5	1105	HG
CCV90	CCV90	1	1115	HG
CCB90	CCB90	1	1117	HG

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metals
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ANALYSIS RUN LOG

Client: RU2 Engineering, LLC **Contract:** RUTW01

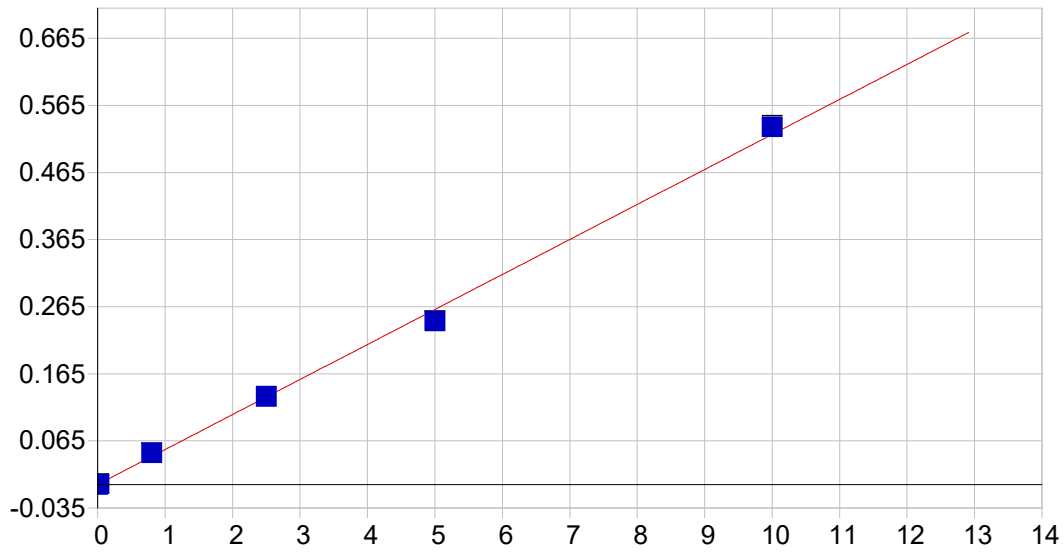
Lab code: CHEM **Case no.:** Q1206 **Sas no.:** Q1206 **Sdg no.:** Q1206

Instrument id number: **Method:** **Run number:** LB134493

Start date: 01/30/2025 **End date:** 01/30/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1107	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1112	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1116	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1120	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1125	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1129	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1149	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1156	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1200	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1205	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1210	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1228	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1241	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1247	Ag,As,Ba,Cd,Cr,Pb,Se
Q1206-04	JPP-20.1-012725	1	1329	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1333	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1337	Ag,As,Ba,Cd,Cr,Pb,Se
Q1206-08	JPP-16.3-012725	1	1341	Ag,As,Ba,Cd,Cr,Pb,Se
Q1209-08DUP	WC-5DUP	1	1417	Ag,As,Ba,Cd,Cr,Pb,Se
Q1209-08L	WC-5L	5	1421	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1434	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1438	Ag,As,Ba,Cd,Cr,Pb,Se
Q1209-08MS	WC-5MS	1	1443	Ag,As,Ba,Cd,Cr,Pb,Se
Q1209-08MSD	WC-5MSD	1	1447	Ag,As,Ba,Cd,Cr,Pb,Se
PB166318TB	PB166318TB	1	1455	Ag,As,Ba,Cd,Cr,Pb,Se
PB166342BL	PB166342BL	1	1500	Ag,As,Ba,Cd,Cr,Pb,Se
PB166342BS	PB166342BS	1	1504	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1525	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1529	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1624	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1628	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1719	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1724	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1811	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1815	Ag,As,Ba,Cd,Cr,Pb,Se
CCV08	CCV08	1	1845	Ag,As,Ba,Cd,Cr,Pb,Se
CCB08	CCB08	1	1851	Ag,As,Ba,Cd,Cr,Pb,Se

METAL
RAW DATA



As 189.042 {479}

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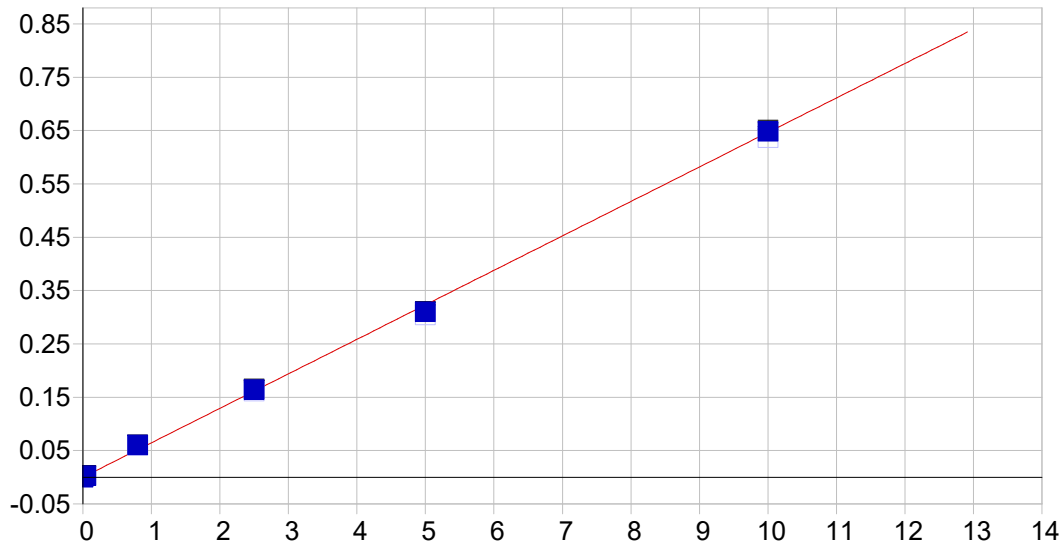
A0 (Offset):	-0.000098	Re-Slope:	1.000000
A1 (Gain):	0.052187	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998915	Status:	OK.
Std Error of Est:	0.000057		
Predicted MDL:	0.002703		
Predicted MQL:	0.009010		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00010	.000	1
S1	.02000	.01969	-.000	-1.55	.00092	.000	1
S3	2.5000	2.5111	.011	.445	.13081	.000	1
S4	5.0000	4.6701	-.330	-6.60	.24334	.001	1
S5	10.000	10.216	.216	2.16	.53249	.002	1
S2	.80000	.90288	.103	12.9	.04698	.000	1

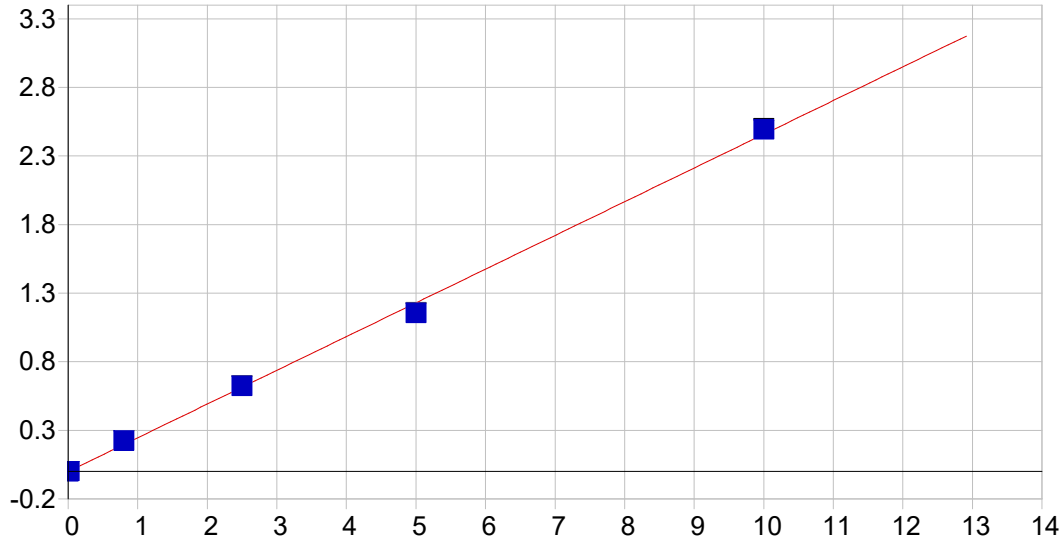


Tl 190.856 {477}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000075	Re-Slope:	1.000000
A1 (Gain):	0.064655	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999116	Status:	OK.
Std Error of Est:	0.000089		
Predicted MDL:	0.002041		
Predicted MQL:	0.006804		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00008	.000	1
S1	.04000	.04059	.001	1.48	.00238	.000	1
S3	2.5000	2.5415	.042	1.66	.16127	.001	1
S4	5.0000	4.7952	-.205	-4.10	.30401	.000	1
S5	10.000	10.030	.030	.297	.63649	.002	1
S2	.80000	.93299	.133	16.6	.05929	.000	1

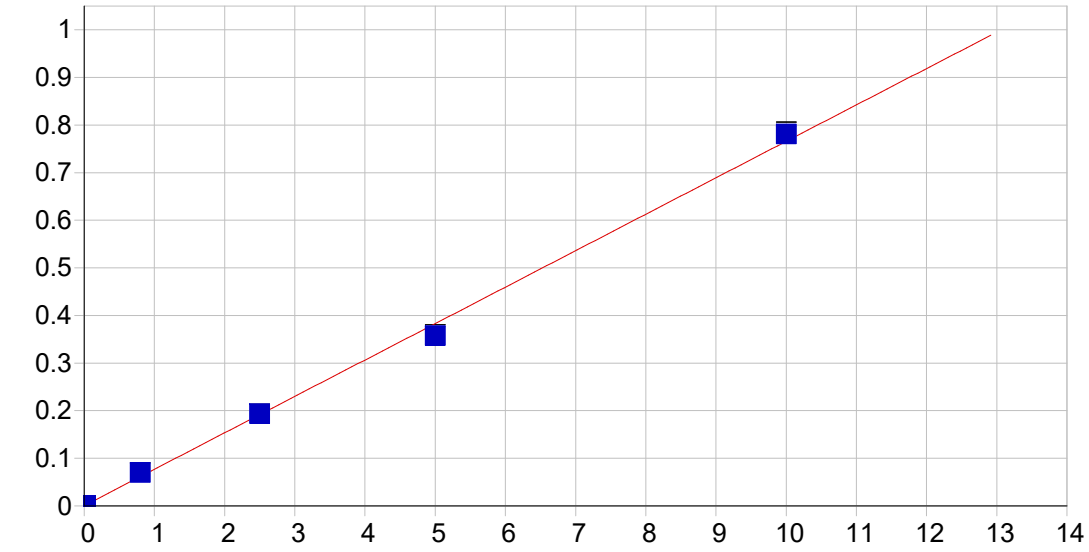


Pb 220.353 {453}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000065	Re-Slope:	1.000000
A1 (Gain):	0.245853	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998999	Status:	OK.
Std Error of Est:	0.000200		
Predicted MDL:	0.001183		
Predicted MQL:	0.003943		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00006	.000	1
S1	.01200	.01101	-.001	-8.28	.00258	.000	1
S3	2.5000	2.5367	.037	1.47	.62292	.003	1
S4	5.0000	4.7033	-.297	-5.93	1.1549	.004	1
S5	10.000	10.147	.147	1.47	2.4919	.007	1
S2	.80000	.91396	.114	14.2	.22442	.001	1

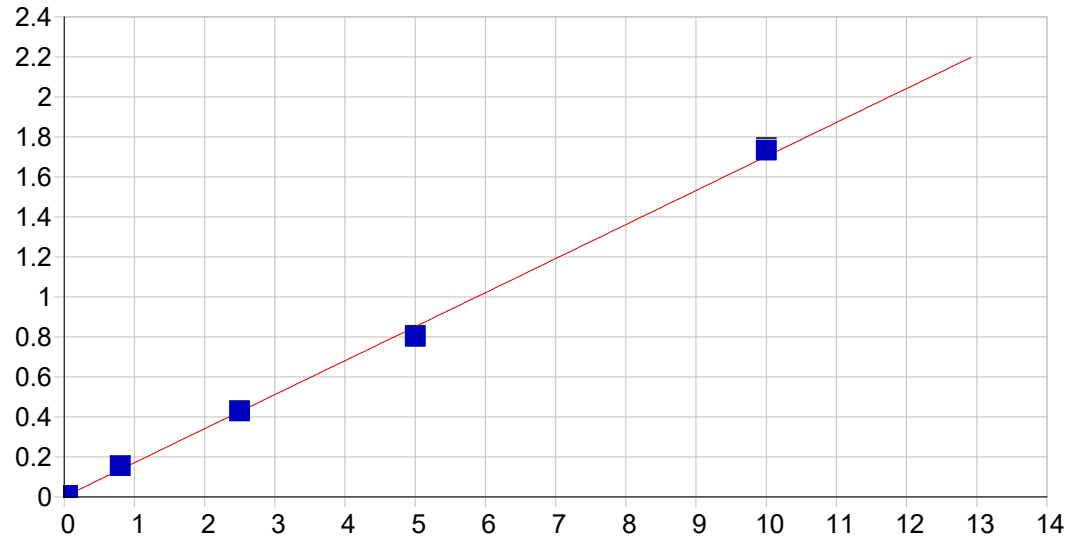


Se 196.090 {472}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000376	Re-Slope:	1.000000
A1 (Gain):	0.076537	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998909	Status:	OK.
Std Error of Est:	0.000084		
Predicted MDL:	0.002505		
Predicted MQL:	0.008351		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00038	.000	1
S1	.02000	.01822	-.002	-8.92	.00177	.000	1
S3	2.5000	2.5225	.022	.899	.19339	.001	1
S4	5.0000	4.6711	-.329	-6.58	.35779	.002	1
S5	10.000	10.203	.203	2.03	.78105	.004	1
S2	.80000	.90558	.106	13.2	.06967	.000	1

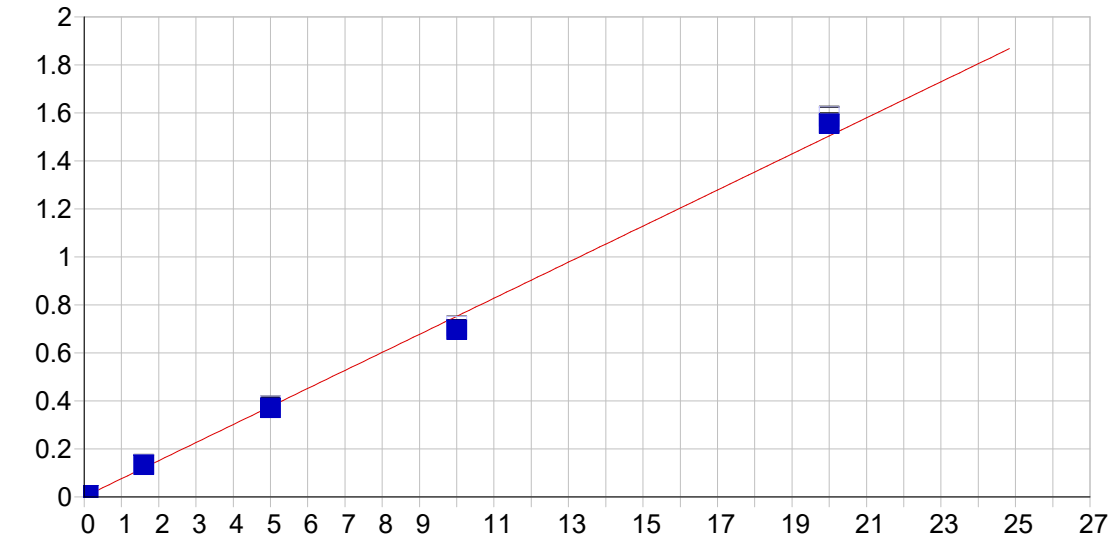


Sb 206.833 {463}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000778	Re-Slope:	1.000000
A1 (Gain):	0.170094	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999056	Status:	OK.
Std Error of Est:	0.000275		
Predicted MDL:	0.001414		
Predicted MQL:	0.004714		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00078	.000	1
S1	.05000	.04470	-.005	-10.6	.00840	.000	1
S3	2.5000	2.5141	.014	.566	.42958	.001	1
S4	5.0000	4.7061	-.294	-5.88	.80358	.004	1
S5	10.000	10.180	.180	1.80	1.7370	.009	1
S2	.80000	.90475	.105	13.1	.15504	.001	1

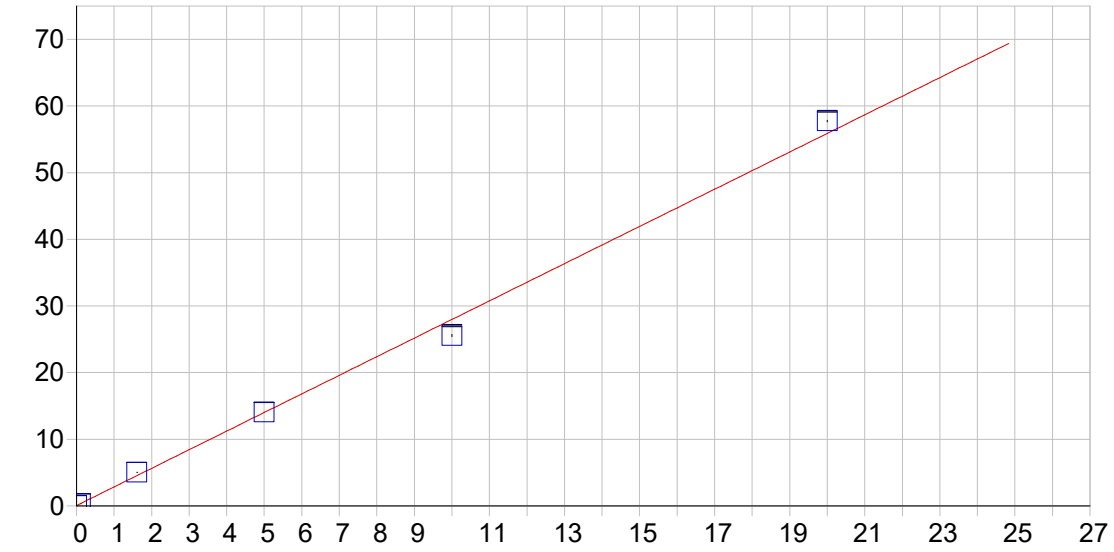


Al 396.152 { 85}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000912	Re-Slope:	1.000000
A1 (Gain):	0.075167	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998734	Status:	OK.
Std Error of Est:	0.000286		
Predicted MDL:	0.008069		
Predicted MQL:	0.026895		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00091	.001	1
S1	.10000	.08589	-.014	-14.1	.00795	.001	1
S3	5.0000	4.9257	-.074	-1.49	.37845	.001	1
S4	10.000	9.2556	-.744	-7.44	.71121	.001	1
S5	20.000	20.677	.677	3.38	1.5843	.003	1
S2	1.6000	1.7566	.157	9.79	.13529	.001	1

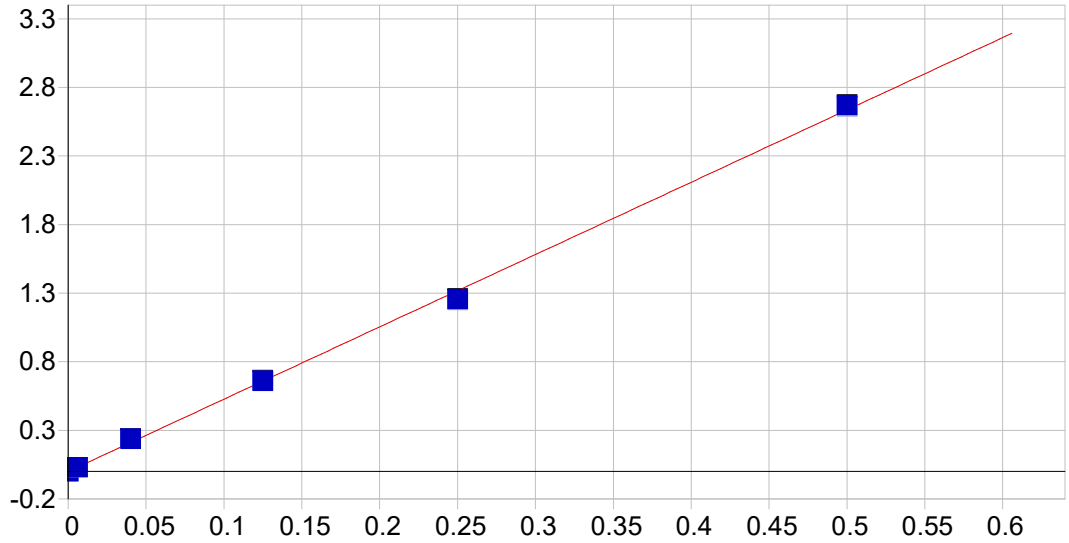


Ba 493.409 { 68}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.056859	Re-Slope:	1.000000
A1 (Gain):	2.791776	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998367	Status:	OK.
Std Error of Est:	0.011845		
Predicted MDL:	0.000704		
Predicted MQL:	0.002347		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.05685	.002	1
S1	.10000	.09528	-.005	-4.72	.32286	.001	1
S3	5.0000	5.0107	.011	.214	14.046	.014	1
S4	10.000	9.1358	-.864	-8.64	25.562	.153	1
S5	20.000	20.666	.666	3.33	57.752	.118	1
S2	1.6000	1.7920	.192	12.0	5.0597	.003	1

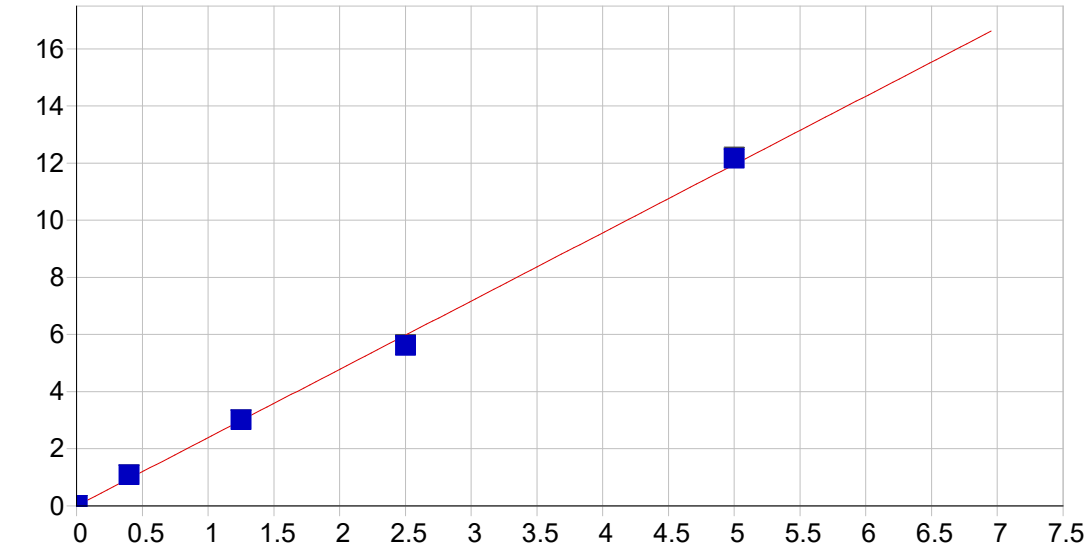


Be 234.861 {144}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000092	Re-Slope:	1.000000
A1 (Gain):	5.272084	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999285	Status:	OK.
Std Error of Est:	0.000571		
Predicted MDL:	0.000055		
Predicted MQL:	0.000182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00009	.000	1
S1	.00600	.00576	-.000	-3.95	.03005	.000	1
S3	.12500	.12553	.001	.426	.65878	.004	1
S4	.25000	.23816	-.012	-4.74	1.2496	.004	1
S5	.50000	.50644	.006	1.29	2.6581	.005	1
S2	.04000	.04510	.005	12.8	.23674	.001	1

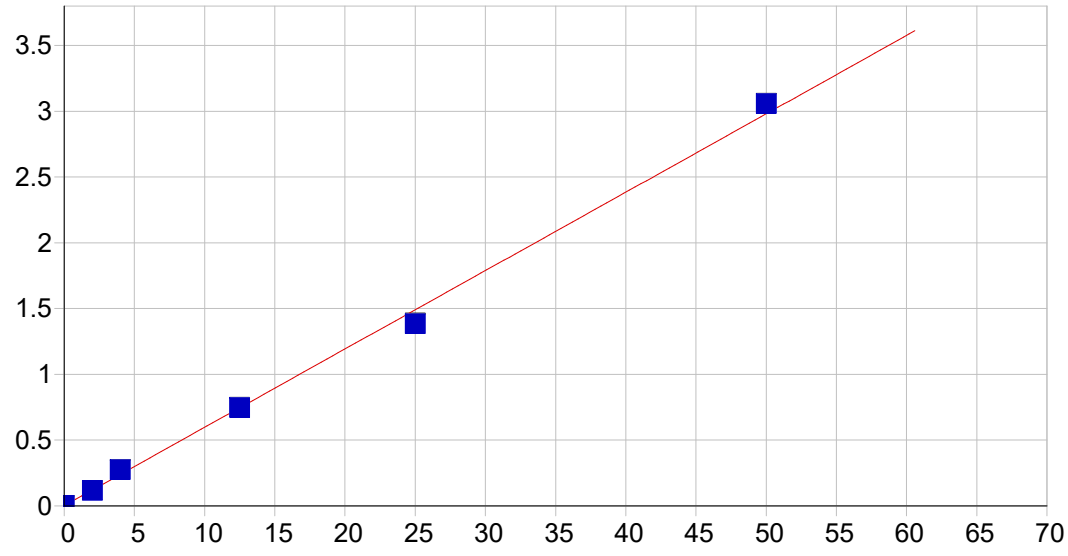


Cd 226.502 {449}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000659	Re-Slope:	1.000000
A1 (Gain):	2.390323	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999037	Status:	OK.
Std Error of Est:	0.000953		
Predicted MDL:	0.000093		
Predicted MQL:	0.000308		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00066	.000	1
S1	.00600	.00560	-.000	-6.71	.01411	.000	1
S3	1.2500	1.2584	.008	.673	3.0111	.008	1
S4	2.5000	2.3491	-.151	-6.04	5.6207	.019	1
S5	5.0000	5.0905	.090	1.81	12.178	.037	1
S2	.40000	.45240	.052	13.1	1.0828	.006	1

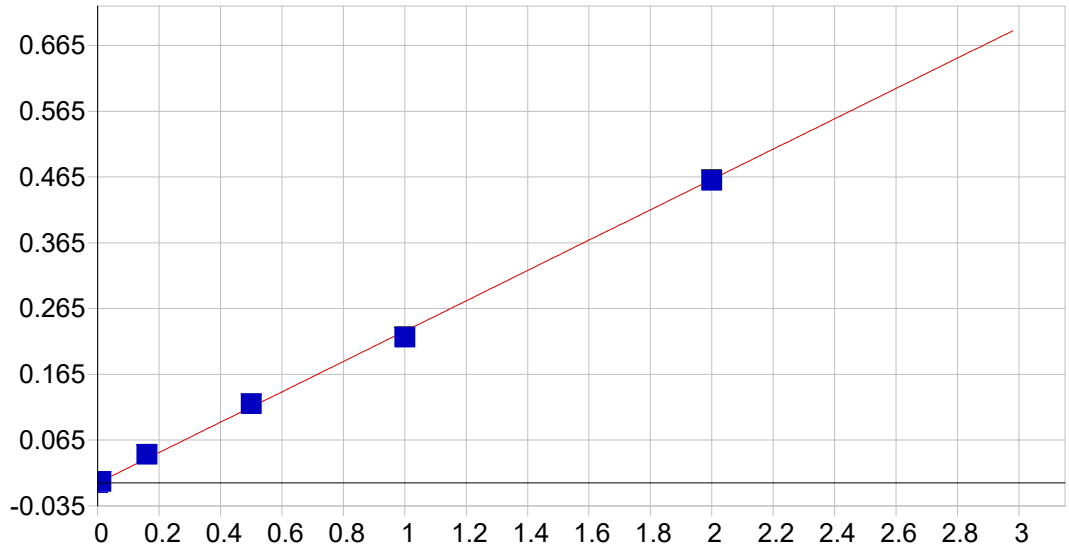


Ca 373.690 { 90}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001660	Re-Slope:	1.000000
A1 (Gain):	0.059577	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998662	Status:	OK.
Std Error of Est:	0.001632		
Predicted MDL:	0.009838		
Predicted MQL:	0.032794		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00012	-.000	.000	.00165	.001	1
S2	4.0000	4.5744	.574	14.4	.27419	.001	1
S3	12.500	12.501	.001	.007	.74643	.002	1
S4	25.000	23.193	-1.81	-7.23	1.3834	.005	1
S5	50.000	51.311	1.31	2.62	3.0586	.002	1
S1	2.0000	1.9212	-.079	-3.94	.11612	.000	1

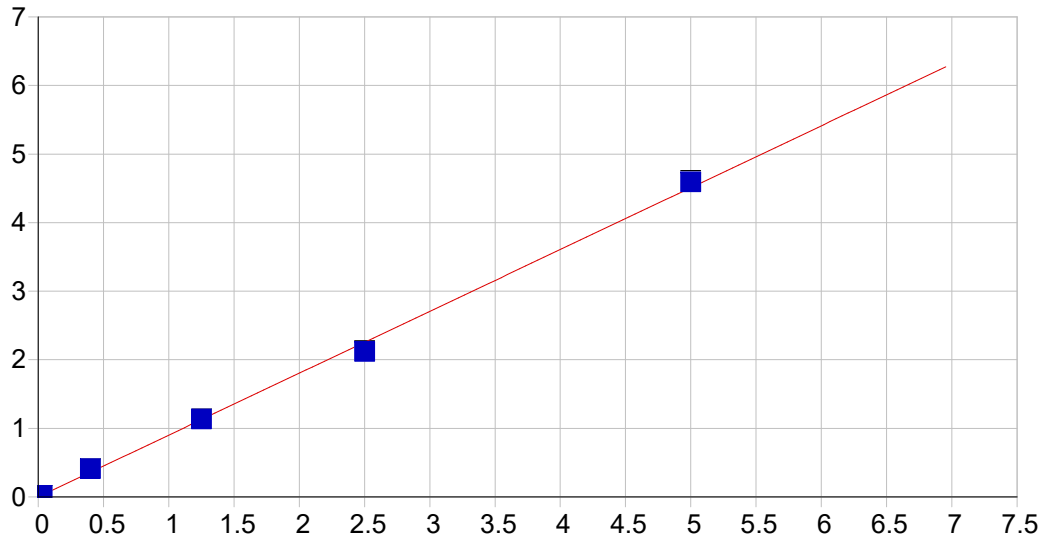


Cr 267.716 {126}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.230710	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998983	Status:	OK.
Std Error of Est:	0.000077		
Predicted MDL:	0.000384		
Predicted MQL:	0.001280		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00003	.000	1
S1	.01000	.00937	-.001	-6.29	.00213	.000	1
S3	.50000	.52079	.021	4.16	.12015	.000	1
S4	1.0000	.95944	-.041	-4.06	.22139	.001	1
S5	2.0000	1.9924	-.008	-.380	.45977	.001	1
S2	.16000	.18800	.028	17.5	.04335	.000	1

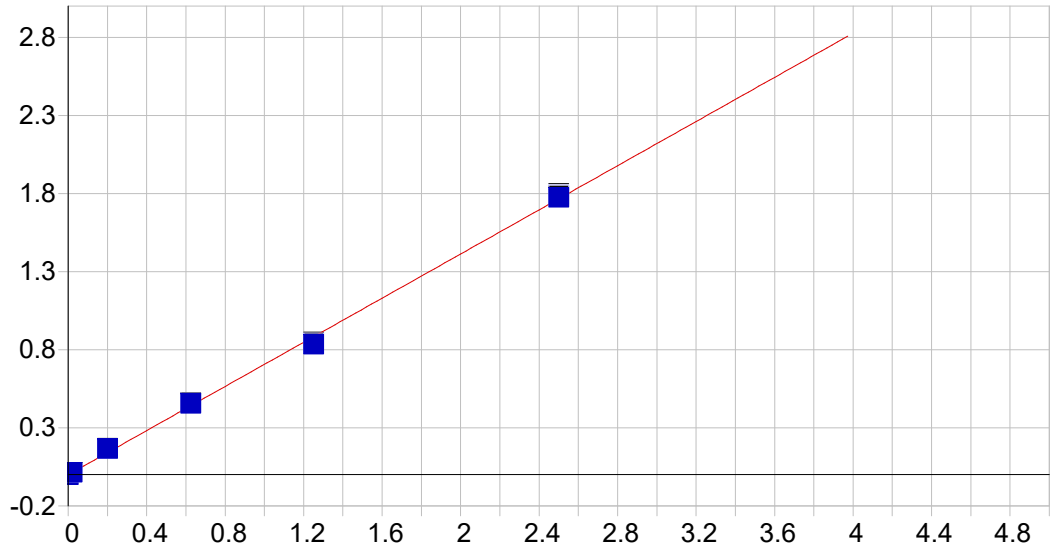


Co 228.616 {448}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000201	Re-Slope:	1.000000
A1 (Gain):	0.901894	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999012	Status:	OK.
Std Error of Est:	0.000816		
Predicted MDL:	0.000218		
Predicted MQL:	0.000727		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00020	.000	1
S1	.03000	.02862	-.001	-4.60	.02590	.000	1
S3	1.2500	1.2579	.008	.632	1.1366	.004	1
S4	2.5000	2.3494	-.151	-6.02	2.1229	.008	1
S5	5.0000	5.0896	.090	1.79	4.5981	.017	1
S2	.40000	.45450	.054	13.6	.41072	.002	1

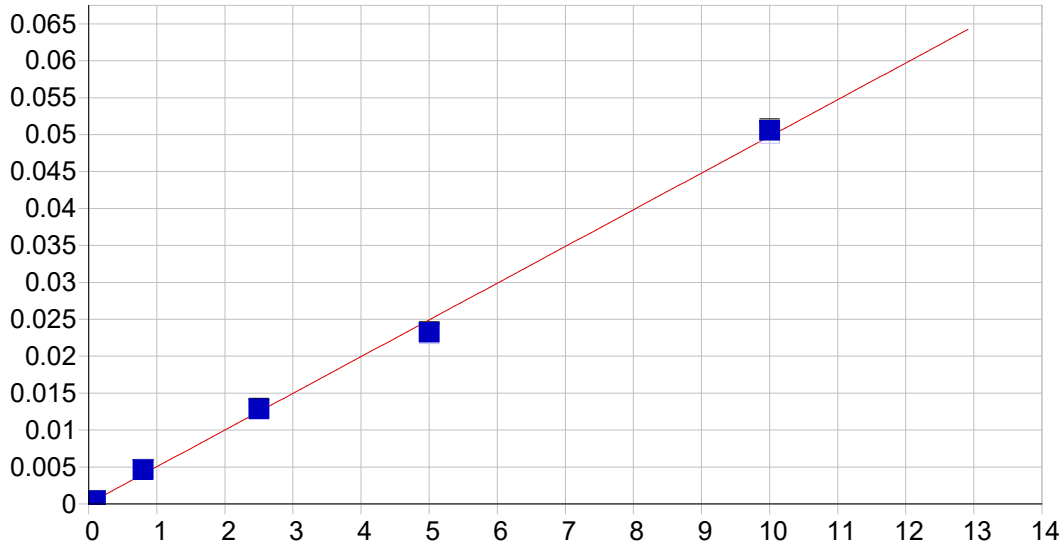


Cu 224.700 {450}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000608	Re-Slope:	1.000000
A1 (Gain):	0.706727	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998845	Status:	OK.
Std Error of Est:	0.000403		
Predicted MDL:	0.000440		
Predicted MQL:	0.001465		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00061	.000	1
S1	.02000	.02146	.001	7.29	.01474	.000	1
S3	.62500	.64411	.019	3.06	.45881	.002	1
S4	1.2500	1.1818	-.068	-5.45	.84305	.005	1
S5	2.5000	2.5119	.012	.475	1.7914	.009	1
S2	.20000	.23571	.036	17.9	.16732	.001	1

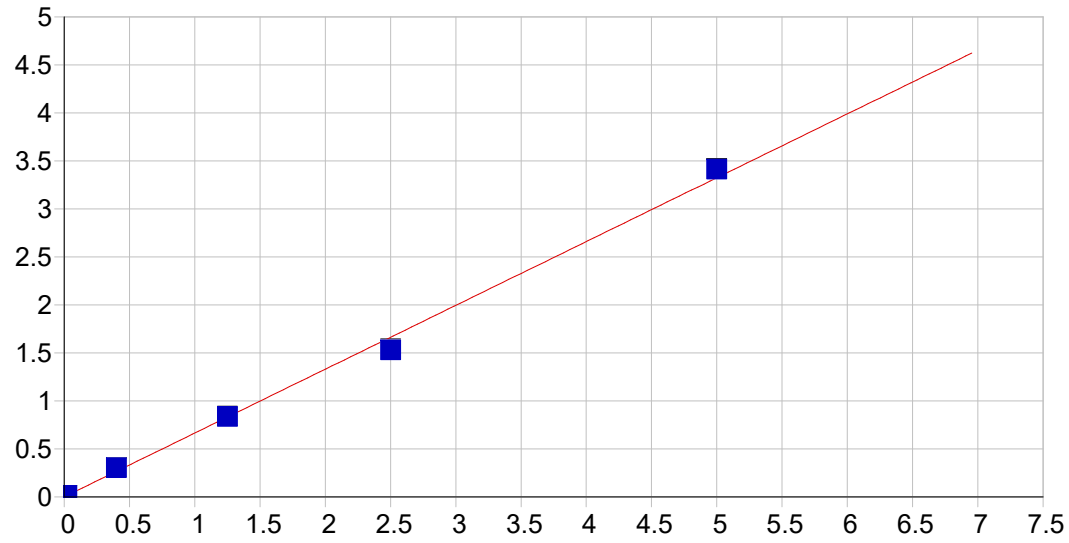


Fe 240.488 {140}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000062	Re-Slope:	1.000000
A1 (Gain):	0.004969	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998562	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.005560		
Predicted MQL:	0.018534		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00006	.000	1
S1	.10000	.07665	-.023	-23.3	.00044	.000	1
S3	2.5000	2.5735	.074	2.94	.01275	.000	1
S4	5.0000	4.6623	-.338	-6.75	.02302	.000	1
S5	10.000	10.164	.164	1.64	.05015	.000	1
S2	.80000	.92339	.123	15.4	.00462	.000	1

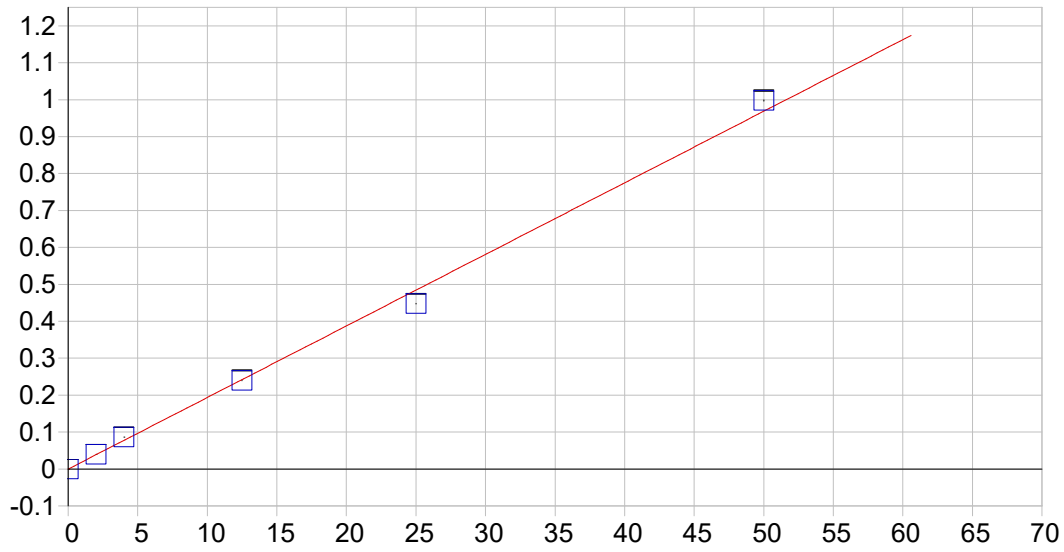


Mn 257.610 {131}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000370	Re-Slope:	1.000000
A1 (Gain):	0.664852	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998521	Status:	OK.
Std Error of Est:	0.000600		
Predicted MDL:	0.000358		
Predicted MQL:	0.001195		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00037	.000	1
S1	.02000	.01976	-.000	-1.18	.01352	.000	1
S3	1.2500	1.2588	.009	.705	.83746	.002	1
S4	2.5000	2.3029	-.197	-7.89	1.5318	.008	1
S5	5.0000	5.1316	.132	2.63	3.4128	.007	1
S2	.40000	.45698	.057	14.2	.30425	.000	1

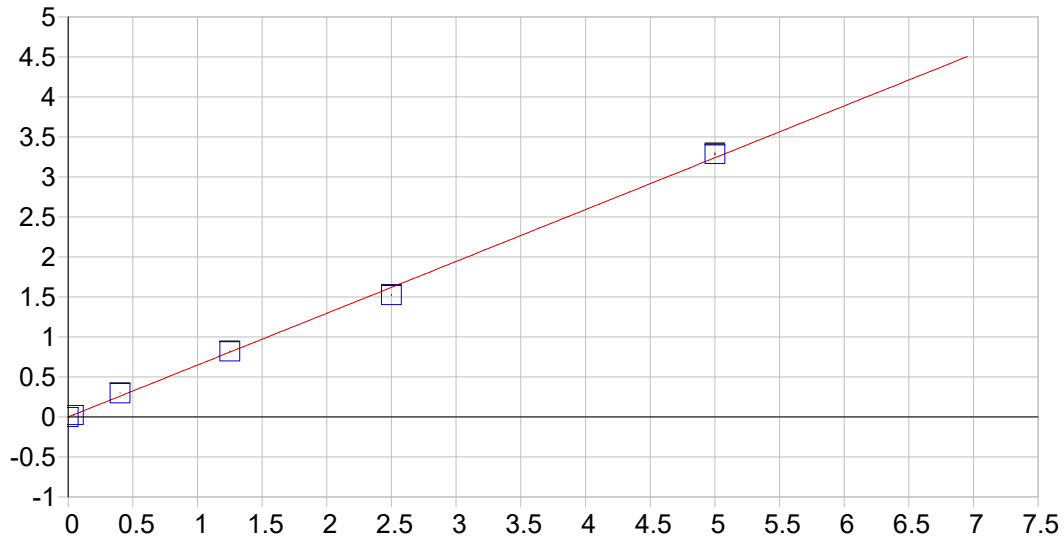


Mg 279.079 {121}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000204	Re-Slope:	1.000000
A1 (Gain):	0.019376	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998693	Status:	OK.
Std Error of Est:	0.000525		
Predicted MDL:	0.013518		
Predicted MQL:	0.045061		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00017	-.000	.000	-.00021	.000	1
S2	4.0000	4.4612	.461	11.5	.08624	.000	1
S3	12.500	12.392	-.108	-.863	.23991	.001	1
S4	25.000	23.099	-1.90	-7.60	.44738	.001	1
S5	50.000	51.502	1.50	3.00	.99770	.002	1
S1	2.0000	2.0457	.046	2.28	.03943	.000	1

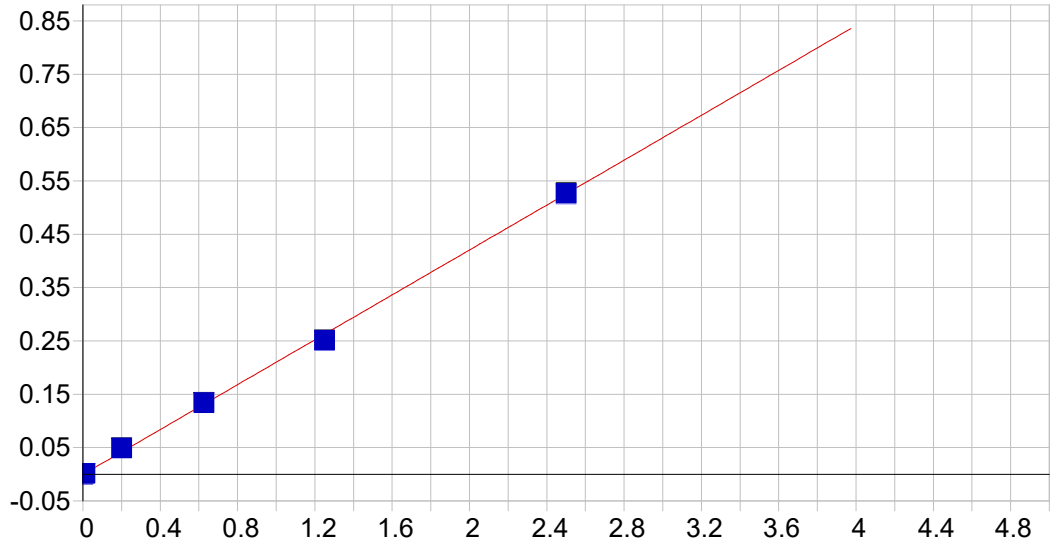


Ni 231.604 {446}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000150	Re-Slope:	1.000000
A1 (Gain):	0.647790	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998972	Status:	OK.
Std Error of Est:	0.000690		
Predicted MDL:	0.000339		
Predicted MQL:	0.001129		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00015	.000	1
S1	.04000	.03828	-.002	-4.29	.02495	.000	1
S3	1.2500	1.2654	.015	1.23	.81983	.003	1
S4	2.5000	2.3518	-.148	-5.93	1.5236	.005	1
S5	5.0000	5.0755	.075	1.51	3.2880	.010	1
S2	.40000	.45911	.059	14.8	.29756	.002	1

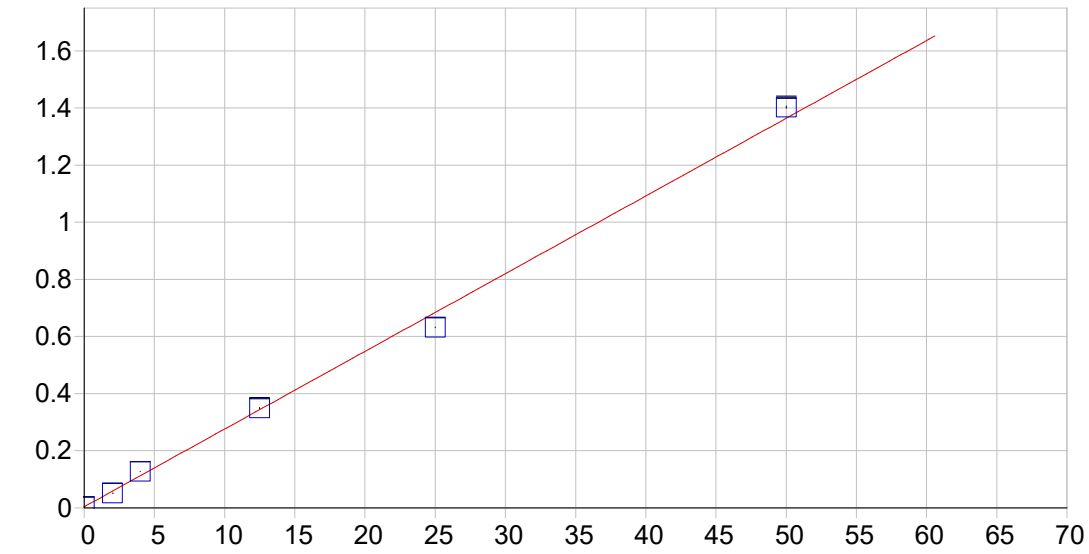


Ag 328.068 {103}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000480	Re-Slope:	1.000000
A1 (Gain):	0.210475	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999025	Status:	OK.
Std Error of Est:	0.000077		
Predicted MDL:	0.000554		
Predicted MQL:	0.001846		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00048	.000	1
S1	.01000	.00963	-.000	-3.75	.00153	.000	1
S3	.62500	.64090	.016	2.54	.13389	.000	1
S4	1.2500	1.1960	-.054	-4.32	.25020	.001	1
S5	2.5000	2.5035	.004	.140	.52436	.001	1
S2	.20000	.23499	.035	17.5	.04881	.000	1

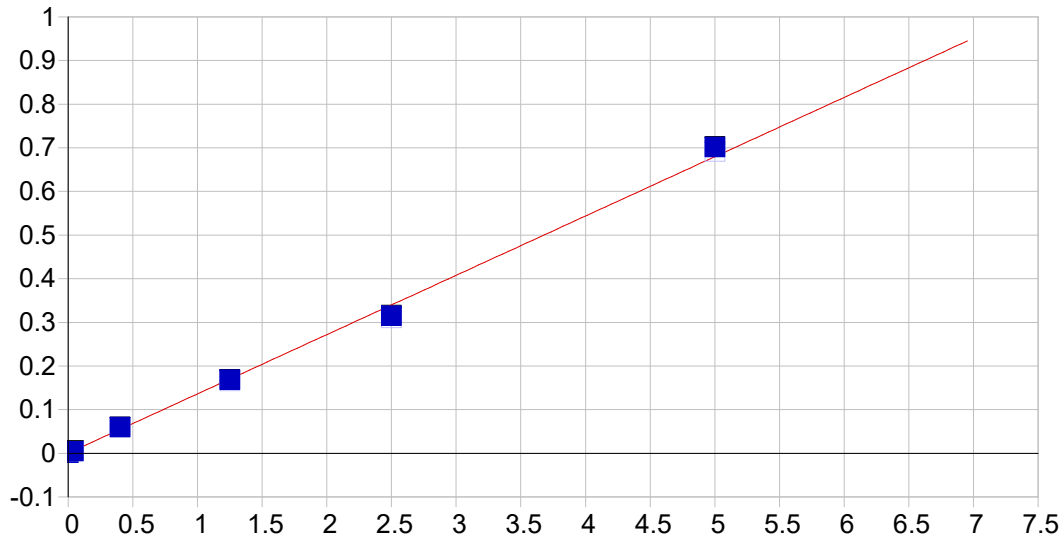


Na 589.592 { 57}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004102	Re-Slope:	1.000000
A1 (Gain):	0.027201	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998420	Status:	OK.
Std Error of Est:	0.000810		
Predicted MDL:	0.007726		
Predicted MQL:	0.025754		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00004	.000	.000	.00410	.000	1
S2	4.0000	4.5345	.535	13.4	.12744	.001	1
S3	12.500	12.711	.211	1.69	.34986	.002	1
S4	25.000	23.068	-1.93	-7.73	.63156	.001	1
S5	50.000	51.434	1.43	2.87	1.4031	.004	1
S1	2.0000	1.7526	-.247	-12.4	.05177	.000	1

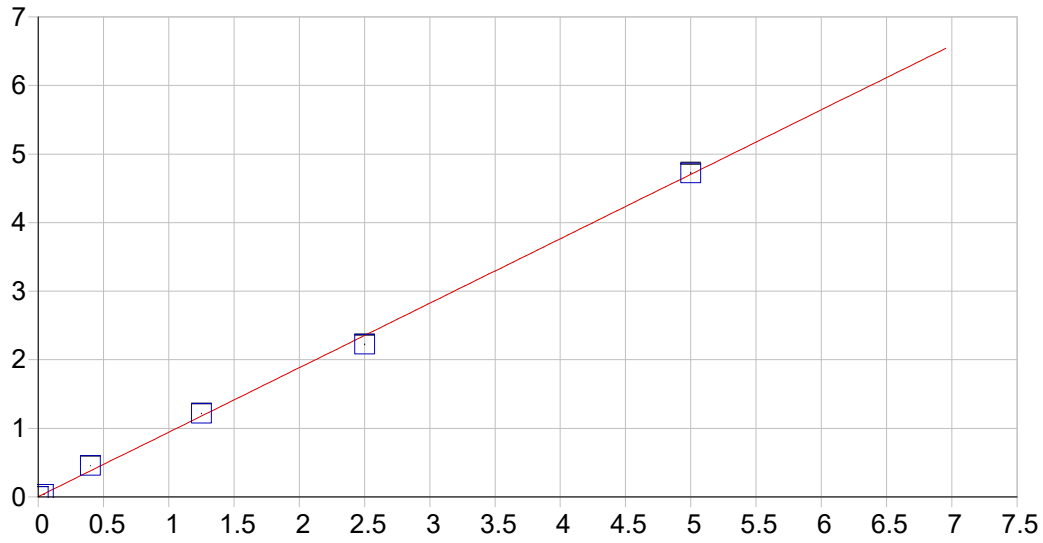


V 292.402 {115}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000207	Re-Slope:	1.000000
A1 (Gain):	0.135872	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998731	Status:	OK.
Std Error of Est:	0.000158		
Predicted MDL:	0.001971		
Predicted MQL:	0.006568		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00021	.000	1
S1	.04000	.03651	-.003	-8.73	.00496	.000	1
S3	1.2500	1.2364	-.014	-1.09	.16572	.001	1
S4	2.5000	2.3175	-.182	-7.30	.31014	.001	1
S5	5.0000	5.1608	.161	3.22	.69150	.001	1
S2	.40000	.43871	.039	9.68	.05902	.000	1

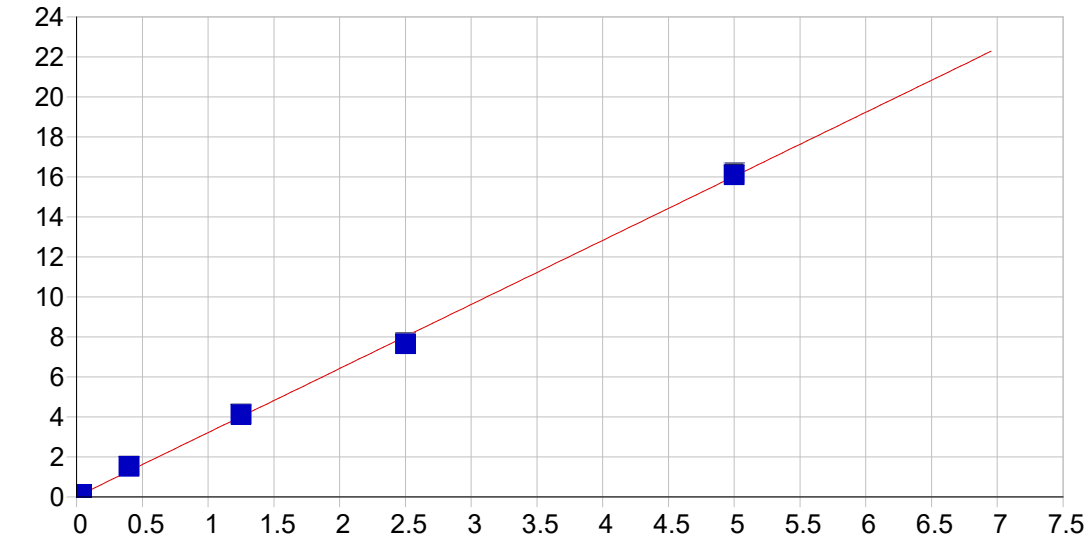


Zn 206.200 {464}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003534	Re-Slope:	1.000000
A1 (Gain):	0.940267	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998626	Status:	OK.
Std Error of Est:	0.001158		
Predicted MDL:	0.000203		
Predicted MQL:	0.000676		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00353	.000	1
S1	.04000	.03799	-.002	-5.03	.03925	.000	1
S3	1.2500	1.2910	.041	3.28	1.2174	.004	1
S4	2.5000	2.3622	-.138	-5.51	2.2246	.008	1
S5	5.0000	5.0184	.018	.368	4.7222	.013	1
S2	.40000	.48045	.080	20.1	.45528	.002	1

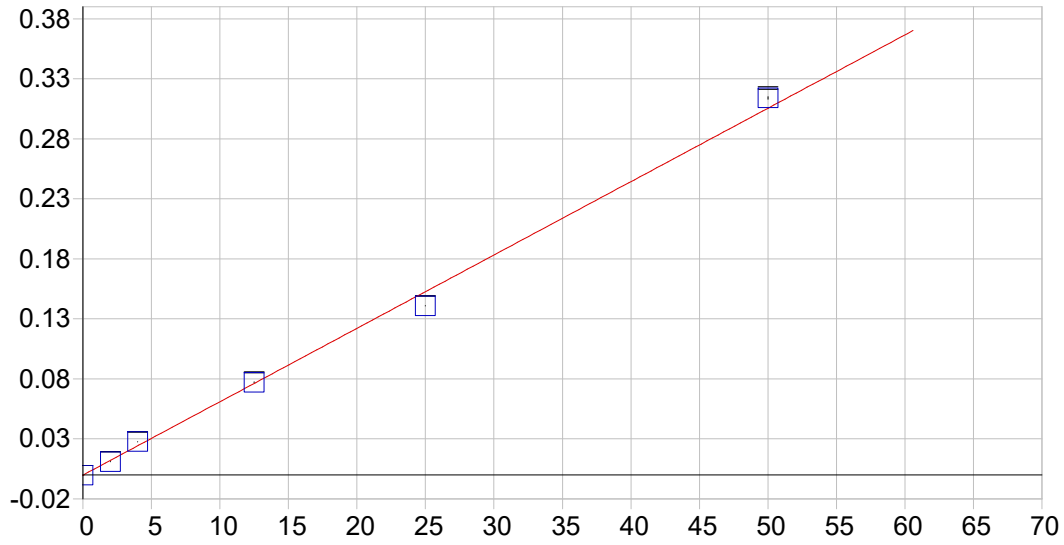


Zn 213.856 {158}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.012674	Re-Slope:	1.000000
A1 (Gain):	3.203186	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998986	Status:	OK.
Std Error of Est:	0.003411		
Predicted MDL:	0.000252		
Predicted MQL:	0.000840		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.01267	.001	1
S1	.04000	.03611	-.004	-9.74	.12922	.002	1
S3	1.2500	1.2791	.029	2.33	4.1377	.006	1
S4	2.5000	2.3837	-.116	-4.65	7.7038	.011	1
S5	5.0000	5.0208	.021	.415	16.207	.018	1
S2	.40000	.47033	.070	17.6	1.5281	.007	1

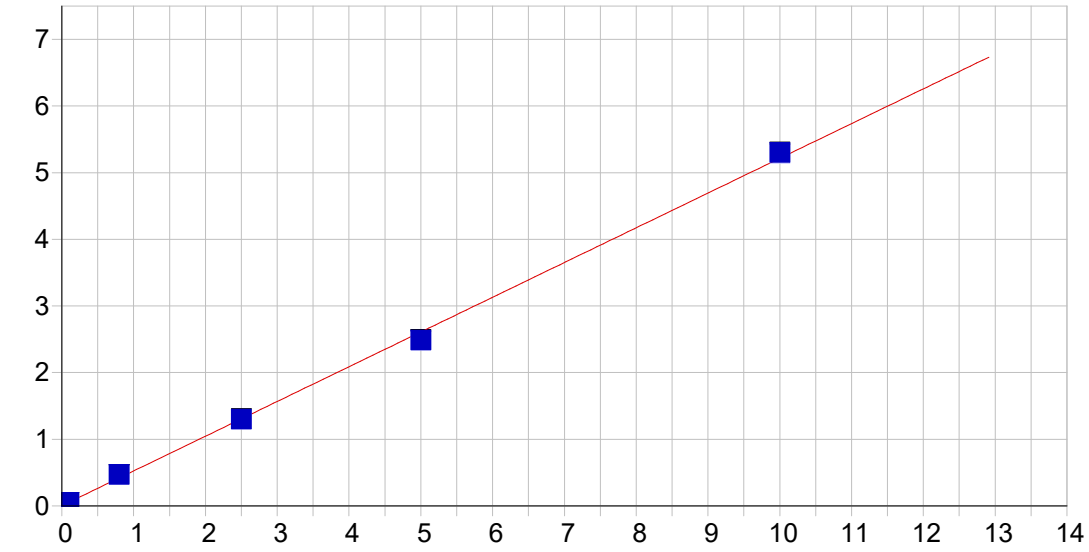


K 766.490 { 44}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000168	Re-Slope:	1.000000
A1 (Gain):	0.006112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998518	Status:	OK.
Std Error of Est:	0.000176		
Predicted MDL:	0.037828		
Predicted MQL:	0.126092		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	-.00017	.000	1
S2	4.0000	4.5418	.542	13.5	.02759	.000	1
S3	12.500	12.645	.145	1.16	.07712	.000	1
S4	25.000	23.073	-1.93	-7.71	.14086	.000	1
S5	50.000	51.409	1.41	2.82	.31405	.001	1
S1	2.0000	1.8313	-.169	-8.44	.01103	.000	1

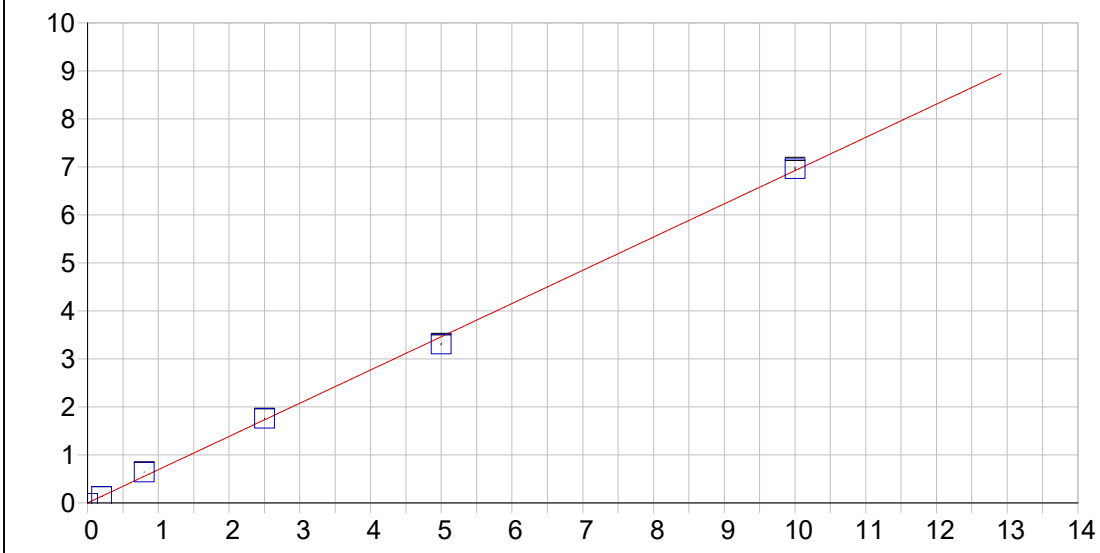


B 249.678 {135}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003446	Re-Slope:	1.000000
A1 (Gain):	0.521201	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999333	Status:	OK.
Std Error of Est:	0.000998		
Predicted MDL:	0.000684		
Predicted MQL:	0.002279		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00344	.000	1
S1	.10000	.09779	-.002	-2.21	.05419	.001	1
S3	2.5000	2.4862	-.014	-.553	1.2967	.009	1
S4	5.0000	4.7638	-.236	-4.72	2.4812	.008	1
S5	10.000	10.160	.160	1.60	5.2887	.014	1
S2	.80000	.89225	.092	11.5	.46767	.003	1

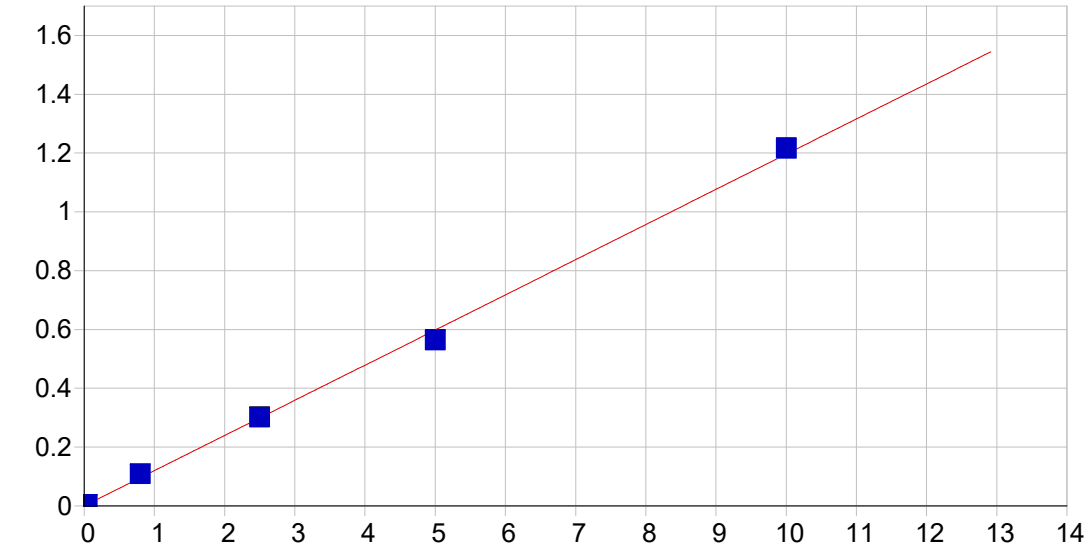


Mo 202.030 {467}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000460	Re-Slope:	1.000000
A1 (Gain):	0.692120	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999146	Status:	OK.
Std Error of Est:	0.002131		
Predicted MDL:	0.000289		
Predicted MQL:	0.000964		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.00044	.000	1
S1	.20000	.19362	-.006	-3.19	.13447	.001	1
S3	2.5000	2.5448	.045	1.79	1.7618	.006	1
S4	5.0000	4.7800	-.220	-4.40	3.3088	.017	1
S5	10.000	10.053	.053	.529	6.9583	.032	1
S2	.80000	.92862	.129	16.1	.64317	.003	1

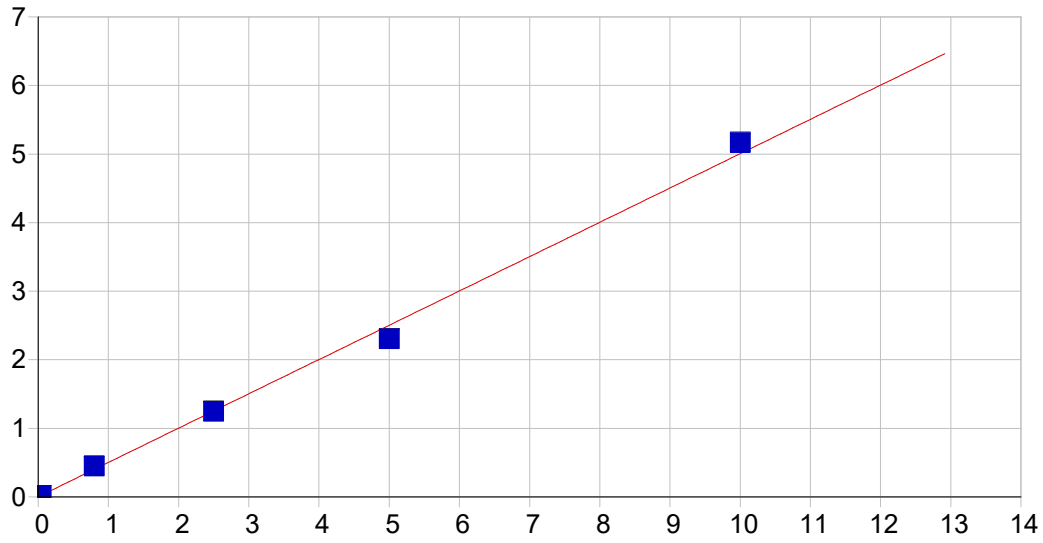


Sn 189.989 {478}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000267	Re-Slope:	1.000000
A1 (Gain):	0.119586	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999073	Status:	OK.
Std Error of Est:	0.000171		
Predicted MDL:	0.000836		
Predicted MQL:	0.002788		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00027	.000	1
S1	.04000	.03798	-.002	-5.05	.00480	.000	1
S3	2.5000	2.5231	.023	.924	.30169	.001	1
S4	5.0000	4.7103	-.290	-5.79	.56294	.002	1
S5	10.000	10.162	.162	1.62	1.2143	.002	1
S2	.80000	.90682	.107	13.4	.10861	.001	1

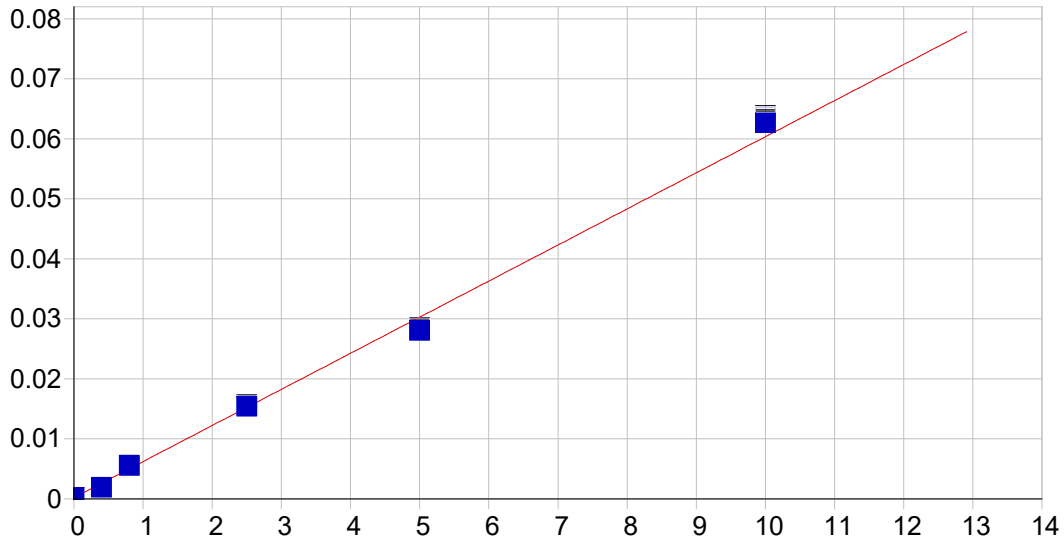


Ti 336.121 {100}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002386	Re-Slope:	1.000000
A1 (Gain):	0.500256	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998544	Status:	OK.
Std Error of Est:	0.000896		
Predicted MDL:	0.000783		
Predicted MQL:	0.002609		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00239	.000	1
S1	.04000	.03805	-.002	-4.87	.02141	.000	1
S3	2.5000	2.4858	-.014	-.568	1.2455	.003	1
S4	5.0000	4.6003	-.400	-7.99	2.3028	.004	1
S5	10.000	10.322	.322	3.22	5.1643	.008	1
S2	.80000	.89370	.094	11.7	.44932	.001	1

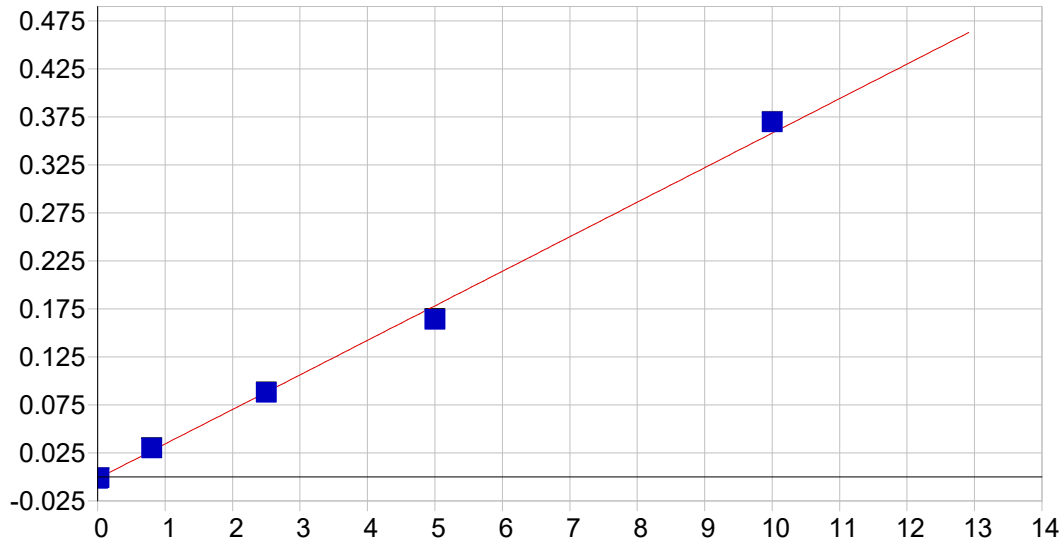


Si 288.158 {117}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000209	Re-Slope:	1.000000
A1 (Gain):	0.006014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997737	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	0.008193		
Predicted MQL:	0.027308		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00009	.000	.000	.00021	.000	1
S1	.40000	.28011	-.120	-30.0	.00190	.000	1
S3	2.5000	2.5276	.028	1.10	.01563	.000	1
S4	5.0000	4.6263	-.374	-7.47	.02848	.000	1
S5	10.000	10.381	.381	3.81	.06354	.000	1
S2	.80000	.88342	.083	10.4	.00559	.000	1

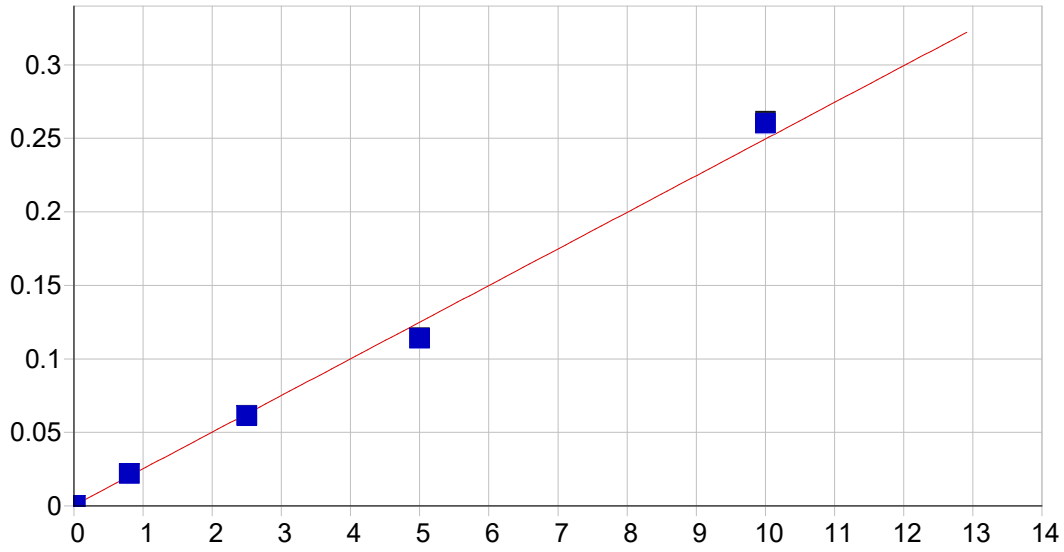


P 177.495 {490}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001694	Re-Slope:	1.000000
A1 (Gain):	0.035978	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998619	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	0.002614		
Predicted MQL:	0.008714		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00169	.000	1
S1	.02000	.01971	-.000	-1.44	-.00098	.000	1
S3	2.5000	2.4907	-.009	-.372	.08790	.000	1
S4	5.0000	4.6038	-.396	-7.92	.16391	.001	1
S5	10.000	10.321	.321	3.21	.36958	.001	1
S2	.80000	.88454	.085	10.6	.03013	.000	1

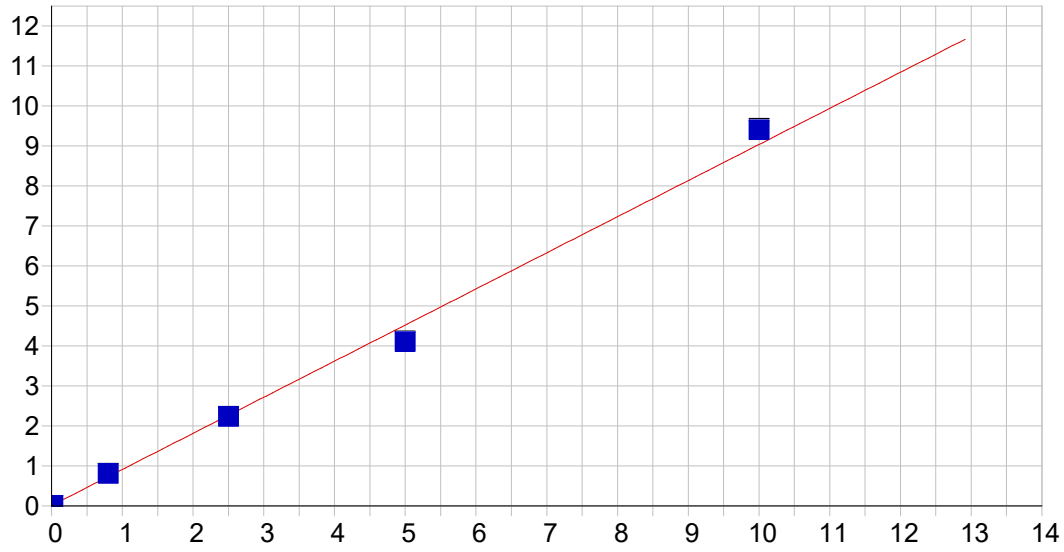


S 182.034 {485}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000348	Re-Slope:	1.000000
A1 (Gain):	0.024919	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998199	Status:	OK.
Std Error of Est:	0.000035		
Predicted MDL:	0.003650		
Predicted MQL:	0.012166		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00035	.000	1
S1	.02000	.01428	-.006	-28.6	.00068	.000	1
S3	2.5000	2.4462	-.054	-2.15	.06114	.000	1
S4	5.0000	4.5592	-.441	-8.82	.11364	.000	1
S5	10.000	10.436	.436	4.36	.25976	.001	1
S2	.80000	.86422	.064	8.03	.02183	.000	1

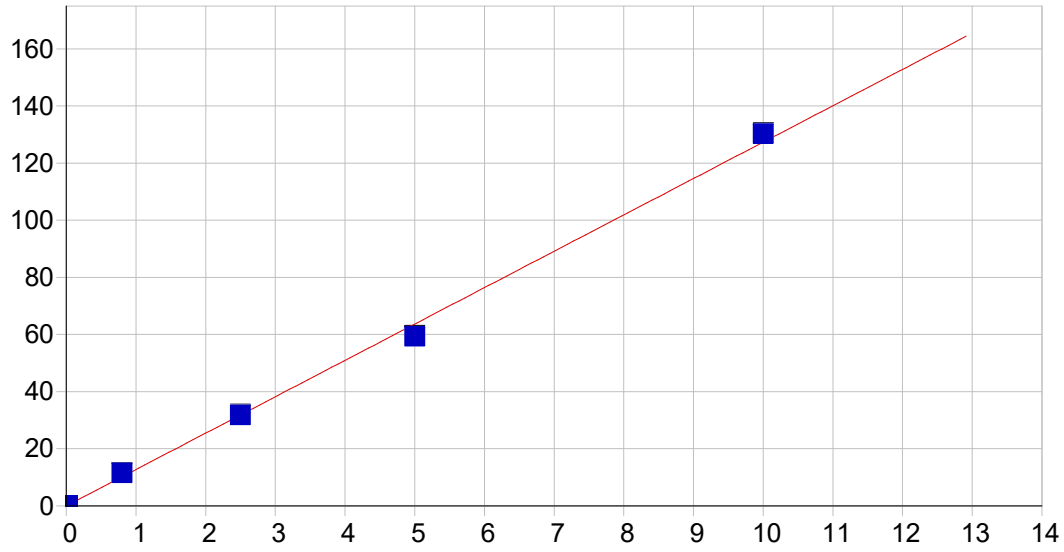


Li 670.784 { 50}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.008387	Re-Slope:	1.000000
A1 (Gain):	0.902989	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998127	Status:	OK.
Std Error of Est:	0.001298		
Predicted MDL:	0.001251		
Predicted MQL:	0.004170		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00839	.001	1
S5	10.000	10.407	.407	4.07	9.4138	.026	1
S4	5.0000	4.5408	-.459	-9.18	4.1127	.010	1
S3	2.5000	2.4651	-.035	-1.40	2.2363	.002	1
S1	.02000	.01925	-.001	-3.73	.02610	.000	1
S2	.80000	.88803	.088	11.0	.81092	.001	1

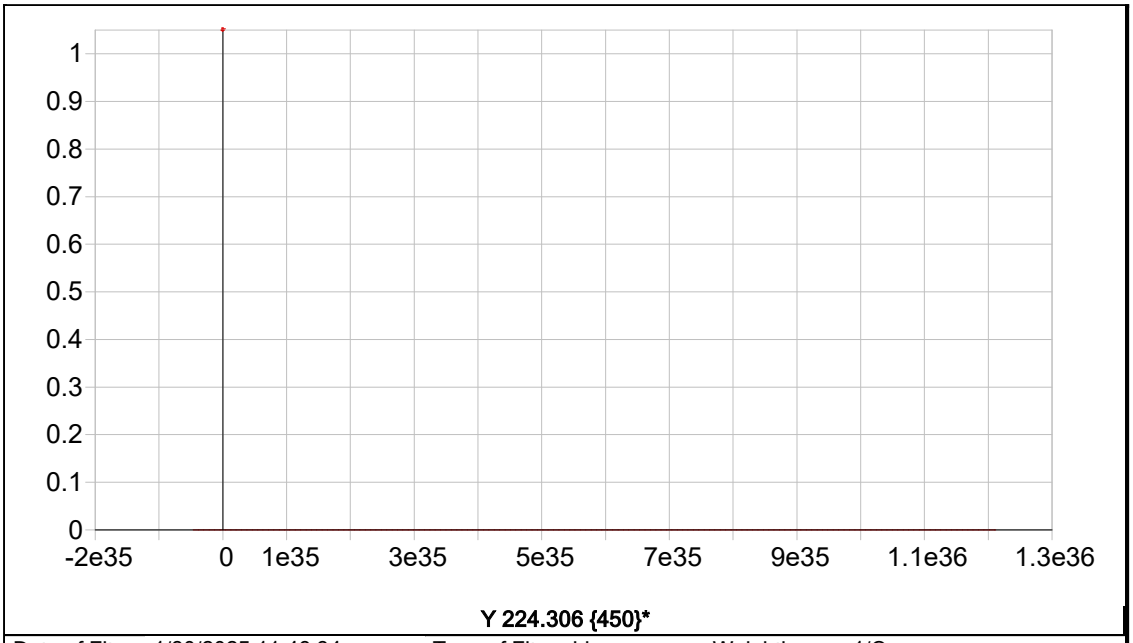


Sr 407.771 { 83}

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005354	Re-Slope:	1.000000
A1 (Gain):	12.734914	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998817	Status:	OK.
Std Error of Est:	0.014539		
Predicted MDL:	0.000053		
Predicted MQL:	0.000175		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00535	.000	1
S1	.02000	.01875	-.001	-6.23	.24546	.000	1
S3	2.5000	2.5003	.000	.011	31.878	.250	1
S4	5.0000	4.6580	-.342	-6.84	59.388	.352	1
S5	10.000	10.235	.235	2.35	130.48	.323	1
S2	.80000	.90766	.108	13.5	11.575	.003	1

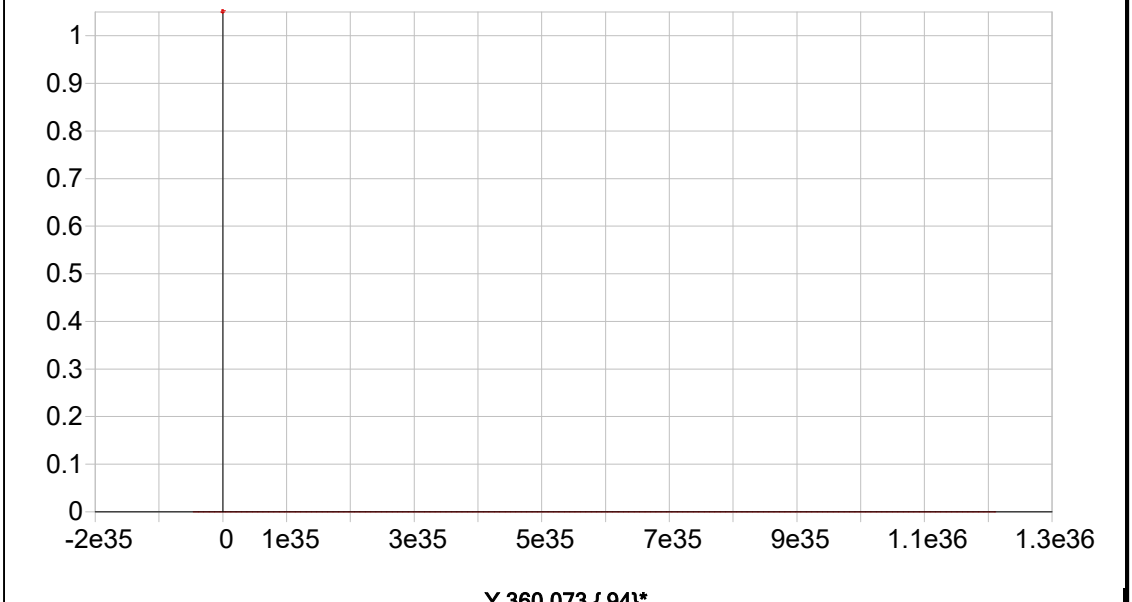


Y 224.306 {450}*

Date of Fit:	1/30/2025 11:46:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

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



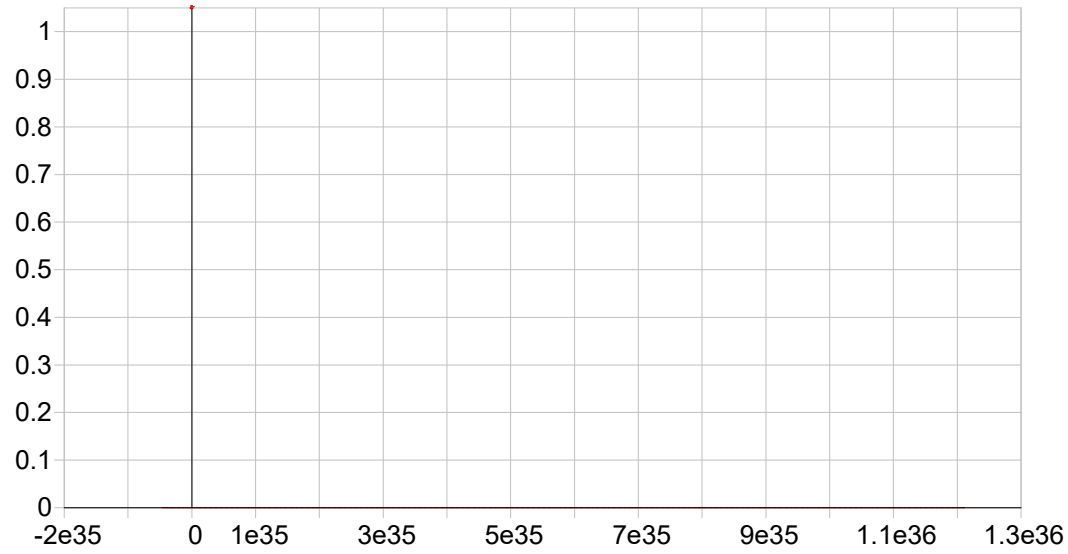
Y 360.073 { 94}*

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

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

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

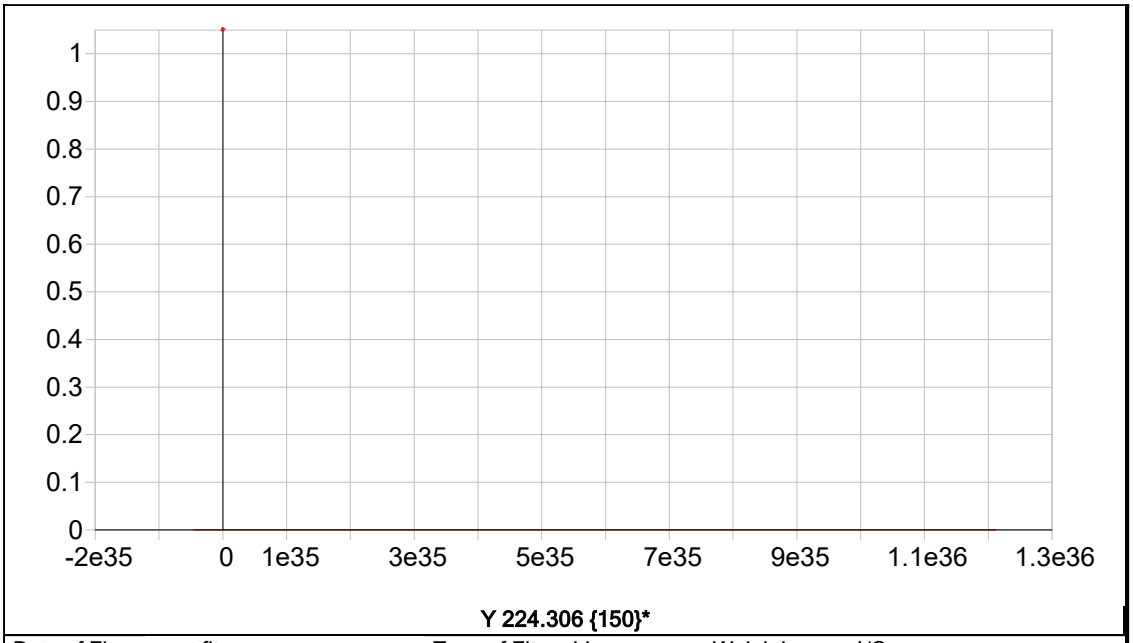
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 371.030 { 91}*

Date of Fit:	<not fit>		Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):		0.000000		Re-Slope:	1.000000	
A1 (Gain):		0.000000		Y-int:	0.000000	
A2 (Curvature):		0.000000				
n (Exponent):		1.000000				
Correlation:		0.000000		Status:	Warning	Zero Gain
Std Error of Est:		0.000000				
Predicted MDL:		n/a				
Predicted MQL:		n/a				

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

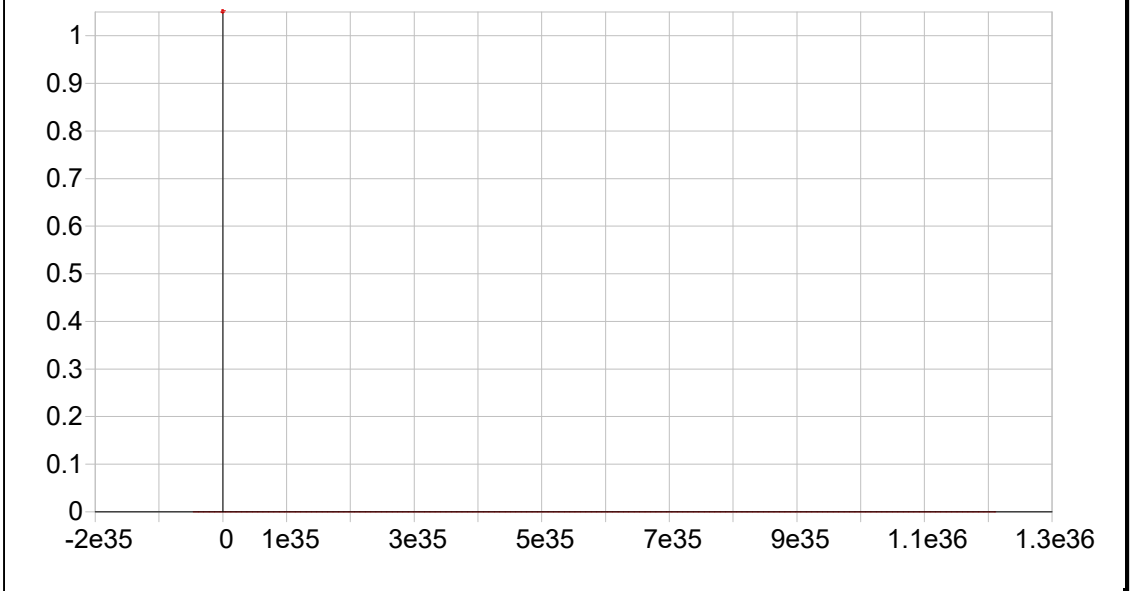


Y 224.306 {150}*

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

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

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



In 230.606 {446}*

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

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

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

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:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S0 Acquired: 1/30/2025 11:07:59 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	-.00010	-.00008	-.00006	.00038	.00078	.00091	.05685	-.00009
Stddev	.00017	.00010	.00011	.00005	.00017	.00084	.00164	.00020
%RSD	168.06	133.00	162.10	14.260	21.262	92.381	2.8865	216.75
#1	-.00001	-.00017	.00005	.00042	.00071	.00180	.05585	-.00009
#2	.00001	.00003	-.00015	.00032	.00097	.00083	.05875	-.00030
#3	-.00029	-.00008	-.00010	.00039	.00066	.00012	.05596	.00011

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	.00165	-.00003	.00020	-.00061	.00006	.00037	-.00021
Stddev	.00030	.00100	.00005	.00012	.00021	.00002	.00017	.00012
%RSD	45.847	60.235	146.19	60.158	35.071	27.196	46.079	59.174
#1	.00101	.00278	.00001	.00031	-.00085	.00006	.00056	-.00010
#2	.00050	.00129	-.00003	.00021	-.00055	.00005	.00023	-.00019
#3	.00047	.00089	-.00009	.00007	-.00044	.00008	.00032	-.00034

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	.00015	-.00048	.00410	.00021	.01267	-.00017	.00344	.00044
Stddev	.00015	.00004	.00030	.00033	.00061	.00015	.00039	.00013
%RSD	103.68	8.9450	7.2703	158.71	4.8467	90.246	11.335	29.068
#1	.00008	-.00053	.00384	.00048	.01302	-.00033	.00389	.00032
#2	.00032	-.00047	.00405	-.00016	.01196	-.00015	.00322	.00057
#3	.00004	-.00044	.00443	.00031	.01302	-.00002	.00322	.00044

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	.00027	.00239	.00021	-.00169	.00035	.00839	.00535
Stddev	.00002	.00016	.00001	.00003	.00007	.00061	.00023
%RSD	7.5498	6.6066	2.4748	1.5694	21.085	7.2419	4.3204
#1	.00028	.00238	.00021	-.00169	.00038	.00770	.00509
#2	.00025	.00223	.00021	-.00172	.00026	.00885	.00555
#3	.00027	.00255	.00021	-.00167	.00040	.00861	.00540

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S0 Acquired: 1/30/2025 11:07:59 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	3084.6	60108.	10327.	2243.2	4533.1
Stddev	7.3	96.	53.	10.6	15.0
%RSD	.23771	.15949	.51500	.47269	.33046
#1	3086.9	60100.	10387.	2237.1	4539.0
#2	3090.6	60017.	10307.	2237.1	4544.3
#3	3076.5	60208.	10286.	2255.5	4516.1

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S1 Acquired: 1/30/2025 11:12:23 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.00092	.00238	.00258	.00177	.00840	.00795	.32286	.03005
Stddev	.00008	.00013	.00009	.00008	.00008	.00051	.00090	.00017
%RSD	9.1787	5.4789	3.6175	4.5257	.98484	6.4762	.27832	.58214
#1	.00086	.00251	.00261	.00185	.00838	.00834	.32390	.02985
#2	.00102	.00225	.00248	.00177	.00833	.00737	.32237	.03017
#3	.00089	.00239	.00266	.00169	.00849	.00814	.32232	.03014

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	.01411	.11612	.00213	.02590	.01474	.00044	.01352	.03943
Stddev	.00019	.00020	.00002	.00015	.00026	.00002	.00037	.00015
%RSD	1.3525	.17558	.91084	.58259	1.7708	5.1701	2.7414	.39179
#1	.01417	.11635	.00212	.02577	.01502	.00041	.01378	.03959
#2	.01389	.11599	.00212	.02586	.01451	.00044	.01309	.03928
#3	.01425	.11601	.00215	.02607	.01468	.00046	.01368	.03942

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	.02495	.00153	.05177	.00496	.12922	.01103	.05419	.13447
Stddev	.00003	.00008	.00028	.00028	.00158	.00017	.00052	.00086
%RSD	.11925	5.4188	.53321	5.7213	1.2224	1.5585	.96618	.63831
#1	.02492	.00161	.05189	.00469	.12824	.01120	.05406	.13392
#2	.02495	.00153	.05146	.00526	.12838	.01101	.05477	.13403
#3	.02498	.00145	.05197	.00495	.13105	.01086	.05375	.13546

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	.00480	.02141	.00190	-.00098	.00068	.02610	.24546
Stddev	.00002	.00022	.00002	.00004	.00004	.00037	.00027
%RSD	.51459	1.0395	1.0732	4.2109	5.2656	1.4125	.11117
#1	.00482	.02166	.00191	-.00095	.00066	.02573	.24574
#2	.00478	.02126	.00187	-.00103	.00072	.02610	.24520
#3	.00482	.02130	.00191	-.00097	.00067	.02646	.24543

Sample Name: S1 Acquired: 1/30/2025 11:12:23 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	3056.8	62585.	10277.	2261.5	4470.6
Stddev	12.5	244.	53.	18.8	12.8
%RSD	.40981	.39051	.51966	.83081	.28595
#1	3062.0	62612.	10335.	2268.2	4475.9
#2	3065.8	62815.	10229.	2276.0	4479.9
#3	3042.5	62328.	10268.	2240.3	4456.1

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S2 Acquired: 1/30/2025 11:16:47 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.04698	.05929	.22442	.06967	.15504	.13529	5.0597	.23674
Stddev	.00036	.00021	.00088	.00047	.00070	.00073	.0029	.00132
%RSD	.77689	.36020	.39136	.66842	.45300	.53913	.05733	.55756
#1	.04661	.05906	.22412	.06917	.15431	.13477	5.0574	.23815
#2	.04697	.05947	.22373	.06975	.15510	.13612	5.0630	.23552
#3	.04734	.05936	.22541	.07009	.15571	.13497	5.0587	.23656

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.0828	.27419	.04335	.41072	.16732	.00462	.30425	.08624
Stddev	.0062	.00068	.00006	.00235	.00081	.00002	.00037	.00026
%RSD	.57119	.24855	.13781	.57324	.48328	.52044	.12078	.30465
#1	1.0778	.27444	.04341	.40913	.16649	.00464	.30396	.08635
#2	1.0810	.27341	.04334	.40961	.16735	.00463	.30466	.08594
#3	1.0897	.27470	.04329	.41343	.16811	.00459	.30412	.08643

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	.29756	.04881	.12744	.05902	1.5281	.02759	.46767	.64317
Stddev	.00173	.00004	.00054	.00014	.0066	.00016	.00254	.00268
%RSD	.58233	.07625	.42051	.23360	.43442	.57682	.54336	.41624
#1	.29586	.04877	.12684	.05889	1.5288	.02742	.47050	.64029
#2	.29749	.04885	.12788	.05917	1.5212	.02763	.46559	.64365
#3	.29932	.04881	.12761	.05901	1.5345	.02773	.46692	.64558

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	.10861	.44932	.00559	.03013	.02183	.81092	11.575
Stddev	.00059	.00077	.00002	.00010	.00020	.00138	.003
%RSD	.54613	.17184	.38986	.31946	.89753	.17047	.02948
#1	.10824	.44938	.00557	.03002	.02163	.81007	11.576
#2	.10830	.45006	.00560	.03014	.02183	.81251	11.577
#3	.10930	.44852	.00561	.03021	.02203	.81016	11.571

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S2 Acquired: 1/30/2025 11:16:47 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	3002.7	58137.	10365.	2107.7	4383.1
Stddev	16.8	252.	12.	4.8	23.5
%RSD	.55995	.43383	.11814	.22910	.53599
#1	3019.8	58426.	10357.	2109.7	4402.1
#2	3002.0	58024.	10379.	2111.3	4390.5
#3	2986.2	57961.	10359.	2102.2	4356.8

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S3 Acquired: 1/30/2025 11:20:56 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.13081	.16127	.62292	.19339	.42958	.37845	14.046	.65878
Stddev	.00047	.00110	.00276	.00079	.00115	.00079	.014	.00383
%RSD	.35890	.68005	.44325	.41001	.26758	.20940	.09839	.58185
#1	.13087	.16170	.62127	.19272	.42902	.37874	14.054	.66264
#2	.13031	.16002	.62137	.19317	.42881	.37906	14.054	.65872
#3	.13125	.16208	.62610	.19427	.43090	.37755	14.030	.65497

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.0111	.74643	.12015	1.1366	.45881	.01275	.83746	.23991
Stddev	.0081	.00179	.00019	.0040	.00200	.00009	.00216	.00126
%RSD	.26962	.24020	.15986	.34809	.43668	.69972	.25779	.52684
#1	3.0033	.74749	.11994	1.1335	.45790	.01267	.83987	.24031
#2	3.0105	.74743	.12022	1.1352	.45743	.01272	.83680	.24092
#3	3.0195	.74436	.12030	1.1411	.46111	.01285	.83571	.23849

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	.81983	.13389	.34986	.16572	4.1377	.07712	1.2967	1.7618
Stddev	.00269	.00012	.00246	.00064	.0056	.00037	.0085	.0060
%RSD	.32822	.08770	.70273	.38668	.13514	.48390	.65632	.34242
#1	.81812	.13392	.34803	.16630	4.1395	.07669	1.3025	1.7596
#2	.81844	.13399	.34889	.16583	4.1421	.07729	1.3007	1.7571
#3	.82293	.13376	.35265	.16503	4.1314	.07738	1.2869	1.7686

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	.30169	1.2455	.01563	.08790	.06114	2.2363	31.878
Stddev	.00094	.0034	.00008	.00044	.00019	.0020	.250
%RSD	.31064	.27308	.53716	.49777	.31527	.09076	.78554
#1	.30070	1.2468	.01556	.08752	.06114	2.2355	32.147
#2	.30179	1.2480	.01562	.08780	.06095	2.2387	31.651
#3	.30257	1.2416	.01572	.08838	.06134	2.2349	31.837

Sample Name: S3 Acquired: 1/30/2025 11:20:56 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2968.1	57390.	10281.	2062.1	4269.0
Stddev	7.6	59.	77.	1.5	10.5
%RSD	.25661	.10290	.74784	.07061	.24657
#1	2973.7	57371.	10207.	2060.9	4278.2
#2	2971.2	57456.	10275.	2063.7	4271.3
#3	2959.4	57342.	10361.	2061.8	4257.6

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S4 Acquired: 1/30/2025 11:25:05 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.24334	.30401	1.1549	.35779	.80358	.71121	25.562	1.2496
Stddev	.00108	.00048	.0035	.00203	.00404	.00086	.153	.0043
%RSD	.44224	.15855	.30390	.56634	.50268	.12031	.59671	.34205
#1	.24245	.30456	1.1533	.35660	.80116	.71028	25.694	1.2448
#2	.24304	.30370	1.1525	.35663	.80133	.71138	25.598	1.2531
#3	.24453	.30375	1.1589	.36013	.80824	.71196	25.395	1.2509

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	5.6207	1.3834	.22139	2.1229	.84305	.02302	1.5318	.44738
Stddev	.0187	.0045	.00050	.0078	.00504	.00006	.0076	.00104
%RSD	.33192	.32788	.22732	.36641	.59833	.25829	.49640	.23205
#1	5.6109	1.3783	.22123	2.1180	.83880	.02296	1.5230	.44683
#2	5.6089	1.3871	.22195	2.1188	.84174	.02302	1.5368	.44857
#3	5.6422	1.3848	.22098	2.1319	.84862	.02308	1.5355	.44672

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	1.5236	.25020	.63156	.31014	7.7038	.14086	2.4812	3.3088
Stddev	.0055	.00068	.00097	.00137	.0109	.00019	.0085	.0167
%RSD	.35934	.27059	.15295	.44194	.14186	.13442	.34246	.50406
#1	1.5202	.24983	.63213	.30865	7.7163	.14096	2.4719	3.2986
#2	1.5207	.25098	.63044	.31044	7.6961	.14064	2.4884	3.2997
#3	1.5299	.24979	.63211	.31134	7.6990	.14098	2.4834	3.3281

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	.56294	2.3028	.02848	.16391	.11364	4.1127	59.388
Stddev	.00167	.0044	.00011	.00085	.00042	.0096	.352
%RSD	.29706	.18928	.38093	.51606	.36683	.23310	.59221
#1	.56158	2.2978	.02836	.16315	.11341	4.1030	59.687
#2	.56243	2.3048	.02857	.16377	.11338	4.1131	59.001
#3	.56480	2.3058	.02851	.16482	.11412	4.1222	59.477

Sample Name: S4 Acquired: 1/30/2025 11:25:05 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2964.4	56898.	10003.	2021.0	4229.9
Stddev	13.6	140.	32.	9.1	13.8
%RSD	.45858	.24663	.32321	.44944	.32659
#1	2973.6	56940.	10026.	2015.0	4237.5
#2	2970.7	56742.	9966.0	2016.5	4238.2
#3	2948.7	57013.	10016.	2031.4	4213.9

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S5 Acquired: 1/30/2025 11:29:18 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	.53249	.63649	2.4919	.78105	1.7370	1.5843	57.752	2.6581
Stddev	.00249	.00225	.0066	.00425	.0087	.0030	.118	.0050
%RSD	.46834	.35285	.26523	.54436	.50121	.18903	.20506	.18987
#1	.53066	.63765	2.4871	.77798	1.7299	1.5816	57.830	2.6635
#2	.53149	.63390	2.4891	.77925	1.7344	1.5875	57.616	2.6535
#3	.53533	.63792	2.4994	.78590	1.7467	1.5838	57.811	2.6573

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	12.178	3.0586	.45977	4.5981	1.7914	.05015	3.4128	.99770
Stddev	.037	.0015	.00087	.0170	.0090	.00019	.0067	.00155
%RSD	.30602	.05049	.18889	.36939	.50182	.38734	.19673	.15494
#1	12.140	3.0573	.45942	4.5807	1.7823	.04994	3.4097	.99914
#2	12.180	3.0603	.46076	4.5991	1.7917	.05033	3.4082	.99790
#3	12.215	3.0583	.45913	4.6146	1.8003	.05017	3.4205	.99606

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	3.2880	.52436	1.4031	.69150	16.207	.31405	5.2887	6.9583
Stddev	.0102	.00149	.0043	.00143	.018	.00116	.0135	.0323
%RSD	.31009	.28506	.30937	.20657	.11093	.36907	.25547	.46413
#1	3.2774	.52598	1.3985	.69034	16.186	.31271	5.3026	6.9337
#2	3.2887	.52407	1.4071	.69310	16.214	.31464	5.2757	6.9463
#3	3.2978	.52303	1.4038	.69108	16.220	.31479	5.2876	6.9949

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	1.2143	5.1643	.06354	.36958	.25976	9.4138	130.48
Stddev	.0024	.0082	.00035	.00075	.00134	.0261	.32
%RSD	.20207	.15856	.55247	.20257	.51530	.27740	.24789
#1	1.2126	5.1581	.06315	.36895	.25860	9.3966	130.22
#2	1.2131	5.1612	.06365	.36939	.25945	9.4010	130.37
#3	1.2171	5.1736	.06382	.37041	.26122	9.4438	130.84

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: S5 Acquired: 1/30/2025 11:29:18 Type: Cal
Method: NON EPA-6010-200.7(v2642) Mode: IR Corr. Factor: 1.000000
User: Kareem 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	2762.5	54879.	9491.4	1898.2	3840.6
Stddev	12.1	140.	8.4	7.8	12.4
%RSD	.43774	.25571	.08801	.41169	.32403
#1	2773.4	54949.	9489.6	1906.5	3852.9
#2	2764.5	54718.	9484.1	1891.1	3840.9
#3	2749.5	54971.	9500.5	1897.0	3828.1

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICV01 Acquired: 1/30/2025 11:49:10 Type: Unk
Method: NON EPA-6010-200.7(v2643) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.038641	1.022227	.9998470	1.035430	1.001364	2.347596
Stddev	.005033	.014168	.0028933	.001744	.004486	.002339
%RSD	.4846060	1.385996	.2893735	.1684089	.4479438	.0996446
#1	1.039545	1.036244	.9973184	1.036704	.997544	2.345675
#2	1.033216	1.007912	.9992202	1.033443	1.000246	2.346912
#3	1.043160	1.022525	1.003002	1.036144	1.006303	2.350201

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4701312	.4719891	.5024009	9.281204	.5222635	.5039888
Stddev	.0005947	.0018382	.0011535	.018455	.0004312	.0008724
%RSD	.1264873	.3894528	.2296052	.1988433	.0825722	.1731099
#1	.4704870	.4705901	.5024079	9.264885	.5218466	.5036417
#2	.4704618	.4713062	.5012439	9.301232	.5227078	.5033434
#3	.4694447	.4740710	.5035509	9.277494	.5222363	.5049814

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5234620	9.560774	.5194174	5.449877	.5071629	.2521207
Stddev	.0015617	.019795	.0028797	.017736	.0009346	.0006415
%RSD	.2983343	.2070452	.5544170	.3254417	.1842714	.2544261
#1	.5234648	9.557056	.5171556	5.429477	.5073650	.2522114
#2	.5218989	9.582165	.5226593	5.461649	.5061438	.2514387
#3	.5250223	9.543102	.5184374	5.458504	.5079799	.2527120

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.503469	.4546023	1.007175	9.439926	F 2.221673	2.480742
Stddev	.032099	.0015466	.007380	.069087	.013173	.007010
%RSD	.3377645	.3402109	.7327472	.7318607	.5929488	.2825765
#1	9.529662	.4535571	1.001271	9.478448	2.209133	2.481097
#2	9.513085	.4563790	1.004806	9.481162	2.220487	2.473561
#3	9.467661	.4538709	1.015449	9.360166	2.235400	2.487567

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICV01 Acquired: 1/30/2025 11:49:10 Type: Unk
Method: NON EPA-6010-200.7(v2643) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	2.400506	F 2.248241	F 1.791569	F .0060555	F -.013065	F -.004678
Stddev	.005702	.005940	.005390	.0016939	.002316	.000621
%RSD	.2375463	.2641887	.3008769	27.97270	17.72294	13.27255
#1	2.401722	2.243340	1.785991	.0041973	-.010515	-.005009
#2	2.394293	2.254846	1.791965	.0064558	-.013644	-.003961
#3	2.405501	2.246536	1.796750	.0075133	-.015036	-.005062

Elem	Sr4077
Units	ppm
Avg	F -.008854
Stddev	.000040
%RSD	.4469803
#1	-.008894
#2	-.008853
#3	-.008815

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2910.577	57668.79	10635.31	1999.039	4277.889
Stddev	8.686	147.39	31.66	10.347	11.909
%RSD	.2984282	.2555765	.2977129	.5176092	.2783907
#1	2904.061	57688.65	10671.67	2010.306	4266.967
#2	2920.438	57512.49	10620.38	1996.850	4290.586
#3	2907.231	57805.25	10613.87	1989.962	4276.114

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: LLICV01 Acquired: 1/30/2025 11:56:31 Type: Unk
Method: NON EPA-6010-200.7(v2644) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0213378	.0390327	.0121909	.0191005	.0495333	.0891648
Stddev	.0008302	.0006763	.0000952	.0009878	.0004164	.0009879
%RSD	3.890657	1.732577	.7805640	5.171513	.8406911	1.107990
#1	.0221381	.0398079	.0122814	.0183106	.0500103	.0882742
#2	.0213947	.0385641	.0121997	.0187828	.0492420	.0902275
#3	.0204807	.0387260	.0120917	.0202080	.0493478	.0889927

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0838542	.0055500	.0055966	1.829647	.0097988	.0287006
Stddev	.0005464	.0000397	.0000770	.009495	.0002132	.0000993
%RSD	.6515770	.7150012	1.376432	.5189376	2.176053	.3458323
#1	.0838175	.0055714	.0056828	1.820689	.0100298	.0286903
#2	.0844181	.0055744	.0055346	1.839600	.0096094	.0288046
#3	.0833272	.0055042	.0055724	1.828652	.0097574	.0286069

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0216279	.1058998	.0180437	1.974820	.0386447	.0103864
Stddev	.0002003	.0017230	.0001910	.011105	.0001501	.0001050
%RSD	.9262915	1.627047	1.058736	.5623440	.3885284	1.011121
#1	.0216422	.1041228	.0178402	1.982087	.0385319	.0104116
#2	.0214208	.1075632	.0180715	1.980336	.0385872	.0102711
#3	.0218207	.1060133	.0182192	1.962036	.0388152	.0104765

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.917733	.0348479	.0383095	1.917520	.0934864	.2026015
Stddev	.007478	.0009972	.0003683	.026630	.0003050	.0004377
%RSD	.3899395	2.861439	.9614619	1.388750	.3262100	.2160659
#1	1.924224	.0343648	.0381928	1.887406	.0933008	.2026614
#2	1.909556	.0359946	.0380137	1.937963	.0938384	.2021369
#3	1.919420	.0341844	.0387221	1.927192	.0933201	.2030063

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: LLICV01 Acquired: 1/30/2025 11:56:31 Type: Unk
Method: NON EPA-6010-200.7(v2644) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.0378005	.0360737	.3229148	.0186322	F .0116099	F .0141384
Stddev	.0007351	.0004660	.0082096	.0020939	.0038098	.0010887
%RSD	1.944548	1.291722	2.542337	11.23799	32.81534	7.700250
#1	.0386442	.0357008	.3233240	.0163746	.0101514	.0140244
#2	.0374588	.0365961	.3145083	.0190114	.0159335	.0152796
#3	.0372985	.0359242	.3309122	.0205105	.0087448	.0131112

Elem	Sr4077
Units	ppm
Avg	.0175412
Stddev	.0000636
%RSD	.3627842
#1	.0174678
#2	.0175750
#3	.0175807

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2924.671	57361.31	10784.97	1983.207	4376.960
Stddev	7.985	171.81	48.40	1.634	7.224
%RSD	.2730322	.2995232	.4487994	.0823809	.1650367
#1	2929.045	57172.27	10752.08	1984.114	4379.523
#2	2929.514	57507.95	10762.30	1984.186	4382.554
#3	2915.455	57403.71	10840.55	1981.321	4368.805

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICB01 Acquired: 1/30/2025 12:00:47 Type: Unk
Method: NON EPA-6010-200.7(v2644) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.0001909	-.001549	-.000933	-.000061	-.002034	-.010238	-.002373
Stddev	.0014166	.000637	.000715	.000664	.000396	.002152	.000777
%RSD	742.0317	41.15623	76.66299	1086.629	19.49744	21.02160	32.72165
#1	.0005363	-.000814	-.001740	-.000082	-.002163	-.010634	-.002014
#2	-.001366	-.001950	-.000679	-.000715	-.002349	-.007915	-.001841
#3	.001403	-.001883	-.000379	.000613	-.001589	-.012165	-.003264

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000402	-.000334	-.016405	.0001386	-.000279	.0000576	-.018743
Stddev	.0000320	.000008	.004577	.0004077	.000049	.0002406	.004405
%RSD	79.55591	2.437705	27.89879	294.2056	17.39983	417.4859	23.50171
#1	.0000406	-.000343	-.021364	-.000257	-.000332	.0003082	-.014414
#2	.0000080	-.000327	-.012344	.000557	-.000268	.0000363	-.018594
#3	.0000720	-.000331	-.015506	.000116	-.000237	-.000172	-.023220

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000717	.0082517	-.000560	.0005585	-.029503	-.000976	-.003075
Stddev	.000177	.0046425	.000292	.0002989	.000963	.000733	.000391
%RSD	24.74178	56.26179	52.21093	53.52705	3.265155	75.15655	12.73129
#1	-.000697	.0029796	-.000274	.0008829	-.030293	-.001053	-.003063
#2	-.000550	.0117286	-.000548	.0004986	-.029787	-.000207	-.002689
#3	-.000903	.0100468	-.000858	.0002940	-.028430	-.001668	-.003472

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003719	-.001924	-.000531	-.000755	.0005120	-.014287	.0013460
Stddev	.0190443	.000216	.000267	.000403	.0002224	.004373	.0024645
%RSD	5121.119	11.24137	50.30360	53.46889	43.43431	30.60803	183.1067
#1	-.019200	-.001957	-.000225	-.000366	.0007352	-.016596	.0010017
#2	.001476	-.002122	-.000654	-.001171	.0005103	-.017022	.0039645
#3	.018840	-.001693	-.000715	-.000727	.0002904	-.009243	-.000928

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICB01 Acquired: 1/30/2025 12:00:47 Type: Unk
Method: NON EPA-6010-200.7(v2644) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006026	-.004744	-.000453
Stddev	.002425	.000882	.000054
%RSD	40.23711	18.58671	11.88491
#1	-.007799	-.003758	-.000512
#2	-.007017	-.005457	-.000406
#3	-.003263	-.005018	-.000441

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2934.920	57253.34	10801.08	1979.426	4433.357
Stddev	.813	54.21	5.87	12.629	2.638
%RSD	.0277143	.0946832	.0543288	.6380103	.0595076
#1	2935.094	57270.65	10794.49	1965.225	4435.821
#2	2934.034	57192.58	10803.03	1983.657	4433.675
#3	2935.632	57296.77	10805.72	1989.396	4430.574

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CRI01 Acquired: 1/30/2025 12:05:56 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0214677	.0399626	.0108915	.0184404	.0470920	.0848645
Stddev	.0016979	.0017698	.0012888	.0005590	.0011223	.0058768
%RSD	7.909122	4.428737	11.83302	3.031557	2.383171	6.924931
#1	.0227181	.0402502	.0102052	.0190824	.0461467	.0896827
#2	.0195347	.0415710	.0100910	.0180611	.0467970	.0783171
#3	.0221503	.0380666	.0123782	.0181777	.0483323	.0865938

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0900585	.0056065	.0055633	1.877699	.0099706	.0284817
Stddev	.0002887	.0000099	.0000560	.001574	.0002743	.0002124
%RSD	.3205153	.1762946	1.006668	.0838080	2.750978	.7455865
#1	.0903914	.0056124	.0055193	1.879330	.0097089	.0282406
#2	.0899060	.0056120	.0055442	1.877579	.0099468	.0286409
#3	.0898781	.0055951	.0056263	1.876189	.0102560	.0285636

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0217848	.0815066	.0182064	2.011137	.0380558	.0110591
Stddev	.0002987	.0027698	.0002486	.022087	.0003316	.0001547
%RSD	1.371195	3.398226	1.365502	1.098235	.8714112	1.399158
#1	.0216047	.0786394	.0179611	2.009714	.0379362	.0111321
#2	.0221297	.0817131	.0184582	1.989796	.0384306	.0111638
#3	.0216202	.0841674	.0181997	2.033901	.0378006	.0108813

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.015089	.0346771	.0392611	2.028826	.0908420	.2051829
Stddev	.010914	.0002427	.0004407	.039789	.0004259	.0007292
%RSD	.5415933	.6998875	1.122421	1.961162	.4688774	.3553647
#1	2.015874	.0346692	.0395325	2.063471	.0912444	.2048311
#2	2.003805	.0349237	.0387526	1.985371	.0908858	.2046964
#3	2.025590	.0344385	.0394980	2.037635	.0903959	.2060213

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CRI01 Acquired: 1/30/2025 12:05:56 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.0371213	.0371173	.3342037	.0208214	F .0126565	F .0135244
Stddev	.0005387	.0006780	.0071188	.0011596	.0031036	.0011388
%RSD	1.451126	1.826610	2.130066	5.569238	24.52143	8.420498
#1	.0366505	.0376477	.3297071	.0201808	.0124825	.0125044
#2	.0377088	.0373508	.3424113	.0221600	.0158435	.0147532
#3	.0370047	.0363535	.3304929	.0201236	.0096437	.0133157

Elem	Sr4077
Units	ppm
Avg	.0179952
Stddev	.0000541
%RSD	.3005683
#1	.0179757
#2	.0180563
#3	.0179536

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2979.765	56613.25	10730.06	1952.998	4525.637
Stddev	8.309	150.25	34.61	2.562	10.167
%RSD	.2788308	.2653933	.3225474	.1311943	.2246633
#1	2984.096	56553.21	10763.94	1955.790	4527.332
#2	2985.013	56784.23	10694.77	1952.449	4534.851
#3	2970.186	56502.30	10731.48	1950.755	4514.729

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICSA01 Acquired: 1/30/2025 12:10:11 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003199	.0110846	.0066703	-.014437	-.003141	234.5447
Stddev	.001780	.0044428	.0006601	.005736	.001669	.8265
%RSD	55.65891	40.08077	9.896173	39.73228	53.13385	.3523770
#1	-.004138	.0070033	.0059788	-.008414	-.001802	234.0000
#2	-.004312	.0104334	.0072938	-.015062	-.002611	235.4957
#3	-.001145	.0158170	.0067383	-.019835	-.005011	234.1384

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019542	.0013624	-.000884	217.8879	.0559845	.0009217
Stddev	.0011828	.0000159	.000040	.8100	.0006134	.0003128
%RSD	60.52644	1.165571	4.551303	.3717289	1.095736	33.94106
#1	.0007403	.0013448	-.000889	217.7490	.0552827	.0007602
#2	.0020190	.0013757	-.000922	218.7584	.0564187	.0007227
#3	.0031033	.0013667	-.000842	217.1565	.0562522	.0012823

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0216648	92.69648	.0034975	233.7081	.0020746	-.000536
Stddev	.0013181	.28510	.0002688	.6442	.0001937	.000229
%RSD	6.083816	.3075663	7.686194	.2756602	9.336322	42.63731
#1	.0201431	92.78898	.0037813	233.3736	.0022726	-.000509
#2	.0224489	92.92385	.0032467	234.4508	.0018855	-.000777
#3	.0224024	92.37661	.0034644	233.3000	.0020657	-.000322

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0238307	.0051076	.0010545	.1326165	.0335102	-.000738
Stddev	.0024756	.0017562	.0003738	.0166207	.0006293	.000177
%RSD	10.38808	34.38401	35.45111	12.53289	1.877900	23.96767
#1	.0261504	.0054032	.0009532	.1193417	.0341216	-.000905
#2	.0212243	.0066973	.0007418	.1512573	.0335445	-.000553
#3	.0241174	.0032224	.0014686	.1272506	.0328645	-.000757

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICSA01 Acquired: 1/30/2025 12:10:11 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.004196	-.001373	-.001396	.0032325	F -.021104	F -.039289
Stddev	.000805	.000460	.002107	.0033634	.002080	.000547
%RSD	19.17563	33.51490	150.9632	104.0493	9.857202	1.392848
#1	-.005120	-.001382	-.000335	-.000261	-.018742	-.038847
#2	-.003815	-.000908	-.003822	.006448	-.022663	-.039118
#3	-.003653	-.001828	-.000030	.003510	-.021908	-.039901

Elem	Sr4077
Units	ppm
Avg	-.004666
Stddev	.000251
%RSD	5.371879
#1	-.004575
#2	-.004473
#3	-.004949

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2593.214	52220.85	10100.95	1790.111	3605.511
Stddev	3.219	29.76	24.35	5.817	9.831
%RSD	.1241326	.0569928	.2411156	.3249261	.2726629
#1	2596.931	52253.05	10091.17	1783.395	3616.020
#2	2591.397	52194.35	10083.00	1793.482	3596.539
#3	2591.314	52215.17	10128.67	1793.457	3603.974

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICSAB01 Acquired: 1/30/2025 12:28:42 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1178742	.1035922	.0570805	.0367826	.6440420	242.8942
Stddev	.0024837	.0019350	.0022566	.0026368	.0026254	.8472
%RSD	2.107089	1.867923	3.953430	7.168604	.4076442	.3487913
#1	.1204026	.1026925	.0557958	.0346533	.6428772	243.5576
#2	.1154378	.1058132	.0596862	.0359625	.6422005	243.1851
#3	.1177823	.1022708	.0557596	.0397320	.6470483	241.9398

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4559168	.4746796	1.019038	224.1034	.5826876	.5135416
Stddev	.0026748	.0042584	.001177	.9768	.0014418	.0003457
%RSD	.5866851	.8971100	.1155285	.4358828	.2474358	.0673234
#1	.4579203	.4787369	1.020373	224.9953	.5816683	.5139402
#2	.4569508	.4750568	1.018596	224.2554	.5820574	.5133626
#3	.4528794	.4702452	1.018147	223.0595	.5843372	.5133222

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5261424	99.94383	.4484625	240.5351	1.015986	.2220095
Stddev	.0011586	.38543	.0020493	.9290	.000657	.0005166
%RSD	.2202131	.3856477	.4569569	.3862366	.0646723	.2327112
#1	.5274770	99.79720	.4505730	241.3212	1.016410	.2225915
#2	.5255563	99.65324	.4483341	240.7742	1.016318	.2216053
#3	.5253939	100.3811	.4464804	239.5099	1.015229	.2218316

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0071280	.4633672	1.078107	.1085428	.9678023	1.117590
Stddev	.0111203	.0022638	.003030	.0402153	.0070158	.001641
%RSD	156.0101	.4885451	.2810460	37.05016	.7249254	.1468437
#1	.0090943	.4652977	1.078248	.0750642	.9745783	1.119477
#2	-.004844	.4639283	1.075009	.0974136	.9682597	1.116804
#3	.017134	.4608757	1.081064	.1531507	.9605690	1.116491

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICSAB01 Acquired: 1/30/2025 12:28:42 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.084430	.9702646	.8827356	F .0089645	F -.023217	F -.040326
Stddev	.001539	.0028575	.0129504	.0041236	.002672	.001097
%RSD	.1419503	.2945083	1.467075	45.99963	11.50952	2.719907
#1	1.085703	.9720905	.8777811	.0130782	-.021558	-.040301
#2	1.082719	.9717318	.8974318	.0089842	-.021793	-.041435
#3	1.084867	.9669716	.8729939	.0048310	-.026299	-.039241

Elem	Sr4077
Units	ppm
Avg	F -.008784
Stddev	.000873
%RSD	9.942682
#1	-.007966
#2	-.008681
#3	-.009704

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2536.945	49995.33	10208.55	1699.511	3554.787
Stddev	5.259	112.27	63.77	9.204	6.048
%RSD	.2073046	.2245559	.6246656	.5415418	.1701279
#1	2532.474	50082.28	10155.91	1708.900	3548.874
#2	2542.739	50035.12	10190.29	1699.128	3560.961
#3	2535.621	49868.58	10279.46	1690.505	3554.528

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICSADLX20 Acquired: 1/30/2025 12:33:17 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSADLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000164	-.002538	-.000533	-.000094	-.002000	11.88625	-.000771
Stddev	.001125	.001292	.000444	.001994	.000644	.01735	.000629
%RSD	686.7787	50.89242	83.22755	2127.410	32.22139	.1459529	81.63176
#1	-.001438	-.001077	-.000064	.001957	-.001415	11.90623	-.000268
#2	.000694	-.003010	-.000589	-.000214	-.001894	11.87752	-.000569
#3	.000253	-.003527	-.000946	-.002024	-.002690	11.87501	-.001477

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001887	-.000480	11.48171	.0026384	-.000132	.0006534	4.807619
Stddev	.0000407	.000077	.02524	.0003542	.000274	.0002149	.021451
%RSD	21.58996	15.97231	.2197879	13.42291	207.7857	32.89665	.4461972
#1	.0002158	-.000487	11.50417	.0030463	-.000401	.0004718	4.783417
#2	.0002085	-.000400	11.48655	.0024095	.000146	.0005976	4.824286
#3	.0001419	-.000552	11.45440	.0024594	-.000140	.0008907	4.815154

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000324	11.87749	-.000221	.0004208	-.021981	.0002915	-.002928
Stddev	.000320	.03822	.000111	.0003373	.005420	.0005489	.000213
%RSD	98.98306	.3218258	50.40050	80.15171	24.65964	188.3289	7.290910
#1	-.000665	11.91917	-.000345	.0004200	-.027182	.0007334	-.002884
#2	-.000030	11.86926	-.000189	.0000839	-.016365	.0004639	-.002739
#3	-.000276	11.84406	-.000129	.0007585	-.022396	-.000323	-.003159

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0399772	-.000266	-.000493	-.001569	.0005307	-.011145	-.002402
Stddev	.0279946	.000170	.000162	.000529	.0009995	.003008	.004329
%RSD	70.02661	64.12350	32.97317	33.67621	188.3340	26.98899	180.1983
#1	.0130696	-.000075	-.000663	-.002049	.0003489	-.008626	-.006390
#2	.0689450	-.000402	-.000476	-.001003	-.000365	-.014475	-.003019
#3	.0379168	-.000320	-.000339	-.001656	.001609	-.010333	.002202

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICSADLX20 Acquired: 1/30/2025 12:33:17 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSADLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.009058	-.006534	-.000594
Stddev	.001176	.000567	.000020
%RSD	12.98565	8.679232	3.440089
#1	-.007832	-.005966	-.000581
#2	-.009166	-.007100	-.000618
#3	-.010177	-.006537	-.000585

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2860.718	57297.78	10664.11	1935.764	4246.270
Stddev	3.893	208.57	72.57	10.694	9.510
%RSD	.1360974	.3640079	.6805048	.5524449	.2239595
#1	2861.711	57075.30	10580.37	1923.485	4253.345
#2	2864.018	57329.17	10703.36	1943.037	4250.006
#3	2856.424	57488.88	10708.61	1940.769	4235.460

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: ICSABDLX20 Acquired: 1/30/2025 12:37:33 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSABDLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0518762	.0526614	.0509015	.0548221	.0493879	11.92245	.0201424
Stddev	.0022758	.0003520	.0011663	.0026070	.0005365	.05016	.0001077
%RSD	4.387044	.6684565	2.291227	4.755382	1.086307	.4207399	.5346620
#1	.0543608	.0523818	.0505000	.0529068	.0496679	11.98023	.0201321
#2	.0513750	.0530567	.0499889	.0577910	.0497265	11.89709	.0202548
#3	.0498926	.0525455	.0522154	.0537685	.0487693	11.89003	.0200402

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0247262	.0251658	11.89573	.0296490	.0250654	.0277446	5.297830
Stddev	.0000501	.0000778	.01228	.0001684	.0003606	.0006265	.026552
%RSD	.2027544	.3092889	.1032634	.5680412	1.438543	2.258208	.5011860
#1	.0247385	.0252029	11.90965	.0297358	.0254805	.0275373	5.317112
#2	.0246711	.0250764	11.89112	.0297562	.0248290	.0284485	5.267545
#3	.0247691	.0252181	11.88642	.0294548	.0248869	.0272479	5.308833

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0226930	12.04829	.0254401	.0134456	.4947027	.0227362	.0490889
Stddev	.0004046	.01920	.0001975	.0004092	.0019231	.0013257	.0003496
%RSD	1.783045	.1593545	.7764593	3.043236	.3887436	5.830860	.7122675
#1	.0223687	12.06992	.0256670	.0131304	.4967134	.0212308	.0487462
#2	.0225638	12.04167	.0253065	.0139080	.4945134	.0232485	.0490755
#3	.0231464	12.03328	.0253469	.0132984	.4928812	.0237294	.0494451

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5498973	.0481007	.0540594	.0506951	.0477993	.0359836	-.000058
Stddev	.0301302	.0001204	.0001568	.0000612	.0008882	.0014501	.003730
%RSD	5.479241	.2503177	.2900582	.1207222	1.858276	4.029768	6470.898
#1	.5788134	.0479752	.0542130	.0507593	.0469535	.0373868	-.004143
#2	.5521940	.0482152	.0540656	.0506374	.0477197	.0360731	.000803
#3	.5186844	.0481118	.0538995	.0506887	.0487247	.0344908	.003167

Sample Name: ICSABDLX20 Acquired: 1/30/2025 12:37:33 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSABDLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.007471	-.007491	-.001079
Stddev	.003641	.001464	.000061
%RSD	48.73935	19.54694	5.614207
#1	-.007875	-.009061	-.001052
#2	-.010892	-.007249	-.001037
#3	-.003644	-.006162	-.001149

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2853.806	55882.08	10466.79	1932.676	4209.868
Stddev	4.391	200.98	14.71	11.176	6.671
%RSD	.1538542	.3596574	.1405782	.5782542	.1584534
#1	2851.832	55682.05	10452.77	1920.966	4207.488
#2	2858.838	56084.01	10465.50	1943.227	4217.402
#3	2850.749	55880.17	10482.11	1933.835	4204.714

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV01 Acquired: 1/30/2025 12:41:48 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.953386	5.084099	4.843121	5.006719	5.012849	9.494050	9.134105
Stddev	.025714	.054480	.021464	.034993	.027813	.007148	.038244
%RSD	.5191288	1.071577	.4431838	.6989285	.5548405	.0752915	.4186943
#1	4.948134	5.039949	4.825820	4.984249	5.007219	9.485885	9.092434
#2	4.930703	5.067365	4.836403	4.988870	4.988281	9.497086	9.142281
#3	4.981321	5.144983	4.867140	5.047038	5.043046	9.499179	9.167600

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2369345	2.421921	23.19487	.9877812	2.417222	1.245007	4.693773
Stddev	.0012431	.011121	.06322	.0013583	.011768	.005885	.051221
%RSD	.5246720	.4591654	.2725543	.1375120	.4868556	.4726812	1.091251
#1	.2357339	2.414242	23.22116	.9868321	2.409079	1.245558	4.742909
#2	.2368532	2.416848	23.24070	.9871743	2.411874	1.238866	4.697713
#3	.2382162	2.434674	23.12275	.9893371	2.430715	1.250597	4.640695

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.262525	23.18093	2.423855	1.214779	24.06506	2.350334	2.458325
Stddev	.005019	.09440	.010261	.000488	.19205	.007367	.002595
%RSD	.2218422	.4072478	.4233408	.0401969	.7980610	.3134381	.1055745
#1	2.267886	23.11081	2.418445	1.215316	24.24431	2.355961	2.460776
#2	2.261751	23.14371	2.417431	1.214657	24.08852	2.353047	2.455606
#3	2.257938	23.28827	2.435689	1.214362	23.86236	2.341996	2.458594

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.71216	4.708680	4.971425	4.871035	4.600890	4.819142	5.020636
Stddev	.24811	.033759	.027001	.025900	.009938	.057450	.039580
%RSD	1.046338	.7169612	.5431158	.5317133	.2159944	1.192128	.7883549
#1	23.95749	4.673806	4.962942	4.851664	4.608397	4.868787	4.996357
#2	23.71764	4.711030	4.949684	4.860987	4.604653	4.832425	4.999242
#3	23.46136	4.741202	5.001648	4.900453	4.589620	4.756214	5.066309

Sample Name: CCV01 Acquired: 1/30/2025 12:41:48 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.902716	4.568281	4.625575
Stddev	.029689	.007236	.048081
%RSD	.6055558	.1583946	1.039466
#1	4.881522	4.576010	4.594469
#2	4.889977	4.567166	4.680954
#3	4.936648	4.561668	4.601302

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2753.495	54667.12	9871.539	1864.443	3948.845
Stddev	10.244	233.65	49.708	2.976	13.379
%RSD	.3720337	.4274057	.5035480	.1595951	.3388189
#1	2753.739	54549.99	9928.931	1861.157	3956.334
#2	2763.615	54515.20	9843.513	1865.218	3956.803
#3	2743.131	54936.17	9842.172	1866.955	3933.398

Sample Name: CCB01 Acquired: 1/30/2025 12:47:16 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.000455	-.001713	-.000558	.0011151	-.002201	-.001432	-.001554
Stddev	.001430	.001991	.000523	.0019627	.001225	.002941	.000913
%RSD	314.1344	116.1934	93.70786	176.0080	55.66224	205.3426	58.71937
#1	.000948	-.003038	-.000379	.0015598	-.002601	.001853	-.000552
#2	-.000403	-.002679	-.001147	-.001032	-.003177	-.003821	-.001773
#3	-.001910	.000576	-.000148	.002817	-.000826	-.002328	-.002337

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000272	-.000246	-.012112	-.000251	-.000245	-.000217	-.012487
Stddev	.0000392	.000007	.001299	.000328	.000197	.000366	.005121
%RSD	144.4272	2.922678	10.72763	130.3135	80.46839	168.3456	41.01555
#1	.0000719	-.000252	-.010897	.000010	-.000052	.000204	-.015654
#2	-.000001	-.000247	-.013481	-.000619	-.000236	-.000451	-.006578
#3	.000011	-.000238	-.011958	-.000145	-.000445	-.000405	-.015228

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000550	-.004199	-.000320	.0006721	-.022460	-.001793	-.002552
Stddev	.000098	.008906	.000180	.0004527	.011580	.000599	.000285
%RSD	17.83249	212.0999	56.02190	67.35380	51.55777	33.38941	11.16807
#1	-.000531	.004444	-.000467	.0002627	-.035062	-.001144	-.002672
#2	-.000657	-.013347	-.000120	.0011583	-.020029	-.002323	-.002227
#3	-.000463	-.003695	-.000374	.0005955	-.012289	-.001913	-.002758

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0071960	.0022768	-.000317	-.001028	.0000057	-.005096	-.002052
Stddev	.0160898	.0003855	.000043	.000148	.0007170	.003454	.001072
%RSD	223.5928	16.93303	13.44440	14.38781	12554.87	67.77390	52.23855
#1	-.004287	.0018947	-.000312	-.000987	-.000602	-.001423	-.002892
#2	.025586	.0026656	-.000277	-.000905	.000797	-.008278	-.000845
#3	.000289	.0022701	-.000361	-.001192	-.000178	-.005586	-.002420

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB01 Acquired: 1/30/2025 12:47:16 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004975	-.004989	-.000356
Stddev	.001392	.000366	.000080
%RSD	27.97116	7.344246	22.56943
#1	-.006479	-.004702	-.000424
#2	-.004714	-.005402	-.000376
#3	-.003733	-.004864	-.000267

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2847.122	56400.69	10555.79	1917.539	4300.196
Stddev	7.400	356.99	72.12	8.527	10.524
%RSD	.2599090	.6329501	.6831915	.4447023	.2447326
#1	2855.660	56646.61	10500.95	1919.169	4311.117
#2	2843.153	55991.23	10637.48	1908.315	4299.350
#3	2842.555	56564.23	10528.95	1925.135	4290.121

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01 Acquired: 1/30/2025 12:51:36 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002126	-.000453	.1695278	-.002976	-.002200	.0493516	.0672088
Stddev	.001211	.001453	.0006411	.002476	.000277	.0055752	.0009958
%RSD	56.97462	321.1438	.3781607	83.20800	12.57349	11.29680	1.481618
#1	-.002882	.001049	.1701406	-.005119	-.002448	.0522109	.0671660
#2	-.002767	-.001853	.1695810	-.003543	-.001902	.0529170	.0682253
#3	-.000729	-.000553	.1688617	-.000265	-.002252	.0429269	.0662351

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000554	.0007942	13.00729	.0052821	.0000393	.4777320	.7130650
Stddev	.0000399	.0000406	.12896	.0002458	.0000211	.0014291	.0021859
%RSD	72.00130	5.105850	.9914658	4.653632	53.79314	.2991379	.3065509
#1	.0000866	.0007757	13.14354	.0055650	.0000204	.4784727	.7146012
#2	.0000694	.0008407	12.99123	.0051208	.0000353	.4786388	.7140315
#3	.0000104	.0007663	12.88712	.0051605	.0000621	.4760847	.7105625

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0142516	3.241187	.0117259	.0978265	25.51267	-.000739	2.060442
Stddev	.0002095	.031779	.0002171	.0008880	.11333	.000338	.016514
%RSD	1.470109	.9804612	1.851675	.9077419	.4442214	45.76382	.8014626
#1	.0144054	3.277125	.0118497	.0968018	25.38183	-.001094	2.042143
#2	.0143364	3.229641	.0118528	.0983083	25.57579	-.000422	2.064951
#3	.0140130	3.216796	.0114752	.0983696	25.58039	-.000700	2.074234

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.765675	.1451247	-.000058	-.000076	.0022325	8.644459	3.038658
Stddev	.006106	.0006795	.000263	.001118	.0002984	.061329	.015818
%RSD	.1621506	.4681991	453.5153	1480.515	13.36724	.7094564	.5205570
#1	3.760328	.1454744	-.000207	-.001092	.0018988	8.576553	3.055750
#2	3.764369	.1455581	.000246	.001122	.0023248	8.661010	3.035691
#3	3.772329	.1443416	-.000213	-.000256	.0024737	8.695814	3.024534

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01 Acquired: 1/30/2025 12:51:36 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.120077	-.009916	.0206578
Stddev	.001771	.000244	.0002275
%RSD	.0567530	2.460894	1.101111
#1	3.120624	-.009812	.0209162
#2	3.118097	-.009741	.0205694
#3	3.121509	-.010194	.0204878

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2903.841	57424.92	10927.24	1948.970	4374.427
Stddev	7.012	494.63	51.37	8.604	2.756
%RSD	.2414765	.8613592	.4701080	.4414774	.0630094
#1	2904.489	57995.88	10875.90	1957.160	4373.536
#2	2896.527	57152.36	10927.19	1949.746	4372.226
#3	2910.506	57126.52	10978.64	1940.004	4377.519

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01DUP Acquired: 1/30/2025 12:55:49 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004231	-.001145	.1704229	-.001564	-.003094	.0820761	.0726908
Stddev	.002862	.000088	.0016969	.000553	.001025	.0154132	.0012299
%RSD	67.63856	7.695337	.9957206	35.32586	33.11837	18.77915	1.691977
#1	-.001261	-.001209	.1723490	-.001141	-.003954	.0737334	.0736776
#2	-.006971	-.001181	.1691479	-.001362	-.003369	.0998624	.0730819
#3	-.004460	-.001044	.1697718	-.002189	-.001960	.0726325	.0713129

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000608	.0007567	13.21515	.0055831	-.000073	.4826757	.7448183
Stddev	.0000441	.0000656	.12375	.0004169	.000213	.0007183	.0081541
%RSD	72.55998	8.674926	.9364049	7.467071	290.7144	.1488252	1.094782
#1	.0000182	.0006832	13.20182	.0051017	.000052	.4818561	.7477781
#2	.0000579	.0008095	13.34502	.0058266	.000048	.4829750	.7355976
#3	.0001063	.0007775	13.09861	.0058209	-.000320	.4831960	.7510792

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138761	3.295684	.0120168	.1004544	26.92031	-.001857	2.090410
Stddev	.0001319	.036733	.0003330	.0017778	.28396	.002045	.014829
%RSD	.9507667	1.114579	2.770948	1.769780	1.054816	110.1410	.7093882
#1	.0139922	3.266903	.0118397	.1025072	26.65695	-.003594	2.074412
#2	.0139034	3.337057	.0124009	.0994123	26.88285	-.002375	2.103695
#3	.0137326	3.283092	.0118097	.0994437	27.22115	.000398	2.093123

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.974885	.1416256	-.000205	.0000348	.0057663	9.061977	3.001578
Stddev	.047803	.0015736	.000083	.0003502	.0015772	.060801	.010868
%RSD	1.202615	1.111080	40.65689	1005.358	27.35201	.6709475	.3620879
#1	3.933942	.1410402	-.000144	-.000163	.0047342	8.998425	2.990650
#2	3.963296	.1434080	-.000171	-.000171	.0075818	9.067913	3.012385
#3	4.027416	.1404287	-.000300	.000439	.0049829	9.119592	3.001698

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01DUP Acquired: 1/30/2025 12:55:49 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.110583	-.008892	.0212562
Stddev	.012853	.000162	.0002190
%RSD	.4132010	1.825287	1.030296
#1	3.096155	-.008707	.0212228
#2	3.120807	-.009010	.0214900
#3	3.114788	-.008959	.0210558

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2880.935	57024.05	11087.07	1914.955	4374.704
Stddev	1.313	337.31	130.38	17.239	6.452
%RSD	.0455695	.5915216	1.175970	.9002468	.1474737
#1	2882.445	57399.14	11081.48	1931.488	4378.741
#2	2880.305	56927.37	10959.57	1897.087	4378.107
#3	2880.057	56745.64	11220.15	1916.291	4367.263

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01LX5 Acquired: 1/30/2025 13:00:02 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001192	.0001226	.0341256	-.002039	-.003134	.0060144	.0121823
Stddev	.000752	.0008995	.0005270	.000604	.001847	.0078934	.0010501
%RSD	63.11180	733.9707	1.544291	29.62781	58.93670	131.2401	8.620019
#1	-.001870	.0001997	.0342540	-.001699	-.001920	-.003099	.0133779
#2	-.001324	.0009811	.0345765	-.002737	-.002223	.010442	.0114094
#3	-.000383	-.000813	.0335463	-.001682	-.005260	.010700	.0117596

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000699	-.000034	2.616094	.0011267	-.000237	.0982587	.1294072
Stddev	.0000141	.000013	.001814	.0000996	.000035	.0005726	.0020589
%RSD	20.13373	37.06003	.0693244	8.837626	14.85207	.5827594	1.590997
#1	.0000556	-.000048	2.615698	.0011423	-.000238	.0987566	.1297349
#2	.0000838	-.000023	2.614511	.0010202	-.000272	.0976330	.1272042
#3	.0000703	-.000031	2.618072	.0012175	-.000201	.0983866	.1312826

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020637	.6561538	.0021234	.0203825	4.988722	-.002033	.4127485
Stddev	.0002839	.0143827	.0000554	.0004920	.012493	.000507	.0014833
%RSD	13.75671	2.191969	2.610063	2.414050	.2504197	24.93300	.3593785
#1	.0023536	.6720432	.0021775	.0209309	4.983777	-.002107	.4123237
#2	.0017863	.6440249	.0020668	.0199797	4.979459	-.001493	.4115239
#3	.0020512	.6523933	.0021258	.0202368	5.002931	-.002499	.4143978

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7748367	.0280098	-.000476	-.000704	.0020365	1.705341	.6197324
Stddev	.0247511	.0005538	.000151	.000462	.0006506	.004386	.0021163
%RSD	3.194363	1.977308	31.77589	65.62710	31.94636	.2571761	.3414803
#1	.7469864	.0283271	-.000462	-.001025	.0027751	1.700905	.6179304
#2	.7943196	.0283321	-.000333	-.000911	.0015483	1.705444	.6220628
#3	.7832041	.0273703	-.000634	-.000175	.0017863	1.709674	.6192040

Sample Name: Q1152-01LX5 Acquired: 1/30/2025 13:00:02 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6090907	-.007661	.0037816
Stddev	.0012613	.001093	.0000304
%RSD	.2070832	14.26757	.8029275
#1	.6081559	-.006407	.0037539
#2	.6105253	-.008164	.0037769
#3	.6085908	-.008411	.0038141

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2857.507	56252.32	10575.27	1927.732	4303.562
Stddev	6.683	158.79	76.91	10.394	6.111
%RSD	.2338838	.2822826	.7273006	.5392033	.1419885
#1	2850.266	56159.91	10487.10	1921.222	4296.749
#2	2858.814	56435.67	10628.62	1939.720	4305.380
#3	2863.440	56161.38	10610.08	1922.256	4308.557

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01MS Acquired: 1/30/2025 13:04:18 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7871964	1.999085	1.034689	1.927281	.7994714	1.835342	.2384616
Stddev	.0034229	.011243	.001933	.002887	.0018898	.011603	.0027325
%RSD	.4348205	.5624312	.1868576	.1498109	.2363854	.6321821	1.145880
#1	.7836529	1.991835	1.035302	1.924127	.7978870	1.848189	.2408535
#2	.7904843	1.993384	1.032523	1.927923	.8015631	1.825626	.2354836
#3	.7874519	2.012037	1.036240	1.929794	.7989641	1.832212	.2390478

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1774190	.1823726	13.81557	.3845461	.1836091	.7500992	3.615641
Stddev	.0009575	.0004777	.14030	.0049657	.0006572	.0025191	.041608
%RSD	.5396872	.2619309	1.015496	1.291302	.3579606	.3358405	1.150789
#1	.1783922	.1822742	13.95486	.3795415	.1832362	.7472254	3.573128
#2	.1764780	.1819519	13.67429	.3894719	.1832231	.7519261	3.656281
#3	.1773867	.1828919	13.81756	.3846249	.1843680	.7511461	3.617514

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1878206	4.965346	.4716358	.1642392	28.47814	.2671535	1.983242
Stddev	.0017590	.060416	.0011757	.0024142	.28316	.0022166	.031336
%RSD	.9365539	1.216751	.2492697	1.469919	.9943095	.8297103	1.580042
#1	.1896994	5.031071	.4715883	.1623560	28.17442	.2692655	1.956470
#2	.1862128	4.912229	.4704847	.1669608	28.73486	.2648453	2.017708
#3	.1875495	4.952739	.4728345	.1634008	28.52515	.2673497	1.975547

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.21363	.3903788	.3999531	.6613919	.1829911	9.342262	8.518012
Stddev	.16907	.0044365	.0012921	.0012824	.0017740	.097169	.019574
%RSD	1.279509	1.136458	.3230665	.1938935	.9694411	1.040107	.2297969
#1	13.05028	.3953620	.3985575	.6616965	.1849732	9.230743	8.520242
#2	13.38789	.3868585	.4001938	.6599847	.1815522	9.408725	8.497418
#3	13.20271	.3889161	.4011078	.6624947	.1824480	9.387317	8.536375

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01MS Acquired: 1/30/2025 13:04:18 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.086286	.1721242	.1918062
Stddev	.011875	.0016637	.0017221
%RSD	.3847761	.9665766	.8978285
#1	3.078939	.1736042	.1936306
#2	3.079933	.1703235	.1902089
#3	3.099986	.1724449	.1915790

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2880.913	57407.12	10848.40	1958.487	4282.572
Stddev	10.870	552.51	106.12	25.269	16.206
%RSD	.3773172	.9624430	.9782100	1.290213	.3784272
#1	2892.715	58000.75	10739.54	1980.904	4297.459
#2	2878.711	56907.89	10951.54	1931.104	4284.948
#3	2871.312	57312.71	10854.13	1963.452	4265.309

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01MSD Acquired: 1/30/2025 13:08:17 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7966628	1.998153	1.035181	1.954798	.8097071	1.846041	.2386888
Stddev	.0019158	.009581	.001837	.003558	.0028512	.008971	.0008804
%RSD	.2404831	.4794888	.1774524	.1820166	.3521254	.4859615	.3688276
#1	.7975854	2.007327	1.036487	1.953604	.8104028	1.850717	.2380015
#2	.7979429	1.998922	1.035975	1.958799	.8121461	1.851707	.2396811
#3	.7944603	1.988211	1.033080	1.951990	.8065725	1.835697	.2383839

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1753526	.1823733	13.80213	.3869611	.1833537	.7544506	3.641401
Stddev	.0005610	.0006763	.03293	.0009400	.0006167	.0022345	.016929
%RSD	.3199220	.3708273	.2385639	.2429299	.3363246	.2961759	.4649089
#1	.1759449	.1829840	13.82188	.3861083	.1834185	.7557972	3.631530
#2	.1748292	.1824896	13.82040	.3879691	.1839355	.7556833	3.660949
#3	.1752838	.1816465	13.76412	.3868059	.1827072	.7518712	3.631725

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1865731	4.921290	.4714547	.1651474	28.94403	.2656556	1.989816
Stddev	.0004838	.038648	.0017978	.0008498	.10435	.0038237	.002923
%RSD	.2593191	.7853168	.3813232	.5145690	.3605204	1.439344	.1469034
#1	.1863522	4.942973	.4728597	.1656920	28.82474	.2699817	1.986976
#2	.1871279	4.944228	.4720757	.1655819	29.01834	.2642568	1.992816
#3	.1862391	4.876670	.4694288	.1641682	28.98903	.2627283	1.989655

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.39545	.3869871	.4017106	.6616548	.1853485	9.465704	8.486553
Stddev	.04876	.0006768	.0011116	.0044432	.0005828	.021086	.036907
%RSD	.3639702	.1748767	.2767035	.6715252	.3144402	.2227644	.4348876
#1	13.34416	.3877233	.4024342	.6622541	.1846937	9.442207	8.498383
#2	13.44119	.3863921	.4022668	.6657680	.1858103	9.482978	8.516094
#3	13.40100	.3868460	.4004308	.6569424	.1855415	9.471928	8.445181

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01MSD Acquired: 1/30/2025 13:08:17 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.113744	.1715676	.1924401
Stddev	.017991	.0004623	.0001157
%RSD	.5777915	.2694621	.0601110
#1	3.116952	.1711993	.1924817
#2	3.129916	.1714172	.1925293
#3	3.094365	.1720864	.1923094

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2852.191	57040.70	10936.89	1935.534	4252.481
Stddev	2.832	105.70	44.64	4.126	6.020
%RSD	.0992893	.1853039	.4081314	.2131762	.1415619
#1	2853.096	57061.04	10902.72	1938.216	4252.441
#2	2849.017	57134.75	10987.39	1937.602	4246.482
#3	2854.460	56926.31	10920.55	1930.782	4258.521

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01A Acquired: 1/30/2025 13:12:15 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7980219	2.022629	1.040171	1.961147	.8152310	1.841785	.2292295
Stddev	.0039927	.007030	.004892	.013154	.0032031	.019272	.0066523
%RSD	.5003305	.3475809	.4702890	.6707081	.3929121	1.046368	2.902012
#1	.8017990	2.030743	1.045573	1.976175	.8186889	1.821364	.2233962
#2	.7984228	2.018370	1.038901	1.951724	.8123653	1.859654	.2278180
#3	.7938437	2.018773	1.036040	1.955542	.8146388	1.844337	.2364742

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1792137	.1832357	13.50427	.3902551	.1843925	.7585191	3.503273
Stddev	.0008490	.0005841	.09868	.0008990	.0007504	.0032498	.018535
%RSD	.4737512	.3187576	.7307242	.2303733	.4069532	.4284428	.5290722
#1	.1782373	.1838956	13.40254	.3903873	.1852550	.7622693	3.483225
#2	.1797783	.1830263	13.59958	.3892973	.1840338	.7567577	3.519785
#3	.1796254	.1827852	13.51068	.3910807	.1838889	.7565301	3.506811

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1808542	4.814110	.4743262	.1648518	27.54603	.2607279	2.006434
Stddev	.0023024	.041321	.0022482	.0007847	.16679	.0024099	.001915
%RSD	1.273088	.8583219	.4739690	.4759892	.6054933	.9243079	.0954484
#1	.1782607	4.769101	.4769190	.1639474	27.37617	.2582603	2.004223
#2	.1826575	4.850327	.4729203	.1652568	27.70957	.2630757	2.007526
#3	.1816444	4.822902	.4731391	.1653512	27.55234	.2608478	2.007554

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.69020	.3935295	.4068644	.6639980	.1798543	9.150591	8.396077
Stddev	.08521	.0019204	.0024144	.0037988	.0026085	.048080	.037968
%RSD	.6714688	.4879909	.5934048	.5721029	1.450335	.5254305	.4522096
#1	12.59452	.3914824	.4094869	.6683054	.1768441	9.101018	8.439270
#2	12.75791	.3952913	.4063722	.6625621	.1814507	9.197024	8.380990
#3	12.71817	.3938146	.4047340	.6611265	.1812680	9.153731	8.367971

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1152-01A Acquired: 1/30/2025 13:12:15 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.099966	.1647444	.1863274
Stddev	.020999	.0012394	.0019849
%RSD	.6774036	.7523345	1.065255
#1	3.124003	.1637323	.1841677
#2	3.090714	.1661267	.1880717
#3	3.085182	.1643741	.1867427

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2840.852	56617.20	10676.14	1898.951	4258.312
Stddev	9.307	103.93	49.86	.747	12.994
%RSD	.3275978	.1835606	.4670498	.0393407	.3051426
#1	2830.453	56704.58	10733.71	1899.666	4244.377
#2	2848.398	56644.76	10647.90	1899.012	4270.097
#3	2843.706	56502.28	10646.80	1898.175	4260.461

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166190BL Acquired: 1/30/2025 13:16:13 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000909	-.001259	-.000616	.0019982	-.002686	-.010509	-.002264
Stddev	.003364	.002368	.000187	.0001217	.001275	.004004	.000732
%RSD	370.0964	188.1474	30.43051	6.090712	47.45805	38.09874	32.34987
#1	.002419	-.000364	-.000790	.0020972	-.003822	-.006198	-.001569
#2	-.000838	-.003944	-.000417	.0020350	-.002927	-.011220	-.002193
#3	-.004308	.000532	-.000641	.0018623	-.001308	-.014111	-.003029

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000381	-.000249	-.015663	.0001154	-.000227	-.000019	-.018252
Stddev	.0000285	.000058	.003894	.0000536	.000043	.000143	.005510
%RSD	74.81838	23.41334	24.86266	46.43104	18.90050	769.9732	30.18869
#1	.0000091	-.000309	-.016409	.0001018	-.000179	-.000086	-.014023
#2	.0000391	-.000192	-.019131	.0000699	-.000239	-.000115	-.024483
#3	.0000661	-.000245	-.011450	.0001744	-.000262	.000145	-.016250

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000745	.0065977	-.000232	.0006683	-.032286	-.001595	-.003006
Stddev	.000134	.0032684	.000080	.0004867	.003266	.001125	.000056
%RSD	18.04685	49.53811	34.41927	72.82538	10.11509	70.51950	1.877723
#1	-.000892	.0054671	-.000324	.0012269	-.033178	-.000644	-.002941
#2	-.000713	.0040447	-.000177	.0004427	-.035013	-.001304	-.003045
#3	-.000629	.0102812	-.000195	.0003354	-.028667	-.002837	-.003032

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0376728	-.002404	-.000501	-.000392	.0004849	-.005546	.0003148
Stddev	.0205430	.000163	.000207	.000593	.0006736	.005352	.0020648
%RSD	54.53004	6.780241	41.31105	151.0549	138.9112	96.50865	655.9183
#1	.0305843	-.002383	-.000732	-.000819	.0009282	.000428	-.001619
#2	.0216128	-.002253	-.000334	-.000642	-.000290	-.007160	.002490
#3	.0608214	-.002577	-.000437	.000284	.000817	-.009905	.000073

Sample Name: PB166190BL Acquired: 1/30/2025 13:16:13 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0047238	-.006170	-.000430
Stddev	.0064008	.000484	.000004
%RSD	135.5027	7.839407	.8604139
#1	.0121008	-.006609	-.000427
#2	.0014293	-.006252	-.000428
#3	.0006412	-.005651	-.000434

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2833.343	55596.73	10616.19	1891.312	4286.188
Stddev	9.916	245.10	61.41	11.325	12.984
%RSD	.3499917	.4408601	.5784859	.5987802	.3029241
#1	2821.899	55314.91	10545.58	1880.926	4272.505
#2	2838.758	55760.25	10645.74	1889.622	4287.724
#3	2839.374	55715.02	10657.23	1903.386	4298.336

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166190BS Acquired: 1/30/2025 13:20:32 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7946601	2.072489	.9521566	1.963025	.7868901	1.865476
Stddev	.0012060	.007890	.0024312	.007173	.0013657	.005016
%RSD	.1517668	.3806951	.2553410	.3654186	.1735608	.2688792
#1	.7943372	2.063903	.9546094	1.971297	.7882079	1.860791
#2	.7936484	2.074143	.9521129	1.959256	.7854810	1.864870
#3	.7959947	2.079421	.9497475	1.958522	.7869815	1.870768

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1780794	.1844839	.1881221	.9405359	.4047896	.1901177
Stddev	.0018888	.0012673	.0001721	.0101812	.0019935	.0001029
%RSD	1.060668	.6869232	.0914624	1.082490	.4924697	.0541234
#1	.1773260	.1853427	.1883203	.9413395	.4027909	.1901155
#2	.1766836	.1830284	.1880349	.9299767	.4048002	.1902216
#3	.1802287	.1850806	.1880111	.9502915	.4067778	.1900159

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3037450	2.930057	.1815319	1.833639	.4771786	.0734756
Stddev	.0004343	.008896	.0014982	.010709	.0001718	.0008395
%RSD	.1429769	.3036186	.8253199	.5840479	.0359951	1.142592
#1	.3033234	2.919793	.1820504	1.845917	.4771126	.0725971
#2	.3037205	2.935547	.1798433	1.828774	.4773736	.0735598
#3	.3041909	2.934832	.1827019	1.826226	.4770497	.0742698

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.018363	.2786709	.2013463	9.809369	.2649902	.4056573
Stddev	.013342	.0013406	.0006799	.057083	.0014566	.0004894
%RSD	.4420245	.4810520	.3376709	.5819253	.5496760	.1206360
#1	3.003038	.2775215	.2005688	9.796849	.2659226	.4052852
#2	3.024664	.2801435	.2018291	9.759585	.2633117	.4062117
#3	3.027388	.2783477	.2016411	9.871673	.2657363	.4054752

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166190BS Acquired: 1/30/2025 13:20:32 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6610801	.1835054	F .7100184	5.401695	F -.014019	.1802102
Stddev	.0017202	.0015734	.0038665	.017894	.001288	.0015609
%RSD	.2602102	.8574385	.5445615	.3312575	9.187430	.8661385
#1	.6623765	.1852634	.7099192	5.383718	-.015507	.1806143
#2	.6617352	.1822293	.7139335	5.401864	-.013253	.1784871
#3	.6591286	.1830234	.7062024	5.419504	-.013299	.1815294

Elem	Sr4077
Units	ppm
Avg	.1792839
Stddev	.0011983
%RSD	.6684109
#1	.1794274
#2	.1780203
#3	.1804041

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2912.219	55674.62	10501.93	1898.573	4411.608
Stddev	4.282	156.58	72.71	5.913	8.657
%RSD	.1470265	.2812378	.6923255	.3114621	.1962436
#1	2907.848	55810.80	10463.22	1905.378	4402.504
#2	2916.406	55709.53	10585.81	1894.681	4412.583
#3	2912.402	55503.54	10456.77	1895.661	4419.736

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1205-02 Acquired: 1/30/2025 13:24:32 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007397	-.008644	.0129950	.0044916	-.001973	.0487302	.1571795
Stddev	.000121	.001372	.0011086	.0022366	.001210	.0047491	.0004237
%RSD	1.631807	15.87262	8.530780	49.79501	61.30370	9.745754	.2695973
#1	-.007531	-.008369	.0133179	.0019093	-.002637	.0541419	.1571538
#2	-.007362	-.010133	.0117608	.0057469	-.002706	.0467916	.1567692
#3	-.007297	-.007430	.0139063	.0058185	-.000577	.0452570	.1576155

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000273	.0002819	11.06008	.0006008	-.000250	.0207814	.0419943
Stddev	.0000586	.0000347	.00794	.0001226	.000330	.0001390	.0010400
%RSD	214.6356	12.31183	.0717832	20.41044	131.7041	.6691084	2.476554
#1	.0000751	.0002908	11.06308	.0004602	-.000586	.0206302	.0408009
#2	-.000038	.0002436	11.05107	.0006566	.000073	.0209038	.0424746
#3	.000045	.0003113	11.06608	.0006856	-.000237	.0208102	.0427073

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1715319	3.385071	.0034580	.0005918	281.2293	-.001538	.0714210
Stddev	.0004154	.032141	.0002498	.0002601	.5538	.000258	.0006496
%RSD	.2421764	.9494936	7.223896	43.96190	.1969278	16.74097	.9095507
#1	.1710705	3.370827	.0034573	.0004000	281.0296	-.001262	.0714399
#2	.1718762	3.421873	.0037081	.0004873	280.8030	-.001580	.0707622
#3	.1716490	3.362513	.0032085	.0008879	281.8552	-.001772	.0720610

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.092407	.0140634	-.000038	.0645029	.0015978	.5420749	.0125902
Stddev	.015763	.0003878	.000158	.0010382	.0004558	.0051617	.0018904
%RSD	1.442999	2.757345	412.5338	1.609535	28.52709	.9522164	15.01454
#1	1.106357	.0145104	-.000178	.0633111	.0012937	.5447255	.0143910
#2	1.075306	.0138627	-.000070	.0652105	.0021219	.5361264	.0106214
#3	1.095557	.0138172	.000133	.0649872	.0013778	.5453728	.0127580

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1205-02 Acquired: 1/30/2025 13:24:32 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4840606	-.009841	.0546516
Stddev	.0037838	.000451	.0001825
%RSD	.7816705	4.587377	.3339188
#1	.4877915	-.009745	.0547104
#2	.4802261	-.010332	.0544470
#3	.4841643	-.009445	.0547975

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2677.599	52837.62	10377.33	1799.235	3865.638
Stddev	3.447	86.04	37.20	9.690	9.278
%RSD	.1287225	.1628302	.3584830	.5385642	.2399995
#1	2680.996	52863.80	10389.42	1800.494	3875.577
#2	2677.697	52907.52	10335.59	1808.234	3864.129
#3	2674.104	52741.53	10406.98	1788.977	3857.207

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1206-04 Acquired: 1/30/2025 13:29:00 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006812	-.009058	.0179674	.0023324	.0009920	-.084984	.1134683
Stddev	.001187	.003058	.0011798	.0023359	.0012345	.001615	.0003042
%RSD	17.43023	33.76397	6.566353	100.1504	124.4431	1.899862	.2681070
#1	-.008146	-.009256	.0178098	.0009125	-.000341	-.086801	.1137132
#2	-.005871	-.005905	.0192180	.0050283	.002096	-.084434	.1131278
#3	-.006419	-.012012	.0168742	.0010562	.001222	-.083716	.1135638

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000124	.0001311	138.3893	.0003974	.0042056	.0101428	-.000798
Stddev	.000018	.0000816	.3484	.0001738	.0001970	.0005986	.003648
%RSD	14.57174	62.19653	.2517395	43.73119	4.684833	5.901459	457.0019
#1	-.000104	.0000625	138.0939	.0001987	.0044119	.0106417	-.000982
#2	-.000127	.0002213	138.3006	.0004726	.0040193	.0103075	-.004350
#3	-.000140	.0001097	138.7735	.0005209	.0041857	.0094791	.002938

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2472273	7.234968	.0050134	.0003564	319.0851	-.001715	.3379980
Stddev	.0004812	.020273	.0002930	.0002305	2.1413	.001079	.0013122
%RSD	.1946255	.2802127	5.845212	64.69221	.6710732	62.93536	.3882368
#1	.2467636	7.222120	.0046758	.0004966	321.5054	-.002841	.3385277
#2	.2471940	7.224446	.0051622	.0004822	317.4370	-.000690	.3389625
#3	.2477242	7.258339	.0052022	.0000903	318.3129	-.001612	.3365037

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.983103	.0452025	.0006102	-.002319	-.002858	1.725699	.0098158
Stddev	.026441	.0003092	.0001568	.001226	.000803	.007686	.0015924
%RSD	1.333317	.6841214	25.69334	52.88761	28.07953	.4453885	16.22238
#1	2.009364	.0448456	.0006922	-.001770	-.002079	1.722410	.0084819
#2	1.956486	.0453713	.0007089	-.003724	-.002814	1.720206	.0093868
#3	1.983459	.0453907	.0004294	-.001462	-.003683	1.734483	.0115788

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1206-04 Acquired: 1/30/2025 13:29:00 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.086144	-.027435	.4161499
Stddev	.018142	.000683	.0008380
%RSD	.5878485	2.488452	.2013732
#1	3.093282	-.027544	.4162759
#2	3.065519	-.028057	.4152560
#3	3.099632	-.026705	.4169178

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2560.732	50741.14	9953.417	1715.099	3653.396
Stddev	4.589	216.12	43.366	7.170	3.929
%RSD	.1791934	.4259267	.4356934	.4180561	.1075373
#1	2562.492	50610.08	9990.582	1709.711	3652.609
#2	2564.180	50990.59	9963.898	1723.237	3657.659
#3	2555.524	50622.75	9905.770	1712.350	3649.920

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV02 Acquired: 1/30/2025 13:33:23 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.999168	5.123602	4.833596	5.053659	5.063347	9.602023	9.200731
Stddev	.020581	.032888	.010308	.025867	.012630	.016419	.125824
%RSD	.4116945	.6418830	.2132481	.5118489	.2494468	.1709916	1.367541
#1	4.980262	5.093889	4.826008	5.034870	5.058992	9.586577	9.303188
#2	4.996152	5.117977	4.829449	5.042946	5.053470	9.619267	9.238713
#3	5.021091	5.158939	4.845331	5.083162	5.077579	9.600225	9.060292

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2321113	2.419195	23.25140	.9883112	2.411149	1.249579	4.773314
Stddev	.0006889	.006716	.06531	.0015937	.005959	.003260	.026012
%RSD	.2968036	.2776007	.2808845	.1612576	.2471585	.2609134	.5449537
#1	.2326695	2.413511	23.29635	.9877609	2.407112	1.246988	4.783768
#2	.2323231	2.417468	23.28136	.9870655	2.408342	1.248509	4.792473
#3	.2313414	2.426605	23.17648	.9901071	2.417994	1.253240	4.743701

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.250492	23.32261	2.418505	1.197500	25.02383	2.360093	2.451776
Stddev	.013973	.05022	.007976	.002423	.11642	.011712	.001725
%RSD	.6208843	.2153215	.3297783	.2023379	.4652183	.4962495	.0703631
#1	2.254687	23.36172	2.412123	1.194744	24.96206	2.361687	2.450765
#2	2.261887	23.34014	2.415945	1.199294	25.15812	2.370926	2.453768
#3	2.234902	23.26598	2.427446	1.198463	24.95132	2.347666	2.450795

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.35578	4.583581	4.986156	4.860359	4.621516	4.980024	5.009256
Stddev	.12742	.005443	.015342	.013520	.022189	.025737	.008498
%RSD	.5231688	.1187485	.3076964	.2781701	.4801302	.5168006	.1696371
#1	24.28187	4.588393	4.978723	4.845266	4.629235	4.957717	5.006037
#2	24.50291	4.584675	4.975946	4.864451	4.638815	5.008183	5.002837
#3	24.28255	4.577674	5.003799	4.871361	4.596498	4.974174	5.018892

Sample Name: CCV02 Acquired: 1/30/2025 13:33:23 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.913241	4.603064	4.642252
Stddev	.014941	.031613	.035890
%RSD	.3041010	.6867830	.7731069
#1	4.899627	4.611384	4.675257
#2	4.910872	4.629685	4.647455
#3	4.929226	4.568123	4.604045

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2717.373	54207.05	10020.10	1821.860	3912.500
Stddev	4.963	69.89	30.45	2.779	7.508
%RSD	.1826404	.1289269	.3038857	.1525325	.1918968
#1	2719.771	54254.67	9985.00	1818.846	3916.675
#2	2720.682	54239.66	10039.42	1824.321	3916.991
#3	2711.667	54126.82	10035.89	1822.415	3903.832

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB02 Acquired: 1/30/2025 13:37:34 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.0009652	-.000937	-.000888	-.000696	-.001747	-.007566	-.002891
Stddev	.0006081	.000382	.001267	.002408	.000951	.000959	.000463
%RSD	63.00305	40.77883	142.6804	346.1136	54.39768	12.67525	16.02352
#1	.0012532	-.001373	-.001305	-.001778	-.001783	-.007857	-.002937
#2	.0002666	-.000778	-.001894	.002063	-.002680	-.008346	-.003329
#3	.0013759	-.000660	.000535	-.002372	-.000779	-.006496	-.002406

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000582	-.000245	-.014829	-.000014	-.000132	.0005116	-.012592
Stddev	.0000440	.000089	.004924	.000299	.000219	.0001203	.004262
%RSD	75.66632	36.34818	33.20443	2177.364	166.3505	23.51626	33.84763
#1	.0000790	-.000267	-.017860	.000316	-.000154	.0003966	-.009730
#2	.0000879	-.000147	-.017481	-.000092	-.000338	.0006366	-.010556
#3	.0000076	-.000322	-.009148	-.000266	.000098	.0005016	-.017490

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000659	-.000399	-.000270	.0009650	.0222632	-.000931	-.003104
Stddev	.000213	.005582	.000257	.0003582	.0035866	.000117	.000253
%RSD	32.33528	1397.632	95.06688	37.11449	16.11004	12.56938	8.144051
#1	-.000413	-.006276	-.000175	.0013326	.0185853	-.000917	-.003395
#2	-.000784	.004832	-.000561	.0006170	.0257509	-.001054	-.002971
#3	-.000781	.000245	-.000075	.0009455	.0224533	-.000821	-.002944

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0437321	.0035653	-.000461	-.000365	.0008606	-.010803	.0002250
Stddev	.0192305	.0006385	.000116	.000498	.0004675	.010395	.0004768
%RSD	43.97330	17.90745	25.03554	136.3321	54.32429	96.22540	211.9342
#1	.0624736	.0042880	-.000328	-.000385	.0010686	-.008019	.0002354
#2	.0446754	.0030779	-.000522	-.000854	.0011879	-.022306	-.000257
#3	.0240474	.0033301	-.000534	.000142	.0003252	-.002083	.000697

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB02 Acquired: 1/30/2025 13:37:34 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006004	-.004671	-.000400
Stddev	.003232	.001292	.000051
%RSD	53.83286	27.65270	12.79702
#1	-.004345	-.005716	-.000346
#2	-.009728	-.005071	-.000447
#3	-.003938	-.003227	-.000408

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2840.079	55921.41	10406.74	1898.567	4297.647
Stddev	4.096	81.01	86.12	8.507	9.439
%RSD	.1442170	.1448701	.8274968	.4480641	.2196248
#1	2835.743	55958.41	10499.40	1900.040	4286.902
#2	2843.883	55977.31	10391.65	1906.241	4304.600
#3	2840.610	55828.50	10329.16	1889.420	4301.439

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1206-08 Acquired: 1/30/2025 13:41:55 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004556	-.010050	.0020039	.0019116	-.000176	-.082495	.0664394
Stddev	.001164	.001736	.0001802	.0015981	.001598	.001871	.0006065
%RSD	25.55246	17.27032	8.992068	83.60168	909.1541	2.268286	.9128676
#1	-.005854	-.010157	.0017959	.0003935	.001591	-.082171	.0665652
#2	-.004211	-.008263	.0021009	.0035793	-.000598	-.080807	.0669732
#3	-.003603	-.011729	.0021147	.0017621	-.001520	-.084507	.0657799

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000123	-.000317	162.1925	.0008518	-.000539	.0053556	-.007253
Stddev	.000062	.000040	.3273	.0002361	.000173	.0004166	.002542
%RSD	50.33962	12.69804	.2017839	27.72480	32.14173	7.778702	35.04725
#1	-.000072	-.000272	161.8326	.0007402	-.000343	.0058145	-.010144
#2	-.000105	-.000351	162.2729	.0011230	-.000673	.0050013	-.006246
#3	-.000192	-.000327	162.4722	.0006921	-.000600	.0052510	-.005368

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1159605	21.17256	.0043002	.0003904	335.5894	.0003705	.0160641
Stddev	.0004659	.00649	.0001501	.0004080	5.1470	.0013591	.0000948
%RSD	.4017965	.0306731	3.490876	104.5134	1.533731	366.8107	.5903631
#1	.1159480	21.16506	.0041361	.0002292	341.5118	.0019169	.0161466
#2	.1155009	21.17628	.0043340	.0000877	332.1978	-.000171	.0160853
#3	.1164325	21.17635	.0044305	.0008544	333.0584	-.000634	.0159605

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.568691	.1788394	.0014470	-.002082	-.003238	4.422595	.0164314
Stddev	.016893	.0010914	.0002571	.000933	.000646	.016031	.0028635
%RSD	.6576508	.6102825	17.76668	44.81440	19.95027	.3624789	17.42676
#1	2.559119	.1796957	.0017163	-.002583	-.002879	4.421369	.0169971
#2	2.588196	.1776105	.0014203	-.002659	-.002851	4.439204	.0133273
#3	2.558757	.1792122	.0012042	-.001006	-.003984	4.407213	.0189698

Sample Name: Q1206-08 Acquired: 1/30/2025 13:41:55 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	6.194359	-.029217	.5457410
Stddev	.027283	.001640	.0014489
%RSD	.4404446	5.614046	.2654955
#1	6.176704	-.027824	.5441039
#2	6.180591	-.028802	.5462610
#3	6.225783	-.031025	.5468582

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2519.510	50411.00	10243.45	1682.538	3603.652
Stddev	8.353	97.70	19.89	6.253	12.284
%RSD	.3315136	.1938101	.1941436	.3716574	.3408688
#1	2518.215	50361.67	10242.08	1681.420	3604.082
#2	2528.435	50347.80	10263.99	1676.919	3615.715
#3	2511.881	50523.53	10224.28	1689.274	3591.159

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-04 Acquired: 1/30/2025 13:46:19 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004886	-.007340	.0216452	-.000467	-.002517	-.021867	.1566025
Stddev	.001646	.000808	.0004710	.003854	.001039	.007517	.0002781
%RSD	33.69473	11.01308	2.175845	824.7382	41.28549	34.37587	.1775708
#1	-.005919	-.007882	.0211118	.003020	-.001716	-.030139	.1567379
#2	-.002987	-.006411	.0218202	.000183	-.002143	-.015454	.1562826
#3	-.005751	-.007727	.0220037	-.004605	-.003691	-.020007	.1567869

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000111	.0002420	70.68511	.0005351	.0013055	.0159261	.0033184
Stddev	.000042	.0000565	.14994	.0001823	.0000320	.0002919	.0018469
%RSD	37.74019	23.36533	.2121256	34.06166	2.453297	1.832505	55.65613
#1	-.000145	.0002446	70.52004	.0007239	.0013257	.0161587	.0022549
#2	-.000124	.0002972	70.72239	.0003603	.0012686	.0160211	.0022493
#3	-.000064	.0001842	70.81289	.0005210	.0013223	.0155986	.0054510

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2986947	4.952489	.0058300	.0004037	267.4664	-.000137	.1050162
Stddev	.0004740	.008768	.0000919	.0006166	1.5602	.000979	.0004074
%RSD	.1586884	.1770496	1.576230	152.7298	.5833283	712.5979	.3878920
#1	.2981556	4.945812	.0058125	-.000171	266.2623	.000943	.1051082
#2	.2988823	4.949237	.0059293	.000327	266.9079	-.000392	.1053697
#3	.2990461	4.962419	.0057480	.001055	269.2290	-.000964	.1045708

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.318309	.0062994	.0004826	-.001824	-.001364	1.599177	.0253454
Stddev	.008062	.0004616	.0001071	.000702	.000705	.012971	.0038389
%RSD	.6115580	7.328216	22.19337	38.47595	51.70322	.8111357	15.14612
#1	1.322618	.0064229	.0005893	-.002362	-.000834	1.584200	.0296273
#2	1.323300	.0066868	.0003751	-.002080	-.001093	1.606853	.0241972
#3	1.309008	.0057886	.0004836	-.001030	-.002165	1.606477	.0222117

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-04 Acquired: 1/30/2025 13:46:19 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.6664207	-.017780	.1889157
Stddev	.0010825	.000783	.0003202
%RSD	.1624274	4.402334	.1695157
#1	.6670904	-.018028	.1886550
#2	.6669998	-.016904	.1888190
#3	.6651719	-.018409	.1892732

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2643.838	51912.32	10250.76	1746.249	3822.840
Stddev	3.234	65.56	23.14	7.737	7.398
%RSD	.1223172	.1262890	.2257065	.4430655	.1935326
#1	2640.231	51983.79	10276.92	1744.034	3815.926
#2	2644.805	51854.96	10242.36	1754.852	3821.953
#3	2646.478	51898.22	10232.99	1739.861	3830.643

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-08 Acquired: 1/30/2025 13:50:46 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003327	-.008529	.0076136	.0032310	-.000955	-.045083	.0787608
Stddev	.002026	.002692	.0007240	.0010258	.001357	.005887	.0002832
%RSD	60.90648	31.56496	9.509923	31.74834	142.1268	13.05800	.3595038
#1	-.004197	-.006680	.0082070	.0029705	.000102	-.048088	.0787258
#2	-.004773	-.007289	.0068069	.0043619	-.002485	-.038300	.0784968
#3	-.001011	-.011617	.0078271	.0023606	-.000481	-.048860	.0790598

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000127	-.000011	133.0248	.0014507	.0029499	.0084729	.0359458
Stddev	.000012	.000037	.2396	.0002040	.0001645	.0004356	.0043008
%RSD	9.055506	345.0486	.1801478	14.06241	5.577641	5.141414	11.96477
#1	-.000128	.000021	133.3014	.0012334	.0028435	.0089626	.0313718
#2	-.000116	-.000051	132.8793	.0014806	.0028667	.0081284	.0399079
#3	-.000139	-.000001	132.8938	.0016381	.0031394	.0083277	.0365576

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4145183	4.709149	.0101790	.0005812	292.9596	.0009048	.0590928
Stddev	.0008905	.003461	.0001615	.0003803	3.6526	.0004544	.0002644
%RSD	.2148362	.0734931	1.586247	65.44497	1.246783	50.22133	.4474492
#1	.4139515	4.710909	.0101893	.0008397	293.8954	.0004676	.0592925
#2	.4140585	4.711377	.0100126	.0001444	296.0532	.0013747	.0587930
#3	.4155447	4.705162	.0103351	.0007594	288.9301	.0008721	.0591929

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.610916	.0211232	.0013662	-.002771	-.002363	5.121455	.0055977
Stddev	.040414	.0003089	.0002174	.000977	.000136	.018261	.0017040
%RSD	1.547900	1.462552	15.91294	35.25550	5.735671	.3565663	30.44047
#1	2.586160	.0213745	.0012849	-.002056	-.002352	5.107396	.0063429
#2	2.657553	.0207783	.0012012	-.003884	-.002503	5.142095	.0068021
#3	2.589035	.0212167	.0016125	-.002373	-.002233	5.114876	.0036480

Sample Name: Q1207-08 Acquired: 1/30/2025 13:50:46 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.003239	-.026018	.3780190
Stddev	.001952	.000885	.0004822
%RSD	.0487659	3.400567	.1275490
#1	4.001862	-.025854	.3774919
#2	4.005473	-.025227	.3781274
#3	4.002382	-.026974	.3784377

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2592.527	51419.10	10249.12	1746.084	3709.207
Stddev	3.940	97.59	57.17	7.104	4.229
%RSD	.1519907	.1897909	.5577587	.4068366	.1140121
#1	2590.741	51311.84	10187.65	1739.083	3708.315
#2	2589.796	51442.82	10300.69	1745.881	3705.495
#3	2597.044	51502.64	10259.01	1753.286	3713.811

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-12 Acquired: 1/30/2025 13:55:10 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005840	-.010224	-.000153	.0016620	.0004471	-.071026	.0646473
Stddev	.003186	.001200	.000639	.0023575	.0011083	.013038	.0005565
%RSD	54.54767	11.74092	418.2898	141.8536	247.8793	18.35619	.8607923
#1	-.006349	-.011162	-.000036	.0027871	-.000056	-.056937	.0647981
#2	-.002431	-.010639	.000420	.0032461	-.000320	-.082664	.0640310
#3	-.008741	-.008871	-.000842	-.001047	.001718	-.073479	.0651128

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000136	-.000003	160.8372	.0004196	.0010671	.0064364	-.003167
Stddev	.000036	.000113	.2192	.0003323	.0001477	.0005701	.002473
%RSD	26.39066	4124.068	.1362743	79.19273	13.83734	8.858223	78.06872
#1	-.000138	-.000051	160.6739	.0001360	.0011414	.0066573	-.005652
#2	-.000100	-.000084	161.0863	.0003375	.0008970	.0068630	-.003143
#3	-.000171	.000127	160.7514	.0007852	.0011627	.0057888	-.000707

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2469431	4.608727	.0087196	.0002737	264.6932	-.000773	.0326476
Stddev	.0003671	.029975	.0003217	.0001655	1.3812	.001657	.0001966
%RSD	.1486580	.6504069	3.689749	60.47253	.5218043	214.3112	.6022591
#1	.2471131	4.581446	.0084200	.0004635	263.3419	.001115	.0324456
#2	.2465218	4.603918	.0086792	.0001598	266.1024	-.001985	.0326588
#3	.2471944	4.640816	.0090596	.0001976	264.6354	-.001450	.0328383

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.671351	.0262092	.0026421	-.001709	-.003604	4.816841	.0116752
Stddev	.054049	.0003718	.0001940	.000553	.000685	.017409	.0033479
%RSD	1.472170	1.418526	7.340791	32.37545	19.01920	.3614285	28.67527
#1	3.685305	.0263894	.0025584	-.001156	-.004299	4.799564	.0146126
#2	3.717054	.0264565	.0028639	-.001709	-.003583	4.834380	.0123830
#3	3.611694	.0257817	.0025041	-.002262	-.002929	4.816579	.0080300

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-12 Acquired: 1/30/2025 13:55:10 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.036963	-.028620	.4072336
Stddev	.032637	.000688	.0009953
%RSD	.3611549	2.403092	.2443975
#1	9.030232	-.028466	.4078586
#2	9.008215	-.029371	.4077563
#3	9.072441	-.028022	.4060859

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2569.504	51728.27	10289.07	1736.116	3702.248
Stddev	1.781	150.50	31.29	4.556	5.272
%RSD	.0693100	.2909427	.3041557	.2624474	.1423895
#1	2567.879	51796.85	10324.55	1740.950	3699.477
#2	2571.408	51555.69	10277.28	1731.901	3708.327
#3	2569.224	51832.26	10265.39	1735.498	3698.940

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-16 Acquired: 1/30/2025 13:59:35 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006796	-.010281	.0011190	.0003772	.0000229	-.098329
Stddev	.000961	.001482	.0017190	.0022084	.0011885	.004797
%RSD	14.13976	14.41577	153.6104	585.5000	5180.168	4.878743
#1	-.007654	-.008732	-.000753	-.001250	-.000860	-.096886
#2	-.005758	-.011685	.001483	-.000510	-.000445	-.103683
#3	-.006977	-.010427	.002627	.002891	.001374	-.094420

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0550889	-.000148	-.000330	170.8861	.0009840	.0001632
Stddev	.0005454	.000024	.000066	.2062	.0002774	.0001195
%RSD	.9899710	16.00386	19.89210	.1206574	28.19046	73.19385
#1	.0555970	-.000125	-.000255	171.1054	.0011616	.0001299
#2	.0545127	-.000172	-.000362	170.6961	.0011262	.0002957
#3	.0551570	-.000146	-.000374	170.8568	.0006644	.0000639

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043895	-.010729	.1802688	13.39130	.0074630	.0005854
Stddev	.0001778	.001708	.0008574	.01726	.0001154	.0002921
%RSD	4.051546	15.92272	.4756414	.1289102	1.546416	49.88824
#1	.0041985	-.009126	.1805506	13.39365	.0073746	.0007201
#2	.0045503	-.010536	.1809498	13.37298	.0075936	.0007858
#3	.0044197	-.012526	.1793059	13.40726	.0074209	.0002503

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	321.0816	.0013641	.0147113	4.107151	.0931332	.0028824
Stddev	.9568	.0005478	.0001710	.040194	.0007711	.0000693
%RSD	.2979823	40.15812	1.162551	.9786347	.8279148	2.403464
#1	320.1237	.0007355	.0149025	4.063465	.0939365	.0028028
#2	322.0373	.0016172	.0145728	4.115422	.0923990	.0029154
#3	321.0839	.0017396	.0146587	4.142566	.0930643	.0029289

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-16 Acquired: 1/30/2025 13:59:35 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002233	-.003153	4.707509	.0120850	F 11.31463	-.029456
Stddev	.000850	.000456	.037466	.0015936	.04125	.000522
%RSD	38.04539	14.45917	.7958813	13.18634	.3645997	1.772194
#1	-.002850	-.002627	4.664391	.0134376	11.30233	-.029188
#2	-.002586	-.003398	4.732120	.0124891	11.28093	-.029124
#3	-.001264	-.003434	4.726017	.0103283	11.36064	-.030058

Elem	Sr4077
Units	ppm
Avg	.3395354
Stddev	.0007491
%RSD	.2206344
#1	.3398029
#2	.3401141
#3	.3386893

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2521.675	50777.53	10155.42	1693.211	3611.804
Stddev	1.101	120.81	45.10	5.896	.357
%RSD	.0436754	.2379120	.4440745	.3482010	.0098958
#1	2520.403	50897.29	10103.61	1696.998	3612.047
#2	2522.297	50655.71	10176.87	1686.418	3611.971
#3	2522.325	50779.58	10185.79	1696.217	3611.393

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-20 Acquired: 1/30/2025 14:03:59 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007082	-.009360	.0270665	.0024535	-.000240	-.085818	.0840302
Stddev	.003514	.001422	.0004509	.0018738	.000598	.004112	.0006030
%RSD	49.62588	15.18984	1.665955	76.37328	249.4111	4.791634	.7176356
#1	-.010551	-.008187	.0269739	.0004404	.000105	-.088933	.0833341
#2	-.007170	-.008951	.0275565	.0041468	.000106	-.081157	.0843923
#3	-.003524	-.010941	.0266691	.0027733	-.000930	-.087363	.0843642

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000104	-.000012	166.8575	.0006159	.0010614	.0086361	-.000415
Stddev	.000028	.000045	.3875	.0003414	.0001071	.0002940	.003648
%RSD	26.43804	378.9644	.2322532	55.44247	10.09179	3.403992	879.8206
#1	-.000136	-.000046	167.2839	.0007818	.0010270	.0089749	.003512
#2	-.000094	.000039	166.5269	.0002232	.0009757	.0084494	-.003699
#3	-.000083	-.000029	166.7616	.0008426	.0011815	.0084839	-.001058

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2101421	7.323700	.0051582	.0003533	322.5977	.0006812	.0513729
Stddev	.0012915	.013023	.0003698	.0001846	1.5965	.0003297	.0001301
%RSD	.6145970	.1778267	7.169078	52.25259	.4948805	48.39655	.2532384
#1	.2100779	7.337282	.0052111	.0001584	323.9809	.0004358	.0512607
#2	.2088839	7.311318	.0047648	.0005254	320.8507	.0005518	.0513425
#3	.2114645	7.322501	.0054987	.0003761	322.9614	.0010559	.0515155

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.839044	.0568055	.0010425	-.000627	-.003421	2.642563	.0178744
Stddev	.023578	.0008279	.0000851	.000266	.000701	.002093	.0039974
%RSD	.8304937	1.457488	8.165057	42.40815	20.47519	.0792189	22.36400
#1	2.862498	.0577181	.0010432	-.000463	-.003970	2.640788	.0194117
#2	2.815344	.0561026	.0009570	-.000934	-.002632	2.642030	.0133365
#3	2.839288	.0565959	.0011272	-.000485	-.003662	2.644871	.0208749

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-20 Acquired: 1/30/2025 14:03:59 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.620080	-.031136	.4424209
Stddev	.019155	.000476	.0009226
%RSD	.5291186	1.527232	.2085260
#1	3.617774	-.031595	.4432302
#2	3.602183	-.031165	.4414163
#3	3.640283	-.030646	.4426162

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2516.360	50608.42	10329.11	1693.038	3601.889
Stddev	13.739	153.62	57.33	10.059	16.368
%RSD	.5459735	.3035400	.5549904	.5941105	.4544222
#1	2526.001	50432.47	10262.92	1681.516	3616.688
#2	2522.451	50676.92	10363.20	1697.526	3604.671
#3	2500.630	50715.86	10361.20	1700.070	3584.309

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-04 Acquired: 1/30/2025 14:08:24 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004828	-.007758	.0092961	.0020486	-.002090	.8112638	.1507520
Stddev	.000565	.001797	.0008534	.0030950	.000567	.0084459	.0013459
%RSD	11.69185	23.16877	9.180669	151.0771	27.13631	1.041081	.8928022
#1	-.004369	-.009195	.0100743	.0043335	-.001435	.8049321	.1510606
#2	-.005459	-.005743	.0094305	.0032861	-.002397	.8080058	.1519168
#3	-.004658	-.008337	.0083834	-.001474	-.002437	.8208535	.1492786

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000224	-.000017	6.847857	.0015326	-.000241	.0092300	.3810825
Stddev	.0000487	.000129	.008042	.0002520	.000172	.0002306	.0051893
%RSD	217.8146	779.7180	.1174361	16.44309	71.53574	2.498227	1.361733
#1	-.000018	-.000066	6.847714	.0012433	-.000102	.0090278	.3789920
#2	.000076	.000130	6.855970	.0017043	-.000187	.0091811	.3772645
#3	.000009	-.000114	6.839888	.0016502	-.000434	.0094812	.3869911

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089752	1.172763	.0012871	.0008258	290.7178	.0001722	.0697417
Stddev	.0004202	.004422	.0000530	.0003077	3.8362	.0002555	.0003920
%RSD	4.681622	.3770239	4.114448	37.25852	1.319573	148.3530	.5620393
#1	.0092931	1.169887	.0013177	.0005126	291.4666	-.000025	.0696962
#2	.0091336	1.177854	.0012260	.0008372	294.1245	.000461	.0701545
#3	.0084988	1.170547	.0013177	.0011276	286.5624	.000081	.0693745

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4116228	.0079979	-.000153	.0009308	.0254305	1.364231	.0188803
Stddev	.0107266	.0004088	.000398	.0011948	.0011821	.013320	.0004884
%RSD	2.605933	5.111478	259.6506	128.3610	4.648445	.9763429	2.586744
#1	.4084125	.0075261	.000264	-.000443	.0246728	1.366626	.0183376
#2	.4028679	.0082204	-.000528	.001511	.0248260	1.349876	.0192846
#3	.4235880	.0082471	-.000196	.001725	.0267926	1.376190	.0190186

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-04 Acquired: 1/30/2025 14:08:24 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4367808	-.008698	.0492747
Stddev	.0025892	.000321	.0000757
%RSD	.5927857	3.688787	.1537092
#1	.4397350	-.008815	.0493549
#2	.4349056	-.008335	.0492044
#3	.4357018	-.008944	.0492648

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2680.263	52507.30	10492.44	1780.425	3889.221
Stddev	.946	228.72	40.71	4.699	5.514
%RSD	.0353017	.4356000	.3879749	.2639255	.1417802
#1	2679.197	52269.06	10446.70	1776.609	3895.492
#2	2681.004	52725.14	10524.69	1785.674	3887.039
#3	2680.588	52527.71	10505.93	1778.993	3885.131

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08 Acquired: 1/30/2025 14:12:51 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005378	-.007983	.0059728	.0008264	-.001587	.0673721	.2034552
Stddev	.000500	.001565	.0005354	.0022488	.000745	.0087589	.0001369
%RSD	9.288125	19.60292	8.963999	272.1133	46.93214	13.00081	.0672964
#1	-.005721	-.008955	.0057388	-.001366	-.000757	.0631743	.2034073
#2	-.004805	-.006178	.0065854	.003128	-.002198	.0615022	.2036097
#3	-.005608	-.008816	.0055942	.000717	-.001807	.0774398	.2033487

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000021	-.000397	8.473920	.0007853	-.000421	.0066576	.0367172
Stddev	.000038	.000055	.025007	.0001452	.000098	.0003663	.0018574
%RSD	185.7020	13.92040	.2951065	18.48948	23.28355	5.501797	5.058541
#1	-.000012	-.000411	8.456170	.0008989	-.000533	.0062347	.0347255
#2	-.000062	-.000444	8.463070	.0008353	-.000350	.0068645	.0370243
#3	.000012	-.000336	8.502519	.0006217	-.000381	.0068736	.0384019

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0220700	1.232795	.0010457	.0001371	334.4614	-.002635	.0318427
Stddev	.0000845	.022101	.0003063	.0004662	1.7817	.001132	.0005746
%RSD	.3831159	1.792765	29.29603	340.0399	.5327134	42.97464	1.804387
#1	.0220875	1.208349	.0007476	-.000378	332.4044	-.003093	.0324763
#2	.0219781	1.251363	.0010297	.000530	335.5222	-.003467	.0316965
#3	.0221445	1.238671	.0013597	.000260	335.4576	-.001345	.0313554

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4145062	.0062462	.0002082	.0014120	.0026712	.4470788	.0250918
Stddev	.0241829	.0005197	.0003211	.0009423	.0007479	.0082938	.0016047
%RSD	5.834148	8.319799	154.2288	66.73508	27.99742	1.855117	6.395295
#1	.3973904	.0068328	-.000148	.0013035	.0034680	.4497835	.0268266
#2	.4421717	.0058434	.000475	.0005287	.0019845	.4536827	.0247884
#3	.4039565	.0060624	.000298	.0024039	.0025611	.4377703	.0236605

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08 Acquired: 1/30/2025 14:12:51 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4094977	-.009238	.0455935
Stddev	.0019205	.000461	.0001982
%RSD	.4689906	4.995200	.4347890
#1	.4100096	-.009414	.0454388
#2	.4073731	-.009586	.0455248
#3	.4111104	-.008715	.0458170

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2671.517	51605.59	10309.69	1766.208	3850.200
Stddev	3.660	70.33	63.83	4.039	4.950
%RSD	.1369989	.1362776	.6190944	.2286773	.1285758
#1	2667.705	51635.14	10311.80	1763.792	3849.034
#2	2675.003	51525.31	10372.43	1763.962	3855.629
#3	2671.841	51656.32	10244.83	1770.871	3845.936

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08DUP Acquired: 1/30/2025 14:17:19 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004037	-.008691	.0059932	.0047162	-.001812	.0714857	.2002477
Stddev	.000445	.001427	.0013689	.0015989	.000611	.0042309	.0004529
%RSD	11.02843	16.41828	22.84140	33.90155	33.70365	5.918464	.2261703
#1	-.003533	-.007898	.0075456	.0039009	-.001276	.0692573	.2007660
#2	-.004377	-.007838	.0054746	.0036894	-.001682	.0688348	.1999284
#3	-.004200	-.010339	.0049593	.0065584	-.002477	.0763650	.2000486

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000260	-.000305	8.440678	.0006696	-.000558	.0064147	.0396497
Stddev	.0000444	.000108	.014884	.0001389	.000050	.0000834	.0036705
%RSD	170.6691	35.36634	.1763349	20.74632	8.937830	1.300469	9.257257
#1	.0000620	-.000389	8.457517	.0007428	-.000543	.0063457	.0386200
#2	.0000395	-.000183	8.435241	.0005094	-.000518	.0063911	.0437251
#3	-.000024	-.000341	8.429278	.0007565	-.000614	.0065074	.0366041

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0218177	1.229181	.0007376	.0001091	331.5735	-.000371	.0317745
Stddev	.0000697	.010149	.0005034	.0002622	2.9910	.000987	.0004353
%RSD	.3192779	.8256614	68.25454	240.3916	.9020548	266.5118	1.370117
#1	.0217373	1.236714	.0012759	-.000071	334.1288	-.000387	.0321243
#2	.0218544	1.233190	.0006583	-.000012	332.3079	.000625	.0319122
#3	.0218613	1.217640	.0002785	.000410	328.2837	-.001350	.0312869

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4327807	.0058771	.0000192	.0011335	.0020938	.4411629	.0234941
Stddev	.0343221	.0002632	.0002744	.0002236	.0009317	.0031322	.0035535
%RSD	7.930605	4.477873	1430.468	19.73034	44.49890	.7099753	15.12519
#1	.3961068	.0061523	.0000356	.0008761	.0018970	.4377808	.0215632
#2	.4381072	.0056279	.0002850	.0012437	.0031082	.4439636	.0213240
#3	.4641283	.0058511	-.000263	.0012805	.0012762	.4417443	.0275950

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08DUP Acquired: 1/30/2025 14:17:19 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.4219433	-.007360	.0455990
Stddev	.0039473	.000440	.0002297
%RSD	.9355164	5.971845	.5038245
#1	.4257115	-.007763	.0457130
#2	.4178384	-.007424	.0457494
#3	.4222801	-.006892	.0453346

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2620.434	51956.91	10313.14	1759.981	3771.646
Stddev	4.850	198.51	12.63	5.905	10.586
%RSD	.1850717	.3820629	.1224570	.3355337	.2806650
#1	2620.407	52088.37	10299.17	1764.551	3777.587
#2	2625.296	51728.56	10316.49	1753.313	3777.926
#3	2615.597	52053.79	10323.76	1762.078	3759.424

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08LX5 Acquired: 1/30/2025 14:21:47 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002517	-.002317	.0011410	.0011331	-.002115	-.000969	.0390572
Stddev	.000661	.001412	.0010240	.0023133	.002064	.004017	.0000852
%RSD	26.26123	60.91661	89.75195	204.1469	97.61905	414.6422	.2180811
#1	-.002837	-.000860	.0020877	-.001528	-.003343	-.004879	.0391451
#2	-.002956	-.003678	.0012811	.002666	-.003270	.003147	.0390514
#3	-.001757	-.002414	.0000541	.002262	.000269	-.001175	.0389751

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000278	-.000313	1.678790	.0001205	-.000170	.0013414	-.006972
Stddev	.0000238	.000034	.013943	.0004396	.000189	.0003256	.002218
%RSD	85.64788	10.91358	.8305531	364.9957	111.3109	24.27540	31.80672
#1	.0000542	-.000339	1.666618	-.000353	-.000135	.0017030	-.006026
#2	.0000213	-.000274	1.694003	.000515	-.000374	.0010714	-.009506
#3	.0000079	-.000325	1.675750	.000199	-.000001	.0012498	-.005384

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039589	.2447884	-.000155	.0004208	64.69002	-.001072	.0038686
Stddev	.0001343	.0180836	.000162	.0001882	.12768	.001207	.0001708
%RSD	3.392374	7.387421	104.3025	44.73423	.1973696	112.5461	4.416109
#1	.0038045	.2524128	.000030	.0005699	64.75303	-.000731	.0036770
#2	.0040238	.2578112	-.000270	.0004833	64.77394	-.000073	.0040051
#3	.0040485	.2241412	-.000226	.0002093	64.54308	-.002412	.0039237

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2238959	-.002817	-.000420	.0006529	.0010325	.0783187	.0044298
Stddev	.0104355	.000818	.000097	.0005986	.0005780	.0043108	.0035876
%RSD	4.660869	29.04801	23.11018	91.68247	55.98133	5.504159	80.98792
#1	.2336024	-.001947	-.000503	.0013204	.0006112	.0777627	.0071851
#2	.2128590	-.003572	-.000444	.0004750	.0007949	.0828806	.0057314
#3	.2252262	-.002931	-.000313	.0001635	.0016915	.0743129	.0003731

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08LX5 Acquired: 1/30/2025 14:21:47 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0836729	-.002791	.0087148
Stddev	.0033797	.001090	.0000892
%RSD	4.039190	39.04801	1.023199
#1	.0848765	-.003017	.0087301
#2	.0798562	-.003750	.0087953
#3	.0862861	-.001606	.0086190

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2746.530	54261.76	10570.14	1843.057	4025.197
Stddev	4.988	147.67	30.89	4.711	7.983
%RSD	.1816014	.2721528	.2922848	.2556260	.1983323
#1	2744.200	54091.37	10534.46	1838.762	4025.448
#2	2752.256	54352.74	10588.02	1842.315	4033.052
#3	2743.133	54341.17	10587.92	1848.096	4017.092

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV03 Acquired: 1/30/2025 14:34:39 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.882883	5.074105	4.905267	5.010479	4.777456	9.646271	9.434231
Stddev	.019248	.046232	.248330	.138413	.306692	.004101	.132823
%RSD	.3941944	.9111299	5.062511	2.762462	6.419574	.0425098	1.407883
#1	4.879779	5.116640	4.761658	4.951260	4.967645	9.643942	9.448254
#2	4.865375	5.080773	4.762130	4.911528	4.941071	9.651006	9.559486
#3	4.903494	5.024901	5.192013	5.168649	4.423650	9.643865	9.294953

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2310269	2.488144	23.50375	.9851625	2.436307	1.204762	4.870718
Stddev	.0013041	.196544	.01610	.0035858	.099752	.046423	.035352
%RSD	.5644629	7.899228	.0684794	.3639803	4.094382	3.853319	.7258131
#1	.2295212	2.375657	23.49562	.9878967	2.380923	1.232846	4.904953
#2	.2317714	2.373684	23.49333	.9864882	2.376535	1.230262	4.872856
#3	.2317882	2.715091	23.52228	.9811026	2.551462	1.151178	4.834345

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.298566	23.36711	2.451003	1.212087	25.20885	2.381032	2.451249
Stddev	.002344	.05178	.115424	.000961	.22624	.007859	.006562
%RSD	.1019861	.2215893	4.709249	.0793173	.8974571	.3300571	.2677190
#1	2.297472	23.30779	2.385820	1.211200	25.46894	2.381026	2.458486
#2	2.296969	23.40328	2.382917	1.211951	25.09993	2.373176	2.445686
#3	2.301257	23.39025	2.584273	1.213108	25.05767	2.388893	2.449573

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.89228	4.596724	4.922869	4.979916	4.697450	5.032623	5.034477
Stddev	.25463	.035748	.040235	.319014	.006643	.028295	.152021
%RSD	1.022909	.7776906	.8173026	6.406009	.1414101	.5622262	3.019590
#1	25.18542	4.557709	4.953512	4.794930	4.703025	5.062057	4.954573
#2	24.76538	4.604556	4.937790	4.796537	4.690100	5.030189	4.939071
#3	24.72605	4.627907	4.877305	5.348280	4.699225	5.005624	5.209787

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV03 Acquired: 1/30/2025 14:34:39 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.804596	4.716611	4.751713
Stddev	.014702	.014748	.004865
%RSD	.3059944	.3126888	.1023903
#1	4.799047	4.724283	4.757291
#2	4.793476	4.699608	4.748344
#3	4.821265	4.725942	4.749503

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3044.600	54462.51	10069.03	1852.085	4288.855
Stddev	468.796	189.11	46.07	9.538	495.422
%RSD	15.39764	.3472343	.4575450	.5149670	11.55137
#1	2766.794	54274.69	10122.16	1843.443	3997.216
#2	2781.150	54459.92	10044.88	1850.495	4008.467
#3	3585.856	54652.89	10040.06	1862.318	4860.881

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB03 Acquired: 1/30/2025 14:38:51 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	.0001427	-.001400	.0000723	.0000540	-.001928	-.014671	-.001586
Stddev	.0005003	.002401	.0003521	.0015375	.000740	.002139	.000446
%RSD	350.7226	171.4892	487.0934	2845.767	38.37435	14.58168	28.14281
#1	.0000654	-.003775	-.000271	.0002488	-.002676	-.012275	-.002071
#2	.0006771	-.001451	.000055	.0014848	-.001197	-.016388	-.001495
#3	-.000315	.001026	.000433	-.001572	-.001910	-.015350	-.001193

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000423	-.000195	-.022023	-.000029	-.000174	-.000420	-.018260
Stddev	.0000032	.000064	.002859	.000341	.000007	.000145	.003312
%RSD	7.490872	32.94620	12.98204	1159.945	4.033997	34.58813	18.13945
#1	.0000440	-.000151	-.024668	-.000375	-.000166	-.000563	-.018122
#2	.0000386	-.000166	-.018990	-.000019	-.000177	-.000272	-.015019
#3	.0000441	-.000269	-.022412	.000306	-.000179	-.000424	-.021639

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000974	-.005312	-.000318	.0002613	.0796542	-.001649	-.002969
Stddev	.000251	.015051	.000193	.0001751	.0056531	.001689	.000244
%RSD	25.73134	283.3497	60.83679	67.02636	7.097018	102.4452	8.233975
#1	-.000988	.009155	-.000320	.0004029	.0731496	.000112	-.002999
#2	-.001217	-.004204	-.000510	.0000655	.0824313	-.003255	-.003196
#3	-.000717	-.020886	-.000123	.0003155	.0833815	-.001803	-.002710

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1389682	.0062730	-.000110	-.000763	.0007844	-.009766	-.001977
Stddev	.0144468	.0001096	.000244	.000955	.0004565	.002857	.003362
%RSD	10.39576	1.747364	221.7961	125.1501	58.20171	29.25150	170.0286
#1	.1498220	.0063427	-.000000	-.000597	.0002584	-.009721	-.005689
#2	.1225706	.0063298	-.000389	-.001791	.0010778	-.006932	-.001107
#3	.1445121	.0061467	.000060	.000098	.0010170	-.012645	.000864

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB03 Acquired: 1/30/2025 14:38:51 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003668	-.002673	-.000346
Stddev	.000322	.000538	.000019
%RSD	8.771386	20.11945	5.387864
#1	-.004022	-.002324	-.000366
#2	-.003394	-.002403	-.000329
#3	-.003587	-.003293	-.000344

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2835.185	56601.12	10639.97	1923.223	4280.726
Stddev	14.913	213.00	8.19	9.263	19.301
%RSD	.5260105	.3763202	.0769476	.4816180	.4508757
#1	2848.701	56442.45	10639.45	1915.844	4298.715
#2	2837.668	56843.21	10648.41	1933.618	4283.126
#3	2819.186	56517.71	10632.06	1920.208	4260.337

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08MS Acquired: 1/30/2025 14:43:12 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8184169	1.960568	.9509998	1.960102	.8089917	1.939694	.3672138
Stddev	.0043484	.011228	.0044908	.012466	.0037416	.005703	.0021525
%RSD	.5313178	.5726740	.4722158	.6360098	.4624949	.2940217	.5861578
#1	.8162997	1.962505	.9503224	1.953452	.8053938	1.933676	.3695399
#2	.8155325	1.948499	.9468861	1.952371	.8087192	1.940388	.3652925
#3	.8234184	1.970702	.9557907	1.974484	.8128620	1.945019	.3668089

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1732414	.1939573	8.845635	.4102316	.1964968	.2991140	3.071371
Stddev	.0002573	.0008044	.024885	.0011074	.0007200	.0012573	.025237
%RSD	.1485426	.4147107	.2813215	.2699543	.3663906	.4203456	.8216756
#1	.1732793	.1933738	8.874279	.4102937	.1961557	.2980517	3.098317
#2	.1729673	.1936233	8.829344	.4113067	.1960107	.2987881	3.048290
#3	.1734778	.1948749	8.833282	.4090944	.1973239	.3005021	3.067506

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1926243	2.923592	.4908224	.0725698	312.3922	.2840104	.2338818
Stddev	.0009308	.011478	.0014876	.0002025	2.3438	.0014139	.0012505
%RSD	.4832080	.3926079	.3030850	.2790140	.7502835	.4978431	.5346505
#1	.1929940	2.927570	.4898903	.0724268	313.0160	.2843339	.2329224
#2	.1915655	2.910654	.4900389	.0728015	314.3610	.2824627	.2334270
#3	.1933135	2.932552	.4925380	.0724812	309.7996	.2852345	.2352960

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.97081	.2457689	.4293474	.6876886	.1885765	1.160497	5.947250
Stddev	.06757	.0002579	.0024036	.0006522	.0016389	.005167	.034363
%RSD	.6159104	.1049516	.5598221	.0948441	.8690821	.4452493	.5777954
#1	11.02874	.2458477	.4280145	.6880977	.1902774	1.160971	5.924705
#2	10.98711	.2454807	.4279056	.6869364	.1884445	1.165410	5.930245
#3	10.89658	.2459782	.4321221	.6880317	.1870076	1.155109	5.986800

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08MS Acquired: 1/30/2025 14:43:12 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2926866	.1799165	.2233364
Stddev	.0033025	.0007780	.0007540
%RSD	1.128322	.4324046	.3376091
#1	.2959449	.1792094	.2241542
#2	.2893417	.1807499	.2226688
#3	.2927732	.1797903	.2231863

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2634.378	52069.62	10297.11	1745.821	3804.009
Stddev	8.605	27.09	21.41	4.911	13.192
%RSD	.3266306	.0520301	.2078907	.2813034	.3467962
#1	2639.648	52052.97	10288.98	1745.745	3808.949
#2	2639.038	52055.01	10321.39	1750.770	3814.019
#3	2624.449	52100.88	10280.96	1740.949	3789.060

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08MSD Acquired: 1/30/2025 14:47:20 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8220499	1.915812	.9544545	1.970047	.8108880	1.953558	.3711359
Stddev	.0058269	.028778	.0041088	.016561	.0021256	.006659	.0019285
%RSD	.7088207	1.502116	.4304897	.8406553	.2621378	.3408538	.5196108
#1	.8156486	1.884223	.9497109	1.950929	.8086695	1.960812	.3727180
#2	.8234561	1.922673	.9569057	1.979993	.8129066	1.947723	.3717020
#3	.8270450	1.940538	.9567469	1.979220	.8110879	1.952140	.3689878

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1738719	.1944341	8.906124	.4109635	.1973880	.2996772	3.112673
Stddev	.0015239	.0009660	.065117	.0012628	.0007044	.0010116	.003410
%RSD	.8764594	.4968105	.7311439	.3072888	.3568510	.3375647	.1095544
#1	.1756312	.1933459	8.980977	.4123948	.1966305	.2987742	3.108742
#2	.1729600	.1947659	8.874856	.4100065	.1975101	.2994870	3.114825
#3	.1730246	.1951904	8.862538	.4104893	.1980234	.3007704	3.114454

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1945981	2.961184	.4915785	.0734142	317.3579	.2877097	.2341762
Stddev	.0015207	.026686	.0025128	.0004537	3.7659	.0024207	.0004323
%RSD	.7814608	.9011878	.5111679	.6179732	1.186656	.8413753	.1845959
#1	.1958182	2.991829	.4887694	.0739381	319.4417	.2904468	.2340322
#2	.1928944	2.948649	.4923536	.0731579	319.6215	.2868323	.2338342
#3	.1950817	2.943073	.4936123	.0731467	313.0106	.2858501	.2346621

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.02829	.2454834	.4313265	.6881285	.1903105	1.195477	5.932571
Stddev	.02558	.0029895	.0019872	.0031567	.0013423	.007109	.036383
%RSD	.2319710	1.217801	.4607185	.4587368	.7053089	.5946595	.6132809
#1	11.05510	.2489339	.4290382	.6846763	.1914601	1.191273	5.891158
#2	11.00415	.2436720	.4326179	.6888414	.1906361	1.191472	5.947159
#3	11.02561	.2438442	.4323235	.6908678	.1888354	1.203685	5.959397

Sample Name: Q1209-08MSD Acquired: 1/30/2025 14:47:20 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2915236	.1813016	.2245983
Stddev	.0030154	.0011457	.0012509
%RSD	1.034366	.6319133	.5569404
#1	.2886614	.1824951	.2259578
#2	.2912377	.1802106	.2243410
#3	.2946719	.1811992	.2234960

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2638.731	51954.11	10324.93	1746.486	3811.592
Stddev	6.485	50.32	76.32	2.087	11.693
%RSD	.2457646	.0968598	.7392259	.1194710	.3067738
#1	2645.904	51925.31	10237.45	1747.141	3825.084
#2	2633.282	51924.80	10359.47	1744.151	3805.279
#3	2637.008	52012.21	10377.89	1748.167	3804.412

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1209-08A Acquired: 1/30/2025 14:51:28 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8070846	1.921945	.9439772	1.935490	.7958130	1.937002	.3613193
Stddev	.0025446	.012417	.0035156	.011412	.0035692	.011020	.0008203
%RSD	.3152797	.6460713	.3724258	.5895974	.4484965	.5689112	.2270194
#1	.8079580	1.909917	.9417052	1.924051	.7924589	1.943031	.3621125
#2	.8042183	1.921199	.9421996	1.935545	.7954161	1.924283	.3604744
#3	.8090774	1.934718	.9480266	1.946874	.7995641	1.943692	.3613710

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1767706	.1929222	8.846961	.4115932	.1953266	.2963146	3.054073
Stddev	.0006520	.0005024	.011648	.0011065	.0006362	.0005754	.017870
%RSD	.3688508	.2604117	.1316613	.2688335	.3256993	.1941933	.5851359
#1	.1760181	.1926443	8.834976	.4106356	.1949479	.2958118	3.074490
#2	.1771681	.1926200	8.847669	.4113394	.1949709	.2961898	3.041272
#3	.1771255	.1935021	8.858240	.4128045	.1960611	.2969422	3.046457

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1924494	2.941023	.4877030	.0729699	302.5797	.2814755	.2330662
Stddev	.0005189	.013297	.0013160	.0006441	2.2317	.0027098	.0006014
%RSD	.2696302	.4521284	.2698430	.8826927	.7375721	.9627086	.2580484
#1	.1918560	2.952694	.4870252	.0722932	301.2762	.2814965	.2325556
#2	.1928180	2.943829	.4868640	.0735755	301.3062	.2841747	.2337291
#3	.1926741	2.926547	.4892198	.0730410	305.1566	.2787552	.2329139

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.68939	.2489938	.4261760	.6845430	.1864364	1.187592	5.853718
Stddev	.05326	.0007093	.0018815	.0018952	.0012146	.002303	.021405
%RSD	.4982596	.2848586	.4414909	.2768624	.6514676	.1939029	.3656686
#1	10.74906	.2482576	.4247475	.6863414	.1864715	1.189664	5.861491
#2	10.67245	.2490512	.4254726	.6825639	.1876331	1.185112	5.829512
#3	10.64666	.2496727	.4283079	.6847237	.1852047	1.187999	5.870151

Sample Name: Q1209-08A Acquired: 1/30/2025 14:51:28 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.2852789	.1770939	.2207505
Stddev	.0062369	.0009842	.0004666
%RSD	2.186259	.5557359	.2113714
#1	.2876908	.1774269	.2211590
#2	.2781962	.1759864	.2202420
#3	.2899497	.1778684	.2208505

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2661.080	51547.37	10101.66	1754.653	3836.045
Stddev	5.759	80.46	57.52	3.839	8.392
%RSD	.2164227	.1560847	.5694430	.2187677	.2187682
#1	2666.954	51582.17	10159.87	1757.114	3836.974
#2	2660.844	51455.38	10044.85	1750.230	3843.934
#3	2655.443	51604.58	10100.27	1756.616	3827.227

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166318TB Acquired: 1/30/2025 14:55:36 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004425	-.007385	-.001174	.0066040	-.001009	-.007409
Stddev	.003104	.000960	.000213	.0025052	.001028	.007702
%RSD	70.15327	13.00642	18.16876	37.93475	101.8611	103.9658
#1	-.008006	-.006346	-.000997	.0041385	-.001762	-.014937
#2	-.002507	-.007566	-.001410	.0091471	-.001428	.000457
#3	-.002761	-.008241	-.001113	.0065262	.000162	-.007746

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002662	-.000154	-.000424	-.027685	.0008205	-.000362
Stddev	.000780	.000062	.000063	.004829	.0000741	.000048
%RSD	29.31537	40.28102	14.94146	17.44192	9.035070	13.16024
#1	-.002076	-.000099	-.000394	-.032259	.0007856	-.000410
#2	-.003548	-.000141	-.000382	-.028160	.0009057	-.000359
#3	-.002363	-.000221	-.000497	-.022636	.0007703	-.000315

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008285	-.008919	.0004164	-.008095	.0008395	.0005966
Stddev	.0002694	.006267	.0002720	.007790	.0002490	.0003704
%RSD	32.51367	70.25973	65.31213	96.23436	29.65323	62.09575
#1	.0005187	-.015013	.0001135	.000739	.0008671	.0002051
#2	.0010073	-.002493	.0004960	-.011043	.0010736	.0009416
#3	.0009596	-.009252	.0006396	-.013981	.0005780	.0006431

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 316.5842	-.000748	-.002254	.0827844	-.002970	.0001240
Stddev	4.8493	.000564	.000154	.0138140	.000140	.0000700
%RSD	1.531742	75.43975	6.816356	16.68671	4.718363	56.50165
#1	319.3217	-.001038	-.002292	.0669586	-.002907	.0001715
#2	310.9852	-.000098	-.002085	.0924248	-.003131	.0000435
#3	319.4457	-.001107	-.002385	.0889698	-.002872	.0001569

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166318TB Acquired: 1/30/2025 14:55:36 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001582	.0002590	.0000052	.0007261	F .0397497	-.008698
Stddev	.0003387	.0001617	.0073989	.0025193	.0063279	.000360
%RSD	214.0269	62.41429	143422.8	346.9725	15.91934	4.137882
#1	.0002833	.0003910	.0084318	-.000611	.0328313	-.008355
#2	-.000225	.0003074	-.005428	.003632	.0452446	-.008666
#3	.000417	.0000787	-.002989	-.000843	.0411731	-.009073

Elem	Sr4077
Units	ppm
Avg	-.000473
Stddev	.000026
%RSD	5.466928
#1	-.000452
#2	-.000466
#3	-.000502

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2669.813	51774.49	10171.93	1772.564	3856.761
Stddev	2.056	122.99	27.89	10.307	4.328
%RSD	.0770102	.2375478	.2741472	.5814861	.1122264
#1	2670.803	51673.37	10192.59	1764.911	3858.749
#2	2671.187	51911.40	10183.00	1784.284	3859.738
#3	2667.450	51738.68	10140.21	1768.497	3851.796

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166342BL Acquired: 1/30/2025 15:00:05 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000420	-.001359	-.000178	-.001886	-.002834	-.009666	-.001754
Stddev	.001932	.001739	.000613	.001608	.000261	.006517	.000691
%RSD	460.4332	127.9840	343.9606	85.24295	9.198837	67.42263	39.39951
#1	-.002363	-.000649	.000374	-.000280	-.003059	-.008320	-.001828
#2	.001501	-.003341	-.000837	-.001882	-.002548	-.003927	-.001029
#3	-.000397	-.000087	-.000071	-.003496	-.002894	-.016751	-.002405

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000434	-.000198	-.016919	-.000225	-.000328	.0005090	-.016154
Stddev	.0000471	.000012	.003419	.000189	.000182	.0003436	.001206
%RSD	108.4793	6.289233	20.20640	84.05868	55.35159	67.50637	7.466436
#1	-.000009	-.000209	-.013082	-.000431	-.000203	.0007643	-.014880
#2	.000059	-.000202	-.019640	-.000058	-.000245	.0006443	-.016304
#3	.000081	-.000185	-.018037	-.000186	-.000537	.0001183	-.017278

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000654	-.012712	-.000345	.0005552	.2733021	-.000952	-.003079
Stddev	.000079	.005857	.000059	.0003890	.0051437	.001154	.000183
%RSD	12.06783	46.07066	17.18189	70.06158	1.882075	121.2407	5.954473
#1	-.000738	-.006045	-.000295	.0007069	.2764346	-.000972	-.002867
#2	-.000643	-.017027	-.000411	.0001132	.2673657	.000212	-.003193
#3	-.000582	-.015064	-.000331	.0008455	.2761061	-.002095	-.003176

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1604620	-.002979	-.000593	-.000533	.0005633	-.005509	-.000137
Stddev	.0310548	.000302	.000308	.000491	.0001438	.001324	.001015
%RSD	19.35335	10.12582	51.91157	92.11179	25.52967	24.04257	738.4318
#1	.1769921	-.002825	-.000516	-.000926	.0004830	-.006338	-.000064
#2	.1797555	-.003326	-.000332	-.000692	.0004775	-.006208	-.001187
#3	.1246386	-.002785	-.000933	.000018	.0007293	-.003981	.000838

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166342BL Acquired: 1/30/2025 15:00:05 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.008126	-.001435	-.000456
Stddev	.001230	.000519	.000020
%RSD	15.14174	36.16752	4.378415
#1	-.008344	-.001932	-.000474
#2	-.006802	-.001475	-.000461
#3	-.009234	-.000897	-.000435

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2880.132	55026.34	10458.25	1899.523	4397.779
Stddev	13.045	443.02	13.73	12.291	13.760
%RSD	.4529326	.8051077	.1313282	.6470534	.3128890
#1	2879.806	55402.18	10469.05	1911.041	4386.220
#2	2893.337	55138.97	10442.79	1900.944	4412.999
#3	2867.253	54537.88	10462.91	1886.583	4394.117

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166342BS Acquired: 1/30/2025 15:04:26 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8015744	2.082234	.9639523	1.977693	.7921339	1.872959
Stddev	.0038613	.024385	.0043549	.009691	.0018565	.008520
%RSD	.4817120	1.171085	.4517746	.4900235	.2343688	.4549049
#1	.8014245	2.061705	.9628338	1.971384	.7899926	1.872118
#2	.7977902	2.075810	.9602657	1.972844	.7932935	1.881868
#3	.8055084	2.109188	.9687573	1.988852	.7931155	1.864890

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1777844	.1871652	.1910700	.9517501	.4093844	.1926389
Stddev	.0013242	.0005421	.0008397	.0088023	.0019666	.0008523
%RSD	.7448251	.2896566	.4394499	.9248499	.4803897	.4424424
#1	.1782286	.1876698	.1907550	.9469119	.4078478	.1920378
#2	.1762953	.1872337	.1904335	.9464282	.4116007	.1922645
#3	.1788295	.1865920	.1920217	.9619102	.4087048	.1936143

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3089304	2.928568	.1824721	1.855428	.4850635	.0743064
Stddev	.0001822	.004479	.0010741	.014326	.0017511	.0008232
%RSD	.0589640	.1529344	.5886212	.7721084	.3610139	1.107775
#1	.3088230	2.923545	.1829446	1.851770	.4846089	.0752110
#2	.3088274	2.930012	.1812428	1.871229	.4835846	.0736016
#3	.3091407	2.932146	.1832290	1.843286	.4869972	.0741065

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.138291	.2786754	.2029118	9.794295	.2682587	.4080560
Stddev	.006977	.0011157	.0011014	.013154	.0005270	.0012300
%RSD	.2223054	.4003732	.5427705	.1342994	.1964371	.3014349
#1	3.133775	.2774324	.2039994	9.809383	.2688473	.4077458
#2	3.146326	.2795904	.2029388	9.788261	.2680981	.4070107
#3	3.134772	.2790033	.2017972	9.785241	.2678307	.4094114

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166342BS Acquired: 1/30/2025 15:04:26 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6656693	.1831859	F .6971763	5.564808	F -.012375	.1832445
Stddev	.0032646	.0006705	.0037649	.027700	.002121	.0018035
%RSD	.4904240	.3660289	.5400203	.4977673	17.14299	.9841943
#1	.6641459	.1825977	.6943964	5.544318	-.013494	.1818416
#2	.6634448	.1830442	.6956717	5.553782	-.009929	.1852788
#3	.6694171	.1839160	.7014608	5.596323	-.013703	.1826130

Elem	Sr4077
Units	ppm
Avg	.1802367
Stddev	.0002364
%RSD	.1311383
#1	.1804365
#2	.1799758
#3	.1802978

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2894.870	55786.26	10410.58	1895.186	4380.640
Stddev	5.433	82.84	7.00	6.407	13.345
%RSD	.1876894	.1484975	.0672392	.3380855	.3046312
#1	2896.584	55880.84	10406.39	1888.168	4388.779
#2	2899.240	55726.55	10418.66	1896.663	4387.902
#3	2888.787	55751.40	10406.69	1900.725	4365.239

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1206-03 Acquired: 1/30/2025 15:08:25 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7108074	-.003540	20.98615	-.030193	7.680545	53.23689
Stddev	.0010147	.001235	.03447	.001911	.025179	.00109
%RSD	.1427573	34.89124	.1642327	6.329939	.3278248	.0020434
#1	.7107295	-.002805	20.96193	-.028050	7.701939	53.23631
#2	.7118589	-.002849	20.97090	-.030807	7.652798	53.23621
#3	.7098339	-.004965	21.02561	-.031721	7.686898	53.23814

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.484155	.0056745	-.000040	246.0293	.1841385	.0999100
Stddev	.006502	.0000176	.000167	.6781	.0006519	.0001888
%RSD	.4381255	.3091988	414.2722	.2756005	.3540547	.1889442
#1	1.490496	.0056855	-.000090	246.8123	.1839000	.0997332
#2	1.484465	.0056542	-.000177	245.6338	.1836394	.0998879
#3	1.477502	.0056836	.000146	245.6419	.1848761	.1001088

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.292189	220.7672	2.580183	45.49215	.2573355	.0106097
Stddev	.003320	.6339	.009704	.06758	.0003383	.0002954
%RSD	.2569226	.2871238	.3760940	.1485508	.1314718	2.784499
#1	1.292232	221.4991	2.590885	45.56625	.2574657	.0107146
#2	1.288848	220.4095	2.577706	45.43392	.2569514	.0102762
#3	1.295488	220.3930	2.571957	45.47627	.2575894	.0108384

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.35184	.2547110	5.348235	19.56275	.2198563	.0163710
Stddev	.04527	.0016066	.008778	.00935	.0014264	.0004332
%RSD	.0936268	.6307394	.1641203	.0478184	.6488045	2.646230
#1	48.36813	.2558937	5.343186	19.57247	.2212775	.0164707
#2	48.30068	.2528819	5.343149	19.55380	.2198667	.0158967
#3	48.38672	.2553573	5.358370	19.56199	.2184247	.0167457

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1206-03 Acquired: 1/30/2025 15:08:25 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5002161	3.296652	5.098803	8.196883	F 10.78853	.0704048
Stddev	.0014041	.010446	.027997	.014917	.02032	.0011050
%RSD	.2806934	.3168630	.5490986	.1819824	.1883273	1.569464
#1	.4988242	3.308378	5.068284	8.200608	10.80194	.0701586
#2	.5001922	3.293235	5.104827	8.180457	10.76515	.0716121
#3	.5016321	3.288342	5.123298	8.209585	10.79849	.0694436

Elem	Sr4077
Units	ppm
Avg	.9218621
Stddev	.0061266
%RSD	.6645867
#1	.9150737
#2	.9235323
#3	.9269805

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2794.450	54715.69	11222.46	1860.537	3689.416
Stddev	4.289	178.41	18.64	6.427	2.739
%RSD	.1534752	.3260715	.1660857	.3454353	.0742519
#1	2793.372	54774.46	11220.11	1863.880	3691.123
#2	2799.174	54857.31	11242.16	1864.603	3690.868
#3	2790.802	54515.31	11205.10	1853.128	3686.256

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1206-07 Acquired: 1/30/2025 15:12:37 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0787461	-.022833	2.914865	-.045988	.0145436	95.85603
Stddev	.0024287	.000881	.024986	.003891	.0007773	.27490
%RSD	3.084186	3.858728	.8571922	8.460777	5.344525	.2867836
#1	.0786462	-.023775	2.890528	-.047662	.0144463	95.95943
#2	.0812231	-.022697	2.913614	-.041540	.0138195	96.06423
#3	.0763689	-.022028	2.940453	-.048761	.0153649	95.54442

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.250163	.0065284	.0045600	709.5524	.2610064	.0912096
Stddev	.004350	.0000429	.0003349	1.4480	.0007108	.0010057
%RSD	.3479159	.6573855	7.344931	.2040681	.2723467	1.102648
#1	1.250365	.0065573	.0042055	708.3386	.2601906	.0903360
#2	1.254408	.0064791	.0046035	711.1551	.2614931	.0909837
#3	1.245716	.0065489	.0048711	709.1636	.2613353	.0923090

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.278981	192.6538	2.828619	179.6421	.2553706	.0050391
Stddev	.011685	.3804	.007111	.2289	.0029491	.0004873
%RSD	.9136027	.1974776	.2514021	.1274418	1.154841	9.670394
#1	1.269014	193.0284	2.833479	179.9063	.2528712	.0054987
#2	1.276090	192.6652	2.831920	179.5029	.2546173	.0050903
#3	1.291840	192.2678	2.820457	179.5171	.2586233	.0045282

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	63.28952	.3747425	1.670856	20.58267	.5846956	.0160716
Stddev	.17640	.0012383	.006156	.10307	.0012868	.0006027
%RSD	.2787189	.3304312	.3684332	.5007739	.2200808	3.750225
#1	63.27544	.3757410	1.673850	20.61103	.5832179	.0165269
#2	63.47253	.3751294	1.674942	20.66860	.5855691	.0162997
#3	63.12058	.3733569	1.663775	20.46839	.5852998	.0153881

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1206-07 Acquired: 1/30/2025 15:12:37 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0969282	4.679165	F 23.39736	9.089525	F 31.31762	.0110828
Stddev	.0010888	.018034	.08702	.084000	.29841	.0005815
%RSD	1.123328	.3854184	.3719350	.9241452	.9528495	5.247163
#1	.0971131	4.686021	23.30117	9.007907	31.04207	.0117542
#2	.0957588	4.692766	23.42027	9.084947	31.27621	.0107359
#3	.0979128	4.658708	23.47064	9.175721	31.63457	.0107584

Elem	Sr4077
Units	ppm
Avg	1.819407
Stddev	.016703
%RSD	.9180398
#1	1.829034
#2	1.829067
#3	1.800120

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2667.090	53812.66	11334.05	1816.448	3297.073
Stddev	15.615	30.23	1.77	5.288	23.814
%RSD	.5854671	.0561699	.0156312	.2911193	.7222720
#1	2676.637	53822.74	11332.36	1811.826	3314.902
#2	2675.563	53836.55	11335.89	1815.304	3306.289
#3	2649.070	53778.68	11333.88	1822.215	3270.029

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03 Acquired: 1/30/2025 15:16:58 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0636373	-.010816	3.381284	-.046843	.0044852	95.51683	.9990632
Stddev	.0021360	.001862	.008230	.002916	.0012582	.38862	.0070886
%RSD	3.356571	17.21054	.2434115	6.224753	28.05192	.4068613	.7095235
#1	.0660466	-.012511	3.376859	-.047637	.0057597	95.81830	1.004827
#2	.0619754	-.011115	3.376212	-.043612	.0044519	95.07824	.991148
#3	.0628897	-.008824	3.390780	-.049279	.0032440	95.65396	1.001215

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084145	.0040097	336.5377	.2502421	.1422483	1.127789	236.6531
Stddev	.0000760	.0001952	4.0168	.0011085	.0001411	.004935	1.2049
%RSD	.9025748	4.867621	1.193567	.4429549	.0991640	.4375846	.5091524
#1	.0084296	.0038558	332.0530	.2502113	.1421144	1.124212	237.8580
#2	.0083321	.0039440	337.7552	.2513657	.1422347	1.125737	236.6532
#3	.0084817	.0042292	339.8050	.2491494	.1423956	1.133419	235.4482

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.679637	176.0096	.4687324	.0103676	37.00331	.3775027	3.438612
Stddev	.025579	.7397	.0010684	.0004300	.18611	.0026182	.017892
%RSD	.6951406	.4202658	.2279287	4.147591	.5029626	.6935708	.5203224
#1	3.700516	176.5273	.4679374	.0108298	37.11355	.3805153	3.437754
#2	3.651105	175.1624	.4683129	.0102936	37.10795	.3762154	3.456917
#3	3.687289	176.3391	.4699468	.0099793	36.78843	.3757772	3.421165

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.86030	.1580656	.0089578	.2100746	3.878055	7.028596	8.866231
Stddev	.11283	.0014063	.0004490	.0018004	.018833	.046408	.023724
%RSD	.6317542	.8896798	5.012378	.8570413	.4856202	.6602674	.2675760
#1	17.94259	.1595890	.0094712	.2093425	3.894199	7.064418	8.838842
#2	17.90663	.1577907	.0086383	.2087556	3.857366	7.045201	8.879474
#3	17.73168	.1568170	.0087640	.2121258	3.882601	6.976171	8.880377

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03 Acquired: 1/30/2025 15:16:58 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.196136	.0679091	.3125405
Stddev	.005337	.0016789	.0032251
%RSD	.1271819	2.472295	1.031885
#1	4.194839	.0697055	.3148147
#2	4.202001	.0663797	.3088496
#3	4.191567	.0676421	.3139572

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2860.662	56791.73	11618.43	1939.042	3523.884
Stddev	2.061	263.56	33.84	11.601	3.819
%RSD	.0720636	.4640746	.2912904	.5982596	.1083678
#1	2860.921	56849.32	11627.85	1940.949	3526.856
#2	2862.582	56504.14	11646.57	1926.606	3525.218
#3	2858.484	57021.72	11580.88	1949.570	3519.577

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03DUP Acquired: 1/30/2025 15:21:10 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0608152	-.011701	3.394102	-.046883	.0053025	97.64719	1.007747
Stddev	.0028025	.000754	.019132	.003453	.0021179	.06725	.002222
%RSD	4.608192	6.444842	.5636706	7.366233	39.94084	.0688703	.2205003
#1	.0576708	-.011184	3.372062	-.050298	.0072411	97.62636	1.009765
#2	.0617253	-.011353	3.406427	-.043392	.0030422	97.72238	1.008110
#3	.0630495	-.012566	3.403817	-.046957	.0056243	97.59281	1.005366

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086593	.0040379	344.5710	.2586421	.1439931	1.125221	240.4765
Stddev	.0000888	.0007356	2.0580	.0023923	.0007175	.007888	1.8799
%RSD	1.025147	18.21722	.5972548	.9249570	.4982715	.7010101	.7817423
#1	.0085935	.0032593	346.0998	.2613463	.1433590	1.116914	242.6114
#2	.0087603	.0041332	345.3821	.2577784	.1438485	1.126140	239.7494
#3	.0086241	.0047212	342.2310	.2568015	.1447719	1.132609	239.0687

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.703448	178.3955	.4727205	.0098099	37.57017	.3836990	3.542672
Stddev	.010629	.2490	.0032289	.0001814	.25132	.0015343	.017583
%RSD	.2870147	.1395511	.6830399	1.849426	.6689288	.3998683	.4963272
#1	3.713301	178.4040	.4695105	.0099714	37.85943	.3825593	3.562803
#2	3.704860	178.6401	.4726831	.0098447	37.44574	.3830943	3.534890
#3	3.692183	178.1424	.4759679	.0096136	37.40534	.3854436	3.530322

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.17755	.1603299	.0092864	.2118054	3.976060	8.326493	8.772126
Stddev	.15168	.0017826	.0003842	.0027757	.004872	.056785	.044222
%RSD	.8344150	1.111835	4.137140	1.310473	.1225386	.6819840	.5041215
#1	18.35127	.1620422	.0088808	.2087670	3.981660	8.390316	8.724179
#2	18.07141	.1604631	.0096449	.2124410	3.973726	8.281558	8.780888
#3	18.10997	.1584844	.0093334	.2142081	3.972794	8.307606	8.811311

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03DUP Acquired: 1/30/2025 15:21:10 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.146418	.0672113	.3153922
Stddev	.031587	.0019210	.0008994
%RSD	.7617960	2.858214	.2851742
#1	4.113400	.0653251	.3143691
#2	4.149507	.0691654	.3160582
#3	4.176347	.0671434	.3157493

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2871.739	55527.74	11441.91	1876.985	3540.696
Stddev	8.723	391.40	21.64	6.263	18.333
%RSD	.3037392	.7048716	.1891019	.3336567	.5177660
#1	2880.124	55092.71	11427.63	1870.823	3561.046
#2	2872.380	55639.16	11431.29	1876.790	3535.572
#3	2862.714	55851.34	11466.80	1883.343	3525.471

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV04 Acquired: 1/30/2025 15:25:23 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.888408	5.087885	4.746005	4.952405	4.977046	9.665837	9.354081
Stddev	.065836	.070767	.073832	.064983	.073249	.067011	.117151
%RSD	1.346787	1.390900	1.555656	1.312160	1.471742	.6932789	1.252409
#1	4.913838	5.109156	4.779515	4.970337	4.996396	9.641788	9.444591
#2	4.813650	5.008922	4.661362	4.880338	4.896065	9.614170	9.221761
#3	4.937737	5.145577	4.797140	5.006539	5.038678	9.741554	9.395892

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2308155	2.372887	23.41638	1.002816	2.373284	1.227966	4.935850
Stddev	.0017756	.037505	.14102	.007885	.038312	.017411	.018549
%RSD	.7692605	1.580548	.6022201	.7862423	1.614302	1.417907	.3758079
#1	.2308344	2.390776	23.39130	1.011875	2.392303	1.235943	4.956564
#2	.2290305	2.329787	23.28958	.999071	2.329184	1.207995	4.930214
#3	.2325815	2.398097	23.56825	.997502	2.398365	1.239959	4.920772

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.280196	23.42702	2.377134	1.219133	25.73481	2.386064	2.480679
Stddev	.013131	.16552	.038994	.007334	.18080	.018448	.014711
%RSD	.5758570	.7065362	1.640393	.6015522	.7025533	.7731739	.5930198
#1	2.281800	23.40479	2.397616	1.227592	25.94354	2.379652	2.496638
#2	2.266337	23.27374	2.332167	1.215243	25.62678	2.371678	2.477738
#3	2.292451	23.60253	2.401619	1.214564	25.63412	2.406863	2.467660

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.22473	4.559271	4.959178	4.773211	4.682757	5.196909	4.810362
Stddev	.18865	.036373	.071459	.078720	.030300	.023722	.079446
%RSD	.7478929	.7977911	1.440944	1.649195	.6470579	.4564700	1.651555
#1	25.44147	4.550832	4.982517	4.811835	4.687126	5.222960	4.838427
#2	25.13527	4.527858	4.878968	4.682639	4.650509	5.176551	4.720693
#3	25.09745	4.599122	5.016050	4.825158	4.710635	5.191216	4.871966

Sample Name: CCV04 Acquired: 1/30/2025 15:25:23 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.751529	4.695717	4.700450
Stddev	.074643	.034796	.057842
%RSD	1.570928	.7410239	1.230559
#1	4.790109	4.702173	4.726682
#2	4.665491	4.658145	4.634140
#3	4.798987	4.726833	4.740528

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2794.100	53889.53	10175.04	1814.820	4051.853
Stddev	32.269	323.25	69.67	11.974	54.861
%RSD	1.154899	.5998437	.6847336	.6598091	1.353971
#1	2782.354	53527.49	10182.51	1801.144	4025.516
#2	2830.597	53991.91	10240.67	1823.421	4114.916
#3	2769.350	54149.21	10101.93	1819.894	4015.126

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB04 Acquired: 1/30/2025 15:29:35 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.001802	-.000753	-.000195	.0002134	-.002705	-.012474	-.001798
Stddev	.000777	.000964	.001033	.0020207	.001167	.001521	.000592
%RSD	43.12097	128.0293	529.6269	946.8427	43.11886	12.19659	32.94675
#1	-.002481	-.001340	-.001144	.0003742	-.003982	-.012642	-.002436
#2	-.001972	-.001280	.000906	-.001883	-.001695	-.013905	-.001693
#3	-.000954	.000360	-.000347	.002149	-.002439	-.010876	-.001265

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000440	-.000218	-.014611	.0001770	-.000095	.0001450	-.017454
Stddev	.0000307	.000067	.006065	.0000719	.000086	.0003431	.002795
%RSD	69.68749	30.57994	41.51047	40.61301	90.00334	236.6080	16.01462
#1	.0000786	-.000289	-.013724	.0001123	-.000190	.0001027	-.014323
#2	.0000199	-.000207	-.009039	.0001643	-.000073	.0005073	-.018340
#3	.0000336	-.000157	-.021071	.0002544	-.000023	-.000175	-.019699

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000536	.0033503	-.000316	.0004446	.0742570	-.001590	-.002889
Stddev	.000151	.0126168	.000530	.0003580	.0120976	.000766	.000045
%RSD	28.09450	376.5821	167.7551	80.51619	16.29148	48.15451	1.556217
#1	-.000509	-.005016	.000265	.0007752	.0622069	-.000777	-.002915
#2	-.000401	.017862	-.000775	.0004943	.0741628	-.001696	-.002915
#3	-.000699	-.002795	-.000439	.0000644	.0864015	-.002297	-.002837

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1159660	.0019206	-.000264	-.000231	.0010477	-.001057	.0009277
Stddev	.0126071	.0001621	.000045	.000332	.0002226	.009043	.0014056
%RSD	10.87135	8.440013	16.83468	143.9582	21.24171	855.6506	151.5155
#1	.1263972	.0020938	-.000232	.000022	.0009862	-.005671	.0020356
#2	.1019566	.0018953	-.000246	-.000607	.0012946	.009363	-.000653
#3	.1195443	.0017726	-.000315	-.000107	.0008624	-.006862	.001401

Sample Name: CCB04 Acquired: 1/30/2025 15:29:35 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005654	-.004115	-.000323
Stddev	.001354	.000848	.000027
%RSD	23.94986	20.60066	8.312391
#1	-.005070	-.004224	-.000312
#2	-.004690	-.004902	-.000304
#3	-.007202	-.003218	-.000354

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2951.740	57562.70	10991.27	1959.915	4493.497
Stddev	6.481	1330.94	22.02	42.684	13.863
%RSD	.2195568	2.312164	.2003495	2.177853	.3085057
#1	2947.230	58333.13	10966.14	1982.830	4499.570
#2	2959.167	58329.10	11000.47	1986.248	4503.287
#3	2948.825	56025.86	11007.19	1910.667	4477.635

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03LX5 Acquired: 1/30/2025 15:33:56 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0132155	-.002927	.7152043	-.008190	-.000578	20.84055	.2089108
Stddev	.0008848	.002690	.0040464	.001563	.002064	.06401	.0006654
%RSD	6.695587	91.90435	.5657718	19.07876	356.9884	.3071419	.3185034
#1	.0134589	-.004882	.7105344	-.008826	-.001006	20.82779	.2093233
#2	.0122344	.000141	.7174070	-.009334	-.002395	20.90997	.2092659
#3	.0139531	-.004039	.7176715	-.006409	.001666	20.78387	.2081432

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020427	-.000566	75.45128	.0589696	.0290233	.2679607	51.83220
Stddev	.0000479	.000198	.11834	.0007991	.0002718	.0011522	.41217
%RSD	2.343066	35.00876	.1568415	1.355144	.9363869	.4299911	.7951947
#1	.0020353	-.000773	75.42701	.0585869	.0287095	.2669734	51.89552
#2	.0020938	-.000546	75.57987	.0584338	.0291735	.2692267	51.39204
#3	.0019989	-.000379	75.34695	.0598881	.0291868	.2676821	52.20904

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8246043	38.71126	.0975848	.0026321	7.608986	.0835885	.7950918
Stddev	.0017931	.11753	.0008926	.0004924	.060770	.0015787	.0093505
%RSD	.2174469	.3036061	.9146893	18.70910	.7986655	1.888618	1.176024
#1	.8225345	38.57650	.0968197	.0025878	7.647329	.0852086	.7899001
#2	.8255953	38.79255	.0985654	.0021633	7.538918	.0835020	.7894891
#3	.8256832	38.76472	.0973693	.0031452	7.640710	.0820549	.8058862

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.759242	.0331096	.0016568	.0387479	.8695623	1.564145	1.757776
Stddev	.014586	.0008228	.0003400	.0003785	.0020268	.008923	.011708
%RSD	.3880006	2.485188	20.52097	.9767961	.2330822	.5704843	.6660754
#1	3.775676	.0336042	.0015623	.0390360	.8700533	1.561987	1.744431
#2	3.754216	.0321598	.0013740	.0388884	.8712985	1.556499	1.766324
#3	3.747834	.0335649	.0020340	.0383192	.8673351	1.573950	1.762572

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03LX5 Acquired: 1/30/2025 15:33:56 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.8182456	.0082888	.0664116
Stddev	.0116674	.0006165	.0005679
%RSD	1.425908	7.437507	.8550654
#1	.8048803	.0077720	.0665248
#2	.8234600	.0081232	.0669143
#3	.8263965	.0089711	.0657957

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2805.468	54722.61	10850.89	1865.320	3943.324
Stddev	8.052	573.62	60.20	22.968	16.784
%RSD	.2870273	1.048230	.5547868	1.231318	.4256352
#1	2814.320	54862.31	10912.93	1873.366	3962.538
#2	2798.579	55213.47	10847.02	1883.182	3931.518
#3	2803.505	54092.04	10792.72	1839.411	3935.916

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03MS Acquired: 1/30/2025 15:38:07 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7831613	1.941921	5.358195	1.639628	.3198236	99.48008
Stddev	.0003069	.004383	.009586	.000515	.0008737	.36942
%RSD	.0391864	.2256980	.1788995	.0314150	.2731927	.3713499
#1	.7834578	1.944697	5.348238	1.639680	.3198331	99.75489
#2	.7828450	1.944199	5.358987	1.639089	.3189452	99.06013
#3	.7831813	1.936868	5.367360	1.640115	.3206926	99.62521

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.297616	.1707649	.1957342	159.1961	.6379128	.3792382
Stddev	.005545	.0008034	.0001535	.4806	.0014210	.0009947
%RSD	.4273375	.4704508	.0784205	.3018748	.2227566	.2622959
#1	1.297139	.1715796	.1955706	159.5460	.6368367	.3781787
#2	1.292325	.1707419	.1958751	158.6482	.6395236	.3793836
#3	1.303384	.1699733	.1957568	159.3942	.6373782	.3801522

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.816190	233.1808	4.088656	59.29954	1.031375	.0763105
Stddev	.000971	1.5856	.011653	.17736	.001608	.0009474
%RSD	.0534747	.6799787	.2850151	.2990932	.1558601	1.241453
#1	1.815233	232.2202	4.092807	59.41162	1.029685	.0763889
#2	1.816161	232.3112	4.075496	59.09506	1.031555	.0753264
#3	1.817175	235.0109	4.097665	59.39195	1.032885	.0772163

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.60621	.5671982	6.799010	25.41504	.3478075	.3732649
Stddev	.23460	.0024498	.003835	.20257	.0016725	.0007716
%RSD	.6408653	.4319087	.0564118	.7970647	.4808605	.2067153
#1	36.41451	.5680046	6.802863	25.27928	.3462251	.3729243
#2	36.53632	.5644469	6.795193	25.31795	.3476400	.3727222
#3	36.86781	.5691431	6.798974	25.64788	.3495574	.3741482

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03MS Acquired: 1/30/2025 15:38:07 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.236725	3.869477	F 11.18463	F 15.34143	2.792241	.2682505
Stddev	.000854	.011949	.08778	.05541	.001552	.0011232
%RSD	.0690772	.3088134	.7848562	.3611777	.0555770	.4187275
#1	1.235741	3.872629	11.12893	15.30161	2.790494	.2681627
#2	1.237283	3.856268	11.13915	15.31796	2.792769	.2671738
#3	1.237150	3.879535	11.28582	15.40471	2.793460	.2694151

Elem	Sr4077
Units	ppm
Avg	.4674587
Stddev	.0015162
%RSD	.3243463
#1	.4684551
#2	.4657138
#3	.4682072

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2968.380	58494.02	11482.68	1974.136	3710.622
Stddev	1.687	154.49	65.20	2.206	3.994
%RSD	.0568387	.2641089	.5678233	.1117549	.1076380
#1	2970.326	58419.04	11407.56	1971.866	3714.311
#2	2967.466	58671.69	11515.94	1976.273	3706.381
#3	2967.346	58391.34	11524.55	1974.268	3711.173

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03MSD Acquired: 1/30/2025 15:42:05 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7947888	1.953313	5.433827	1.657812	.3221016	99.61044
Stddev	.0046872	.006071	.010923	.006143	.0004904	.63827
%RSD	.5897477	.3108040	.2010238	.3705656	.1522623	.6407686
#1	.7960511	1.946607	5.441962	1.660331	.3215417	100.3399
#2	.7895997	1.958436	5.421412	1.650810	.3224552	99.3370
#3	.7987157	1.954896	5.438107	1.662296	.3223078	99.1545

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.331846	.1697037	.1981792	160.2703	.6284128	.3842509
Stddev	.007339	.0010865	.0007351	1.0314	.0029574	.0009258
%RSD	.5510092	.6402074	.3709209	.6435231	.4706142	.2409476
#1	1.339891	.1709581	.1987675	161.4165	.6262131	.3851620
#2	1.330131	.1690931	.1973552	159.9771	.6272504	.3833110
#3	1.325518	.1690600	.1984150	159.4172	.6317748	.3842796

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.842125	237.6098	4.173251	59.61005	1.046776	.0768536
Stddev	.006365	.7961	.024871	.37292	.001674	.0006593
%RSD	.3455494	.3350377	.5959532	.6255997	.1599298	.8578229
#1	1.844268	236.7120	4.200498	60.03301	1.048206	.0761417
#2	1.834964	238.2296	4.167484	59.46856	1.044935	.0774431
#3	1.847142	237.8879	4.151770	59.32858	1.047189	.0769761

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.22130	.5736846	6.673164	25.98378	.3586098	.3762779
Stddev	.05361	.0042542	.022116	.12176	.0007926	.0004762
%RSD	.1440243	.7415555	.3314208	.4685941	.2210247	.1265542
#1	37.15974	.5781619	6.648615	25.84341	.3585352	.3758864
#2	37.25769	.5731962	6.679345	26.04722	.3578571	.3761392
#3	37.24647	.5696957	6.691533	26.06072	.3594371	.3768081

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03MSD Acquired: 1/30/2025 15:42:05 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.253585	3.947801	F 11.76165	F 15.79680	2.850785	.2736060
Stddev	.001243	.021491	.02716	.03108	.005167	.0015575
%RSD	.0991466	.5443726	.2309470	.1967606	.1812455	.5692468
#1	1.253886	3.971800	11.73370	15.77365	2.846235	.2753713
#2	1.252220	3.941265	11.78795	15.83213	2.856402	.2730209
#3	1.254650	3.930336	11.76331	15.78463	2.849717	.2724257

Elem	Sr4077
Units	ppm
Avg	.4734742
Stddev	.0049067
%RSD	1.036311
#1	.4790147
#2	.4717298
#3	.4696781

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2934.016	59184.89	11603.65	2031.178	3654.516
Stddev	13.972	153.74	89.05	8.377	15.063
%RSD	.4762110	.2597603	.7674551	.4124242	.4121782
#1	2924.247	59232.60	11501.23	2033.182	3643.852
#2	2950.020	59309.12	11662.72	2038.371	3671.748
#3	2927.781	59012.95	11647.02	2021.980	3647.949

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-03A Acquired: 1/30/2025 15:46:04 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7891510	1.924724	5.359434	1.657430	.3061729	100.5836
Stddev	.0042436	.022376	.029396	.009689	.0015779	1.2874
%RSD	.5377461	1.162563	.5484865	.5845904	.5153686	1.279943
#1	.7870165	1.899520	5.326214	1.646795	.3067629	99.1960
#2	.7863985	1.932401	5.382083	1.665757	.3043850	100.8155
#3	.7940381	1.942251	5.370003	1.659738	.3073708	101.7393

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.286098	.1730648	.1980481	157.9540	.6412542	.3837919
Stddev	.012333	.0025253	.0016687	2.0009	.0012447	.0017694
%RSD	.9589170	1.459176	.8425516	1.266766	.1941092	.4610318
#1	1.272329	.1702967	.1961254	155.7617	.6417157	.3819269
#2	1.289836	.1736548	.1989009	158.4186	.6398447	.3854470
#3	1.296129	.1752429	.1991180	159.6817	.6422023	.3840018

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.839658	233.7692	4.062405	58.78947	1.044798	.0760136
Stddev	.011065	.7250	.040675	.89191	.004126	.0004496
%RSD	.6014842	.3101528	1.001245	1.517122	.3949163	.5914277
#1	1.827125	234.6014	4.017747	57.84210	1.040373	.0765325
#2	1.848079	233.2736	4.072138	58.91334	1.048539	.0757665
#3	1.843769	233.4327	4.097330	59.61296	1.045482	.0757417

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.22483	.5627038	6.839010	25.16730	.3503823	.3643140
Stddev	.11607	.0067817	.030065	.13026	.0007802	.0022555
%RSD	.3204190	1.205191	.4396090	.5175793	.2226632	.6191226
#1	36.34878	.5549563	6.836503	25.31751	.3501282	.3617484
#2	36.11870	.5655906	6.810277	25.09900	.3497609	.3659852
#3	36.20701	.5675643	6.870250	25.08540	.3512578	.3652084

Sample Name: Q1207-03A Acquired: 1/30/2025 15:46:04 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.242492	4.012661	F 12.31759	F 15.77824	2.934591	.2662836
Stddev	.006985	.042999	.03256	.03996	.015733	.0020502
%RSD	.5622018	1.071595	.2643587	.2532367	.5361190	.7699399
#1	1.234709	3.966614	12.35223	15.73725	2.916500	.2641835
#2	1.248219	4.019597	12.28761	15.81708	2.945071	.2663872
#3	1.244547	4.051770	12.31293	15.78040	2.942202	.2682800

Elem	Sr4077
Units	ppm
Avg	.4606980
Stddev	.0073208
%RSD	1.589076
#1	.4526211
#2	.4625759
#3	.4668970

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2946.355	58354.55	11409.68	1973.720	3671.814
Stddev	13.975	127.09	161.28	7.100	15.444
%RSD	.4743299	.2177818	1.413495	.3597231	.4206205
#1	2962.468	58314.40	11584.90	1975.484	3689.621
#2	2939.058	58496.86	11376.67	1979.772	3662.068
#3	2937.538	58252.39	11267.46	1965.905	3663.752

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-07 Acquired: 1/30/2025 15:50:02 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0476690	-.018956	1.498369	-.046651	.0062527	80.94221
Stddev	.0031139	.003467	.007694	.001578	.0018858	.00946
%RSD	6.532345	18.28755	.5134974	3.382017	30.15938	.0116896
#1	.0499214	-.022876	1.497330	-.046085	.0056448	80.93892
#2	.0489700	-.016296	1.491247	-.045434	.0047458	80.95287
#3	.0441156	-.017695	1.506530	-.048433	.0083674	80.93482

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7786102	.0062559	.0074643	433.3799	.2695877	.1126524
Stddev	.0023037	.0000794	.0004464	.7014	.0025878	.0008173
%RSD	.2958727	1.269863	5.980935	.1618381	.9598956	.7255400
#1	.7811875	.0063334	.0071913	432.5708	.2709005	.1120697
#2	.7778920	.0062598	.0072221	433.8156	.2712559	.1123007
#3	.7767513	.0061746	.0079794	433.7532	.2666067	.1135867

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5710476	208.2609	2.933956	115.8900	.3232163	.0037357
Stddev	.0071449	1.8851	.010043	.1484	.0010514	.0001027
%RSD	1.251199	.9051840	.3422914	.1280682	.3253058	2.748140
#1	.5656619	209.9021	2.940825	115.9234	.3229076	.0036334
#2	.5683278	208.6787	2.938613	116.0189	.3223537	.0038387
#3	.5791530	206.2019	2.922430	115.7277	.3243875	.0037348

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.07597	.2926736	1.260450	27.69551	.1578736	.0116397
Stddev	.13394	.0005405	.005840	.25150	.0028974	.0000942
%RSD	.7843594	.1846659	.4633563	.9080908	1.835268	.8093472
#1	17.21710	.2922747	1.262087	27.91830	.1610755	.0117142
#2	17.06016	.2932887	1.265297	27.74544	.1571128	.0116710
#3	16.95063	.2924574	1.253966	27.42279	.1554325	.0115338

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-07 Acquired: 1/30/2025 15:50:02 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1959103	4.916102	F 22.67964	8.193238	F 22.12389	.0426394
Stddev	.0019177	.008037	.19315	.033010	.08787	.0003696
%RSD	.9788662	.1634812	.8516619	.4028944	.3971557	.8666995
#1	.1977928	4.924442	22.86722	8.192041	22.08128	.0428460
#2	.1939592	4.915456	22.69033	8.160842	22.06546	.0422128
#3	.1959787	4.908408	22.48136	8.226829	22.22494	.0428595

Elem	Sr4077
Units	ppm
Avg	.9469295
Stddev	.0118374
%RSD	1.250088
#1	.9438886
#2	.9599907
#3	.9369091

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3066.894	61572.75	12696.08	2068.902	3447.380
Stddev	17.031	467.41	50.50	12.228	14.739
%RSD	.5553166	.7591237	.3977262	.5910420	.4275484
#1	3076.739	61304.06	12730.80	2061.863	3454.221
#2	3076.714	61301.71	12638.15	2061.822	3457.456
#3	3047.228	62112.47	12719.28	2083.022	3430.463

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-11 Acquired: 1/30/2025 15:54:24 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0556431	-.015671	1.726943	-.047191	.0038089	83.95884
Stddev	.0002564	.002315	.013484	.002395	.0023975	.45323
%RSD	.4608241	14.77282	.7808126	5.074394	62.94409	.5398214
#1	.0553493	-.017333	1.741298	-.049728	.0054757	84.48197
#2	.0557578	-.016653	1.724989	-.044970	.0048899	83.71022
#3	.0558221	-.013027	1.714543	-.046875	.0010613	83.68433

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8057772	.0071379	.0060034	475.6579	.2522909	.1038984
Stddev	.0099742	.0000523	.0004377	2.5453	.0014520	.0008910
%RSD	1.237835	.7326427	7.290412	.5351170	.5755322	.8576114
#1	.8172925	.0071179	.0063062	474.6649	.2511937	.1046918
#2	.8002014	.0071973	.0062025	478.5501	.2517416	.1040691
#3	.7998376	.0070986	.0055016	473.7588	.2539374	.1029344

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6699672	229.1889	2.692416	78.51648	.3350293	.0135456
Stddev	.0050712	1.6940	.018690	.25232	.0030065	.0005433
%RSD	.7569304	.7391333	.6941687	.3213595	.8973754	4.010965
#1	.6749903	230.0136	2.713562	78.78173	.3384953	.0139759
#2	.6700620	227.2405	2.678106	78.27946	.3331257	.0129351
#3	.6648492	230.3127	2.685581	78.48824	.3334670	.0137257

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.17843	.2891452	1.684885	23.49038	.1869845	.0115080
Stddev	.08222	.0014797	.010201	.11573	.0029146	.0002466
%RSD	.4786308	.5117524	.6054634	.4926528	1.558743	2.142916
#1	17.25086	.2904646	1.677526	23.58899	.1884121	.0117639
#2	17.08906	.2894256	1.680598	23.36297	.1836313	.0112719
#3	17.19537	.2875453	1.696530	23.51917	.1889100	.0114883

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-11 Acquired: 1/30/2025 15:54:24 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1127114	4.144295	F 19.23802	8.074165	F 33.60741	.0459289
Stddev	.0016127	.032960	.08029	.059930	.27872	.0020247
%RSD	1.430839	.7953006	.4173347	.7422497	.8293289	4.408404
#1	.1136321	4.181628	19.26089	8.137498	33.92924	.0480743
#2	.1136529	4.119226	19.14878	8.066651	33.44547	.0440516
#3	.1108492	4.132030	19.30439	8.018345	33.44751	.0456609

Elem	Sr4077
Units	ppm
Avg	1.027635
Stddev	.017549
%RSD	1.707720
#1	1.017211
#2	1.017798
#3	1.047896

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3017.716	59275.91	12479.10	1995.373	3475.743
Stddev	14.972	383.09	25.60	8.110	18.632
%RSD	.4961505	.6462876	.2051648	.4064389	.5360496
#1	3000.433	59567.57	12500.45	2001.061	3454.363
#2	3025.970	59418.12	12486.13	1998.971	3484.357
#3	3026.744	58842.05	12450.71	1986.086	3488.510

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-15 Acquired: 1/30/2025 15:58:45 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0795111	-.012319	2.933055	-.040542	.0084893	79.20529
Stddev	.0010046	.001799	.011235	.002151	.0017157	.51078
%RSD	1.263496	14.60719	.3830323	5.305680	20.20986	.6448865
#1	.0788636	-.012438	2.939515	-.042551	.0088736	79.79495
#2	.0806684	-.010463	2.920083	-.040802	.0066140	78.89930
#3	.0790013	-.014056	2.939568	-.038273	.0099802	78.92162

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9100497	.0062235	.0010862	483.4968	.2338829	.0784234
Stddev	.0070345	.0000903	.0003605	3.7007	.0002332	.0003100
%RSD	.7729820	1.451517	33.19202	.7653940	.0997150	.3952380
#1	.9181403	.0061390	.0013890	486.7047	.2336203	.0786263
#2	.9053790	.0062128	.0006874	479.4481	.2339624	.0785773
#3	.9066298	.0063187	.0011823	484.3377	.2340660	.0780666

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5079605	195.6280	2.929241	124.7016	.2933556	.0048715
Stddev	.0033330	.7044	.015835	.6798	.0013692	.0005771
%RSD	.6561577	.3600723	.5405910	.5451568	.4667275	11.84599
#1	.5104744	194.8531	2.947390	125.4748	.2943082	.0042293
#2	.5041798	196.2296	2.918234	124.4323	.2917866	.0050387
#3	.5092274	195.8013	2.922101	124.1977	.2939720	.0053466

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	55.10035	.2951919	1.187615	19.28526	.3573761	.0122601
Stddev	.20518	.0016877	.002359	.08007	.0014706	.0004770
%RSD	.3723743	.5717394	.1986584	.4151732	.4114971	3.890386
#1	54.87952	.2969546	1.187501	19.19404	.3569613	.0118636
#2	55.28509	.2950302	1.185314	19.34390	.3590096	.0127894
#3	55.13644	.2935908	1.190029	19.31783	.3561575	.0121272

Sample Name: Q1207-15 Acquired: 1/30/2025 15:58:45 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0943734	3.826809	F 29.71892	5.625095	F 34.09750	.0375442
Stddev	.0004095	.024994	.16074	.021873	.15434	.0009615
%RSD	.4339506	.6531250	.5408634	.3888480	.4526389	2.561061
#1	.0939005	3.855669	29.53381	5.639606	34.18738	.0380274
#2	.0946113	3.812559	29.82320	5.599937	33.91929	.0381683
#3	.0946083	3.812200	29.79975	5.635743	34.18583	.0364369

Elem	Sr4077
Units	ppm
Avg	.8083012
Stddev	.0120737
%RSD	1.493708
#1	.8205227
#2	.7963811
#3	.8079998

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2669.445	52867.57	10946.97	1801.641	3443.020
Stddev	8.357	202.88	68.15	5.414	11.870
%RSD	.3130787	.3837524	.6225436	.3004921	.3447626
#1	2659.885	53098.66	10872.06	1802.457	3429.477
#2	2675.365	52785.38	11005.29	1806.601	3451.620
#3	2673.086	52718.69	10963.56	1795.866	3447.962

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-19 Acquired: 1/30/2025 16:03:01 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1074393	-.008421	7.482340	-.036884	.0190080	79.58423
Stddev	.0037171	.001779	.020979	.002708	.0011546	.50312
%RSD	3.459755	21.12945	.2803747	7.342818	6.074433	.6321895
#1	.1037343	-.009578	7.463220	-.038800	.0182975	79.51642
#2	.1074153	-.009314	7.504781	-.033785	.0183863	79.11845
#3	.1111685	-.006372	7.479020	-.038065	.0203403	80.11782

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.517692	.0071806	.0032974	603.8614	.2261338	.1102180
Stddev	.012017	.0001162	.0001965	1.0192	.0009088	.0006440
%RSD	.4772887	1.618517	5.958159	.1687752	.4018757	.5842666
#1	2.522607	.0072628	.0030995	604.7138	.2255455	.1096953
#2	2.503997	.0072312	.0033002	604.1378	.2271805	.1109374
#3	2.526472	.0070476	.0034924	602.7325	.2256754	.1100214

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.155388	207.0806	4.122044	83.23167	.4254900	.0055727
Stddev	.004242	1.6476	.007138	.28522	.0016012	.0008678
%RSD	.1968077	.7956125	.1731663	.3426849	.3763121	15.57131
#1	2.150490	208.0159	4.128471	83.05408	.4237309	.0063714
#2	2.157871	208.0477	4.114362	83.08026	.4258768	.0056974
#3	2.157803	205.1783	4.123300	83.56067	.4268624	.0046494

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	74.48509	.2713415	3.589714	24.12977	.2540038	.0096738
Stddev	.31299	.0014604	.021542	.12119	.0020368	.0002205
%RSD	.4202055	.5382123	.6000999	.5022457	.8018788	2.279218
#1	74.83410	.2697688	3.597527	24.26627	.2552762	.0097021
#2	74.39187	.2726548	3.606259	24.08822	.2550807	.0098787
#3	74.22930	.2716010	3.565356	24.03482	.2516546	.0094405

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1207-19 Acquired: 1/30/2025 16:03:01 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1464425	3.407237	F 11.02841	F 10.03755	F 18.58123	.0267389
Stddev	.0010866	.013908	.00498	.00688	.01495	.0016484
%RSD	.7419873	.4081904	.0451757	.0685053	.0804367	6.164762
#1	.1458793	3.409799	11.03381	10.03178	18.58859	.0260146
#2	.1457532	3.392226	11.02743	10.04516	18.59106	.0255766
#3	.1476951	3.419686	11.02399	10.03571	18.56403	.0286254

Elem	Sr4077
Units	ppm
Avg	1.499729
Stddev	.013898
%RSD	.9266826
#1	1.500171
#2	1.485616
#3	1.513401

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2802.368	54737.12	11452.85	1864.467	3462.068
Stddev	1.793	349.25	25.93	13.063	3.749
%RSD	.0639946	.6380425	.2264312	.7006457	.1082767
#1	2803.871	54588.71	11470.46	1858.619	3465.501
#2	2800.383	54486.58	11465.03	1855.349	3458.068
#3	2802.851	55136.06	11423.07	1879.432	3462.634

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166330BL Acquired: 1/30/2025 16:07:22 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001045	-.001795	-.001085	.0003888	-.002449	-.005126	-.002644
Stddev	.001714	.001468	.000246	.0019932	.001695	.007622	.000174
%RSD	164.0808	81.76359	22.71726	512.6923	69.19272	148.6872	6.587881
#1	.000604	-.001703	-.001313	-.000323	-.000611	-.006145	-.002779
#2	-.002818	-.000375	-.000823	.002640	-.003949	-.012187	-.002448
#3	-.000920	-.003307	-.001118	-.001151	-.002788	.002954	-.002706

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000294	-.000234	.0460975	.0004875	-.000115	.0003031	.0072531
Stddev	.0000438	.000054	.0081921	.0002777	.000087	.0000952	.0034282
%RSD	148.9718	23.06950	17.77127	56.95055	75.55978	31.39462	47.26545
#1	.0000323	-.000247	.0498300	.0001945	-.000132	.0004120	.0103232
#2	.0000716	-.000175	.0517586	.0005215	-.000021	.0002359	.0078821
#3	-.000016	-.000280	.0367038	.0007467	-.000193	.0002615	.0035539

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000158	-.001853	-.000195	.0007777	.0614964	-.002009	-.003023
Stddev	.000183	.010626	.000078	.0004132	.0026859	.000668	.000189
%RSD	115.9868	573.4311	40.11657	53.12638	4.367488	33.26469	6.235898
#1	.000036	-.011407	-.000250	.0007269	.0585473	-.002719	-.002922
#2	-.000181	.009591	-.000105	.0012139	.0638022	-.001915	-.002906
#3	-.000328	-.003743	-.000228	.0003923	.0621397	-.001393	-.003240

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0865203	-.003741	-.000750	-.001009	.0011615	.0036219	-.000118
Stddev	.0420619	.000734	.000207	.000388	.0004106	.0083888	.003585
%RSD	48.61503	19.60696	27.56792	38.44686	35.35292	231.6157	3045.119
#1	.0406705	-.002919	-.000602	-.000578	.0006961	.0112038	-.002954
#2	.0955693	-.004328	-.000987	-.001331	.0013157	-.005390	.003911
#3	.1233213	-.003978	-.000663	-.001117	.0014726	.005052	-.001310

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166330BL Acquired: 1/30/2025 16:07:22 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002057	-.004087	-.000297
Stddev	.003189	.000387	.000026
%RSD	155.0052	9.462372	8.836193
#1	.001619	-.004021	-.000267
#2	-.003709	-.004503	-.000310
#3	-.004082	-.003738	-.000315

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2856.486	55404.54	10625.27	1893.237	4338.777
Stddev	5.292	203.49	20.49	9.305	8.167
%RSD	.1852542	.3672860	.1928762	.4914995	.1882427
#1	2855.747	55614.75	10644.05	1903.790	4339.643
#2	2851.603	55208.51	10603.41	1886.211	4330.211
#3	2862.109	55390.35	10628.34	1889.710	4346.477

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166330BS Acquired: 1/30/2025 16:11:43 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8172649	2.046633	.9710609	2.030215	.7995665	1.846194
Stddev	.0063542	.028932	.0095444	.020801	.0091399	.008272
%RSD	.7774982	1.413630	.9828835	1.024549	1.143107	.4480592
#1	.8129901	2.061478	.9701281	2.034956	.8020852	1.851347
#2	.8142379	2.013292	.9620172	2.007453	.7894313	1.850582
#3	.8245667	2.065128	.9810375	2.048236	.8071829	1.836652

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1739960	.1841063	.1934500	.9487928	.4044544	.1942320
Stddev	.0012664	.0009543	.0015332	.0037151	.0030797	.0016034
%RSD	.7278148	.5183124	.7925279	.3915652	.7614512	.8255052
#1	.1744098	.1831176	.1934181	.9528550	.4073688	.1940552
#2	.1750037	.1850219	.1919331	.9479559	.4012324	.1927243
#3	.1725745	.1841792	.1949989	.9455674	.4047621	.1959165

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3108619	2.901439	.1798105	1.826978	.4896800	.0725722
Stddev	.0021606	.020047	.0000581	.017722	.0048337	.0009570
%RSD	.6950435	.6909262	.0323110	.9700308	.9871041	1.318677
#1	.3109415	2.923798	.1798509	1.817311	.4895961	.0736054
#2	.3086625	2.885070	.1797439	1.847432	.4848888	.0723952
#3	.3129816	2.895448	.1798367	1.816191	.4945550	.0717161

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.010027	.2777456	.1991671	9.628174	.2631653	.4049543
Stddev	.029182	.0038492	.0016976	.099107	.0009984	.0050896
%RSD	.9694795	1.385870	.8523496	1.029342	.3793837	1.256843
#1	3.040807	.2813057	.2010407	9.731905	.2620951	.4051442
#2	2.982762	.2782701	.1977313	9.534451	.2633292	.3997724
#3	3.006512	.2736611	.1987292	9.618166	.2640717	.4099463

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166330BS Acquired: 1/30/2025 16:11:43 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6719498	.1812267	F .7043673	5.656710	F -.015502	.1813196
Stddev	.0055639	.0005030	.0154914	.044083	.002650	.0014867
%RSD	.8280159	.2775517	2.199338	.7793122	17.09318	.8199400
#1	.6716471	.1816276	.7222404	5.656650	-.016501	.1810374
#2	.6665435	.1813903	.6960608	5.612656	-.017506	.1829272
#3	.6776589	.1806623	.6948006	5.700823	-.012497	.1799942

Elem	Sr4077
Units	ppm
Avg	.1783696
Stddev	.0007898
%RSD	.4427983
#1	.1788092
#2	.1788419
#3	.1774578

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2821.073	56089.56	10482.97	1906.658	4214.967
Stddev	19.622	350.47	49.64	11.718	28.024
%RSD	.6955427	.6248461	.4735702	.6145866	.6648744
#1	2821.224	55697.43	10528.08	1893.305	4216.162
#2	2840.619	56372.26	10429.78	1915.227	4242.375
#3	2801.376	56198.99	10491.06	1911.443	4186.365

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV05 Acquired: 1/30/2025 16:24:14 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.831548	4.983357	4.743221	4.857031	4.905890	9.748952	9.328935
Stddev	.020039	.005972	.015253	.005357	.014283	.124180	.166526
%RSD	.4147516	.1198394	.3215680	.1103015	.2911358	1.273779	1.785052
#1	4.848302	4.989538	4.753105	4.851315	4.903756	9.782285	9.476464
#2	4.809350	4.982913	4.725655	4.857840	4.892795	9.611508	9.148365
#3	4.836993	4.977619	4.750903	4.861937	4.921121	9.853064	9.361976

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2342904	2.370997	23.74353	.9905869	2.372975	1.220267	4.825653
Stddev	.0034644	.007227	.31011	.0062420	.005866	.002210	.038671
%RSD	1.478672	.3048036	1.306067	.6301296	.2472090	.1810690	.8013668
#1	.2343999	2.375011	23.77068	.9956682	2.375145	1.221211	4.858660
#2	.2307726	2.362654	23.42075	.9924731	2.366333	1.217743	4.835195
#3	.2376988	2.375326	24.03918	.9836193	2.377447	1.221848	4.783104

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.309751	23.73299	2.373747	1.207319	24.92324	2.405942	2.449355
Stddev	.031246	.35330	.003817	.005302	.15591	.036193	.006721
%RSD	1.352784	1.488649	.1608211	.4391215	.6255725	1.504323	.2743848
#1	2.311845	23.67766	2.376421	1.209143	25.08454	2.409792	2.453387
#2	2.277511	23.41062	2.369375	1.211468	24.91185	2.367977	2.453082
#3	2.339898	24.11070	2.375445	1.201346	24.77334	2.440056	2.441597

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.54381	4.643900	4.922859	4.773914	4.719415	5.085077	4.785768
Stddev	.10062	.062310	.015291	.016973	.057543	.010806	.012783
%RSD	.4099510	1.341750	.3106112	.3555445	1.219289	.2124953	.2670980
#1	24.62730	4.650535	4.924439	4.784305	4.728351	5.086730	4.794083
#2	24.57204	4.578539	4.906840	4.754327	4.657926	5.094961	4.771049
#3	24.43210	4.702627	4.937299	4.783111	4.771967	5.073540	4.792172

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV05 Acquired: 1/30/2025 16:24:14 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.709324	4.716697	4.706933
Stddev	.004897	.055545	.029466
%RSD	.1039944	1.177616	.6260039
#1	4.712074	4.729813	4.691052
#2	4.703669	4.655769	4.688814
#3	4.712228	4.764510	4.740932

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2841.440	55022.42	10038.54	1867.136	4098.132
Stddev	8.232	170.75	128.67	12.679	8.139
%RSD	.2896953	.3103246	1.281724	.6790572	.1986098
#1	2839.965	54897.23	10033.74	1861.538	4095.658
#2	2850.310	54953.10	10169.54	1858.219	4107.221
#3	2834.046	55216.92	9912.34	1881.650	4091.517

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB05 Acquired: 1/30/2025 16:28:26 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.000185	-.001576	.0002378	-.000040	-.002385	-.009667	-.002416
Stddev	.001720	.001417	.0009425	.002801	.001751	.009494	.000587
%RSD	927.6636	89.91969	396.4177	6974.789	73.44266	98.20435	24.30657
#1	-.001857	-.002898	-.000266	-.002694	-.004220	-.010650	-.001823
#2	-.000280	-.000080	-.000346	-.000315	-.000732	-.018631	-.002428
#3	.001580	-.001751	.001325	.002889	-.002202	.000280	-.002998

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000054	-.000128	-.015834	.0000067	-.000294	.0000078	-.015559
Stddev	.0000255	.000024	.008481	.0000994	.000227	.0002732	.004423
%RSD	475.0235	18.42181	53.56242	1480.052	77.33675	3496.633	28.42802
#1	-.000013	-.000131	-.024785	-.000055	-.000049	-.000291	-.014076
#2	.000035	-.000104	-.007918	.000121	-.000499	.000245	-.012068
#3	-.000006	-.000151	-.014800	-.000046	-.000333	.000069	-.020534

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000491	.0057696	-.000346	.0011281	.0432707	-.000692	-.003194
Stddev	.000413	.0078972	.000245	.0003914	.0065949	.000650	.000337
%RSD	84.01277	136.8762	70.81457	34.69283	15.24096	93.85904	10.54099
#1	-.000352	-.002182	-.000614	.0008569	.0404366	-.000053	-.002931
#2	-.000956	.005880	-.000134	.0015768	.0508088	-.000672	-.003573
#3	-.000166	.013611	-.000289	.0009506	.0385665	-.001352	-.003077

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0910310	.0040143	-.000023	.0000212	.0004813	.0001014	-.000735
Stddev	.0465544	.0004534	.000076	.0002819	.0005451	.0026448	.000742
%RSD	51.14121	11.29436	329.2350	1332.177	113.2594	2607.878	101.0188
#1	.0518279	.0044934	-.000013	-.000294	.0008658	-.002912	.000035
#2	.1424861	.0039575	.000047	.000108	.0007206	.001176	-.000793
#3	.0787791	.0035920	-.000103	.000250	-.000143	.002040	-.001447

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB05 Acquired: 1/30/2025 16:28:26 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004910	-.003916	-.000263
Stddev	.001660	.001016	.000003
%RSD	33.81344	25.95290	1.156225
#1	-.006638	-.003634	-.000262
#2	-.004764	-.005043	-.000267
#3	-.003327	-.003070	-.000262

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2916.327	56768.21	10511.10	1945.003	4434.144
Stddev	7.425	183.14	54.70	8.470	12.807
%RSD	.2546159	.3226089	.5204097	.4354634	.2888358
#1	2916.365	56704.28	10563.52	1953.823	4441.541
#2	2923.734	56625.60	10515.40	1936.933	4441.536
#3	2908.883	56974.74	10454.37	1944.255	4419.356

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166376BL Acquired: 1/30/2025 16:32:46 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006004	-.001394	-.000164	.0003245	-.002384	-.009993	-.002192
Stddev	.0002783	.000453	.000192	.0010363	.000343	.003854	.000980
%RSD	46.35345	32.51336	117.1796	319.3555	14.38641	38.56624	44.69842
#1	.0003054	-.001796	-.000343	-.000349	-.002701	-.012227	-.002902
#2	.0006377	-.001483	-.000186	.001518	-.002430	-.012209	-.001074
#3	.0008583	-.000903	.000039	-.000195	-.002020	-.005543	-.002601

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000236	-.000217	-.012833	.0001193	-.000148	-.000070	-.011516
Stddev	.0000787	.000073	.005358	.0002480	.000061	.000278	.000941
%RSD	332.8928	33.69311	41.75065	207.9161	40.87525	394.1239	8.174428
#1	.0001134	-.000298	-.017632	.0002234	-.000173	-.000386	-.012601
#2	-.000009	-.000157	-.007052	.0002982	-.000079	.000036	-.010918
#3	-.000033	-.000195	-.013816	-.000164	-.000193	.000139	-.011029

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000739	-.003684	-.000543	.0007210	.0428443	-.001067	-.003052
Stddev	.000242	.009052	.000057	.0006773	.0109720	.000978	.000207
%RSD	32.75874	245.7037	10.42075	93.94162	25.60892	91.60824	6.782513
#1	-.000589	-.012815	-.000567	.0004485	.0301827	-.000649	-.002838
#2	-.000610	.005287	-.000584	.0014921	.0495587	-.002185	-.003068
#3	-.001018	-.003525	-.000479	.0002223	.0487915	-.000368	-.003251

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1251189	.0003449	-.000103	-.000630	.0002236	-.005695	-.000603
Stddev	.0269087	.0002906	.000144	.000401	.0006319	.001521	.001243
%RSD	21.50647	84.26379	139.1456	63.62699	282.5766	26.70461	206.3130
#1	.0940686	.0000730	-.000248	-.000332	.0007046	-.006631	-.001563
#2	.1396517	.0003105	-.000101	-.001086	-.000492	-.003940	-.001048
#3	.1416365	.0006512	.000039	-.000472	.000458	-.006514	.000802

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166376BL Acquired: 1/30/2025 16:32:46 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006615	-.005028	-.000440
Stddev	.002824	.000983	.000024
%RSD	42.68591	19.54911	5.446308
#1	-.008829	-.004263	-.000432
#2	-.003435	-.006137	-.000466
#3	-.007582	-.004685	-.000420

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2853.124	56016.51	10611.43	1925.783	4307.234
Stddev	.794	252.44	14.45	5.515	1.296
%RSD	.0278181	.4506452	.1361482	.2863981	.0300832
#1	2852.624	55817.52	10627.96	1922.646	4305.972
#2	2854.039	55931.54	10605.13	1922.552	4308.561
#3	2852.709	56300.47	10601.21	1932.151	4307.167

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: PB166376BS Acquired: 1/30/2025 16:37:06 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7868075	1.954768	.9321776	1.946577	.7745606	1.770784
Stddev	.0040461	.010487	.0026156	.004972	.0003856	.014246
%RSD	.5142473	.5364751	.2805939	.2553986	.0497799	.8045199
#1	.7821545	1.961966	.9293157	1.941112	.7749691	1.766748
#2	.7887688	1.959602	.9327727	1.950830	.7745098	1.758992
#3	.7894992	1.942736	.9344444	1.947791	.7742030	1.786613

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1695629	.1764652	.1863840	.8999484	.3897245	.1864778
Stddev	.0016326	.0015051	.0007767	.0158788	.0007603	.0003940
%RSD	.9628278	.8528930	.4167390	1.764408	.1950867	.2112686
#1	.1681463	.1759241	.1855731	.8883169	.3892642	.1864209
#2	.1691942	.1753055	.1864577	.8934895	.3893072	.1861154
#3	.1713484	.1781660	.1871213	.9180388	.3906021	.1868971

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2985510	2.832275	.1749575	1.741172	.4711742	.0703736
Stddev	.0015879	.009166	.0016784	.011249	.0015328	.0001203
%RSD	.5318584	.3236361	.9593138	.6460728	.3253061	.1709902
#1	.2984202	2.822434	.1738132	1.732548	.4695270	.0703758
#2	.2970326	2.840569	.1741751	1.737072	.4714370	.0704928
#3	.3002002	2.833824	.1768842	1.753896	.4725585	.0702522

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.918229	.2663703	.1916213	9.392580	.2556028	.3914695
Stddev	.011336	.0059126	.0000702	.073821	.0020633	.0002071
%RSD	.3884593	2.219693	.0366230	.7859479	.8072413	.0529053
#1	2.913989	.2643075	.1916037	9.360156	.2540534	.3912795
#2	2.909625	.2617655	.1916987	9.340520	.2548102	.3914387
#3	2.931074	.2730380	.1915617	9.477064	.2579449	.3916902

Sample Name: PB166376BS Acquired: 1/30/2025 16:37:06 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6549574	.1774981	F .6874462	5.418720	F -.017451	.1760984
Stddev	.0017610	.0008347	.0020604	.006426	.001010	.0032302
%RSD	.2688668	.4702800	.2997221	.1185858	5.786525	1.834293
#1	.6530071	.1779014	.6887735	5.413364	-.017755	.1746186
#2	.6564307	.1765383	.6850726	5.425845	-.016324	.1738733
#3	.6554346	.1780546	.6884926	5.416952	-.018274	.1798034

Elem	Sr4077
Units	ppm
Avg	.1724302
Stddev	.0018726
%RSD	1.086016
#1	.1715113
#2	.1711946
#3	.1745848

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2865.467	56665.07	10677.81	1940.159	4276.025
Stddev	1.642	60.66	81.68	8.799	5.106
%RSD	.0572988	.1070525	.7649420	.4535451	.1194139
#1	2865.620	56614.01	10713.64	1936.793	4279.962
#2	2867.026	56649.07	10735.45	1933.539	4277.858
#3	2863.753	56732.13	10584.34	1950.145	4270.255

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-03 Acquired: 1/30/2025 16:41:06 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1176099	-.011558	5.016028	-.046599	.0120603	86.76661
Stddev	.0035452	.001020	.019075	.002304	.0018839	.17922
%RSD	3.014356	8.821354	.3802732	4.944344	15.62063	.2065534
#1	.1167290	-.010443	5.020166	-.046832	.0108351	86.63978
#2	.1215125	-.012443	5.032693	-.048778	.0111162	86.97164
#3	.1145883	-.011787	4.995223	-.044188	.0142296	86.68840

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.355180	.0065673	.0028266	812.0968	.2921486	.1030999
Stddev	.003076	.0000134	.0001025	2.1657	.0001807	.0004657
%RSD	.2269466	.2039996	3.626870	.2666820	.0618566	.4517377
#1	1.351639	.0065689	.0027459	810.6920	.2919610	.1036369
#2	1.357179	.0065798	.0029420	814.5910	.2921635	.1028051
#3	1.356723	.0065532	.0027920	811.0076	.2923215	.1028578

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.153714	213.5696	3.283866	149.0085	.3085126	.0062842
Stddev	.007476	.5083	.002303	.4255	.0013507	.0008834
%RSD	.6480082	.2380052	.0701192	.2855613	.4377994	14.05754
#1	1.152276	214.1504	3.281808	148.8394	.3080615	.0071277
#2	1.161805	213.2057	3.286353	149.4926	.3100310	.0063592
#3	1.147061	213.3527	3.283436	148.6936	.3074451	.0053657

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	121.3945	.2891901	2.016406	23.53745	.3529764	.0117353
Stddev	.2283	.0027029	.003276	.05068	.0004800	.0005909
%RSD	.1880332	.9346419	.1624791	.2152965	.1359987	5.035395
#1	121.6254	.2865925	2.012625	23.57506	.3533982	.0114953
#2	121.1689	.2919872	2.018175	23.47983	.3524541	.0124085
#3	121.3891	.2889906	2.018417	23.55747	.3530770	.0113021

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-03 Acquired: 1/30/2025 16:41:06 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1776610	3.912567	F 15.65589	6.933613	F 41.44026	.0095753
Stddev	.0002422	.007723	.03483	.025812	.17669	.0008779
%RSD	.1363296	.1973775	.2224447	.3722740	.4263836	9.168707
#1	.1776474	3.904630	15.67911	6.939768	41.49138	.0093651
#2	.1779098	3.920056	15.61585	6.955792	41.58576	.0105393
#3	.1774259	3.913016	15.67271	6.905280	41.24364	.0088216

Elem	Sr4077
Units	ppm
Avg	2.012103
Stddev	.024570
%RSD	1.221097
#1	2.022563
#2	1.984034
#3	2.029711

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2627.906	52226.86	11300.90	1767.610	3231.150
Stddev	10.974	81.58	58.39	5.465	12.204
%RSD	.4176113	.1561980	.5167226	.3091809	.3777077
#1	2629.470	52321.05	11364.92	1771.257	3231.507
#2	2616.233	52178.55	11250.55	1770.247	3218.771
#3	2638.014	52180.99	11287.24	1761.327	3243.172

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-07 Acquired: 1/30/2025 16:45:27 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1127267	-.006051	3.862155	-.045756	.0100517	75.68074
Stddev	.0023800	.002511	.036856	.002794	.0028054	.15754
%RSD	2.111310	41.49439	.9542863	6.106951	27.91004	.2081665
#1	.1113333	-.003174	3.831792	-.043482	.0091653	75.75607
#2	.1154748	-.007184	3.851512	-.048876	.0131932	75.78647
#3	.1113719	-.007797	3.903161	-.044911	.0077965	75.49967

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.499979	.0063247	.0040798	1039.152	.4007513	.1011460
Stddev	.000299	.0000919	.0001638	1.763	.0021610	.0008722
%RSD	.0199196	1.452465	4.013563	.1696765	.5392392	.8622848
#1	1.500268	.0063390	.0039294	1040.142	.4004309	.1003179
#2	1.499998	.0062265	.0042543	1037.116	.3987683	.1010637
#3	1.499671	.0064085	.0040558	1040.197	.4030545	.1020564

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8818157	195.1793	2.833413	99.50020	.4435740	.0043007
Stddev	.0060498	.8693	.007516	.26551	.0035356	.0008420
%RSD	.6860609	.4453651	.2652648	.2668444	.7970620	19.57936
#1	.8760389	194.9247	2.825200	99.30348	.4405846	.0033439
#2	.8813025	194.4658	2.835091	99.80220	.4426608	.0046292
#3	.8881058	196.1474	2.839948	99.39491	.4474765	.0049290

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	51.86190	.2529007	2.857166	19.70855	.2098767	.0325203
Stddev	.20461	.0018862	.025462	.12811	.0017483	.0005975
%RSD	.3945292	.7458455	.8911498	.6500115	.8330176	1.837416
#1	51.99531	.2511290	2.864090	19.76820	.2101911	.0324787
#2	51.62633	.2548837	2.828958	19.56150	.2079926	.0319446
#3	51.96407	.2526893	2.878449	19.79596	.2114465	.0331375

Sample Name: Q1216-07 Acquired: 1/30/2025 16:45:27 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2224815	2.529285	8.018902	7.425072	F 20.04301	-.021191
Stddev	.0020740	.005725	.139459	.074921	.13870	.000442
%RSD	.9321913	.2263603	1.739125	1.009028	.6920007	2.085008
#1	.2213127	2.535848	8.112542	7.352174	19.89669	-.021598
#2	.2212559	2.526699	7.858626	7.421178	20.05978	-.020721
#3	.2248761	2.525310	8.085539	7.501864	20.17256	-.021253

Elem	Sr4077
Units	ppm
Avg	2.533140
Stddev	.020571
%RSD	.8120841
#1	2.531840
#2	2.554331
#3	2.513250

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2713.160	54357.77	11661.48	1851.216	3268.507
Stddev	17.288	207.07	30.88	8.733	25.432
%RSD	.6371744	.3809431	.2648136	.4717211	.7780952
#1	2730.798	54440.01	11695.71	1843.131	3293.723
#2	2712.437	54511.09	11635.72	1860.477	3268.932
#3	2696.245	54122.21	11653.00	1850.040	3242.865

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-11 Acquired: 1/30/2025 16:49:47 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0809795	-.011991	2.377158	-.040766	.0038890	87.10332
Stddev	.0008140	.001567	.007310	.002896	.0005992	.84744
%RSD	1.005178	13.06934	.3075144	7.104461	15.40866	.9729170
#1	.0801380	-.010185	2.368723	-.037951	.0036269	88.01289
#2	.0810374	-.012995	2.381093	-.040610	.0034656	86.96108
#3	.0817629	-.012793	2.381658	-.043737	.0045747	86.33600

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8868286	.0075482	.0020265	412.9234	.2685353	.0829880
Stddev	.0097054	.0000339	.0003510	2.9321	.0007320	.0004653
%RSD	1.094397	.4484982	17.31876	.7100714	.2725732	.5606661
#1	.8979713	.0075492	.0017058	416.1936	.2690980	.0827535
#2	.8822938	.0075138	.0024015	412.0473	.2677078	.0826867
#3	.8802206	.0075815	.0019723	410.5292	.2688001	.0835239

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9979136	206.2489	2.826642	141.4020	.2769830	.0047178
Stddev	.0034992	1.0425	.021387	.9171	.0010177	.0001554
%RSD	.3506551	.5054647	.7566098	.6485972	.3674233	3.293360
#1	.9938734	207.2245	2.849100	142.2784	.2758096	.0046231
#2	.9999813	205.1504	2.824308	141.4786	.2776253	.0048971
#3	.9998860	206.3720	2.806518	140.4489	.2775140	.0046331

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.17329	.3096127	1.961252	21.11860	.3308568	.0086428
Stddev	.42654	.0024064	.006787	.21845	.0013703	.0002167
%RSD	.8501243	.7772294	.3460565	1.034408	.4141801	2.506942
#1	50.65301	.3122406	1.964076	21.35707	.3322602	.0084350
#2	49.83684	.3090807	1.953509	20.92816	.3295222	.0088673
#3	50.03001	.3075168	1.966171	21.07057	.3307880	.0086260

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-11 Acquired: 1/30/2025 16:49:47 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0758461	3.792935	F 17.74939	6.479457	F 24.11704	.0533853
Stddev	.0008198	.033050	.10281	.027826	.14290	.0014430
%RSD	1.080832	.8713531	.5792517	.4294419	.5925203	2.702965
#1	.0765518	3.827135	17.84942	6.447371	23.95473	.0550515
#2	.0760396	3.790499	17.64400	6.494042	24.17245	.0525417
#3	.0749469	3.761170	17.75474	6.496958	24.22393	.0525627

Elem	Sr4077
Units	ppm
Avg	1.070645
Stddev	.005409
%RSD	.5052089
#1	1.075040
#2	1.072290
#3	1.064604

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2817.895	55818.22	11432.40	1898.973	3552.844
Stddev	2.702	67.48	66.17	5.079	8.961
%RSD	.0958793	.1208994	.5788141	.2674351	.2522270
#1	2820.809	55740.37	11403.75	1893.416	3562.812
#2	2817.401	55860.23	11385.38	1900.130	3545.454
#3	2815.474	55854.04	11508.07	1903.373	3550.266

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-15 Acquired: 1/30/2025 16:54:08 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1501565	-.000519	3.322399	-.016187	.0251794	51.10993	1.206435
Stddev	.0010509	.000331	.007698	.000433	.0013137	.91142	.017680
%RSD	.6998821	63.88632	.2317073	2.673645	5.217262	1.783247	1.465478
#1	.1504510	-.000159	3.313708	-.015994	.0260053	51.07887	1.207169
#2	.1489897	-.000811	3.325126	-.016683	.0236645	52.03648	1.223736
#3	.1510287	-.000587	3.328362	-.015884	.0258682	50.21444	1.188399

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065767	-.001393	143.1628	.1586684	.0737527	1.136383	174.7443
Stddev	.0001839	.000210	2.0867	.0009860	.0003184	.002590	1.0054
%RSD	2.795479	15.07864	1.457553	.6213966	.4316873	.2279276	.5753759
#1	.0066422	-.001452	143.3498	.1589980	.0734282	1.134553	174.3496
#2	.0067189	-.001568	145.1497	.1594473	.0737655	1.135250	175.8871
#3	.0063691	-.001160	140.9889	.1575599	.0740645	1.139347	173.9960

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.996136	49.41575	.2416225	.0050266	46.73552	.2123000	1.775824
Stddev	.026050	.83608	.0011208	.0007267	.39165	.0033592	.014998
%RSD	1.305034	1.691931	.4638429	14.45653	.8380122	1.582304	.8445400
#1	2.002988	49.61722	.2404766	.0042402	46.52652	.2141393	1.782620
#2	2.018075	50.13268	.2427163	.0051663	47.18734	.2143380	1.786220
#3	1.967344	48.49734	.2416746	.0056733	46.49270	.2084228	1.758631

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.31359	.2372442	.0157807	.1652586	2.811178	8.493923	5.856600
Stddev	.11480	.0021979	.0002296	.0006001	.039982	.097081	.022427
%RSD	.8020121	.9264245	1.454962	.3631184	1.422251	1.142951	.3829353
#1	14.25855	.2381449	.0158821	.1646202	2.816986	8.446085	5.832977
#2	14.44554	.2388486	.0155178	.1653443	2.847939	8.605640	5.859220
#3	14.23668	.2347390	.0159420	.1658111	2.768610	8.430045	5.877601

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-15 Acquired: 1/30/2025 16:54:08 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.792677	.0615494	1.251030
Stddev	.028014	.0018250	.031941
%RSD	.2860723	2.965072	2.553144
#1	9.762975	.0623724	1.282343
#2	9.796432	.0628178	1.252249
#3	9.818625	.0594578	1.218497

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2837.577	55835.46	11327.12	1907.128	3817.947
Stddev	6.212	327.69	174.46	7.199	10.174
%RSD	.2189302	.5868803	1.540214	.3774781	.2664816
#1	2843.957	55761.57	11256.32	1905.477	3829.575
#2	2831.547	55551.03	11199.19	1900.898	3810.678
#3	2837.227	56193.78	11525.85	1915.009	3813.590

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1216-19 Acquired: 1/30/2025 16:58:20 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1094312	-.013419	3.944694	-.049026	.0180388	105.2411
Stddev	.0032474	.002514	.006432	.002096	.0018466	.8543
%RSD	2.967522	18.73751	.1630570	4.276035	10.23660	.8117090
#1	.1099463	-.016015	3.949217	-.046773	.0159104	104.4850
#2	.1059571	-.013247	3.937330	-.049385	.0189921	106.1677
#3	.1123903	-.010995	3.947533	-.050919	.0192139	105.0705

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.224519	.0082079	.0054925	781.0945	.3106508	.1135279
Stddev	.009139	.0000572	.0004719	12.6570	.0010849	.0001923
%RSD	.7463386	.6971972	8.591679	1.620419	.3492299	.1693824
#1	1.218540	.0081929	.0057253	766.5547	.3103887	.1133061
#2	1.235039	.0081596	.0049495	789.6470	.3118427	.1136484
#3	1.219978	.0082711	.0058028	787.0819	.3097210	.1136292

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.141954	235.1707	4.378285	131.9585	.3297184	.0046548
Stddev	.004916	1.1933	.039317	1.4428	.0004773	.0006076
%RSD	.4304482	.5074253	.8979898	1.093400	.1447591	13.05294
#1	1.144422	234.7585	4.345099	130.6657	.3298203	.0049636
#2	1.136294	236.5154	4.421707	133.5150	.3291984	.0039549
#3	1.145147	234.2381	4.368050	131.6948	.3301365	.0050460

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	59.14857	.3371069	3.767092	27.73933	.3437435	.0094664
Stddev	.16680	.0026051	.005964	.07434	.0032992	.0006948
%RSD	.2820072	.7727752	.1583256	.2680051	.9597733	7.339863
#1	59.31104	.3340991	3.761845	27.79129	.3422233	.0092036
#2	59.15691	.3385775	3.773579	27.77252	.3475287	.0089413
#3	58.97775	.3386441	3.765851	27.65417	.3414786	.0102543

Sample Name: Q1216-19 Acquired: 1/30/2025 16:58:20 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1153360	5.105429	7.437086	7.898878	F 28.22978	.0189312
Stddev	.0011849	.038398	.022650	.042360	.08025	.0011080
%RSD	1.027367	.7521014	.3045582	.5362727	.2842893	5.852810
#1	.1166935	5.073661	7.423783	7.883533	28.23497	.0200933
#2	.1145093	5.148099	7.463239	7.866330	28.14706	.0188134
#3	.1148052	5.094527	7.424236	7.946772	28.30732	.0178867

Elem	Sr4077
Units	ppm
Avg	2.908331
Stddev	.038999
%RSD	1.340958
#1	2.893588
#2	2.952553
#3	2.878852

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2750.737	53411.58	11366.27	1794.077	3376.497
Stddev	10.392	276.50	130.08	4.838	10.755
%RSD	.3777931	.5176735	1.144402	.2696803	.3185349
#1	2746.072	53623.63	11497.13	1798.770	3370.771
#2	2762.644	53098.85	11237.00	1789.106	3388.904
#3	2743.495	53512.27	11364.69	1794.356	3369.816

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1218-01 Acquired: 1/30/2025 17:02:40 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003092	-.000211	.0086228	.0062818	-.000346	.2657598
Stddev	.001294	.000705	.0009269	.0008909	.001176	.0018111
%RSD	41.84996	333.7798	10.74919	14.18235	339.7880	.6814915
#1	-.003090	.000077	.0082099	.0064754	-.001401	.2662314
#2	-.004387	.000304	.0096844	.0070601	.000922	.2637595
#3	-.001799	-.001015	.0079741	.0053101	-.000559	.2672884

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0071169	-.000009	.0000517	3.176617	.0069339	.0002770
Stddev	.0005017	.000052	.0000746	.006633	.0003487	.0001119
%RSD	7.049442	558.5131	144.3589	.2088187	5.028598	40.39813
#1	.0069215	.000016	.0000282	3.183345	.0065424	.0001800
#2	.0067424	-.000070	-.000008	3.176422	.0070482	.0003995
#3	.0076869	.000025	.000135	3.170083	.0072111	.0002516

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0409935	1.456046	.0197882	.4467117	.0027800	.0004415
Stddev	.0004548	.010878	.0000928	.0073752	.0004361	.0002859
%RSD	1.109421	.7470575	.4688871	1.650991	15.68653	64.74817
#1	.0413817	1.456284	.0197899	.4467520	.0022911	.0001268
#2	.0404931	1.466803	.0196946	.4540666	.0031287	.0006851
#3	.0411056	1.445052	.0198801	.4393165	.0029203	.0005126

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.36312	.0015785	.5574137	5.842316	4.419585	.0570496
Stddev	.36757	.0003646	.0017163	.087415	.021392	.0000421
%RSD	1.010819	23.09507	.3079032	1.496239	.4840214	.0738412
#1	36.28733	.0019756	.5554372	5.843799	4.428422	.0570801
#2	36.76267	.0015011	.5582776	5.928980	4.395190	.0570672
#3	36.03935	.0012589	.5585265	5.754169	4.435142	.0570015

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1218-01 Acquired: 1/30/2025 17:02:40 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055050	.0154141	.7397999	4.141810	F 31.27562	-.004403
Stddev	.0003490	.0005062	.0084834	.017243	.03681	.000670
%RSD	6.340005	3.283703	1.146714	.4163114	.1177037	15.22266
#1	.0052852	.0151937	.7360802	4.159315	31.26862	-.003775
#2	.0059074	.0150555	.7495077	4.124842	31.24282	-.005109
#3	.0053223	.0159931	.7338118	4.141274	31.31544	-.004324

Elem	Sr4077
Units	ppm
Avg	.0095240
Stddev	.0000533
%RSD	.5600148
#1	.0095608
#2	.0095484
#3	.0094628

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2810.854	56654.53	11090.23	1883.150	4260.726
Stddev	3.411	274.96	31.43	10.937	10.483
%RSD	.1213409	.4853297	.2834197	.5807936	.2460471
#1	2812.622	56621.98	11054.20	1888.902	4269.570
#2	2813.016	56397.29	11112.05	1870.537	4263.463
#3	2806.922	56944.31	11104.43	1890.011	4249.146

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1219-01 Acquired: 1/30/2025 17:06:55 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034304	.0062981	.0033121	.0002830	-.001926	.0587834	.0000024
Stddev	.0016096	.0015017	.0009884	.0016403	.000257	.0128598	.0006281
%RSD	46.92176	23.84364	29.84078	579.6227	13.32060	21.87665	25742.39
#1	.0021558	.0069545	.0033302	-.000494	-.002094	.0722077	.0004630
#2	.0028963	.0045800	.0042914	-.000824	-.001631	.0575682	.0002574
#3	.0052392	.0073598	.0023149	.002167	-.002053	.0465743	-.000713

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000174	-.000253	3.777795	.0020090	-.000700	.0120470	.7117451
Stddev	.000016	.000058	.008556	.0002113	.000148	.0002826	.0021520
%RSD	9.041419	22.83671	.2264920	10.51988	21.19557	2.345888	.3023554
#1	-.000156	-.000260	3.773152	.0018237	-.000780	.0123232	.7139379
#2	-.000186	-.000306	3.787669	.0022392	-.000791	.0120594	.7116610
#3	-.000180	-.000191	3.772564	.0019641	-.000529	.0117584	.7096364

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069524	.5771857	.0003817	.0010839	.4870257	-.002071	1.909458
Stddev	.0001328	.0092204	.0001433	.0002617	.0134930	.001008	.008759
%RSD	1.909886	1.597474	37.55083	24.14540	2.770487	48.69165	.4586903
#1	.0069130	.5878009	.0003859	.0013749	.4961190	-.000953	1.899389
#2	.0068438	.5725877	.0002363	.0008678	.4715226	-.002911	1.915315
#3	.0071005	.5711685	.0005229	.0010089	.4934356	-.002348	1.913670

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0601005	.3371194	1.136823	.0008563	.0043241	.0891134	2.930923
Stddev	.0406010	.0026666	.004253	.0006480	.0002048	.0044760	.003369
%RSD	67.55520	.7909882	.3740935	75.66700	4.736881	5.022766	.1149595
#1	.0283653	.3388289	1.134222	.0006062	.0040950	.0843441	2.927108
#2	.0460832	.3384825	1.134516	.0003707	.0043877	.0932227	2.932167
#3	.1058528	.3340468	1.141731	.0015921	.0044896	.0897734	2.933494

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1219-01 Acquired: 1/30/2025 17:06:55 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.095327	-.005650	.0020894
Stddev	.010878	.000704	.0000538
%RSD	.2656094	12.46869	2.574495
#1	4.086083	-.006296	.0020516
#2	4.092585	-.005754	.0021510
#3	4.107313	-.004899	.0020657

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2882.949	56901.24	11270.26	1899.377	4446.883
Stddev	7.943	286.74	62.68	10.023	7.656
%RSD	.2755259	.5039246	.5561645	.5277231	.1721565
#1	2888.276	56992.59	11256.87	1907.706	4454.693
#2	2886.751	57131.17	11215.35	1902.173	4446.564
#3	2873.819	56579.95	11338.55	1888.253	4439.391

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1220-01 Acquired: 1/30/2025 17:11:09 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0697904	-.000180	1.488598	-.041514	.0015752	115.6399	.7423304
Stddev	.0029199	.000996	.005155	.002640	.0003098	.5182	.0015773
%RSD	4.183823	552.2133	.3463231	6.360096	19.66556	.4481152	.2124724
#1	.0730386	-.000984	1.493482	-.038939	.0012412	115.6568	.7437546
#2	.0673836	-.000492	1.489103	-.041387	.0018531	115.1134	.7406352
#3	.0689489	.000935	1.483209	-.044215	.0016314	116.1494	.7426014

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0100812	-.004297	114.0609	.1914000	.1315040	.3653838	252.3757
Stddev	.0001134	.000133	.6679	.0023153	.0008945	.0015164	2.2148
%RSD	1.124875	3.093958	.5855779	1.209640	.6801833	.4150078	.8775814
#1	.0100921	-.004356	114.4221	.1940681	.1324962	.3650994	254.5517
#2	.0099627	-.004391	113.2901	.1899198	.1312564	.3640298	252.4514
#3	.0101888	-.004145	114.4703	.1902121	.1307594	.3670222	250.1240

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.305140	39.78224	.1599657	.0027962	11.90253	.3447002	1.191500
Stddev	.012161	.27404	.0008123	.0001266	.10295	.0031907	.010371
%RSD	.5275615	.6888552	.5078198	4.525842	.8649092	.9256458	.8704279
#1	2.313289	39.82486	.1609016	.0026529	11.96906	.3472975	1.203366
#2	2.291161	39.48939	.1594433	.0028928	11.95457	.3411386	1.186968
#3	2.310969	40.03248	.1595521	.0028429	11.78395	.3456647	1.184167

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.90429	.1670985	.0048688	.0528532	1.956268	7.480329	4.281434
Stddev	.14419	.0040240	.0000463	.0013409	.009253	.105169	.020590
%RSD	.8053560	2.408133	.9516074	2.537111	.4729764	1.405938	.4809224
#1	18.05162	.1694938	.0048526	.0543279	1.964314	7.595513	4.302109
#2	17.89779	.1693489	.0049211	.0525246	1.946158	7.456051	4.260930
#3	17.76346	.1624528	.0048328	.0517071	1.958333	7.389422	4.281263

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1220-01 Acquired: 1/30/2025 17:11:09 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	8.683557	.0823998	.5337547
Stddev	.035359	.0003515	.0033912
%RSD	.4071988	.4265603	.6353544
#1	8.724225	.0824781	.5327497
#2	8.666364	.0820158	.5309796
#3	8.660083	.0827056	.5375349

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3043.287	58027.38	12071.09	1963.697	3873.508
Stddev	8.740	446.56	104.06	19.109	12.872
%RSD	.2872058	.7695620	.8620838	.9731161	.3323127
#1	3034.511	57527.99	12032.19	1942.147	3858.956
#2	3043.360	58165.83	12189.00	1970.371	3878.159
#3	3051.991	58388.31	11992.08	1978.575	3883.408

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV06 Acquired: 1/30/2025 17:19:49 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.972144	5.005029	4.880381	4.972694	5.053623	9.692030	9.258712
Stddev	.015771	.013022	.014999	.015246	.005679	.068083	.173136
%RSD	.3171921	.2601785	.3073335	.3065981	.1123806	.7024604	1.869984
#1	4.964819	4.992538	4.863533	4.958423	5.047069	9.658522	9.360985
#2	4.961368	5.004026	4.892279	4.970903	5.057103	9.647195	9.058809
#3	4.990246	5.018524	4.885332	4.988757	5.056697	9.770372	9.356342

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2350803	2.438641	23.52509	1.006515	2.441557	1.256832	4.804878
Stddev	.0029949	.008928	.17250	.003459	.007999	.004086	.012436
%RSD	1.273986	.3661144	.7332607	.3436359	.3276318	.3251191	.2588102
#1	.2324879	2.428458	23.42916	1.002529	2.432596	1.252335	4.796055
#2	.2343945	2.442337	23.42188	1.008728	2.444094	1.257842	4.819101
#3	.2383587	2.445128	23.72423	1.008288	2.447979	1.260318	4.799480

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.288035	23.73446	2.444969	1.232165	24.91528	2.384459	2.469215
Stddev	.015963	.24655	.008995	.003895	.08675	.017717	.001913
%RSD	.6976551	1.038804	.3679078	.3161454	.3481985	.7430095	.0774881
#1	2.282892	23.65982	2.435472	1.227841	24.98915	2.374619	2.467247
#2	2.275279	23.53386	2.446076	1.233256	24.93693	2.373846	2.471068
#3	2.305935	24.00972	2.453360	1.235399	24.81975	2.404911	2.469330

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.34428	4.657617	5.057528	4.918539	4.681426	5.109519	4.906146
Stddev	.12778	.058933	.010312	.014412	.030492	.003842	.009046
%RSD	.5248878	1.265294	.2038997	.2930038	.6513398	.0751863	.1843811
#1	24.37545	4.609326	5.046049	4.902031	4.668567	5.107299	4.895883
#2	24.45359	4.640243	5.060524	4.924980	4.659470	5.107303	4.909590
#3	24.20380	4.723284	5.066010	4.928607	4.716242	5.113955	4.912963

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV06 Acquired: 1/30/2025 17:19:49 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.796142	4.648672	4.666167
Stddev	.016946	.024789	.065681
%RSD	.3533339	.5332467	1.407600
#1	4.776663	4.642003	4.590725
#2	4.804259	4.627899	4.697151
#3	4.807503	4.676113	4.710625

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2766.718	54840.07	10008.69	1839.603	3995.319
Stddev	1.920	184.58	129.20	5.712	7.113
%RSD	.0693854	.3365706	1.290856	.3105106	.1780295
#1	2768.103	54871.70	10073.67	1833.045	4002.671
#2	2764.527	55006.79	10092.50	1842.269	3988.472
#3	2767.525	54641.72	9859.90	1843.495	3994.814

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB06 Acquired: 1/30/2025 17:24:27 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.000139	-.000866	-.000175	.0004850	-.002138	-.011375	-.002285
Stddev	.001036	.001320	.000899	.0010470	.000345	.006562	.000164
%RSD	745.1063	152.3837	514.2391	215.8797	16.15171	57.68187	7.156957
#1	.000581	-.001276	.000809	.0011569	-.002517	-.015012	-.002322
#2	-.001326	-.001932	-.000954	.0010194	-.002055	-.015314	-.002106
#3	.000328	.000610	-.000380	-.000721	-.001842	-.003801	-.002426

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000006	-.000200	-.018818	.0003066	-.000231	-.000234	-.020401
Stddev	.000024	.000020	.005870	.0003365	.000157	.000232	.004495
%RSD	382.7242	10.22665	31.19524	109.7650	67.91611	99.04672	22.03299
#1	-.000034	-.000211	-.021604	.0002304	-.000083	-.000467	-.016284
#2	.000004	-.000213	-.022776	.0006746	-.000395	-.000230	-.019722
#3	.000011	-.000177	-.012073	.0000147	-.000213	-.000004	-.025196

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000557	.0033048	-.000278	.0002948	.0287488	-.000750	-.002990
Stddev	.000178	.0006995	.000240	.0006970	.0043230	.002523	.000061
%RSD	31.91928	21.16726	86.21856	236.4127	15.03730	336.5508	2.030496
#1	-.000763	.0027076	-.000068	-.000507	.0248591	-.000088	-.002972
#2	-.000446	.0040744	-.000228	.000759	.0334031	.001377	-.003057
#3	-.000463	.0031324	-.000539	.000632	.0279842	-.003538	-.002940

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0548770	.0047472	-.000137	-.000749	.0008728	-.003148	.0006624
Stddev	.0207082	.0003018	.000133	.000848	.0005848	.004067	.0039805
%RSD	37.73573	6.357929	97.21858	113.1740	66.99737	129.1962	600.9237
#1	.0590799	.0046292	-.000048	.000141	.0003443	-.007543	-.003850
#2	.0323897	.0050901	-.000289	-.000842	.0007730	.000483	.003674
#3	.0731614	.0045221	-.000073	-.001547	.0015010	-.002384	.002164

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB06 Acquired: 1/30/2025 17:24:27 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.008914	-.004279	-.000266
Stddev	.001153	.001114	.000063
%RSD	12.93841	26.03603	23.55550
#1	-.007658	-.005534	-.000316
#2	-.009926	-.003406	-.000286
#3	-.009156	-.003898	-.000196

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2883.986	56346.86	10549.01	1918.812	4347.513
Stddev	4.684	99.59	33.18	5.434	10.652
%RSD	.1624198	.1767473	.3144866	.2831905	.2450224
#1	2878.721	56360.23	10573.83	1923.166	4335.213
#2	2885.549	56241.26	10561.88	1912.722	4353.588
#3	2887.690	56439.09	10511.33	1920.548	4353.739

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01 Acquired: 1/30/2025 17:28:48 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0183108	-.014456	.0322930	-.024249	-.001785	82.27492
Stddev	.0009770	.002563	.0012776	.000647	.001553	.10158
%RSD	5.335731	17.72857	3.956392	2.666581	87.00951	.1234636
#1	.0185651	-.014858	.0314049	-.023521	-.002125	82.31454
#2	.0172318	-.016793	.0317169	-.024468	-.000090	82.15949
#3	.0191355	-.011715	.0337573	-.024757	-.003140	82.35071

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3792577	.0046369	-.001156	869.7378	.1601504	.0201212
Stddev	.0017798	.0000737	.000136	3.1781	.0010787	.0000510
%RSD	.4692716	1.588955	11.74070	.3654053	.6735266	.2536223
#1	.3808454	.0045714	-.001295	873.3703	.1612835	.0201295
#2	.3773339	.0046228	-.001024	868.3727	.1600318	.0200666
#3	.3795938	.0047167	-.001148	867.4703	.1591360	.0201676

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0415642	84.64257	1.739443	36.58408	.0541707	.0011163
Stddev	.0006957	.36549	.007550	.04478	.0003497	.0003809
%RSD	1.673761	.4318039	.4340588	.1224127	.6455848	34.12266
#1	.0407736	85.04421	1.743384	36.54040	.0540854	.0015332
#2	.0418366	84.32953	1.730737	36.58196	.0538716	.0007863
#3	.0420825	84.55396	1.744206	36.62989	.0545552	.0010295

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.681203	.1382008	.1291257	8.327703	.2482209	.0022915
Stddev	.008027	.0012393	.0006604	.048598	.0001748	.0001683
%RSD	.4774522	.8967115	.5114654	.5835649	.0704155	7.346324
#1	1.677071	.1396314	.1294276	8.365179	.2481482	.0023358
#2	1.690454	.1375134	.1295813	8.272793	.2484203	.0024332
#3	1.676084	.1374575	.1283683	8.345135	.2480942	.0021054

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01 Acquired: 1/30/2025 17:28:48 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004206	3.090183	1.756691	5.713242	F 32.15783	-.094101
Stddev	.000440	.006170	.011675	.025531	.07249	.000798
%RSD	10.45313	.1996624	.6645978	.4468703	.2254257	.8484405
#1	-.004706	3.093738	1.767469	5.692964	32.08181	-.094637
#2	-.004033	3.083059	1.758316	5.741912	32.22618	-.094482
#3	-.003880	3.093753	1.744289	5.704849	32.16552	-.093183

Elem	Sr4077
Units	ppm
Avg	4.612352
Stddev	.017937
%RSD	.3888919
#1	4.593524
#2	4.614293
#3	4.629240

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2612.626	50237.55	10668.91	1712.669	3449.498
Stddev	3.225	24.93	12.23	8.785	5.889
%RSD	.1234487	.0496305	.1146446	.5129327	.1707244
#1	2616.180	50221.76	10682.84	1705.204	3455.410
#2	2611.811	50224.59	10663.98	1710.452	3449.452
#3	2609.886	50266.29	10659.91	1722.350	3443.632

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01DUP Acquired: 1/30/2025 17:33:14 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0165568	-.012175	.0317586	-.025328	-.002868	79.69284
Stddev	.0023728	.002747	.0013360	.001325	.001079	.20567
%RSD	14.33103	22.56199	4.206782	5.230030	37.62553	.2580819
#1	.0184549	-.009004	.0321812	-.026849	-.001653	79.92968
#2	.0173188	-.013694	.0328323	-.024711	-.003715	79.55913
#3	.0138966	-.013826	.0302624	-.024425	-.003235	79.58972

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3745316	.0044851	-.001498	845.3088	.1536241	.0191902
Stddev	.0002477	.0000332	.000123	12.2666	.0010397	.0001183
%RSD	.0661351	.7395440	8.240812	1.451142	.6767536	.6164398
#1	.3746745	.0045101	-.001545	848.6121	.1548146	.0190635
#2	.3746747	.0044475	-.001591	831.7287	.1531630	.0192094
#3	.3742456	.0044978	-.001358	855.5855	.1528947	.0192977

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0394188	83.07712	1.703753	35.43605	.0521144	.0012679
Stddev	.0004426	.33767	.005155	.21372	.0002849	.0002731
%RSD	1.122830	.4064514	.3025858	.6031021	.5466158	21.54271
#1	.0391137	83.39062	1.704783	35.62731	.0522333	.0015581
#2	.0399264	82.71960	1.698161	35.20537	.0523206	.0010158
#3	.0392163	83.12113	1.708316	35.47548	.0517893	.0012298

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.623485	.1349360	.1253780	8.208206	.2416302	.0016854
Stddev	.007151	.0010591	.0008729	.038603	.0010808	.0002398
%RSD	.4404734	.7848901	.6962178	.4702996	.4472827	14.22920
#1	1.630384	.1361257	.1247603	8.245210	.2421810	.0016820
#2	1.616106	.1340958	.1249971	8.211227	.2403850	.0014472
#3	1.623966	.1345865	.1263767	8.168181	.2423247	.0019268

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01DUP Acquired: 1/30/2025 17:33:14 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003028	3.021874	1.741214	5.468409	F 31.03785	-.092038
Stddev	.000808	.004798	.021262	.031915	.15172	.002348
%RSD	26.68422	.1587674	1.221103	.5836273	.4888335	2.550662
#1	-.002348	3.026197	1.716692	5.456934	30.95989	-.093014
#2	-.003921	3.016712	1.752451	5.443818	30.94095	-.089359
#3	-.002815	3.022714	1.754501	5.504475	31.21270	-.093740

Elem	Sr4077
Units	ppm
Avg	4.477178
Stddev	.098846
%RSD	2.207786
#1	4.589189
#2	4.402178
#3	4.440166

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2695.669	52051.73	11100.77	1774.042	3572.906
Stddev	2.708	228.48	52.44	17.789	9.624
%RSD	.1004437	.4389542	.4724192	1.002719	.2693727
#1	2695.244	51844.38	11066.99	1775.095	3568.920
#2	2698.564	52296.68	11161.19	1791.281	3583.883
#3	2693.199	52014.13	11074.15	1755.751	3565.914

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01LX5 Acquired: 1/30/2025 17:37:40 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014890	-.006070	.0050661	-.005426	-.003553	17.00486	.0807964
Stddev	.0015110	.002446	.0008738	.002785	.000419	.06498	.0015836
%RSD	101.4812	40.30479	17.24786	51.32830	11.80082	.3821112	1.959987
#1	.0019414	-.006092	.0043429	-.003661	-.003071	17.07061	.0826041
#2	-.000197	-.008504	.0048185	-.008637	-.003836	17.00329	.0801310
#3	.002722	-.003612	.0060370	-.003981	-.003752	16.94068	.0796540

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010044	-.000804	188.7646	.0336810	.0038184	.0094669	17.70531
Stddev	.0000267	.000095	.7383	.0004133	.0001869	.0000970	.07753
%RSD	2.655679	11.81528	.3911051	1.227261	4.894713	1.024750	.4378731
#1	.0010128	-.000711	189.5919	.0339685	.0036073	.0093549	17.68877
#2	.0009745	-.000800	188.5292	.0332073	.0038848	.0095241	17.63738
#3	.0010258	-.000901	188.1728	.0338673	.0039630	.0095216	17.78977

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3838605	7.910542	.0105734	.0001295	.3384968	.0288658	.0233533
Stddev	.0022119	.026616	.0005060	.0001950	.0125487	.0001799	.0001533
%RSD	.5762263	.3364657	4.785749	150.6286	3.707174	.6233770	.6563884
#1	.3864111	7.928326	.0100757	-.000033	.3287080	.0289388	.0232134
#2	.3824694	7.923357	.0110873	.000076	.3341389	.0286608	.0235172
#3	.3827010	7.879942	.0105572	.000346	.3526434	.0289977	.0233293

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.626715	.0533817	.0004958	-.004997	.6683211	.3502055	1.074875
Stddev	.018932	.0010456	.0001084	.000093	.0049821	.0094541	.007013
%RSD	1.163809	1.958749	21.85917	1.866288	.7454604	2.699589	.6524337
#1	1.612936	.0540220	.0003734	-.005101	.6740339	.3420538	1.067413
#2	1.618907	.0521751	.0005345	-.004922	.6648783	.3479932	1.081330
#3	1.648302	.0539480	.0005795	-.004968	.6660511	.3605697	1.075881

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01LX5 Acquired: 1/30/2025 17:37:40 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.980765	-.024827	.9899293
Stddev	.030923	.001037	.0039809
%RSD	.5170490	4.176588	.4021368
#1	5.948559	-.025686	.9941450
#2	5.983514	-.023675	.9894081
#3	6.010222	-.025121	.9862346

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2780.954	53348.81	10723.17	1825.289	3998.903
Stddev	17.072	280.52	48.66	8.559	21.735
%RSD	.6138982	.5258184	.4537732	.4688861	.5435245
#1	2800.553	53323.58	10667.59	1825.269	4024.000
#2	2772.991	53641.08	10743.86	1833.857	3986.269
#3	2769.318	53081.75	10758.07	1816.740	3986.439

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01MS Acquired: 1/30/2025 17:41:54 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9423746	1.919112	1.119778	1.826547	.3537595	129.3872
Stddev	.0030675	.019649	.004176	.005600	.0010472	.6380
%RSD	.3255021	1.023837	.3729590	.3066029	.2960172	.4930650
#1	.9426174	1.933641	1.119029	1.833011	.3546586	129.0404
#2	.9391930	1.926939	1.124279	1.823464	.3526097	130.1234
#3	.9453134	1.896756	1.116028	1.823166	.3540102	128.9977

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8124123	.1832668	.1990835	1071.830	.9509228	.2706629
Stddev	.0038225	.0016744	.0005949	9.411	.0052151	.0010109
%RSD	.4705164	.9136276	.2988024	.8780330	.5484272	.3734710
#1	.8121338	.1821491	.1984483	1076.738	.9563693	.2711663
#2	.8163664	.1851918	.1991747	1077.772	.9504243	.2713232
#3	.8087366	.1824593	.1996275	1060.979	.9459749	.2694992

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4262698	385.4740	2.628106	46.60445	.6214968	.0738831
Stddev	.0015799	1.9251	.015743	.30078	.0016460	.0012835
%RSD	.3706369	.4994013	.5990270	.6453969	.2648484	1.737233
#1	.4264174	387.4113	2.626262	46.44337	.6233672	.0748037
#2	.4246212	385.4492	2.644690	46.95147	.6208540	.0744286
#3	.4277706	383.5614	2.613367	46.41851	.6202691	.0724169

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.583293	.6329599	1.250541	27.25316	.6551590	.3769785
Stddev	.039662	.0033823	.003727	.10084	.0038410	.0011363
%RSD	.4620793	.5343577	.2980363	.3700222	.5862659	.3014308
#1	8.628450	.6327863	1.252271	27.36959	.6561124	.3782831
#2	8.554106	.6364256	1.253088	27.19647	.6584335	.3762045
#3	8.567322	.6296677	1.246263	27.19343	.6509311	.3764479

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01MS Acquired: 1/30/2025 17:41:54 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6986902	4.060091	2.043668	F 16.98220	F 42.79500	.1253975
Stddev	.0019205	.021333	.026645	.04979	.10162	.0002374
%RSD	.2748667	.5254238	1.303783	.2931827	.2374548	.1893350
#1	.6986295	4.055922	2.032898	17.03953	42.88773	.1256599
#2	.7006403	4.083201	2.074012	16.95725	42.81091	.1253349
#3	.6968008	4.041151	2.024093	16.94983	42.68637	.1251976

Elem	Sr4077
Units	ppm
Avg	8.589360
Stddev	.060046
%RSD	.6990794
#1	8.523520
#2	8.641105
#3	8.603456

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2618.774	52733.39	10839.73	1760.395	3277.095
Stddev	3.968	165.80	75.77	8.929	5.605
%RSD	.1515338	.3144206	.6990424	.5071974	.1710275
#1	2614.313	52565.51	10879.21	1751.917	3272.907
#2	2621.912	52737.62	10752.37	1759.554	3274.915
#3	2620.096	52897.04	10887.61	1769.715	3283.461

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01MSD Acquired: 1/30/2025 17:46:09 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9304318	1.930816	1.115296	1.802998	.3504425	131.6025
Stddev	.0036110	.009320	.001765	.004354	.0014290	.3211
%RSD	.3880999	.4827006	.1582446	.2414941	.4077789	.2440172
#1	.9276159	1.924886	1.114579	1.798353	.3520893	131.8838
#2	.9291765	1.926004	1.114002	1.806986	.3497096	131.6712
#3	.9345029	1.941559	1.117307	1.803654	.3495287	131.2526

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8490641	.1841445	.1948162	1109.426	.9511364	.2691658
Stddev	.0022547	.0014261	.0004768	7.971	.0066931	.0002099
%RSD	.2655550	.7744463	.2447179	.7184419	.7036953	.0779843
#1	.8512300	.1852098	.1952367	1114.907	.9585735	.2694003
#2	.8467300	.1846994	.1949138	1113.089	.9455973	.2691018
#3	.8492323	.1825244	.1942982	1100.283	.9492383	.2689954

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4153881	399.9021	2.736034	48.10890	.6170643	.0760811
Stddev	.0020042	2.1329	.005762	.26213	.0002428	.0011033
%RSD	.4824948	.5333491	.2105969	.5448666	.0393487	1.450153
#1	.4137782	400.5632	2.740183	48.23746	.6170832	.0773466
#2	.4176329	397.5169	2.738464	48.28194	.6172971	.0755756
#3	.4147533	401.6261	2.729455	47.80731	.6168125	.0753211

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.873346	.6528114	1.253929	28.29199	.6797692	.3741377
Stddev	.055408	.0042827	.007535	.19238	.0007287	.0006773
%RSD	.6244272	.6560360	.6009385	.6799751	.1072035	.1810185
#1	8.884797	.6543867	1.262621	28.33921	.6800174	.3744835
#2	8.813108	.6560833	1.249933	28.08040	.6789487	.3733573
#3	8.922133	.6479642	1.249234	28.45636	.6803413	.3745722

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01MSD Acquired: 1/30/2025 17:46:09 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6935202	4.202338	2.131555	F 17.11382	F 42.58224	.1328167
Stddev	.0020096	.012507	.005959	.05448	.04839	.0008088
%RSD	.2897675	.2976244	.2795504	.3183639	.1136450	.6089316
#1	.6953253	4.215425	2.128192	17.13766	42.54763	.1336816
#2	.6913548	4.201082	2.128038	17.05148	42.56155	.1320792
#3	.6938805	4.190506	2.138435	17.15233	42.63754	.1326893

Elem	Sr4077
Units	ppm
Avg	8.858225
Stddev	.084851
%RSD	.9578748
#1	8.891264
#2	8.921586
#3	8.761824

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2648.881	52964.25	10862.14	1784.497	3308.248
Stddev	2.313	244.79	72.65	13.098	4.924
%RSD	.0873164	.4621827	.6688736	.7339859	.1488258
#1	2647.017	52714.12	10800.14	1769.841	3304.232
#2	2651.469	53203.33	10844.20	1795.059	3313.741
#3	2648.158	52975.30	10942.08	1788.590	3306.770

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01A Acquired: 1/30/2025 17:50:24 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9204239	1.906413	1.098345	1.777197	.3435168	127.6427
Stddev	.0076309	.004169	.003742	.012275	.0001451	2.3960
%RSD	.8290588	.2187008	.3406915	.6906691	.0422352	1.877078
#1	.9136722	1.901782	1.094336	1.771758	.3436024	124.8980
#2	.9188966	1.907587	1.098952	1.768582	.3433492	129.3163
#3	.9287029	1.909870	1.101746	1.791251	.3435986	128.7137

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8151195	.1815881	.1938842	1064.072	.9463850	.2674713
Stddev	.0184098	.0030117	.0009430	17.407	.0014038	.0014135
%RSD	2.258536	1.658511	.4863751	1.635877	.1483283	.5284780
#1	.7945981	.1781177	.1931707	1044.091	.9465213	.2663811
#2	.8301838	.1835166	.1935287	1072.168	.9449180	.2669645
#3	.8205765	.1831300	.1949533	1075.956	.9477156	.2690684

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4179537	390.1217	2.636848	46.46495	.6110885	.0735003
Stddev	.0018966	2.8012	.054951	.91635	.0014494	.0007818
%RSD	.4537877	.7180362	2.083967	1.972134	.2371835	1.063676
#1	.4185619	387.2012	2.575343	45.41845	.6104953	.0727490
#2	.4158276	392.7860	2.681108	47.12357	.6100298	.0743094
#3	.4194716	390.3779	2.654092	46.85284	.6127404	.0734426

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.656594	.6333707	1.249825	27.52929	.6704530	.3729376
Stddev	.017475	.0121916	.001686	.18203	.0080638	.0012729
%RSD	.2018707	1.924873	.1348702	.6612129	1.202743	.3413313
#1	8.636427	.6192933	1.248044	27.35369	.6615325	.3716852
#2	8.667274	.6403402	1.250037	27.71713	.6772248	.3728975
#3	8.666080	.6404785	1.251395	27.51706	.6726018	.3742302

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1221-01A Acquired: 1/30/2025 17:50:24 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6901177	4.060807	2.583085	F 17.03407	F 41.94514	.1274362
Stddev	.0014900	.080943	.012163	.07433	.19186	.0033379
%RSD	.2159104	1.993265	.4708883	.4363543	.4573959	2.619297
#1	.6884579	3.968493	2.577117	16.97081	41.74472	.1242326
#2	.6905553	4.119624	2.597079	17.01548	41.96359	.1308939
#3	.6913400	4.094303	2.575057	17.11594	42.12710	.1271821

Elem	Sr4077
Units	ppm
Avg	8.671692
Stddev	.199269
%RSD	2.297922
#1	8.447143
#2	8.827454
#3	8.740480

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2649.022	52636.14	10914.49	1783.402	3317.245
Stddev	10.278	61.66	162.67	2.926	12.986
%RSD	.3879901	.1171453	1.490377	.1640797	.3914546
#1	2657.865	52580.54	11101.65	1784.476	3329.105
#2	2651.455	52702.46	10807.16	1785.640	3319.259
#3	2637.746	52625.42	10834.67	1780.091	3303.369

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1215-03 Acquired: 1/30/2025 17:54:39 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0969249	-.003916	3.102953	-.019253	.0181134	48.79927	.8819579
Stddev	.0034024	.001526	.006612	.002942	.0013096	.09724	.0049530
%RSD	3.510293	38.95877	.2130809	15.28336	7.230093	.1992644	.5615902
#1	.0944095	-.003036	3.102555	-.019238	.0168922	48.80882	.8791190
#2	.1007961	-.005678	3.096550	-.022202	.0194964	48.69761	.8790776
#3	.0955690	-.003035	3.109755	-.016317	.0179514	48.89138	.8876771

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054922	-.003417	64.53496	.1568340	.0770125	1.542249	162.6285
Stddev	.0000603	.000217	.23072	.0009817	.0001821	.003876	1.2498
%RSD	1.098299	6.347160	.3575064	.6259537	.2363839	.2513192	.7685142
#1	.0054253	-.003611	64.37100	.1578749	.0768100	1.538332	163.6930
#2	.0055089	-.003183	64.43510	.1567022	.0770652	1.542333	161.2523
#3	.0055423	-.003457	64.79879	.1559248	.0771624	1.546083	162.9401

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.605644	33.09868	.2482657	.0034755	35.04966	.2054295	1.262105
Stddev	.014575	.12058	.0008341	.0001976	.30663	.0011314	.005081
%RSD	.5593479	.3643172	.3359869	5.684597	.8748507	.5507662	.4026140
#1	2.593392	33.03792	.2481426	.0033261	35.37695	.2045522	1.262397
#2	2.601777	33.02056	.2474999	.0034009	34.76903	.2050299	1.256884
#3	2.621762	33.23755	.2491545	.0036995	35.00299	.2067066	1.267034

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.41334	.1411248	.0103993	.1170986	2.985493	9.790413	6.388540
Stddev	.06961	.0024769	.0001346	.0006193	.034253	.134274	.003631
%RSD	.5189729	1.755144	1.294259	.5288583	1.147315	1.371485	.0568364
#1	13.48647	.1425495	.0104131	.1177608	2.959386	9.910903	6.386087
#2	13.34788	.1382647	.0102583	.1165338	2.972815	9.814674	6.386821
#3	13.40567	.1425603	.0105264	.1170010	3.024278	9.645663	6.392711

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1215-03 Acquired: 1/30/2025 17:54:39 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.892849	.0822223	.2822592
Stddev	.009060	.0005021	.0016636
%RSD	.1851617	.6106407	.5893861
#1	4.886914	.0821293	.2805643
#2	4.888356	.0827644	.2823237
#3	4.903277	.0817732	.2838896

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2950.440	56914.61	11305.99	1935.449	4021.264
Stddev	7.830	234.93	59.51	2.636	12.007
%RSD	.2653937	.4127690	.5263145	.1361869	.2985883
#1	2957.939	56697.77	11372.31	1932.631	4032.677
#2	2951.066	57164.19	11288.40	1937.854	4022.375
#3	2942.316	56881.87	11257.26	1935.861	4008.740

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1215-07 Acquired: 1/30/2025 17:58:43 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0827841	-.004572	2.317408	-.029303	.0198490	52.16587
Stddev	.0028199	.002388	.002614	.003128	.0013139	.10138
%RSD	3.406381	52.22687	.1128008	10.67404	6.619316	.1943389
#1	.0795789	-.007192	2.315931	-.031612	.0198777	52.17930
#2	.0838894	-.004006	2.315866	-.030554	.0211483	52.05845
#3	.0848839	-.002518	2.320426	-.025743	.0185210	52.25986

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7181877	.0055263	.0005421	312.6469	.1698987	.0657937
Stddev	.0015339	.0000774	.0001234	4.1430	.0003510	.0001283
%RSD	.2135745	1.400971	22.76763	1.325139	.2065854	.1949515
#1	.7171051	.0055186	.0006627	317.3782	.1702692	.0658793
#2	.7175149	.0054531	.0004160	310.8941	.1698558	.0656462
#3	.7199430	.0056073	.0005476	309.6684	.1695711	.0658556

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8919877	152.6611	1.883431	100.7868	.1824132	.0011302
Stddev	.0014979	.6426	.007572	.2938	.0004920	.0004706
%RSD	.1679326	.4209060	.4020167	.2914949	.2697433	41.63833
#1	.8918993	151.9197	1.887232	101.0502	.1818818	.0016319
#2	.8905359	153.0575	1.874712	100.4700	.1825049	.0010600
#3	.8935279	153.0061	1.888349	100.8404	.1828530	.0006986

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	32.81628	.1933770	1.419988	12.64825	.1959217	.0119491
Stddev	.18860	.0018169	.003605	.10704	.0004973	.0001779
%RSD	.5747069	.9395531	.2538542	.8462936	.2538180	1.488745
#1	32.61179	.1914853	1.420324	12.52593	.1953523	.0118014
#2	32.98338	.1951085	1.416228	12.72479	.1961420	.0121466
#3	32.85366	.1935371	1.423414	12.69403	.1962707	.0118994

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1215-07 Acquired: 1/30/2025 17:58:43 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0940471	2.683534	F 12.04497	6.370303	F 10.75290	.0225527
Stddev	.0014545	.010393	.04624	.019706	.06305	.0014801
%RSD	1.546566	.3872818	.3839253	.3093425	.5863471	6.562763
#1	.0925116	2.686629	11.99361	6.362246	10.72877	.0209590
#2	.0954042	2.671945	12.08329	6.355903	10.70548	.0228152
#3	.0942255	2.692028	12.05802	6.392761	10.82445	.0238840

Elem	Sr4077
Units	ppm
Avg	.9817447
Stddev	.0128299
%RSD	1.306843
#1	.9866699
#2	.9913822
#3	.9671821

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2767.139	54539.96	10993.38	1845.603	3617.141
Stddev	5.777	71.36	89.40	9.512	6.996
%RSD	.2087884	.1308445	.8131907	.5153895	.1934056
#1	2773.745	54465.83	10904.95	1843.002	3623.931
#2	2763.027	54608.19	11083.72	1856.145	3617.536
#3	2764.646	54545.86	10991.48	1837.662	3609.956

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04 Acquired: 1/30/2025 18:03:03 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1120298	.0091451	.2042064	-.064658	-.004148	147.3497
Stddev	.0054671	.0019739	.0024538	.000720	.000547	1.1857
%RSD	4.880061	21.58422	1.201636	1.113908	13.19921	.8047086
#1	.1063960	.0097654	.2070035	-.065083	-.003546	147.8619
#2	.1173134	.0069356	.2024162	-.065064	-.004617	145.9939
#3	.1123799	.0107344	.2031995	-.063826	-.004281	148.1932

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4027554	.0127257	.0057119	21.77281	.3445554	.1808580
Stddev	.0039654	.0000896	.0006138	.08725	.0021931	.0005483
%RSD	.9845578	.7038982	10.74665	.4007360	.6365022	.3031377
#1	.4063584	.0127783	.0064067	21.79909	.3422002	.1812936
#2	.3985069	.0126222	.0054860	21.67544	.3449271	.1802424
#3	.4034008	.0127764	.0052430	21.84390	.3465389	.1810379

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2274308	386.0901	4.701725	71.12511	.3740381	.0020793
Stddev	.0025983	2.9853	.025724	.61906	.0012937	.0007628
%RSD	1.142444	.7732195	.5471179	.8703831	.3458723	36.68315
#1	.2304056	383.2380	4.721394	71.14992	.3750935	.0012769
#2	.2256058	385.8394	4.672614	70.49401	.3725948	.0021660
#3	.2262811	389.1928	4.711166	71.73139	.3744258	.0027950

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.38182	.3732514	.8821294	28.23066	.3012516	.0015647
Stddev	.06576	.0038420	.0029497	.14068	.0032323	.0003403
%RSD	.4914052	1.029335	.3343853	.4983383	1.072947	21.75096
#1	13.39358	.3750028	.8799462	28.23444	.2976565	.0018743
#2	13.31097	.3688458	.8809569	28.08812	.3021811	.0012003
#3	13.44090	.3759057	.8854851	28.36941	.3039173	.0016194

Sample Name: Q1194-04 Acquired: 1/30/2025 18:03:03 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050778	1.983774	3.707948	8.176255	F 159.8702	.3038586
Stddev	.0011745	.014601	.012902	.040106	.7172	.0028683
%RSD	23.13020	.7359981	.3479462	.4905138	.4485886	.9439573
#1	.0037231	1.992904	3.697442	8.200831	160.4297	.3061771
#2	.0056998	1.966935	3.704055	8.129975	159.0617	.3006510
#3	.0058105	1.991483	3.722348	8.197961	160.1192	.3047476

Elem	Sr4077
Units	ppm
Avg	-.126765
Stddev	.003952
%RSD	3.117573
#1	-.122228
#2	-.128618
#3	-.129451

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3459.960	67634.38	13791.69	2283.816	3832.070
Stddev	12.054	450.42	95.60	11.955	18.035
%RSD	.3483765	.6659673	.6931783	.5234462	.4706305
#1	3448.358	68014.51	13795.32	2293.022	3815.961
#2	3472.420	67751.75	13885.42	2288.121	3851.554
#3	3459.104	67136.90	13694.32	2270.305	3828.697

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04DUP Acquired: 1/30/2025 18:07:14 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1139715	.0097922	.2135349	-.072096	-.002782	147.8952
Stddev	.0027652	.0012378	.0039183	.004840	.001105	.1128
%RSD	2.426192	12.64021	1.834972	6.712658	39.71576	.0762826
#1	.1156578	.0108266	.2127683	-.067532	-.002351	147.8471
#2	.1107803	.0084209	.2100565	-.071586	-.001958	147.8144
#3	.1154765	.0101293	.2177798	-.077170	-.004038	148.0241

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3980009	.0130000	.0096481	21.90251	.3431076	.1873983
Stddev	.0014443	.0000723	.0030329	.03290	.0056969	.0056240
%RSD	.3628912	.5565174	31.43540	.1502252	1.660385	3.001081
#1	.3996090	.0130177	.0069400	21.93021	.3485624	.1845448
#2	.3975794	.0129205	.0090792	21.86614	.3435643	.1837731
#3	.3968141	.0130619	.0129253	21.91119	.3371961	.1938770

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2498984	378.1225	4.665241	71.34666	.3874078	.0001292
Stddev	.0168088	6.4525	.009974	.11046	.0118547	.0004010
%RSD	6.726251	1.706452	.2137859	.1548235	3.060013	310.3117
#1	.2361715	385.5710	4.675479	71.25116	.3811518	.0004204
#2	.2448785	374.2426	4.664690	71.32118	.3799915	-.000328
#3	.2686453	374.5539	4.655555	71.46763	.4010800	.000295

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.99509	.3716974	.8771459	27.35479	.2894982	.0020261
Stddev	.14316	.0013314	.0124624	.37264	.0081735	.0003467
%RSD	1.101674	.3581937	1.420790	1.362253	2.823323	17.10944
#1	13.13870	.3701663	.8881615	27.68101	.2989322	.0023051
#2	12.99419	.3723421	.8796572	27.43466	.2850151	.0016380
#3	12.85237	.3725837	.8636191	26.94869	.2845472	.0021352

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04DUP Acquired: 1/30/2025 18:07:14 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036485	1.973869	3.596463	8.434143	F 165.4299	.2972193
Stddev	.0007952	.006653	.034926	.225136	4.8460	.0003876
%RSD	21.79454	.3370524	.9711090	2.669342	2.929326	.1304165
#1	.0027626	1.980944	3.620189	8.320672	162.8324	.2974714
#2	.0043004	1.972924	3.612843	8.288321	162.4364	.2974135
#3	.0038825	1.967739	3.556358	8.693436	171.0209	.2967729

Elem	Sr4077
Units	ppm
Avg	-.120762
Stddev	.005702
%RSD	4.721771
#1	-.127335
#2	-.117141
#3	-.117811

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3390.328	68293.95	13598.49	2310.641	3726.305
Stddev	65.255	895.71	21.40	36.635	94.894
%RSD	1.924735	1.311557	.1573712	1.585477	2.546591
#1	3427.175	67432.32	13574.52	2275.070	3775.207
#2	3428.824	68229.28	13605.28	2308.598	3786.774
#3	3314.984	69220.24	13615.67	2348.254	3616.935

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV07 Acquired: 1/30/2025 18:11:26 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.969853	5.064713	4.881731	4.995308	5.063850	9.881901	9.618177
Stddev	.019742	.019850	.029222	.015077	.019433	.082021	.161413
%RSD	.3972377	.3919189	.5985984	.3018234	.3837629	.8300148	1.678209
#1	4.947112	5.064081	4.848179	4.983831	5.044627	9.901035	9.539761
#2	4.982597	5.045188	4.895404	4.989709	5.063437	9.792003	9.510952
#3	4.979850	5.084872	4.901609	5.012383	5.083487	9.952663	9.803817

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2367747	2.438308	24.08060	1.019430	2.445959	1.251137	5.050154
Stddev	.0021823	.013597	.13234	.005003	.012462	.006003	.030629
%RSD	.9216933	.5576391	.5495599	.4907939	.5094879	.4798345	.6065046
#1	.2358626	2.422622	24.07986	1.025025	2.431571	1.244733	5.085513
#2	.2351963	2.446724	23.94863	1.017881	2.453002	1.252041	5.033155
#3	.2392651	2.445578	24.21330	1.015385	2.453305	1.256637	5.031794

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.355899	24.09128	2.445676	1.265707	26.31511	2.450092	2.516967
Stddev	.012013	.22097	.012713	.002896	.10863	.018738	.006117
%RSD	.5099071	.9172228	.5198043	.2288189	.4128120	.7648027	.2430202
#1	2.357796	24.09541	2.431003	1.269008	26.43724	2.456128	2.523476
#2	2.343051	23.86828	2.453375	1.263594	26.27884	2.429079	2.511338
#3	2.366851	24.31016	2.452651	1.264519	26.22927	2.465068	2.516086

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.71432	4.688549	5.084296	4.921872	4.827081	5.335618	4.818099
Stddev	.05746	.041288	.023930	.023496	.031241	.007661	.022436
%RSD	.2234715	.8806137	.4706556	.4773743	.6472018	.1435913	.4656638
#1	25.76338	4.666633	5.058305	4.894748	4.821342	5.344440	4.792863
#2	25.72847	4.662841	5.089172	4.934941	4.799108	5.330631	4.825642
#3	25.65110	4.736174	5.105413	4.935927	4.860794	5.331784	4.835792

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV07 Acquired: 1/30/2025 18:11:26 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.799885	4.807719	4.808210
Stddev	.020719	.030847	.062204
%RSD	.4316646	.6416102	1.293696
#1	4.777934	4.805130	4.771414
#2	4.802618	4.778248	4.773186
#3	4.819102	4.839778	4.880029

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2824.615	54426.87	10163.26	1846.436	4082.905
Stddev	13.503	261.79	69.90	6.446	20.049
%RSD	.4780448	.4809959	.6877996	.3491090	.4910557
#1	2838.133	54127.69	10162.79	1839.000	4105.868
#2	2824.585	54539.00	10233.40	1850.438	4073.975
#3	2811.127	54613.92	10093.60	1849.870	4068.873

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB07 Acquired: 1/30/2025 18:15:38 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	-.000846	-.001118	-.000580	-.000678	-.002866	-.013971	-.002946
Stddev	.001502	.000265	.000248	.000357	.001563	.003211	.000626
%RSD	177.5311	23.67988	42.78385	52.68089	54.55171	22.98514	21.26441
#1	.000371	-.001266	-.000470	-.001038	-.004199	-.016717	-.003362
#2	-.000384	-.001276	-.000406	-.000671	-.003253	-.010440	-.003250
#3	-.002525	-.000813	-.000864	-.000324	-.001145	-.014755	-.002225

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000012	-.000301	-.014078	-.000126	-.000207	-.000007	-.011951
Stddev	.000014	.000047	.007970	.000039	.000031	.000102	.002571
%RSD	117.4450	15.67867	56.60886	31.10012	14.80056	1531.325	21.51619
#1	-.000004	-.000294	-.021402	-.000116	-.000242	-.000087	-.009559
#2	-.000004	-.000258	-.015242	-.000093	-.000186	.000108	-.014670
#3	-.000028	-.000351	-.005591	-.000169	-.000192	-.000041	-.011623

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000910	-.002995	-.000190	-.000219	.0261342	-.003292	-.002950
Stddev	.000327	.006449	.000198	.000423	.0018363	.000761	.000207
%RSD	35.95301	215.3212	104.3632	193.0489	7.026221	23.11853	7.029493
#1	-.001184	-.001436	-.000391	-.000676	.0244129	-.003543	-.002961
#2	-.000999	-.010081	-.000185	-.000139	.0280671	-.003895	-.003151
#3	-.000548	.002532	.000006	.000158	.0259227	-.002437	-.002737

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1083223	.0017146	-.000069	-.000513	.0004903	-.010292	.0036686
Stddev	.0104008	.0001206	.000052	.000298	.0001443	.004798	.0024976
%RSD	9.601666	7.035449	74.60858	58.17318	29.42226	46.62498	68.08070
#1	.1029993	.0015916	-.000097	-.000719	.0006279	-.004832	.0032254
#2	.1203072	.0018328	-.000101	-.000171	.0003402	-.012201	.0063582
#3	.1016605	.0017195	-.000010	-.000648	.0005028	-.013841	.0014223

Sample Name: CCB07 Acquired: 1/30/2025 18:15:38 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003196	-.005531	-.000379
Stddev	.000454	.001202	.000037
%RSD	14.20749	21.73814	9.835194
#1	-.002680	-.006424	-.000387
#2	-.003534	-.006005	-.000338
#3	-.003375	-.004164	-.000411

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2880.538	57976.62	10928.41	1986.565	4352.676
Stddev	28.293	179.74	17.73	8.952	42.647
%RSD	.9821973	.3100245	.1621991	.4506509	.9797930
#1	2857.596	57811.89	10935.70	1978.508	4319.527
#2	2871.867	57949.66	10941.32	1984.984	4337.713
#3	2912.152	58168.32	10908.20	1996.202	4400.789

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04LX5 Acquired: 1/30/2025 18:19:59 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0271350	.0016469	.0425108	-.015703	-.002335	35.40905
Stddev	.0007885	.0005476	.0007675	.000859	.000734	.07597
%RSD	2.905787	33.25014	1.805307	5.469363	31.43101	.2145403
#1	.0280453	.0015590	.0416507	-.015608	-.002374	35.48922
#2	.0266954	.0022331	.0427559	-.014895	-.003048	35.39979
#3	.0266644	.0011485	.0431257	-.016605	-.001582	35.33813

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0965711	.0033927	-.002556	5.413062	.0845022	.0361895
Stddev	.0011093	.0001242	.000055	.032749	.0002900	.0001043
%RSD	1.148654	3.661695	2.135777	.6049968	.3432140	.2881436
#1	.0976844	.0034495	-.002495	5.443714	.0846410	.0362310
#2	.0965631	.0034783	-.002599	5.416914	.0841689	.0362667
#3	.0954659	.0032502	-.002575	5.378557	.0846968	.0360709

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0622711	93.52894	1.168770	17.51879	.0763967	.0003068
Stddev	.0006294	.33994	.006702	.06046	.0007361	.0004867
%RSD	1.010746	.3634551	.5734521	.3451252	.9635910	158.6352
#1	.0629797	93.55318	1.170872	17.56235	.0765442	.0008570
#2	.0617770	93.85611	1.174169	17.54425	.0770480	-.000068
#3	.0620565	93.17753	1.161268	17.44976	.0755980	.000131

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.068277	.0908145	.2124327	6.477172	.0731357	-.000327
Stddev	.000848	.0013226	.0010512	.018302	.0010620	.000376
%RSD	.0276515	1.456367	.4948482	.2825647	1.452128	114.9013
#1	3.068022	.0914700	.2129390	6.457960	.0726974	-.000621
#2	3.069224	.0892922	.2131349	6.494403	.0743467	-.000456
#3	3.067585	.0916813	.2112241	6.479154	.0723630	.000096

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04LX5 Acquired: 1/30/2025 18:19:59 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000767	.4868284	.8447177	1.668601	F 32.94143	.0685822
Stddev	.000579	.0020710	.0040592	.009414	.17450	.0007142
%RSD	75.48437	.4254088	.4805408	.5641728	.5297334	1.041393
#1	-.001289	.4876110	.8440829	1.671361	33.07050	.0694069
#2	-.000144	.4883940	.8490569	1.676326	33.01090	.0681767
#3	-.000867	.4844801	.8410133	1.658115	32.74289	.0681631

Elem	Sr4077
Units	ppm
Avg	-.031642
Stddev	.000183
%RSD	.5789151
#1	-.031619
#2	-.031836
#3	-.031472

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3026.279	59841.55	11508.48	2063.361	4157.158
Stddev	16.322	138.05	41.35	9.232	27.447
%RSD	.5393395	.2306981	.3592947	.4474425	.6602398
#1	3011.604	59693.21	11472.41	2059.912	4140.193
#2	3023.375	59865.18	11499.43	2056.350	4142.458
#3	3043.858	59966.26	11553.61	2073.821	4188.825

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04MS Acquired: 1/30/2025 18:24:08 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7265362	1.848524	1.113053	1.421412	.6007704	149.5240
Stddev	.0029181	.019792	.011743	.011794	.0043673	.2400
%RSD	.4016493	1.070717	1.054995	.8297653	.7269549	.1605419
#1	.7296314	1.867352	1.125204	1.431787	.6034041	149.3464
#2	.7261420	1.850328	1.112189	1.423864	.6031781	149.4286
#3	.7238352	1.827891	1.101767	1.408584	.5957292	149.7971

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5513153	.1484668	.1915451	22.53173	.6365581	.3680900
Stddev	.0003040	.0011040	.0025825	.07254	.0019075	.0035162
%RSD	.0551455	.7436209	1.348242	.3219368	.2996525	.9552548
#1	.5511236	.1476937	.1943501	22.49850	.6347634	.3717912
#2	.5516658	.1479755	.1910194	22.48175	.6385612	.3676849
#3	.5511564	.1497312	.1892660	22.61493	.6363496	.3647939

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4572408	372.1214	4.898500	73.26485	.8362904	.0580525
Stddev	.0078394	2.3128	.010805	.29571	.0093942	.0005849
%RSD	1.714506	.6215212	.2205763	.4036176	1.123322	1.007517
#1	.4659784	370.3808	4.889888	73.09285	.8460684	.0578041
#2	.4549207	374.7458	4.894989	73.09539	.8354689	.0587205
#3	.4508233	371.2375	4.910624	73.60630	.8273338	.0576327

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.11611	.5905569	1.014071	34.77768	.4708561	.3126891
Stddev	.06180	.0013084	.002726	.09520	.0033629	.0019455
%RSD	.4088095	.2215479	.2688159	.2737364	.7142042	.6221705
#1	15.11558	.5890615	1.011268	34.84991	.4696918	.3145747
#2	15.17816	.5911185	1.016712	34.81332	.4746464	.3128038
#3	15.05458	.5914908	1.014232	34.66980	.4682301	.3106889

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04MS Acquired: 1/30/2025 18:24:08 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6590943	2.219224	5.020920	F 13.73620	F 155.8441	.4536914
Stddev	.0072022	.005311	.048855	.10913	1.4549	.0010348
%RSD	1.092739	.2392992	.9730341	.7944778	.9335589	.2280731
#1	.6670803	2.213216	5.033898	13.84955	157.3828	.4534271
#2	.6571111	2.221166	5.061975	13.72719	155.6584	.4528144
#3	.6530915	2.223290	4.966886	13.63185	154.4909	.4548327

Elem	Sr4077
Units	ppm
Avg	.0321111
Stddev	.0021183
%RSD	6.596792
#1	.0336361
#2	.0296924
#3	.0330049

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3454.098	68788.54	13254.69	2318.941	3833.103
Stddev	34.366	194.66	64.91	14.207	43.090
%RSD	.9949426	.2829803	.4896954	.6126475	1.124150
#1	3425.653	68975.96	13320.75	2329.783	3794.007
#2	3444.358	68587.37	13252.32	2302.858	3825.998
#3	3492.283	68802.29	13191.00	2324.182	3879.303

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04MSD Acquired: 1/30/2025 18:28:11 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7420791	1.886808	1.133847	1.465285	.6104477	151.0277
Stddev	.0031412	.016835	.001135	.002510	.0026984	.0474
%RSD	.4232920	.8922568	.1001130	.1713272	.4420432	.0313864
#1	.7457003	1.885416	1.132551	1.467602	.6111211	150.9802
#2	.7404474	1.870712	1.134325	1.462618	.6074763	151.0278
#3	.7400896	1.904296	1.134666	1.465635	.6127457	151.0750

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5522247	.1481428	.1941547	22.72199	.6472609	.3739878
Stddev	.0020655	.0003049	.0003427	.03148	.0011255	.0006806
%RSD	.3740321	.2058028	.1764993	.1385230	.1738940	.1819779
#1	.5525460	.1484113	.1944408	22.69040	.6461835	.3740536
#2	.5541107	.1478114	.1942484	22.75335	.6471702	.3732767
#3	.5500173	.1482058	.1937749	22.72221	.6484291	.3746330

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4554509	384.2727	4.894739	73.59965	.8498867	.0602611
Stddev	.0039268	4.1905	.007035	.12687	.0010718	.0008894
%RSD	.8621874	1.090504	.1437182	.1723744	.1261071	1.475843
#1	.4598212	381.2493	4.890606	73.47063	.8508134	.0593248
#2	.4543123	382.5127	4.902861	73.60407	.8487130	.0603640
#3	.4522191	389.0562	4.890749	73.72425	.8501336	.0610945

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.62229	.5925736	1.030427	35.92531	.4872064	.3156283
Stddev	.08200	.0038804	.006266	.18011	.0051643	.0012642
%RSD	.5248866	.6548407	.6081070	.5013327	1.059992	.4005486
#1	15.53422	.5951099	1.024205	35.72664	.4836141	.3165329
#2	15.63622	.5881065	1.030340	35.97141	.4848804	.3141837
#3	15.69643	.5945044	1.036736	36.07789	.4931247	.3161681

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04MSD Acquired: 1/30/2025 18:28:11 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6682772	2.274553	5.914869	F 14.02952	F 160.6762	.4534993
Stddev	.0023805	.004431	.070156	.02405	.3759	.0025130
%RSD	.3562169	.1947934	1.186088	.1714334	.2339345	.5541448
#1	.6705738	2.269466	5.834180	14.00927	160.7627	.4533166
#2	.6658208	2.276622	5.961435	14.02319	160.2647	.4560986
#3	.6684370	2.277570	5.948993	14.05610	161.0013	.4510825

Elem	Sr4077
Units	ppm
Avg	.0208408
Stddev	.0046446
%RSD	22.28620
#1	.0237834
#2	.0232526
#3	.0154864

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3391.907	67051.83	13298.91	2270.613	3747.838
Stddev	9.373	245.80	19.69	16.761	3.816
%RSD	.2763284	.3665811	.1480335	.7381738	.1018316
#1	3385.616	67288.26	13276.54	2287.050	3743.751
#2	3402.679	67069.61	13313.56	2271.242	3751.310
#3	3387.426	66797.63	13306.65	2253.546	3748.454

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04A Acquired: 1/30/2025 18:32:15 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7516483	1.902008	1.142541	1.479853	.6177766	151.6097
Stddev	.0026681	.004473	.007508	.011185	.0019130	.2152
%RSD	.3549646	.2351639	.6571332	.7558008	.3096574	.1419592
#1	.7491032	1.906857	1.133889	1.467635	.6155677	151.5672
#2	.7514175	1.898044	1.146385	1.489587	.6188937	151.8430
#3	.7544244	1.901123	1.147348	1.482338	.6188683	151.4189

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5445729	.1492578	.1979660	22.84277	.6517351	.3781234
Stddev	.0007027	.0003145	.0007799	.05293	.0018844	.0023275
%RSD	.1290376	.2106738	.3939386	.2317020	.2891401	.6155354
#1	.5440766	.1496165	.1972884	22.87114	.6500492	.3755389
#2	.5453770	.1490297	.1988185	22.87547	.6513866	.3787775
#3	.5442651	.1491272	.1977912	22.78171	.6537694	.3800538

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4664627	379.6417	4.824905	73.44055	.8602329	.0593042
Stddev	.0032263	4.8167	.012360	.06821	.0061908	.0006322
%RSD	.6916435	1.268736	.2561675	.0928802	.7196625	1.066051
#1	.4670912	376.5758	4.826264	73.51760	.8534518	.0592656
#2	.4693285	377.1560	4.836530	73.41617	.8616640	.0586922
#3	.4629685	385.1934	4.811922	73.38788	.8655827	.0599549

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.36545	.5890427	1.043084	35.39256	.4866306	.3181179
Stddev	.11248	.0031261	.006711	.25771	.0053088	.0018183
%RSD	.7320001	.5307018	.6433570	.7281505	1.090919	.5715699
#1	15.23726	.5916687	1.035745	35.10960	.4825190	.3160761
#2	15.44761	.5898744	1.044600	35.61382	.4847488	.3195621
#3	15.41147	.5855848	1.048907	35.45427	.4926239	.3187156

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: Q1194-04A Acquired: 1/30/2025 18:32:15 Type: Unk
Method: NON EPA-6010-200.7(v2645) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6775511	2.473738	8.143230	F 14.12156	F 161.9557	.4442752
Stddev	.0045614	.009377	.030860	.04494	.5227	.0017037
%RSD	.6732241	.3790712	.3789638	.3182681	.3227602	.3834857
#1	.6727733	2.468299	8.124546	14.07179	161.4028	.4424001
#2	.6780200	2.484566	8.178849	14.13372	162.0226	.4457283
#3	.6818599	2.468350	8.126294	14.15917	162.4418	.4446971

Elem	Sr4077
Units	ppm
Avg	.0213033
Stddev	.0054741
%RSD	25.69574
#1	.0243327
#2	.0245931
#3	.0149842

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3371.831	67094.67	13287.73	2253.955	3721.000
Stddev	7.962	306.43	30.52	19.838	13.938
%RSD	.2361474	.4567105	.2297156	.8801545	.3745801
#1	3381.025	67421.71	13252.99	2274.342	3736.386
#2	3367.231	67048.12	13310.25	2252.808	3717.396
#3	3367.237	66814.18	13299.96	2234.715	3709.217

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: LR1 Acquired: 1/30/2025 18:36:12 Type: Unk
Method: NON EPA-6010-200.7(v2646) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0294915	.0926247	.0397817	-.151534	-.002624	2019.038	.0120610
Stddev	.0115909	.0058542	.0055772	.008716	.006324	12.083	.0009109
%RSD	39.30257	6.320389	14.01957	5.751550	241.0122	.5984396	7.552160
#1	.0425499	.0979459	.0442531	-.158797	-.009789	2025.622	.0128293
#2	.0255035	.0935747	.0335322	-.141870	.002177	2026.399	.0122990
#3	.0204210	.0863536	.0415598	-.153937	-.000259	2005.093	.0110548

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089117	-.020915	1835.423	.0016155	.0249667	.0910491	1076.269
Stddev	.0001670	.001404	10.204	.0005883	.0004930	.0068217	2.545
%RSD	1.874160	6.711078	.5559681	36.41236	1.974814	7.492271	.2365045
#1	.0091034	-.022353	1825.303	.0011245	.0244004	.0858082	1079.150
#2	.0088335	-.020843	1835.256	.0022675	.0251992	.0885770	1074.324
#3	.0087981	-.019549	1845.709	.0014546	.0253006	.0987622	1075.333

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.082550	1670.756	.0327857	.0120522	2005.570	.0550132	.1152163
Stddev	.000461	7.999	.0018187	.0002318	9.022	.0015231	.0003072
%RSD	.5582525	.4787536	5.547367	1.923512	.4498525	2.768671	.2666457
#1	-.082730	1679.991	.0322229	.0122648	1997.776	.0536748	.1154129
#2	-.082026	1666.064	.0313148	.0118051	2003.482	.0566706	.1153737
#3	-.082893	1666.211	.0348193	.0120868	2015.454	.0546941	.1148623

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1268.195	.6890932	-.009166	.0062268	-.037318	.1526858	.0794976
Stddev	14.808	.0012263	.001484	.0021188	.000122	.0111469	.0100485
%RSD	1.167618	.1779629	16.19269	34.02713	.3273676	7.300515	12.64000
#1	1283.138	.6905059	-.008476	.0061599	-.037185	.1655538	.0736430
#2	1253.526	.6884700	-.010870	.0083782	-.037345	.1465040	.0737493
#3	1267.921	.6883036	-.008153	.0041422	-.037425	.1459997	.0911004

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: LR1 Acquired: 1/30/2025 18:36:12 Type: Unk
Method: NON EPA-6010-200.7(v2646) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.252005	-.295011	-1.06565
Stddev	.015576	.001975	.00258
%RSD	6.180657	.6694866	.2416915
#1	-.259367	-.292944	-1.06858
#2	-.262534	-.295210	-1.06372
#3	-.234113	-.296879	-1.06466

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1974.484	39021.07	9023.273	1307.259	2533.980
Stddev	13.439	76.26	17.831	3.086	19.990
%RSD	.6806419	.1954357	.1976070	.2360844	.7888882
#1	1980.970	38951.87	9010.275	1305.110	2545.698
#2	1983.450	39102.83	9043.600	1310.796	2545.344
#3	1959.032	39008.52	9015.943	1305.873	2510.898

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: LR2 Acquired: 1/30/2025 18:41:09 Type: Unk
Method: NON EPA-6010-200.7(v2646) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0077354	-.010669	248.2479	.0134884	-.003338	.2000908	^F *****
Stddev	.0018255	.001557	4.3920	.0025836	.000564	.0113208	-----
%RSD	23.59903	14.59382	1.769207	19.15414	16.88637	5.657847	-----
#1	.0062997	-.009155	243.1806	.0110286	-.003371	.2035453	^ -----
#2	.0071166	-.010588	250.6031	.0132564	-.002758	.2092821	^ -----
#3	.0097898	-.012266	250.9599	.0161801	-.003884	.1874453	^ -----

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003010	-.006392	.2256431	.0138577	-.017963	231.0951	.0016558
Stddev	.000087	.000094	.0039474	.0001491	.000338	3.9922	.0069953
%RSD	2.878650	1.464302	1.749395	1.076243	1.882487	1.727518	422.4706
#1	-.003081	-.006303	.2301955	.0137094	-.017638	226.7864	-.003162
#2	-.002914	-.006383	.2231697	.0140077	-.017938	231.8305	-.001550
#3	-.003036	-.006489	.2235641	.0138561	-.018312	234.6685	.009680

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.40589	.0033724	48.93523	.0040441	.2377651	-.015313	35.23161
Stddev	.07822	.0079131	.94066	.0004230	.0100956	.000554	.52033
%RSD	.1844581	234.6412	1.922265	10.45916	4.246036	3.619767	1.476894
#1	42.36924	.0027290	47.86421	.0044989	.2486063	-.015560	35.81977
#2	42.49571	.0115877	49.31413	.0039711	.2360555	-.014678	34.83123
#3	42.35273	-.004199	49.62736	.0036624	.2286334	-.015701	35.04383

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3109805	-.003672	-.010438	-.005373	-.039159	-.003522	3.033931
Stddev	.0073760	.000997	.000611	.000837	.000269	.005210	.060306
%RSD	2.371841	27.15086	5.854736	15.58365	.6880005	147.9143	1.987702
#1	.3045603	-.003557	-.009795	-.004504	-.038918	-.009270	2.964570
#2	.3093439	-.004722	-.011012	-.006175	-.039111	-.002187	3.063278
#3	.3190373	-.002738	-.010506	-.005441	-.039450	.000890	3.073947

Sample Name: LR2 Acquired: 1/30/2025 18:41:09 Type: Unk
Method: NON EPA-6010-200.7(v2646) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0118698	-.006363	.0011047
Stddev	.0035467	.001003	.0000458
%RSD	29.87969	15.75438	4.147183
#1	.0100673	-.005654	.0011572
#2	.0095865	-.007510	.0010725
#3	.0159558	-.005926	.0010845

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2471.479	56174.65	10793.33	1839.738	4127.363
Stddev	48.590	282.11	61.99	13.824	72.840
%RSD	1.966043	.5022081	.5743629	.7514100	1.764796
#1	2527.006	55849.15	10836.90	1826.246	4210.599
#2	2450.689	56348.71	10820.74	1853.872	4096.207
#3	2436.743	56326.07	10722.36	1839.096	4075.283

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCV08 Acquired: 1/30/2025 18:45:31 Type: Unk
Method: NON EPA-6010-200.7(v2497) Mode: CONC Corr. Factor: 1.000000
User: Kareem 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	5.004112	5.057970	4.856098	5.034059	5.062716	9.705127	9.468333
Stddev	.012066	.024228	.004541	.017361	.012461	.029386	.030905
%RSD	.2411230	.4789971	.0935206	.3448707	.2461240	.3027883	.3263995
#1	5.010922	5.084592	4.852180	5.053528	5.075939	9.721951	9.503181
#2	5.011233	5.037214	4.861076	5.028461	5.061016	9.671195	9.457562
#3	4.990180	5.052103	4.855040	5.020188	5.051192	9.722234	9.444255

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2340354	2.429962	23.64202	1.010031	2.429634	1.254588	4.943057
Stddev	.0001638	.002820	.01843	.002096	.001570	.002807	.022829
%RSD	.0699686	.1160378	.0779574	.2074971	.0646027	.2237186	.4618371
#1	.2339948	2.426885	23.66150	1.012443	2.428615	1.257801	4.969416
#2	.2342156	2.432422	23.62486	1.008996	2.431442	1.253343	4.930154
#3	.2338957	2.430579	23.63970	1.008654	2.428846	1.252618	4.929602

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.310364	23.70777	2.434777	1.251768	25.57363	2.410837	2.450534
Stddev	.012682	.04941	.001542	.001840	.04265	.002828	.006473
%RSD	.5489092	.2083982	.0633177	.1469805	.1667747	.1173020	.2641587
#1	2.319893	23.67255	2.433596	1.250594	25.60656	2.412481	2.444368
#2	2.295970	23.76424	2.434215	1.250821	25.58888	2.407572	2.449959
#3	2.315229	23.68651	2.436521	1.253888	25.52545	2.412459	2.457276

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.06122	4.631368	5.038689	4.905669	4.732439	5.219033	4.859602
Stddev	.05215	.004294	.009874	.006126	.012848	.017317	.000330
%RSD	.2080982	.0927115	.1959712	.1248845	.2714881	.3318083	.0067975
#1	25.11912	4.629120	5.049096	4.905054	4.745627	5.202628	4.859270
#2	25.01793	4.628665	5.037521	4.912080	4.719961	5.237137	4.859931
#3	25.04661	4.636319	5.029451	4.899874	4.731727	5.217332	4.859604

Sample Name: CCV08 Acquired: 1/30/2025 18:45:31 Type: Unk
Method: NON EPA-6010-200.7(v2497) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.849396	4.643381	4.742075
Stddev	.008112	.021580	.032310
%RSD	.1672853	.4647399	.6813380
#1	4.848099	4.662929	4.704800
#2	4.842010	4.620225	4.759348
#3	4.858078	4.646991	4.762076

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2775.737	54194.74	10114.32	1833.099	4005.685
Stddev	7.535	175.93	28.02	1.840	2.879
%RSD	.2714755	.3246166	.2770392	.1003870	.0718784
#1	2767.899	54201.58	10107.81	1830.995	4004.636
#2	2776.385	54015.50	10090.13	1834.407	4003.477
#3	2782.928	54367.15	10145.02	1833.896	4008.941

Reviewed By:Jaswal
On:2/4/2025 1:27:49 PM
Inst Id :P4
LB :LB134493

Sample Name: CCB08 Acquired: 1/30/2025 18:51:35 Type: Unk
Method: NON EPA-6010-200.7(v2497) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000916	-.001130	-.000003	-.000322	-.002419	-.013416	-.002569
Stddev	.002600	.001450	.001064	.001676	.000291	.001830	.000266
%RSD	283.9491	128.2553	31074.25	520.3825	12.02686	13.64254	10.36503
#1	-.002634	-.002584	-.000366	.000735	-.002252	-.013717	-.002610
#2	-.002188	-.001123	.001194	-.002254	-.002755	-.015077	-.002812
#3	.002076	.000316	-.000838	.000553	-.002250	-.011454	-.002284

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000235	-.000263	-.023427	-.000062	-.000278	.0000633	-.017555
Stddev	.0000302	.000044	.005226	.000273	.000160	.0001943	.001820
%RSD	128.4650	16.72757	22.30899	443.3662	57.73181	306.8908	10.36448
#1	-.000011	-.000218	-.028040	-.000245	-.000448	.0001042	-.015467
#2	.000045	-.000306	-.017751	-.000192	-.000255	.0002339	-.018797
#3	.000036	-.000266	-.024490	.000252	-.000130	-.000148	-.018402

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000675	-.005974	-.000050	.0002372	.0945593	-.001790	-.003263
Stddev	.000306	.004730	.000229	.0003026	.0055433	.000909	.000144
%RSD	45.35577	79.17293	453.2984	127.5737	5.862290	50.78375	4.405633
#1	-.000402	-.002770	-.000185	-.000085	.0900337	-.002708	-.003426
#2	-.001006	-.003746	.000213	.000516	.0929019	-.001771	-.003208
#3	-.000616	-.011407	-.000179	.000280	.1007423	-.000890	-.003154

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1413407	.0035104	-.000365	-.000906	.0002592	-.002186	.0034031
Stddev	.0444130	.0001881	.000151	.000353	.0003658	.003859	.0019892
%RSD	31.42262	5.357331	41.31169	38.98646	141.1151	176.5024	58.45358
#1	.1094564	.0037261	-.000288	-.000750	.0003643	-.000722	.0031008
#2	.1224970	.0034247	-.000539	-.000658	.0005609	-.006563	.0015823
#3	.1920687	.0033805	-.000269	-.001311	-.000148	.000726	.0055262

Sample Name: CCB08 Acquired: 1/30/2025 18:51:35 Type: Unk
Method: NON EPA-6010-200.7(v2497) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005521	-.004393	-.000361
Stddev	.001871	.000877	.000003
%RSD	33.89489	19.96387	.8217766
#1	-.004299	-.003712	-.000360
#2	-.007676	-.005382	-.000360
#3	-.004589	-.004084	-.000365

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2912.651	56075.35	10652.23	1927.212	4392.108
Stddev	14.146	341.86	72.74	9.859	19.855
%RSD	.4856706	.6096379	.6828772	.5115458	.4520560
#1	2898.981	55970.57	10576.92	1926.069	4375.510
#2	2927.229	56457.33	10722.09	1937.592	4414.103
#3	2911.742	55798.14	10657.67	1917.975	4386.710

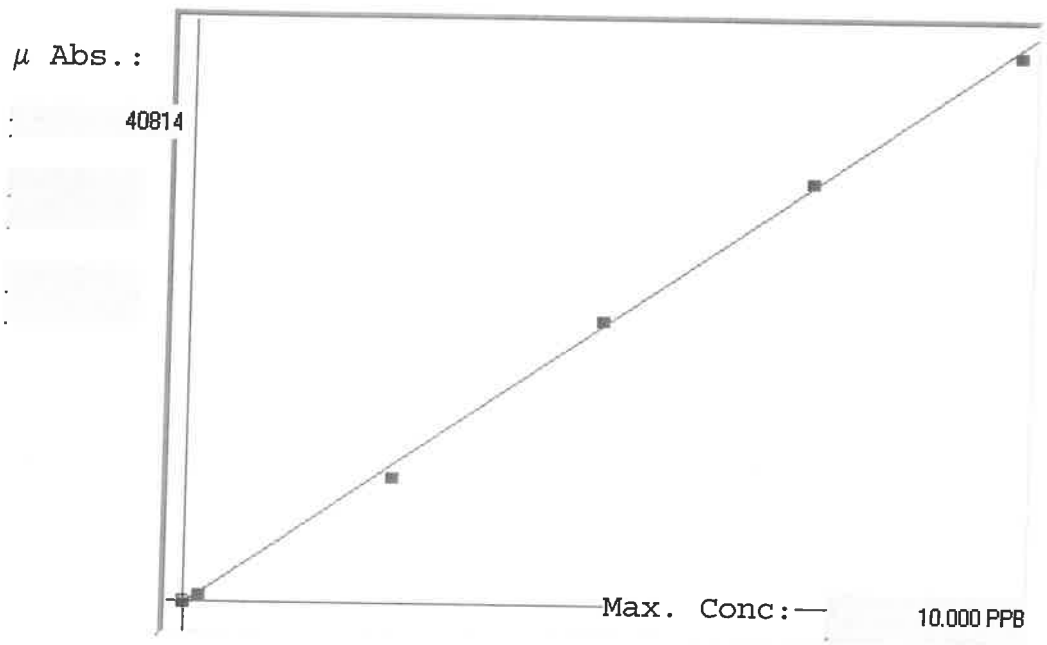
Reviewed By:Mohan
On:1/30/2025 8:45:57 PM
Inst Id :CV1
LB :LB134479

LB134479

7470A

INSTRUMENT ID: CV1

Linear



A= 0.0000e+000

B= 2.4123e-004

C= 4.5607e-002

Rho= 0.9994939

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	0.057	0.057	47	0.000	47	0				1
0.2	0.200	0.207	0.007	667	0.0 %	667					3
2.5	2.500	2.304	-0.196	9362	0.0 %	9362					-8
5.0	5.000	5.126	0.126	21062	0.0 %	21062					3
7.5	7.500	7.615	0.115	31377	0.0 %	31377					2
10.0	10.000	9.891	-0.109	40814	0.0 %	40814					-1

Reviewed By:Mohan
On:1/30/2025 8:45:57 PM
Inst Id :CV1
LB :LB134479

LB134479 INSTRUMENT ID : CV1

Method: 7470A Operator: Admin

Date of Analysis: 30 Jan 2025 09:25:01

Sample ID	Extended ID	µ Abs.	Conc.	Stnd Conc	Method	Units	Date	Type	Type
0.0 - 1	50	47	-	0.00000	7470A	PPB	30 Jan 2025 09:28:32	S	Std
0.2 - 1	50.2	667	-	0.20000	7470A	PPB	30 Jan 2025 09:30:49	S	Std
2.5 - 1	52.5	9362	-	2.50000	7470A	PPB	30 Jan 2025 09:33:07	S	Std
5.0 - 1	55	21062	-	5.00000	7470A	PPB	30 Jan 2025 09:38:00	S	Std
7.5 - 1	57.5	31377	-	7.50000	7470A	PPB	30 Jan 2025 09:42:57	S	Std
10.0 - 1	510	40814	-	10.00000	7470A	PPB	30 Jan 2025 09:45:14	S	Std
ICV75 - 1	ICV75	16880	4.1176		-7470A	PPB	30 Jan 2025 09:48:06	U	SMPL
ICB75 - 1	ICB75	-195	-0.0014		-7470A	PPB	30 Jan 2025 09:50:21	U	SMPL
CCV87 - 1	CCV87	21655	5.2695		-7470A	PPB	30 Jan 2025 09:52:37	U	SMPL
CCB87 - 1	CCB87	-212	-0.0055		-7470A	PPB	30 Jan 2025 09:54:53	U	SMPL
CRA - 1	CRA	614	0.1937		-7470A	PPB	30 Jan 2025 09:59:42	U	SMPL
HighStd - 1	HighStd	41852	10.1417		-7470A	PPB	30 Jan 2025 10:01:56	U	SMPL
ChkStd - 1	ChkStd	29903	7.2592		-7470A	PPB	30 Jan 2025 10:04:11	U	SMPL
PB166355BL - 1	PBW	111	0.0724		-7470A	PPB	30 Jan 2025 10:11:54	U	SMPL
PB166355BS - 1	LCSW	18526	4.5147		-7470A	PPB	30 Jan 2025 10:14:09	U	SMPL
Q1205-02 - 1	VNJ-236	45	0.0565		-7470A	PPB	30 Jan 2025 10:16:25	U	SMPL
Q1206-04 - 1	JPP-20.1-012725	66	0.0615		-7470A	PPB	30 Jan 2025 10:18:43	U	SMPL
Q1206-08 - 1	JPP-16.3-012725	47	0.0569		-7470A	PPB	30 Jan 2025 10:21:00	U	SMPL
Q1207-04 - 1	JPP-2.1-012725	76	0.0639		-7470A	PPB	30 Jan 2025 10:23:17	U	SMPL
Q1207-08 - 1	JPP-5.1-012725	132	0.0774		-7470A	PPB	30 Jan 2025 10:25:33	U	SMPL
CCV88 - 1	CCV88	21976	5.3469		-7470A	PPB	30 Jan 2025 10:27:48	U	SMPL
CCB88 - 1	CCB88	-207	-0.0043		-7470A	PPB	30 Jan 2025 10:30:04	U	SMPL
Q1207-12 - 1	JPP-4.5-012725	79	0.0647		-7470A	PPB	30 Jan 2025 10:32:22	U	SMPL
Q1207-16 - 1	JPP-16.2-012725	62	0.0606		-7470A	PPB	30 Jan 2025 10:34:37	U	SMPL
Q1207-20 - 1	JPP-20.2-012725	20	0.0504		-7470A	PPB	30 Jan 2025 10:36:52	U	SMPL
Q1209-04 - 1	WC-4	37	0.0545		-7470A	PPB	30 Jan 2025 10:39:08	U	SMPL
Q1209-08 - 1	WC-5	16	0.0495		-7470A	PPB	30 Jan 2025 10:41:25	U	SMPL
Q1209-08DUP - 1	WC-5DUP	-30	0.0384		-7470A	PPB	30 Jan 2025 10:43:41	U	SMPL
Q1209-08MS - 1	WC-5MS	17702	4.3159		-7470A	PPB	30 Jan 2025 10:45:58	U	SMPL
Q1209-08MSD - 1	WC-5MSD	17040	4.1562		-7470A	PPB	30 Jan 2025 10:48:15	U	SMPL
CCV89 - 1	CCV89	20705	5.0403		-7470A	PPB	30 Jan 2025 10:53:13	U	SMPL
CCB89 - 1	CCB89	94	0.0683		-7470A	PPB	30 Jan 2025 10:58:06	U	SMPL
PB166318TB - 1	PB166318TB	89	0.0671		-7470A	PPB	30 Jan 2025 11:03:37	U	SMPL
Q1209-08LX5 - 1		54	0.0586		-7470A	PPB	30 Jan 2025 11:05:52	U	SMPL
Q1209-08A - 1		17633	4.2993		-7470A	PPB	30 Jan 2025 11:08:07	U	SMPL
CCV90 - 1	CCV90	20812	5.0661		-7470A	PPB	30 Jan 2025 11:15:11	U	SMPL
CCB90 - 1	CCB90	-44	0.0350		-7470A	PPB	30 Jan 2025 11:17:27	U	SMPL

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166342

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: 01/29/2025 **Time :** 12:30 **Temp :** 96 °C

End Digest Date: 01/29/2025 **Time :** 15:40 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: S/29.

Supervisor Signature:

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6002
LFS-2	0.25	M6011
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	M6126
1:1 HCL	5.00	MP83499
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 TEMP:96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01/29/25 16:40	S/29. met. digestion.	(metals Cage)
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166342

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB166318TB	PB166318TB	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	1
PB166342BL	PBW342	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	2
PB166342BS	LCS342	<2	5	25	Colorless	Colorless	Clear	Clear	M6002,M6011	3
Q1205-02	VNJ-236	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	4
Q1206-04	JPP-20.1-012725	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	5
Q1206-08	JPP-16.3-012725	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	6
Q1207-04	JPP-2.1-012725	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	7
Q1207-08	JPP-5.1-012725	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	8
Q1207-12	JPP-4.5-012725	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	9
Q1207-16	JPP-16.2-012725	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	10
Q1207-20	JPP-20.2-012725	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	11
Q1209-04	WC-4	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	12
Q1209-08	WC-5	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	13
Q1209-08MS	WC-5MS	<2	5	25	Colorless	Colorless	Clear	Clear	M6002,M6011	15
Q1209-08MSD	WC-5MSD	<2	5	25	Colorless	Colorless	Clear	Clear	M6002,M6011	16
Q1209-08DUP	WC-5DUP	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	14

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166318

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	Pr... Po...
PB166318TB	LEB318	11	N/A	2000	N/A	N/A	N/A	4.94	1.0	T-1
Q1205-02	VNJ-236	01	100.03	2000	N/A	N/A	N/A	4.0	1.5	T-1
Q1206-04	JPP-20.1-012725	02	100.02	2000	N/A	N/A	N/A	6.2	1.0	T-1
Q1206-08	JPP-16.3-012725	03	100.02	2000	N/A	N/A	N/A	7.2	1.5	T-1
Q1207-04	JPP-2.1-012725	04	100.03	2000	N/A	N/A	N/A	7.0	1.0	T-1
Q1207-08	JPP-5.1-012725	05	100.04	2000	N/A	N/A	N/A	7.6	1.5	T-1
Q1207-12	JPP-4.5-012725	06	100.03	2000	N/A	N/A	N/A	7.2	1.5	T-1
Q1207-16	JPP-16.2-012725	07	100.02	2000	N/A	N/A	N/A	7.6	1.0	T-1
Q1207-20	JPP-20.2-012725	08	100.02	2000	N/A	N/A	N/A	7.0	1.5	T-1
Q1209-04	WC-4	09	100.01	2000	N/A	N/A	N/A	3.5	1.0	T-1
Q1209-08	WC-5	10	100.02	2000	N/A	N/A	N/A	4.0	1.5	T-1

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB166355

SOP ID : M7470A-Mercury-19

SDG No : NA

Matrix : WATER

Pippete ID: HG A

Balance ID : N/A

Filter paper ID : NA

pH Strip ID : M6069

Hood ID : #1

Block ID: 1. HG HOT BLOCK#3 2. N/A

Start Digest Date: 01/29/2025 **Time :** 14:40 **Temp :** 94 °C

End Digest Date: 01/29/2025 **Time :** 16:40 **Temp :** 95 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature: [signature]

Supervisor Signature: [signature]

Temp : 1. 94°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP84263
CCV	30mL	MP84265
CRA	30mL	MP84267
Blank Spike	0.48mL	MP84256
Matrix Spike	0.48mL	MP84256

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.5mL	MP83691
KMnO4 (5%)	4.5mL	MP83692
K2S2O8 (5%)	2.5mL	MP83693
Hydroxylamine HCL (12%)	2.0mL	MP83694
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	MP84257
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30mL	MP84258
2.5 ppb	S2.5	30mL	MP84259
5.0 ppb	S5.0	30mL	MP84260
7.5 ppb	S7.5	30mL	MP84261
10.0 ppb	S10.0	30mL	MP84262
ICV	ICV	30mL	MP84263
ICB	ICB	30mL	MP84264
CCV	CCV	30mL	MP84265
CCB	CCB	30mL	MP84266
CRI	CRI	30mL	MP84267
CHK STD	CHK STD	30mL	MP84268

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
1/29/25 @ 17:10	MB - Dig. Lab	MB - Metal Lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB166355

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB166318TB	PB166318TB	3	30	<2	N/A	3-1
PB166355BL	PBW355	30	30	<2	N/A	2
PB166355BS	LCS355	30	30	<2	MP84256	3
Q1205-02	VNJ-236	3	30	<2	N/A	4
Q1206-04	JPP-20.1-012725	3	30	<2	N/A	5
Q1206-08	JPP-16.3-012725	3	30	<2	N/A	6
Q1207-04	JPP-2.1-012725	3	30	<2	N/A	7
Q1207-08	JPP-5.1-012725	3	30	<2	N/A	8
Q1207-12	JPP-4.5-012725	3	30	<2	N/A	9
Q1207-16	JPP-16.2-012725	3	30	<2	N/A	10
Q1207-20	JPP-20.2-012725	3	30	<2	N/A	11
Q1209-04	WC-4	3	30	<2	N/A	12
Q1209-08	WC-5	3	30	<2	N/A	13
Q1209-08DUP	WC-5DUP	3	30	<2	N/A	14
Q1209-08MS	WC-5MS	3	30	<2	MP84256	15
Q1209-08MSD	WC-5MSD	3	30	<2	MP84256	16

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166318

SOP ID : M1311-TCLP-15

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 : 114771

Start Prep Date : 01/28/2025 **Time :** 16:30

End Prep Date : 01/29/2025 **Time :** 09:20

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	WP110801
HCL-TCLP,1N	N/A	WP110803
HNO3-TCLP,1N	N/A	WP110804
pH Strips	N/A	W1931,W1934,W3171,W3172
pH Strips	W1941,W1942	W3166,W1938,W1939,W1940,
1 Liter Amber	N/A	90424-08
120ml Plastic bottle	N/A	405130101
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. q1209-05 is used for MS-MSD. Particle size reduction is not required.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01/29/25 11:00	JP TCLP Room	SRD.
	Preparation Group	Analysis Group

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 # LB134479

Review By	jaswal	Review On	1/30/2025 8:44:16 PM
Supervise By	Mohan	Supervise On	1/30/2025 8:45:57 PM

STD. NAME	STD REF.#
ICAL Standard	MP84257,MP84258,MP84259,MP84260,MP84261,MP84262
ICV Standard	MP84263
CCV Standard	MP84265
ICSA Standard	
CRI Standard	MP84267
LCS Standard	
Chk Standard	MP84264,MP84266,MP84268,MP84288

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	01/30/25 09:28		Mohan	OK
2	S0.2	S0.2	CAL2	01/30/25 09:30		Mohan	OK
3	S2.5	S2.5	CAL3	01/30/25 09:33		Mohan	OK
4	S5	S5	CAL4	01/30/25 09:38		Mohan	OK
5	S7.5	S7.5	CAL5	01/30/25 09:42		Mohan	OK
6	S10	S10	CAL6	01/30/25 09:45		Mohan	OK
7	ICV75	ICV75	ICV	01/30/25 09:48		Mohan	OK
8	ICB75	ICB75	ICB	01/30/25 09:50		Mohan	OK
9	CCV87	CCV87	CCV	01/30/25 09:52		Mohan	OK
10	CCB87	CCB87	CCB	01/30/25 09:54		Mohan	OK
11	CRA	CRA	CRDL	01/30/25 09:59		Mohan	OK
12	HighStd	HighStd	HIGH STD	01/30/25 10:01		Mohan	OK
13	ChkStd	ChkStd	SAM	01/30/25 10:04		Mohan	OK
14	PB166355BL	PB166355BL	MB	01/30/25 10:11		Mohan	OK
15	PB166355BS	PB166355BS	LCS	01/30/25 10:14		Mohan	OK
16	Q1205-02	VNJ-236	SAM	01/30/25 10:16		Mohan	OK
17	Q1206-04	JPP-20.1-012725	SAM	01/30/25 10:18		Mohan	OK
18	Q1206-08	JPP-16.3-012725	SAM	01/30/25 10:21		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 # LB134479

Review By	jaswal	Review On	1/30/2025 8:44:16 PM
Supervise By	Mohan	Supervise On	1/30/2025 8:45:57 PM

STD. NAME	STD REF.#
ICAL Standard	MP84257,MP84258,MP84259,MP84260,MP84261,MP84262
ICV Standard	MP84263
CCV Standard	MP84265
ICSA Standard	
CRI Standard	MP84267
LCS Standard	
Chk Standard	MP84264,MP84266,MP84268,MP84288

19	Q1207-04	JPP-2.1-012725	SAM	01/30/25 10:23		Mohan	OK
20	Q1207-08	JPP-5.1-012725	SAM	01/30/25 10:25		Mohan	OK
21	CCV88	CCV88	CCV	01/30/25 10:27		Mohan	OK
22	CCB88	CCB88	CCB	01/30/25 10:30		Mohan	OK
23	Q1207-12	JPP-4.5-012725	SAM	01/30/25 10:32		Mohan	OK
24	Q1207-16	JPP-16.2-012725	SAM	01/30/25 10:34		Mohan	OK
25	Q1207-20	JPP-20.2-012725	SAM	01/30/25 10:36		Mohan	OK
26	Q1209-04	WC-4	SAM	01/30/25 10:39		Mohan	OK
27	Q1209-08	WC-5	SAM	01/30/25 10:41		Mohan	OK
28	Q1209-08DUP	WC-5DUP	DUP	01/30/25 10:43		Mohan	OK
29	Q1209-08MS	WC-5MS	MS	01/30/25 10:45		Mohan	OK
30	Q1209-08MSD	WC-5MSD	MSD	01/30/25 10:48		Mohan	OK
31	CCV89	CCV89	CCV	01/30/25 10:53		Mohan	OK
32	CCB89	CCB89	CCB	01/30/25 10:58		Mohan	OK
33	PB166318TB	PB166318TB	MB	01/30/25 11:03		Mohan	OK
34	Q1209-08L	WC-5L	SD	01/30/25 11:05		Mohan	OK
35	Q1209-08A	WC-5A	PS	01/30/25 11:08		Mohan	OK
36	CCV90	CCV90	CCV	01/30/25 11:15		Mohan	OK
37	CCB90	CCB90	CCB	01/30/25 11:17		Mohan	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134493

Review By	kareem	Review On	1/31/2025 12:05:06 PM
Supervise By	Jaswal	Supervise On	2/4/2025 1:27:49 PM

STD. NAME	STD REF.#
ICAL Standard	MP84204,MP84223,MP84224,MP84225,MP84226,MP84228
ICV Standard	MP84229
CCV Standard	MP84232
ICSA Standard	MP84230,MP84231
CRI Standard	MP84228
LCS Standard	
Chk Standard	MP84218,MP84219

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	01/30/25 11:07		Kareem	OK
2	S1	S1	CAL2	01/30/25 11:12		Kareem	OK
3	S2	S2	CAL3	01/30/25 11:16		Kareem	OK
4	S3	S3	CAL4	01/30/25 11:20		Kareem	OK
5	S4	S4	CAL5	01/30/25 11:25		Kareem	OK
6	S5	S5	CAL6	01/30/25 11:29		Kareem	OK
7	ICV01	ICV01	ICV	01/30/25 11:49	ICV fail for Al,Ba,Be,Ca,Mg,V (200.7)	Kareem	OK
8	LLICV01	LLICV01	LLICV	01/30/25 11:56		Kareem	OK
9	ICB01	ICB01	ICB	01/30/25 12:00		Kareem	OK
10	CRI01	CRI01	CRDL	01/30/25 12:05		Kareem	OK
11	ICSA01	ICSA01	ICSA	01/30/25 12:10		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	01/30/25 12:28		Kareem	OK
13	ICSADL	ICSADL	ICSA	01/30/25 12:33		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	01/30/25 12:37		Kareem	OK
15	CCV01	CCV01	CCV	01/30/25 12:41		Kareem	OK
16	CCB01	CCB01	CCB	01/30/25 12:47		Kareem	OK
17	Q1152-01	EFFLUENT-DAY-1-MI	SAM	01/30/25 12:51		Kareem	OK
18	Q1152-01DUP	EFFLUENT-DAY-1-MI	DUP	01/30/25 12:55		Kareem	OK

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Supervise By	Jaswal	Supervise On	2/4/2025 1:27:49 PM

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ICV Standard	MP84229
CCV Standard	MP84232
ICSA Standard	MP84230,MP84231
CRI Standard	MP84228
LCS Standard	
Chk Standard	MP84218,MP84219

19	Q1152-01L	EFFLUENT-DAY-1-MI	SD	01/30/25 13:00		Kareem	OK
20	Q1152-01MS	EFFLUENT-DAY-1-MI	MS	01/30/25 13:04		Kareem	OK
21	Q1152-01MSD	EFFLUENT-DAY-1-MI	MSD	01/30/25 13:08		Kareem	OK
22	Q1152-01A	EFFLUENT-DAY-1-MI	PS	01/30/25 13:12		Kareem	OK
23	PB166190BL	PB166190BL	MB	01/30/25 13:16		Kareem	OK
24	PB166190BS	PB166190BS	LCS	01/30/25 13:20		Kareem	OK
25	Q1205-02	VNJ-236	SAM	01/30/25 13:24		Kareem	OK
26	Q1206-04	JPP-20.1-012725	SAM	01/30/25 13:29		Kareem	OK
27	CCV02	CCV02	CCV	01/30/25 13:33		Kareem	OK
28	CCB02	CCB02	CCB	01/30/25 13:37		Kareem	OK
29	Q1206-08	JPP-16.3-012725	SAM	01/30/25 13:41		Kareem	OK
30	Q1207-04	JPP-2.1-012725	SAM	01/30/25 13:46		Kareem	OK
31	Q1207-08	JPP-5.1-012725	SAM	01/30/25 13:50		Kareem	OK
32	Q1207-12	JPP-4.5-012725	SAM	01/30/25 13:55		Kareem	OK
33	Q1207-16	JPP-16.2-012725	SAM	01/30/25 13:59		Kareem	OK
34	Q1207-20	JPP-20.2-012725	SAM	01/30/25 14:03		Kareem	OK
35	Q1209-04	WC-4	SAM	01/30/25 14:08		Kareem	OK
36	Q1209-08	WC-5	SAM	01/30/25 14:12		Kareem	OK
37	Q1209-08DUP	WC-5DUP	DUP	01/30/25 14:17		Kareem	OK
38	Q1209-08L	WC-5L	SD	01/30/25 14:21		Kareem	OK

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ICSA Standard	MP84230,MP84231
CRI Standard	MP84228
LCS Standard	
Chk Standard	MP84218,MP84219

39	CCV03	CCV03	CCV	01/30/25 14:34		Kareem	OK
40	CCB03	CCB03	CCB	01/30/25 14:38		Kareem	OK
41	Q1209-08MS	WC-5MS	MS	01/30/25 14:43	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
42	Q1209-08MSD	WC-5MSD	MSD	01/30/25 14:47	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
43	Q1209-08A	WC-5A	PS	01/30/25 14:51	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
44	PB166318TB	PB166318TB	MB	01/30/25 14:55		Kareem	OK
45	PB166342BL	PB166342BL	MB	01/30/25 15:00		Kareem	OK
46	PB166342BS	PB166342BS	LCS	01/30/25 15:04	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
47	Q1206-03	JPP-20.1-012725	SAM	01/30/25 15:08		Kareem	OK
48	Q1206-07	JPP-16.3-012725	SAM	01/30/25 15:12		Kareem	OK
49	Q1207-03	JPP-2.1-012725	SAM	01/30/25 15:16		Kareem	OK
50	Q1207-03DUP	JPP-2.1-012725DUP	DUP	01/30/25 15:21		Kareem	OK
51	CCV04	CCV04	CCV	01/30/25 15:25		Kareem	OK
52	CCB04	CCB04	CCB	01/30/25 15:29		Kareem	OK
53	Q1207-03L	JPP-2.1-012725L	SD	01/30/25 15:33		Kareem	OK
54	Q1207-03MS	JPP-2.1-012725MS	MS	01/30/25 15:38	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK

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CCV Standard	MP84232
ICSA Standard	MP84230,MP84231
CRI Standard	MP84228
LCS Standard	
Chk Standard	MP84218,MP84219

55	Q1207-03MSD	JPP-2.1-012725MSD	MSD	01/30/25 15:42	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
56	Q1207-03A	JPP-2.1-012725A	PS	01/30/25 15:46	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
57	Q1207-07	JPP-5.1-012725	SAM	01/30/25 15:50		Kareem	OK
58	Q1207-11	JPP-4.5-012725	SAM	01/30/25 15:54		Kareem	OK
59	Q1207-15	JPP-16.2-012725	SAM	01/30/25 15:58		Kareem	OK
60	Q1207-19	JPP-20.2-012725	SAM	01/30/25 16:03		Kareem	OK
61	PB166330BL	PB166330BL	MB	01/30/25 16:07		Kareem	OK
62	PB166330BS	PB166330BS	LCS	01/30/25 16:11		Kareem	OK
63	CCV05	CCV05	CCV	01/30/25 16:24		Kareem	OK
64	CCB05	CCB05	CCB	01/30/25 16:28		Kareem	OK
65	PB166376BL	PB166376BL	MB	01/30/25 16:32		Kareem	OK
66	PB166376BS	PB166376BS	LCS	01/30/25 16:37	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
67	Q1216-03	JPP-18.1-012825	SAM	01/30/25 16:41		Kareem	OK
68	Q1216-07	JPP-21.1-012825	SAM	01/30/25 16:45		Kareem	OK
69	Q1216-11	JPP-21.2-012825	SAM	01/30/25 16:49		Kareem	OK
70	Q1216-15	JPP-26.1-012825	SAM	01/30/25 16:54		Kareem	OK
71	Q1216-19	JPP-26.2-012825	SAM	01/30/25 16:58		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134493

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Supervise By	Jaswal	Supervise On	2/4/2025 1:27:49 PM

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ICV Standard	MP84229
CCV Standard	MP84232
ICSA Standard	MP84230,MP84231
CRI Standard	MP84228
LCS Standard	
Chk Standard	MP84218,MP84219

72	Q1218-01	BELL-25-002	SAM	01/30/25 17:02		Kareem	OK
73	Q1219-01	LAW-25-0015	SAM	01/30/25 17:06		Kareem	OK
74	Q1220-01	TR-06-01292025	SAM	01/30/25 17:11		Kareem	OK
75	CCV06	CCV06	CCV	01/30/25 17:19		Kareem	OK
76	CCB06	CCB06	CCB	01/30/25 17:24		Kareem	OK
77	Q1221-01	CHESTNUT-CONCRE	SAM	01/30/25 17:28		Kareem	OK
78	Q1221-01DUP	CHESTNUT-CONCRE	DUP	01/30/25 17:33		Kareem	OK
79	Q1221-01L	CHESTNUT-CONCRE	SD	01/30/25 17:37		Kareem	OK
80	Q1221-01MS	CHESTNUT-CONCRE	MS	01/30/25 17:41	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
81	Q1221-01MSD	CHESTNUT-CONCRE	MSD	01/30/25 17:46	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
82	Q1221-01A	CHESTNUT-CONCRE	PS	01/30/25 17:50	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
83	Q1215-03	JPP-29.1-012825	SAM	01/30/25 17:54		Kareem	OK
84	Q1215-07	JPP-29.2-012825	SAM	01/30/25 17:58		Kareem	OK
85	Q1194-04	B-113-SB02	SAM	01/30/25 18:03		Kareem	OK
86	Q1194-04DUP	B-113-SB02DUP	DUP	01/30/25 18:07		Kareem	OK
87	CCV07	CCV07	CCV	01/30/25 18:11		Kareem	OK
88	CCB07	CCB07	CCB	01/30/25 18:15		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134493

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Supervise By	Jaswal	Supervise On	2/4/2025 1:27:49 PM

STD. NAME	STD REF.#
ICAL Standard	MP84204,MP84223,MP84224,MP84225,MP84226,MP84228
ICV Standard	MP84229
CCV Standard	MP84232
ICSA Standard	MP84230,MP84231
CRI Standard	MP84228
LCS Standard	
Chk Standard	MP84218,MP84219

89	Q1194-04L	B-113-SB02L	SD	01/30/25 18:19		Kareem	OK
90	Q1194-04MS	B-113-SB02MS	MS	01/30/25 18:24	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
91	Q1194-04MSD	B-113-SB02MSD	MSD	01/30/25 18:28	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
92	Q1194-04A	B-113-SB02A	PS	01/30/25 18:32	0.1 ML M6010 and M6001 were added to 10 ML of sample	Kareem	OK
93	LR1	LR1	HIGH STD	01/30/25 18:36		Kareem	OK
94	LR2	LR2	HIGH STD	01/30/25 18:41		Kareem	OK
95	CCV08	CCV08	CCV	01/30/25 18:45		Kareem	OK
96	CCB08	CCB08	CCB	01/30/25 18:51		Kareem	OK

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166318

SOP ID : M1311-TCLP-15

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 : 114771

Start Prep Date : 01/28/2025 **Time :** 16:30

End Prep Date : 01/29/2025 **Time :** 09:20

Combination Ratio : 20

ZHE Cleaning Batch : N/A

Initial Room Temperature: 24 °C

Final Room Temperature: 22 °C

TCLP Technician Signature : JP

Supervisor By : JZ

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	WP110801
HCL-TCLP,1N	N/A	WP110803
HNO3-TCLP,1N	N/A	WP110804
pH Strips	N/A	W1931,W1934,W3171,W3172
pH Strips	W1941,W1942	W3166,W1938,W1939,W1940,
1 Liter Amber	N/A	90424-08
120ml Plastic bottle	N/A	405130101
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. q1209-05 is used for MS-MSD. Particle size reduction is not required.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
01/29/25 11:00	JP TCLP Room	SRD.
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166318

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
PB166318TB	LEB318	11	N/A	2000	N/A	N/A	N/A	4.94	1.0	T-1
Q1205-02	VNJ-236	01	100.03	2000	N/A	N/A	N/A	4.0	1.5	T-1
Q1206-04	JPP-20.1-012725	02	100.02	2000	N/A	N/A	N/A	6.2	1.0	T-1
Q1206-08	JPP-16.3-012725	03	100.02	2000	N/A	N/A	N/A	7.2	1.5	T-1
Q1207-04	JPP-2.1-012725	04	100.03	2000	N/A	N/A	N/A	7.0	1.0	T-1
Q1207-08	JPP-5.1-012725	05	100.04	2000	N/A	N/A	N/A	7.6	1.5	T-1
Q1207-12	JPP-4.5-012725	06	100.03	2000	N/A	N/A	N/A	7.2	1.5	T-1
Q1207-16	JPP-16.2-012725	07	100.02	2000	N/A	N/A	N/A	7.6	1.0	T-1
Q1207-20	JPP-20.2-012725	08	100.02	2000	N/A	N/A	N/A	7.0	1.5	T-1
Q1209-04	WC-4	09	100.01	2000	N/A	N/A	N/A	3.5	1.0	T-1
Q1209-08	WC-5	10	100.02	2000	N/A	N/A	N/A	4.0	1.5	T-1

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
PB166318TB	LEB318	N/A	N/A	N/A	N/A	N/A	N/A
Q1205-02	VNJ-236	N/A	N/A	N/A	N/A	100	N/A
Q1206-04	JPP-20.1-012725	N/A	N/A	N/A	N/A	100	N/A
Q1206-08	JPP-16.3-012725	N/A	N/A	N/A	N/A	100	N/A
Q1207-04	JPP-2.1-012725	N/A	N/A	N/A	N/A	100	N/A
Q1207-08	JPP-5.1-012725	N/A	N/A	N/A	N/A	100	N/A
Q1207-12	JPP-4.5-012725	N/A	N/A	N/A	N/A	100	N/A
Q1207-16	JPP-16.2-012725	N/A	N/A	N/A	N/A	100	N/A
Q1207-20	JPP-20.2-012725	N/A	N/A	N/A	N/A	100	N/A
Q1209-04	WC-4	N/A	N/A	N/A	N/A	100	N/A
Q1209-08	WC-5	N/A	N/A	N/A	N/A	100	N/A

Alliance TECHNICAL GROUP

TCLP Fluid Determination

PB166318

Hot Block ID : WC S-1 /WC S-2

Thermometer ID : FLASHPOINT

SampleID	ClientID	Sample Weight (g)	Volume DI Water (mL)	PH after 5 min stir	PH after 10 min stir	Extraction Fluid 1 or 2	pH Extraction Fluid
PB166318TB	LEB318	N/A	N/A	N/A	N/A	#1	4.94
Q1205-02	VNJ-236	5.02	96.5	6.0	2.0	#1	4.94
Q1206-04	JPP-20.1-012725	5.03	96.5	8.6	3.0	#1	4.94
Q1206-08	JPP-16.3-012725	5.02	96.5	9.1	3.5	#1	4.94
Q1207-04	JPP-2.1-012725	5.01	96.5	9.0	4.0	#1	4.94
Q1207-08	JPP-5.1-012725	5.02	96.5	11.0	4.5	#1	4.94
Q1207-12	JPP-4.5-012725	5.03	96.5	11.5	4.5	#1	4.94
Q1207-16	JPP-16.2-012725	5.02	96.5	10.5	4.0	#1	4.94
Q1207-20	JPP-20.2-012725	5.01	96.5	9.1	3.5	#1	4.94
Q1209-04	WC-4	5.02	96.5	6.4	2.5	#1	4.94
Q1209-08	WC-5	5.03	96.5	6.6	2.0	#1	4.94

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Prep Standard - Chemical Standard Summary

Order ID : Q1206

Test : TCLP ICP Metals,TCLP Mercury

Prepbatch ID : PB166342,PB166355,

Sequence ID/Qc Batch ID: LB134479,LB134493,LB134493,

Standard ID :
MP83499,MP83691,MP83692,MP83693,MP83694,MP84204,MP84218,MP84219,MP84223,MP84224,MP84225,MP84226,MP84227,MP84228,MP84229,MP84230,MP84231,MP84232,MP84256,MP84257,MP84258,MP84259,MP84260,MP84261,MP84262,MP84263,MP84264,MP84265,MP84266,MP84267,MP84268,MP84288,

Chemical ID :
M4371,M4465,M4884,M4916,M5062,M5130,M5192,M5218,M5223,M5288,M5295,M5298,M5393,M5429,M5467,M5472,M5496,M5497,M5532,M5658,M5697,M5747,M5748,M5798,M5799,M5800,M5801,M5802,M5814,M5815,M5816,M5817,M5819,M5820,M5875,M5882,M5884,M5959,M5962,M5970,M5978,M5985,M6002,M6011,M6021,M6023,M6028,M6030,M6032,M6041,M6077,M6121,M6126,M6127,M6128,M6144,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	MP83499	12/09/2024	01/30/2025	Eman Mughal	None	None	Sarabjit Jaswal 12/09/2024

FROM 1250.00000ml of M6121 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3965	2:1 H2SO4 : HNO3	MP83691	12/18/2024	06/03/2025	Mohan Bera	None	None	Sarabjit Jaswal 12/18/2024

FROM 1600.00000ml of M6041 + 800.00000ml of M6126 = Final Quantity: 3200.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP83692	12/18/2024	06/18/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 12/18/2024

FROM 100.00000gram of M4916 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP83693	12/18/2024	06/18/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 12/18/2024

FROM 100.00000ml of M4465 + 2000.00000ml of W3112 = 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
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP83694	12/18/2024	06/18/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 12/18/2024

FROM 2000.00000ml of W3112 + 240.00000gram of M4371 + 240.00000gram of M5884 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP84204	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/27/2025

FROM 125.00000ml of M6121 + 2350.00000ml of W3112 + 25.00000ml of M6126 = Final Quantity: 2500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP84218	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/27/2025

FROM 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6126 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP84219	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/27/2025

FROM 200.00000ml of M6126 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP84223	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 5.00000ml of M5393 + 5.00000ml of M5467 + 5.00000ml of M5472 + 5.00000ml of M5802 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M6077 + 455.00000ml of MP84204 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP84224	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 50.00000ml of MP84204 + 50.00000ml of MP84223 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP84225	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 25.00000ml of MP84223 + 75.00000ml of MP84204 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP84226	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 16.00000ml of MP84223 + 184.00000ml of MP84204 = Final Quantity: 200.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP84227	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 0.00200ml of M5816 + 0.00400ml of M5978 + 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5298 + 0.05000ml of M5496 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.06000ml of M5747 + 0.10000ml of M5472 + 0.10000ml of M5697 + 0.10000ml of M5801 + 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 M5819 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M5802 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5192 + 1.00000ml of M5288 + 1.00000ml of M5497 + 1.00000ml of M6127 + 1.00000ml of M6144 + 2.00000ml of M4884 + 77.68000ml of MP84204 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP84228	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 2.00000ml of MP84227 + 98.00000ml of MP84204 = 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
912	ICP AES ICV SOLN	MP84229	01/24/2025	02/05/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.10000ml of M5467 + 0.25000ml of M5218 + 0.25000ml of M5472 + 10.00000ml of M5295 + 89.77500ml of MP84204 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP84230	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 25.00000ml of M5130 + 225.00000ml of MP84204 = 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
3494	ICP AES ICSAB SOLN-1	MP84231	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5472 + 0.10000ml of M5970 + 0.10000ml of M6077 + 10.00000ml of M5130 + 10.00000ml of M5223 + 79.50000ml of MP84204 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP84232	01/24/2025	02/24/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 01/28/2025

FROM 50.00000ml of MP84204 + 50.00000ml of MP84223 = 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
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP84256	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 1.00000ml of M6126 + 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
1340	Hg 0.00 PPB STD	MP84257	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 247.50000ml 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
1341	Hg 0.2 PPB STD	MP84258	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 247.30000ml of W3112 + 0.20000ml of MP84256 = 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	MP84259	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 245.00000ml of W3112 + 2.50000ml of MP84256 = 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	MP84260	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 242.50000ml of W3112 + 5.00000ml of MP84256 = 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	MP84261	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 240.00000ml of W3112 + 7.50000ml of MP84256 = 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	MP84262	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 237.50000ml of W3112 + 10.00000ml of MP84256 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP84263	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M5532 + 2.50000ml of M6126 + 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)	MP84264	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 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)	MP84265	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6126 + 10.00000ml of MP84256 = 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)	MP84266	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 495.00000ml of W3112 + 5.00000ml of M6126 = 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)	MP84267	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 247.30000ml of W3112 + 0.20000ml of MP84256 = 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
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP84268	01/29/2025	01/30/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 01/31/2025

FROM 2.50000ml of M6126 + 240.50000ml of W3112 + 7.00000ml of MP84256 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP84288	01/30/2025	01/31/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 01/31/2025

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6121 = Final Quantity: 500.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-2196-01 / Hydroxylamine Hydrochloride, Crystal (cs/4x500g)	0000215387	06/25/2025	07/01/2019 / RICHARD	06/07/2019 / RICHARD	M4371

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3238-05 / Potassium Persulfate (2.5kg)	0000234156	08/06/2025	07/23/2019 /mohan	07/25/2019 / manojkumar	M4465

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57014 / Si, 1000 PPM, 125 ml	030921	03/09/2025	08/06/2021 / jaswal	08/05/2021 / jaswal	M4884

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3227-05 / Potassium Permanganate (2.5kg)	210800	03/31/2026	11/30/2022 / mohan	07/28/2021 / mohan	M4916

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 #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	01/31/2025	05/20/2024 /jaswal	04/20/2021 / bin	M5130

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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.	57042 / Mo, 1000 PPM, 125 ml	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

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	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

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	01/31/2025	05/20/2024 /jaswal	04/20/2021 / bin	M5223

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	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	02/05/2025	08/07/2024 / jaswal	04/20/2021 / bin	M5295

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	020422	02/04/2025	05/02/2023 / jaswal	06/15/2022 / jaswal	M5298

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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	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	10/12/2022 / bin	09/19/2022 / bin	M5393

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

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	01/14/2025 / Jaswal	03/16/2023 / jaswal	M5472

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	011623	01/16/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5496

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	03/18/2023 / bin	03/17/2023 / bin	M5497

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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	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0415	02/28/2025	01/02/2025 /mohan	03/30/2023 / mohan	M5532

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

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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.	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

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	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

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.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

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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.	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.	57116 / S, 10000 PPM, 125 ml	071123	07/11/2026	03/01/2024 / jaswal	02/09/2024 / jaswal	M5817

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	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

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

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000281938	07/06/2026	04/30/2024 / mohan	04/25/2024 / mohan	M5884

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	07/01/2024 / Jaswal	06/14/2024 / Jaswal	M5959

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	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5978

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

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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	07/14/2025	01/14/2025 / Eman	05/14/2024 / Jaswal	M6002

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	07/14/2025	01/14/2025 / Eman	05/14/2024 / Jaswal	M6011

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 #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	112124	11/21/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6127

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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 #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

ThermoFisher SCIENTIFIC

M5882 M3

Certificate of Analysis

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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

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

R 8/5/24

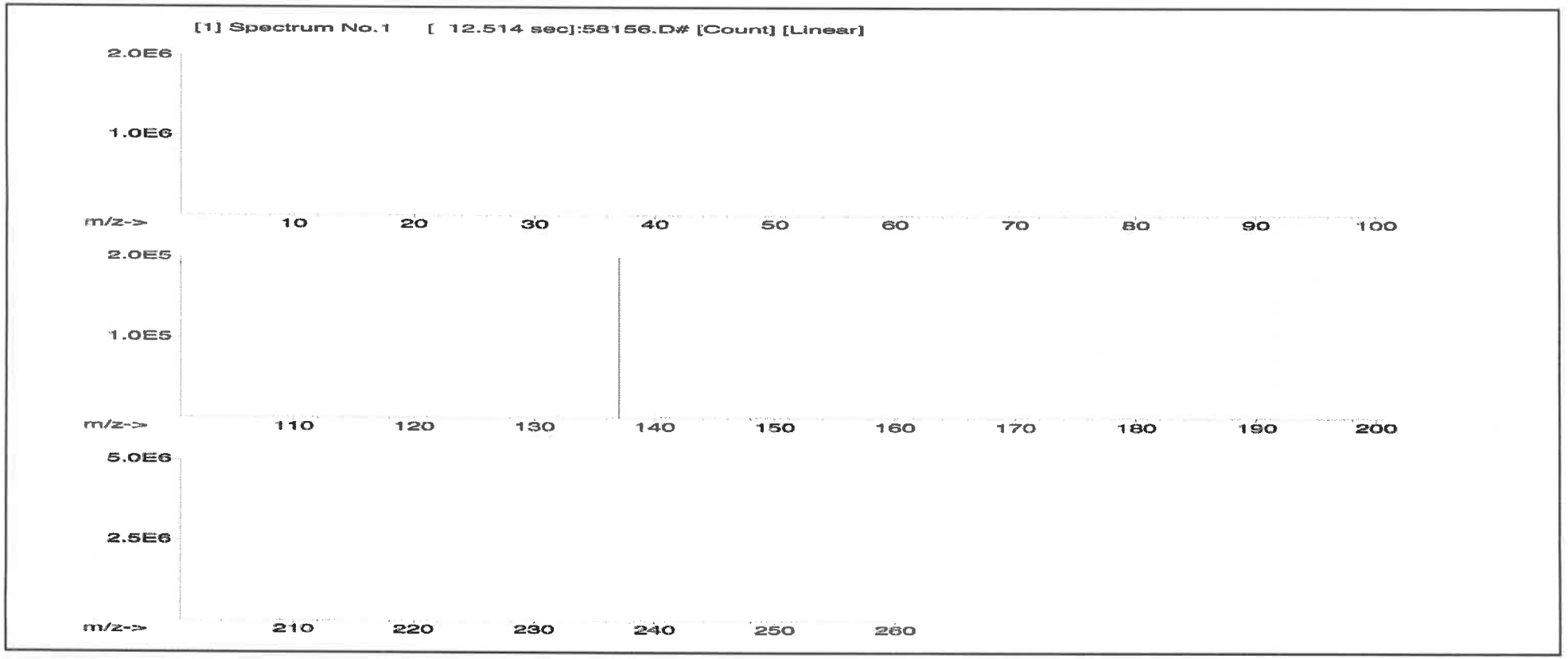
CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Solvent:**	24002546	Nitric Acid
Lot Number:	**010924**				
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		

Lot #

Giovanni Esposito		
Formulated By:	Giovanni Esposito	010924
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	010924

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	**1000.1**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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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M6028

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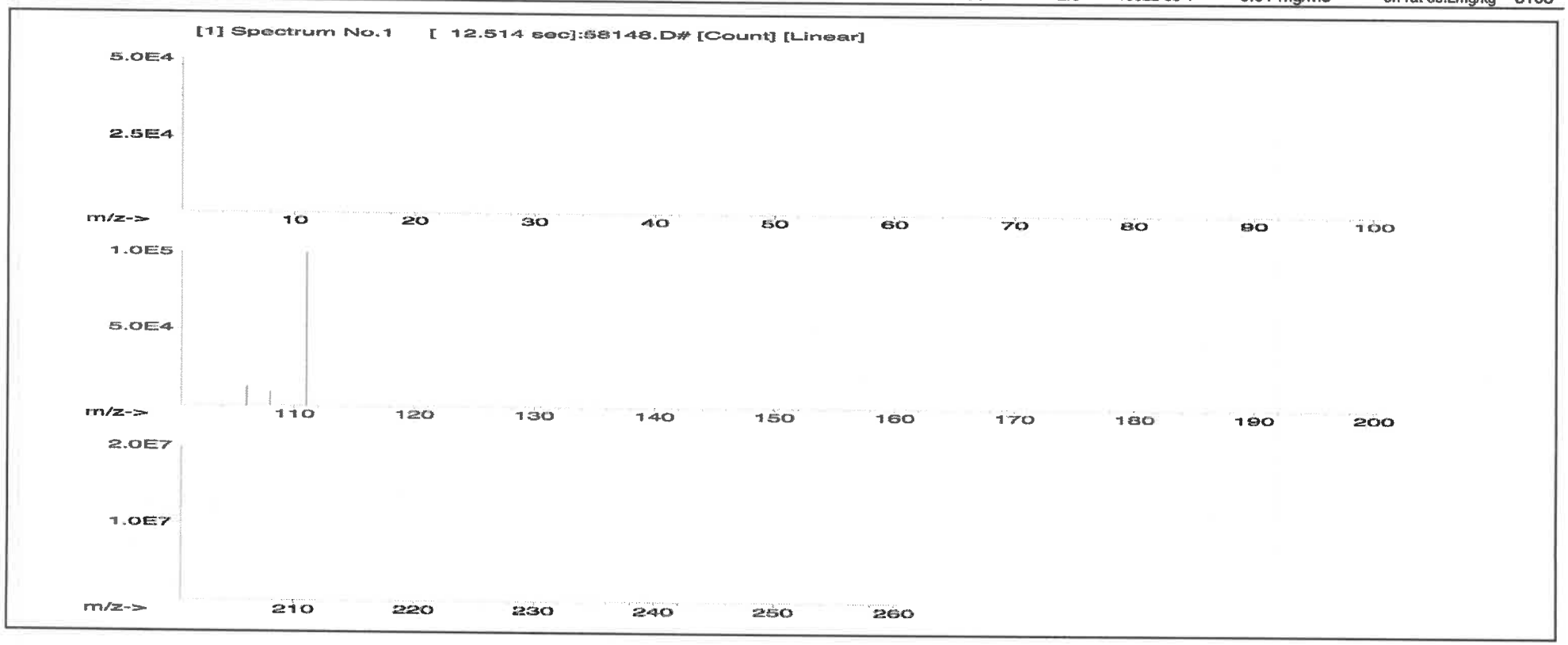
CERTIFIED WEIGHT REPORT:

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



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

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	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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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 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
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:

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

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

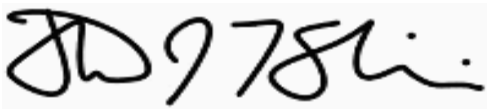
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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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-MEB714159
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 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 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:

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

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

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**

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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 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 13, 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

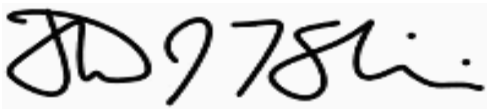
- Sealed TCT Bag Open Date: _____

- 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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RD:05/14/2024

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	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
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w_i = the weighting factors for each method calculated using the inverse square of the variance:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

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Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

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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

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u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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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"

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10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 30, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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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

M4371

Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)

Rec – 06.07.19

J.T.Baker® | avantor™

Material No.: 2196-01
Batch No.: 0000215387
Manufactured Date: 2018/06/27
Retest Date: 2025/06/25
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NH_2OH \cdot HCl$) (by $KMnO_4$ titrn)	>= 96.0 %	99.1
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.017
Titrable Free Acid (meq/g)	<= 0.25	0.19
Ammonium (NH_4)	Passes Test	PT
Sulfur Compounds (as SO_4)	<= 0.005 %	< 0.003
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	4
Trace Impurities - Iron (Fe)	<= 5 ppm	< 3
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	< 0.005

For Laboratory, Research or Manufacturing Use

Country of Origin: CN
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James 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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

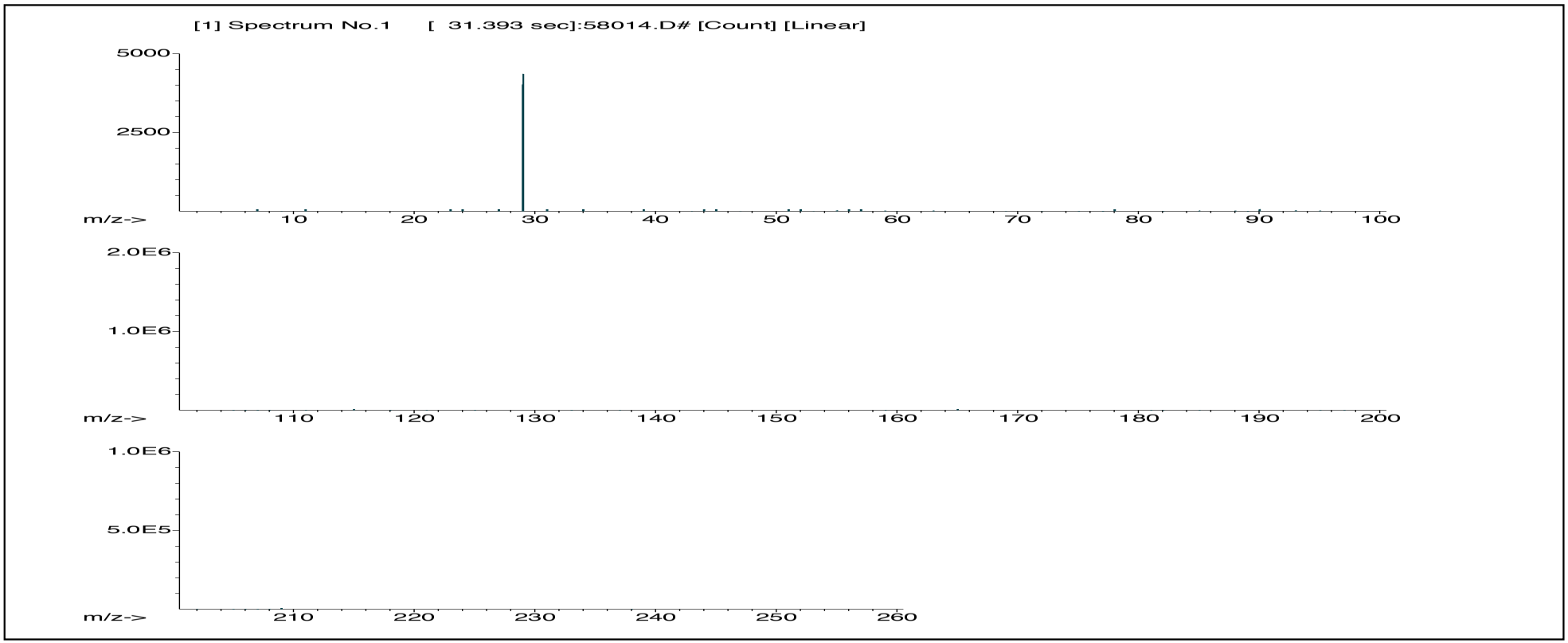
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57014**	19410105	Nitric Acid	
Lot Number:	**030921**			
Description:	**Silicon (Si)**			
		2.0%	60.0	Nitric Acid
Expiration Date:	030924		(mL)	
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):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry 030921
Reviewed By:	Pedro L. Rentas 030921

	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 hexafluorosilicate (Si)	58114	070120	0.1000	300.0	0.084	1000	10000.0	**1000.0**	**2.1**	16919-19-0	2.50 mg/m3	orl-rat 70 mg/kg	NA



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

Instrumental Analysis by Inductively Coupled Plasma Mass 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	T	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).

ThermoFisher SCIENTIFIC

M4913-16

MB

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 – 0120632

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	P279	Quality Test / Release Date	01/12/2021
Lot Number	210306		
Description	POTASSIUM PERMANGANATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Jan/2026

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Dark purple to purple green crystals
ASSAY	%	>= 99	99.3
CHLORIDE & CHLORATE	%	<= 0.005	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
INSOLUBLE MATTER	%	<= 0.2	<0.2
MERCURY (Hg)	ppm	<= 0.05	<0.004
SULFATE (SO4)	%	<= 0.02	<0.02

Julian Burton

Julian Burton - Quality Control Manager – 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.

INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M5062
M5063
M3

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

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 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

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

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.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5192 R: 06/17/22

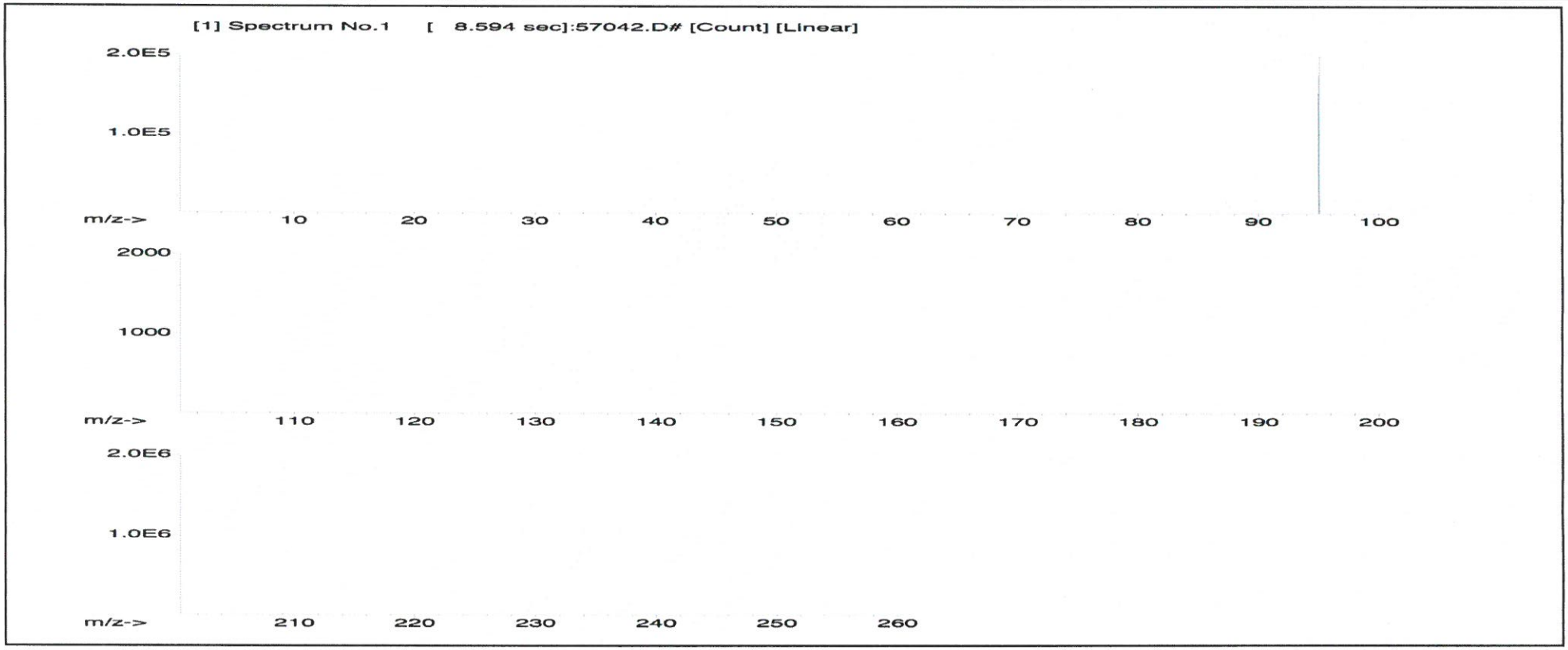
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	**57042**		
Lot Number:	**051722**	MKBQ8597V	Ammonium hydroxide
Description:	**Molybdenum (Mo)**		
		0.5%	15.0 (mL) Ammonium hydroxide
Expiration Date:	051725		
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):	3000.41	0.058	Flask Uncertainty

Formulated By:	Lawrence Barry	051722
Reviewed By:	Pedro L. Rentas	051722

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium molybdate (Mo)	58142	022222	0.1000	300.0	0.084	1000	10001.0	**1000.0**	**2.1**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

Instrumental Analysis by Inductively Coupled Plasma Mass 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	T	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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:	CHEM-QC-4
Lot Number:	S2-MEB711674
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

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
Boron, B	**1 000 ± 7 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	**1 001 ± 6 µg/mL**		

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

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:

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

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

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**

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

November 02, 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

- **November 02, 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:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

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.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5288 R: 07/21/2022

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

CERTIFIED WEIGHT REPORT:

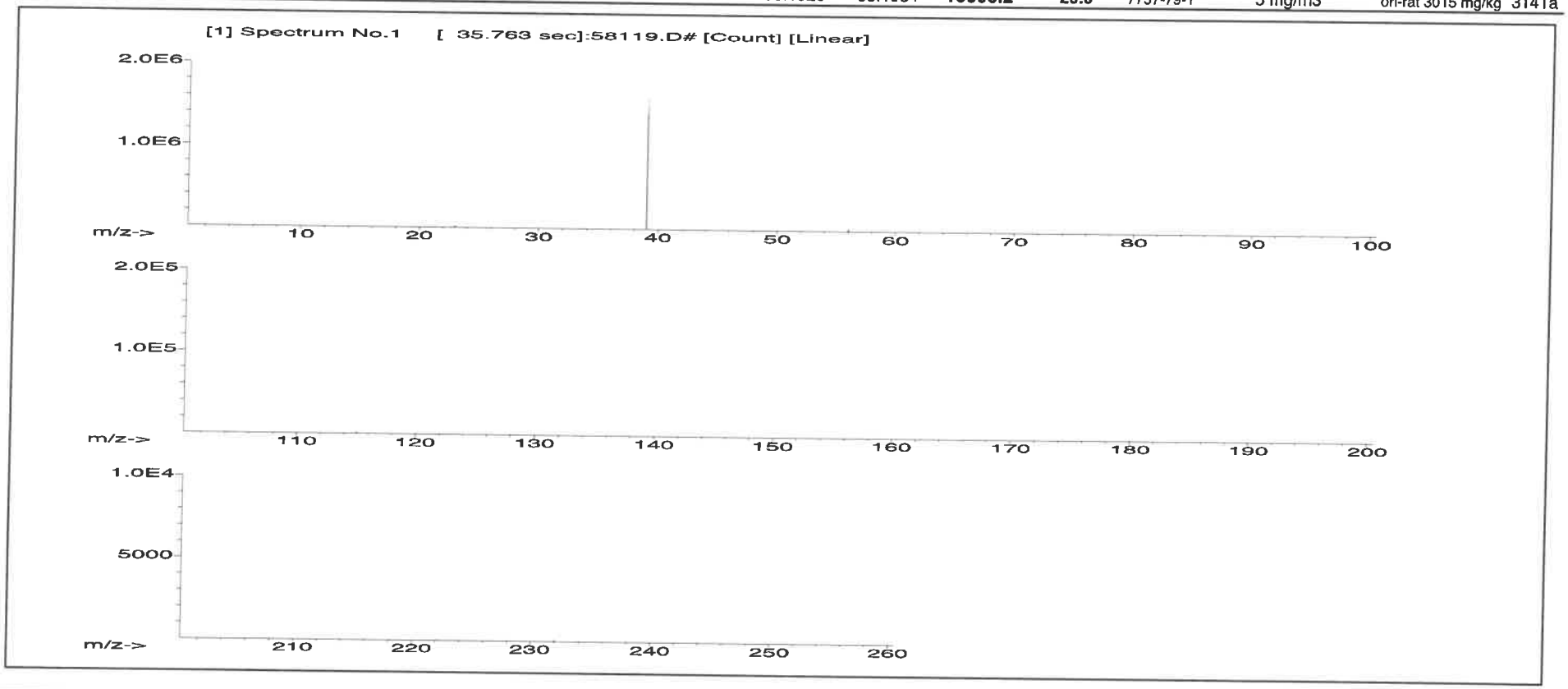
Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

Expiration Date: 071125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	071122
Reviewed By:	Pedro L. Rentas	071122

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	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	**10000.2**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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).

Part # **58119** Lot # **071122**

Printed: 8/2/2022, 11:20:01 PM

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or
Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

M5291
M5292
M5293
M5294
M5295

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

SJ 6/15/22

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CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 020422
Description: Iron (Fe)

M5298

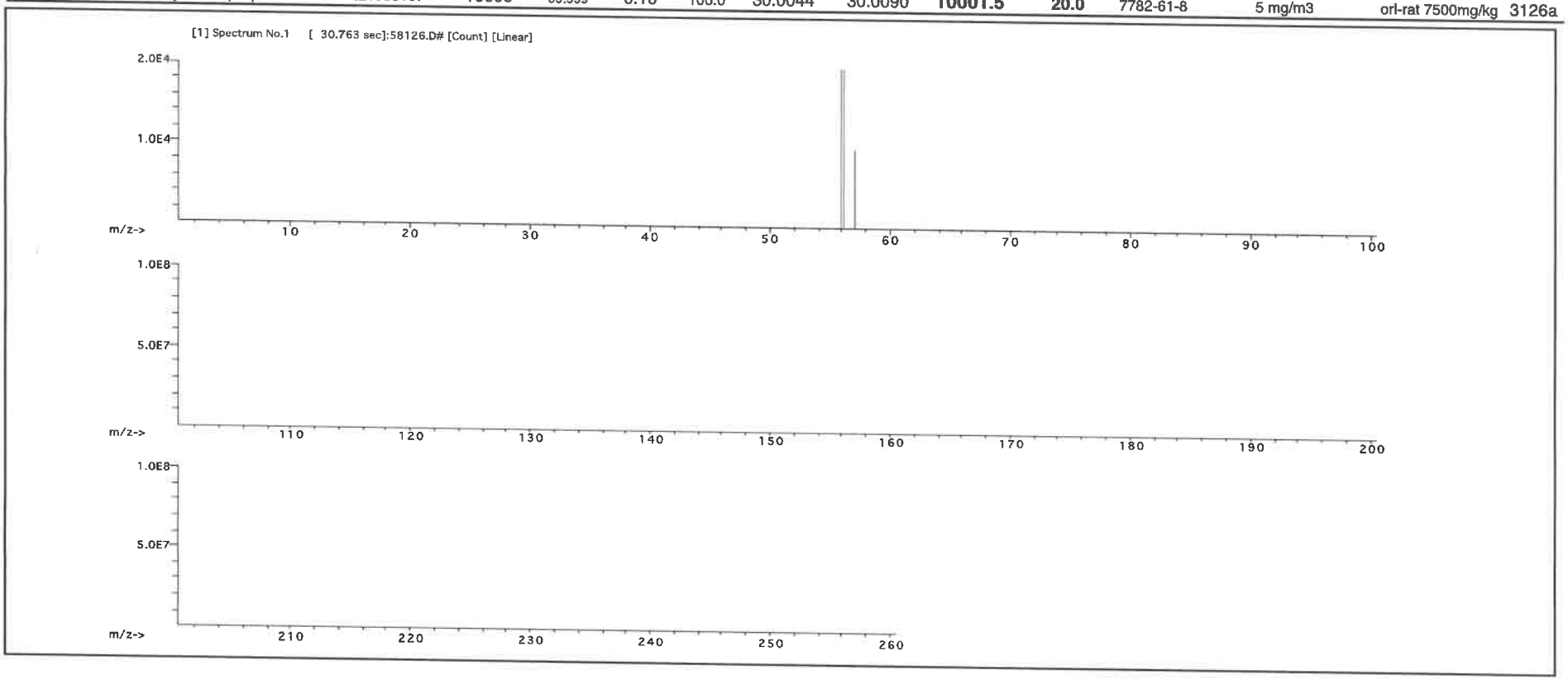
Expiration Date: 020425
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	20370011	Nitric Acid	
5.0%	150.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.058	Flask Uncertainty		

Giovanni Esposito
Formulated By: Giovanni Esposito 020422

Pedro Rentas
Reviewed By: Pedro L. Rentas 020422

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron(III) nitrate nonahydrate (Fe)	IN346	221035107	10000	99.999	0.10	100.0	30.0044	30.0090	**10001.5**	**20.0**	7782-61-8	5 mg/m3	orl-rat 7500mg/kg	3126a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.5	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	<0.02
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.
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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).

Part # **58126** Lot # **020422**

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M5429 R1 01/26/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

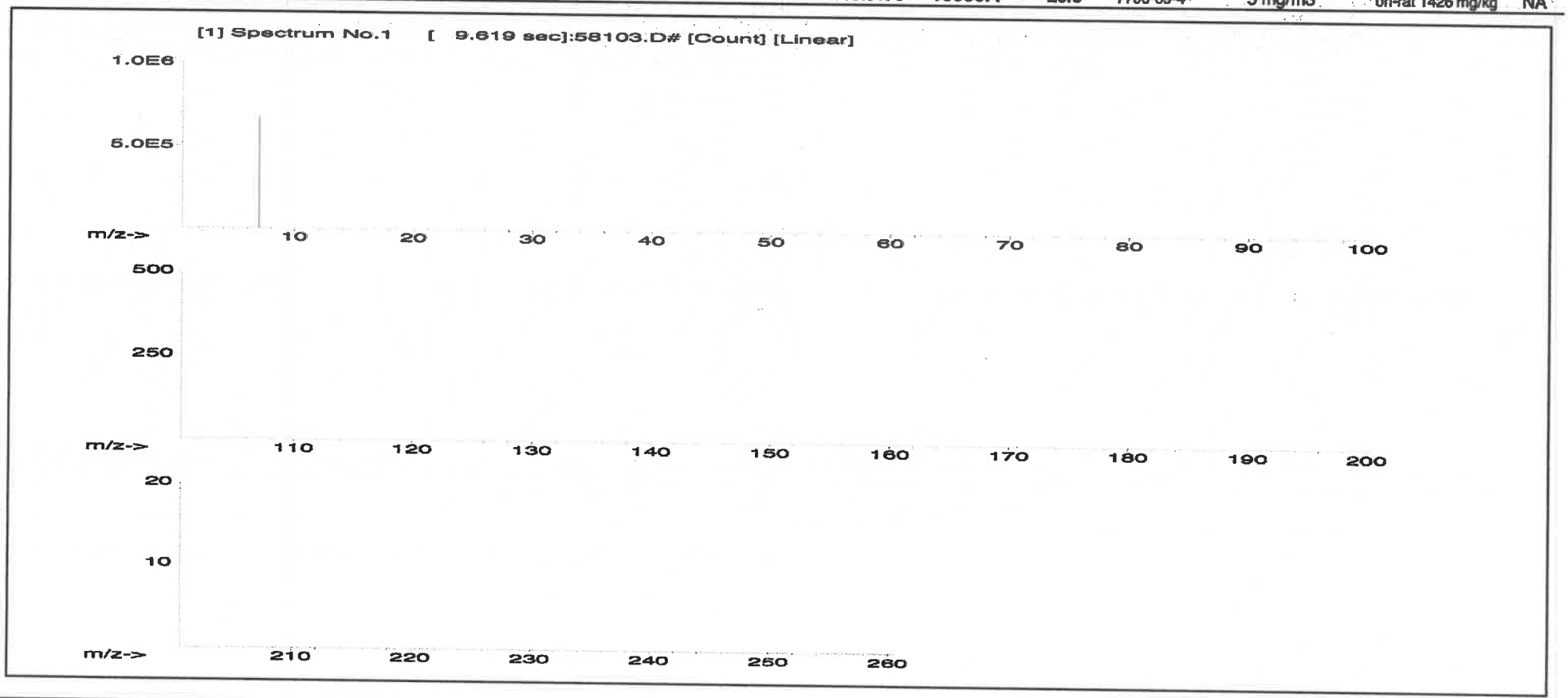
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

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. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



QUALITY-METALS

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	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.
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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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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

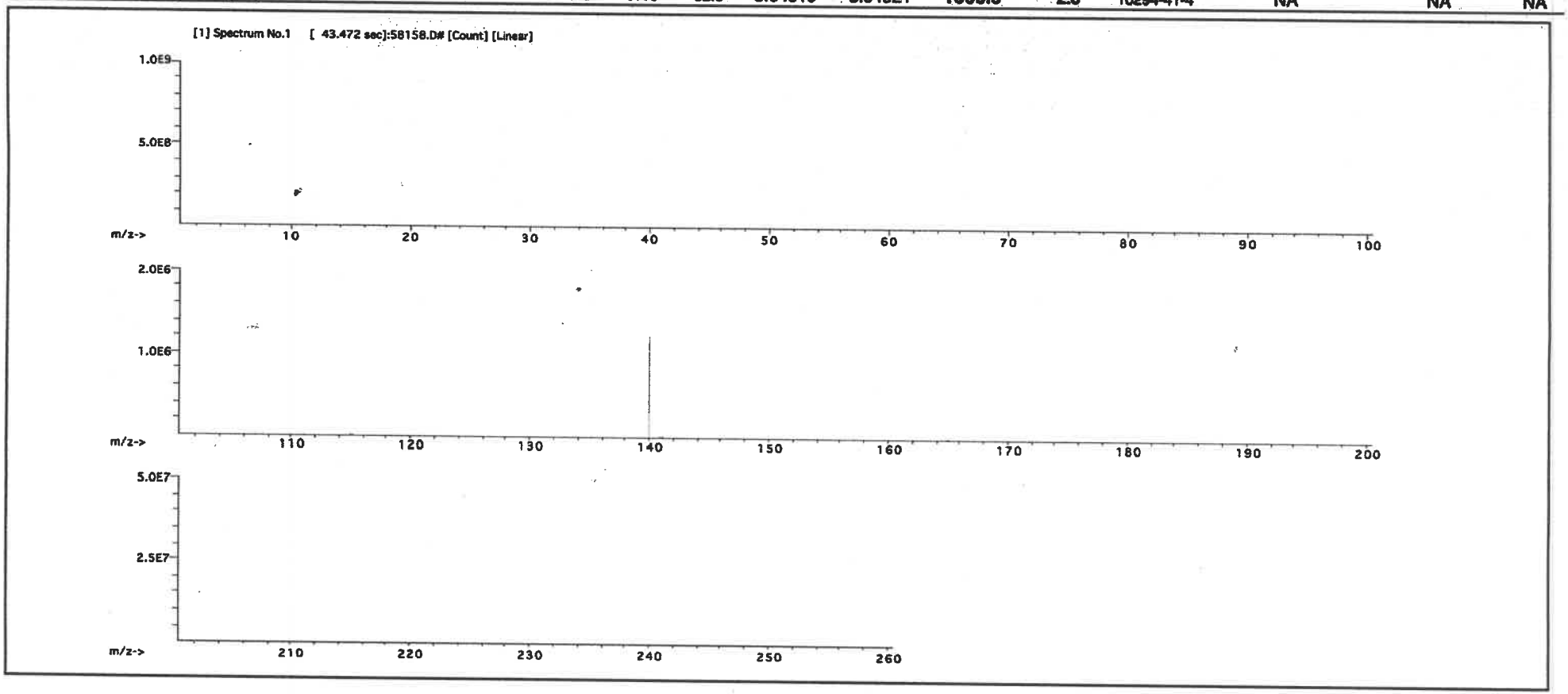
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

		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



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	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).

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M5496 R 7/20/23

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CERTIFIED WEIGHT REPORT:

Part Number:	**58113**		**Lot #**		
Lot Number:	**011623**	**Solvent:**	20510011	Nitric Acid	
Description:	**Aluminum (Al)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	011626				
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):	2000.02	0.058	Flask Uncertainty		

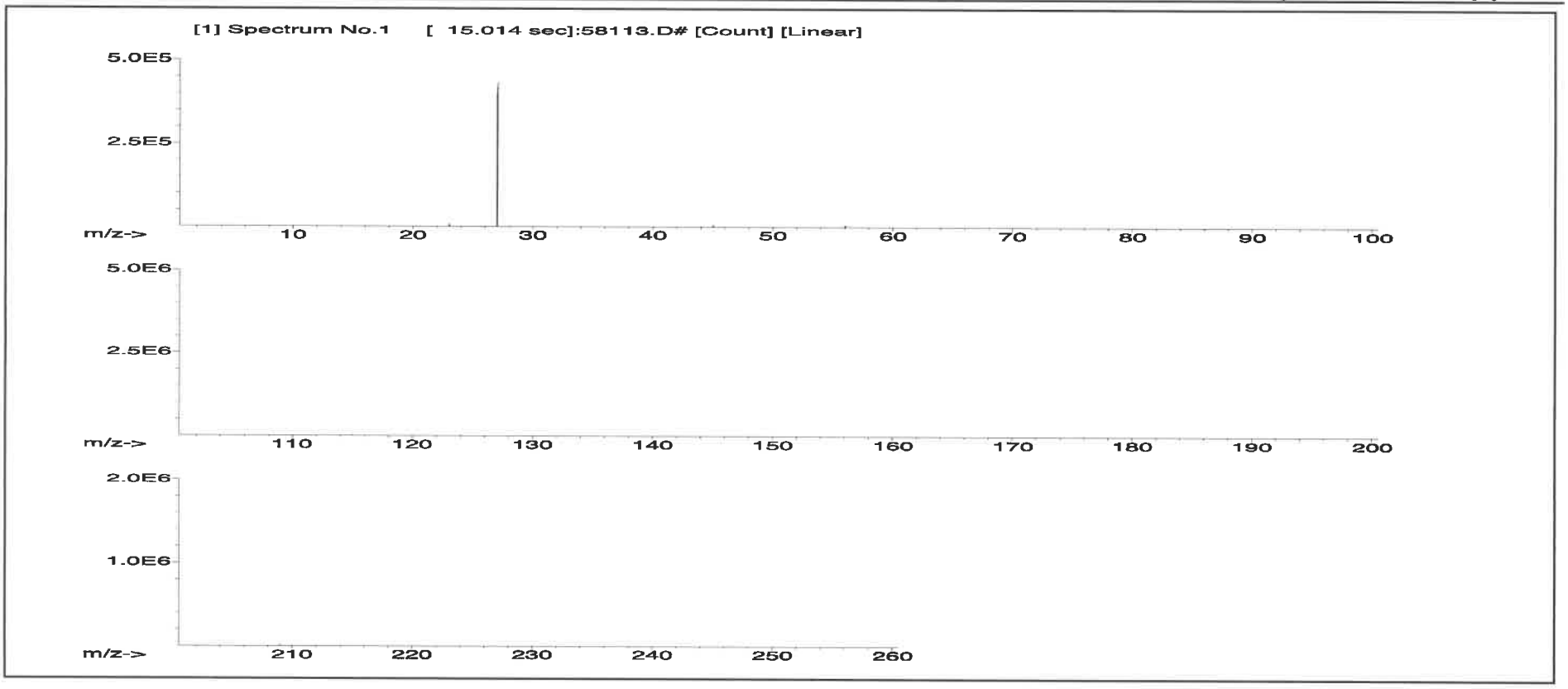
Giovanni Esposito

Formulated By:	Giovanni Esposito	011623

Pedro Rentas

Reviewed By:	Pedro L. Rentas	011623

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. Aluminum nitrate nonahydrate (Al)	IN022	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	**10001.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



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M5497 - M5498 R: 03/17/23 (BP)

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

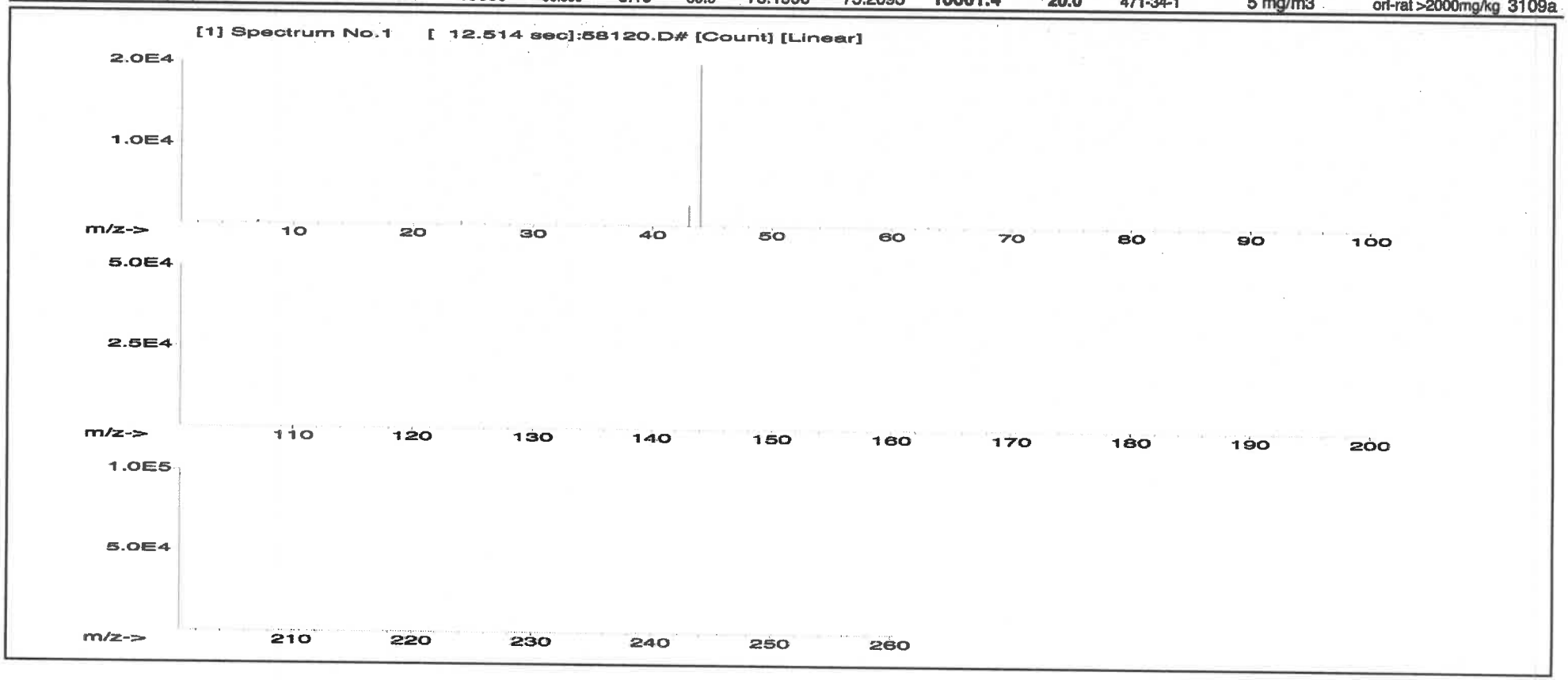
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Giovanni Esposito
Formulated By: Giovanni Esposito 031523

Pedro Rentas
Reviewed By: Pedro L. Rentas 031523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<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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* 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).

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

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.

MSS28-37
MB

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5658 R ! 8/25/23

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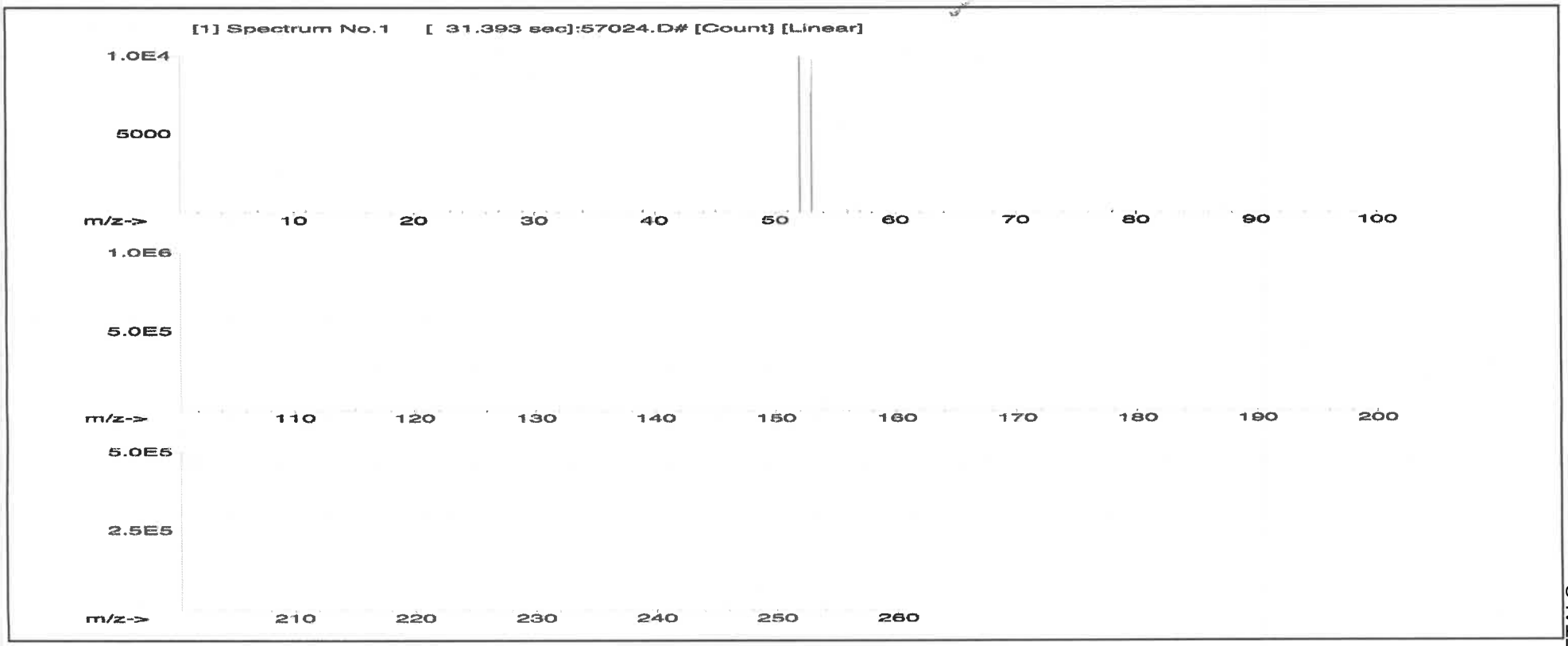
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

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M5697 R: 10/27/23

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CERTIFIED WEIGHT REPORT:

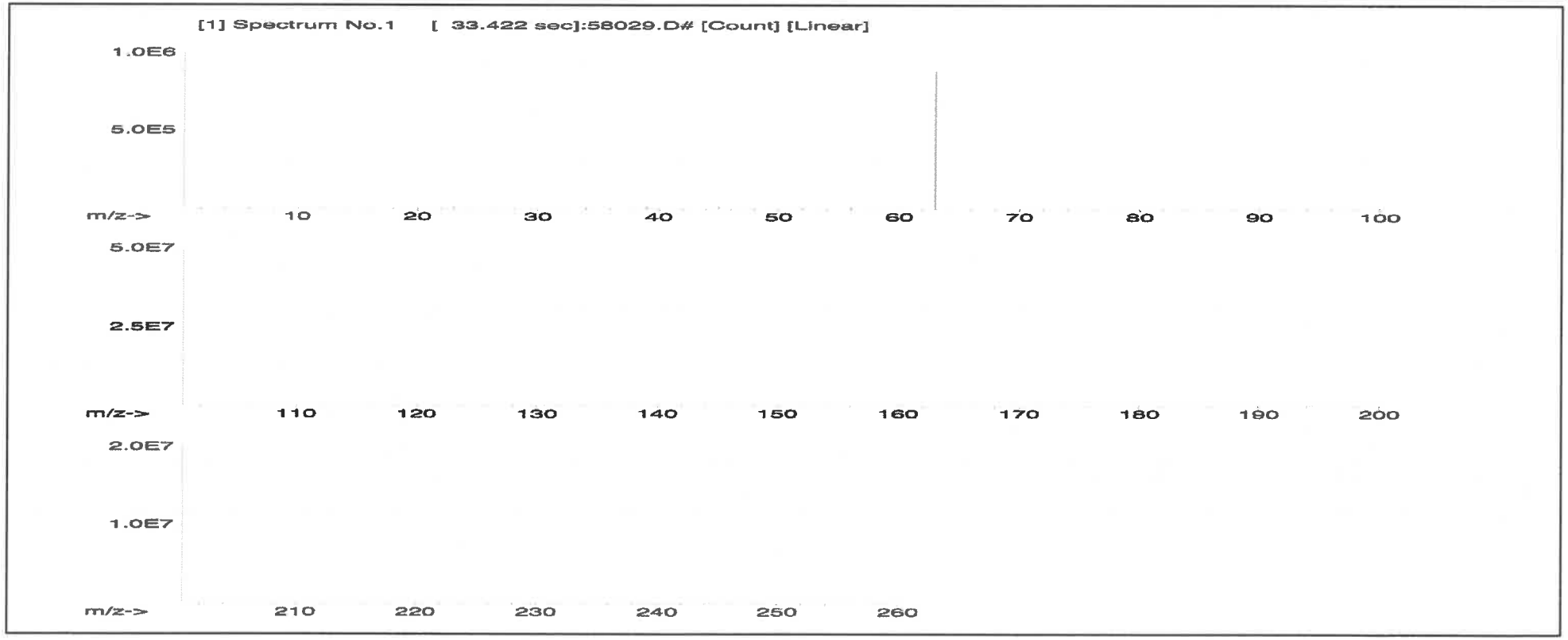
		Lot #	Solvent:
Part Number:	**58029**	24002546	Nitric Acid
Lot Number:	**102523**		
Description:	**Copper (Cu)**		

		2.0%	40.0 (mL)	Nitric Acid

Expiration Date:	102526	
Recommended Storage:	Ambient (20 °C)	
Nominal Concentration (µg/mL):	**1000**	
NIST Test Number:	6UTB	5E-05 Balance Uncertainty
Volume shown below was diluted to (mL):	2000.02	0.058 Flask Uncertainty

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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Certified Reference Material CRM

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

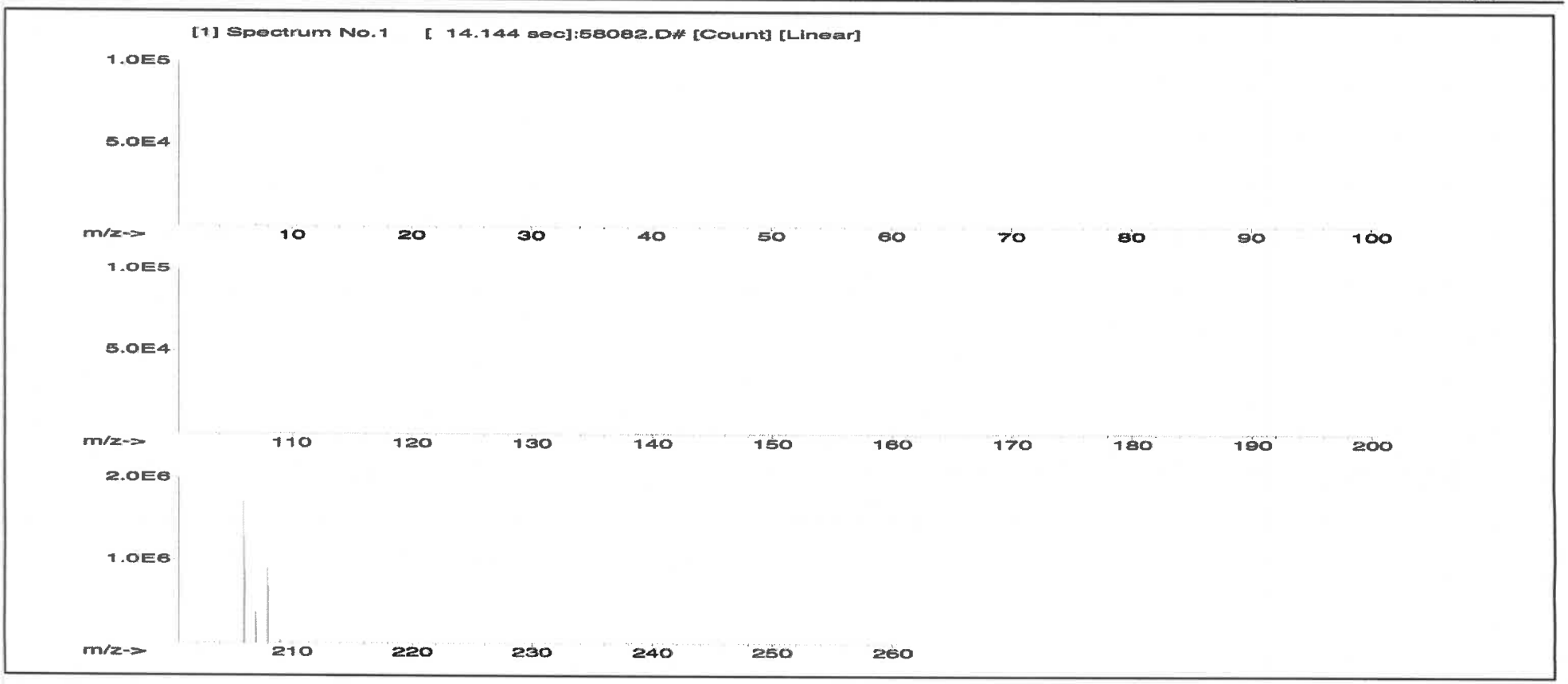
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

		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



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AR-1539 Certificate Number
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

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Certified Reference Material CRM

R: 12/20/23 M5748

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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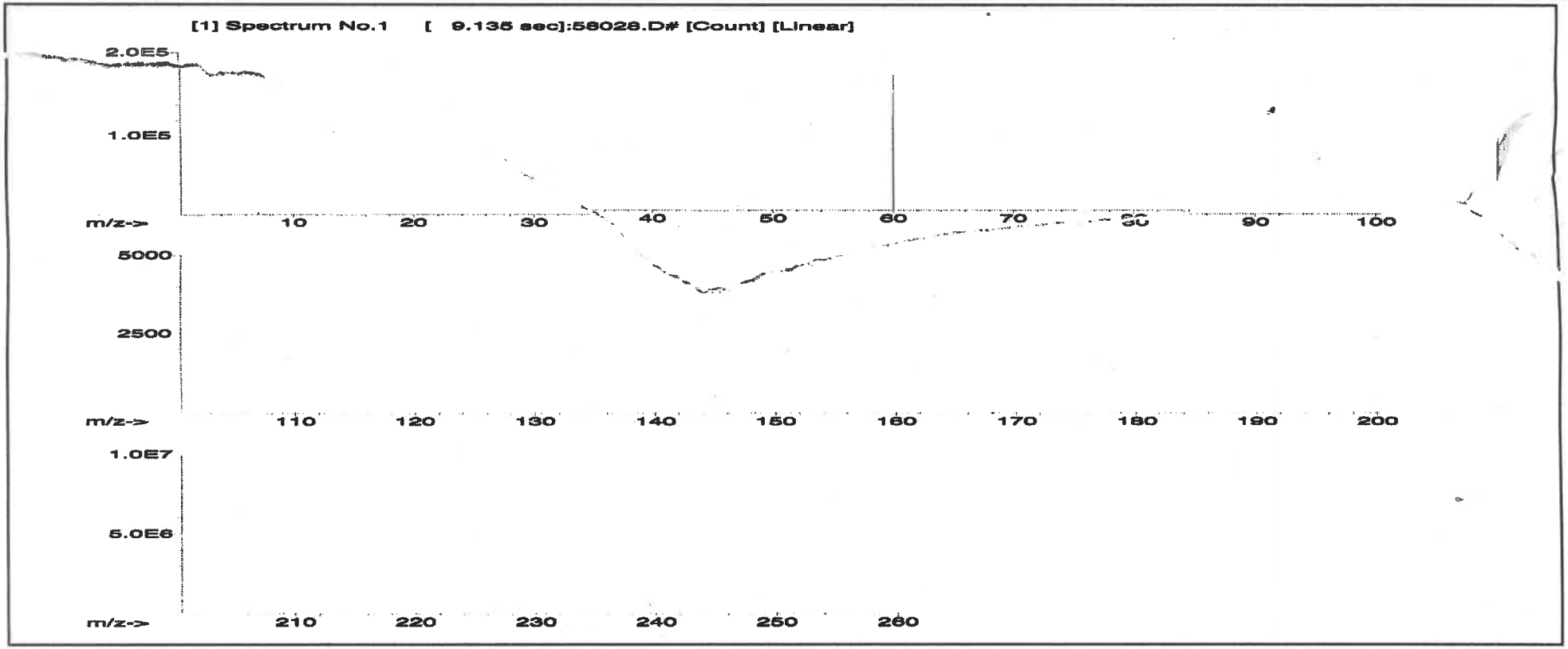
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.1000	200.0	0.084	1000	10000.4	**1000.0**	2.2	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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Certified Reference Material CRM

R: 02/09/24 M5798

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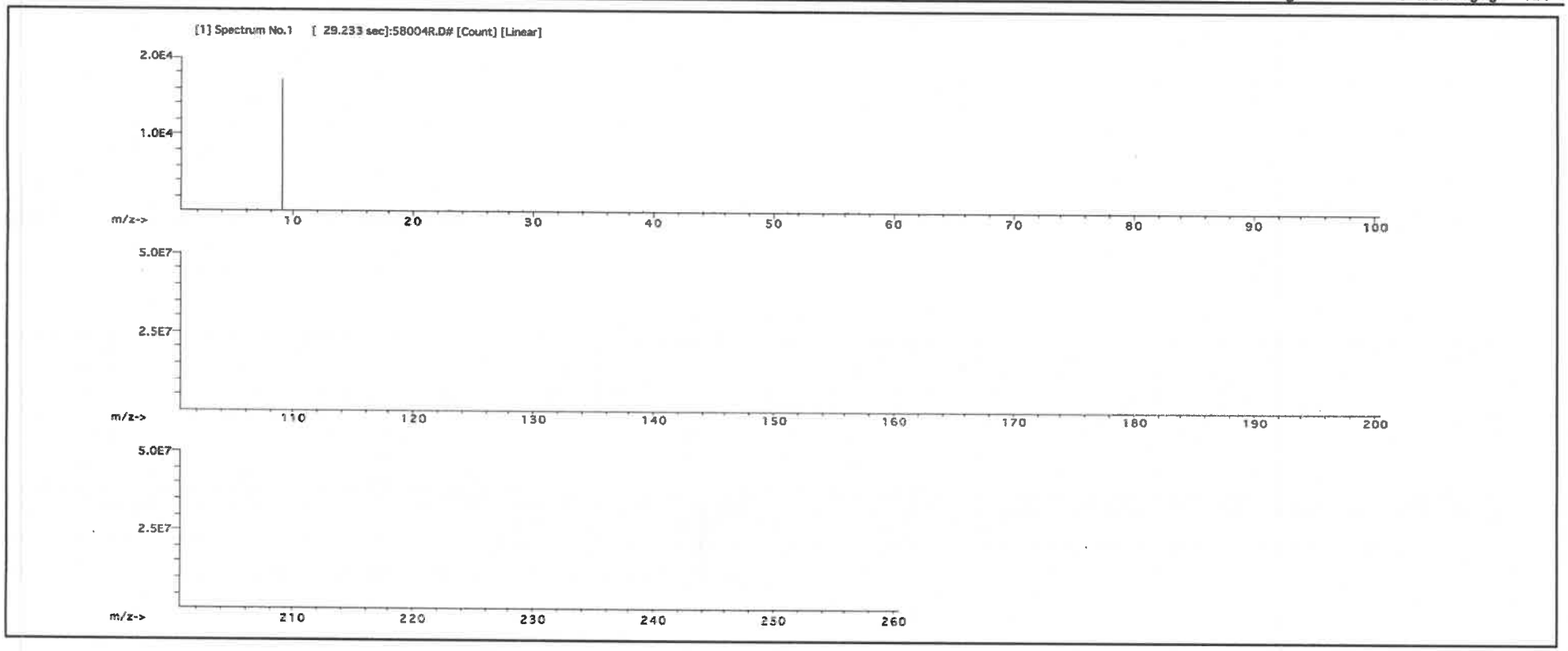
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57004**			
Lot Number:	**102523**	24002546	Nitric Acid	
Description:	**Beryllium (Be)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	102526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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* 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)

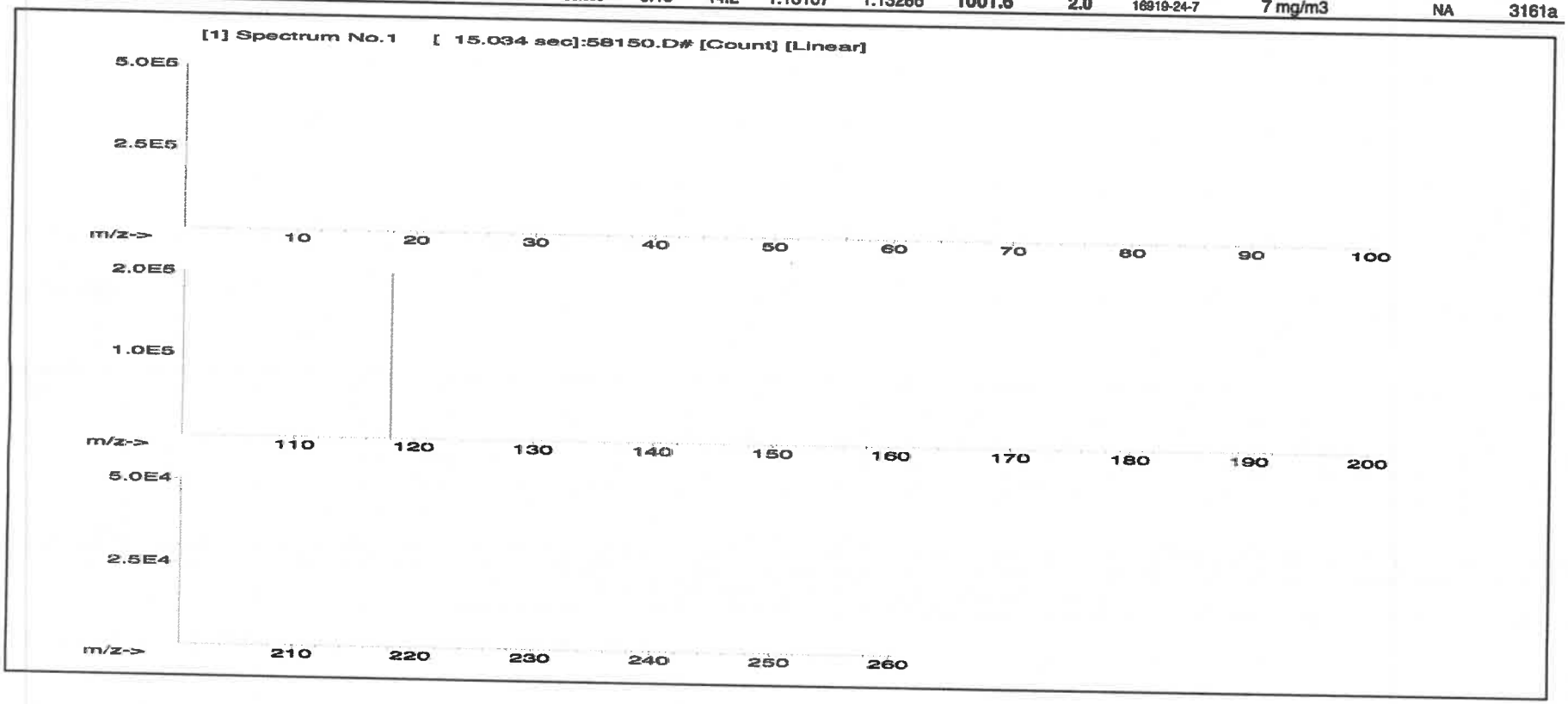
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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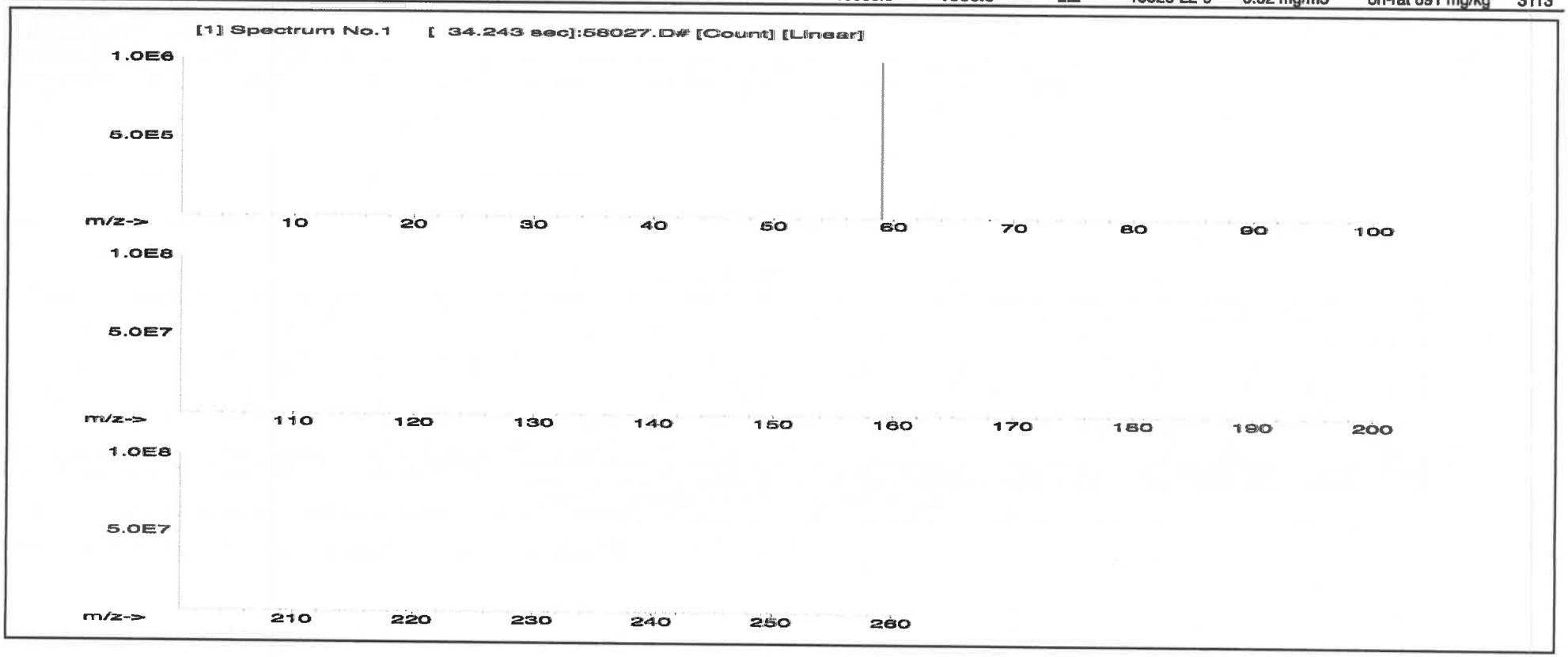
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By: Lawrence Barry 091923

Reviewed By: Pedro L. Rentas 091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	**2.2**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Gé	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

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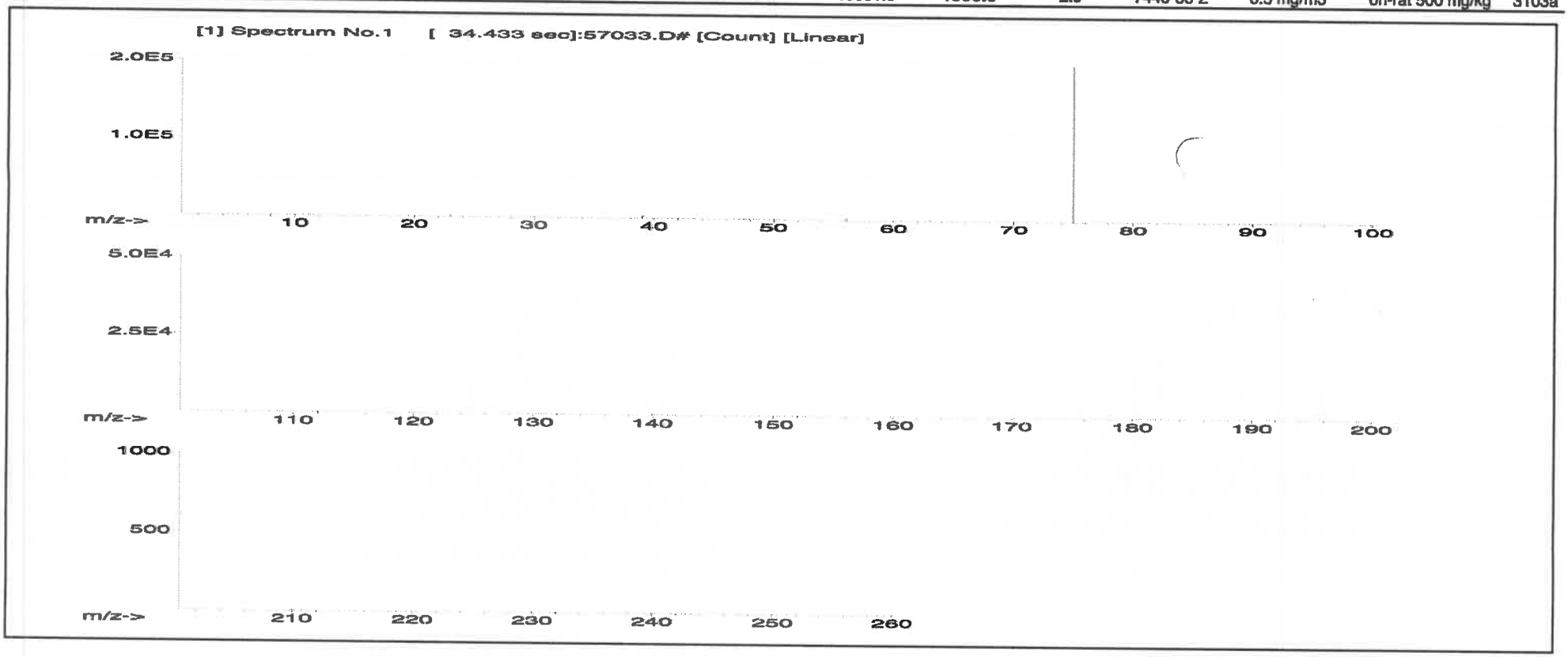
CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**				
Lot Number:	**111323**	24002546	Nitric Acid		
Description:	**Arsenic (As)**	2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	**1000.0**	2.0	7440-38-2	0.5 mg/m3	orl-rat 500 mg/kg	3103a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge*	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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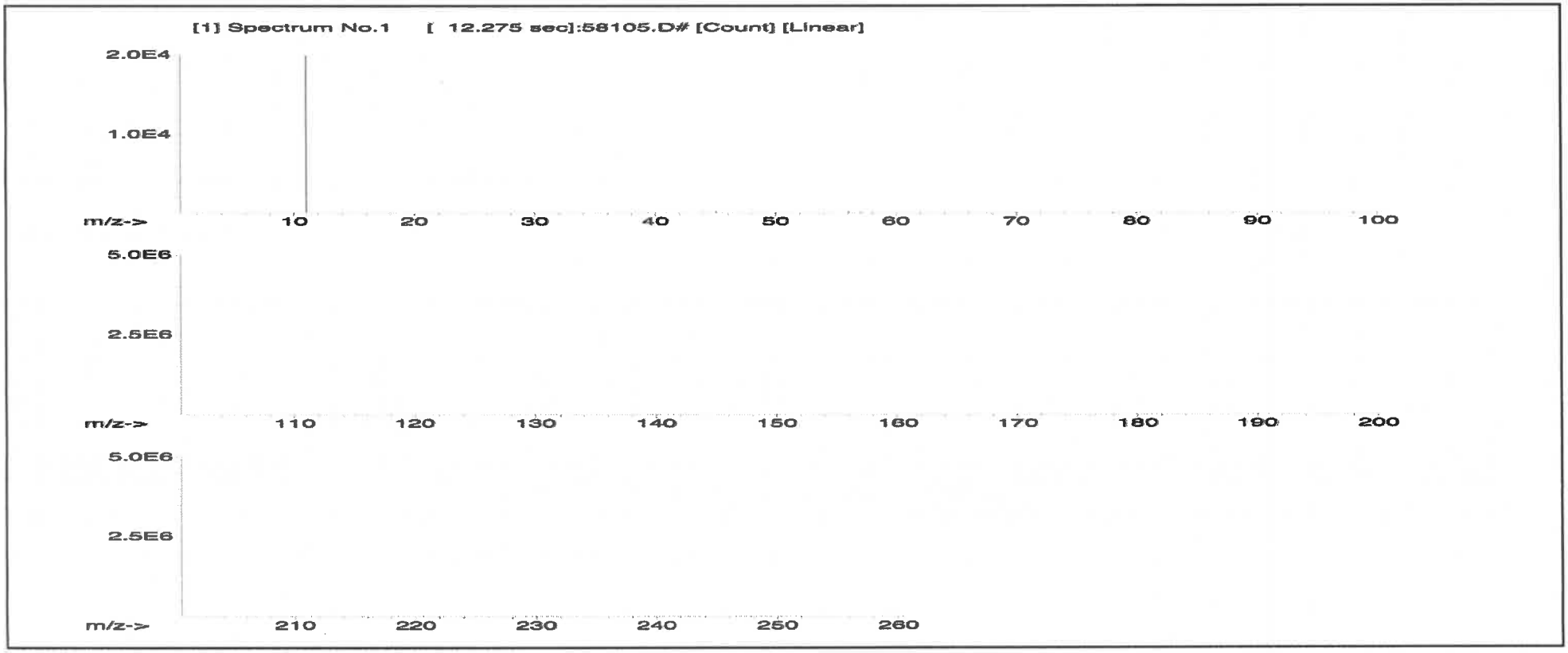
CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**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		

Lot #

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

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CERTIFIED WEIGHT REPORT:

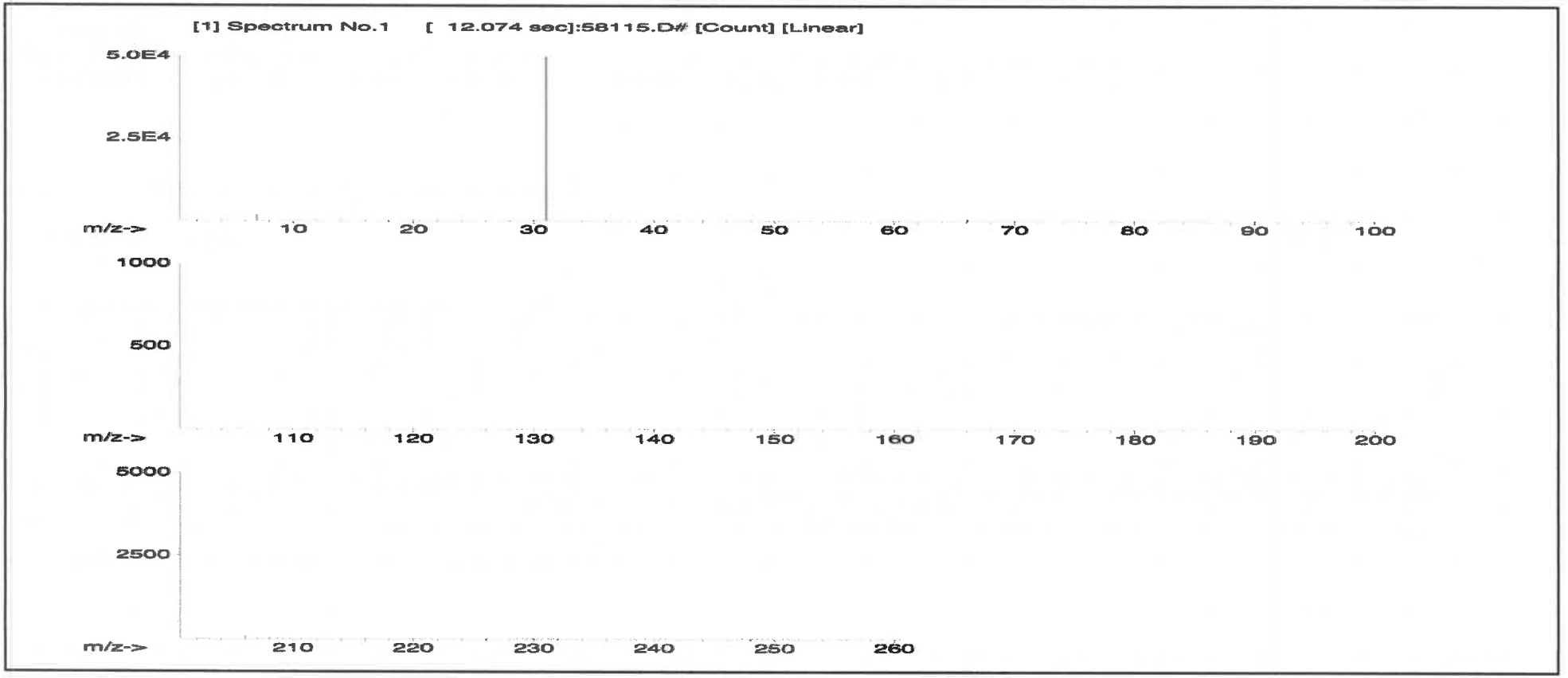
Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

Expiration Date: 041726
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221		Nitric Acid
	2%	40.0 (mL)	Nitric Acid
		5E-05	Balance Uncertainty

Formulated By:	Lawrence Barry	041723
Reviewed By:	Pedro L. Rentas	041723

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	10000	99.999	0.10	27.5	72.7287	72.7289	**10000.0**	**20.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/kg	3186



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
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Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

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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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Certified Reference Material CRM

R: 02/09/24 M5816

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

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

Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

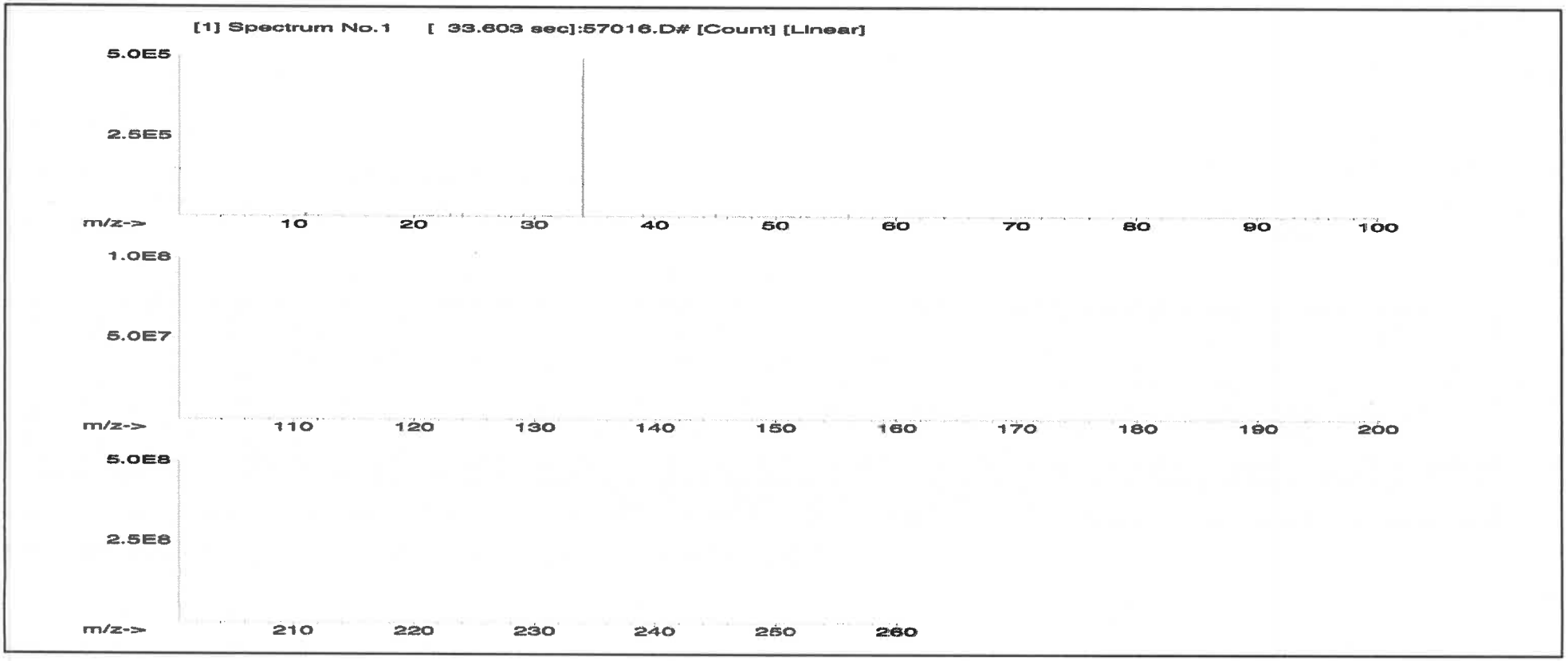
Weight shown below was diluted to (mL): 4000.0 0.06 Flask Uncertainty

	Lot #	
Solvent:	122923	ASTM Type 1 Water

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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Certified Reference Material CRM

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

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<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:

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

Certified by:

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* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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Certified Reference Material CRM

R: 02/09/24 M5817

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

CERTIFIED WEIGHT REPORT:

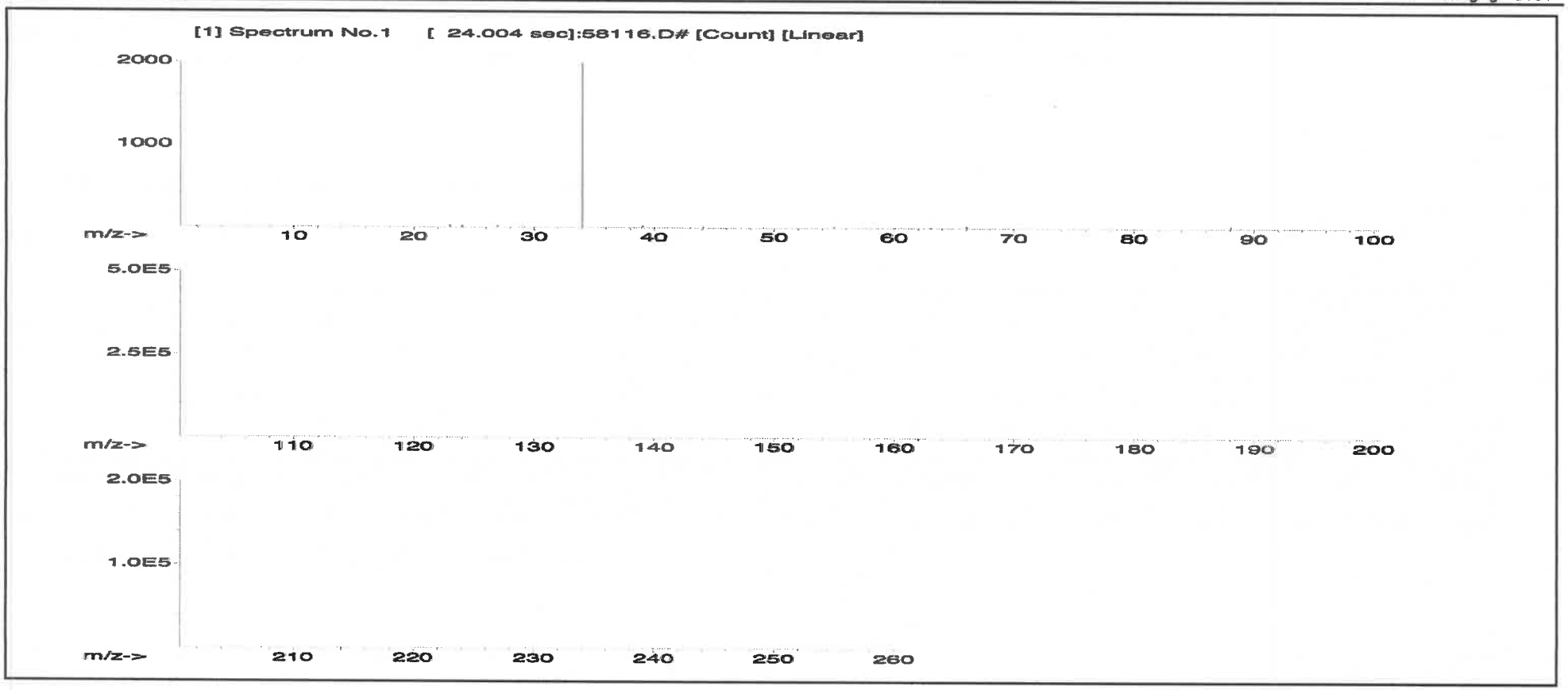
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

Expiration Date: 071126
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): 1999.48 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	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 sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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Certified Reference Material CRM

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

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<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:

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

Certified by:

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Certified Reference Material CRM

R: 02/09/24 M5819

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

CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

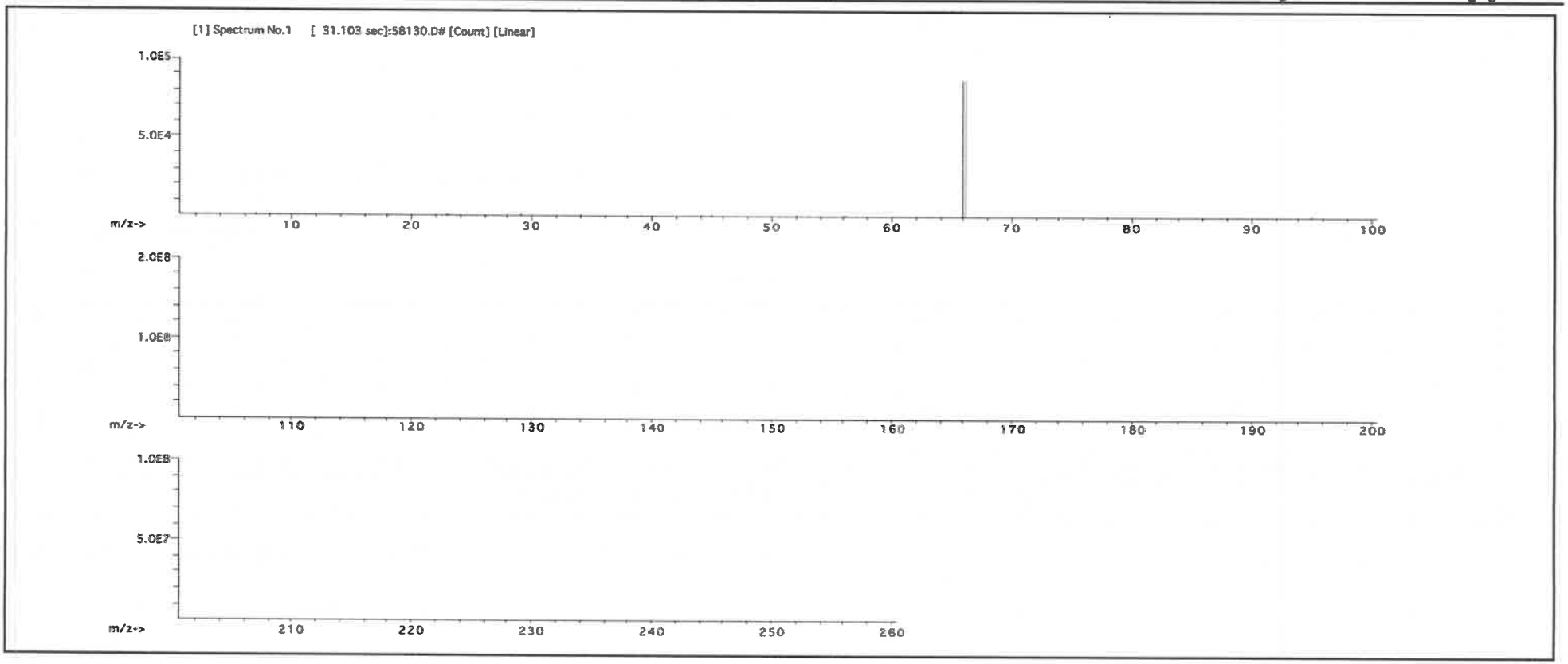
Expiration Date: 111626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	

Formulated By:	Benson Chan	111623
Reviewed By:	Pedro L. Rentas	111623

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	12.3475	12.3502	**1000.2**	**2.0**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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Certified Reference Material CRM

R: 02/09/24 M5820

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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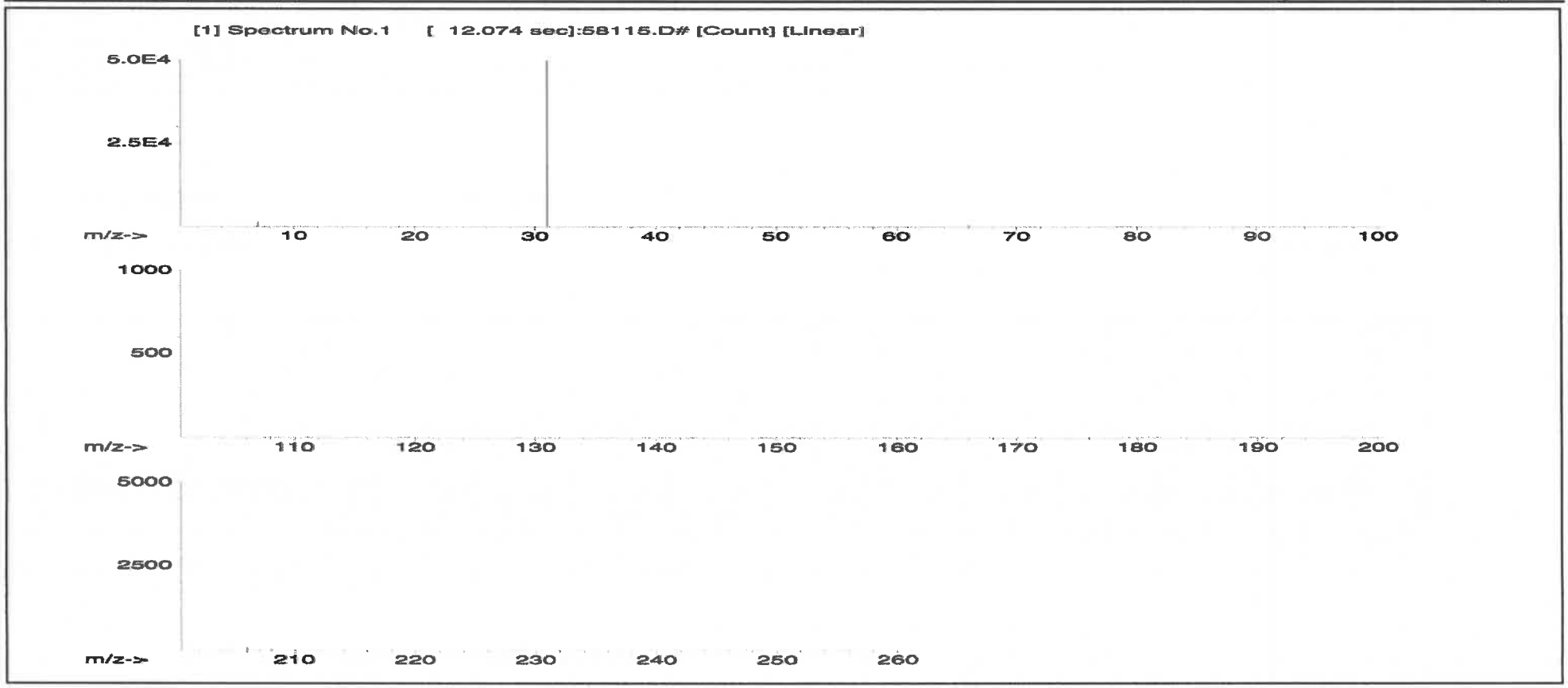
CERTIFIED WEIGHT REPORT:

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



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

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Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

MF884
MB

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 1

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 Mansford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

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Certificate of Analysis

M5959 R: 6/14/24.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H2O)x+2

Chemical Compatibility -Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 20, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5962 R! 06/14/24.

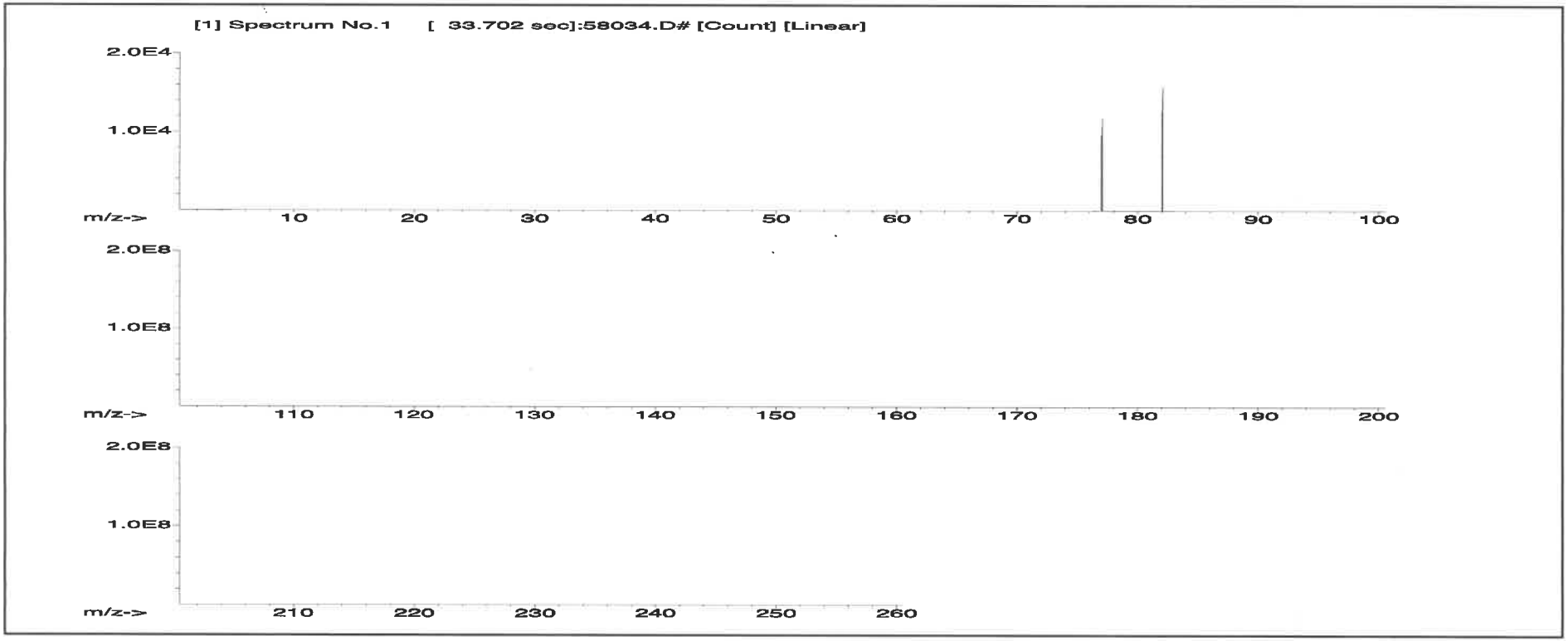
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

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

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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

CERTIFIED WEIGHT REPORT:

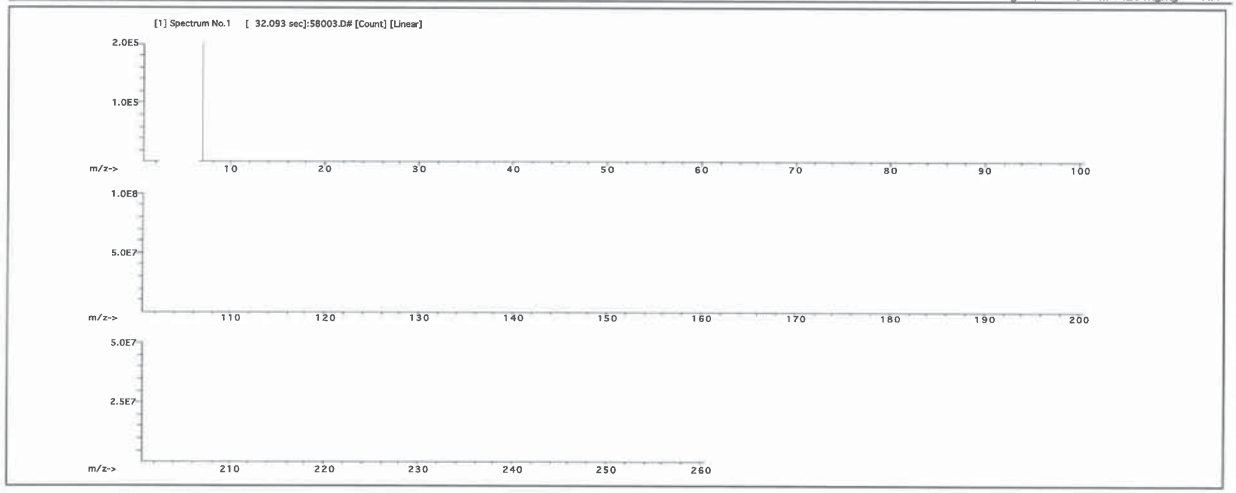
Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 062127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11

Lot #	Solvent:			
24002546	Nitric Acid			
2.0%	5.0 (mL)	Nitric Acid		
			5E-05	Balance Uncertainty
			0.016	Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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Certified Reference Material CRM

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

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

MS978, MS979

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Refine your results. Redefine your industry.

Certificate of Analysis

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info@inorganicventures.com

R: 2/22/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 865.01 — ACCREDITED Reference Material Producer Certificate 865.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGT11
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	TI Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**1002 ± 4 µg/mL**
	ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \Sigma(w_i)\,(x_i)$$

x_i = mean of Assay Method i with standard uncertainty $u_{char\,i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance

$$w_i = (1/u_{char\,i})^2 \,/\, (\Sigma(1/u_{char\,i})^2)$$

CRM/RM Expanded Uncertainty ($\pm$) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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:

$$X_{CRM/RM} = (\Sigma x_a)\,(v_{char\,a})$$

X_a = mean of Assay Method A with $v_{char\,a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty ($\pm$) = $U_{CRM/RM} = k\,(u^2_{char\,a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\,a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form In Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 for months in 1% 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2SO7 - 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: 800.669.5798; 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 property 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 Kozlkowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M 6041-46
M3

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H_2SO_4)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities - Sodium (Na)	≤ 500.0 ppb	5.4 ppb
Trace Impurities - Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.4 ppb

For Laboratory,Research,or Manufacturing Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

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Certificate of Analysis

M6074
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EXP.: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746762
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 06, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

R → 10/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6
ACS – Color (APHA)	<= 10	5
ACS – Residue after Ignition	<= 3 ppm	1
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.190
ACS – Bromide (Br)	<= 0.005 %	< 0.005
ACS – Extractable Organic Substances	<= 5 ppm	1
ACS – Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.3
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities – Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities – Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities – Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities – Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities – Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities – Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities – Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities – Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities – Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities – Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities – Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities – Gallium (Ga)	<= 1.0 ppb	< 0.2

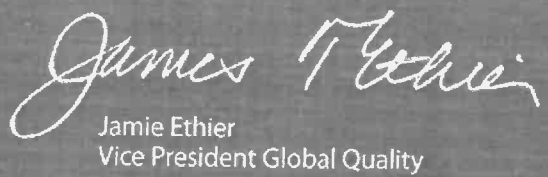
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33
Batch No.: 0000275677

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	<1
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC



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
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Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R -> 11/12/24

M6126

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

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CERTIFIED WEIGHT REPORT:

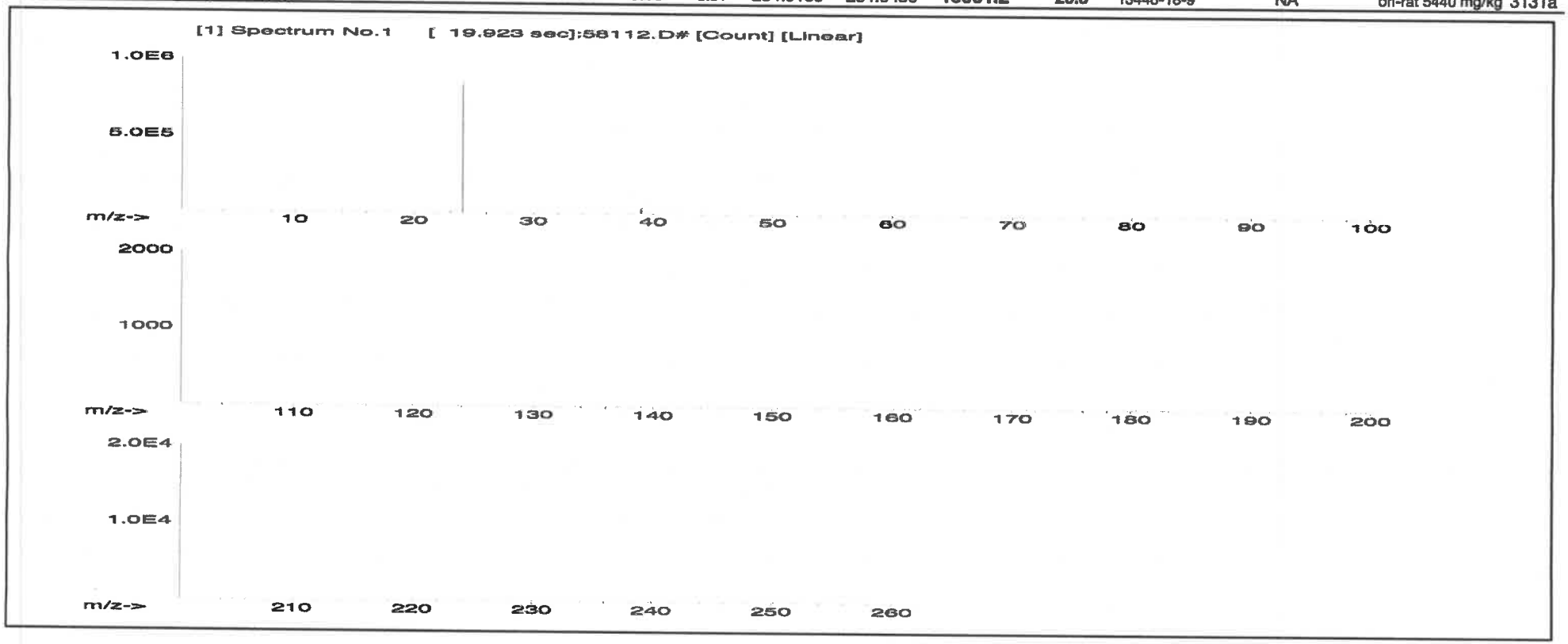
R -> 1/13/25
M 6127

Part Number:	**58112**	**Solvent:**	**Lot #** 24012496	Nitric Acid
Lot Number:	**112124**			
Description:	**Magnesium (Mg)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	112127			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	112124
Reviewed By:	Pedro L. Rentas	112124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Magnesium nitrate hexahydrate (Mg)	IN030	MGD052023A1	10000	99.999	0.10	8.51	234.9183	234.9459	**10001.2**	**20.0**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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CERTIFIED WEIGHT REPORT:

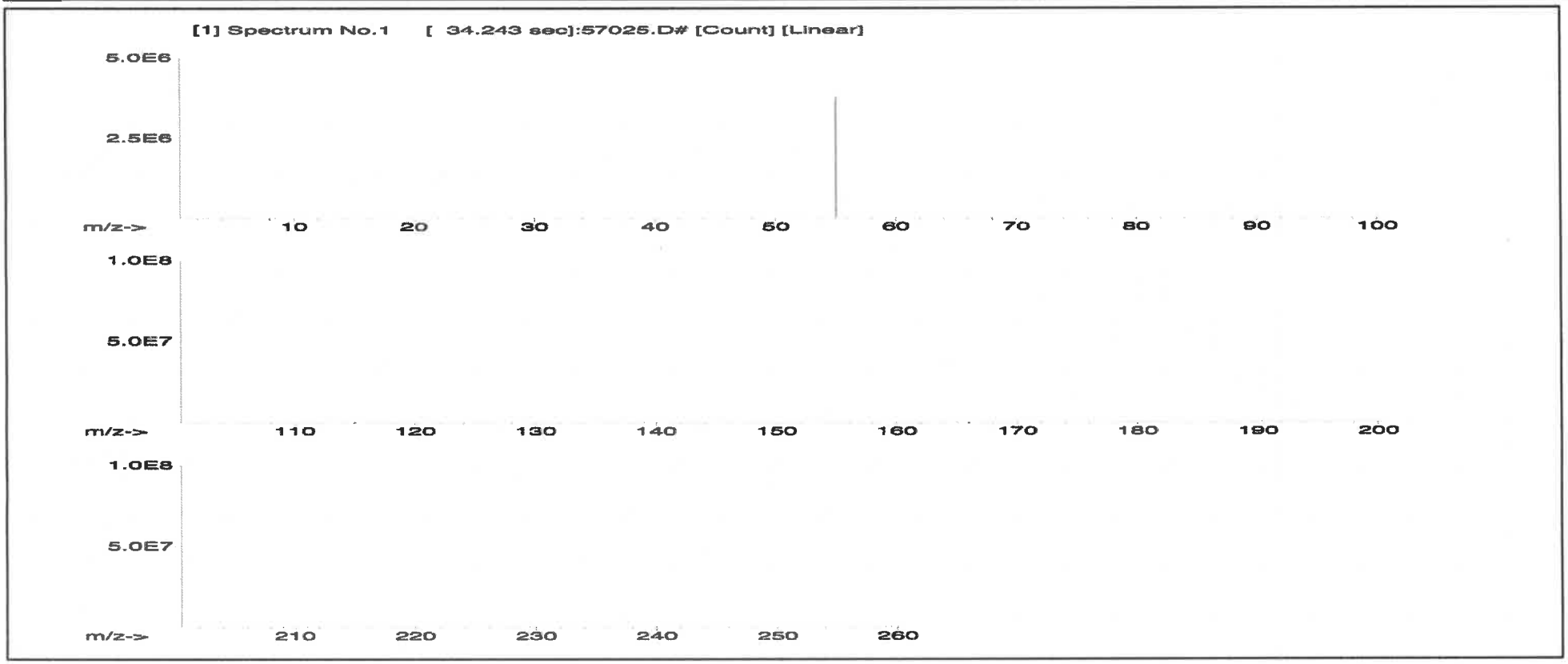
R->1/13/25
M6128

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
Reviewed By:	Pedro L. Rentas	101124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	**Actual Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese(II) nitrate hydrate (Mn)	IN031	MNM092020A1	1000	99.999	0.10	20.8	19.2322	19.2344	**1000.1**	**2.0**	15710-66-4	5 mg/m3	orl-rat >300mg/kg	3132



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	T	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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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:

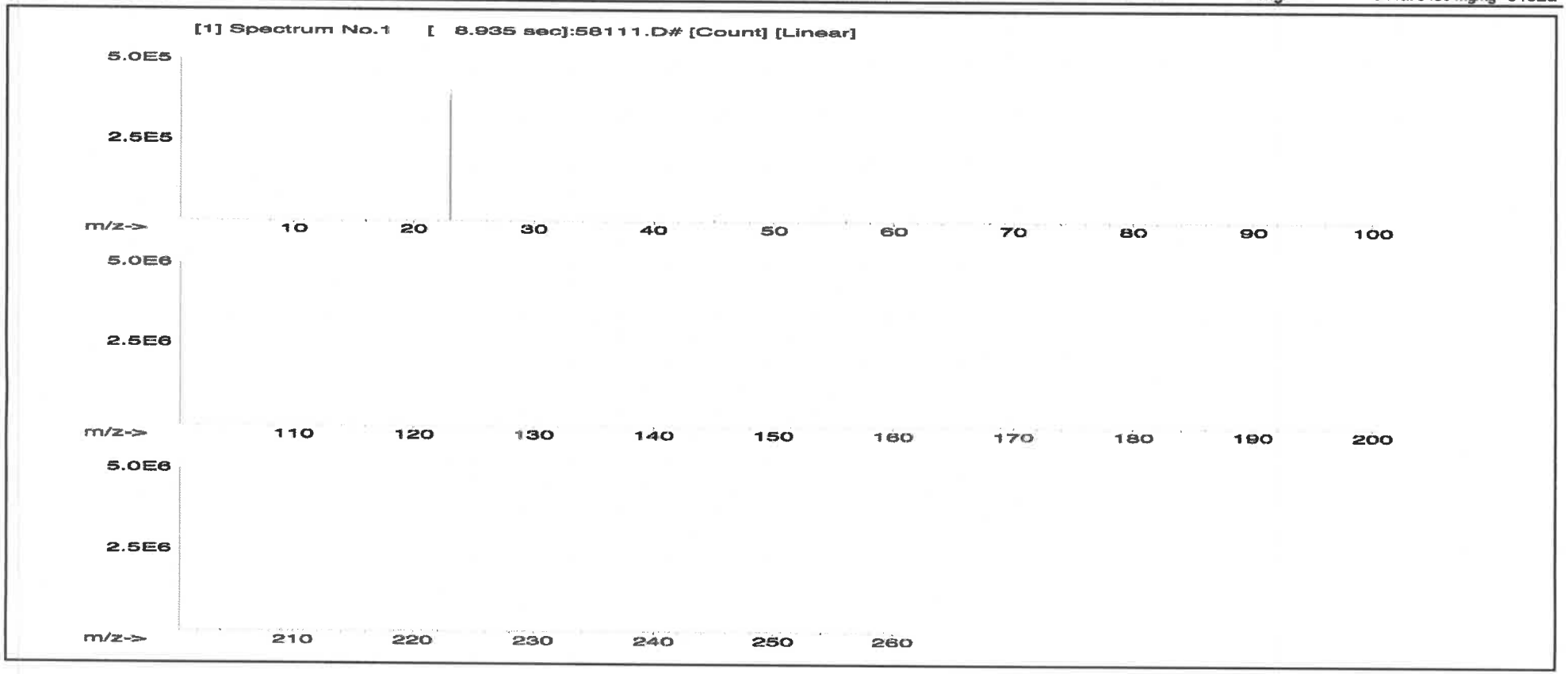
R->1/13/25

MG144

Part Number:	**58111**			**Lot #**	
Lot Number:	**072424**	**Solvent:**	24002546	Nitric Acid	
Description:	**Sodium (Na)**				
		2%	80.0 (mL)	Nitric Acid	
Expiration Date:	072427				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.2	0.10	Flask Uncertainty		

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Sodium nitrate (Na)	IN036	NAV012015I1	10000	99.999	0.10	26.9	148.7096	######	**10000.0**	**20.0**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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Certified Reference Material CRM

R: 01/03/24 M5802, M5803

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AR-1539 Certificate Number
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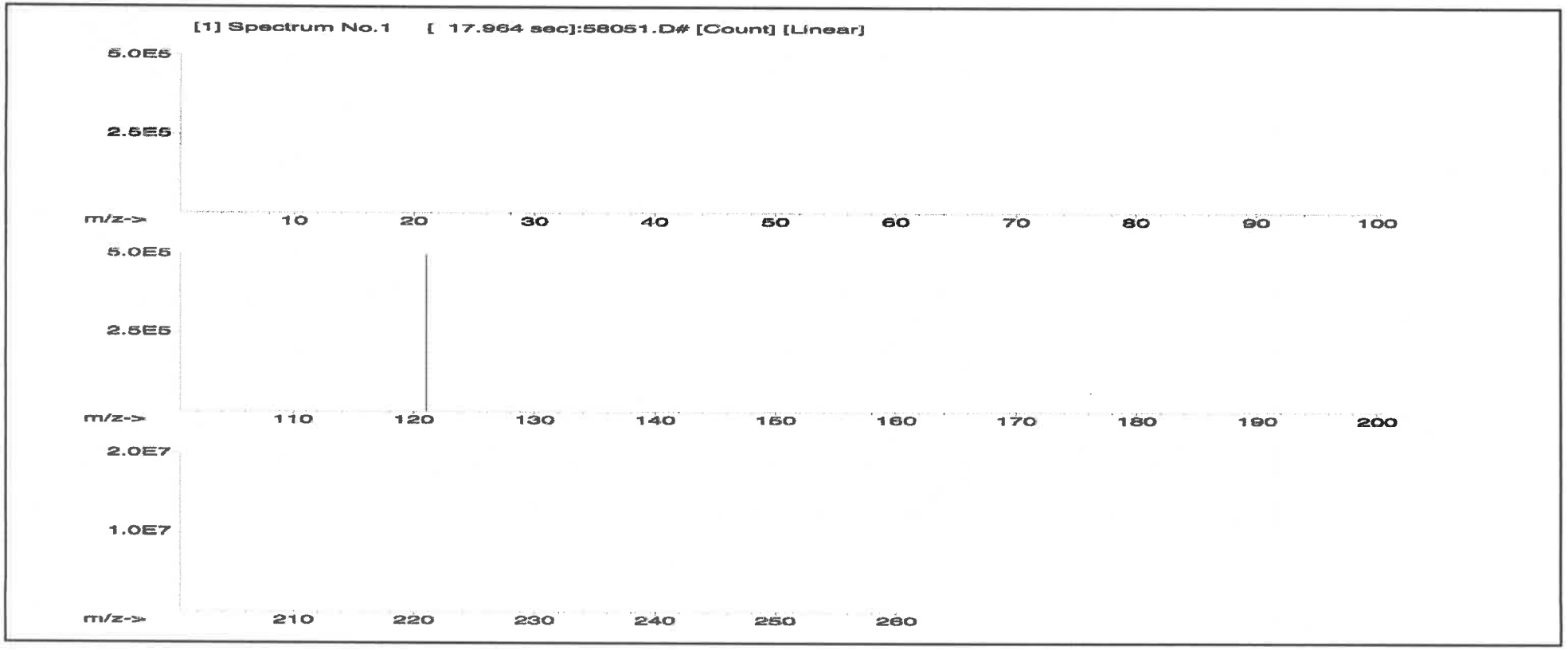
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57051**	24002546	Nitric Acid	
Lot Number:	**120523**			
Description:	**Antimony (Sb)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	120526			
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):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rentas	120523

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	100923	0.1000	300.0	0.084	1000	10001.4	**1000.0**	2.1	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	T	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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

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Certified Reference Material CRM

M6030

R: 8/5/24

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CERTIFIED WEIGHT REPORT:

Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

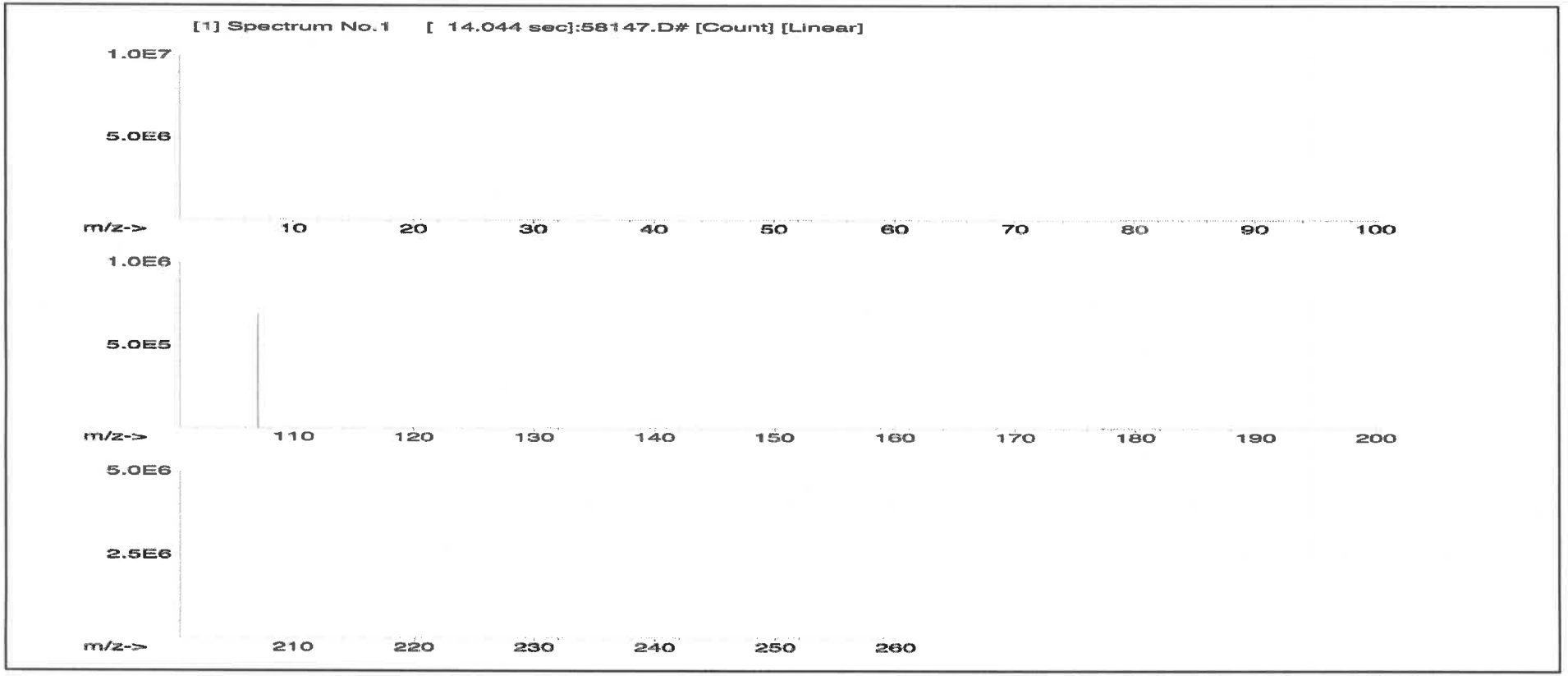
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

		Lot #	
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	T	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 888.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

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

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_{6}^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 03, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certified Reference Material CRM

M6023

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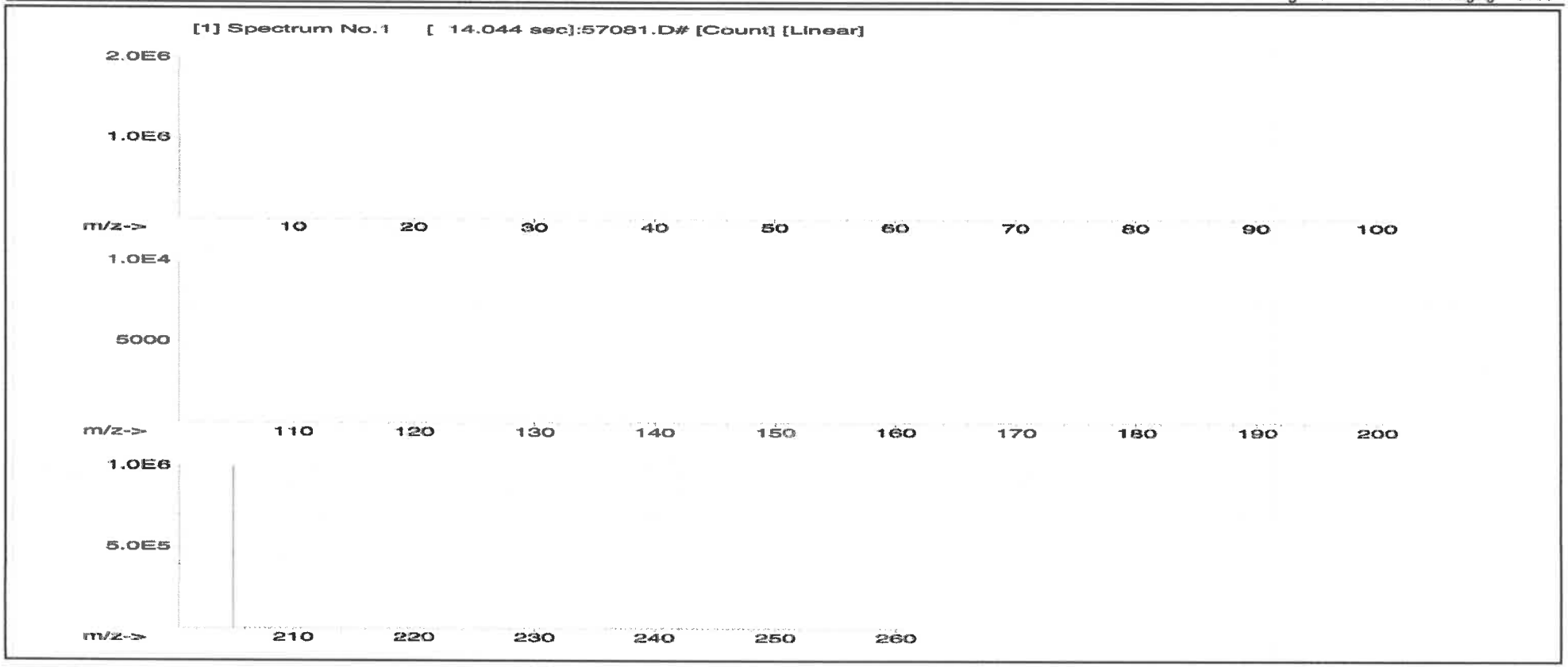
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady		
Formulated By:	Aleah O'Brady	062724
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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.
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Certified Reference Material CRM

M6021

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Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**	24002546	Nitric Acid	
Description:	**Vanadium (V)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

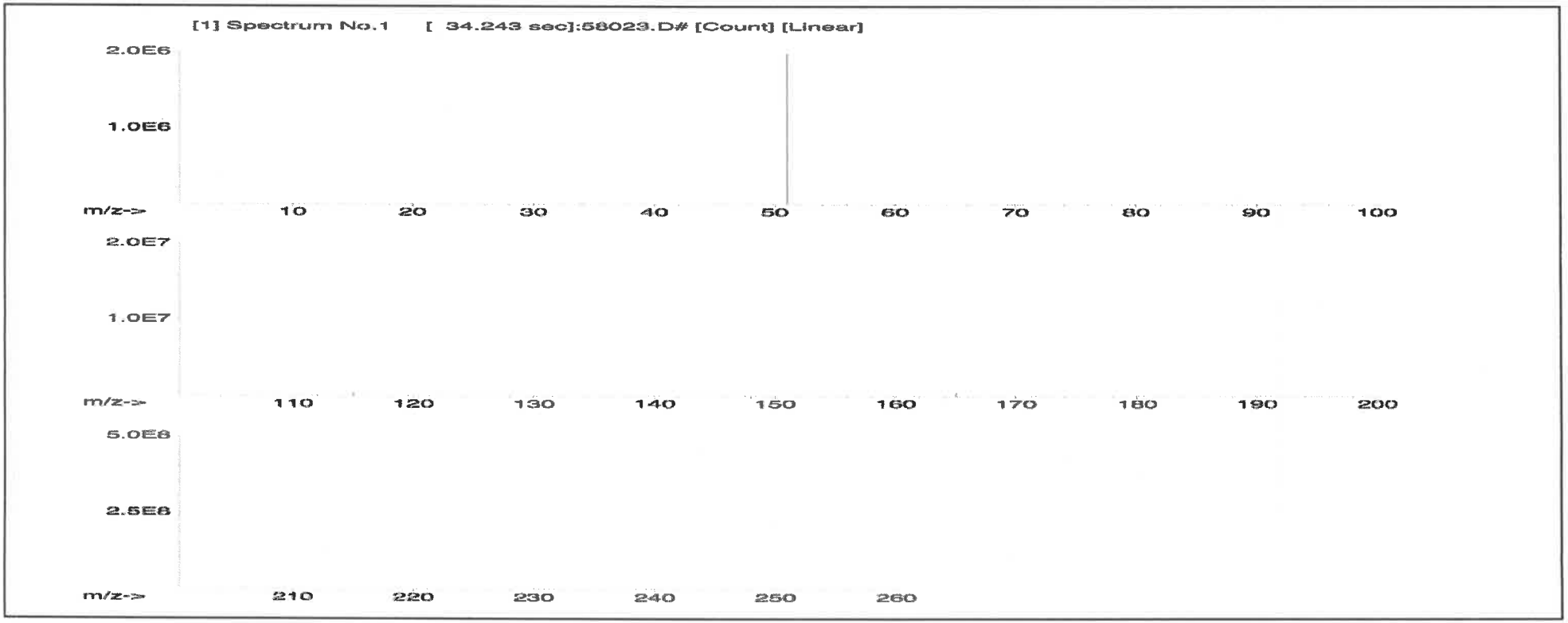
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

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Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	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.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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SHIPPING DOCUMENTS

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CHAIN OF CUSTODY RECORD

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www.chemtech.net

CHEMTECH PROJECT NO. Q1206
QUOTE NO.
COC Number 2041690

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: RU2 Engineering LLC
ADDRESS: 2 Melinda Drive, Monroe Twp, NJ 08831
CITY: ZIP:
ATTENTION: Rutu Manani
PHONE: 609-409-4564 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: SANDTWOBR BMCR Project
PROJECT NO.: LOCATION: Brooklyn, NYC
PROJECT MANAGER: Rutu Manani
e-mail: Rmanani@Ru2eng.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Same as Company address PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) Standard 10 days DAYS*
HARDCOPY (DATA PACKAGE): Standard 10 days DAYS*
EDD: Standard 10 days DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

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
- ☐ NYS ASP A
- ☒ NYS ASP B
- ☐ Other
- ☐ EDD FORMAT

ANALYSIS

1 TCL VOC + TICs + MTBE/TBA
2 TCLP VOCs
3 TPH GRO-DRO
4 TCL SVOCs + TICs
5 TAL Metals
6 Pesticides, PCBs
7 RCRA characteristics
8 Paint filter
9 full TCLP

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	JPP-20,1-012725	Soil		G	1/27/25	14:15	3	X	X	X							
2.	JPP-20,1-012725	Soil	C		1/27/25	14:18	7			X	X	X	X	X	X	X	
3.	JPP-16,3-012725	Soil		G	1/27/25	15:10	3	X	X	X							
4.	JPP-16,3-012725	Soil	C		1/27/25	15:17	7			X	X	X	X	X	X	X	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

PRESERVATIVES: A-HCl, B-HN03, C-H2SO4, D-NaOH, E-ICE, F-OTHER

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. RM	1/28/2025	1.	1053 1-28-25
2.		2.	
3.	1259 1-28-25	3.	

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.7 °C
Comments: preserve extra sample jar if additional analysis is Required.

Page ____ of ____
CLIENT: ☐ Hand Delivered ☐ Other
CHEMTECH: ☐ Picked Up ☐ Field Sampling
Shipment Complete ☐ YES ☐ NO

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WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

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

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1206 RUTW01
Client Name : RU2 Engineering, LLC
Client Contact : Rutu Manani
Invoice Name : RU2 Engineering, LLC
Invoice Contact : Rutu Manani

Order Date : 1/28/2025 11:18:51 AM
Project Name : ~~SANDTWOBR BMCR Bro~~ NYCDDC SANTWOBR Brooklyn Bridge BBMCR
Receive DateTime : 1/28/2025 12:59:00 PM
Purchase Order :

YG 02/03/25

Project Mgr : Kiran
Report Type : NYS ASP B
EDD Type : Excel NY
Hard Copy Date :
Date Signoff : 1/28/2025 2:56:10 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1206-01	JPP-20.1-012725	Solid	01/27/2025	14:15					
					VOCMS Group1		8260D		10 Bus. Days
Q1206-05	JPP-16.3-012725	Solid	01/27/2025	15:10					
					VOCMS Group1		8260D		10 Bus. Days

Relinguished By :
Date / Time : 1-28-25 1447

Received By :
Date / Time : 1/28/25 14:47

Storage Area : VOA Refridgerator Room

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

LOGIN REPORT/SAMPLE TRANSFER

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Project Mgr : Kiran
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Hard Copy Date :
Date Signoff : 1/28/2025 2:56:10 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1206-~~03~~01	JPP-20.1-012725	Solid	01/27/2025	~~14:18~~ 14:15	Gasoline Range Organics		8015D		10 Bus. Days
Q1206-~~07~~05	JPP-16.3-012725	Solid	01/27/2025	~~15:17~~ 15:10	Gasoline Range Organics		8015D		10 Bus. Days

YG
02/03/25

Relinguished By :
Date / Time : 1-28-25 1447

Received By : Sam
Date / Time : 1/28/25 14:47
Storage Area : VOA Refridgerator Room

Jeff
P22