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DATA PACKAGE

METALS

PROJECT NAME : FORMER SCHLUMBERGER STC PTC SITE # D3868221

JACOBS ENGINEERING GROUP, INC.

412 Mt. Kemble Ave

Downtown Building

Morristown, NJ - 07960

Phone No: 9732670555

ORDER ID : Q1478

ATTENTION : John Ynfante

Laboratory Certification ID # 20012

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Cover Page

Order ID : Q1478

Project ID : Former Schlumberger STC PTC Site # D3868221

Client : JACOBS Engineering Group, Inc.

Lab Sample Number	Client Sample Number
Q1478-01	IDW-AQ-MW-19B-COMP-022825
Q1478-02	IDW-AQ-DRUM-610-022825
Q1478-03	IDW-AQ-IW-01-COMP-022825
Q1478-04	IDW-AQ-DRUM-616-022825
Q1478-05	IDW-AQ-IW-02-COMP-022825
Q1478-06	IDW-AQ-DRUM-614-022825
Q1478-07	IDW-AQ-IW-03-COMP-022825
Q1478-08	IDW-AQ-DRUM-612-022825
Q1478-13	IDW-SO-COMP-022825
Q1478-14	IDW-SO-COMP-022825
Q1478-15	IDW-SO-DRUM-582-022825
Q1478-16	IDW-SO-DRUM-582-022825

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

Signature : APPROVED
By Nimisha Pandya, QA/QC Supervisor at 3:23 pm, Mar 14, 2025

Date: 3/13/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

JACOBS Engineering Group, Inc.
Project Name: Former Schlumberger STC PTC Site # D3868221
Project # N/A
Chemtech Project # Q1478
Test Name: TCLP Mercury,TCLP ICP Metals

A. Number of Samples and Date of Receipt:
4 Solid samples were received on 02/28/2025.
8 Water samples were received on 02/28/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Corrosivity, Diesel Range Organics, Flash Point, Gasoline Range Organics, Ignitability, Mercury, Metals ICP-RCRA, METALS RCRA, PCB, pH, SVOC-TCL BNA -20, TCLP BNA, TCLP Extraction, TCLP ICP Metals, TCLP Mercury, TCLP METALS, TCLP VOA, TCLP ZHE Extraction and VOC-TCLVOA-10. 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 (TP-4MSD) analysis met criteria for all samples except for Barium due to matrix interference.
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_____ APPROVED
By Nimisha Pandya, QA/QC Supervisor at 3:23 pm, Mar 14, 2025

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: Q1478 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.			
	The Matrix Spike analysis met criteria for all samples. The Matrix Spike Duplicate (TP-4MSD) analysis met criteria for all samples except for Barium due to matrix interference.			
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:

APPROVED
By Nimisha Pandya, QA/QC Supervisor at 3:23 pm, Mar 14, 2025

QA REVIEW Date

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1478

	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:** 03/13/2025

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LAB CHRONICLE

OrderID:	Q1478	**OrderDate:**	3/3/2025 10:28:22 AM
Client:	JACOBS Engineering Group, Inc.	**Project:**	Former Schlumberger STC PTC Site # D3868221
Contact:	John Ynfante	**Location:**	H31,H41,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1478-13	**IDW-SO-COMP-022825**	**TCLP**			**02/28/25**			**02/28/25**
			TCLP ICP Metals	6010D		03/05/25	03/10/25	
			TCLP Mercury	7470A		03/05/25	03/06/25	

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Hit Summary Sheet
SW-846

SDG No.: Q1478 **Order ID:** Q1478

Client: JACOBS Engineering Group, Inc. **Project ID:** Former Schlumberger STC PTC Site # D38

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : IDW-SO-COMP-022825								
Q1478-13	IDW-SO-COMP-022825	TCLP	Barium	3330		62.8	500	ug/L
Q1478-13	IDW-SO-COMP-022825	TCLP	Chromium	15.5	J	6.60	50.0	ug/L

SAMPLE DATA

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Report of Analysis

Client:	JACOBS Engineering Group, Inc.	Date Collected:	02/28/25
Project:	Former Schlumberger STC PTC Site # D3868221	Date Received:	02/28/25
Client Sample ID:	IDW-SO-COMP-022825	SDG No.:	Q1478
Lab Sample ID:	Q1478-13	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	34.8	U	1	34.8	100	ug/L	03/05/25 13:05	03/10/25 12:46	SW6010	SW3050
7440-39-3	Barium	3330	N	1	62.8	500	ug/L	03/05/25 13:05	03/10/25 12:46	SW6010	SW3050
7440-43-9	Cadmium	0.94	U	1	0.94	30.0	ug/L	03/05/25 13:05	03/10/25 12:46	SW6010	SW3050
7440-47-3	Chromium	15.5	J	1	6.60	50.0	ug/L	03/05/25 13:05	03/10/25 12:46	SW6010	SW3050
7439-92-1	Lead	35.1	U	1	35.1	60.0	ug/L	03/05/25 13:05	03/10/25 12:46	SW6010	SW3050
7439-97-6	Mercury	0.81	U	1	0.81	2.00	ug/L	03/05/25 15:15	03/06/25 13:48	SW7470A	
7782-49-2	Selenium	58.8	U	1	58.8	100	ug/L	03/05/25 13:05	03/10/25 12:46	SW6010	SW3050
7440-22-4	Silver	5.80	U	1	5.80	50.0	ug/L	03/05/25 13:05	03/10/25 12:46	SW6010	SW3050

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	TCLP METALS				

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

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

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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
ICV34	Mercury	4.11	4.0	103	90 - 110	CV	03/06/2025	13:25	LB134924

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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
CCV72	Mercury	4.67	5.0	94	90 - 110	CV	03/06/2025	13:29	LB134924
CCV73	Mercury	5.48	5.0	110	90 - 110	CV	03/06/2025	13:59	LB134924
CCV74	Mercury	5.04	5.0	101	90 - 110	CV	03/06/2025	14:27	LB134924
CCV75	Mercury	4.88	5.0	98	90 - 110	CV	03/06/2025	14:41	LB134924

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	1030	1000	103	95 - 105	P	03/10/2025	11:48	LB134965
	Barium	537	520	103	95 - 105	P	03/10/2025	11:48	LB134965
	Cadmium	503	510	99	95 - 105	P	03/10/2025	11:48	LB134965
	Chromium	531	520	102	95 - 105	P	03/10/2025	11:48	LB134965
	Lead	1010	1000	101	95 - 105	P	03/10/2025	11:48	LB134965
	Selenium	1040	1000	104	95 - 105	P	03/10/2025	11:48	LB134965
	Silver	257	250	103	95 - 105	P	03/10/2025	11:48	LB134965

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	17.9	20.0	90	80 - 120	P	03/10/2025	11:52	LB134965
	Barium	90.3	100	90	80 - 120	P	03/10/2025	11:52	LB134965
	Cadmium	5.56	6.0	93	80 - 120	P	03/10/2025	11:52	LB134965
	Chromium	9.58	10.0	96	80 - 120	P	03/10/2025	11:52	LB134965
	Lead	11.7	12.0	97	80 - 120	P	03/10/2025	11:52	LB134965
	Selenium	18.2	20.0	91	80 - 120	P	03/10/2025	11:52	LB134965
	Silver	9.78	10.0	98	80 - 120	P	03/10/2025	11:52	LB134965

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	4990	5000	100	90 - 110	P	03/10/2025	12:27	LB134965
	Barium	9500	10000	95	90 - 110	P	03/10/2025	12:27	LB134965
	Cadmium	2440	2500	97	90 - 110	P	03/10/2025	12:27	LB134965
	Chromium	1000	1000	100	90 - 110	P	03/10/2025	12:27	LB134965
	Lead	4900	5000	98	90 - 110	P	03/10/2025	12:27	LB134965
	Selenium	5030	5000	101	90 - 110	P	03/10/2025	12:27	LB134965
	Silver	1220	1250	98	90 - 110	P	03/10/2025	12:27	LB134965
CCV02	Arsenic	5090	5000	102	90 - 110	P	03/10/2025	13:21	LB134965
	Barium	10200	10000	102	90 - 110	P	03/10/2025	13:21	LB134965
	Cadmium	2470	2500	99	90 - 110	P	03/10/2025	13:21	LB134965
	Chromium	1000	1000	100	90 - 110	P	03/10/2025	13:21	LB134965
	Lead	4950	5000	99	90 - 110	P	03/10/2025	13:21	LB134965
	Selenium	5150	5000	103	90 - 110	P	03/10/2025	13:21	LB134965
	Silver	1260	1250	101	90 - 110	P	03/10/2025	13:21	LB134965
CCV03	Arsenic	5180	5000	104	90 - 110	P	03/10/2025	14:11	LB134965
	Barium	10200	10000	102	90 - 110	P	03/10/2025	14:11	LB134965
	Cadmium	2500	2500	100	90 - 110	P	03/10/2025	14:11	LB134965
	Chromium	1000	1000	100	90 - 110	P	03/10/2025	14:11	LB134965
	Lead	5010	5000	100	90 - 110	P	03/10/2025	14:11	LB134965
	Selenium	5240	5000	105	90 - 110	P	03/10/2025	14:11	LB134965
	Silver	1280	1250	102	90 - 110	P	03/10/2025	14:11	LB134965
CCV04	Arsenic	5010	5000	100	90 - 110	P	03/10/2025	15:01	LB134965
	Barium	9950	10000	100	90 - 110	P	03/10/2025	15:01	LB134965
	Cadmium	2420	2500	97	90 - 110	P	03/10/2025	15:01	LB134965
	Chromium	993	1000	99	90 - 110	P	03/10/2025	15:01	LB134965
	Lead	4860	5000	97	90 - 110	P	03/10/2025	15:01	LB134965
	Selenium	5050	5000	101	90 - 110	P	03/10/2025	15:01	LB134965
	Silver	1250	1250	100	90 - 110	P	03/10/2025	15:01	LB134965
CCV05	Arsenic	5000	5000	100	90 - 110	P	03/10/2025	15:51	LB134965
	Barium	9730	10000	97	90 - 110	P	03/10/2025	15:51	LB134965
	Cadmium	2420	2500	97	90 - 110	P	03/10/2025	15:51	LB134965
	Chromium	983	1000	98	90 - 110	P	03/10/2025	15:51	LB134965
	Lead	4850	5000	97	90 - 110	P	03/10/2025	15:51	LB134965
	Selenium	5020	5000	100	90 - 110	P	03/10/2025	15:51	LB134965

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	1250	1250	100	90 - 110	P	03/10/2025	15:51	LB134965
CCV06	Arsenic	4980	5000	100	90 - 110	P	03/10/2025	16:48	LB134965
	Barium	9720	10000	97	90 - 110	P	03/10/2025	16:48	LB134965
	Cadmium	2410	2500	96	90 - 110	P	03/10/2025	16:48	LB134965
	Chromium	977	1000	98	90 - 110	P	03/10/2025	16:48	LB134965
	Lead	4830	5000	96	90 - 110	P	03/10/2025	16:48	LB134965
	Selenium	5020	5000	100	90 - 110	P	03/10/2025	16:48	LB134965
	Silver	1240	1250	100	90 - 110	P	03/10/2025	16:48	LB134965
CCV07	Arsenic	4890	5000	98	90 - 110	P	03/10/2025	17:39	LB134965
	Barium	9380	10000	94	90 - 110	P	03/10/2025	17:39	LB134965
	Cadmium	2350	2500	94	90 - 110	P	03/10/2025	17:39	LB134965
	Chromium	942	1000	94	90 - 110	P	03/10/2025	17:39	LB134965
	Lead	4710	5000	94	90 - 110	P	03/10/2025	17:39	LB134965
	Selenium	4950	5000	99	90 - 110	P	03/10/2025	17:39	LB134965
	Silver	1190	1250	95	90 - 110	P	03/10/2025	17:39	LB134965
CCV08	Arsenic	4780	5000	96	90 - 110	P	03/10/2025	18:29	LB134965
	Barium	9560	10000	96	90 - 110	P	03/10/2025	18:29	LB134965
	Cadmium	2320	2500	93	90 - 110	P	03/10/2025	18:29	LB134965
	Chromium	933	1000	93	90 - 110	P	03/10/2025	18:29	LB134965
	Lead	4630	5000	93	90 - 110	P	03/10/2025	18:29	LB134965
	Selenium	4800	5000	96	90 - 110	P	03/10/2025	18:29	LB134965
	Silver	1200	1250	96	90 - 110	P	03/10/2025	18:29	LB134965
CCV09	Arsenic	4800	5000	96	90 - 110	P	03/10/2025	18:46	LB134965
	Barium	9700	10000	97	90 - 110	P	03/10/2025	18:46	LB134965
	Cadmium	2320	2500	93	90 - 110	P	03/10/2025	18:46	LB134965
	Chromium	923	1000	92	90 - 110	P	03/10/2025	18:46	LB134965
	Lead	4630	5000	93	90 - 110	P	03/10/2025	18:46	LB134965
	Selenium	4840	5000	97	90 - 110	P	03/10/2025	18:46	LB134965
	Silver	1180	1250	95	90 - 110	P	03/10/2025	18:46	LB134965

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Metals

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CRDL STANDARD FOR AA & ICP

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	0.17	0.2	86	40 - 160	CV	03/06/2025	13:34	LB134924
CRI01	Arsenic	18.2	20.0	91	40 - 160	P	03/10/2025	12:01	LB134965
	Barium	90.9	100	91	40 - 160	P	03/10/2025	12:01	LB134965
	Cadmium	5.67	6.0	94	40 - 160	P	03/10/2025	12:01	LB134965
	Chromium	10.4	10.0	104	40 - 160	P	03/10/2025	12:01	LB134965
	Lead	12.0	12.0	100	40 - 160	P	03/10/2025	12:01	LB134965
	Selenium	21.0	20.0	105	40 - 160	P	03/10/2025	12:01	LB134965
	Silver	10.2	10.0	102	40 - 160	P	03/10/2025	12:01	LB134965

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB34	Mercury	0.20	+/-0.20	U	0.20	CV	03/06/2025	13:27	LB134924

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB72	Mercury	0.20	+/-0.20	U	0.20	CV	03/06/2025	13:32	LB134924
CCB73	Mercury	0.20	+/-0.20	U	0.20	CV	03/06/2025	14:02	LB134924
CCB74	Mercury	0.20	+/-0.20	U	0.20	CV	03/06/2025	14:30	LB134924
CCB75	Mercury	0.20	+/-0.20	U	0.20	CV	03/06/2025	14:43	LB134924

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	03/10/2025	11:57	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	11:57	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	11:57	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	11:57	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	11:57	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	11:57	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	11:57	LB134965

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	03/10/2025	12:34	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	12:34	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	12:34	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	12:34	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	12:34	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	12:34	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	12:34	LB134965
CCB02	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	13:25	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	13:25	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	13:25	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	13:25	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	13:25	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	13:25	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	13:25	LB134965
CCB03	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	14:15	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	14:15	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	14:15	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	14:15	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	14:15	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	14:15	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	14:15	LB134965
CCB04	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	15:05	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	15:05	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	15:05	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	15:05	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	15:05	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	15:05	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	15:05	LB134965
CCB05	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	15:55	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	15:55	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	15:55	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	15:55	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	15:55	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	15:55	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	15:55	LB134965
CCB06	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	16:52	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	16:52	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	16:52	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	16:52	LB134965

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	03/10/2025	16:52	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	16:52	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	16:52	LB134965
CCB07	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	17:44	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	17:44	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	17:44	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	17:44	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	17:44	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	17:44	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	17:44	LB134965
CCB08	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	18:33	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	18:33	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	18:33	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	18:33	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	18:33	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	18:33	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	18:33	LB134965
CCB09	Arsenic	20.0	+/-20.0	U	20.0	P	03/10/2025	18:50	LB134965
	Barium	100	+/-100	U	100	P	03/10/2025	18:50	LB134965
	Cadmium	6.00	+/-6.00	U	6.00	P	03/10/2025	18:50	LB134965
	Chromium	10.0	+/-10.0	U	10.0	P	03/10/2025	18:50	LB134965
	Lead	12.0	+/-12.0	U	12.0	P	03/10/2025	18:50	LB134965
	Selenium	20.0	+/-20.0	U	20.0	P	03/10/2025	18:50	LB134965
	Silver	10.0	+/-10.0	U	10.0	P	03/10/2025	18:50	LB134965

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB166968TB		**WATER**		**Batch Number:**	**PB167014**		**Prep Date:**	**03/05/2025**	
	Mercury	2.00	<2.00	U	2.00	CV	03/06/2025	14:37	LB134924

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167014BL		**WATER**		**Batch Number:**	**PB167014**		**Prep Date:**	**03/05/2025**	
	Mercury	0.20	<0.20	U	0.20	CV	03/06/2025	13:41	LB134924

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Metals
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PREPARATION BLANK SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB166968TB		**WATER**		**Batch Number:**	**PB166990**		**Prep Date:**	**03/05/2025**	
	Arsenic	100	<100	U	100	P	03/10/2025	16:08	LB134965
	Barium	500	<500	U	500	P	03/10/2025	16:08	LB134965
	Cadmium	30.0	<30.0	U	30.0	P	03/10/2025	16:08	LB134965
	Chromium	50.0	<50.0	U	50.0	P	03/10/2025	16:08	LB134965
	Lead	60.0	<60.0	U	60.0	P	03/10/2025	16:08	LB134965
	Selenium	100	<100	U	100	P	03/10/2025	16:08	LB134965
	Silver	50.0	<50.0	U	50.0	P	03/10/2025	16:08	LB134965

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB166990BL		**WATER**		**Batch Number:**	**PB166990**		**Prep Date:**	**03/05/2025**	
	Arsenic	100	<100	U	100	P	03/10/2025	16:12	LB134965
	Barium	500	<500	U	500	P	03/10/2025	16:12	LB134965
	Cadmium	30.0	<30.0	U	30.0	P	03/10/2025	16:12	LB134965
	Chromium	50.0	<50.0	U	50.0	P	03/10/2025	16:12	LB134965
	Lead	60.0	<60.0	U	60.0	P	03/10/2025	16:12	LB134965
	Selenium	100	<100	U	100	P	03/10/2025	16:12	LB134965
	Silver	50.0	<50.0	U	50.0	P	03/10/2025	16:12	LB134965

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Metals
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INTERFERENCE CHECK SAMPLE

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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	3.58			-20	20	03/10/2025	12:05	LB134965
	Barium	1.50	6.0	25	-94	106	03/10/2025	12:05	LB134965
	Cadmium	-4.00	1.0	400	-5	7	03/10/2025	12:05	LB134965
	Chromium	59.3	52.0	114	42	62	03/10/2025	12:05	LB134965
	Lead	6.57			-12	12	03/10/2025	12:05	LB134965
	Selenium	-12.1			-20	20	03/10/2025	12:05	LB134965
	Silver	-0.43			-10	10	03/10/2025	12:05	LB134965
ICSAB01	Arsenic	110	104	106	88.4	120	03/10/2025	12:10	LB134965
	Barium	483	537	90	437	637	03/10/2025	12:10	LB134965
	Cadmium	1020	972	105	826	1120	03/10/2025	12:10	LB134965
	Chromium	581	542	107	460	624	03/10/2025	12:10	LB134965
	Lead	56.3	49.0	115	37	61	03/10/2025	12:10	LB134965
	Selenium	34.1	46.0	74	26	66	03/10/2025	12:10	LB134965
	Silver	221	201	110	170	232	03/10/2025	12:10	LB134965

METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q1478

contract: JACO05 **lab code:** CHEM **case no.:** Q1478 **sas no.:** Q1478

matrix: Water **sample id:** Q1489-16 **client id:** TP-4MS

Percent Solids for Sample: NA **Spiked ID:** Q1489-16MS **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	4420		100	U	4000	110		P
Barium	ug/L	75 - 125	4720		3490		1000	123		P
Cadmium	ug/L	75 - 125	1010		30.0	U	1000	101		P
Chromium	ug/L	75 - 125	2120		50.0	U	2000	106		P
Lead	ug/L	75 - 125	4990		60.2		5000	99		P
Mercury	ug/L	75 - 125	41.0		2.00	U	40.0	102		CV
Selenium	ug/L	75 - 125	10600		100	U	10000	106		P
Silver	ug/L	75 - 125	395		50.0	U	380	104		P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: JACOBS Engineering Group, Inc. **level:** low **sdg no.:** Q1478

contract: JACO05 **lab code:** CHEM **case no.:** Q1478 **sas no.:** Q1478

matrix: Water **sample id:** Q1489-16 **client id:** TP-4MSD

Percent Solids for Sample: NA **Spiked ID:** Q1489-16MSD **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	4340		100	U	4000	108		P
Barium	ug/L	75 - 125	4790		3490		1000	130	N	P
Cadmium	ug/L	75 - 125	1020		30.0	U	1000	102		P
Chromium	ug/L	75 - 125	2130		50.0	U	2000	106		P
Lead	ug/L	75 - 125	5010		60.2		5000	99		P
Mercury	ug/L	75 - 125	38.1		2.00	U	40.0	95		CV
Selenium	ug/L	75 - 125	10300		100	U	10000	103		P
Silver	ug/L	75 - 125	390		50.0	U	380	103		P

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Metals
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POST DIGEST SPIKE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Matrix: Water **Level:** LOW **Client ID:** TP-4A

Sample ID: Q1489-16 **Spiked ID:** Q1489-16A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Barium	ug/L	75 - 125	4850		3490		1000	136		P

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Matrix: Water **Sample ID:** Q1489-16 **Client ID:** TP-4DUP

Percent Solids for Sample: NA **Duplicate ID** Q1489-16DUP **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	3490		3480		0		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	60.2		59.0	J	2		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: JACOBS Engineering Group, Inc. **Level:** LOW **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Matrix: Water **Sample ID:** Q1489-16MS **Client ID:** TP-4MSD

Percent Solids for Sample: NA **Duplicate ID** Q1489-16MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	4420		4340		2		P
Barium	ug/L	20	4720		4790		1		P
Cadmium	ug/L	20	1010		1020		1		P
Chromium	ug/L	20	2120		2130		0		P
Lead	ug/L	20	4990		5010		0		P
Mercury	ug/L	20	41.0		38.1		7		CV
Selenium	ug/L	20	10600		10300		3		P
Silver	ug/L	20	395		390		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: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB166990BS							
Arsenic	ug/L	4000	4050		101	80 - 120	P
Barium	ug/L	1000	883		88	80 - 120	P
Cadmium	ug/L	1000	944		94	80 - 120	P
Chromium	ug/L	2000	1970		98	80 - 120	P
Lead	ug/L	5000	4770		95	80 - 120	P
Selenium	ug/L	10000	10100		101	80 - 120	P
Silver	ug/L	380	372		98	80 - 120	P

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LABORATORY CONTROL SAMPLE SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167014BS							
Mercury	ug/L	4.0	4.19		105	80 - 120	CV

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

TP-4L

Lab Name: Chemtech Consulting Group **Contract:** JACO05

Lab Code: CHEM **Lb No.:** lb134965 **Lab Sample ID :** Q1489-16L **SDG No.:** Q1478

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	3490		3370		4		P
Cadmium	30.0	U	150	U			P
Chromium	50.0	U	250	U			P
Lead	60.2		300	U	100.0		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
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Case No.:** Q1478 **SAS No.:** Q1478

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: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Method:**

Case No.: Q1478 **SAS No.:** Q1478

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB166990**						
PB166968TB	PB166968TB	MB	WATER	03/05/2025	5.0	25.0	
PB166990BL	PB166990BL	MB	WATER	03/05/2025	5.0	25.0	
PB166990BS	PB166990BS	LCS	WATER	03/05/2025	5.0	25.0	
Q1478-13	IDW-SO-COMP-022825	SAM	WATER	03/05/2025	5.0	25.0	
Q1489-16DUP	TP-4DUP	DUP	WATER	03/05/2025	5.0	25.0	
Q1489-16MS	TP-4MS	MS	WATER	03/05/2025	5.0	25.0	
Q1489-16MSD	TP-4MSD	MSD	WATER	03/05/2025	5.0	25.0	

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Metals
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SAMPLE PREPARATION SUMMARY

Client: JACOBS Engineering Group, Inc. **SDG No.:** Q1478

Contract: JACO05 **Lab Code:** CHEM **Method:**

Case No.: Q1478 **SAS No.:** Q1478

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB167014**						
PB166968TB	PB166968TB	MB	WATER	03/05/2025	3.0	30.0	
PB167014BL	PB167014BL	MB	WATER	03/05/2025	30.0	30.0	
PB167014BS	PB167014BS	LCS	WATER	03/05/2025	30.0	30.0	
Q1478-13	IDW-SO-COMP-022825	SAM	WATER	03/05/2025	3.0	30.0	
Q1489-16DUP	TP-4DUP	DUP	WATER	03/05/2025	3.0	30.0	
Q1489-16MS	TP-4MS	MS	WATER	03/05/2025	3.0	30.0	
Q1489-16MSD	TP-4MSD	MSD	WATER	03/05/2025	3.0	30.0	

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metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc. **Contract:** JACO05

Lab code: CHEM **Case no.:** Q1478 **Sas no.:** Q1478 **Sdg no.:** Q1478

Instrument id number: **Method:** **Run number:** LB134924

Start date: 03/06/2025 **End date:** 03/06/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1257	HG
S0.2	S0.2	1	1259	HG
S2.5	S2.5	1	1302	HG
S5	S5	1	1304	HG
S7.5	S7.5	1	1309	HG
S10	S10	1	1314	HG
ICV34	ICV34	1	1325	HG
ICB34	ICB34	1	1327	HG
CCV72	CCV72	1	1329	HG
CCB72	CCB72	1	1332	HG
CRA	CRA	1	1334	HG
PB167014BL	PB167014BL	1	1341	HG
PB167014BS	PB167014BS	1	1346	HG
Q1478-13	IDW-SO-COMP-022825	1	1348	HG
CCV73	CCV73	1	1359	HG
CCB73	CCB73	1	1402	HG
Q1489-16DUP	TP-4DUP	1	1418	HG
Q1489-16MS	TP-4MS	1	1420	HG
Q1489-16MSD	TP-4MSD	1	1422	HG
CCV74	CCV74	1	1427	HG
CCB74	CCB74	1	1430	HG
Q1489-16L	TP-4L	5	1432	HG
PB166968TB	PB166968TB	1	1437	HG
CCV75	CCV75	1	1441	HG
CCB75	CCB75	1	1443	HG

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metals
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ANALYSIS RUN LOG

Client: JACOBS Engineering Group, Inc. **Contract:** JACO05

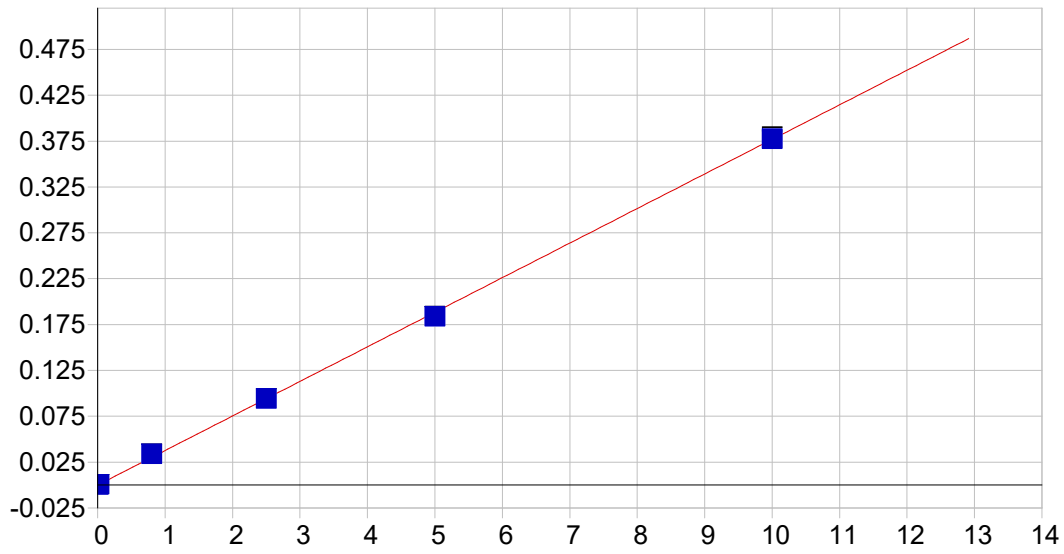
Lab code: CHEM **Case no.:** Q1478 **Sas no.:** Q1478 **Sdg no.:** Q1478

Instrument id number: **Method:** **Run number:** LB134965

Start date: 03/10/2025 **End date:** 03/10/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1117	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1122	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1126	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1130	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1134	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1138	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1148	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1152	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1157	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1201	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1205	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1210	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1227	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1234	Ag,As,Ba,Cd,Cr,Pb,Se
Q1489-16MSD	TP-4MSD	1	1238	Ag,As,Ba,Cd,Cr,Pb,Se
Q1489-16A	TP-4A	1	1242	Ba
Q1478-13	IDW-SO-COMP-022825	1	1246	Ag,As,Ba,Cd,Cr,Pb,Se
Q1489-16DUP	TP-4DUP	1	1304	Ag,As,Ba,Cd,Cr,Pb,Se
Q1489-16L	TP-4L	5	1308	Ag,As,Ba,Cd,Cr,Pb,Se
Q1489-16MS	TP-4MS	1	1312	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1321	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1325	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1411	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1415	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1501	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1505	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1551	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1555	Ag,As,Ba,Cd,Cr,Pb,Se
PB166968TB	PB166968TB	1	1608	Ag,As,Ba,Cd,Cr,Pb,Se
PB166990BL	PB166990BL	1	1612	Ag,As,Ba,Cd,Cr,Pb,Se
PB166990BS	PB166990BS	1	1617	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1648	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1652	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1739	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1744	Ag,As,Ba,Cd,Cr,Pb,Se
CCV08	CCV08	1	1829	Ag,As,Ba,Cd,Cr,Pb,Se
CCB08	CCB08	1	1833	Ag,As,Ba,Cd,Cr,Pb,Se
CCV09	CCV09	1	1846	Ag,As,Ba,Cd,Cr,Pb,Se
CCB09	CCB09	1	1850	Ag,As,Ba,Cd,Cr,Pb,Se

METAL
RAW DATA

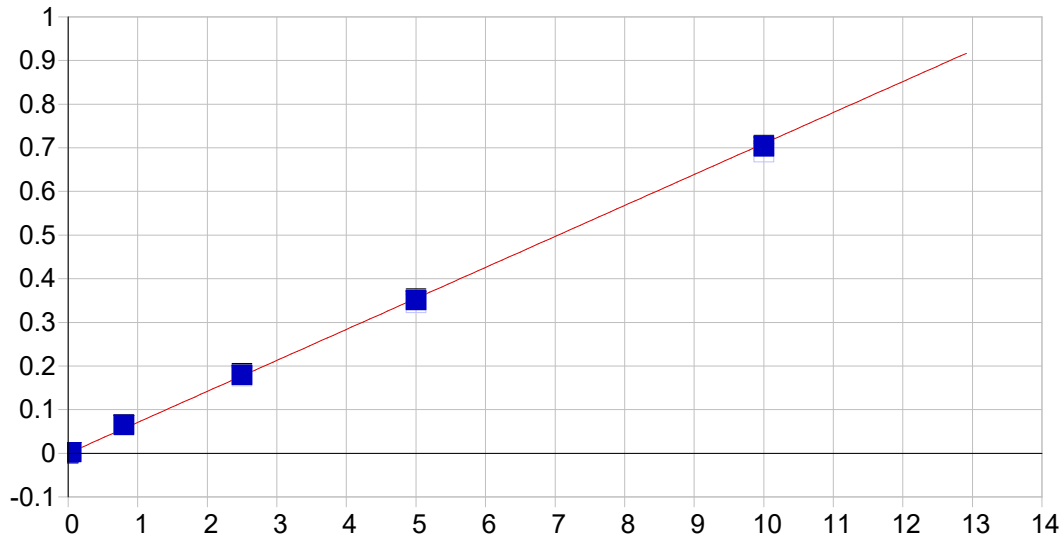


As 189.042 {479}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000051	Re-Slope:	1.000000
A1 (Gain):	0.037695	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999574	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	0.003272		
Predicted MQL:	0.010906		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00005	.000	1
S1	.02000	.02083	.001	4.13	.00073	.000	1
S3	2.5000	2.5002	.000	.008	.09409	.000	1
S4	5.0000	4.8800	-.120	-2.40	.18370	.000	1
S5	10.000	10.018	.018	.183	.37718	.002	1
S2	.80000	.90062	.101	12.6	.03387	.000	1

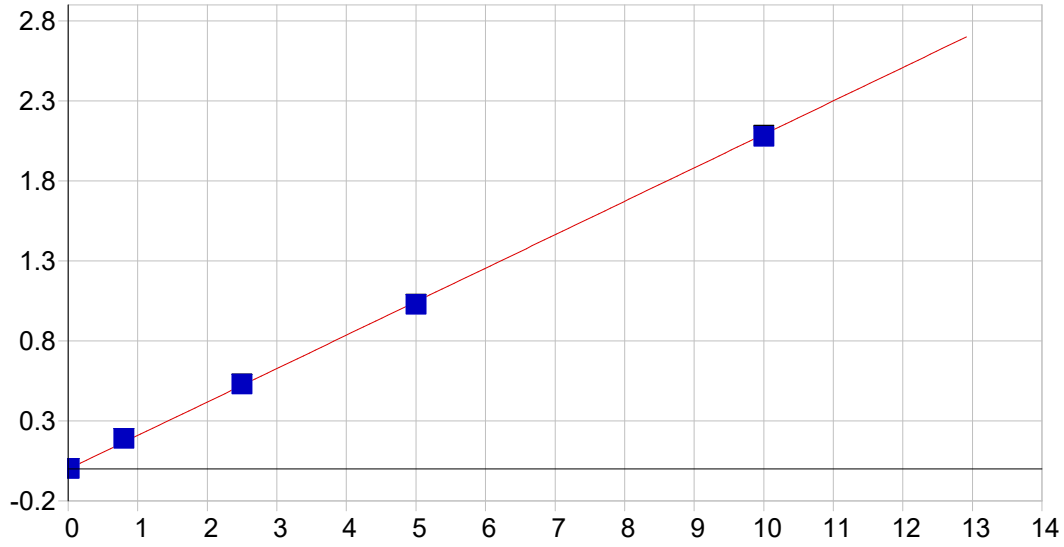


Tl 190.856 {477}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000127	Re-Slope:	1.000000
A1 (Gain):	0.070997	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999485	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.001782		
Predicted MQL:	0.005939		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00013	.000	1
S1	.04000	.04120	.001	3.00	.00261	.000	1
S3	2.5000	2.5336	.034	1.34	.17648	.003	1
S4	5.0000	4.9449	-.055	-1.10	.34440	.003	1
S5	10.000	9.9065	-.094	-.935	.69012	.003	1
S2	.80000	.91395	.114	14.2	.06371	.001	1

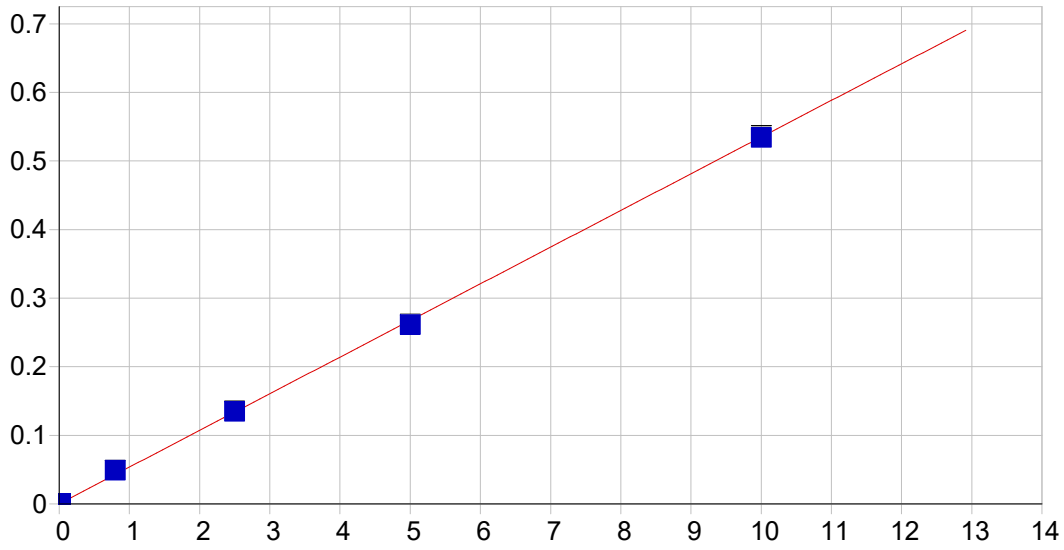


Pb 220.353 {453}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000219	Re-Slope:	1.000000
A1 (Gain):	0.209091	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999529	Status:	OK.
Std Error of Est:	0.000116		
Predicted MDL:	0.001499		
Predicted MQL:	0.004997		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00022	.000	1
S1	.01200	.01171	-.000	-2.38	.00218	.000	1
S3	2.5000	2.5320	.032	1.28	.52863	.001	1
S4	5.0000	4.9183	-.082	-1.63	1.0270	.001	1
S5	10.000	9.9400	-.060	-.600	2.0758	.007	1
S2	.80000	.90992	.110	13.7	.18985	.001	1

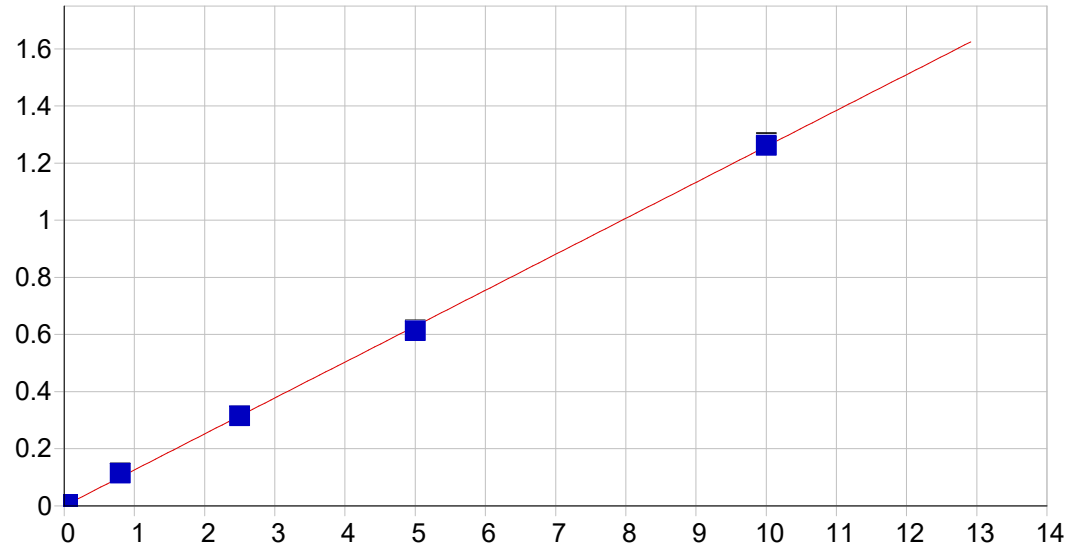


Se 196.090 {472}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000209	Re-Slope:	1.000000
A1 (Gain):	0.053453	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999517	Status:	OK.
Std Error of Est:	0.000039		
Predicted MDL:	0.003053		
Predicted MQL:	0.010177		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00021	.000	1
S1	.02000	.02116	.001	5.80	.00134	.000	1
S3	2.5000	2.5171	.017	.685	.13471	.001	1
S4	5.0000	4.8836	-.116	-2.33	.26116	.001	1
S5	10.000	9.9893	-.011	-.107	.53398	.003	1
S2	.80000	.90884	.109	13.6	.04877	.000	1

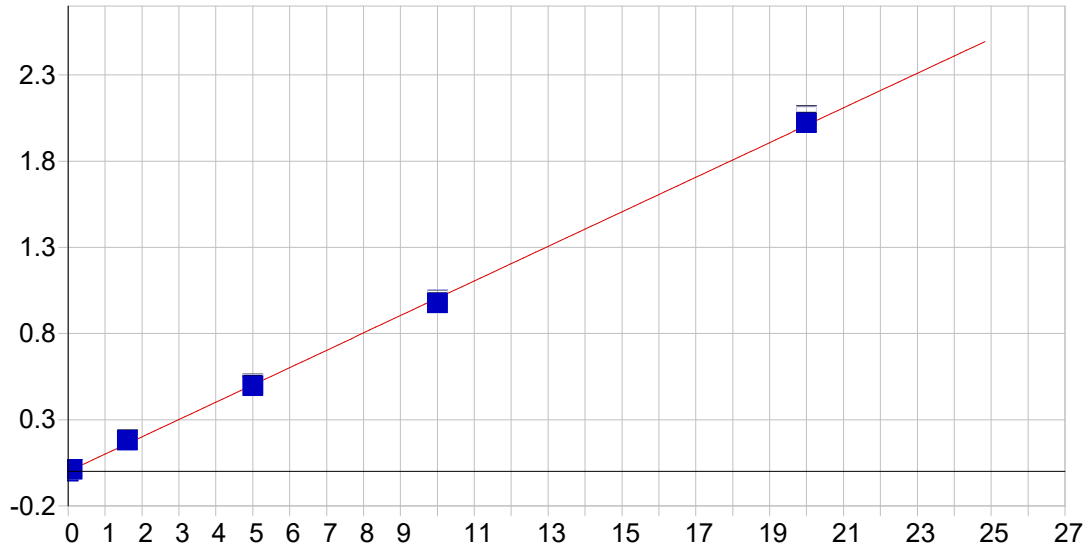


Sb 206.833 {463}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000272	Re-Slope:	1.000000
A1 (Gain):	0.125811	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999529	Status:	OK.
Std Error of Est:	0.000144		
Predicted MDL:	0.001960		
Predicted MQL:	0.006534		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00027	.000	1
S1	.05000	.05332	.003	6.64	.00699	.000	1
S3	2.5000	2.4986	-.001	-.056	.31548	.001	1
S4	5.0000	4.8681	-.132	-2.64	.61444	.001	1
S5	10.000	10.026	.026	.257	1.2650	.006	1
S2	.80000	.90435	.104	13.0	.11432	.000	1

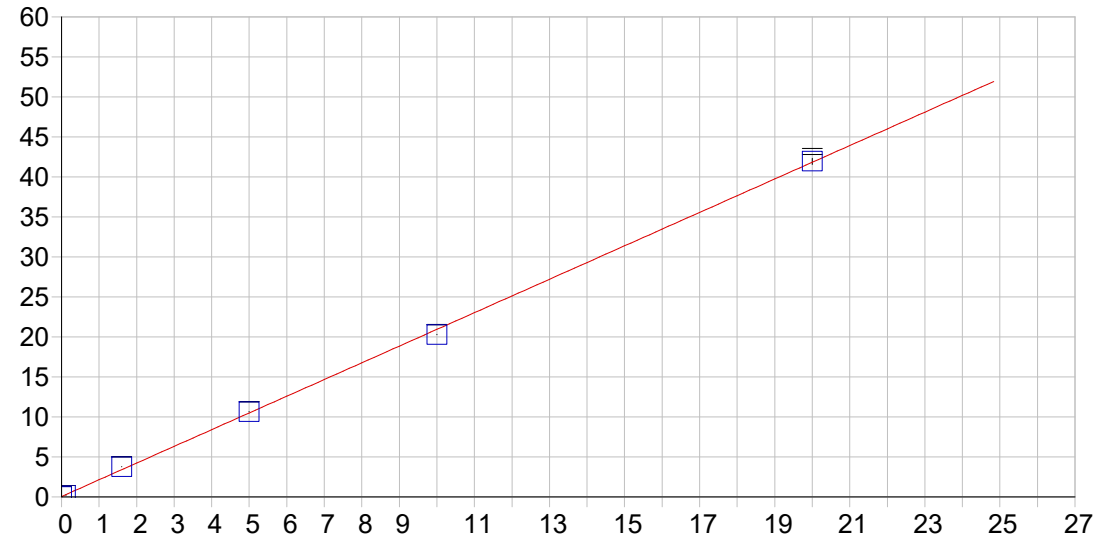


Al 396.152 { 85}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000229	Re-Slope:	1.000000
A1 (Gain):	0.100412	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999574	Status:	OK.
Std Error of Est:	0.000222		
Predicted MDL:	0.006156		
Predicted MQL:	0.020518		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00023	.000	1
S1	.10000	.10480	.005	4.80	.01153	.000	1
S3	5.0000	4.9309	-.069	-1.38	.50509	.002	1
S4	10.000	9.7308	-.269	-2.69	.99680	.001	1
S5	20.000	20.141	.141	.706	2.0616	.003	1
S2	1.6000	1.7921	.192	12.0	.18329	.001	1

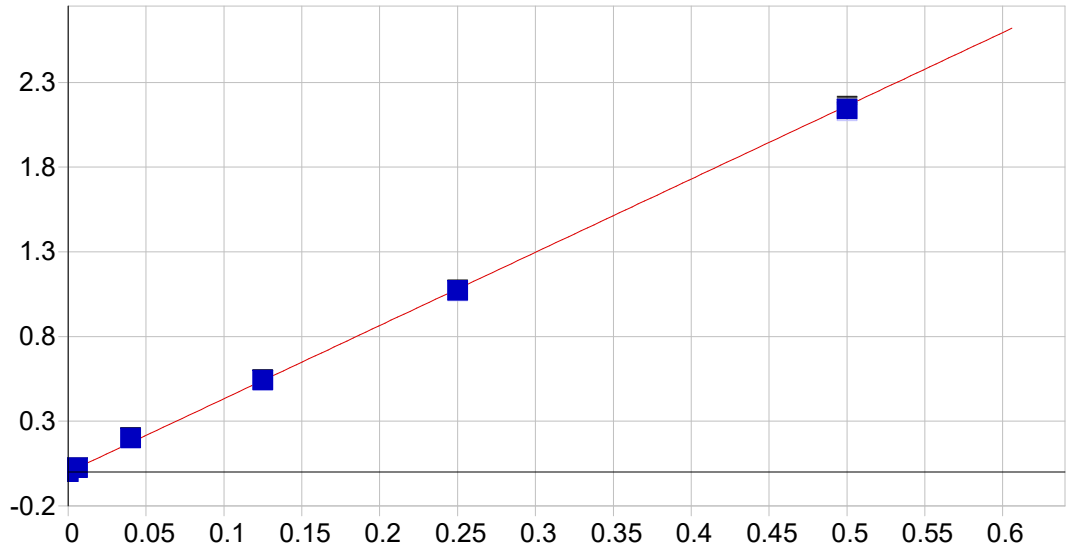


Ba 493.409 { 68}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.051330	Re-Slope:	1.000000
A1 (Gain):	2.088943	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999574	Status:	OK.
Std Error of Est:	0.004524		
Predicted MDL:	0.000988		
Predicted MQL:	0.003293		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.05131	.002	1
S1	.10000	.09746	-.003	-2.54	.25493	.001	1
S3	5.0000	5.0768	.077	1.54	10.656	.008	1
S4	10.000	9.6907	-.309	-3.09	20.295	.031	1
S5	20.000	20.055	.055	.274	41.945	.388	1
S2	1.6000	1.7804	.180	11.3	3.7705	.021	1

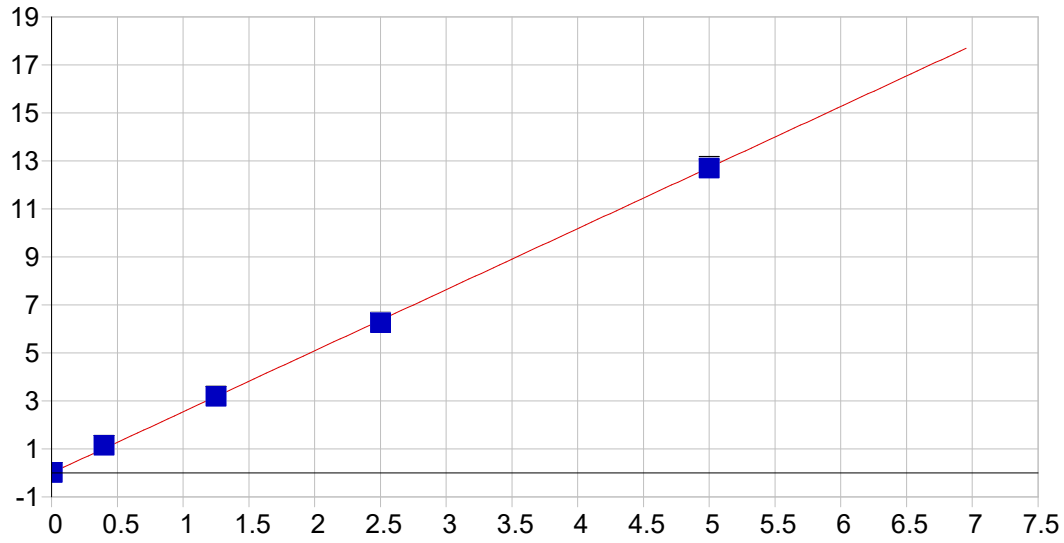


Be 234.861 {144}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000098	Re-Slope:	1.000000
A1 (Gain):	4.324234	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999425	Status:	OK.
Std Error of Est:	0.000420		
Predicted MDL:	0.000053		
Predicted MQL:	0.000177		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00009	.000	1
S1	.00600	.00585	-.000	-2.42	.02522	.000	1
S3	.12500	.12556	.001	.451	.54064	.001	1
S4	.25000	.24794	-.002	-.824	1.0674	.004	1
S5	.50000	.49536	-.005	-.927	2.1325	.019	1
S2	.04000	.04628	.006	15.7	.19943	.002	1

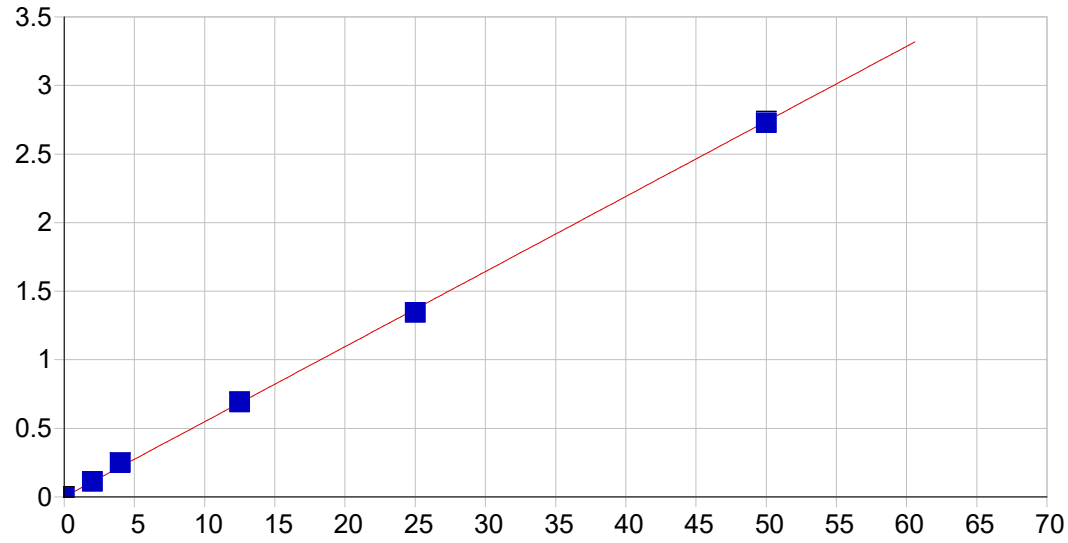


Cd 226.502 {449}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000157	Re-Slope:	1.000000
A1 (Gain):	2.544685	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999633	Status:	OK.
Std Error of Est:	0.000626		
Predicted MDL:	0.000085		
Predicted MQL:	0.000283		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00016	.000	1
S1	.00600	.00608	.000	1.35	.01540	.000	1
S3	1.2500	1.2522	.002	.177	3.1891	.006	1
S4	2.5000	2.4588	-.041	-1.65	6.2624	.014	1
S5	5.0000	4.9898	-.010	-.204	12.709	.067	1
S2	.40000	.44908	.049	12.3	1.1435	.000	1

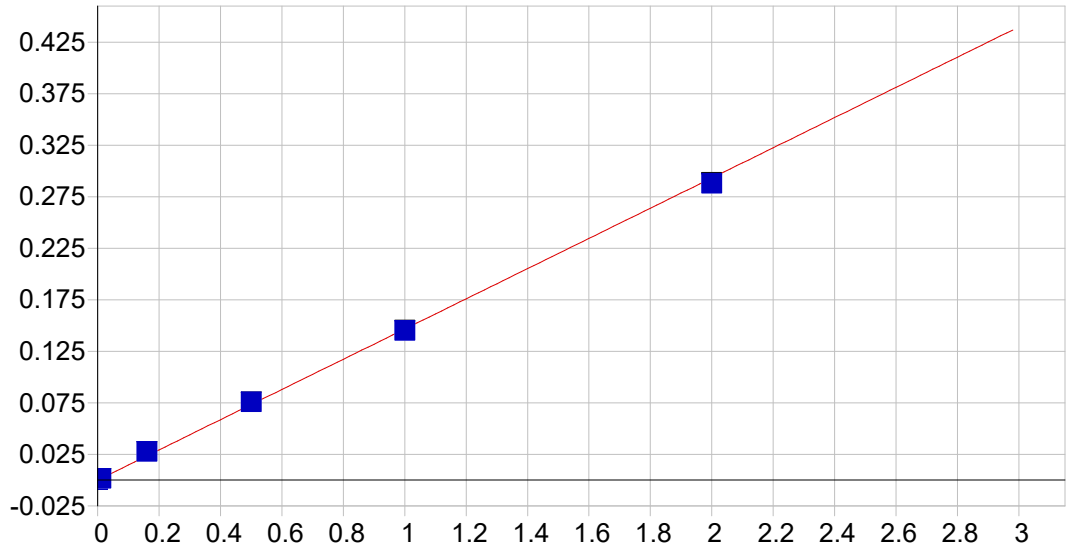


Ca 373.690 { 90}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000936	Re-Slope:	1.000000
A1 (Gain):	0.054739	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999556	Status:	OK.
Std Error of Est:	0.000863		
Predicted MDL:	0.009132		
Predicted MQL:	0.030441		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00027	-.000	.000	.00092	.000	1
S2	4.0000	4.5375	.538	13.4	.24932	.001	1
S3	12.500	12.605	.105	.840	.69093	.001	1
S4	25.000	24.537	-.463	-1.85	1.3441	.001	1
S5	50.000	49.793	-.207	-.414	2.7266	.013	1
S1	2.0000	2.0276	.028	1.38	.11193	.000	1

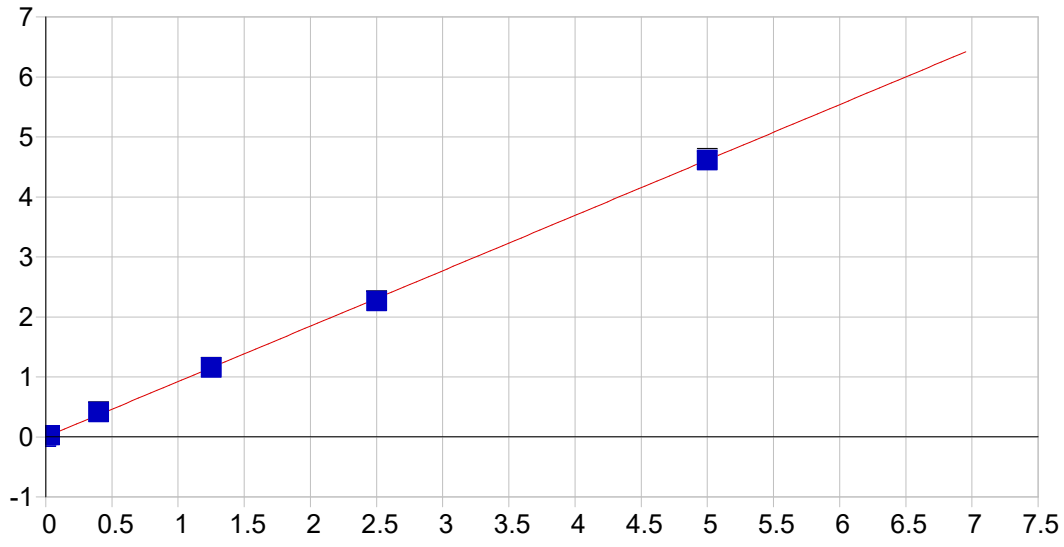


Cr 267.716 {126}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000031	Re-Slope:	1.000000
A1 (Gain):	0.146578	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999133	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.000496		
Predicted MQL:	0.001652		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00003	.000	1
S1	.01000	.01066	.001	6.55	.00159	.000	1
S3	.50000	.51696	.017	3.39	.07583	.000	1
S4	1.0000	.99006	-.010	-.994	.14520	.000	1
S5	2.0000	1.9640	-.036	-1.80	.28800	.001	1
S2	.16000	.18831	.028	17.7	.02764	.000	1

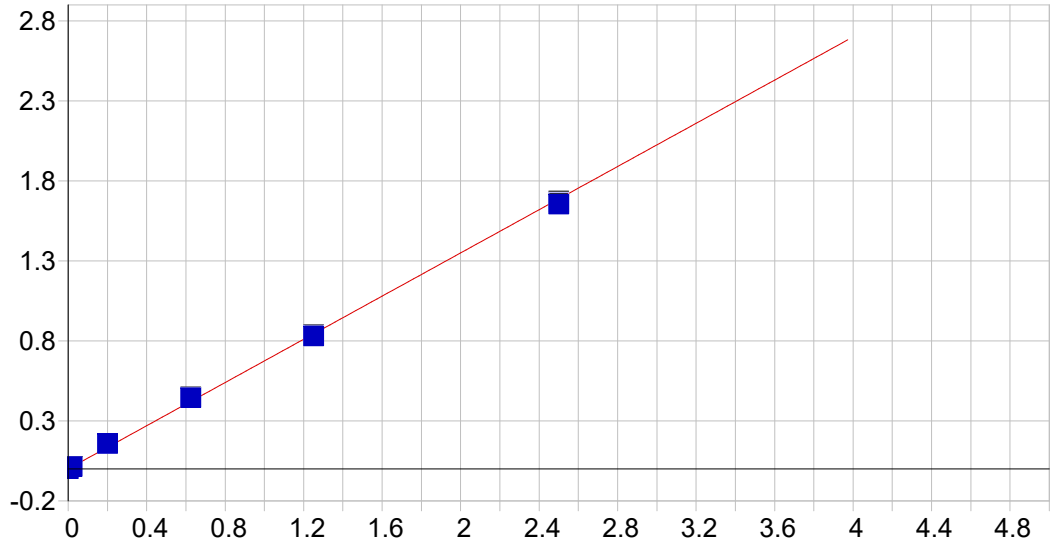


Co 228.616 {448}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000031	Re-Slope:	1.000000
A1 (Gain):	0.923011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999611	Status:	OK.
Std Error of Est:	0.000524		
Predicted MDL:	0.000248		
Predicted MQL:	0.000826		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00003	.000	1
S1	.03000	.02992	-.000	-.276	.02753	.000	1
S3	1.2500	1.2520	.002	.157	1.1576	.002	1
S4	2.5000	2.4514	-.049	-1.94	2.2666	.006	1
S5	5.0000	4.9969	-.003	-.063	4.6200	.022	1
S2	.40000	.44986	.050	12.5	.41588	.000	1

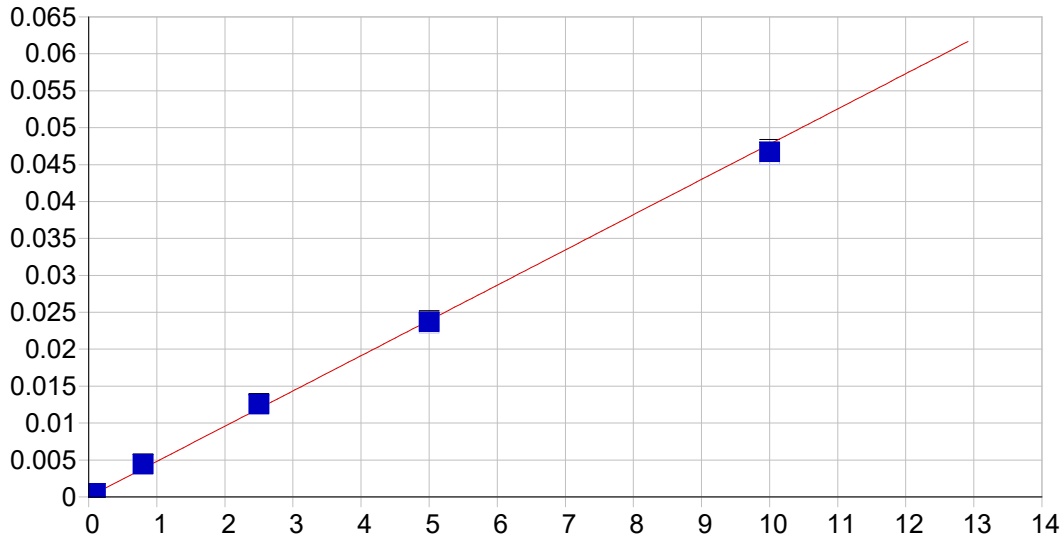


Cu 224.700 {450}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000354	Re-Slope:	1.000000
A1 (Gain):	0.675304	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999008	Status:	OK.
Std Error of Est:	0.000356		
Predicted MDL:	0.000430		
Predicted MQL:	0.001432		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00036	.000	1
S1	.02000	.02229	.002	11.4	.01483	.000	1
S3	.62500	.65943	.034	5.51	.44796	.001	1
S4	1.2500	1.2306	-.019	-1.55	.83667	.002	1
S5	2.5000	2.4488	-.051	-2.05	1.6653	.008	1
S2	.20000	.23391	.034	17.0	.15856	.000	1

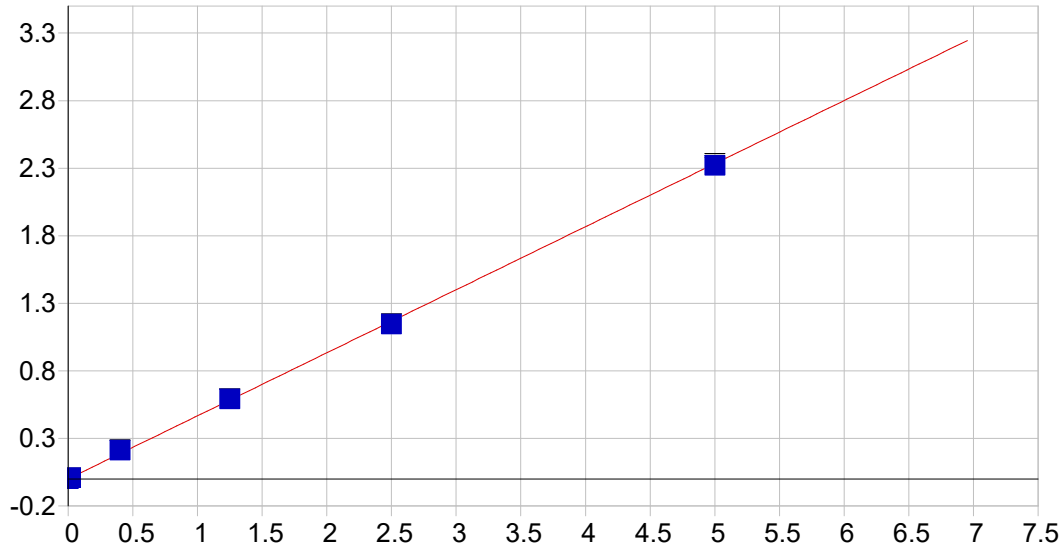


Fe 240.488 {140}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000029	Re-Slope:	1.000000
A1 (Gain):	0.004773	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999151	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.005053		
Predicted MQL:	0.016842		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.00003	.000	1
S1	.10000	.10505	.005	5.05	.00052	.000	1
S3	2.5000	2.6279	.128	5.12	.01247	.000	1
S4	5.0000	4.9603	-.040	-.793	.02350	.000	1
S5	10.000	9.7836	-.216	-2.16	.04632	.000	1
S2	.80000	.92309	.123	15.4	.00440	.000	1

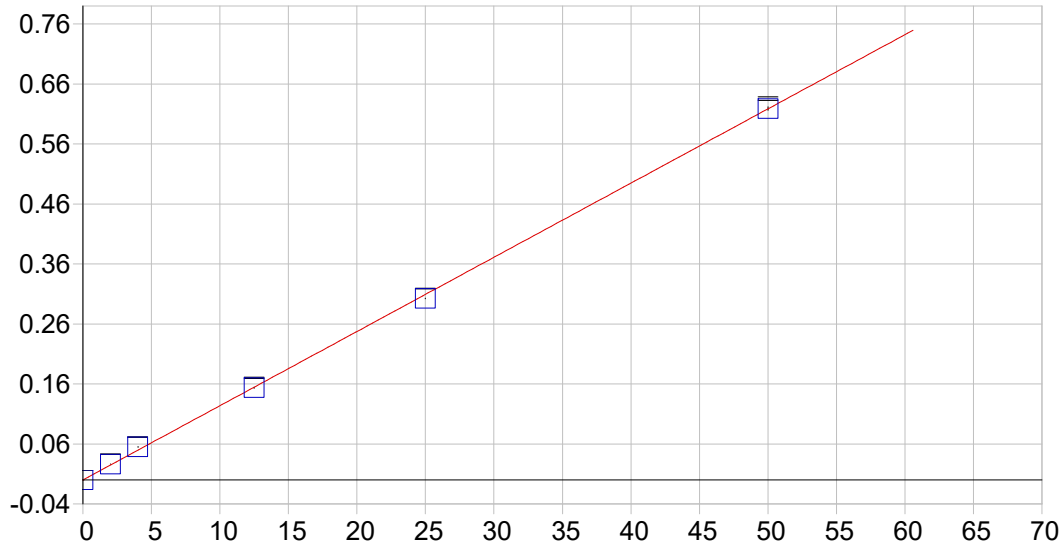


Mn 257.610 {131}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000093	Re-Slope:	1.000000
A1 (Gain):	0.466686	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999487	Status:	OK.
Std Error of Est:	0.000248		
Predicted MDL:	0.000390		
Predicted MQL:	0.001301		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00009	.000	1
S1	.02000	.02017	.000	.874	.00951	.000	1
S3	1.2500	1.2685	.019	1.48	.59221	.001	1
S4	2.5000	2.4526	-.047	-1.90	1.1449	.003	1
S5	5.0000	4.9718	-.028	-.563	2.3209	.014	1
S2	.40000	.45684	.057	14.2	.21333	.001	1

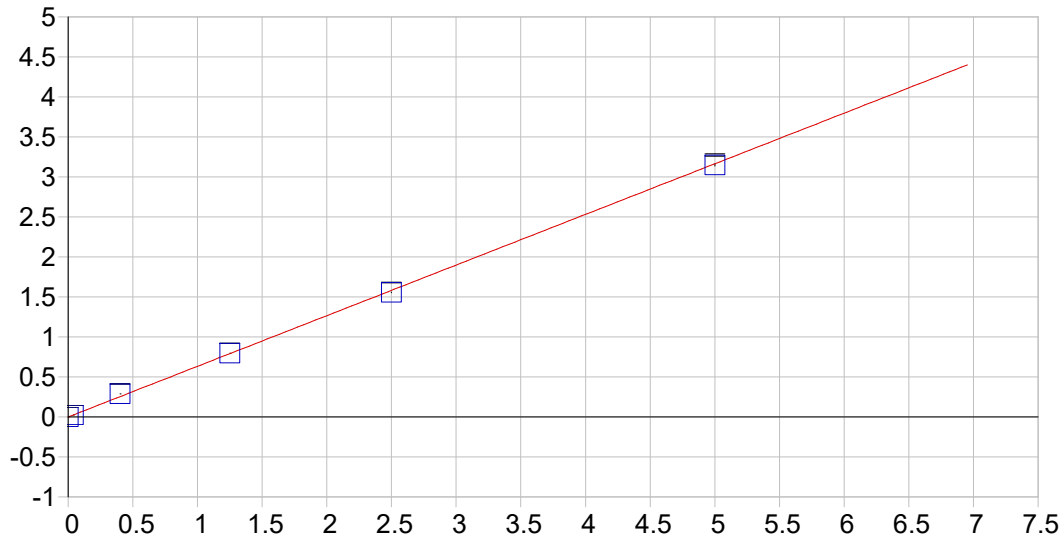


Mg 279.079 {121}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000046	Re-Slope:	1.000000
A1 (Gain):	0.012371	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999618	Status:	OK.
Std Error of Est:	0.000181		
Predicted MDL:	0.016621		
Predicted MQL:	0.055402		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00030	-.000	.000	-.00005	.000	1
S2	4.0000	4.4506	.451	11.3	.05501	.000	1
S3	12.500	12.424	-.076	-.609	.15365	.001	1
S4	25.000	24.457	-.543	-2.17	.30250	.001	1
S5	50.000	50.039	.039	.079	.61898	.003	1
S1	2.0000	2.1293	.129	6.47	.02629	.000	1

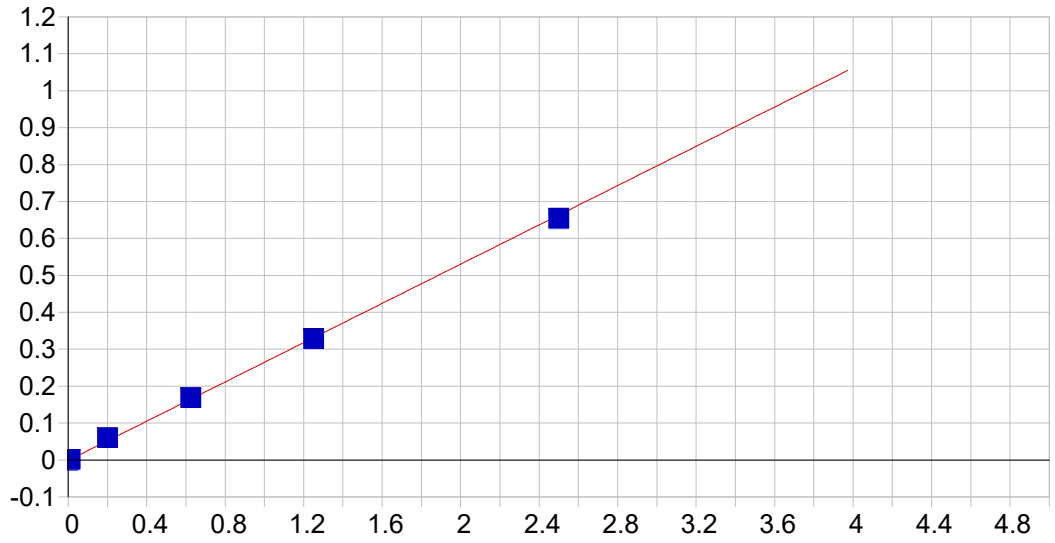


Ni 231.604 {446}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000206	Re-Slope:	1.000000
A1 (Gain):	0.632849	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999551	Status:	OK.
Std Error of Est:	0.000445		
Predicted MDL:	0.000339		
Predicted MQL:	0.001130		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00021	.000	1
S1	.04000	.04040	.000	1.01	.02536	.000	1
S3	1.2500	1.2599	.010	.791	.79711	.001	1
S4	2.5000	2.4591	-.041	-1.64	1.5560	.003	1
S5	5.0000	4.9762	-.024	-.475	3.1490	.014	1
S2	.40000	.45441	.054	13.6	.28736	.001	1

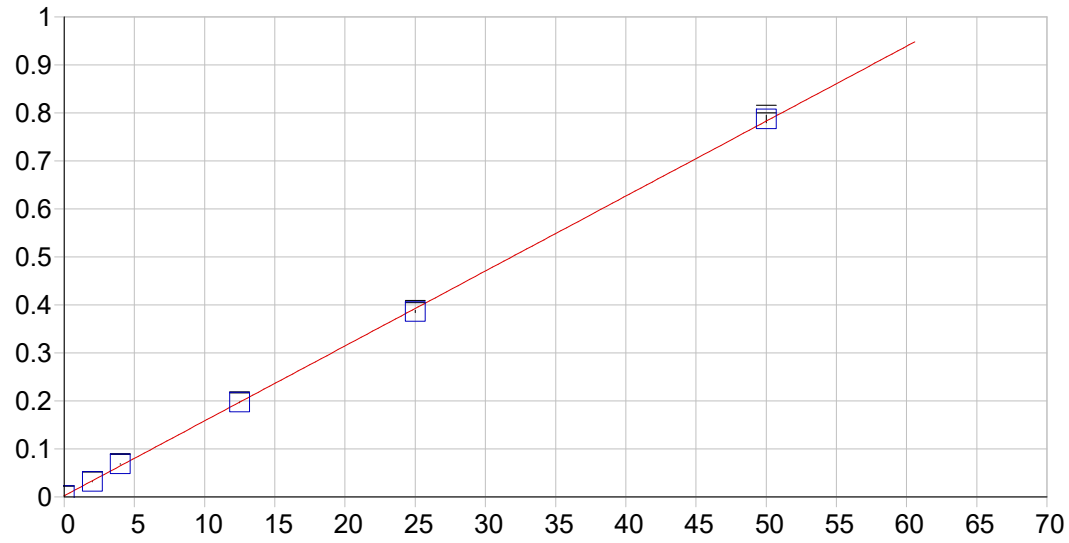


Ag 328.068 {103}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001385	Re-Slope:	1.000000
A1 (Gain):	0.265894	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999329	Status:	OK.
Std Error of Est:	0.000080		
Predicted MDL:	0.000386		
Predicted MQL:	0.001288		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00139	.000	1
S1	.01000	.01016	.000	1.60	.00130	.000	1
S3	.62500	.63836	.013	2.14	.16769	.000	1
S4	1.2500	1.2384	-.012	-.930	.32657	.000	1
S5	2.5000	2.4657	-.034	-1.37	.65160	.000	1
S2	.20000	.23238	.032	16.2	.06019	.000	1

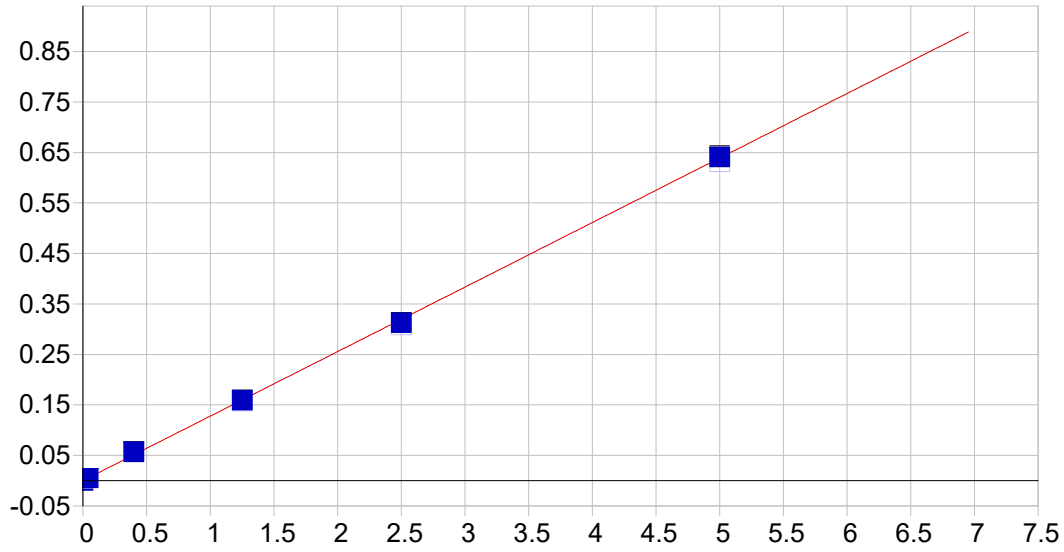


Na 589.592 { 57}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002358	Re-Slope:	1.000000
A1 (Gain):	0.015608	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999832	Status:	OK.
Std Error of Est:	0.000151		
Predicted MDL:	0.021584		
Predicted MQL:	0.071947		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00236	.000	1
S2	4.0000	4.2601	.260	6.50	.06885	.001	1
S3	12.500	12.478	-.022	-.179	.19711	.001	1
S4	25.000	24.589	-.411	-1.65	.38614	.002	1
S5	50.000	50.284	.284	.568	.78719	.008	1
S1	2.0000	1.8898	-.110	-5.51	.03185	.000	1

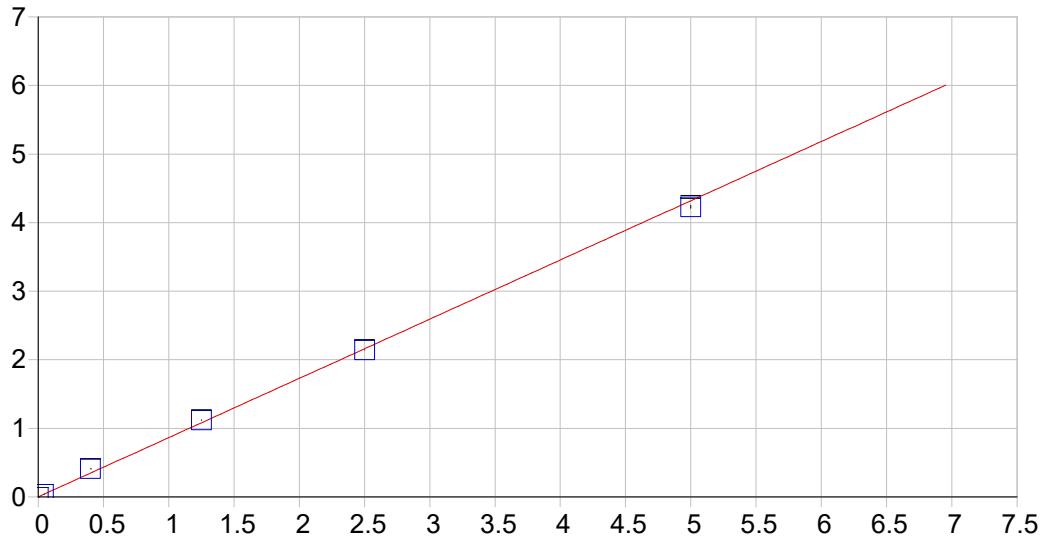


V 292.402 {115}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000077	Re-Slope:	1.000000
A1 (Gain):	0.127789	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999655	Status:	OK.
Std Error of Est:	0.000078		
Predicted MDL:	0.001766		
Predicted MQL:	0.005887		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00008	.000	1
S1	.04000	.03816	-.002	-4.59	.00476	.000	1
S3	1.2500	1.2459	-.004	-.331	.15696	.001	1
S4	2.5000	2.4467	-.053	-2.13	.30808	.001	1
S5	5.0000	5.0151	.015	.302	.63163	.002	1
S2	.40000	.44416	.044	11.0	.05609	.000	1

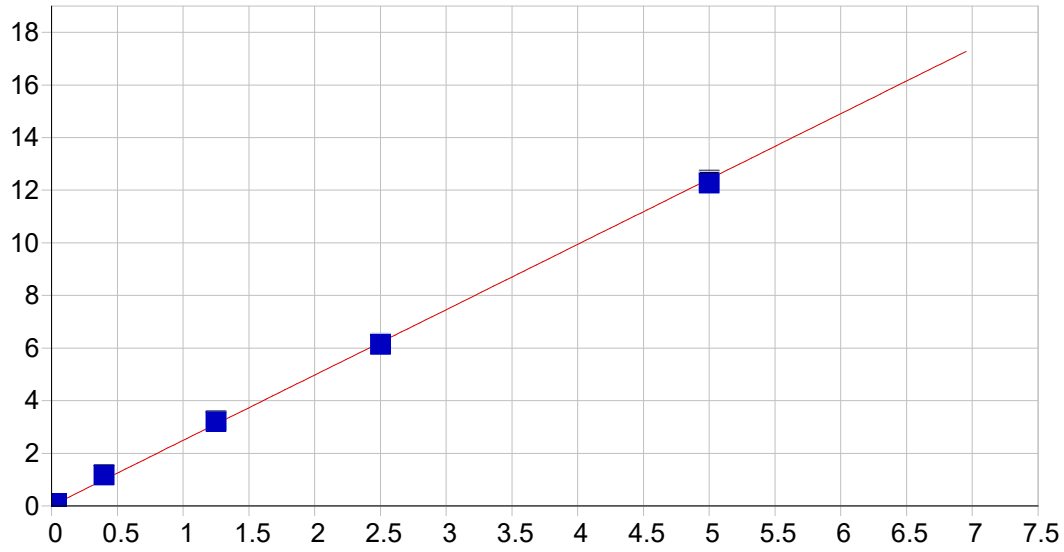


Zn 206.200 {464}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001376	Re-Slope:	1.000000
A1 (Gain):	0.863576	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999024	Status:	OK.
Std Error of Est:	0.000896		
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	.00137	.000	1
S1	.04000	.04258	.003	6.44	.03814	.000	1
S3	1.2500	1.2953	.045	3.62	1.1199	.003	1
S4	2.5000	2.4811	-.019	-.755	2.1440	.003	1
S5	5.0000	4.8966	-.103	-2.07	4.2299	.023	1
S2	.40000	.47449	.074	18.6	.41114	.001	1

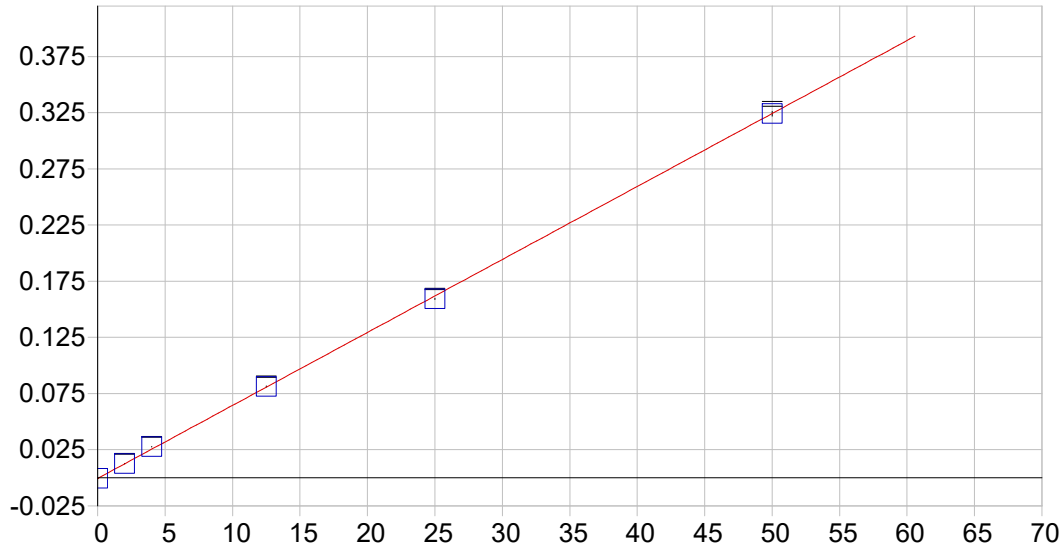


Zn 213.856 {158}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005754	Re-Slope:	1.000000
A1 (Gain):	2.483979	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999297	Status:	OK.
Std Error of Est:	0.002202		
Predicted MDL:	0.000328		
Predicted MQL:	0.001094		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00573	.000	1
S1	.04000	.04132	.001	3.29	.10908	.001	1
S3	1.2500	1.2843	.034	2.74	3.2174	.017	1
S4	2.5000	2.4674	-.033	-1.30	6.1780	.006	1
S5	5.0000	4.9314	-.069	-1.37	12.342	.046	1
S2	.40000	.46561	.066	16.4	1.1692	.008	1

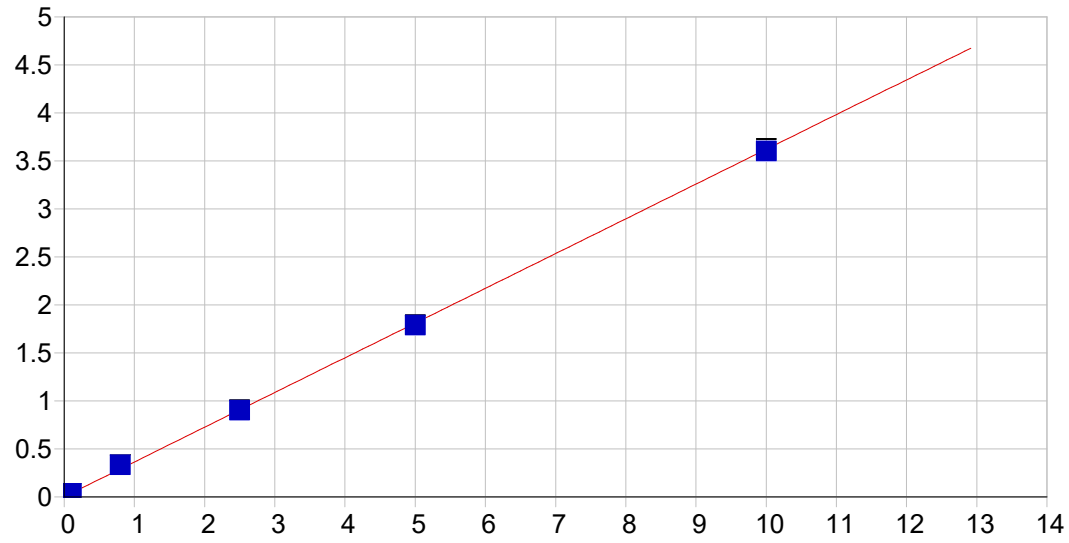


K 766.490 { 44}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000524	Re-Slope:	1.000000
A1 (Gain):	0.006498	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999811	Status:	OK.
Std Error of Est:	0.000067		
Predicted MDL:	0.034197		
Predicted MQL:	0.113990		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00017	-.000	.000	-.00052	.000	1
S2	4.0000	4.3325	.332	8.31	.02763	.000	1
S3	12.500	12.585	.085	.683	.08125	.001	1
S4	25.000	24.584	-.416	-1.66	.15921	.001	1
S5	50.000	49.978	-.022	-.045	.32421	.002	1
S1	2.0000	2.0203	.020	1.02	.01260	.000	1

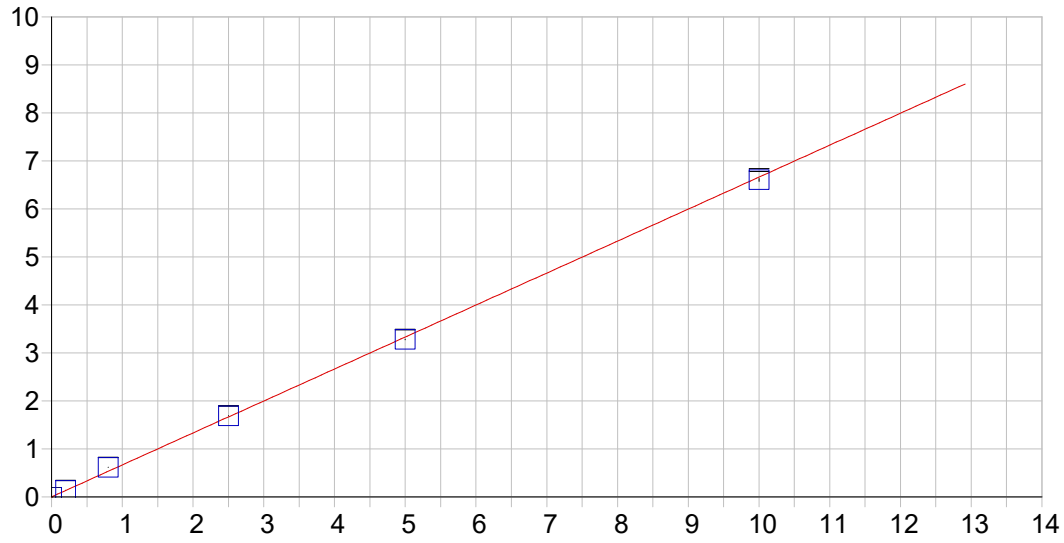


B 249.678 {135}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001910	Re-Slope:	1.000000
A1 (Gain):	0.361826	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999487	Status:	OK.
Std Error of Est:	0.000607		
Predicted MDL:	0.000760		
Predicted MQL:	0.002532		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00190	.000	1
S1	.10000	.10173	.002	1.73	.03853	.000	1
S3	2.5000	2.4881	-.012	-.478	.89948	.003	1
S4	5.0000	4.9397	-.060	-1.21	1.7839	.003	1
S5	10.000	9.9515	-.049	-.485	3.5919	.028	1
S2	.80000	.91907	.119	14.9	.33360	.002	1

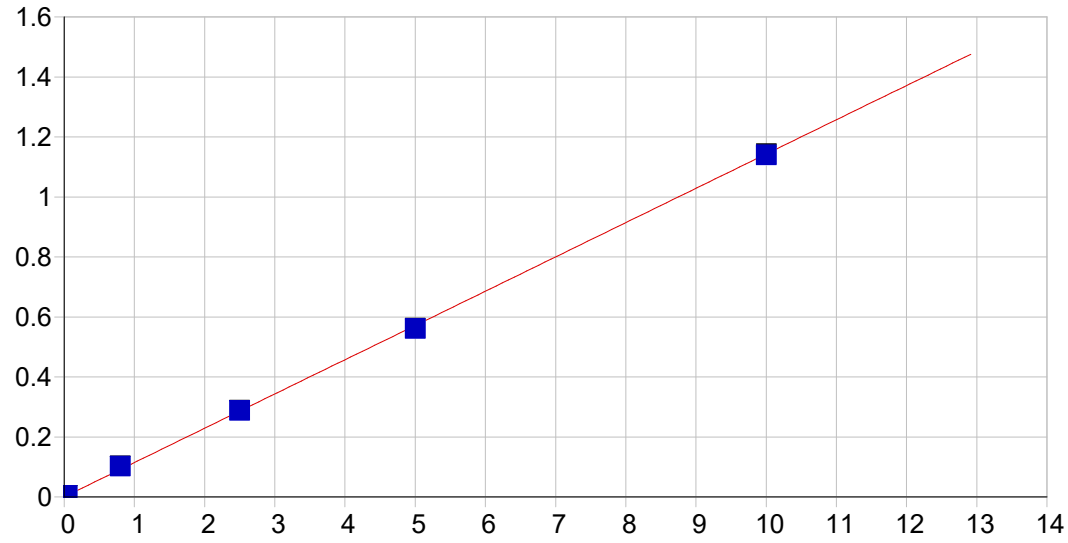


Mo 202.030 {467}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000213	Re-Slope:	1.000000
A1 (Gain):	0.666153	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999405	Status:	OK.
Std Error of Est:	0.001712		
Predicted MDL:	0.000275		
Predicted MQL:	0.000917		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	.00019	.000	1
S1	.20000	.20475	.005	2.37	.13661	.001	1
S3	2.5000	2.5335	.034	1.34	1.6879	.004	1
S4	5.0000	4.9218	-.078	-1.56	3.2789	.008	1
S5	10.000	9.9150	-.085	-.850	6.6051	.031	1
S2	.80000	.92498	.125	15.6	.61639	.001	1

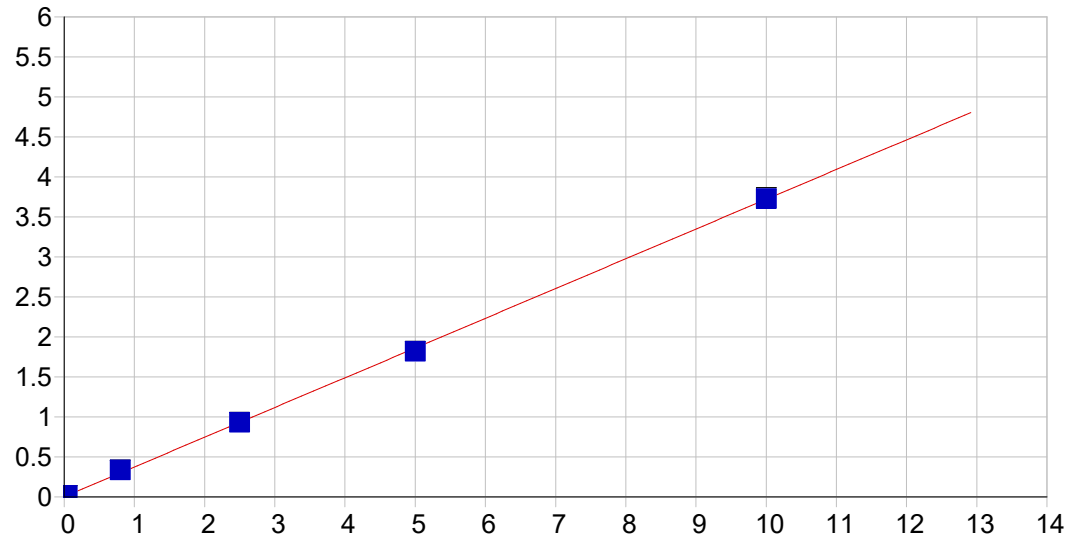


Sn 189.989 {478}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000189	Re-Slope:	1.000000
A1 (Gain):	0.114260	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999629	Status:	OK.
Std Error of Est:	0.000103		
Predicted MDL:	0.000859		
Predicted MQL:	0.002862		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00019	.000	1
S1	.04000	.03992	-.000	-.210	.00475	.000	1
S3	2.5000	2.5186	.019	.744	.28767	.001	1
S4	5.0000	4.9104	-.090	-1.79	.56067	.001	1
S5	10.000	9.9740	-.026	-.260	1.1387	.004	1
S2	.80000	.89702	.097	12.1	.10259	.000	1

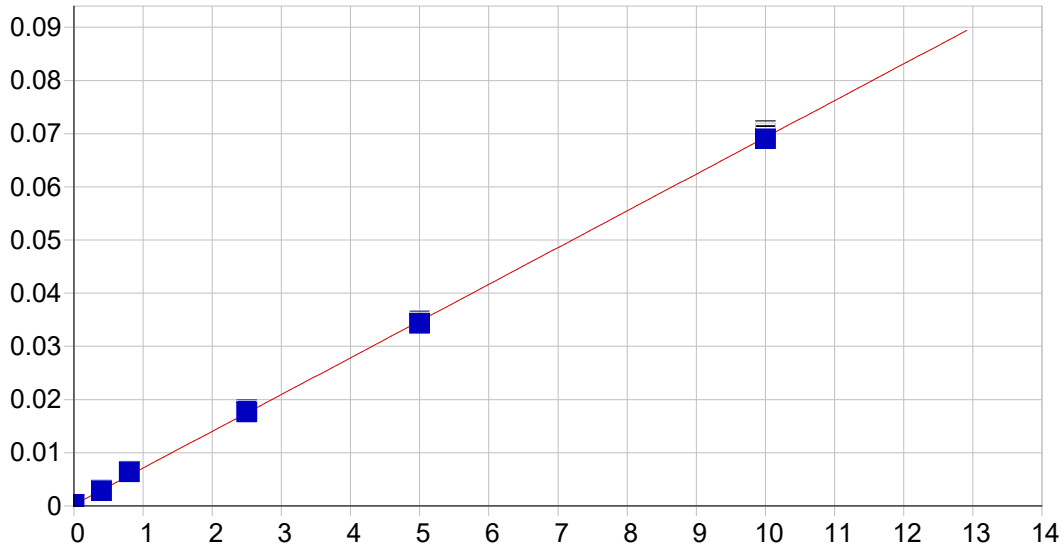


Ti 336.121 {100}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002132	Re-Slope:	1.000000
A1 (Gain):	0.371788	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999626	Status:	OK.
Std Error of Est:	0.000337		
Predicted MDL:	0.000829		
Predicted MQL:	0.002765		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00213	.000	1
S1	.04000	.03932	-.001	-1.70	.01674	.000	1
S3	2.5000	2.5002	.000	.007	.93133	.002	1
S4	5.0000	4.8846	-.115	-2.31	1.8175	.002	1
S5	10.000	10.022	.022	.222	3.7269	.014	1
S2	.80000	.89373	.094	11.7	.33430	.001	1

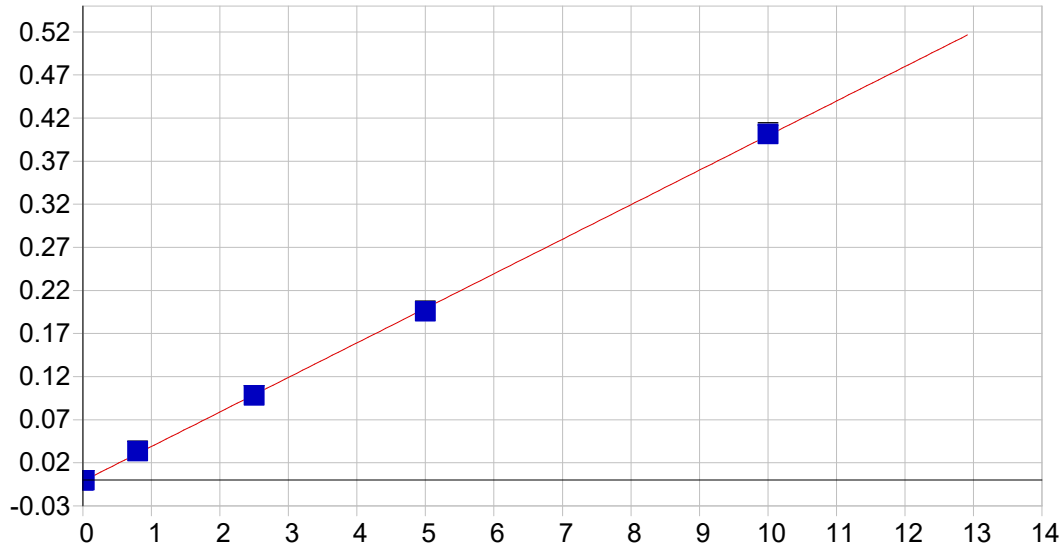


Si 288.158 {117}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000212	Re-Slope:	1.000000
A1 (Gain):	0.006909	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999664	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.007194		
Predicted MQL:	0.023981		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	.00021	.000	1
S1	.40000	.38241	-.018	-4.40	.00286	.000	1
S3	2.5000	2.5256	.026	1.02	.01792	.000	1
S4	5.0000	4.9346	-.065	-1.31	.03483	.000	1
S5	10.000	9.9638	-.036	-.362	.07009	.000	1
S2	.80000	.89337	.093	11.7	.00647	.000	1

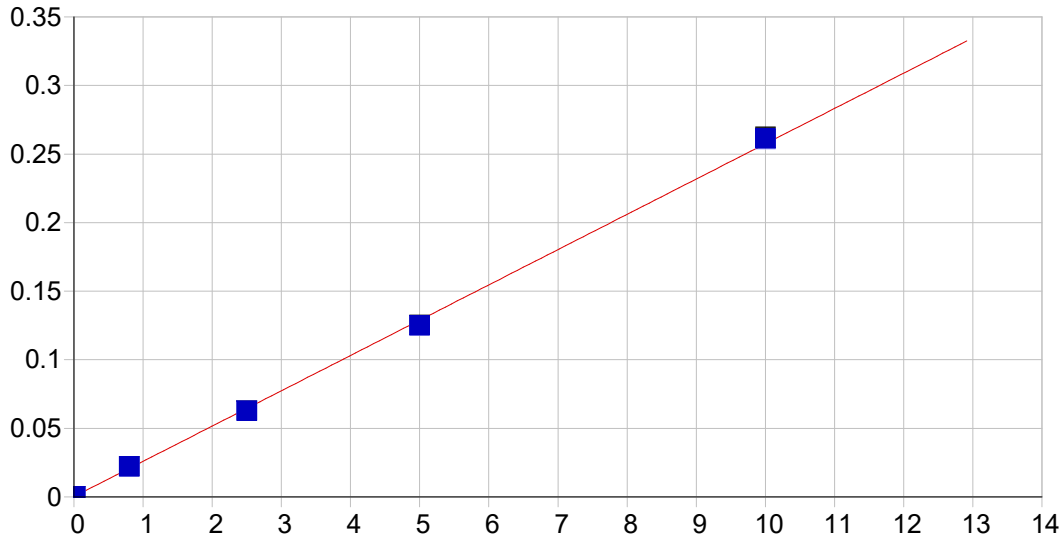


P 177.495 {490}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001180	Re-Slope:	1.000000
A1 (Gain):	0.040086	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999807	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.002613		
Predicted MQL:	0.008710		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00118	.000	1
S1	.02000	.01962	-.000	-1.91	-.00039	.000	1
S3	2.5000	2.4741	-.026	-1.04	.09798	.000	1
S4	5.0000	4.9150	-.085	-1.70	.19581	.000	1
S5	10.000	10.047	.047	.474	.40152	.001	1
S2	.80000	.86393	.064	7.99	.03345	.000	1

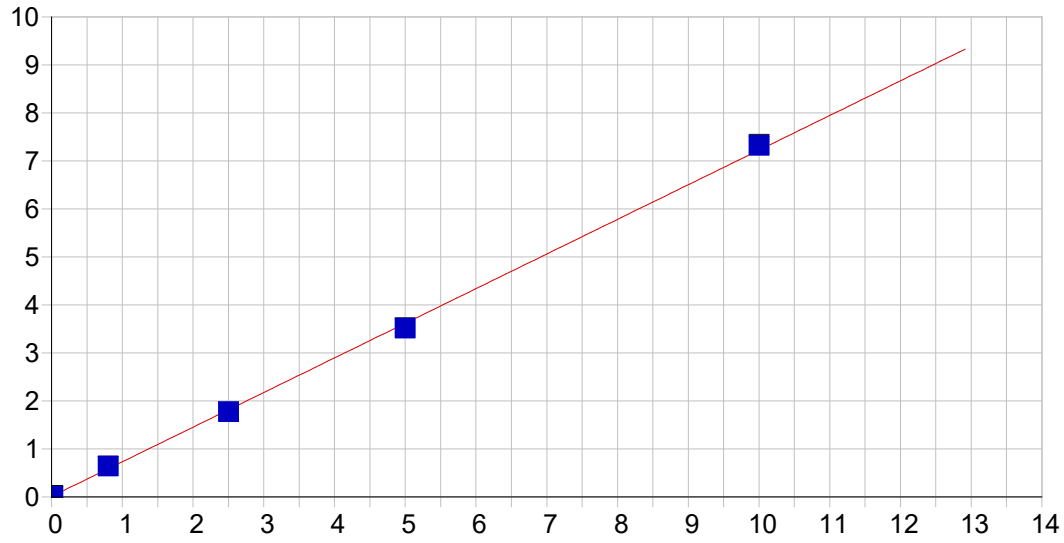


S 182.034 {485}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000206	Re-Slope:	1.000000
A1 (Gain):	0.025730	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999671	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.003539		
Predicted MQL:	0.011795		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00021	.000	1
S1	.02000	.02160	.002	7.99	.00074	.000	1
S3	2.5000	2.4355	-.064	-2.58	.06270	.000	1
S4	5.0000	4.8562	-.144	-2.88	.12482	.000	1
S5	10.000	10.152	.152	1.52	.26074	.001	1
S2	.80000	.85502	.055	6.88	.02215	.000	1

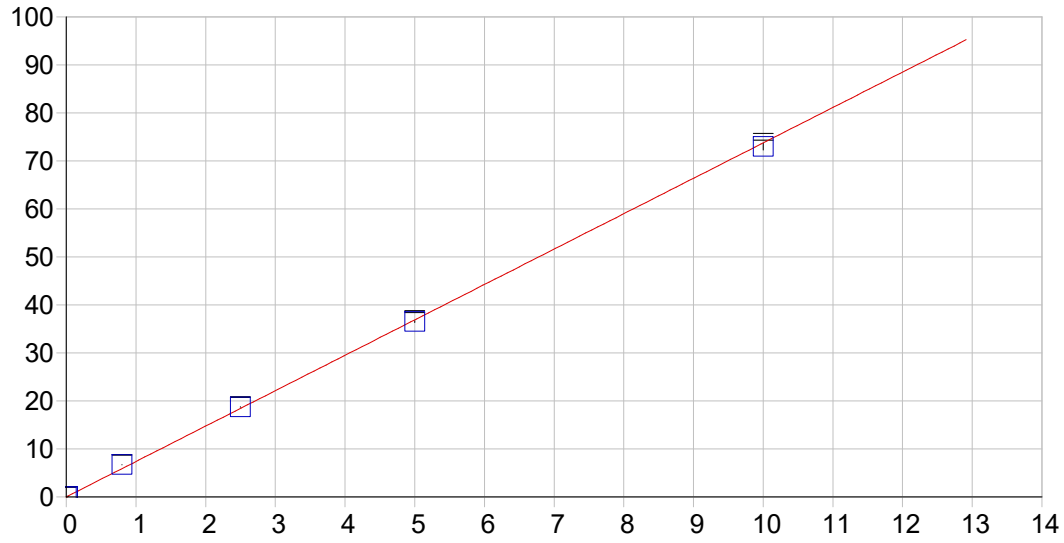


Li 670.784 { 50}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.009923	Re-Slope:	1.000000
A1 (Gain):	0.721515	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999624	Status:	OK.
Std Error of Est:	0.000464		
Predicted MDL:	0.001332		
Predicted MQL:	0.004442		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00992	.000	1
S5	10.000	10.135	.135	1.35	7.3258	.019	1
S4	5.0000	4.8573	-.143	-2.85	3.5163	.005	1
S3	2.5000	2.4409	-.059	-2.36	1.7720	.003	1
S1	.02000	.01719	-.003	-14.0	.02256	.001	1
S2	.80000	.86995	.070	8.74	.63789	.004	1

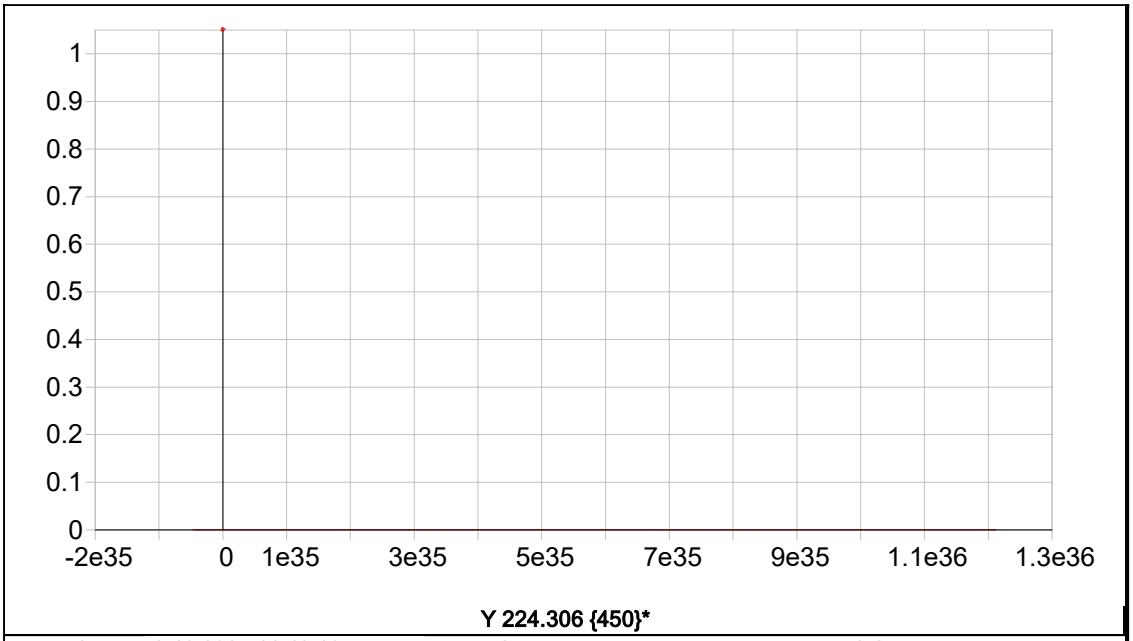


Sr 407.771 { 83}

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000476	Re-Slope:	1.000000
A1 (Gain):	7.375086	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999527	Status:	OK.
Std Error of Est:	0.005314		
Predicted MDL:	0.000084		
Predicted MQL:	0.000281		

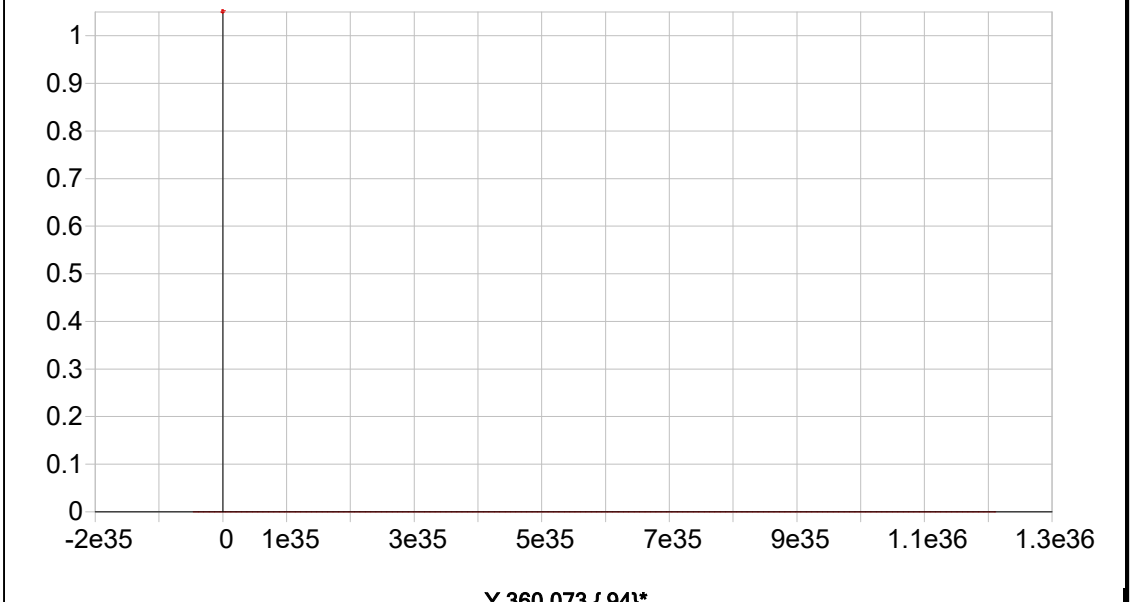
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00046	.000	1
S1	.02000	.01966	-.000	-1.71	.14545	.001	1
S3	2.5000	2.5411	.041	1.65	18.742	.053	1
S4	5.0000	4.9543	-.046	-.914	36.539	.200	1
S5	10.000	9.8949	-.105	-1.05	72.976	.699	1
S2	.80000	.90999	.110	13.7	6.7117	.038	1



Y 224.306 {450}*

Date of Fit:	3/10/2025 11:48:10	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

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



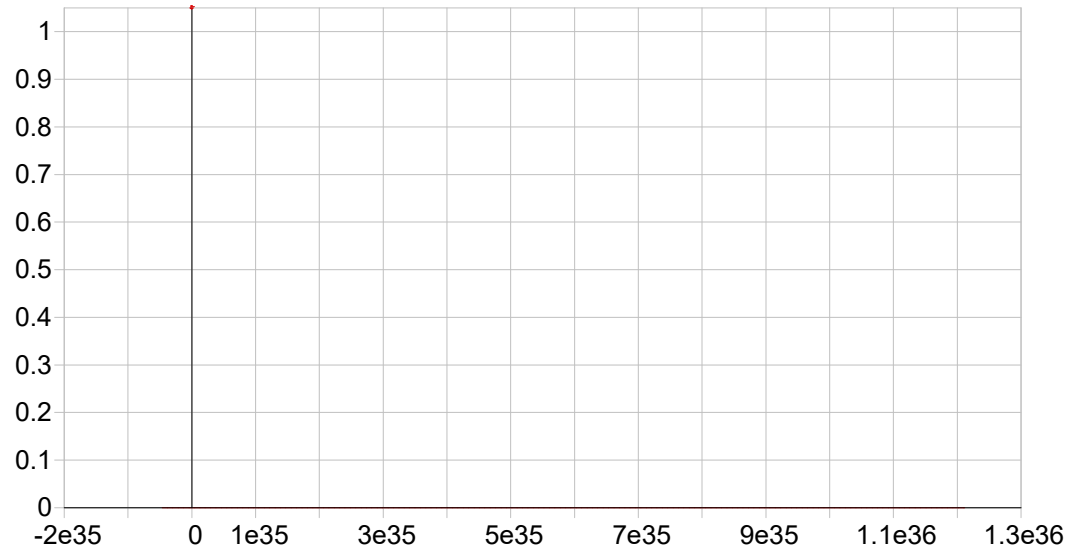
Y 360.073 { 94}*

Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

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

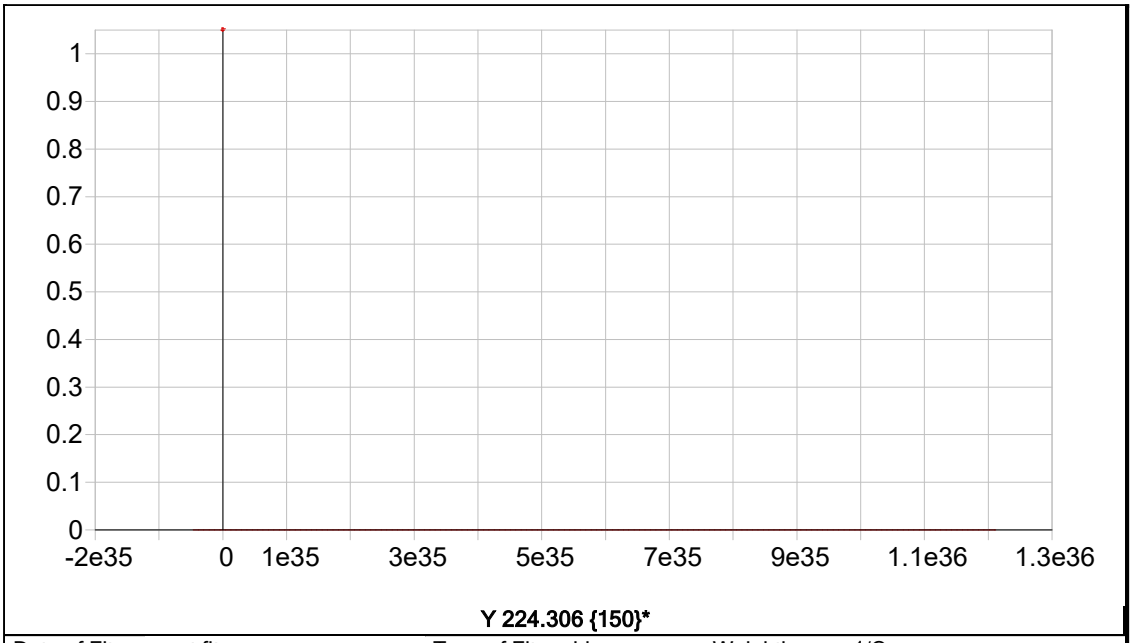


Y 371.030 { 91}*

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		

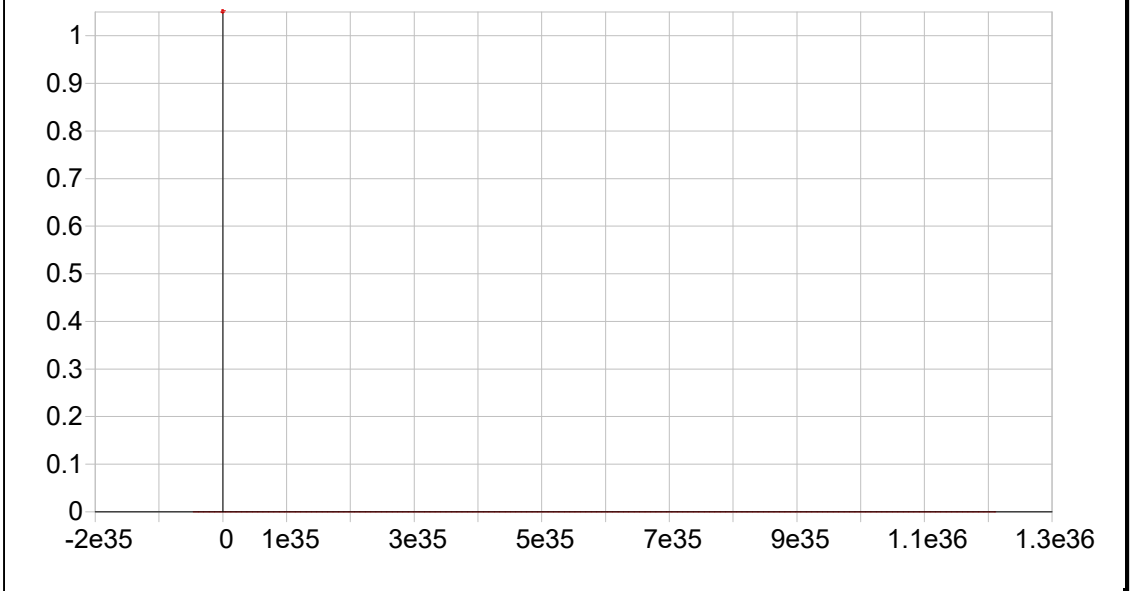
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

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:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S0 Acquired: 3/10/2025 11:17:34 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	-.00005	-.00013	-.00022	.00021	.00027	.00023	.05131	.00009
Stddev	.00004	.00008	.00009	.00003	.00022	.00026	.00233	.00011
%RSD	69.181	59.326	42.544	14.593	79.501	112.24	4.5385	113.79
#1	-.00002	-.00019	-.00026	.00021	.00013	-.00003	.05379	.00014
#2	-.00005	-.00004	-.00028	.00018	.00052	.00023	.04917	.00017
#3	-.00009	-.00015	-.00011	.00024	.00017	.00048	.05098	-.00003

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	-.00016	.00092	.00003	.00003	-.00036	.00003	.00009	-.00005
Stddev	.00008	.00038	.00007	.00009	.00023	.00001	.00012	.00020
%RSD	49.262	41.737	227.57	312.49	62.940	36.318	127.96	407.33
#1	-.00022	.00123	.00009	-.00007	-.00043	.00004	-.00004	-.00028
#2	-.00018	.00104	.00005	.00008	-.00054	.00003	.00017	.00002
#3	-.00007	.00049	-.00005	.00007	-.00011	.00002	.00015	.00011

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	-.00021	-.00139	.00236	.00008	.00573	-.00052	.00190	.00019
Stddev	.00012	.00008	.00008	.00009	.00043	.00011	.00025	.00012
%RSD	59.031	5.6616	3.4590	119.43	7.5263	20.296	13.337	61.812
#1	-.00020	-.00143	.00243	-.00001	.00621	-.00064	.00190	.00032
#2	-.00009	-.00144	.00227	.00017	.00562	-.00044	.00216	.00016
#3	-.00034	-.00130	.00237	.00008	.00537	-.00049	.00165	.00009

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	.00019	.00213	.00021	-.00118	.00021	.00992	.00046
Stddev	.00003	.00002	.00004	.00006	.00005	.00043	.00030
%RSD	14.222	.88620	18.031	5.3888	25.605	4.3471	64.520
#1	.00020	.00214	.00018	-.00112	.00019	.00943	.00013
#2	.00016	.00211	.00020	-.00125	.00026	.01017	.00055
#3	.00020	.00214	.00026	-.00117	.00016	.01017	.00070

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S0 Acquired: 3/10/2025 11:17:34 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	3264.2	69716.	12683.	2229.8	4572.7
Stddev	7.2	79.	37.	9.5	8.0
%RSD	.22062	.11362	.29131	.42822	.17560
#1	3268.6	69703.	12720.	2231.2	4571.8
#2	3268.2	69800.	12646.	2238.6	4581.2
#3	3255.9	69643.	12684.	2219.6	4565.2

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S1 Acquired: 3/10/2025 11:22:00 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	.00073	.00261	.00218	.00134	.00699	.01153	.25493	.02522
Stddev	.00002	.00007	.00026	.00009	.00009	.00025	.00123	.00019
%RSD	2.1334	2.5293	11.979	6.9466	1.3152	2.1260	.48307	.73727
#1	.00072	.00267	.00204	.00127	.00710	.01127	.25379	.02533
#2	.00073	.00254	.00248	.00130	.00692	.01157	.25623	.02501
#3	.00075	.00264	.00202	.00145	.00696	.01175	.25476	.02533

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	.01540	.11193	.00159	.02753	.01483	.00052	.00951	.02629
Stddev	.00019	.00043	.00010	.00009	.00023	.00001	.00010	.00018
%RSD	1.2259	.38080	6.3023	.34003	1.5347	1.1075	1.0178	.69005
#1	.01523	.11145	.00148	.02746	.01500	.00053	.00942	.02618
#2	.01560	.11205	.00161	.02749	.01457	.00053	.00961	.02650
#3	.01535	.11228	.00168	.02763	.01491	.00052	.00951	.02620

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	.02536	.00130	.03185	.00476	.10908	.01260	.03853	.13661
Stddev	.00015	.00003	.00042	.00018	.00051	.00019	.00007	.00056
%RSD	.58633	2.3659	1.3174	3.7330	.46415	1.5159	.18602	.41289
#1	.02536	.00132	.03139	.00497	.10953	.01240	.03859	.13677
#2	.02522	.00126	.03198	.00465	.10853	.01278	.03845	.13598
#3	.02551	.00132	.03220	.00467	.10917	.01263	.03854	.13707

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	.00475	.01674	.00286	-.00039	.00074	.02256	.14545
Stddev	.00006	.00040	.00006	.00005	.00005	.00103	.00084
%RSD	1.1894	2.3786	2.1161	11.589	7.1076	4.5686	.58001
#1	.00481	.01700	.00290	-.00034	.00071	.02370	.14469
#2	.00472	.01694	.00279	-.00043	.00080	.02230	.14530
#3	.00471	.01628	.00288	-.00040	.00071	.02168	.14636

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S1 Acquired: 3/10/2025 11:22:00 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	3220.2	70147.	12870.	2190.3	4459.1
Stddev	8.6	78.	57.	8.1	7.6
%RSD	.26559	.11117	.44483	.36759	.17072
#1	3220.3	70129.	12831.	2195.2	4455.9
#2	3228.7	70079.	12843.	2181.0	4467.8
#3	3211.6	70232.	12936.	2194.6	4453.7

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S2 Acquired: 3/10/2025 11:26:20 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	.03387	.06371	.18985	.04877	.11432	.18329	3.7705	.19943
Stddev	.00011	.00051	.00062	.00017	.00009	.00092	.0215	.00188
%RSD	.31069	.80000	.32593	.34071	.07526	.49965	.56920	.94272
#1	.03377	.06318	.18942	.04859	.11422	.18420	3.7950	.20031
#2	.03398	.06420	.18958	.04884	.11436	.18237	3.7611	.19727
#3	.03385	.06377	.19056	.04890	.11438	.18331	3.7553	.20071

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	1.1435	.24932	.02764	.41588	.15856	.00440	.21333	.05501
Stddev	.0004	.00109	.00017	.00036	.00017	.00003	.00070	.00009
%RSD	.03640	.43909	.61797	.08556	.10840	.62418	.32595	.16360
#1	1.1433	.25058	.02744	.41580	.15836	.00443	.21413	.05501
#2	1.1432	.24872	.02772	.41557	.15867	.00440	.21290	.05510
#3	1.1440	.24865	.02776	.41627	.15865	.00438	.21296	.05492

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	.28736	.06019	.06885	.05609	1.1692	.02763	.33360	.61639
Stddev	.00060	.00015	.00065	.00030	.0084	.00023	.00155	.00088
%RSD	.20909	.24948	.93769	.52822	.71932	.83752	.46476	.14323
#1	.28680	.06002	.06947	.05610	1.1597	.02745	.33441	.61538
#2	.28730	.06028	.06890	.05638	1.1755	.02789	.33181	.61701
#3	.28800	.06028	.06818	.05579	1.1726	.02754	.33457	.61679

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	.10259	.33430	.00647	.03345	.02215	.63789	6.7117
Stddev	.00016	.00128	.00003	.00011	.00003	.00442	.0378
%RSD	.15848	.38257	.39640	.34144	.13671	.69262	.56269
#1	.10274	.33569	.00649	.03339	.02217	.64296	6.7553
#2	.10261	.33318	.00644	.03337	.02212	.63483	6.6908
#3	.10242	.33404	.00647	.03358	.02217	.63589	6.6890

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S2 Acquired: 3/10/2025 11:26:20 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	3237.6	68988.	12468.	2180.4	4426.7
Stddev	5.9	349.	23.	15.9	6.5
%RSD	.18350	.50643	.18652	.72941	.14713
#1	3244.4	69123.	12441.	2195.3	4431.8
#2	3234.1	68591.	12482.	2163.7	4429.0
#3	3234.2	69249.	12480.	2182.2	4419.4

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S3 Acquired: 3/10/2025 11:30:26 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	.09409	.17648	.52863	.13471	.31548	.50509	10.656	.54064
Stddev	.00007	.00308	.00074	.00075	.00070	.00242	.008	.00078
%RSD	.07051	1.7447	.14017	.55639	.22139	.47946	.07302	.14486
#1	.09417	.17345	.52905	.13438	.31572	.50433	10.648	.54028
#2	.09406	.17637	.52777	.13418	.31469	.50780	10.663	.54011
#3	.09405	.17961	.52906	.13557	.31602	.50315	10.659	.54154

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	3.1891	.69093	.07583	1.1576	.44796	.01247	.59221	.15365
Stddev	.0055	.00149	.00019	.0016	.00142	.00009	.00073	.00105
%RSD	.17306	.21605	.25373	.13521	.31630	.68841	.12400	.68115
#1	3.1945	.69059	.07604	1.1583	.44816	.01257	.59209	.15353
#2	3.1835	.69256	.07567	1.1558	.44645	.01244	.59155	.15475
#3	3.1894	.68963	.07577	1.1587	.44926	.01240	.59300	.15266

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	.79711	.16769	.19711	.15696	3.2174	.08125	.89948	1.6879
Stddev	.00052	.00044	.00113	.00065	.0167	.00064	.00290	.0044
%RSD	.06584	.26122	.57575	.41466	.51808	.78605	.32263	.26035
#1	.79738	.16820	.19823	.15642	3.2359	.08179	.89712	1.6861
#2	.79650	.16746	.19596	.15768	3.2129	.08142	.89861	1.6847
#3	.79744	.16742	.19714	.15677	3.2035	.08054	.90272	1.6929

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	.28767	.93133	.01792	.09798	.06270	1.7720	18.742
Stddev	.00085	.00156	.00012	.00024	.00016	.0027	.053
%RSD	.29708	.16752	.66767	.24858	.24961	.15202	.28429
#1	.28767	.93159	.01803	.09798	.06273	1.7705	18.695
#2	.28682	.93274	.01795	.09773	.06254	1.7751	18.730
#3	.28853	.92965	.01779	.09822	.06285	1.7704	18.800

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S3 Acquired: 3/10/2025 11:30:26 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	3179.0	67692.	12610.	2145.8	4250.3
Stddev	3.8	264.	34.	10.8	3.4
%RSD	.11928	.39035	.26936	.50167	.08100
#1	3176.6	67531.	12645.	2137.3	4246.4
#2	3183.4	67549.	12577.	2142.2	4253.0
#3	3177.2	67997.	12606.	2157.9	4251.5

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S4 Acquired: 3/10/2025 11:34:34 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	.18370	.34440	1.0270	.26116	.61444	.99680	20.295	1.0674
Stddev	.00021	.00268	.0015	.00071	.00124	.00066	.031	.0037
%RSD	.11316	.77813	.14191	.27374	.20152	.06622	.15312	.34602
#1	.18390	.34530	1.0255	.26067	.61355	.99675	20.279	1.0632
#2	.18348	.34139	1.0271	.26083	.61391	.99617	20.330	1.0689
#3	.18372	.34652	1.0284	.26198	.61585	.99749	20.274	1.0702

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	6.2624	1.3441	.14520	2.2666	.83667	.02350	1.1449	.30250
Stddev	.0138	.0005	.00042	.0060	.00174	.00016	.0033	.00056
%RSD	.21997	.03816	.29083	.26313	.20754	.67071	.28474	.18376
#1	6.2522	1.3442	.14546	2.2611	.83569	.02365	1.1474	.30206
#2	6.2569	1.3435	.14542	2.2658	.83565	.02334	1.1412	.30313
#3	6.2780	1.3445	.14471	2.2729	.83868	.02352	1.1462	.30231

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	1.5560	.32657	.38614	.30808	6.1780	.15921	1.7839	3.2789
Stddev	.0033	.00013	.00222	.00059	.0058	.00056	.0027	.0084
%RSD	.21459	.04038	.57551	.19051	.09395	.35255	.15025	.25601
#1	1.5529	.32660	.38844	.30838	6.1847	.15968	1.7808	3.2737
#2	1.5557	.32643	.38400	.30844	6.1745	.15859	1.7860	3.2744
#3	1.5595	.32669	.38597	.30740	6.1747	.15937	1.7848	3.2886

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	.56067	1.8175	.03483	.19581	.12482	3.5163	36.539
Stddev	.00102	.0024	.00004	.00027	.00024	.0047	.200
%RSD	.18165	.13278	.10436	.13669	.18965	.13323	.54750
#1	.56008	1.8200	.03484	.19612	.12466	3.5170	36.349
#2	.56009	1.8152	.03478	.19562	.12470	3.5114	36.748
#3	.56185	1.8172	.03485	.19570	.12509	3.5207	36.520

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S4 Acquired: 3/10/2025 11:34:34 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	3149.9	66837.	12225.	2110.7	4138.2
Stddev	2.3	88.	26.	1.8	3.4
%RSD	.07289	.13163	.21634	.08593	.08145
#1	3150.4	66783.	12239.	2110.9	4140.0
#2	3152.0	66790.	12194.	2108.8	4140.2
#3	3147.4	66939.	12241.	2112.4	4134.3

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S5 Acquired: 3/10/2025 11:38:48 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	.37718	.69012	2.0758	.53398	1.2650	2.0616	41.945	2.1325
Stddev	.00200	.00277	.0073	.00282	.0063	.0026	.388	.0186
%RSD	.53024	.40083	.35349	.52836	.49890	.12379	.92608	.87413
#1	.37525	.69237	2.0696	.53122	1.2593	2.0600	42.393	2.1476
#2	.37705	.68703	2.0741	.53385	1.2640	2.0645	41.738	2.1382
#3	.37924	.69096	2.0839	.53686	1.2718	2.0603	41.703	2.1117

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	12.709	2.7266	.28800	4.6200	1.6653	.04632	2.3209	.61898
Stddev	.067	.0131	.00101	.0216	.0084	.00034	.0135	.00277
%RSD	.52669	.48081	.35112	.46800	.50414	.73736	.58276	.44831
#1	12.652	2.7344	.28683	4.6010	1.6571	.04594	2.3295	.61975
#2	12.691	2.7339	.28853	4.6156	1.6648	.04659	2.3278	.62128
#3	12.783	2.7114	.28863	4.6435	1.6739	.04644	2.3053	.61590

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	3.1490	.65160	.78719	.63163	12.342	.32421	3.5919	6.6051
Stddev	.0143	.00038	.00786	.00217	.046	.00217	.0280	.0310
%RSD	.45302	.05864	.99858	.34319	.37453	.67043	.77906	.46989
#1	3.1380	.65144	.77945	.63381	12.324	.32219	3.6155	6.5722
#2	3.1439	.65132	.78695	.63162	12.307	.32392	3.5992	6.6092
#3	3.1651	.65203	.79517	.62947	12.394	.32651	3.5610	6.6339

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	1.1387	3.7269	.07009	.40152	.26074	7.3258	72.976
Stddev	.0041	.0136	.00046	.00146	.00107	.0192	.699
%RSD	.36108	.36404	.65296	.36426	.40968	.26172	.95741
#1	1.1345	3.7369	.06963	.40060	.26002	7.3327	73.575
#2	1.1387	3.7324	.07010	.40074	.26023	7.3406	73.145
#3	1.1428	3.7115	.07055	.40320	.26197	7.3042	72.209

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: S5 Acquired: 3/10/2025 11:38:48 Type: Cal
Method: NON EPA-6010-200.7(v2782) 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	3055.0	66932.	11959.	2034.6	3945.6
Stddev	12.3	144.	97.	11.5	12.7
%RSD	.40334	.21463	.81408	.56513	.32140
#1	3069.2	67096.	11883.	2039.5	3959.4
#2	3048.7	66877.	11924.	2042.9	3942.9
#3	3047.2	66825.	12069.	2021.5	3934.5

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICV01 Acquired: 3/10/2025 11:48:43 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	1.030695	1.039116	1.005779	1.037599	1.005282	2.502065
Stddev	.003793	.009983	.001490	.005393	.001036	.013077
%RSD	.3679812	.9607484	.1481210	.5197103	.1030285	.5226350
#1	1.034844	1.034336	1.004630	1.042347	1.005157	2.502275
#2	1.029837	1.050591	1.007462	1.031737	1.006374	2.488884
#3	1.027405	1.032422	1.005246	1.038713	1.004314	2.515035

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5369780	.5166371	.5030561	9.912042	.5306407	.5103389
Stddev	.0041882	.0036235	.0012079	.045110	.0023068	.0012999
%RSD	.7799646	.7013641	.2401090	.4551077	.4347271	.2547100
#1	.5413529	.5166696	.5035106	9.914104	.5333014	.5112141
#2	.5330054	.5129974	.5039708	9.865936	.5292020	.5109573
#3	.5365756	.5202442	.5016869	9.956086	.5294185	.5088452

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5241472	10.42029	.5030968	5.797105	.5132331	.2574971
Stddev	.0023607	.04901	.0022072	.035695	.0016929	.0006501
%RSD	.4503893	.4703336	.4387187	.6157383	.3298466	.2524537
#1	.5268722	10.47340	.5042954	5.807866	.5136074	.2581668
#2	.5227247	10.41066	.5005497	5.757268	.5147074	.2568686
#3	.5228446	10.37680	.5044454	5.826182	.5113843	.2574559

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.764531	.5130906	1.036227	10.22786	2.427616	2.443545
Stddev	.074708	.0008853	.002362	.00735	.015020	.005759
%RSD	.7650959	.1725445	.2278948	.0718468	.6187154	.2356799
#1	9.850773	.5123015	1.036567	10.23579	2.432472	2.450136
#2	9.719677	.5140480	1.033714	10.22651	2.410769	2.441016
#3	9.723142	.5129225	1.038401	10.22128	2.439607	2.439483

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICV01 Acquired: 3/10/2025 11:48:43 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	2.484653	2.517198	2.457928	F 2.358114	2.380705	2.522466
Stddev	.003435	.012575	.000982	.005332	.006139	.013880
%RSD	.1382422	.4995696	.0399582	.2261252	.2578748	.5502630
#1	2.483344	2.527172	2.457883	2.354061	2.381385	2.535452
#2	2.488550	2.503072	2.458932	2.364155	2.386475	2.507838
#3	2.482066	2.521351	2.456969	2.356127	2.374254	2.524108

Elem	Sr4077
Units	ppm
Avg	F 2.660375
Stddev	.021983
%RSD	.8262979
#1	2.654773
#2	2.641735
#3	2.684616

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3213.735	68506.13	13374.79	2107.993	4375.143
Stddev	11.919	152.92	71.13	8.385	12.020
%RSD	.3708920	.2232277	.5317850	.3977902	.2747444
#1	3200.234	68336.98	13365.72	2107.291	4362.340
#2	3222.804	68546.82	13450.01	2116.708	4376.903
#3	3218.166	68634.60	13308.63	2099.981	4386.186

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: LLICV01 Acquired: 3/10/2025 11:52:56 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.0178980	.0400350	.0116929	.0182374	.0496903	.1027908
Stddev	.0007525	.0024845	.0009915	.0017729	.0005614	.0078221
%RSD	4.204459	6.205754	8.479472	9.721057	1.129823	7.609760
#1	.0174452	.0374170	.0126855	.0172198	.0495760	.1118000
#2	.0174822	.0423600	.0116907	.0202845	.0491948	.0988445
#3	.0187667	.0403280	.0107025	.0172079	.0503000	.0977279

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0903371	.0055371	.0055615	1.901252	.0095820	.0279795
Stddev	.0008012	.0000445	.0000639	.002004	.0005185	.0000593
%RSD	.8868669	.8040151	1.148423	.1053846	5.411252	.2121115
#1	.0904379	.0055396	.0056349	1.899356	.0100985	.0280361
#2	.0910831	.0054914	.0055310	1.903348	.0095859	.0279178
#3	.0894903	.0055804	.0055187	1.901052	.0090615	.0279846

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0211876	.1083654	.0191854	1.971257	.0373662	.0097825
Stddev	.0003029	.0052238	.0003355	.007151	.0001984	.0005133
%RSD	1.429533	4.820525	1.748590	.3627563	.5308344	5.247548
#1	.0215334	.1063560	.0191929	1.970528	.0375501	.0095195
#2	.0209693	.1142955	.0195170	1.964498	.0371560	.0103740
#3	.0210602	.1044446	.0188462	1.978744	.0373923	.0094539

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.804478	.0357292	.0405213	1.932717	.1109118	.1961399
Stddev	.022574	.0002898	.0003844	.050321	.0011923	.0003371
%RSD	1.251005	.8111638	.9487732	2.603655	1.074965	.1718892
#1	1.808956	.0359268	.0405987	1.925876	.1121971	.1957510
#2	1.824478	.0358643	.0401040	1.986109	.1106962	.1963179
#3	1.780001	.0353965	.0408611	1.886166	.1098420	.1963507

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: LLICV01 Acquired: 3/10/2025 11:52:56 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.0373942	.0364389	.3699634	.0201276	.0194782	F .0131754
Stddev	.0003795	.0005638	.0027705	.0017446	.0046231	.0008668
%RSD	1.014934	1.547248	.7488487	8.667445	23.73467	6.579115
#1	.0377067	.0358154	.3667652	.0185251	.0143792	.0139413
#2	.0375041	.0369127	.3716290	.0219860	.0206592	.0122344
#3	.0369719	.0365888	.3714959	.0198718	.0233963	.0133506

Elem	Sr4077
Units	ppm
Avg	.0184984
Stddev	.0000593
%RSD	.3207836
#1	.0185136
#2	.0185487
#3	.0184330

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3252.097	69252.18	13025.23	2141.944	4576.291
Stddev	4.999	203.65	53.32	13.483	11.015
%RSD	.1537266	.2940671	.4093711	.6294551	.2406985
#1	3246.674	69017.82	12963.70	2126.598	4563.573
#2	3256.521	69386.12	13054.01	2151.884	4582.545
#3	3253.096	69352.59	13057.98	2147.352	4582.756

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICB01 Acquired: 3/10/2025 11:57:14 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	-.001781	-.000431	-.000737	.0014469	.0001136	-.003747	-.001691
Stddev	.001281	.001174	.000828	.0017977	.0005334	.004915	.001276
%RSD	71.89661	272.4553	112.4037	124.2446	469.3844	131.1759	75.48107
#1	-.002393	-.000812	-.000167	.0004876	-.000141	-.007138	-.000475
#2	-.000309	.000886	-.001687	.0003324	.000727	-.005994	-.003020
#3	-.002641	-.001366	-.000356	.0035208	-.000245	.001890	-.001577

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000080	.0000374	-.003606	.0002756	.0000078	.0000666	-.003776
Stddev	.0000583	.0000232	.007309	.0001759	.0000642	.0001915	.004573
%RSD	724.6157	62.19108	202.6686	63.83284	823.8289	287.4031	121.0996
#1	-.000057	.0000319	-.011950	.0001830	-.000055	.0000966	-.006836
#2	.000027	.0000629	-.000533	.0001653	.000073	.0002413	-.005973
#3	.000054	.0000174	.001664	.0004785	.000006	-.000138	.001481

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000400	-.005755	.0002257	-.000049	-.024562	-.001173	-.000938
Stddev	.000138	.015317	.0000918	.000083	.015404	.001520	.000405
%RSD	34.36482	266.1814	40.65697	168.5095	62.71451	129.6025	43.13652
#1	-.000528	-.002983	.0001561	-.000097	-.041108	-.001359	-.000473
#2	-.000255	-.022269	.0001913	-.000097	-.010637	.000432	-.001135
#3	-.000417	.007988	.0003297	.000047	-.021941	-.002592	-.001207

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0143410	.0098919	-.000125	-.000625	.0000264	-.004422	.0002201
Stddev	.0289653	.0004898	.000112	.000743	.0003351	.005128	.0022842
%RSD	201.9752	4.951929	89.56759	118.8971	1269.517	115.9719	1037.580
#1	-.018326	.0102723	-.000168	-.000725	-.000195	-.005832	.0026729
#2	.024459	.0100641	-.000208	-.001312	.000412	-.008698	-.000166
#3	.036890	.0093392	.000002	.000163	-.000138	.001264	-.001846

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICB01 Acquired: 3/10/2025 11:57:14 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	-.000765	-.003827	-.000095
Stddev	.002485	.000335	.000052
%RSD	325.0085	8.751442	54.98337
#1	-.001217	-.004209	-.000048
#2	.001916	-.003585	-.000151
#3	-.002993	-.003687	-.000085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3256.128	70720.93	12530.22	2169.729	4632.828
Stddev	1.946	142.44	34.16	6.312	6.172
%RSD	.0597705	.2014153	.2726072	.2909016	.1332132
#1	3254.952	70598.69	12497.64	2163.699	4636.884
#2	3258.375	70877.35	12565.77	2176.289	4635.874
#3	3255.058	70686.73	12527.24	2169.198	4625.726

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CRI01 Acquired: 3/10/2025 12:01:33 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.0182125	.0394771	.0119595	.0210083	.0497371	.0983012
Stddev	.0020916	.0018008	.0004098	.0016998	.0016402	.0058126
%RSD	11.48452	4.561564	3.426428	8.091245	3.297753	5.913056
#1	.0192949	.0389134	.0119706	.0220897	.0483850	.0952475
#2	.0158015	.0380256	.0123637	.0190490	.0492645	.0946519
#3	.0195411	.0414923	.0115444	.0218862	.0515617	.1050042

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0909238	.0054683	.0056663	1.896140	.0104006	.0283297
Stddev	.0010236	.0000974	.0000533	.011485	.0002330	.0002801
%RSD	1.125724	1.780584	.9398391	.6056893	2.240632	.9888415
#1	.0919559	.0055459	.0056049	1.895133	.0103386	.0281880
#2	.0909066	.0053591	.0056941	1.885191	.0102049	.0286523
#3	.0899090	.0055001	.0056999	1.908095	.0106584	.0281487

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0213782	.1112581	.0192633	1.981681	.0379347	.0101619
Stddev	.0002415	.0035072	.0001500	.024148	.0003897	.0001964
%RSD	1.129447	3.152274	.7785893	1.218581	1.027306	1.932348
#1	.0215033	.1125376	.0193341	1.979310	.0375177	.0102991
#2	.0215314	.1072908	.0193648	1.958806	.0379966	.0102497
#3	.0210998	.1139458	.0190910	2.006927	.0382897	.0099370

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.813994	.0366677	.0412661	1.945413	.0992781	.1981932
Stddev	.005317	.0002752	.0007129	.014968	.0004218	.0012730
%RSD	.2930858	.7504898	1.727607	.7693763	.4249186	.6422978
#1	1.814029	.0368653	.0414182	1.930087	.0992959	.1978418
#2	1.819294	.0363534	.0404894	1.959994	.0988476	.1971328
#3	1.808661	.0367844	.0418907	1.946159	.0996907	.1996050

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CRI01 Acquired: 3/10/2025 12:01:33 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.0379512	.0364644	.3729452	.0173159	.0231589	F .0132275
Stddev	.0003943	.0004861	.0076804	.0023758	.0021800	.0008040
%RSD	1.039024	1.333203	2.059395	13.72045	9.413387	6.078098
#1	.0376384	.0362606	.3688860	.0145894	.0238012	.0141521
#2	.0383942	.0361133	.3818034	.0189422	.0207299	.0128373
#3	.0378210	.0370192	.3681461	.0184162	.0249457	.0126930

Elem	Sr4077
Units	ppm
Avg	.0184358
Stddev	.0000531
%RSD	.2880255
#1	.0183834
#2	.0184344
#3	.0184895

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3167.497	68415.57	13293.05	2100.621	4433.833
Stddev	2.615	142.49	80.21	5.484	2.460
%RSD	.0825572	.2082748	.6034200	.2610684	.0554748
#1	3164.668	68552.57	13240.85	2094.302	4432.151
#2	3167.998	68268.16	13385.41	2103.425	4432.692
#3	3169.825	68425.99	13252.88	2104.136	4436.656

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICSA01 Acquired: 3/10/2025 12:05:50 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.0035813	.0076881	.0065685	-.012127	-.001694	248.7884
Stddev	.0014516	.0009296	.0002155	.003630	.002202	.4248
%RSD	40.53387	12.09140	3.281090	29.93364	129.9853	.1707519
#1	.0050015	.0085974	.0063200	-.008491	-.003765	249.2788
#2	.0036422	.0077274	.0066821	-.015751	-.001938	248.5534
#3	.0021001	.0067395	.0067035	-.012139	.000620	248.5331

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014990	.0012264	-.003997	230.1146	.0593365	.0019581
Stddev	.0006204	.0000202	.000042	.3933	.0005267	.0001570
%RSD	41.38804	1.649761	1.047803	.1709015	.8876718	8.016647
#1	.0015151	.0012056	-.004044	230.5525	.0596418	.0020159
#2	.0008707	.0012461	-.003985	229.7915	.0596395	.0017804
#3	.0021112	.0012275	-.003963	229.9997	.0587283	.0020780

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0098490	101.0286	.0030455	246.3717	.0021216	-.000429
Stddev	.0003806	.8551	.0004049	.1553	.0002805	.000350
%RSD	3.863907	.8464335	13.29525	.0630434	13.22076	81.51920
#1	.0101857	101.6044	.0028481	246.4480	.0024239	-.000656
#2	.0094361	101.4353	.0035112	246.1930	.0018699	-.000026
#3	.0099252	100.0460	.0027771	246.4742	.0020709	-.000604

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0304937	.0040123	.0029632	.0800131	F -.105343	.0004991
Stddev	.0020431	.0009384	.0000850	.0416913	.003488	.0004917
%RSD	6.700067	23.38902	2.869509	52.10558	3.311444	98.51865
#1	.0289897	.0032606	.0028959	.0642405	-.102140	-.000059
#2	.0328198	.0050641	.0029350	.0485092	-.104830	.000868
#3	.0296716	.0037122	.0030588	.1272895	-.109060	.000688

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICSA01 Acquired: 3/10/2025 12:05:50 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	-.003775	-.000921	.0164199	.0017179	-.014850	.0015821
Stddev	.000473	.000757	.0047534	.0034854	.001002	.0009113
%RSD	12.52590	82.17762	28.94919	202.8805	6.749077	57.60050
#1	-.003746	-.001796	.0130503	-.002217	-.015874	.0009632
#2	-.004261	-.000482	.0143524	.004417	-.013871	.0011545
#3	-.003317	-.000486	.0218570	.002954	-.014804	.0026286

Elem	Sr4077
Units	ppm
Avg	F .0941969
Stddev	.0002798
%RSD	.2970358
#1	.0945199
#2	.0940433
#3	.0940276

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2833.042	60197.26	12385.27	1840.915	3620.698
Stddev	10.560	343.21	70.24	8.437	17.038
%RSD	.3727458	.5701421	.5671548	.4582962	.4705802
#1	2821.812	59842.13	12338.58	1832.163	3603.549
#2	2834.544	60222.48	12466.06	1841.585	3620.920
#3	2842.771	60527.16	12351.18	1848.997	3637.624

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICSAB01 Acquired: 3/10/2025 12:10:07 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.1098238	.1075063	.0562632	.0340944	.6302665	247.8673
Stddev	.0034238	.0035774	.0027414	.0039959	.0016449	1.7115
%RSD	3.117552	3.327631	4.872550	11.72019	.2609781	.6905102
#1	.1126334	.1043991	.0545426	.0361820	.6286771	247.2341
#2	.1108279	.1114172	.0548225	.0294871	.6301608	249.8052
#3	.1060103	.1067025	.0594247	.0366142	.6319617	246.5625

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4825201	.4888752	1.015398	232.5968	.5805785	.5163728
Stddev	.0018727	.0008335	.001965	.5624	.0027969	.0014601
%RSD	.3881068	.1704870	.1935532	.2417941	.4817395	.2827526
#1	.4846781	.4897880	1.014306	232.7792	.5824449	.5157500
#2	.4813214	.4881547	1.017667	233.0455	.5773628	.5180409
#3	.4815609	.4886828	1.014221	231.9659	.5819279	.5153273

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5178206	101.5685	.4749750	249.5182	1.018937	.2206440
Stddev	.0010071	.3116	.0022195	.7999	.002764	.0007055
%RSD	.1944813	.3067928	.4672842	.3205824	.2712175	.3197381
#1	.5181515	101.9273	.4762221	249.3487	1.018260	.2213607
#2	.5186206	101.4130	.4762904	250.3893	1.021976	.2199503
#3	.5166897	101.3653	.4724124	248.8167	1.016574	.2206212

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0588821	.4713157	1.069325	.0878038	.8908440	1.106830
Stddev	.0195021	.0018412	.001457	.0199370	.0017443	.002743
%RSD	33.12065	.3906549	.1362844	22.70627	.1958002	.2477901
#1	.0724749	.4732520	1.067894	.0802631	.8913075	1.107155
#2	.0365371	.4711080	1.069273	.1104113	.8923098	1.109395
#3	.0676344	.4695872	1.070807	.0727371	.8889149	1.103939

Sample Name: ICSAB01 Acquired: 3/10/2025 12:10:07 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	1.106864	1.018589	1.051587	F .0049794	F -.015502	F .0003464
Stddev	.004454	.003145	.010342	.0029060	.003455	.0009578
%RSD	.4024332	.3087718	.9834831	58.35937	22.28862	276.4778
#1	1.102687	1.021923	1.058404	.0068322	-.011574	.0013851
#2	1.111552	1.018170	1.056669	.0016302	-.018071	.0001564
#3	1.106352	1.015675	1.039687	.0064760	-.016860	-.000502

Elem	Sr4077
Units	ppm
Avg	F .0952558
Stddev	.0004022
%RSD	.4221932
#1	.0956811
#2	.0952047
#3	.0948817

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2829.188	61357.74	12556.32	1889.555	3617.786
Stddev	.792	46.61	20.74	9.732	6.661
%RSD	.0279812	.0759682	.1651798	.5150178	.1841074
#1	2830.045	61312.62	12562.83	1900.636	3624.473
#2	2828.484	61405.71	12533.11	1882.399	3611.152
#3	2829.036	61354.89	12573.02	1885.631	3617.732

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICSADLX20 Acquired: 3/10/2025 12:14:15 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	-.000736	.0010482	-.000088	.0006292	.0010110	12.55204	-.002157
Stddev	.002447	.0008207	.000404	.0031469	.0006805	.03489	.000771
%RSD	332.4638	78.29299	456.5312	500.1116	67.31597	.2779510	35.72975
#1	.002011	.0015762	.000285	-.002950	.0004546	12.58200	-.001789
#2	-.002683	.0001027	-.000516	.001877	.0017698	12.51373	-.001640
#3	-.001537	.0014657	-.000034	.002961	.0008085	12.56037	-.003043

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001319	-.000226	12.37022	.0035296	-.000004	.0001568	5.124937
Stddev	.0000235	.000022	.02444	.0002890	.000111	.0003978	.001833
%RSD	17.80406	9.921075	.1975624	8.187587	3020.808	253.7898	.0357648
#1	.0001549	-.000209	12.36605	.0034913	-.000073	-.000158	5.124586
#2	.0001079	-.000219	12.34814	.0032617	.000124	.000024	5.126920
#3	.0001329	-.000252	12.39648	.0038358	-.000062	.000604	5.123305

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000210	12.78674	.0000383	-.000003	-.003126	-.000092	.0024814
Stddev	.0000676	.00769	.0002874	.000227	.005822	.002069	.0002776
%RSD	321.7849	.0601720	750.6577	8054.075	186.2151	2238.503	11.18849
#1	-.000035	12.78151	.0003321	.000256	.001596	-.002431	.0024665
#2	.000001	12.78313	.0000249	-.000095	-.009631	.000653	.0027662
#3	.000096	12.79557	-.000242	-.000170	-.001345	.001500	.0022115

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0286783	-.003593	-.000100	-.001105	.0003480	.0017667	.0019546
Stddev	.0354013	.000668	.000000	.000617	.0007060	.0072105	.0016807
%RSD	123.4425	18.60521	.2195555	55.77057	202.8389	408.1397	85.98735
#1	-.010665	-.003472	-.000100	-.000410	-.000170	.0030197	.0004814
#2	.038741	-.004314	-.000100	-.001585	.000063	.0082685	.0037853
#3	.057959	-.002993	-.000101	-.001322	.001152	-.005988	.0015971

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICSADLX20 Acquired: 3/10/2025 12:14:15 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.0002287	-.004182	.0048835
Stddev	.0043084	.000290	.0000411
%RSD	1883.896	6.936872	.8409690
#1	.0051928	-.004253	.0048437
#2	-.002537	-.004430	.0049257
#3	-.001970	-.003863	.0048809

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3194.647	68516.88	12851.47	2119.466	4396.571
Stddev	18.836	44.10	66.56	7.680	26.449
%RSD	.5896153	.0643611	.5179557	.3623327	.6015833
#1	3211.847	68528.91	12823.73	2110.969	4417.762
#2	3197.576	68553.71	12927.42	2125.911	4405.021
#3	3174.517	68468.01	12803.27	2121.517	4366.929

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICSABDLX20 Acquired: 3/10/2025 12:18:31 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	.0039025	.0048070	.0024094	.0009755	.0309086	12.39133	.0224965
Stddev	.0008516	.0019035	.0008342	.0012942	.0023847	.01091	.0011357
%RSD	21.82167	39.59867	34.62444	132.6681	7.715228	.0880687	5.048173
#1	.0029930	.0068848	.0027175	.0020304	.0328316	12.39723	.0231923
#2	.0040337	.0031474	.0030457	.0013649	.0282403	12.37873	.0211860
#3	.0046809	.0043887	.0014649	-.000469	.0316540	12.39801	.0231112

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0254391	.0503812	12.26565	.0299806	.0253795	.0265623	5.166807
Stddev	.0000777	.0000870	.03091	.0001542	.0003791	.0002391	.034778
%RSD	.3054012	.1726053	.2519765	.5144548	1.493869	.9001235	.6731006
#1	.0255188	.0503658	12.30134	.0300021	.0253413	.0262910	5.128514
#2	.0254347	.0504748	12.24774	.0298167	.0250209	.0266541	5.175480
#3	.0253636	.0503029	12.24786	.0301229	.0257763	.0267420	5.196428

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0252482	12.65537	.0509898	.0105641	-.010521	.0238827	.0529520
Stddev	.0002698	.02284	.0003497	.0000820	.005359	.0008238	.0003894
%RSD	1.068464	.1805127	.6857404	.7760639	50.93271	3.449311	.7353272
#1	.0249928	12.66890	.0512500	.0105721	-.013705	.0229322	.0532596
#2	.0252213	12.66822	.0505924	.0106419	-.013523	.0243897	.0525142
#3	.0255304	12.62900	.0511271	.0104785	-.004334	.0243262	.0530822

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0397443	.0269387	.0338984	.0321415	.0319766	.0286422	.0013969
Stddev	.0207707	.0003814	.0004519	.0003830	.0003583	.0012841	.0015491
%RSD	52.26079	1.415868	1.333220	1.191719	1.120338	4.483400	110.8983
#1	.0202319	.0267067	.0336034	.0320142	.0323838	.0301248	.0031856
#2	.0374228	.0267305	.0336730	.0325720	.0318361	.0279221	.0005171
#3	.0615781	.0273789	.0344187	.0318384	.0317099	.0278797	.0004879

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: ICSABDLX20 Acquired: 3/10/2025 12:18:31 Type: Unk
Method: NON EPA-6010-200.7(v2783) 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	-.000690	-.004470	.0048549
Stddev	.001625	.000093	.0000434
%RSD	235.5995	2.091575	.8931372
#1	-.000038	-.004523	.0048785
#2	.000508	-.004525	.0048813
#3	-.002540	-.004362	.0048048

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3211.408	67691.10	13018.42	2095.800	4432.927
Stddev	5.746	267.54	24.83	6.082	10.616
%RSD	.1789291	.3952409	.1907393	.2902106	.2394759
#1	3217.026	67890.12	12989.95	2102.651	4442.679
#2	3211.655	67796.22	13029.65	2093.711	4434.483
#3	3205.542	67386.96	13035.65	2091.037	4421.619

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV01 Acquired: 3/10/2025 12:27:38 Type: Unk
Method: NON EPA-6010-200.7(v2784) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.990538	4.964472	4.896461	5.029134	5.055289	9.762896
Stddev	.021101	.069720	.008575	.024381	.008546	.044532
%RSD	.4228213	1.404388	.1751304	.4847995	.1690464	.4561300
#1	5.007741	4.996630	4.889795	5.055667	5.061127	9.808327
#2	4.966993	5.012310	4.893454	5.007717	5.045481	9.719323
#3	4.996880	4.884476	4.906135	5.024017	5.059260	9.761037

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.502275	.2472356	2.435753	26.05957	1.003813	2.434162
Stddev	.064098	.0012491	.002717	.17168	.004031	.004313
%RSD	.6745574	.5052406	.1115556	.6588131	.4015264	.1771761
#1	9.564776	.2486764	2.432661	26.22378	1.000291	2.429355
#2	9.436691	.2464572	2.437763	25.88128	1.002938	2.435442
#3	9.505356	.2465731	2.436834	26.07366	1.008209	2.437690

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.240804	4.823552	2.616300	25.91896	2.436469	1.221476
Stddev	.003693	.036049	.008589	.15562	.005484	.003284
%RSD	.2976687	.7473500	.3282760	.6004272	.2250997	.2688915
#1	1.240154	4.785491	2.621153	25.96373	2.430204	1.217698
#2	1.237479	4.827986	2.606383	25.74585	2.438805	1.223078
#3	1.244779	4.857178	2.621364	26.04729	2.440400	1.223653

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.09230	2.405093	2.467671	24.23230	F 4.725516	5.018120
Stddev	.06217	.003726	.011355	.14033	.027235	.006769
%RSD	.2580667	.1549176	.4601577	.5791051	.5763456	.1348976
#1	24.03122	2.408082	2.461834	24.09677	4.756579	5.020555
#2	24.09017	2.400919	2.460423	24.22315	4.714238	5.010471
#3	24.15552	2.406279	2.480758	24.37699	4.705731	5.023336

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV01 Acquired: 3/10/2025 12:27:38 Type: Unk
Method: NON EPA-6010-200.7(v2784) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.946693	4.757414	5.007645	4.845900	4.844823	F 4.722932
Stddev	.010081	.013335	.047100	.012507	.013299	.010325
%RSD	.2037836	.2802961	.9405622	.2580896	.2745056	.2186133
#1	4.957234	4.772034	4.972711	4.856431	4.846744	4.734214
#2	4.945697	4.745920	4.989014	4.849193	4.857057	4.713954
#3	4.937147	4.754287	5.061211	4.832076	4.830667	4.720627

Elem	Sr4077
Units	ppm
Avg	4.791339
Stddev	.075316
%RSD	1.571916
#1	4.873621
#2	4.725811
#3	4.774585

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3097.651	67296.60	12592.94	2003.281	4126.808
Stddev	7.891	206.68	54.41	13.688	1.178
%RSD	.2547433	.3071149	.4321023	.6832996	.0285381
#1	3093.263	67499.81	12533.59	2010.709	4127.665
#2	3106.761	67303.36	12640.48	2011.649	4127.293
#3	3092.930	67086.62	12604.76	1987.484	4125.465

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB01 Acquired: 3/10/2025 12:34:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002695	.0002462	-.000869	-.000676	.0000310	-.000910	-.004061
Stddev	.003255	.0020226	.001022	.002263	.0012258	.002718	.000362
%RSD	120.7786	821.4711	117.5440	334.7681	3948.520	298.7855	8.923725
#1	.000946	.0010539	-.002047	-.001806	-.001365	-.002530	-.004236
#2	-.003708	-.002055	-.000346	.001929	.000931	.002228	-.003644
#3	-.005324	.001740	-.000215	-.002151	.000527	-.002428	-.004302

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000011	-.000002	-.006711	.0001317	-.000015	-.000445	-.006600
Stddev	.000033	.000024	.003381	.0002301	.000112	.000359	.002109
%RSD	286.6720	1095.757	50.39073	174.7042	742.4333	80.76998	31.95726
#1	-.000020	.000012	-.003440	.0003168	-.000143	-.000116	-.005178
#2	.000025	-.000030	-.010193	-.000126	.000059	-.000828	-.009023
#3	-.000039	.000012	-.006499	.000204	.000039	-.000391	-.005599

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000829	-.006596	-.000111	-.000078	-.038054	-.001046	-.000914
Stddev	.0002610	.003316	.000231	.000355	.014648	.000743	.000245
%RSD	314.9694	50.27001	208.1102	452.7689	38.49161	71.01799	26.83709
#1	.0002265	-.009027	-.000365	-.000413	-.027778	-.001814	-.001096
#2	.0002405	-.007941	-.000054	-.000117	-.054826	-.000992	-.001012
#3	-.000218	-.002819	.000086	.000294	-.031557	-.000331	-.000635

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.013518	.0081871	-.000070	-.000641	.0004985	-.002980	.0010300
Stddev	.033367	.0004439	.000064	.000280	.0002834	.002818	.0023343
%RSD	246.8319	5.421572	91.21062	43.63414	56.86207	94.55710	226.6399
#1	-.041049	.0076780	.000001	-.000358	.0002490	-.000820	.0008550
#2	-.023097	.0083901	-.000089	-.000647	.0004397	-.001952	-.001212
#3	.023591	.0084931	-.000122	-.000917	.0008067	-.006167	.003447

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB01 Acquired: 3/10/2025 12:34:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0001718	-.005243	-.000024
Stddev	.0049629	.000272	.000006
%RSD	2888.295	5.186110	25.20933
#1	.0049946	-.004938	-.000024
#2	-.004920	-.005330	-.000030
#3	.000441	-.005461	-.000018

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3228.840	69906.78	12960.53	2134.396	4593.122
Stddev	4.118	126.52	66.92	4.962	5.438
%RSD	.1275357	.1809813	.5163078	.2324892	.1183906
#1	3229.990	69957.49	12922.31	2129.726	4590.102
#2	3232.260	69762.77	12921.48	2139.606	4599.399
#3	3224.269	70000.08	13037.80	2133.855	4589.864

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16MSD Acquired: 3/10/2025 12:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.8673656	1.907282	1.002458	2.057486	.8433058	2.095479	.9574722
Stddev	.0036302	.009960	.000464	.001013	.0016384	.014124	.0043272
%RSD	.4185291	.5222284	.0463075	.0492578	.1942780	.6740346	.4519350
#1	.8714949	1.900449	1.002293	2.056503	.8451885	2.100724	.9612650
#2	.8646766	1.902687	1.002099	2.058528	.8425250	2.079483	.9527588
#3	.8659252	1.918711	1.002982	2.057426	.8422040	2.106231	.9583929

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1848602	.2038232	9.440476	.4250895	.2121215	.3087243	7.648563
Stddev	.0014476	.0001983	.036427	.0016133	.0003507	.0013194	.019509
%RSD	.7830598	.0973013	.3858552	.3795209	.1653313	.4273645	.2550651
#1	.1861501	.2040506	9.474292	.4251327	.2125156	.3096463	7.627012
#2	.1832946	.2036860	9.401906	.4234551	.2118437	.3072129	7.665018
#3	.1851358	.2037330	9.445232	.4266808	.2120052	.3093135	7.653659

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8837244	3.893929	.5177193	.0780350	333.7689	.3057828	.7123054
Stddev	.0041192	.019335	.0009143	.0001926	2.3423	.0024086	.0024360
%RSD	.4661175	.4965297	.1765974	.2468004	.7017714	.7876803	.3419906
#1	.8882296	3.916109	.5178806	.0778237	334.0818	.3060234	.7150782
#2	.8801507	3.885047	.5167351	.0782006	335.9390	.3032629	.7105093
#3	.8827931	3.880633	.5185422	.0780808	331.2858	.3080621	.7113287

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.44100	.4769651	.4341409	.7189231	.2010463	1.661656	6.245293
Stddev	.02534	.0042923	.0010190	.0025485	.0008048	.010015	.013329
%RSD	.1885276	.8999186	.2347111	.3544842	.4003325	.6027127	.2134185
#1	13.41193	.4815349	.4338203	.7217093	.2017835	1.656925	6.252071
#2	13.45842	.4730185	.4333208	.7167100	.2001876	1.673160	6.229938
#3	13.45264	.4763418	.4352816	.7183502	.2011677	1.654882	6.253871

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16MSD Acquired: 3/10/2025 12:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	1.015603	.2015850	.2647165
Stddev	.004286	.0005070	.0006097
%RSD	.4220212	.2514800	.2303190
#1	1.019206	.2020998	.2652901
#2	1.010863	.2015689	.2640762
#3	1.016740	.2010863	.2647833

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2996.526	65854.65	13294.80	1985.788	3958.893
Stddev	11.550	89.97	103.18	1.181	11.591
%RSD	.3854431	.1366182	.7760697	.0594541	.2927931
#1	2992.137	65833.17	13223.13	1984.433	3952.530
#2	3009.628	65953.41	13413.05	1986.337	3972.272
#3	2987.815	65777.36	13248.21	1986.595	3951.876

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16A Acquired: 3/10/2025 12:42:46 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.8888557	1.948671	1.013747	2.110219	.8653525	2.111577	.9693437
Stddev	.0020272	.010829	.004855	.011209	.0034119	.006096	.0015201
%RSD	.2280643	.5556922	.4789283	.5311912	.3942784	.2887060	.1568122
#1	.8870292	1.953437	1.011114	2.105064	.8621830	2.104624	.9682316
#2	.8885012	1.956299	1.010778	2.102515	.8649108	2.114098	.9710757
#3	.8910367	1.936277	1.019350	2.123078	.8689638	2.116008	.9687237

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1822695	.2063870	9.508974	.4314966	.2140991	.3122527	7.754083
Stddev	.0013644	.0010924	.009754	.0019478	.0009649	.0013452	.077448
%RSD	.7485680	.5293008	.1025721	.4513936	.4506845	.4308129	.9988063
#1	.1834380	.2063837	9.507422	.4292831	.2140784	.3110388	7.668478
#2	.1826004	.2052962	9.519411	.4329484	.2131447	.3120203	7.774478
#3	.1807700	.2074810	9.500090	.4322583	.2150742	.3136990	7.819293

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8850040	3.895390	.5230675	.0791015	338.9378	.3078157	.7197170
Stddev	.0009791	.008981	.0025103	.0002048	1.9487	.0011869	.0042076
%RSD	.1106369	.2305553	.4799129	.2589118	.5749366	.3855749	.5846151
#1	.8845655	3.898646	.5236397	.0790802	337.5370	.3090824	.7154419
#2	.8861258	3.885235	.5203205	.0793161	338.1132	.3067293	.7238536
#3	.8843208	3.902288	.5252422	.0789081	341.1632	.3076354	.7198555

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.75966	.4716055	.4424270	.7331726	.2030808	1.706217	6.312469
Stddev	.16291	.0045772	.0006756	.0040241	.0007164	.025394	.027785
%RSD	1.183970	.9705527	.1527066	.5488607	.3527509	1.488312	.4401575
#1	13.59082	.4764062	.4424544	.7326575	.2023058	1.682765	6.335444
#2	13.77225	.4711197	.4417381	.7294308	.2032179	1.702700	6.281588
#3	13.91591	.4672906	.4430885	.7374294	.2037188	1.733186	6.320375

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16A Acquired: 3/10/2025 12:42:46 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	1.028238	.2022577	.2675700
Stddev	.004823	.0015276	.0002818
%RSD	.4690086	.7552711	.1053289
#1	1.023550	.2038626	.2672450
#2	1.033184	.2008214	.2677177
#3	1.027981	.2020890	.2677473

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2969.286	65946.89	13574.53	1972.683	3937.157
Stddev	10.577	192.20	102.32	10.562	16.035
%RSD	.3562124	.2914418	.7537517	.5354241	.4072802
#1	2973.992	66150.14	13476.00	1984.803	3938.567
#2	2976.693	65922.44	13567.34	1967.801	3952.440
#3	2957.173	65768.09	13680.26	1965.444	3920.463

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1478-13 Acquired: 3/10/2025 12:46:57 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.004822	-.004480	.0013920	.0015230	.0015808	.0407573	.6657826
Stddev	.001679	.000944	.0012518	.0024103	.0011244	.0017400	.0019525
%RSD	34.81324	21.06510	89.93289	158.2626	71.12909	4.269086	.2932705
#1	-.006569	-.005400	.0005503	-.001230	.0003648	.0427650	.6669448
#2	-.004675	-.004526	.0007951	.003252	.0025829	.0396859	.6635284
#3	-.003221	-.003514	.0028305	.002548	.0017948	.0398211	.6668747

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008226	-.001270	20.70509	.0030992	.0385536	.0148520	19.08749
Stddev	.0000272	.000065	.01516	.0004491	.0001954	.0004157	.11790
%RSD	3.304029	5.116245	.0732134	14.49275	.5067095	2.798726	.6177059
#1	.0008070	-.001321	20.71092	.0027831	.0384262	.0143732	19.13353
#2	.0008540	-.001292	20.71647	.0029011	.0384560	.0150623	19.17542
#3	.0008069	-.001196	20.68788	.0036133	.0387785	.0151205	18.95351

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.276584	9.254510	.1026968	.0003514	386.4767	-.000029	.2054990
Stddev	.003620	.024363	.0000857	.0001727	5.1019	.001533	.0004654
%RSD	.2836064	.2632537	.0834359	49.13906	1.320109	5252.619	.2264923
#1	1.278771	9.241234	.1027455	.0005470	385.2844	-.001131	.2049742
#2	1.272404	9.282628	.1027470	.0002872	392.0692	.001722	.2058618
#3	1.278575	9.239669	.1025979	.0002200	382.0766	-.000678	.2056610

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.438730	.0216817	-.000099	-.000777	-.000351	2.934128	.0098572
Stddev	.029750	.0008170	.000160	.000282	.000212	.019835	.0028300
%RSD	.3999274	3.768069	161.2300	36.25462	60.18847	.6759964	28.70994
#1	7.442801	.0224904	-.000223	-.000874	-.000203	2.952814	.0105767
#2	7.466234	.0216980	.000081	-.000998	-.000258	2.936256	.0067369
#3	7.407155	.0208567	-.000156	-.000460	-.000594	2.913316	.0122580

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1478-13 Acquired: 3/10/2025 12:46:57 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.8315454	.0001268	.2598473
Stddev	.0040470	.0015568	.0004533
%RSD	.4866833	1227.509	.1744637
#1	.8307576	.0016120	.2602806
#2	.8279502	-.001493	.2593763
#3	.8359283	.000261	.2598851

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2961.046	64568.50	13572.57	1910.691	3935.095
Stddev	3.235	333.06	57.91	11.138	3.362
%RSD	.1092626	.5158170	.4266540	.5829065	.0854480
#1	2963.209	64854.72	13635.73	1923.492	3937.514
#2	2962.601	64202.94	13560.02	1903.221	3936.516
#3	2957.326	64647.83	13521.97	1905.360	3931.255

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1481-01 Acquired: 3/10/2025 12:51:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0635719	.0011764	.4256303	-.018148	-.006589	71.74235
Stddev	.0010603	.0029986	.0012624	.002339	.001539	.03461
%RSD	1.667913	254.9048	.2965933	12.88891	23.36237	.0482385
#1	.0638160	.0031771	.4266795	-.015522	-.005671	71.70765
#2	.0644889	.0026233	.4242294	-.020010	-.008366	71.74253
#3	.0624108	-.002271	.4259822	-.018910	-.005730	71.77686

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2978289	.0033487	-.007225	85.10242	.1879748	.0669899
Stddev	.0014473	.0000883	.000135	.10977	.0015180	.0002868
%RSD	.4859485	2.637318	1.869710	.1289890	.8075406	.4281236
#1	.2973320	.0033981	-.007324	85.06617	.1896347	.0666915
#2	.2994592	.0032467	-.007279	85.22574	.1866573	.0672634
#3	.2966956	.0034013	-.007071	85.01537	.1876323	.0670149

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4342094	194.0597	1.458728	57.26744	.1329953	.0020367
Stddev	.0004121	.6831	.002104	.11748	.0002577	.0000639
%RSD	.0949007	.3520219	.1442297	.2051451	.1937485	3.138314
#1	.4338733	194.7891	1.459700	57.20187	.1327387	.0019934
#2	.4340858	193.9551	1.460170	57.40307	.1329932	.0021101
#3	.4346691	193.4349	1.456314	57.19738	.1332540	.0020065

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.439133	.3002159	.5240431	3.736312	.2547341	.0191796
Stddev	.030383	.0009543	.0014283	.010349	.0018315	.0001344
%RSD	.6844337	.3178607	.2725600	.2769855	.7189775	.7010287
#1	4.473953	.2992873	.5242458	3.742099	.2547355	.0193305
#2	4.418009	.3011940	.5225242	3.724363	.2565649	.0190725
#3	4.425436	.3001664	.5253592	3.742472	.2529019	.0191358

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1481-01 Acquired: 3/10/2025 12:51:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0274579	3.636883	F 10.64259	2.019850	2.031252	.1255644
Stddev	.0010731	.003300	.01729	.005213	.003324	.0011092
%RSD	3.908200	.0907398	.1624983	.2581038	.1636613	.8833893
#1	.0285465	3.639139	10.65368	2.013901	2.030069	.1254890
#2	.0264010	3.638414	10.62266	2.022028	2.035006	.1244948
#3	.0274262	3.633095	10.65142	2.023621	2.028681	.1267094

Elem	Sr4077
Units	ppm
Avg	.2035161
Stddev	.0003065
%RSD	.1505972
#1	.2038653
#2	.2033913
#3	.2032917

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3274.046	72873.28	14596.39	2157.836	4044.098
Stddev	3.078	179.81	18.53	1.901	6.580
%RSD	.0940005	.2467406	.1269549	.0881072	.1627091
#1	3277.500	72670.97	14588.26	2159.964	4044.645
#2	3273.042	72934.02	14583.30	2157.240	4050.387
#3	3271.596	73014.86	14617.59	2156.304	4037.261

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-12 Acquired: 3/10/2025 12:55:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0056690	-.000386	.0082080	-.001059	.0001753	.0130707	.8071476
Stddev	.0003753	.002052	.0005783	.003049	.0014345	.0024780	.0030353
%RSD	6.621178	530.8761	7.045732	287.9193	818.3015	18.95859	.3760537
#1	.0052880	.000728	.0075555	.000941	.0011070	.0116215	.8096631
#2	.0056805	.000866	.0086571	.000450	-.001477	.0116587	.8080036
#3	.0060384	-.002754	.0084114	-.004568	.000895	.0159320	.8037763

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002186	-.002409	13.17998	.0010581	.0250024	.0034333	32.58157
Stddev	.0000325	.000042	.02252	.0004341	.0001143	.0003757	.08411
%RSD	14.84979	1.751388	.1708649	41.02976	.4570979	10.94379	.2581621
#1	.0001927	-.002456	13.20092	.0015299	.0248937	.0031991	32.67785
#2	.0002081	-.002396	13.18286	.0009690	.0249920	.0032341	32.54456
#3	.0002550	-.002374	13.15615	.0006754	.0251216	.0038667	32.52232

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.392319	3.236876	.0087793	.0002540	341.2402	-.000746	.3298391
Stddev	.005144	.020298	.0002430	.0001277	2.5646	.001274	.0011677
%RSD	.3694457	.6270860	2.767937	50.28925	.7515530	170.7435	.3540272
#1	1.397944	3.259693	.0084991	.0002045	343.4719	-.002140	.3287768
#2	1.391157	3.220825	.0089055	.0003991	338.4386	-.000458	.3310894
#3	1.387855	3.230109	.0089332	.0001584	341.8100	.000359	.3296510

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.948070	.1025119	-.000234	.0002484	-.000266	.9997419	.0162105
Stddev	.021202	.0006933	.000175	.0002150	.000414	.0088001	.0011501
%RSD	1.088334	.6763017	74.66550	86.54239	155.6384	.8802317	7.094978
#1	1.968258	.1023542	-.000096	.0002155	-.000580	.9968795	.0164837
#2	1.949970	.1032704	-.000177	.0000518	.000203	.9927295	.0149484
#3	1.925983	.1019110	-.000431	.0004780	-.000421	1.009617	.0171995

Sample Name: Q1489-12 Acquired: 3/10/2025 12:55:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.7717777	.0028414	.0972198
Stddev	.0119163	.0016143	.0004580
%RSD	1.544005	56.81250	.4711258
#1	.7681686	.0040885	.0976709
#2	.7620831	.0034177	.0972333
#3	.7850813	.0010181	.0967551

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3006.538	66210.59	13848.98	1974.310	4007.530
Stddev	12.682	179.80	13.45	4.601	13.601
%RSD	.4218181	.2715554	.0971315	.2330281	.3393944
#1	2997.750	66165.53	13836.77	1978.884	4002.134
#2	3021.077	66408.64	13846.78	1974.362	4023.002
#3	3000.787	66057.61	13863.40	1969.683	3997.455

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16 Acquired: 3/10/2025 12:59:51 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0017952	-.005756	.0120413	.0052303	.0011312	.1021290	.6982854
Stddev	.0009112	.001455	.0012431	.0017011	.0008331	.0042667	.0023925
%RSD	50.75615	25.27691	10.32335	32.52450	73.65325	4.177796	.3426239
#1	.0025272	-.005293	.0127497	.0070780	.0019145	.1043330	.6964782
#2	.0007747	-.007385	.0127682	.0048837	.0002558	.1048430	.6973795
#3	.0020838	-.004588	.0106059	.0037291	.0012232	.0972110	.7009986

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000145	-.000037	7.958992	.0011224	.0045519	.0015422	4.039735
Stddev	.0000547	.000034	.015571	.0003363	.0001014	.0000744	.013730
%RSD	377.2541	91.84282	.1956390	29.95918	2.227005	4.821154	.3398752
#1	.0000682	.000001	7.949522	.0007981	.0046148	.0014783	4.040533
#2	.0000166	-.000064	7.950490	.0010997	.0046060	.0015246	4.025623
#3	-.000041	-.000047	7.976963	.0014695	.0044350	.0016238	4.053048

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6518708	1.871734	.0032408	.0002091	295.7364	.0015457	.4850345
Stddev	.0017162	.020175	.0001305	.0001439	1.7174	.0010331	.0018721
%RSD	.2632648	1.077888	4.027380	68.78200	.5807202	66.83649	.3859660
#1	.6523183	1.892833	.0031797	.0000975	297.3310	.0024962	.4869428
#2	.6499752	1.869737	.0031519	.0001584	295.9602	.0004462	.4849598
#3	.6533188	1.852631	.0033906	.0003715	293.9181	.0016947	.4832009

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.696107	.2160348	-.000129	.0007102	.0009531	.6335403	.0152461
Stddev	.026752	.0008113	.000309	.0004700	.0004313	.0082016	.0011526
%RSD	1.577264	.3755641	239.6694	66.17523	45.24961	1.294564	7.559959
#1	1.692610	.2163258	-.000109	.0001712	.0005010	.6371383	.0158342
#2	1.671276	.2166605	.000170	.0010346	.0009985	.6241547	.0159861
#3	1.724436	.2151181	-.000447	.0009249	.0013600	.6393279	.0139181

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16 Acquired: 3/10/2025 12:59:51 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	1.015424	-.008148	.0597018
Stddev	.005151	.000210	.0001607
%RSD	.5072922	2.578221	.2691732
#1	1.011424	-.008076	.0598792
#2	1.013613	-.008384	.0595660
#3	1.021237	-.007983	.0596602

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2995.836	67316.38	13034.87	1983.687	4037.944
Stddev	7.981	131.90	42.19	7.970	9.590
%RSD	.2664055	.1959469	.3236545	.4017582	.2374949
#1	3004.454	67173.41	12986.30	1975.018	4048.663
#2	2988.699	67342.40	13055.86	1985.346	4034.993
#3	2994.355	67433.34	13062.44	1990.696	4030.177

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16DUP Acquired: 3/10/2025 13:04:14 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001900	-.003261	.0118027	.0052800	.0013492	.1056657	.6951321
Stddev	.002760	.001285	.0013954	.0008069	.0010570	.0021125	.0023690
%RSD	145.2507	39.42478	11.82236	15.28125	78.33887	1.999279	.3408008
#1	.001220	-.004351	.0123388	.0045686	.0007805	.1064447	.6951280
#2	-.002898	-.003588	.0102188	.0061567	.0025687	.1072780	.6975032
#3	-.004022	-.001843	.0128505	.0051147	.0006984	.1032742	.6927652

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000049	-.000073	7.876032	.0011546	.0045574	.0020713	4.054797
Stddev	.000028	.000046	.040064	.0000965	.0003985	.0002071	.001015
%RSD	58.24884	62.17975	.5086797	8.355961	8.743920	9.999246	.0250404
#1	-.000040	-.000055	7.910611	.0011556	.0041407	.0018380	4.054572
#2	-.000026	-.000125	7.885357	.0012505	.0049348	.0021420	4.053913
#3	-.000080	-.000039	7.832128	.0010576	.0045967	.0022337	4.055906

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6445975	1.867326	.0032706	-.000179	300.3769	-.000633	.4835066
Stddev	.0025826	.025464	.0000619	.000278	3.2694	.000607	.0018628
%RSD	.4006532	1.363668	1.893647	154.7016	1.088419	95.94794	.3852653
#1	.6472429	1.896438	.0032038	-.000273	297.2449	-.001000	.4813700
#2	.6444668	1.856346	.0033261	-.000398	303.7682	-.000966	.4847902
#3	.6420827	1.849193	.0032818	.000133	300.1174	.000068	.4843595

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.732504	.2123343	-.000092	.0003374	.0004557	.6424744	.0125943
Stddev	.006359	.0021523	.000212	.0002353	.0004668	.0091646	.0008841
%RSD	.3670481	1.013623	229.7454	69.74343	102.4298	1.426446	7.020107
#1	1.728674	.2145874	-.000153	.0001055	-.000082	.6318995	.0115840
#2	1.739845	.2121159	.000143	.0005761	.000759	.6481039	.0129723
#3	1.728994	.2102995	-.000268	.0003307	.000690	.6474199	.0132265

Sample Name: Q1489-16DUP Acquired: 3/10/2025 13:04:14 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	1.010046	-.007990	.0592715
Stddev	.003284	.000224	.0001412
%RSD	.3251172	2.801783	.2382324
#1	1.011577	-.008206	.0594054
#2	1.012285	-.007759	.0592852
#3	1.006277	-.008004	.0591240

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2994.763	66949.88	13191.30	1983.487	4034.417
Stddev	6.018	75.35	68.87	12.804	10.004
%RSD	.2009341	.1125478	.5220687	.6455445	.2479681
#1	3000.901	67036.70	13125.99	1997.094	4035.325
#2	2994.514	66911.33	13184.68	1981.693	4043.937
#3	2988.874	66901.59	13263.24	1971.675	4023.990

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16LX5 Acquired: 3/10/2025 13:08:38 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002236	-.000950	.0026225	-.000467	.0012230	.0245313	.1346904
Stddev	.002254	.001015	.0002544	.002592	.0018551	.0008449	.0006796
%RSD	100.7672	106.8876	9.702670	555.5059	151.6810	3.444011	.5045814
#1	-.001741	-.001224	.0028002	.002501	.0009986	.0243633	.1344863
#2	-.004697	-.001799	.0027362	-.002284	.0031801	.0254475	.1354487
#3	-.000272	.000174	.0023310	-.001617	-.000510	.0237830	.1341362

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000065	.0000249	1.604039	.0005200	.0010393	.0001675	.8310344
Stddev	.000013	.0000207	.000974	.0000207	.0000469	.0003161	.0039574
%RSD	19.34532	83.09534	.0607002	3.973880	4.514741	188.7350	.4762021
#1	-.000064	.0000421	1.602927	.0005342	.0010155	.0002577	.8355357
#2	-.000052	.0000307	1.604735	.0005294	.0010091	-.000184	.8281019
#3	-.000077	.0000019	1.604456	.0004962	.0010934	.000429	.8294657

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1310272	.3768422	.0006525	.0003882	61.85998	-.000629	.0996041
Stddev	.0005904	.0091369	.0002891	.0001411	.32144	.000853	.0004371
%RSD	.4506234	2.424588	44.30659	36.34833	.5196255	135.6668	.4388007
#1	.1305335	.3868369	.0009711	.0004105	62.21418	-.001571	.0991072
#2	.1308668	.3689186	.0004069	.0002372	61.58680	.000089	.0999288
#3	.1316813	.3747713	.0005795	.0005168	61.77896	-.000403	.0997764

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4720588	.0446094	-.000288	.0001088	.0006331	.1343086	.0025702
Stddev	.0215801	.0009004	.000404	.0007058	.0005274	.0025250	.0012277
%RSD	4.571487	2.018391	140.4406	648.7448	83.30153	1.880025	47.76873
#1	.4731237	.0435745	.000043	-.000588	.0001844	.1319569	.0011967
#2	.4930868	.0452137	-.000738	.000090	.0012139	.1369771	.0029529
#3	.4499660	.0450398	-.000168	.000824	.0005009	.1339917	.0035610

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16LX5 Acquired: 3/10/2025 13:08:38 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.2065839	.0095981	.0121907
Stddev	.0034650	.0002689	.0000980
%RSD	1.677304	2.801533	.8039677
#1	.2064978	.0097395	.0120789
#2	.2031626	.0097667	.0122617
#3	.2100911	.0092880	.0122315

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3129.525	68483.81	13701.44	2019.111	4324.122
Stddev	6.845	305.89	25.48	4.699	7.829
%RSD	.2187314	.4466550	.1859889	.2327374	.1810629
#1	3129.523	68256.97	13701.27	2015.322	4329.202
#2	3136.372	68362.76	13727.00	2017.641	4328.059
#3	3122.681	68831.69	13676.04	2024.369	4315.106

Sample Name: Q1489-16MS Acquired: 3/10/2025 13:12:56 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.8837570	1.909482	.9986020	2.118183	.8647583	2.111696	.9439686
Stddev	.0017380	.016499	.0041036	.007340	.0029173	.001682	.0065071
%RSD	.1966622	.8640695	.4109348	.3465347	.3373555	.0796487	.6893358
#1	.8820803	1.894145	.9939385	2.114305	.8669838	2.113369	.9411681
#2	.8836403	1.926939	1.001661	2.126649	.8614556	2.110006	.9393306
#3	.8855504	1.907362	1.000207	2.113596	.8658355	2.111712	.9514071

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1825073	.2029621	9.290742	.4246282	.2117070	.3114899	7.650225
Stddev	.0005476	.0002970	.024235	.0009045	.0005216	.0007127	.067536
%RSD	.3000227	.1463483	.2608560	.2130170	.2463930	.2287862	.8827956
#1	.1829094	.2026295	9.308762	.4236152	.2111192	.3106781	7.622624
#2	.1827288	.2030559	9.263190	.4249142	.2118868	.3117792	7.600862
#3	.1818837	.2032009	9.300274	.4253552	.2121149	.3120124	7.727190

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8679944	3.830388	.5170956	.0789566	338.3988	.3040108	.7182126
Stddev	.0051114	.007909	.0010230	.0001784	5.2095	.0021912	.0028022
%RSD	.5888724	.2064837	.1978326	.2259958	1.539455	.7207762	.3901604
#1	.8691402	3.824376	.5159592	.0788800	335.8008	.3034359	.7156761
#2	.8624074	3.839348	.5173849	.0791605	334.9993	.3021642	.7177412
#3	.8724356	3.827440	.5179428	.0788292	344.3964	.3064321	.7212206

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.71121	.4682121	.4409236	.7158876	.2006717	1.677826	6.198358
Stddev	.12599	.0012310	.0008689	.0028293	.0012591	.012092	.008069
%RSD	.9188628	.2629206	.1970695	.3952129	.6274287	.7207123	.1301781
#1	13.57138	.4696284	.4400471	.7137319	.2021249	1.665196	6.189556
#2	13.74637	.4676085	.4409390	.7148395	.1999081	1.678985	6.200113
#3	13.81588	.4673994	.4417847	.7190913	.1999820	1.689297	6.205404

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1489-16MS Acquired: 3/10/2025 13:12:56 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	1.021523	.2027612	.2628771
Stddev	.006433	.0016083	.0018933
%RSD	.6297747	.7931960	.7202303
#1	1.017747	.2009893	.2617557
#2	1.017871	.2031656	.2618125
#3	1.028951	.2041287	.2650631

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2962.659	65261.46	13507.16	1939.598	3952.240
Stddev	3.068	76.23	68.33	5.439	5.839
%RSD	.1035617	.1168127	.5059112	.2804313	.1477469
#1	2965.085	65249.99	13447.53	1934.897	3957.992
#2	2959.210	65191.61	13492.23	1945.556	3946.318
#3	2963.682	65342.77	13581.73	1938.343	3952.410

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05 Acquired: 3/10/2025 13:17:06 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002681	-.002932	.0004664	.0021798	.0014789	.0192769	-.006182
Stddev	.000638	.000341	.0003119	.0004164	.0003585	.0037873	.000295
%RSD	23.80385	11.63594	66.86482	19.10457	24.24389	19.64674	4.775126
#1	-.003088	-.002581	.0006675	.0026587	.0018553	.0178237	-.006475
#2	-.003010	-.002953	.0006247	.0019023	.0014398	.0164315	-.006185
#3	-.001946	-.003263	.0001072	.0019785	.0011414	.0235756	-.005885

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000131	-.000048	.1312585	.0007322	-.000233	-.000225	.0238787
Stddev	.000021	.000016	.0053757	.0003404	.000121	.000212	.0018047
%RSD	15.66328	33.11664	4.095503	46.48234	51.88127	93.87416	7.557944
#1	-.000117	-.000066	.1251027	.0003828	-.000116	-.000393	.0244727
#2	-.000123	-.000046	.1350274	.0010627	-.000225	-.000296	.0218518
#3	-.000155	-.000034	.1336454	.0007512	-.000357	.000012	.0253115

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015504	.0285441	.0006299	.0001544	.5537471	-.000806	.0062076
Stddev	.0000886	.0096138	.0001121	.0003368	.0047480	.001799	.0002302
%RSD	5.716432	33.68047	17.79750	218.1121	.8574390	223.0578	3.707754
#1	.0016517	.0323723	.0007028	.0005070	.5589677	.000812	.0062253
#2	.0015128	.0176060	.0005008	-.000164	.5496867	-.000488	.0064285
#3	.0014868	.0356542	.0006861	.000120	.5525869	-.002743	.0059692

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.072211	.0005411	-.000100	.0001980	.0010672	.0638240	.0069950
Stddev	.027360	.0002597	.000177	.0012160	.0007670	.0029569	.0006356
%RSD	37.88968	47.99270	176.5477	614.2274	71.87301	4.632919	9.086260
#1	-.040618	.0007458	-.000304	-.001024	.0002001	.0663915	.0067339
#2	-.088003	.0002490	-.000007	.000209	.0016570	.0644896	.0077195
#3	-.088011	.0006285	.000011	.001408	.0013445	.0605911	.0065315

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05 Acquired: 3/10/2025 13:17:06 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0156860	-.008951	.0001890
Stddev	.0018534	.000486	.0000209
%RSD	11.81587	5.434261	11.07531
#1	.0175572	-.008498	.0002132
#2	.0156501	-.009465	.0001773
#3	.0138508	-.008890	.0001766

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3280.116	71917.22	13881.18	2126.999	4792.427
Stddev	11.432	387.10	31.77	8.402	15.750
%RSD	.3485222	.5382600	.2288709	.3950178	.3286518
#1	3281.320	71545.15	13905.75	2119.500	4793.081
#2	3290.899	71888.74	13892.48	2125.417	4807.840
#3	3268.130	72317.78	13845.31	2136.079	4776.360

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV02 Acquired: 3/10/2025 13:21:25 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	5.086069	5.048287	4.953410	5.152905	5.186048	9.921174	10.20759
Stddev	.009622	.047921	.010566	.011926	.008453	.012455	.08279
%RSD	.1891908	.9492625	.2133061	.2314408	.1630042	.1255396	.8111091
#1	5.084956	5.103310	4.943734	5.139785	5.179738	9.928907	10.18965
#2	5.077052	5.025853	4.951814	5.155841	5.182754	9.906806	10.29789
#3	5.096200	5.015697	4.964684	5.163088	5.195653	9.927809	10.13524

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2314059	2.466145	24.34026	1.004633	2.483102	1.272894	5.223595
Stddev	.0003278	.004555	.05826	.001685	.003425	.005191	.020990
%RSD	.1416630	.1846820	.2393458	.1677529	.1379373	.4078219	.4018280
#1	.2317367	2.462142	24.40188	1.003382	2.479989	1.267120	5.241117
#2	.2310812	2.465193	24.33282	1.006549	2.482545	1.274386	5.229337
#3	.2313999	2.471100	24.28608	1.003968	2.486771	1.277176	5.200332

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.416347	24.02603	2.487111	1.261826	26.39935	2.472148	2.545874
Stddev	.006262	.00814	.004983	.001870	.20933	.002510	.007103
%RSD	.2591606	.0338724	.2003688	.1482167	.7929490	.1015204	.2789918
#1	2.422978	24.01999	2.483096	1.263780	26.62495	2.470731	2.551157
#2	2.415527	24.03528	2.485549	1.261646	26.36170	2.475046	2.537799
#3	2.410534	24.02281	2.492688	1.260053	26.21139	2.470668	2.548665

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.68832	4.648659	5.159434	4.959140	4.950758	5.273619	4.966467
Stddev	.06800	.012378	.006449	.008870	.010157	.013272	.011384
%RSD	.2547776	.2662800	.1250037	.1788539	.2051608	.2516761	.2292077
#1	26.75122	4.649379	5.152325	4.961767	4.962470	5.258653	4.979395
#2	26.69757	4.635937	5.161067	4.949254	4.945441	5.283961	4.962064
#3	26.61617	4.660662	5.164910	4.966399	4.944364	5.278242	4.957943

Sample Name: CCV02 Acquired: 3/10/2025 13:21:25 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	4.940313	4.986180	5.016122
Stddev	.009905	.009787	.050084
%RSD	.2004932	.1962744	.9984527
#1	4.934274	4.997457	5.070053
#2	4.951744	4.981172	5.007240
#3	4.934920	4.979911	4.971074

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3122.883	68403.26	13453.46	2040.744	4184.557
Stddev	2.250	183.66	9.34	8.866	2.574
%RSD	.0720471	.2684927	.0694368	.4344407	.0615130
#1	3124.775	68377.99	13445.86	2030.642	4183.959
#2	3123.479	68233.54	13450.65	2044.361	4187.378
#3	3120.396	68598.24	13463.89	2047.230	4182.336

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB02 Acquired: 3/10/2025 13:25:36 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001734	.0005758	.0000075	-.000805	-.000130	-.001046	-.004331
Stddev	.001409	.0012605	.0014947	.000780	.001246	.001299	.000612
%RSD	81.24791	218.9246	19784.53	96.94305	958.2200	124.2172	14.12612
#1	-.000550	.0012208	.0005680	-.001058	.001072	-.000186	-.004986
#2	-.003293	-.000877	.0011410	.000070	-.000046	-.002540	-.003774
#3	-.001360	.001383	-.001686	-.001428	-.001415	-.000411	-.004233

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000037	.0000813	-.004647	.0004274	-.000005	-.000106	-.005986
Stddev	.000042	.0000784	.003201	.0001411	.000112	.000223	.003528
%RSD	114.1793	96.37399	68.87134	33.01379	2143.773	210.1076	58.93471
#1	.000002	.0001709	-.008335	.0005649	-.000105	.000086	-.008556
#2	-.000082	.0000476	-.002588	.0002829	-.000027	-.000350	-.001964
#3	-.000031	.0000255	-.003019	.0004343	.000116	-.000054	-.007439

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000175	-.008089	.0002764	.0000323	.0499348	-.000435	-.000848
Stddev	.000146	.005057	.0001442	.0001200	.0058895	.000959	.000317
%RSD	83.42413	62.51748	52.14660	371.2363	11.79445	220.1438	37.36691
#1	-.000257	-.002804	.0004383	-.000106	.0515727	-.000073	-.001202
#2	-.000006	-.008581	.0001620	.000110	.0433997	-.001523	-.000749
#3	-.000263	-.012883	.0002290	.000093	.0548320	.000289	-.000592

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1133965	.0049862	.0002762	-.000816	-.000108	.0082201	.0017587
Stddev	.0062237	.0001763	.0001271	.000758	.000198	.0055037	.0015101
%RSD	5.488404	3.535899	46.02328	92.87310	182.8049	66.95492	85.86475
#1	.1205113	.0050795	.0002682	-.001670	.000050	.0087958	.0034701
#2	.1089628	.0050962	.0001533	-.000551	-.000330	.0134133	.0006141
#3	.1107153	.0047828	.0004071	-.000226	-.000044	.0024511	.0011917

Sample Name: CCB02 Acquired: 3/10/2025 13:25:36 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001781	.0004765	.0000187
Stddev	.002451	.0007149	.0000783
%RSD	137.6098	150.0290	418.4412
#1	-.002922	-.000073	-.000031
#2	-.003454	.000218	.000109
#3	.001033	.001285	-.000022

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3225.200	70090.15	13792.13	2109.777	4617.010
Stddev	5.943	53.49	130.59	5.262	18.001
%RSD	.1842633	.0763215	.9468090	.2493926	.3898796
#1	3223.443	70148.40	13942.65	2107.121	4615.942
#2	3231.823	70078.85	13709.09	2106.374	4635.521
#3	3220.334	70043.22	13724.66	2115.838	4599.567

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05DUP Acquired: 3/10/2025 13:29:55 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002738	-.002731	.0000755	.0009639	.0019463	.0215051	-.005654
Stddev	.002224	.001303	.0007361	.0009851	.0002169	.0004077	.000634
%RSD	81.24111	47.72039	974.7498	102.1972	11.14508	1.896023	11.20848
#1	-.004190	-.001388	-.000144	-.000129	.0017149	.0219710	-.004951
#2	-.000177	-.002814	-.000526	.001783	.0021449	.0212137	-.006183
#3	-.003847	-.003991	.000896	.001237	.0019792	.0213305	-.005827

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000139	-.000036	.1263559	.0004463	-.000303	-.000342	.0208606
Stddev	.000028	.000040	.0028181	.0003397	.000022	.000105	.0017717
%RSD	20.16012	113.3005	2.230276	76.12817	7.375830	30.54854	8.493201
#1	-.000138	-.000082	.1293120	.0000853	-.000306	-.000442	.0189687
#2	-.000112	-.000006	.1260560	.0004938	-.000279	-.000350	.0224808
#3	-.000168	-.000019	.1236998	.0007598	-.000323	-.000234	.0211322

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012180	.0465353	.0003278	-.000065	.5351188	-.000262	.0060523
Stddev	.0002209	.0114399	.0002232	.000287	.0030413	.000598	.0001738
%RSD	18.13736	24.58320	68.09181	440.7533	.5683436	228.1896	2.872047
#1	.0010364	.0481290	.0001326	.000227	.5339811	.000362	.0058588
#2	.0011537	.0343821	.0005712	-.000346	.5328103	-.000319	.0061030
#3	.0014640	.0570947	.0002797	-.000077	.5385649	-.000830	.0061952

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.081623	.0024800	.0001457	.0004108	.0008501	.0632901	.0082074
Stddev	.020038	.0002281	.0001875	.0002815	.0002690	.0009854	.0016574
%RSD	24.54922	9.198784	128.6656	68.52804	31.64339	1.557033	20.19436
#1	-.103201	.0026155	.0002867	.0004797	.0006373	.0621558	.0098397
#2	-.063602	.0022166	.0002176	.0001013	.0011525	.0639357	.0065259
#3	-.078066	.0026078	-.000067	.0006516	.0007605	.0637787	.0082566

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05DUP Acquired: 3/10/2025 13:29:55 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0154306	-.008984	.0001789
Stddev	.0021711	.001057	.0000219
%RSD	14.07022	11.76754	12.22324
#1	.0175448	-.009687	.0001538
#2	.0132067	-.009496	.0001900
#3	.0155403	-.007768	.0001931

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3214.549	71772.08	13375.08	2124.396	4647.872
Stddev	3.067	181.64	22.27	11.653	5.851
%RSD	.0954214	.2530811	.1665025	.5485518	.1258824
#1	3217.340	71715.76	13362.63	2134.017	4644.883
#2	3215.043	71975.21	13400.79	2127.733	4654.614
#3	3211.265	71625.27	13361.82	2111.438	4644.120

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05LX5 Acquired: 3/10/2025 13:34:16 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002479	-.001329	.0005699	.0016502	.0013957	.0042422	-.006958
Stddev	.001986	.001436	.0017827	.0006252	.0010925	.0021455	.000455
%RSD	80.08120	108.0792	312.7958	37.88655	78.27321	50.57457	6.545411
#1	-.002411	-.002726	-.001262	.0010700	.0020866	.0052486	-.006802
#2	-.000529	.000143	.002299	.0023123	.0001362	.0017785	-.006601
#3	-.004498	-.001404	.000672	.0015684	.0019642	.0056994	-.007471

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000037	.0000557	.0224048	.0002922	-.000186	-.000022	.0025297
Stddev	.000017	.0000954	.0071353	.0004356	.000091	.000141	.0028930
%RSD	46.93154	171.1997	31.84738	149.1069	48.94507	634.7139	114.3638
#1	-.000034	.0000474	.0141676	.0001056	-.000193	-.000161	-.000093
#2	-.000055	.0001550	.0263650	.0007900	-.000273	.000121	.005633
#3	-.000021	-.000035	.0266816	-.000019	-.000092	-.000027	.002049

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006527	-.008031	-.000052	.0002408	.1173785	-.002043	.0005493
Stddev	.0001196	.015137	.000193	.0002267	.0131438	.001019	.0005285
%RSD	18.32047	188.4922	372.8881	94.13379	11.19777	49.89288	96.21032
#1	.0005318	-.012715	-.000250	.0003794	.1216685	-.003220	.0003926
#2	.0007709	.008895	.000135	-.000021	.1026258	-.001454	.0001169
#3	.0006554	-.020272	-.000041	.000364	.1278413	-.001455	.0011384

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.013889	.0001784	-.000079	-.000205	.0010512	.0096835	.0022597
Stddev	.004476	.0004711	.000182	.001812	.0006747	.0024122	.0031510
%RSD	32.23054	264.0710	228.6489	882.7481	64.18513	24.90984	139.4459
#1	-.010890	-.000008	-.000199	.001534	.0013843	.0081921	.0033906
#2	-.019034	-.000171	.000130	-.002081	.0014947	.0083920	-.001301
#3	-.011742	.000714	-.000168	-.000068	.0002747	.0124664	.004689

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05LX5 Acquired: 3/10/2025 13:34:16 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0047197	-.003238	.0000147
Stddev	.0021629	.000478	.0000247
%RSD	45.82802	14.75142	167.7786
#1	.0022653	-.003318	.0000245
#2	.0055465	-.003671	-.000013
#3	.0063473	-.002725	.000033

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3194.603	72724.01	13889.68	2118.087	4576.001
Stddev	11.692	485.14	46.86	6.934	11.321
%RSD	.3659888	.6670973	.3373718	.3273687	.2474026
#1	3200.366	72317.26	13917.26	2110.810	4580.112
#2	3202.295	72593.82	13835.58	2118.834	4584.692
#3	3181.149	73260.97	13916.21	2124.618	4563.199

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05MS Acquired: 3/10/2025 13:38:35 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.8152040	1.927758	.9572896	1.925921	.8223988	1.962128	.1877578
Stddev	.0029053	.010902	.0024316	.006146	.0018056	.004110	.0009743
%RSD	.3563849	.5655181	.2540093	.3191410	.2195581	.2094577	.5189255
#1	.8161657	1.939701	.9596618	1.926399	.8239778	1.966740	.1868301
#2	.8119399	1.918342	.9574044	1.919550	.8204301	1.960793	.1876705
#3	.8175066	1.925230	.9548026	1.931815	.8227884	1.958853	.1887728

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1715544	.1863160	1.102985	.4091340	.1946147	.3186893	3.235982
Stddev	.0012445	.0001479	.001818	.0008378	.0000186	.0005170	.030814
%RSD	.7254304	.0793968	.1647870	.2047739	.0095493	.1622212	.9522213
#1	.1701971	.1863556	1.100996	.4085473	.1945991	.3190727	3.264644
#2	.1726419	.1861523	1.103399	.4100935	.1946353	.3181013	3.203393
#3	.1718241	.1864401	1.104560	.4087612	.1946098	.3188939	3.239909

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1919014	1.861338	.4932858	.0733661	3.218992	.2907199	.2033055
Stddev	.0003066	.017596	.0004624	.0004450	.016262	.0023683	.0014205
%RSD	.1597734	.9453594	.0937353	.6065197	.5052010	.8146213	.6986953
#1	.1920057	1.875416	.4935296	.0728560	3.206134	.2897196	.2017442
#2	.1915563	1.841611	.4927525	.0735677	3.213569	.2890159	.2045215
#3	.1921423	1.866986	.4935753	.0736746	3.237273	.2934242	.2036509

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.12373	.2404836	.4277264	.6673093	.1925108	.9200425	5.305808
Stddev	.05521	.0020168	.0013972	.0010081	.0009388	.0079852	.010446
%RSD	.5453568	.8386368	.3266678	.1510710	.4876454	.8679163	.1968810
#1	10.18015	.2385069	.4281519	.6677380	.1925858	.9117420	5.306868
#2	10.06981	.2425382	.4261659	.6661577	.1915368	.9276697	5.294872
#3	10.12124	.2404055	.4288615	.6680323	.1934098	.9207157	5.315683

Sample Name: Q1415-05MS Acquired: 3/10/2025 13:38:35 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0077126	.1879486	.1948470
Stddev	.0014153	.0005339	.0004461
%RSD	18.34997	.2840650	.2289718
#1	.0081450	.1885651	.1950728
#2	.0061316	.1876352	.1943331
#3	.0088612	.1876455	.1951351

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3158.939	71691.58	14188.34	2086.670	4515.399
Stddev	7.433	184.93	42.84	5.274	5.048
%RSD	.2353061	.2579551	.3019468	.2527633	.1117971
#1	3151.893	71503.52	14236.38	2089.151	4509.600
#2	3166.707	71873.22	14154.10	2090.246	4518.817
#3	3158.217	71698.00	14174.54	2080.612	4517.778

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05MSD Acquired: 3/10/2025 13:42:36 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.8119025	1.889444	.9544553	1.919865	.8140333	1.960322	.1903128
Stddev	.0025721	.008815	.0015697	.007236	.0036269	.005875	.0008216
%RSD	.3168026	.4665570	.1644625	.3768943	.4455409	.2997111	.4317223
#1	.8106298	1.884201	.9562658	1.916263	.8111360	1.964159	.1893653
#2	.8102148	1.899621	.9534753	1.915137	.8128632	1.953558	.1908295
#3	.8148629	1.884509	.9536247	1.928195	.8181008	1.963249	.1907434

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1733456	.1857632	1.111649	.4059844	.1938953	.3179872	3.203326
Stddev	.0007023	.0003207	.007440	.0009065	.0004597	.0010796	.003098
%RSD	.4051595	.1726533	.6693064	.2232780	.2371074	.3395159	.0967070
#1	.1729563	.1856605	1.117492	.4064455	.1939814	.3175503	3.199790
#2	.1741563	.1855064	1.114183	.4065677	.1933986	.3171945	3.204630
#3	.1729240	.1861227	1.103273	.4049401	.1943059	.3192168	3.205559

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1933140	1.883834	.4925709	.0736028	3.185372	.2914310	.2019681
Stddev	.0006388	.000890	.0011589	.0002977	.009133	.0002134	.0007391
%RSD	.3304453	.0472183	.2352752	.4044382	.2867246	.0732270	.3659652
#1	.1927531	1.884670	.4927211	.0736938	3.177960	.2912169	.2012972
#2	.1940093	1.882899	.4913442	.0738444	3.182582	.2914326	.2027604
#3	.1931798	1.883934	.4936473	.0732703	3.195575	.2916437	.2018466

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.05745	.2431857	.4251719	.6637815	.1930536	.9053588	5.301713
Stddev	.01419	.0006034	.0007326	.0010065	.0005040	.0034581	.015211
%RSD	.1410485	.2481452	.1723170	.1516298	.2610823	.3819639	.2869122
#1	10.04151	.2436015	.4246784	.6638292	.1928873	.9014756	5.287546
#2	10.06218	.2434620	.4248235	.6627520	.1936198	.9081062	5.299806
#3	10.06867	.2424936	.4260137	.6647633	.1926538	.9064945	5.317788

Sample Name: Q1415-05MSD Acquired: 3/10/2025 13:42:36 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0078689	.1889128	.1958584
Stddev	.0027505	.0013287	.0003379
%RSD	34.95370	.7033410	.1725434
#1	.0067056	.1904468	.1962100
#2	.0058913	.1881179	.1955361
#3	.0110099	.1881739	.1958291

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3167.973	72431.96	14111.43	2120.797	4520.145
Stddev	4.891	187.89	61.14	1.217	2.634
%RSD	.1543775	.2593986	.4332917	.0573929	.0582640
#1	3170.485	72484.73	14100.20	2120.232	4521.728
#2	3171.098	72223.33	14056.68	2122.194	4521.602
#3	3162.337	72587.82	14177.41	2119.965	4517.105

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05A Acquired: 3/10/2025 13:46:38 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.7984907	1.888991	.9417565	1.880962	.8064259	1.962504	.1851944
Stddev	.0050801	.005870	.0032632	.009660	.0025161	.002347	.0004197
%RSD	.6362073	.3107580	.3465039	.5135539	.3120075	.1196171	.2266074
#1	.7945615	1.892751	.9407579	1.873621	.8057851	1.959854	.1847314
#2	.7966833	1.882227	.9391093	1.877360	.8042923	1.963332	.1855496
#3	.8042273	1.891996	.9454023	1.891905	.8092005	1.964325	.1853023

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1801639	.1838989	1.100500	.4049356	.1917639	.3152780	3.152238
Stddev	.0011368	.0004735	.004937	.0012927	.0006894	.0011261	.016108
%RSD	.6309561	.2574940	.4485922	.3192408	.3595177	.3571677	.5110122
#1	.1799417	.1838361	1.094817	.4039445	.1917059	.3154881	3.137866
#2	.1813954	.1834599	1.102956	.4044646	.1911053	.3140617	3.149197
#3	.1791547	.1844007	1.103727	.4063978	.1924805	.3162843	3.169650

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1918484	1.896757	.4874705	.0742074	3.148253	.2891594	.2035511
Stddev	.0005181	.016773	.0018632	.0002773	.013719	.0009606	.0008834
%RSD	.2700725	.8842943	.3822237	.3737354	.4357620	.3322127	.4339789
#1	.1916603	1.890520	.4866287	.0743905	3.134449	.2882317	.2030067
#2	.1914505	1.883996	.4861766	.0743435	3.148423	.2890967	.2030763
#3	.1924343	1.915755	.4896060	.0738883	3.161886	.2901499	.2045704

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.837650	.2505254	.4222700	.6577538	.1900990	.8960945	5.246083
Stddev	.092580	.0027139	.0007420	.0011255	.0012338	.0067400	.007328
%RSD	.9410820	1.083297	.1757286	.1711163	.6490275	.7521539	.1396768
#1	9.859474	.2509566	.4222308	.6590460	.1915177	.8953828	5.246687
#2	9.736107	.2529978	.4215483	.6569869	.1892771	.8897386	5.238473
#3	9.917368	.2476216	.4230308	.6572286	.1895021	.9031621	5.253090

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-05A Acquired: 3/10/2025 13:46:38 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0080455	.1875488	.1925997
Stddev	.0013237	.0023770	.0002422
%RSD	16.45262	1.267408	.1257323
#1	.0084796	.1901921	.1925567
#2	.0065593	.1855868	.1928605
#3	.0090976	.1868676	.1923820

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3183.608	70548.71	13562.46	2092.473	4553.711
Stddev	7.905	370.16	22.93	18.952	10.992
%RSD	.2483172	.5246874	.1691023	.9057222	.2413897
#1	3181.561	70714.11	13578.11	2105.829	4551.609
#2	3192.336	70807.34	13536.13	2100.807	4565.603
#3	3176.928	70124.69	13573.12	2070.782	4543.922

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-06 Acquired: 3/10/2025 13:50:40 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0274239	.0017625	.2432050	-.031023	-.003177	115.4708
Stddev	.0026197	.0016119	.0002415	.001746	.004069	.2430
%RSD	9.552501	91.45517	.0992889	5.628581	128.0599	.2104752
#1	.0300203	.0013824	.2433267	-.031133	-.006444	115.3897
#2	.0247816	.0035306	.2429269	-.032713	.001381	115.2787
#3	.0274698	.0003747	.2433614	-.029225	-.004469	115.7440

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9517516	.0069764	-.000860	178.8399	.3770165	.1112841
Stddev	.0012958	.0000513	.000382	.6890	.0016636	.0002978
%RSD	.1361512	.7352538	44.47811	.3852863	.4412577	.2676297
#1	.9531814	.0070345	-.000869	179.1498	.3758636	.1115871
#2	.9514190	.0069372	-.001238	178.0503	.3789236	.1112733
#3	.9506546	.0069575	-.000473	179.3195	.3762623	.1109918

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5551225	187.9019	4.879887	139.7177	.3103877	-.000850
Stddev	.0020496	.9125	.024706	.7010	.0013945	.000216
%RSD	.3692167	.4856138	.5062765	.5017298	.4492785	25.44481
#1	.5573649	187.8357	4.903203	139.6650	.3119954	-.001032
#2	.5546568	188.8457	4.853994	139.0445	.3096616	-.000611
#3	.5533458	187.0243	4.882464	140.4436	.3095061	-.000906

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1026.026	.2141394	.7669168	100.2436	1.032936	.0609358
Stddev	7.322	.0023575	.0042705	.7700	.004183	.0000810
%RSD	.7135828	1.100902	.5568375	.7681053	.4049441	.1329545
#1	1033.711	.2160093	.7621563	100.0311	1.036001	.0609921
#2	1025.236	.2114912	.7681831	101.0976	1.028171	.0608429
#3	1019.132	.2149178	.7704108	99.6022	1.034636	.0609723

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-06 Acquired: 3/10/2025 13:50:40 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0258274	2.285522	F 66.65839	6.682494	F 110.1574	.2764177
Stddev	.0012082	.007222	.32356	.029005	.4894	.0006297
%RSD	4.677856	.3159960	.4853929	.4340440	.4442810	.2278177
#1	.0272215	2.289819	66.42230	6.715070	110.6351	.2761260
#2	.0250851	2.277184	67.02720	6.659470	109.6571	.2771404
#3	.0251755	2.289564	66.52565	6.672940	110.1800	.2759867

Elem	Sr4077
Units	ppm
Avg	1.336929
Stddev	.014470
%RSD	1.082315
#1	1.335532
#2	1.323209
#3	1.352047

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3165.894	69031.82	14856.08	2065.877	3338.831
Stddev	11.094	82.21	119.94	13.532	6.276
%RSD	.3504109	.1190916	.8073558	.6550048	.1879633
#1	3160.824	69112.51	14813.98	2071.977	3331.627
#2	3158.241	68948.17	14991.39	2075.285	3341.757
#3	3178.617	69034.78	14762.86	2050.369	3343.110

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04 Acquired: 3/10/2025 13:55:01 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0021798	.0077082	.0038384	-.013523	-.003552	.2844091
Stddev	.0015676	.0007602	.0017827	.003314	.000690	.0053248
%RSD	71.91532	9.862512	46.44501	24.50378	19.42202	1.872248
#1	.0013739	.0084423	.0020902	-.016814	-.004281	.2899461
#2	.0011791	.0069243	.0037712	-.010187	-.002909	.2793254
#3	.0039864	.0077578	.0056538	-.013569	-.003466	.2839558

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1034380	.0011217	-.005240	42.20531	-.000925	.0245280
Stddev	.0008528	.0000828	.000103	.07111	.000255	.0000886
%RSD	.8244897	7.383037	1.966568	.1684837	27.60924	.3611279
#1	.1024569	.0010952	-.005121	42.28299	-.000630	.0246159
#2	.1040029	.0012145	-.005301	42.18955	-.001083	.0244388
#3	.1038541	.0010553	-.005297	42.14341	-.001061	.0245292

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0228722	82.66188	1.709136	8.637780	.0570154	-.000515
Stddev	.0005196	.42694	.004755	.013171	.0004447	.000537
%RSD	2.271944	.5164898	.2781894	.1524807	.7800007	104.2277
#1	.0225385	82.24479	1.711698	8.647690	.0573362	-.001076
#2	.0234709	83.09804	1.712060	8.622834	.0565077	-.000005
#3	.0226072	82.64283	1.703649	8.642817	.0572023	-.000465

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.973151	.0015220	.1594921	3.898703	-.032601	-.001196
Stddev	.011592	.0009364	.0008170	.028712	.000979	.000292
%RSD	.5874893	61.52262	.5122341	.7364527	3.003212	24.42730
#1	1.969584	.0006769	.1601617	3.870468	-.031863	-.001217
#2	1.986107	.0013604	.1597327	3.927870	-.032228	-.000894
#3	1.963761	.0025286	.1585818	3.897772	-.033712	-.001478

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04 Acquired: 3/10/2025 13:55:01 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002020	-.000758	2.201872	.0097563	F 63.86175	.0349852
Stddev	.000838	.000336	.022699	.0010672	.09343	.0014161
%RSD	41.49982	44.29381	1.030899	10.93878	.1462933	4.047649
#1	-.001303	-.000376	2.178013	.0109072	63.75390	.0365479
#2	-.002942	-.000890	2.223199	.0087993	63.91767	.0337869
#3	-.001815	-.001008	2.204404	.0095624	63.91368	.0346209

Elem	Sr4077
Units	ppm
Avg	.2330917
Stddev	.0003847
%RSD	.1650616
#1	.2328104
#2	.2335301
#3	.2329346

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3227.146	72764.89	13936.02	2142.200	4590.409
Stddev	8.194	83.63	62.34	3.705	12.331
%RSD	.2539028	.1149275	.4472977	.1729740	.2686157
#1	3235.978	72856.48	13867.46	2143.187	4604.524
#2	3225.668	72745.61	13989.28	2138.102	4584.976
#3	3219.791	72692.59	13951.33	2145.313	4581.729

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04DUP Acquired: 3/10/2025 13:59:13 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0020137	.0068120	.0047384	-.014142	-.002939	.2797896
Stddev	.0020763	.0014556	.0000483	.001153	.000630	.0020645
%RSD	103.1099	21.36769	1.019838	8.149814	21.42144	.7378604
#1	.0003388	.0066275	.0047876	-.014549	-.002776	.2821050
#2	.0013655	.0054575	.0046910	-.012841	-.003634	.2791233
#3	.0043367	.0083511	.0047366	-.015035	-.002407	.2781406

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1004881	.0012050	-.005201	42.05579	-.001297	.0250728
Stddev	.0005381	.0000493	.000036	.07633	.000220	.0001214
%RSD	.5354737	4.092411	.6978422	.1815080	16.98517	.4843143
#1	.1009927	.0012188	-.005173	42.11285	-.001112	.0250011
#2	.0999219	.0011503	-.005189	41.96908	-.001540	.0250043
#3	.1005498	.0012460	-.005242	42.08544	-.001238	.0252130

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0227058	83.13305	1.689815	8.688177	.0573564	-.000840
Stddev	.0002694	.26844	.004080	.063918	.0001500	.000456
%RSD	1.186421	.3229054	.2414178	.7356923	.2614346	54.30531
#1	.0224115	83.09382	1.690303	8.752499	.0573805	-.000406
#2	.0227657	82.88638	1.685513	8.624670	.0574929	-.001315
#3	.0229402	83.41894	1.693628	8.687362	.0571959	-.000798

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.773304	.0011514	.1621118	3.795333	-.036833	-.001267
Stddev	.024435	.0010718	.0006628	.024540	.000663	.000280
%RSD	1.377944	93.08542	.4088726	.6465765	1.799135	22.08577
#1	1.746125	.0013913	.1626714	3.768435	-.037598	-.001590
#2	1.780332	.0020830	.1622842	3.816499	-.036439	-.001090
#3	1.793455	-.000020	.1613798	3.801066	-.036463	-.001122

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04DUP Acquired: 3/10/2025 13:59:13 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002445	-.000619	2.212720	.0110988	F 64.04775	.0356245
Stddev	.000611	.000328	.016145	.0013546	.15655	.0002369
%RSD	24.98028	53.00161	.7296361	12.20471	.2444249	.6648384
#1	-.003112	-.000241	2.220410	.0117168	63.90695	.0355354
#2	-.002311	-.000789	2.194168	.0120343	64.01998	.0358930
#3	-.001912	-.000828	2.223583	.0095455	64.21633	.0354452

Elem	Sr4077
Units	ppm
Avg	.2300109
Stddev	.0003349
%RSD	.1456013
#1	.2300232
#2	.2296700
#3	.2303395

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3168.830	69130.39	13316.04	2064.993	4511.753
Stddev	10.827	166.28	18.95	3.087	7.825
%RSD	.3416658	.2405269	.1423342	.1494965	.1734284
#1	3180.080	69257.24	13296.50	2066.566	4517.910
#2	3167.926	69191.79	13334.35	2061.436	4514.401
#3	3158.483	68942.15	13317.26	2066.976	4502.948

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04LX5 Acquired: 3/10/2025 14:03:25 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002332	.0017569	-.000186	-.001112	.0015354	.0590508
Stddev	.002225	.0020672	.000263	.001994	.0009046	.0021159
%RSD	95.37226	117.6626	141.5644	179.3291	58.91862	3.583174
#1	-.001167	.0040534	-.000185	-.003390	.0008088	.0592508
#2	-.004898	.0000448	.000077	.000319	.0012487	.0568420
#3	-.000932	.0011725	-.000450	-.000266	.0025486	.0610595

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0132777	.0002404	-.001111	8.447021	-.000472	.0048666
Stddev	.0001639	.0000385	.000016	.040905	.000259	.0001745
%RSD	1.234467	15.99799	1.452237	.4842550	54.90119	3.585137
#1	.0130905	.0002465	-.001093	8.400646	-.000174	.0048580
#2	.0133470	.0002755	-.001114	8.462444	-.000644	.0050452
#3	.0133955	.0001993	-.001125	8.477972	-.000599	.0046965

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040295	16.62604	.3402212	1.690236	.0115530	-.000052
Stddev	.0001546	.11696	.0011934	.003984	.0004903	.000185
%RSD	3.837434	.7034635	.3507732	.2357107	4.243720	358.5916
#1	.0042037	16.59676	.3393128	1.693447	.0109895	.000046
#2	.0039083	16.52651	.3397780	1.691484	.0118825	.000064
#3	.0039767	16.75486	.3415728	1.685777	.0117868	-.000265

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4550269	-.000869	.0309648	.8031806	-.007844	-.000443
Stddev	.0327169	.000230	.0005591	.0224244	.000378	.000175
%RSD	7.190103	26.45837	1.805673	2.791946	4.819357	39.40127
#1	.4772583	-.000651	.0305571	.8234407	-.007559	-.000644
#2	.4703635	-.001109	.0307351	.7790863	-.008273	-.000331
#3	.4174590	-.000845	.0316022	.8070146	-.007699	-.000354

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04LX5 Acquired: 3/10/2025 14:03:25 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001480	.0001668	.4289972	.0031897	F 12.99812	.0122699
Stddev	.000477	.0006374	.0103996	.0020411	.04326	.0011467
%RSD	32.24117	382.0431	2.424152	63.98927	.3328484	9.345473
#1	-.001583	.0002478	.4398806	.0024151	12.99138	.0109640
#2	-.000960	.0007598	.4191607	.0016493	13.04436	.0131122
#3	-.001898	-.000507	.4279504	.0055047	12.95862	.0127335

Elem	Sr4077
Units	ppm
Avg	.0456981
Stddev	.0001582
%RSD	.3461402
#1	.0456302
#2	.0455852
#3	.0458789

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3181.829	69349.02	13376.98	2061.794	4543.231
Stddev	14.605	173.20	96.54	14.940	20.944
%RSD	.4590110	.2497544	.7217242	.7246217	.4609932
#1	3173.085	69497.79	13475.67	2074.349	4527.003
#2	3173.713	69390.41	13282.74	2065.762	4535.816
#3	3198.690	69158.88	13372.54	2045.270	4566.874

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-05 Acquired: 3/10/2025 14:07:40 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.4184721	.9540514	.4813922	.9755050	.4168869	1.276790
Stddev	.0056556	.0038375	.0025326	.0023008	.0006637	.000731
%RSD	1.351478	.4022280	.5260959	.2358602	.1592003	.0572509
#1	.4120104	.9511250	.4841519	.9737247	.4161207	1.277307
#2	.4208839	.9526331	.4791745	.9781030	.4172604	1.277109
#3	.4225219	.9583961	.4808501	.9746873	.4172797	1.275954

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1997945	.0947328	.0886566	43.85124	.2007086	.1222623
Stddev	.0001738	.0004995	.0001096	.14051	.0006134	.0003313
%RSD	.0869778	.5273218	.1236119	.3204222	.3055972	.2709524
#1	.1998967	.0952248	.0887335	44.01305	.2004562	.1226081
#2	.1998931	.0942261	.0887051	43.78067	.2014079	.1219478
#3	.1995939	.0947475	.0885311	43.76002	.2002618	.1222310

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1790091	88.89236	1.829684	9.798130	.3029671	.0379798
Stddev	.0002672	.20737	.002087	.035567	.0011828	.0007148
%RSD	.1492790	.2332769	.1140755	.3629996	.3904147	1.882088
#1	.1787987	88.65489	1.828722	9.827605	.3036650	.0375854
#2	.1789189	88.98452	1.828250	9.758625	.3016014	.0388049
#3	.1793097	89.03766	1.832078	9.808161	.3036350	.0375491

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.362465	.1472952	.2709205	9.225880	.1021446	.2104493
Stddev	.026007	.0014498	.0005499	.013268	.0007621	.0006370
%RSD	.7734442	.9842803	.2029826	.1438113	.7461423	.3026997
#1	3.344109	.1472422	.2705677	9.228299	.1021735	.2102872
#2	3.351060	.1487708	.2706396	9.211569	.1028919	.2099089
#3	3.392225	.1458727	.2715541	9.237772	.1013684	.2111517

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-05 Acquired: 3/10/2025 14:07:40 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.3348008	.0946345	2.777499	2.824059	F 66.63549	.1385812
Stddev	.0008006	.0009089	.013533	.010514	.06889	.0007575
%RSD	.2391342	.9604577	.4872337	.3723181	.1033902	.5465825
#1	.3345932	.0944847	2.762930	2.824086	66.58229	.1387270
#2	.3341244	.0938097	2.779889	2.813532	66.61086	.1392552
#3	.3356848	.0956090	2.789677	2.834561	66.71331	.1377615

Elem	Sr4077
Units	ppm
Avg	.3372968
Stddev	.0003538
%RSD	.1048891
#1	.3373481
#2	.3376221
#3	.3369201

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3151.260	69171.87	13616.76	2060.869	4452.615
Stddev	6.155	167.67	70.14	1.330	7.542
%RSD	.1953143	.2423902	.5150888	.0645121	.1693728
#1	3154.787	69173.82	13542.53	2059.565	4454.869
#2	3154.840	69338.56	13681.93	2062.223	4458.774
#3	3144.153	69003.24	13625.82	2060.819	4444.204

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV03 Acquired: 3/10/2025 14:11:43 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	5.179068	5.011767	5.010733	5.239519	5.254507	10.04368	10.19368
Stddev	.012546	.052743	.002028	.014317	.009600	.01851	.11074
%RSD	.2422380	1.052376	.0404785	.2732471	.1826951	.1843131	1.086323
#1	5.166488	4.963335	5.013053	5.227248	5.253901	10.04428	10.26486
#2	5.179136	5.067960	5.009297	5.236060	5.245225	10.02488	10.06610
#3	5.191579	5.004007	5.009848	5.255248	5.264395	10.06189	10.25009

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2391192	2.499455	24.52508	1.004633	2.513365	1.295119	5.202433
Stddev	.0017655	.001013	.05721	.001653	.000872	.004408	.020977
%RSD	.7383247	.0405452	.2332863	.1645162	.0346977	.3403394	.4032097
#1	.2409787	2.500535	24.59063	1.004260	2.513288	1.296873	5.198898
#2	.2389132	2.499303	24.49940	1.006440	2.512535	1.290105	5.183448
#3	.2374658	2.498526	24.48520	1.003199	2.514274	1.298380	5.224953

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.420485	24.34807	2.520874	1.279350	25.94824	2.500663	2.586366
Stddev	.004910	.09515	.001714	.001106	.26024	.007166	.004877
%RSD	.2028377	.3907864	.0679822	.0864279	1.002905	.2865515	.1885690
#1	2.421035	24.44891	2.521826	1.280097	25.76697	2.508680	2.591322
#2	2.415323	24.33545	2.518895	1.279873	25.83133	2.494880	2.581571
#3	2.425096	24.25987	2.521900	1.278080	26.24643	2.498431	2.586206

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.58978	4.775209	5.201994	4.994724	4.968940	5.337715	5.092417
Stddev	.18447	.031775	.010330	.005835	.009009	.030335	.019676
%RSD	.6937788	.6654219	.1985691	.1168205	.1812987	.5683111	.3863845
#1	26.43052	4.804558	5.196782	4.988042	4.976507	5.308599	5.070422
#2	26.54691	4.779605	5.195309	4.998814	4.958975	5.335408	5.098480
#3	26.79192	4.741465	5.213891	4.997316	4.971338	5.369137	5.108348

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV03 Acquired: 3/10/2025 14:11:43 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	5.078558	5.007405	5.058522
Stddev	.008421	.018921	.013600
%RSD	.1658127	.3778528	.2688530
#1	5.069402	5.012952	5.046763
#2	5.085972	4.986331	5.073416
#3	5.080299	5.022933	5.055387

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3089.508	67485.48	13167.67	2019.998	4135.513
Stddev	6.300	48.11	79.62	5.851	1.446
%RSD	.2039184	.0712880	.6046638	.2896412	.0349592
#1	3088.641	67435.14	13082.51	2015.198	4135.034
#2	3096.197	67490.31	13180.24	2026.515	4137.137
#3	3083.686	67530.99	13240.25	2018.280	4134.367

Sample Name: CCB03 Acquired: 3/10/2025 14:15:53 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001055	.0003816	-.000693	-.000649	-.000155	.0004645	-.005446
Stddev	.002176	.0005671	.000553	.002693	.001399	.0028569	.001089
%RSD	206.2319	148.5908	79.84369	415.1502	900.0943	614.9992	19.99220
#1	-.001853	-.000102	-.001329	-.002128	.000121	-.002310	-.004190
#2	.001407	.000241	-.000319	.002460	-.001671	.003397	-.006127
#3	-.002720	.001006	-.000431	-.002278	.001085	.000307	-.006020

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000025	.0000254	-.004587	.0002784	-.000218	-.000563	-.003624
Stddev	.000012	.0000176	.001573	.0002535	.000111	.000151	.003829
%RSD	46.62781	68.96002	34.29223	91.06279	51.06312	26.88716	105.6538
#1	-.000013	.0000281	-.006364	.0005180	-.000337	-.000661	-.007976
#2	-.000036	.0000415	-.003373	.0003040	-.000201	-.000640	-.000770
#3	-.000025	.0000067	-.004025	.0000130	-.000116	-.000389	-.002127

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000242	-.019084	.0000043	-.000111	.0457524	-.000263	-.000976
Stddev	.000213	.010352	.0000310	.000328	.0313919	.000892	.000175
%RSD	87.86787	54.24524	715.2805	296.6220	68.61264	338.4902	17.97543
#1	-.000117	-.026522	-.000003	-.000140	.0127677	-.001248	-.000852
#2	-.000487	-.023469	.000038	-.000423	.0492270	.000489	-.001177
#3	-.000121	-.007261	-.000022	.000231	.0752625	-.000031	-.000899

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1385796	.0048563	.0003267	-.000101	-.000163	.0037467	.0040742
Stddev	.0165940	.0007567	.0000371	.001313	.000380	.0046737	.0011498
%RSD	11.97437	15.58228	11.36727	1302.511	234.0093	124.7395	28.22127
#1	.1338989	.0044344	.0003190	.001227	.000054	.0053682	.0044615
#2	.1248287	.0057299	.0002941	-.000131	.000060	-.001522	.0049803
#3	.1570113	.0044046	.0003671	-.001398	-.000602	.007394	.0027808

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB03 Acquired: 3/10/2025 14:15:53 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.000451	-.002079	.0000397
Stddev	.000854	.000776	.0000486
%RSD	189.4872	37.33490	122.4326
#1	.000358	-.002138	-.000009
#2	-.001345	-.001275	.000039
#3	-.000366	-.002824	.000089

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3212.082	70534.84	14064.32	2134.963	4590.780
Stddev	7.358	171.11	57.43	8.868	8.870
%RSD	.2290629	.2425914	.4083365	.4153536	.1932185
#1	3205.741	70338.30	14012.80	2124.991	4588.567
#2	3220.149	70615.60	14053.93	2137.935	4600.547
#3	3210.354	70650.63	14126.24	2141.963	4583.226

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-06 Acquired: 3/10/2025 14:20:13 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.4123123	.9589597	.4814237	.9653782	.4105200	1.264792
Stddev	.0024967	.0038638	.0014763	.0059628	.0025512	.011116
%RSD	.6055382	.4029181	.3066467	.6176658	.6214451	.8788926
#1	.4133685	.9628594	.4828921	.9623000	.4124479	1.274823
#2	.4094610	.9588870	.4799397	.9615835	.4076271	1.252841
#3	.4141073	.9551328	.4814393	.9722510	.4114848	1.266712

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2056357	.0928568	.0882583	44.22066	.1996340	.1220417
Stddev	.0007240	.0006643	.0001529	.05486	.0006003	.0003603
%RSD	.3520913	.7153872	.1732687	.1240676	.3006926	.2952056
#1	.2052855	.0928625	.0883908	44.15733	.1989465	.1224328
#2	.2064683	.0921896	.0880910	44.25083	.2000539	.1217234
#3	.2051534	.0935181	.0882933	44.25381	.1999018	.1219688

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1778833	91.18009	1.848337	9.834377	.3028618	.0383261
Stddev	.0009101	.52430	.001320	.053900	.0005035	.0001436
%RSD	.5116540	.5750213	.0714169	.5480795	.1662402	.3745942
#1	.1774270	90.91032	1.846830	9.772649	.3032421	.0382454
#2	.1772915	91.78435	1.848889	9.858353	.3022908	.0384918
#3	.1789313	90.84561	1.849290	9.872129	.3030526	.0382410

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.430360	.1463846	.2693246	9.439177	.1133590	.2087772
Stddev	.017104	.0023258	.0002366	.057849	.0029533	.0003342
%RSD	.4986186	1.588818	.0878301	.6128629	2.605237	.1600958
#1	3.411748	.1486907	.2695974	9.385439	.1102709	.2084699
#2	3.433943	.1464232	.2692003	9.500407	.1161559	.2087286
#3	3.445389	.1440397	.2691762	9.431683	.1136504	.2091330

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-06 Acquired: 3/10/2025 14:20:13 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.3344146	.0947419	2.793142	2.882081	F 67.26192	.1401264
Stddev	.0009578	.0002523	.011056	.009268	.06686	.0010838
%RSD	.2864052	.2663219	.3958209	.3215598	.0994098	.7734266
#1	.3353401	.0947531	2.781081	2.891319	67.31264	.1413068
#2	.3334275	.0949884	2.802796	2.872784	67.18614	.1398961
#3	.3344762	.0944841	2.795550	2.882140	67.28696	.1391763

Elem	Sr4077
Units	ppm
Avg	.3414783
Stddev	.0007494
%RSD	.2194550
#1	.3406305
#2	.3417522
#3	.3420523

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3145.100	69090.19	13817.13	2087.875	4411.890
Stddev	6.105	197.52	72.30	4.132	3.320
%RSD	.1941221	.2858858	.5232553	.1978892	.0752597
#1	3152.042	69318.17	13811.99	2086.263	4415.560
#2	3142.692	68981.87	13891.87	2084.792	4409.095
#3	3140.566	68970.53	13747.54	2092.570	4411.015

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04A Acquired: 3/10/2025 14:24:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.4142880	.9380749	.4802182	.9652783	.4140471	1.256627
Stddev	.0024579	.0026729	.0020386	.0010387	.0023900	.004086
%RSD	.5932831	.2849383	.4245249	.1076021	.5772392	.3251642
#1	.4150064	.9405526	.4780711	.9645117	.4163690	1.252109
#2	.4115510	.9352422	.4804560	.9664604	.4141780	1.257707
#3	.4163067	.9384299	.4821276	.9648628	.4115943	1.260064

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2014434	.0937312	.0882546	43.91654	.1979276	.1218823
Stddev	.0002916	.0001505	.0000965	.11064	.0002262	.0002170
%RSD	.1447771	.1605991	.1093594	.2519388	.1142828	.1780195
#1	.2016363	.0937359	.0881831	44.03622	.1981884	.1216330
#2	.2011079	.0938793	.0882162	43.89544	.1978081	.1220284
#3	.2015860	.0935784	.0883644	43.81797	.1977862	.1219856

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1785319	88.36915	1.829870	9.840887	.3023518	.0376965
Stddev	.0003398	.29154	.002973	.040533	.0003571	.0000867
%RSD	.1903604	.3299137	.1624818	.4118791	.1181178	.2300709
#1	.1786692	88.66507	1.832594	9.855112	.3020563	.0375989
#2	.1781449	88.08219	1.830317	9.795160	.3022504	.0377648
#3	.1787817	88.36017	1.826699	9.872390	.3027487	.0377258

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.274271	.1450795	.2673398	9.157885	.1051346	.2087843
Stddev	.023676	.0016002	.0010290	.014637	.0015907	.0005795
%RSD	.7231020	1.102968	.3849179	.1598317	1.513025	.2775484
#1	3.286560	.1432714	.2685262	9.143433	.1063643	.2086944
#2	3.246977	.1456537	.2666899	9.157520	.1033381	.2082551
#3	3.289276	.1463133	.2668033	9.172701	.1057014	.2094035

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-04A Acquired: 3/10/2025 14:24:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.3328733	.0941190	2.737378	2.855186	F 66.59407	.1364378
Stddev	.0009574	.0011464	.004755	.011136	.18211	.0011230
%RSD	.2876130	1.217992	.1737096	.3900349	.2734648	.8231002
#1	.3323939	.0952114	2.742685	2.850441	66.50477	.1363420
#2	.3322503	.0942204	2.733506	2.847208	66.47385	.1353657
#3	.3339757	.0929254	2.735941	2.867909	66.80360	.1376056

Elem	Sr4077
Units	ppm
Avg	.3368271
Stddev	.0002789
%RSD	.0828119
#1	.3369307
#2	.3370394
#3	.3365112

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3139.799	69513.54	13590.59	2084.052	4421.122
Stddev	4.747	246.47	39.73	13.977	10.932
%RSD	.1511734	.3545569	.2923544	.6706429	.2472566
#1	3143.082	69228.96	13546.76	2070.808	4433.636
#2	3141.959	69658.11	13600.76	2098.661	4416.302
#3	3134.357	69653.54	13624.24	2082.686	4413.429

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-08 Acquired: 3/10/2025 14:28:29 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0099546	.0024829	.0026457	-.009390	-.001427	.2468309
Stddev	.0026333	.0009878	.0004020	.001340	.001817	.0023674
%RSD	26.45300	39.78343	15.19541	14.27138	127.3161	.9591196
#1	.0073644	.0019303	.0022169	-.010194	-.000972	.2471200
#2	.0098703	.0036233	.0027059	-.007843	-.003429	.2443323
#3	.0126290	.0018950	.0030142	-.010133	.000119	.2490405

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1866243	.0007557	-.002657	35.99713	-.000258	.0037073
Stddev	.0004465	.0000464	.000098	.03979	.000197	.0001798
%RSD	.2392635	6.143238	3.700592	.1105242	76.36779	4.849611
#1	.1866387	.0007026	-.002753	35.95388	-.000486	.0039147
#2	.1861708	.0007888	-.002557	36.00533	-.000141	.0035952
#3	.1870635	.0007757	-.002661	36.03217	-.000148	.0036121

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0229052	48.94540	.8093856	5.705164	.0121139	-.000958
Stddev	.0001956	.14750	.0019489	.010366	.0003583	.000184
%RSD	.8537178	.3013641	.2407922	.1816929	2.957611	19.21819
#1	.0229999	49.05603	.8114974	5.693368	.0118143	-.000805
#2	.0226803	48.77793	.8076563	5.712818	.0120165	-.000907
#3	.0230353	49.00224	.8090031	5.709307	.0125108	-.001163

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.982156	.0017302	.1444062	5.116715	-.018725	-.000578
Stddev	.018755	.0011615	.0001044	.023545	.001020	.000265
%RSD	.4709790	67.13058	.0723006	.4601648	5.444891	45.82931
#1	3.997196	.0025668	.1445158	5.129897	-.019864	-.000759
#2	3.961142	.0022198	.1443078	5.130717	-.018412	-.000274
#3	3.988130	.0004041	.1443951	5.089531	-.017898	-.000699

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-08 Acquired: 3/10/2025 14:28:29 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002968	-.000415	2.257886	.1596331	F 46.70398	.0155299
Stddev	.000999	.000082	.003768	.0025992	.06822	.0006763
%RSD	33.67470	19.76662	.1669029	1.628234	.1460639	4.354585
#1	-.004122	-.000427	2.256971	.1625768	46.67698	.0147948
#2	-.002418	-.000490	2.262028	.1586681	46.65340	.0156692
#3	-.002364	-.000328	2.254660	.1576545	46.78157	.0161256

Elem	Sr4077
Units	ppm
Avg	.2207295
Stddev	.0003714
%RSD	.1682677
#1	.2208346
#2	.2203169
#3	.2210370

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3208.206	70754.27	12653.47	2098.410	4580.018
Stddev	5.769	43.81	29.16	9.187	11.278
%RSD	.1798168	.0619161	.2304490	.4378255	.2462448
#1	3214.694	70767.56	12687.14	2105.580	4590.650
#2	3206.268	70789.90	12636.32	2101.596	4581.214
#3	3203.655	70705.36	12636.94	2088.053	4568.190

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-10 Acquired: 3/10/2025 14:32:44 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0071782	.0046889	.0028012	-.012077	.0001699	.6318149
Stddev	.0022625	.0015208	.0007647	.002870	.0000681	.0042069
%RSD	31.51862	32.43425	27.29884	23.76142	40.08428	.6658433
#1	.0049178	.0050510	.0029719	-.009736	.0002207	.6352566
#2	.0071742	.0030197	.0034661	-.015279	.0000925	.6330628
#3	.0094427	.0059959	.0019656	-.011218	.0001963	.6271252

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2131195	.0010843	-.003883	44.67858	-.000783	.0055200
Stddev	.0008056	.0000349	.000132	.12602	.000068	.0002025
%RSD	.3780134	3.221649	3.387090	.2820532	8.677609	3.668016
#1	.2128975	.0011241	-.003752	44.55592	-.000843	.0056562
#2	.2140129	.0010589	-.003882	44.80770	-.000709	.0056164
#3	.2124482	.0010697	-.004015	44.67213	-.000796	.0052873

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0188526	62.92607	.8319375	6.950859	.0120185	-.000632
Stddev	.0000460	.33196	.0021079	.033788	.0002897	.000118
%RSD	.2441025	.5275378	.2533738	.4860958	2.410322	18.62910
#1	.0188819	62.83608	.8299789	6.919279	.0117365	-.000766
#2	.0187995	62.64838	.8316652	6.946808	.0123153	-.000585
#3	.0188763	63.29375	.8341683	6.986490	.0120037	-.000545

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.110391	.0008931	.1456341	5.396362	-.024964	-.000746
Stddev	.006422	.0004029	.0008967	.017835	.001460	.000288
%RSD	.3042838	45.11417	.6157328	.3305065	5.847800	38.59650
#1	2.107796	.0005175	.1446525	5.377266	-.024433	-.000421
#2	2.117704	.0013187	.1458396	5.412588	-.026615	-.000852
#3	2.105673	.0008431	.1464102	5.399234	-.023843	-.000967

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-10 Acquired: 3/10/2025 14:32:44 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002806	-.000640	3.006404	.2934497	F 55.39983	.0217999
Stddev	.000485	.000590	.013109	.0024025	.05480	.0007938
%RSD	17.29473	92.09731	.4360385	.8187012	.0989122	3.641342
#1	-.002984	-.000786	3.013302	.2913651	55.40137	.0212130
#2	-.002256	.000009	2.991287	.2929069	55.34427	.0227031
#3	-.003176	-.001143	3.014625	.2960772	55.45384	.0214837

Elem	Sr4077
Units	ppm
Avg	.2764670
Stddev	.0002714
%RSD	.0981645
#1	.2765726
#2	.2761587
#3	.2766697

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3141.068	68511.80	12946.80	2024.762	4467.953
Stddev	7.921	189.95	41.55	16.032	8.295
%RSD	.2521604	.2772577	.3209411	.7918110	.1856495
#1	3149.953	68669.89	12974.29	2040.318	4477.207
#2	3134.748	68564.43	12899.00	2025.675	4461.186
#3	3138.504	68301.08	12967.10	2008.293	4465.467

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01 Acquired: 3/10/2025 14:36:57 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.2148105	.0821227	.2224024	-.192263	-.027621	106.8328
Stddev	.0047240	.0014487	.0012343	.002326	.001886	.0963
%RSD	2.199173	1.764044	.5550032	1.209762	6.828772	.0901854
#1	.2179299	.0814034	.2237582	-.189578	-.025614	106.8376
#2	.2093754	.0811744	.2213437	-.193566	-.027890	106.9267
#3	.2171262	.0837902	.2221053	-.193646	-.029358	106.7342

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8223336	.0220579	-.017484	69.20017	.2383353	.1488762
Stddev	.0047953	.0001998	.001873	.16686	.0001043	.0007988
%RSD	.5831315	.9055866	10.71089	.2411300	.0437604	.5365624
#1	.8177594	.0222497	-.015764	69.00780	.2384502	.1492425
#2	.8219183	.0220729	-.017211	69.30588	.2383088	.1494261
#3	.8273230	.0218510	-.019479	69.28682	.2382467	.1479599

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2689696	F 1011.017	7.603111	46.76603	.3171095	-.020730
Stddev	.0020635	7.428	.023924	.06901	.0009467	.001337
%RSD	.7671795	.7346654	.3146611	.1475657	.2985472	6.451288
#1	.2713242	1003.826	7.576398	46.71640	.3172582	-.022130
#2	.2681086	1010.565	7.610373	46.84484	.3179731	-.020594
#3	.2674761	1018.661	7.622563	46.73687	.3160973	-.019466

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.577062	.3616998	1.127248	47.50248	^ *****	-.008118
Stddev	.043204	.0019132	.003848	.31147	-----	.000310
%RSD	2.739532	.5289369	.3413325	.6556996	-----	3.819588
#1	1.545731	.3635495	1.131076	47.31242	^ -----	-.007812
#2	1.559107	.3618208	1.127287	47.33307	^ -----	-.008108
#3	1.626349	.3597290	1.123381	47.86194	^ -----	-.008432

Sample Name: Q1421-01 Acquired: 3/10/2025 14:36:57 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0153070	1.439642	8.576493	8.487918	F 132.5956	.7936501
Stddev	.0016134	.003833	.024440	.009683	.4283	.0031655
%RSD	10.54006	.2662215	.2849600	.1140786	.3230244	.3988519
#1	.0159044	1.435575	8.559531	8.486358	132.9594	.7907021
#2	.0134802	1.440164	8.565440	8.498286	132.7040	.7932527
#3	.0165365	1.443186	8.604506	8.479109	132.1235	.7969956

Elem	Sr4077
Units	ppm
Avg	.3919637
Stddev	.0012500
%RSD	.3188940
#1	.3907887
#2	.3918252
#3	.3932771

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3440.154	75562.01	15796.37	2233.718	3884.720
Stddev	5.928	17.15	68.26	9.522	2.070
%RSD	.1723044	.0227016	.4321329	.4262724	.0532857
#1	3443.602	75581.49	15785.90	2223.958	3887.035
#2	3443.551	75555.43	15733.95	2234.216	3884.075
#3	3433.310	75549.13	15869.26	2242.981	3883.048

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01DUP Acquired: 3/10/2025 14:41:08 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.2630583	.0820381	.2529889	-.213747	-.027043	114.7376
Stddev	.0024903	.0015937	.0016384	.002348	.001357	.1302
%RSD	.9466644	1.942585	.6476080	1.098587	5.018670	.1135070
#1	.2608125	.0825340	.2516383	-.212073	-.025542	114.8812
#2	.2626260	.0802555	.2548115	-.212738	-.027402	114.6272
#3	.2657364	.0833249	.2525170	-.216431	-.028184	114.7044

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8029034	.0238667	-.008219	69.75556	.2551101	.1625080
Stddev	.0015877	.0003139	.001235	.03838	.0003442	.0009045
%RSD	.1977435	1.315332	15.02967	.0550269	.1349158	.5566074
#1	.8018863	.0238459	-.009641	69.73994	.2549584	.1617814
#2	.8047329	.0241905	-.007412	69.72745	.2548679	.1635211
#3	.8020910	.0235636	-.007604	69.79929	.2555041	.1622216

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3073240	F 1012.831	7.817708	49.60274	.3536241	-.028593
Stddev	.0030392	6.071	.007231	.05608	.0003643	.001181
%RSD	.9889081	.5994530	.0924914	.1130647	.1030079	4.131165
#1	.3039998	1019.667	7.809384	49.66745	.3532608	-.027376
#2	.3080119	1008.065	7.822429	49.57265	.3536222	-.029735
#3	.3099602	1010.760	7.821311	49.56814	.3539893	-.028667

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.637816	.3990991	1.135764	46.85713	^ *****	-.006157
Stddev	.023168	.0020717	.002837	.15635	-----	.000374
%RSD	1.414557	.5191055	.2497638	.3336676	-----	6.076756
#1	1.612649	.4014822	1.133314	46.77696	^ -----	-.006172
#2	1.642544	.3980876	1.138872	46.75713	^ -----	-.005776
#3	1.658256	.3977273	1.135106	47.03730	^ -----	-.006524

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01DUP Acquired: 3/10/2025 14:41:08 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0167551	1.703208	7.395862	9.619734	F 190.3605	.8264888
Stddev	.0003901	.003928	.035476	.008609	.1294	.0042661
%RSD	2.328190	.2306368	.4796713	.0894917	.0679830	.5161777
#1	.0166187	1.706509	7.400868	9.609818	190.2895	.8312655
#2	.0171951	1.704251	7.358149	9.625300	190.2822	.8230575
#3	.0164515	1.698863	7.428569	9.624084	190.5099	.8251435

Elem	Sr4077
Units	ppm
Avg	.3963985
Stddev	.0005361
%RSD	.1352514
#1	.3969405
#2	.3963868
#3	.3958684

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3408.049	77022.13	15356.28	2284.652	3829.271
Stddev	4.140	149.34	45.16	3.568	.299
%RSD	.1214803	.1938988	.2940677	.1561525	.0078118
#1	3409.380	77090.36	15342.61	2285.152	3829.595
#2	3411.360	77125.18	15319.55	2287.943	3829.005
#3	3403.407	76850.86	15406.70	2280.861	3829.214

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01LX5 Acquired: 3/10/2025 14:45:19 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0573954	.0219882	.0518358	-.041225	-.006310	26.67948
Stddev	.0015447	.0009424	.0011502	.003023	.001303	.02175
%RSD	2.691307	4.285686	2.218959	7.333357	20.64357	.0815191
#1	.0586758	.0209718	.0505077	-.044441	-.007034	26.65690
#2	.0578305	.0228329	.0524966	-.038442	-.007089	26.70030
#3	.0556798	.0221599	.0525032	-.040792	-.004806	26.68124

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1797356	.0061227	-.012848	16.73005	.0622092	.0332006
Stddev	.0007618	.0000487	.000275	.04859	.0001934	.0000509
%RSD	.4238447	.7953399	2.136730	.2904307	.3108801	.1534490
#1	.1802913	.0060814	-.012567	16.73339	.0621594	.0332188
#2	.1788672	.0061764	-.012861	16.67988	.0620455	.0331431
#3	.1800483	.0061103	-.013115	16.77688	.0624226	.0332400

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0737845	248.1994	1.868181	11.91492	.0764835	-.003930
Stddev	.0006394	1.2145	.003293	.08584	.0003828	.000236
%RSD	.8665582	.4893377	.1762650	.7204768	.5004547	6.000104
#1	.0745220	246.8289	1.869749	11.99432	.0765608	-.004199
#2	.0734466	248.6272	1.864398	11.82383	.0768217	-.003836
#3	.0733850	249.1423	1.870398	11.92661	.0760680	-.003757

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3338443	.0968970	.2658893	10.00535	-.283399	-.001832
Stddev	.0076967	.0013437	.0008998	.14259	.007321	.000121
%RSD	2.305473	1.386781	.3383974	1.425124	2.583269	6.623153
#1	.3427006	.0984342	.2648504	9.84157	-.291623	-.001934
#2	.3287734	.0959455	.2664177	10.07262	-.280981	-.001865
#3	.3300588	.0963113	.2663997	10.10187	-.277592	-.001698

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01LX5 Acquired: 3/10/2025 14:45:19 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0021694	.4097959	2.420588	1.947920	F 38.79892	.1915061
Stddev	.0002439	.0008400	.025370	.007127	.04509	.0004127
%RSD	11.24388	.2049826	1.048107	.3658893	.1162039	.2154808
#1	.0019366	.4089621	2.402512	1.940209	38.74687	.1910378
#2	.0021486	.4097837	2.449591	1.949285	38.82431	.1916637
#3	.0024231	.4106419	2.409660	1.954266	38.82559	.1918166

Elem	Sr4077
Units	ppm
Avg	.0910569
Stddev	.0002051
%RSD	.2251868
#1	.0910512
#2	.0912648
#3	.0908548

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3291.202	73019.62	13656.04	2181.175	4310.383
Stddev	7.508	108.98	71.89	12.078	5.306
%RSD	.2281138	.1492486	.5264523	.5537174	.1231078
#1	3283.733	73140.38	13581.20	2195.100	4307.548
#2	3298.748	72989.90	13724.57	2174.876	4316.504
#3	3291.126	72928.59	13662.34	2173.548	4307.096

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-02 Acquired: 3/10/2025 14:49:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.9131126	1.717504	1.118231	1.307303	.1931096	125.1598
Stddev	.0068601	.014426	.001852	.005941	.0012581	.0899
%RSD	.7512901	.8399363	.1656344	.4544150	.6514768	.0718596
#1	.9158711	1.716256	1.120238	1.307493	.1928272	125.0567
#2	.9053026	1.732514	1.117869	1.301270	.1920168	125.2008
#3	.9181640	1.703743	1.116587	1.313147	.1944849	125.2219

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9744837	.1775357	.1718244	70.60880	.6011758	.3480519
Stddev	.0034177	.0007310	.0016874	.05934	.0022584	.0002422
%RSD	.3507234	.4117583	.9820277	.0840462	.3756683	.0695989
#1	.9713704	.1782994	.1726344	70.62178	.5987242	.3478139
#2	.9739399	.1774651	.1729540	70.54404	.6016318	.3480436
#3	.9781407	.1768425	.1698848	70.66059	.6031715	.3482982

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5428479	F 1053.804	8.165765	52.38825	.8047026	.0398062
Stddev	.0021720	9.424	.008354	.21951	.0009742	.0015902
%RSD	.4001119	.8943071	.1023020	.4190095	.1210633	3.994768
#1	.5439576	1048.061	8.171572	52.64160	.8039932	.0384602
#2	.5442408	1048.671	8.156191	52.25476	.8043012	.0393977
#3	.5403452	1064.680	8.169531	52.26839	.8058133	.0415608

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.206186	.6457422	1.308275	59.31873	^ *****	.2855269
Stddev	.033253	.0034762	.008919	.43573	-----	.0005759
%RSD	.7905823	.5383278	.6817291	.7345547	-----	.2016836
#1	4.168565	.6496066	1.317593	58.89960	^ -----	.2848762
#2	4.218345	.6428700	1.299817	59.28725	^ -----	.2857336
#3	4.231649	.6447499	1.307415	59.76935	^ -----	.2859709

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-02 Acquired: 3/10/2025 14:49:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.6360717	1.732949	F 10.52317	F 14.50523	F 129.1524	1.024443
Stddev	.0009813	.004493	.05821	.04236	.2218	.007425
%RSD	.1542785	.2592712	.5531168	.2920547	.1717517	.7247467
#1	.6371993	1.732280	10.46957	14.47687	129.1541	1.018533
#2	.6356041	1.728827	10.51485	14.55392	129.3733	1.022019
#3	.6354115	1.737738	10.58509	14.48489	128.9297	1.032776

Elem	Sr4077
Units	ppm
Avg	.5684785
Stddev	.0015533
%RSD	.2732377
#1	.5674121
#2	.5677628
#3	.5702606

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3396.720	76524.56	15410.49	2268.434	3827.214
Stddev	6.158	194.13	42.88	13.795	7.675
%RSD	.1812995	.2536814	.2782310	.6081078	.2005249
#1	3403.224	76635.12	15361.50	2253.278	3835.095
#2	3395.957	76638.15	15441.19	2280.256	3826.782
#3	3390.979	76300.41	15428.78	2271.769	3819.764

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-03 Acquired: 3/10/2025 14:53:34 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.9272874	1.781688	1.135634	1.337559	.2000604	126.0443
Stddev	.0049496	.008923	.002834	.005177	.0033734	.1556
%RSD	.5337751	.5008349	.2495689	.3870278	1.686186	.1234690
#1	.9306605	1.772748	1.133670	1.341218	.1964179	126.2064
#2	.9216052	1.790594	1.134349	1.331636	.2030770	126.0305
#3	.9295966	1.781722	1.138883	1.339823	.2006863	125.8961

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9830958	.1794399	.1715352	71.04066	.6131266	.3524579
Stddev	.0007613	.0016175	.0017026	.28278	.0020715	.0002102
%RSD	.0774371	.9014371	.9925640	.3980535	.3378553	.0596475
#1	.9839741	.1795598	.1718525	70.94077	.6109618	.3523624
#2	.9826888	.1777658	.1696962	70.82138	.6150901	.3523124
#3	.9826246	.1809942	.1730568	71.35983	.6133278	.3526989

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5391913	F 1085.342	8.217107	52.71141	.8139470	.0436395
Stddev	.0023895	10.207	.030930	.24411	.0006493	.0021736
%RSD	.4431630	.9404394	.3764134	.4631004	.0797726	4.980859
#1	.5409455	1080.886	8.196636	52.63724	.8142175	.0425342
#2	.5364698	1097.019	8.201997	52.51299	.8144174	.0461437
#3	.5401586	1078.121	8.252688	52.98400	.8132062	.0422407

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.303800	.6495411	1.333866	60.81838	^ *****	.2897915
Stddev	.025753	.0036113	.004751	.49102	-----	.0005988
%RSD	.5983763	.5559806	.3562050	.8073562	-----	.2066499
#1	4.301284	.6459821	1.335043	60.85251	^ -----	.2897305
#2	4.330718	.6494385	1.337917	61.29145	^ -----	.2892255
#3	4.279397	.6532026	1.328636	60.31119	^ -----	.2904185

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-03 Acquired: 3/10/2025 14:53:34 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.6475407	1.746977	F 10.86090	F 14.81797	F 130.9264	1.040882
Stddev	.0021326	.006110	.07327	.01162	.1168	.003649
%RSD	.3293457	.3497339	.6746026	.0784216	.0892305	.3505890
#1	.6471741	1.747476	10.83892	14.81291	130.8619	1.040788
#2	.6456152	1.740632	10.94265	14.83126	131.0612	1.044578
#3	.6498329	1.752821	10.80114	14.80973	130.8560	1.037281

Elem	Sr4077
Units	ppm
Avg	.5736313
Stddev	.0004146
%RSD	.0722805
#1	.5740999
#2	.5733121
#3	.5734819

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3379.040	75202.00	15408.58	2234.374	3808.033
Stddev	6.880	193.46	129.09	7.383	2.416
%RSD	.2036211	.2572509	.8377488	.3304502	.0634490
#1	3378.674	75424.64	15442.06	2233.810	3808.318
#2	3386.096	75074.93	15517.62	2227.289	3810.294
#3	3372.349	75106.42	15266.05	2242.023	3805.487

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01A Acquired: 3/10/2025 14:57:40 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.9084596	1.743357	1.110785	1.301005	.1814535	125.6523
Stddev	.0094369	.005475	.002120	.005286	.0010505	.2979
%RSD	1.038781	.3140692	.1908523	.4063112	.5789227	.2370954
#1	.9190491	1.738572	1.112181	1.295112	.1804936	125.3779
#2	.9053900	1.749328	1.108346	1.302576	.1825757	125.6097
#3	.9009397	1.742171	1.111828	1.305328	.1812913	125.9691

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9859363	.1749607	.1617502	70.63209	.6108986	.3469983
Stddev	.0034606	.0011488	.0003441	.17545	.0018160	.0005707
%RSD	.3510003	.6565817	.2127355	.2484028	.2972705	.1644699
#1	.9835351	.1762771	.1618182	70.56667	.6126168	.3471078
#2	.9843707	.1744441	.1613772	70.49875	.6089984	.3475063
#3	.9899031	.1741609	.1620553	70.83085	.6110804	.3463808

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5233030	F 1102.413	8.171886	52.68075	.7995906	.0482771
Stddev	.0019861	2.413	.030296	.09933	.0019898	.0008950
%RSD	.3795318	.2188563	.3707341	.1885485	.2488486	1.853958
#1	.5236780	1100.026	8.158119	52.78807	.7993734	.0479770
#2	.5250748	1104.851	8.150919	52.66214	.8016801	.0492837
#3	.5211561	1102.361	8.206621	52.59204	.7977184	.0475708

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.353798	.6502973	1.328217	61.83705	^ *****	.2815638
Stddev	.051476	.0028818	.005948	.49201	-----	.0002366
%RSD	1.182331	.4431525	.4477978	.7956625	-----	.0840446
#1	4.299140	.6514188	1.326707	61.32194	^ -----	.2814859
#2	4.360896	.6470233	1.334774	61.88707	^ -----	.2813759
#3	4.401356	.6524498	1.323170	62.30215	^ -----	.2818296

Sample Name: Q1421-01A Acquired: 3/10/2025 14:57:40 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.6294156	1.757351	F 12.30656	F 14.33985	F 127.2405	1.043954
Stddev	.0020541	.005340	.09533	.01625	.1747	.004558
%RSD	.3263494	.3038829	.7746582	.1133434	.1372815	.4366357
#1	.6271251	1.752997	12.20758	14.33310	127.1576	1.039876
#2	.6300274	1.755747	12.31431	14.35839	127.4411	1.043111
#3	.6310942	1.763310	12.39778	14.32805	127.1226	1.048875

Elem	Sr4077
Units	ppm
Avg	.5723597
Stddev	.0028689
%RSD	.5012371
#1	.5708906
#2	.5705229
#3	.5756655

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3427.277	75025.04	15696.62	2234.138	3870.029
Stddev	.495	215.41	122.22	2.577	3.010
%RSD	.0144335	.2871211	.7786484	.1153375	.0777672
#1	3426.711	74810.13	15555.53	2234.761	3868.107
#2	3427.495	75240.95	15770.27	2236.346	3868.483
#3	3427.626	75024.04	15764.05	2231.307	3873.497

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV04 Acquired: 3/10/2025 15:01:46 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.006324	4.782997	4.857288	5.047920	5.118289	9.729412
Stddev	.013567	.029486	.006478	.020830	.011568	.008263
%RSD	.2709890	.6164751	.1333717	.4126549	.2260198	.0849292
#1	4.991790	4.753338	4.850350	5.029432	5.106711	9.719893
#2	5.018653	4.783347	4.863179	5.070489	5.129847	9.733597
#3	5.008528	4.812307	4.858334	5.043839	5.118308	9.734745

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.954000	.2259153	2.419175	23.95547	.9928587	2.436604
Stddev	.033763	.0006532	.002433	.03724	.0055607	.002541
%RSD	.3391912	.2891182	.1005914	.1554540	.5600736	.1042962
#1	9.975558	.2266676	2.417352	23.98078	.9885871	2.437187
#2	9.971354	.2254934	2.421938	23.97293	.9991462	2.438802
#3	9.915090	.2255848	2.418234	23.91271	.9908427	2.433821

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.251139	5.243673	2.363002	23.72208	2.440376	1.250979
Stddev	.001651	.046827	.007963	.01258	.004830	.002708
%RSD	.1319503	.8930228	.3370033	.0530203	.1979224	.2164657
#1	1.249887	5.246554	2.366634	23.72362	2.439791	1.248333
#2	1.253010	5.288993	2.368502	23.70880	2.445472	1.253745
#3	1.250521	5.195471	2.353870	23.73381	2.435865	1.250859

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.08604	2.447548	2.511735	26.82971	F 4.492279	5.080491
Stddev	.20176	.005618	.006564	.10876	.003716	.010732
%RSD	.7734562	.2295330	.2613185	.4053590	.0827260	.2112362
#1	26.08419	2.441728	2.511521	26.77973	4.488942	5.076919
#2	26.28873	2.452939	2.518402	26.95448	4.491610	5.092554
#3	25.88521	2.447977	2.505280	26.75494	4.496284	5.072002

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV04 Acquired: 3/10/2025 15:01:46 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.849314	4.874305	5.383669	4.858229	4.834422	4.867265
Stddev	.012548	.013982	.023919	.016678	.020693	.017575
%RSD	.2587579	.2868498	.4442953	.3433021	.4280379	.3610884
#1	4.834901	4.885675	5.356194	4.846999	4.810913	4.883950
#2	4.855233	4.878547	5.394965	4.877393	4.849880	4.868925
#3	4.857807	4.858694	5.399849	4.850294	4.842474	4.848918

Elem	Sr4077
Units	ppm
Avg	4.930850
Stddev	.035793
%RSD	.7259065
#1	4.963255
#2	4.892430
#3	4.936865

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3109.496	67157.64	13555.29	2009.368	4183.223
Stddev	2.771	199.05	54.51	6.976	2.283
%RSD	.0891033	.2963895	.4021136	.3471549	.0545691
#1	3107.568	67147.76	13494.88	2003.367	4181.118
#2	3108.249	66963.72	13570.18	2007.717	4182.901
#3	3112.671	67361.45	13600.80	2017.021	4185.649

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB04 Acquired: 3/10/2025 15:05:57 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002672	-.000533	-.000146	-.000260	-.000563	-.000368	-.007900
Stddev	.004436	.000548	.001093	.002350	.002066	.004608	.000263
%RSD	165.9951	102.6791	749.2706	902.8705	366.8377	1251.592	3.330987
#1	-.000229	-.000374	-.001115	-.001666	.000584	-.005541	-.007704
#2	.000005	-.001143	.001039	-.001567	.000675	.001140	-.007796
#3	-.007793	-.000083	-.000362	.002452	-.002948	.003297	-.008199

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000045	.0000757	-.008060	-.000078	.0000430	-.000406	-.000121
Stddev	.000045	.0000358	.008006	.000148	.0002643	.000046	.001957
%RSD	99.31588	47.27977	99.34007	190.1472	614.2852	11.43150	1611.663
#1	-.000095	.0001144	-.004764	-.000167	-.000106	-.000352	-.002286
#2	-.000008	.0000689	-.002227	-.000160	-.000113	-.000428	.001524
#3	-.000032	.0000438	-.017188	.000093	.000348	-.000437	.000398

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003906	-.021699	-.000048	.0000249	.0109328	.0008086	-.001109
Stddev	.0001184	.008491	.000081	.0000135	.0079213	.0019067	.000316
%RSD	30.30741	39.13229	167.3829	54.14532	72.45451	235.8179	28.50080
#1	.0003274	-.012313	-.000022	.0000169	.0199023	.0028229	-.001136
#2	.0003173	-.028849	.000016	.0000174	.0080005	-.000968	-.001410
#3	.0005272	-.023934	-.000139	.0000405	.0048958	.000571	-.000780

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2882849	.0038844	.0001048	-.000516	-.000159	.0002183	.0017216
Stddev	.0111052	.0001527	.0000498	.000889	.001019	.0054214	.0019160
%RSD	3.852175	3.930585	47.49750	172.2871	640.0476	2483.003	111.2858
#1	.2881654	.0038922	.0000651	-.000048	-.000680	-.005781	.0030229
#2	.2772399	.0040330	.0001606	.000041	-.000813	.001670	.0026205
#3	.2994494	.0037279	.0000886	-.001541	.001015	.004766	-.000478

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB04 Acquired: 3/10/2025 15:05:57 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0040775	-.004787	-.000007
Stddev	.0013836	.000995	.000062
%RSD	33.93243	20.79071	944.6703
#1	.0053658	-.005367	-.000044
#2	.0026151	-.005357	.000065
#3	.0042517	-.003638	-.000041

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3215.085	69591.38	13389.19	2094.793	4600.780
Stddev	7.465	181.65	57.22	11.624	9.259
%RSD	.2321951	.2610267	.4273671	.5549091	.2012440
#1	3208.914	69382.61	13325.56	2081.390	4594.594
#2	3223.383	69678.17	13405.62	2102.126	4611.425
#3	3212.958	69713.35	13436.41	2100.862	4596.322

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-07 Acquired: 3/10/2025 15:10:17 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.2935619	.0914967	.2978338	-.264117	-.032502	115.0405
Stddev	.0009894	.0008540	.0022875	.001633	.001133	.3580
%RSD	.3370479	.9333314	.7680373	.6183017	3.486741	.3111576
#1	.2944271	.0905224	.2987836	-.264693	-.031228	115.4535
#2	.2924831	.0921153	.2952244	-.262274	-.033399	114.8472
#3	.2937755	.0918524	.2994933	-.265384	-.032879	114.8207

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8272268	.0269822	-.003871	77.89936	.2694316	.1903863
Stddev	.0062728	.0000976	.001350	.32745	.0005717	.0006255
%RSD	.7582921	.3616354	34.88002	.4203541	.2122063	.3285595
#1	.8341877	.0270910	-.005402	78.27743	.2700519	.1905709
#2	.8254802	.0269531	-.002851	77.71492	.2693174	.1896892
#3	.8220123	.0269025	-.003360	77.70573	.2689256	.1908988

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3751351	F 1163.569	10.30836	53.37879	.4354211	^ *****
Stddev	.0027941	5.446	.06096	.20776	.0015695	-----
%RSD	.7448312	.4680282	.5913730	.3892129	.3604499	-----
#1	.3719226	1169.307	10.37848	53.61653	.4344779	^ -----
#2	.3764824	1158.473	10.27871	53.23214	.4345525	^ -----
#3	.3770003	1162.926	10.26790	53.28769	.4372328	^ -----

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.813330	.4450825	1.396558	37.90488	^ *****	-.009678
Stddev	.029606	.0022169	.003880	.08262	-----	.000564
%RSD	1.632660	.4980830	.2778561	.2179541	-----	5.825911
#1	1.795597	.4475530	1.393575	37.93315	^ -----	-.010199
#2	1.847507	.4432666	1.400945	37.96965	^ -----	-.009757
#3	1.796886	.4444280	1.395155	37.81184	^ -----	-.009079

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-07 Acquired: 3/10/2025 15:10:17 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0210374	1.788837	9.285830	8.019131	F 186.1976	.9462143
Stddev	.0024902	.011249	.028757	.005797	.4060	.0048789
%RSD	11.83704	.6288715	.3096860	.0722929	.2180543	.5156276
#1	.0231611	1.801824	9.286914	8.012816	185.8559	.9518261
#2	.0216544	1.782583	9.314029	8.024211	186.0906	.9429783
#3	.0182967	1.782105	9.256546	8.020366	186.6465	.9438386

Elem	Sr4077
Units	ppm
Avg	.4041866
Stddev	.0021556
%RSD	.5333184
#1	.4066217
#2	.4034154
#3	.4025226

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3393.006	75513.46	15088.28	2240.593	3833.030
Stddev	6.248	71.62	62.96	2.041	9.164
%RSD	.1841582	.0948495	.4172860	.0911075	.2390684
#1	3399.421	75451.88	15015.60	2242.911	3840.542
#2	3392.659	75496.45	15126.18	2239.062	3835.728
#3	3386.939	75592.06	15123.05	2239.808	3822.820

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-09 Acquired: 3/10/2025 15:14:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.2490101	.0763703	.2415081	-.192197	-.026082	103.4012
Stddev	.0058134	.0030216	.0012312	.003228	.000936	.2116
%RSD	2.334610	3.956487	.5098090	1.679382	3.588423	.2046258
#1	.2460526	.0734685	.2400864	-.189658	-.025019	103.6122
#2	.2452700	.0794989	.2422120	-.191104	-.026783	103.4024
#3	.2557076	.0761434	.2422258	-.195829	-.026443	103.1890

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7266644	.0235734	-.013931	57.20780	.2656075	.1473354
Stddev	.0027954	.0002169	.000698	.22365	.0014113	.0009560
%RSD	.3846954	.9199167	5.010477	.3909513	.5313298	.6488794
#1	.7298816	.0235520	-.014407	57.46548	.2664164	.1478374
#2	.7248282	.0238002	-.014255	57.06403	.2664281	.1462330
#3	.7252835	.0233681	-.013129	57.09390	.2639779	.1479360

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3100788	F 959.5984	6.829195	43.61207	.3274479	-.025745
Stddev	.0027203	2.9002	.029008	.19788	.0011674	.000481
%RSD	.8773028	.3022325	.4247714	.4537285	.3565031	1.868373
#1	.3110728	962.8558	6.862458	43.83797	.3277929	-.025197
#2	.3070013	958.6433	6.809144	43.46939	.3261469	-.025940
#3	.3121623	957.2962	6.815984	43.52885	.3284038	-.026097

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.387508	.3962490	1.135230	33.39926	^ *****	-.006878
Stddev	.016296	.0023430	.002174	.12701	-----	.000469
%RSD	1.174462	.5912865	.1914981	.3802629	-----	6.815517
#1	1.387776	.3978109	1.132723	33.50350	^ -----	-.007418
#2	1.371080	.3973812	1.136602	33.25781	^ -----	-.006570
#3	1.403668	.3935550	1.136364	33.43648	^ -----	-.006648

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-09 Acquired: 3/10/2025 15:14:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0148891	1.697011	F 13.28182	7.757286	F 144.9325	.7773335
Stddev	.0012452	.005319	.03603	.008840	.4387	.0021312
%RSD	8.363129	.3134306	.2712592	.1139614	.3027243	.2741727
#1	.0161058	1.703056	13.30290	7.766288	145.1542	.7797427
#2	.0149442	1.693050	13.24022	7.756952	144.4272	.7756943
#3	.0136172	1.694926	13.30235	7.748617	145.2162	.7765635

Elem	Sr4077
Units	ppm
Avg	.3092399
Stddev	.0010895
%RSD	.3523328
#1	.3104537
#2	.3089196
#3	.3083464

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3416.263	75861.50	14833.15	2276.412	3889.714
Stddev	1.002	185.69	33.68	5.558	2.443
%RSD	.0293241	.2447710	.2270335	.2441538	.0627954
#1	3415.130	75812.07	14797.22	2275.062	3888.480
#2	3417.031	76066.90	14838.25	2282.521	3892.527
#3	3416.627	75705.53	14863.99	2271.654	3888.134

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1422-01 Acquired: 3/10/2025 15:18:38 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0701860	.0181798	.5372643	-.051689	-.001747	132.9437
Stddev	.0014516	.0023924	.0021680	.001891	.002071	.0853
%RSD	2.068241	13.15979	.4035198	3.658568	118.5641	.0641843
#1	.0713722	.0179879	.5397288	-.052406	.000424	133.0420
#2	.0706185	.0206624	.5364123	-.049544	-.003702	132.9007
#3	.0685673	.0158891	.5356517	-.053117	-.001964	132.8885

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.072934	.0104163	-.007975	26.48363	.2344005	.1864864
Stddev	.001022	.0000332	.000203	.02528	.0005353	.0004012
%RSD	.0952974	.3187142	2.550733	.0954663	.2283598	.2151148
#1	1.074102	.0104157	-.008168	26.48430	.2338064	.1864210
#2	1.072495	.0104498	-.007994	26.50857	.2345499	.1861220
#3	1.072204	.0103834	-.007763	26.45802	.2348452	.1869162

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7100269	340.7210	3.784417	72.00117	.3470840	-.000609
Stddev	.0012366	.8452	.006308	.05079	.0005790	.000127
%RSD	.1741698	.2480653	.1666730	.0705342	.1668152	20.91524
#1	.7095060	341.4509	3.789977	71.94474	.3476619	-.000626
#2	.7091360	340.9171	3.785711	72.01557	.3470863	-.000474
#3	.7114388	339.7950	3.777563	72.04320	.3465039	-.000727

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.914824	.3315089	.8067377	20.93750	-.185237	.0042709
Stddev	.006362	.0003164	.0020431	.04113	.001315	.0004095
%RSD	.3322524	.0954312	.2532543	.1964388	.7099395	9.587251
#1	1.921515	.3317880	.8082957	20.96845	-.184420	.0038065
#2	1.914107	.3311652	.8044245	20.95323	-.184538	.0045800
#3	1.908851	.3315735	.8074928	20.89083	-.186754	.0044262

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1422-01 Acquired: 3/10/2025 15:18:38 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0572321	3.022905	6.213462	6.844151	F 28.08384	.4396739
Stddev	.0007657	.005925	.019067	.009281	.02355	.0002450
%RSD	1.337879	.1959939	.3068610	.1356041	.0838677	.0557327
#1	.0578830	3.029678	6.235059	6.852339	28.10880	.4398959
#2	.0563884	3.020356	6.206364	6.834069	28.06200	.4394110
#3	.0574250	3.018683	6.198962	6.846045	28.08072	.4397148

Elem	Sr4077
Units	ppm
Avg	.1708587
Stddev	.0004125
%RSD	.2414464
#1	.1713056
#2	.1707780
#3	.1704924

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3741.757	80292.41	16594.93	2446.559	4068.067
Stddev	4.186	110.34	27.23	3.938	6.177
%RSD	.1118797	.1374170	.1640833	.1609638	.1518418
#1	3738.363	80301.85	16624.20	2450.481	4061.024
#2	3746.435	80177.66	16570.35	2446.592	4072.567
#3	3740.472	80397.72	16590.26	2442.605	4070.608

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1422-02 Acquired: 3/10/2025 15:22:42 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0389455	.0063593	.1761421	-.037976	-.009095	129.0841	.8029643
Stddev	.0023733	.0026868	.0007912	.002305	.001073	.1678	.0007413
%RSD	6.093957	42.24997	.4491936	6.069696	11.80206	.1300269	.0923205
#1	.0362214	.0043171	.1753175	-.040570	-.008192	129.2251	.8034222
#2	.0405668	.0094030	.1768950	-.036162	-.008812	128.8984	.8033616
#3	.0400483	.0053577	.1762139	-.037197	-.010282	129.1287	.8021090

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095018	-.006003	16.80742	.2076948	.1262762	.3208201	251.0609
Stddev	.0001041	.000153	.02346	.0002931	.0006243	.0011827	.5761
%RSD	1.095343	2.556576	.1395914	.1411342	.4943987	.3686413	.2294464
#1	.0095943	-.006080	16.83430	.2079795	.1256645	.3195579	251.7014
#2	.0093891	-.006102	16.79686	.2077110	.1269124	.3209997	250.8962
#3	.0095220	-.005826	16.79108	.2073939	.1262516	.3219027	250.5851

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.915859	40.92311	.2160270	-.003056	1.195611	.3391880	.4993172
Stddev	.005212	.13635	.0002853	.000204	.008369	.0005064	.0025789
%RSD	.1787534	.3331970	.1320695	6.663448	.6999473	.1492950	.5164822
#1	2.921873	41.00522	.2157217	-.003291	1.205255	.3392068	.5018703
#2	2.913051	40.76571	.2162869	-.002942	1.191320	.3386724	.4967133
#3	2.912653	40.99839	.2160725	-.002936	1.190258	.3396847	.4993680

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.26492	-.266597	.0028642	.0088115	3.193931	7.451441	6.785433
Stddev	.00495	.003874	.0002100	.0007717	.005645	.023926	.015382
%RSD	.0439186	1.453000	7.330097	8.757587	.1767557	.3210863	.2266928
#1	11.26020	-.264188	.0028780	.0079255	3.200414	7.475179	6.768645
#2	11.26448	-.264538	.0030668	.0093364	3.191279	7.427332	6.788804
#3	11.27007	-.271065	.0026476	.0091725	3.190100	7.451812	6.798850

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1422-02 Acquired: 3/10/2025 15:22:42 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	6.075160	.2632421	.1035218
Stddev	.019225	.0006259	.0000808
%RSD	.3164508	.2377796	.0780617
#1	6.052985	.2639643	.1035214
#2	6.087132	.2628563	.1036029
#3	6.085363	.2629057	.1034412

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3653.331	79980.17	15267.95	2417.543	4158.904
Stddev	3.973	330.01	78.19	17.660	6.375
%RSD	.1087504	.4126139	.5120973	.7304926	.1532873
#1	3651.558	79878.01	15272.70	2404.817	4157.705
#2	3650.553	80349.18	15343.65	2437.705	4153.214
#3	3657.882	79713.32	15187.49	2410.106	4165.793

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01 Acquired: 3/10/2025 15:26:46 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.004823	-.006627	-.000235	.0012647	.0028287	.0617036
Stddev	.002908	.000771	.000959	.0019349	.0003809	.0016499
%RSD	60.29831	11.63777	409.1277	152.9897	13.46366	2.673860
#1	-.001625	-.005777	-.001342	.0022092	.0030840	.0609744
#2	-.007308	-.006822	.000316	-.000961	.0030111	.0605440
#3	-.005535	-.007282	.000322	.002546	.0023910	.0635924

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1308591	-.000074	.0000199	52.59215	.0219238	.0002863
Stddev	.0002980	.000030	.0000531	.03433	.0002679	.0000937
%RSD	.2277218	39.82167	266.2524	.0652724	1.221842	32.73942
#1	.1311926	-.000107	.0000670	52.55257	.0216273	.0003270
#2	.1306189	-.000049	-.000038	52.61010	.0219959	.0003529
#3	.1307657	-.000067	.000031	52.61379	.0221483	.0001791

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1232905	.2169514	.0340896	10.24033	.0087481	-.000203
Stddev	.0001496	.0051437	.0004019	.03866	.0003209	.000352
%RSD	.1213566	2.370887	1.178967	.3774913	3.667595	173.6136
#1	.1231792	.2221980	.0344848	10.19597	.0086784	-.000410
#2	.1234606	.2167388	.0341028	10.26678	.0090981	-.000401
#3	.1232316	.2119173	.0336813	10.25825	.0084679	.000203

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	100.6954	-.000502	.0258229	5.077216	.0307967	.0014035
Stddev	.6797	.000677	.0003274	.030908	.0003007	.0003689
%RSD	.6749643	134.8697	1.267702	.6087684	.9763700	26.28359
#1	100.9173	-.000495	.0257767	5.052433	.0311439	.0018177
#2	101.2363	-.001183	.0261709	5.111849	.0306196	.0011103
#3	99.9325	.000172	.0255211	5.067364	.0306266	.0012825

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01 Acquired: 3/10/2025 15:26:46 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0081181	-.000610	F 10.22397	.2843816	F 11.01479	-.012950
Stddev	.0005842	.000462	.07031	.0028364	.02112	.000978
%RSD	7.196565	75.73257	.6876711	.9973855	.1917763	7.552933
#1	.0074442	-.000077	10.19963	.2811065	10.99272	-.011822
#2	.0084286	-.000867	10.30321	.2860050	11.01683	-.013455
#3	.0084817	-.000887	10.16907	.2860333	11.03482	-.013572

Elem	Sr4077
Units	ppm
Avg	.2189951
Stddev	.0006308
%RSD	.2880605
#1	.2186856
#2	.2197209
#3	.2185788

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3016.185	67079.61	13270.57	2004.534	4146.347
Stddev	2.848	91.24	40.97	8.123	3.261
%RSD	.0944305	.1360114	.3086992	.4052500	.0786366
#1	3018.718	67064.11	13255.78	1995.542	4148.079
#2	3013.102	66997.12	13316.88	2011.342	4142.586
#3	3016.735	67177.60	13239.06	2006.717	4148.376

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01DUP Acquired: 3/10/2025 15:31:01 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.004125	-.004746	.0013949	.0021385	.0012904	.0541409
Stddev	.001014	.000340	.0014958	.0010587	.0017348	.0041439
%RSD	24.57328	7.164602	107.2336	49.50371	134.4364	7.653923
#1	-.004939	-.004910	.0031110	.0015256	.0010187	.0514469
#2	-.004445	-.004973	.0003681	.0015290	.0031450	.0589126
#3	-.002990	-.004355	.0007055	.0033610	-.000293	.0520631

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1363178	-.000058	.0000394	52.12059	.0231334	.0003296
Stddev	.0006905	.000050	.0000526	.14071	.0001741	.0000894
%RSD	.5065224	86.37283	133.4944	.2699625	.7525306	27.13403
#1	.1364778	-.000031	.0000102	51.96195	.0231427	.0002453
#2	.1369142	-.000027	.0001002	52.23029	.0233026	.0004234
#3	.1355614	-.000117	.0000078	52.16952	.0229548	.0003201

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1213372	.2073008	.0838618	10.15554	.0110608	-.000296
Stddev	.0005027	.0027119	.0000839	.02753	.0002555	.000414
%RSD	.4142922	1.308176	.0999870	.2710866	2.309636	139.9118
#1	.1210027	.2067512	.0837684	10.12375	.0109707	-.000691
#2	.1219153	.2102453	.0838865	10.17171	.0108627	.000135
#3	.1210936	.2049058	.0839306	10.17115	.0113492	-.000333

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	99.99651	-.000106	.0251058	5.051700	.0301346	.0010354
Stddev	.47367	.000562	.0001658	.032125	.0004027	.0001935
%RSD	.4736847	532.8813	.6603453	.6359304	1.336216	18.68980
#1	99.64659	-.000352	.0250446	5.018886	.0299345	.0011375
#2	100.5355	-.000503	.0252935	5.083089	.0298712	.0011565
#3	99.8074	.000538	.0249794	5.053124	.0305981	.0008122

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01DUP Acquired: 3/10/2025 15:31:01 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002563	.0001765	F 10.20897	.2788003	F 10.77633	-.012106
Stddev	.000814	.0000850	.08144	.0007619	.00140	.000532
%RSD	31.77284	48.16706	.7976969	.2732924	.0129668	4.393938
#1	-.002564	.0002081	10.13184	.2779459	10.77652	-.012086
#2	-.001748	.0002413	10.29412	.2790459	10.77485	-.011584
#3	-.003377	.0000802	10.20096	.2794092	10.77763	-.012647

Elem	Sr4077
Units	ppm
Avg	.2169654
Stddev	.0003253
%RSD	.1499123
#1	.2167484
#2	.2173394
#3	.2168085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3043.793	66798.71	13260.64	2005.605	4194.772
Stddev	3.265	225.98	5.83	10.548	.991
%RSD	.1072562	.3383071	.0439314	.5259066	.0236242
#1	3045.308	66886.85	13266.83	2012.078	4195.350
#2	3040.046	66541.94	13259.83	1993.434	4195.339
#3	3046.025	66967.35	13255.27	2011.304	4193.628

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01LX5 Acquired: 3/10/2025 15:35:18 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.003313	-.001084	.0002372	-.001053	.0001556	.0164252	.0217947
Stddev	.000819	.000481	.0013566	.003254	.0003034	.0044555	.0012277
%RSD	24.70892	44.33710	571.9894	309.1681	195.0185	27.12605	5.632816
#1	-.004036	-.000536	-.000508	-.004631	.0000087	.0205512	.0206272
#2	-.003479	-.001282	.001803	-.000258	.0005045	.0170238	.0230748
#3	-.002424	-.001435	-.000583	.001731	-.000046	.0117007	.0216823

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000032	.0000305	10.81044	.0046494	.0001775	.0253622	.1060186
Stddev	.000036	.0000359	.01705	.0002375	.0001197	.0003254	.0019165
%RSD	115.3730	117.8796	.1577060	5.107654	67.44642	1.283140	1.807722
#1	-.000056	.0000715	10.81301	.0048487	.0000513	.0252849	.1056768
#2	-.000049	.0000154	10.79226	.0043866	.0001916	.0257193	.1042960
#3	.000010	.0000046	10.82606	.0047128	.0002894	.0250823	.1080831

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0121704	2.107439	.0020118	.0001220	19.38055	-.000458	.0053666
Stddev	.0006576	.005066	.0002157	.0001347	.05550	.001048	.0004058
%RSD	5.403653	.2404071	10.71950	110.3755	.2863580	228.9161	7.562020
#1	.0116722	2.106931	.0022592	.0001232	19.44087	.000068	.0050412
#2	.0119233	2.112741	.0019125	-.000013	19.36914	.000223	.0058214
#3	.0129159	2.102646	.0018637	.000256	19.33165	-.001665	.0052374

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.058742	.0043272	.0000580	.0006819	.0000264	2.073110	.0596377
Stddev	.036523	.0004260	.0002179	.0009612	.0009389	.013845	.0011819
%RSD	3.449696	9.845361	375.7148	140.9643	3554.590	.6678197	1.981744
#1	1.021146	.0046649	.0002759	.0016212	-.000039	2.057273	.0596089
#2	1.094089	.0044681	-.000160	-.000300	-.000878	2.082914	.0584705
#3	1.060991	.0038486	.000058	.000724	.000996	2.079144	.0608337

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01LX5 Acquired: 3/10/2025 15:35:18 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	2.220669	-.004510	.0443917
Stddev	.004488	.000629	.0001237
%RSD	.2021081	13.94214	.2786116
#1	2.225196	-.004429	.0444324
#2	2.220592	-.005176	.0442528
#3	2.216220	-.003926	.0444900

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3150.378	68795.78	13594.06	2056.512	4425.832
Stddev	9.882	268.06	6.94	5.841	11.576
%RSD	.3136632	.3896446	.0510585	.2840134	.2615442
#1	3147.922	68861.72	13586.64	2058.833	4419.889
#2	3141.956	68500.90	13600.39	2049.868	4418.436
#3	3161.256	69024.71	13595.15	2060.836	4439.172

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01MS Acquired: 3/10/2025 15:39:35 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.9399951	2.049214	1.052411	2.208656	.9453759	2.241119
Stddev	.0025503	.020917	.003456	.009900	.0025138	.007599
%RSD	.2713140	1.020744	.3283907	.4482360	.2659043	.3390600
#1	.9371367	2.071102	1.050383	2.219923	.9482082	2.232527
#2	.9420377	2.047114	1.056402	2.204695	.9434093	2.243878
#3	.9408110	2.029426	1.050449	2.201349	.9445103	2.246954

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3409998	.2024319	.2130697	53.66851	.4550966	.2207915
Stddev	.0020478	.0004679	.0005931	.14906	.0029934	.0006659
%RSD	.6005360	.2311473	.2783808	.2777351	.6577476	.3016040
#1	.3392560	.2024017	.2128345	53.56690	.4534361	.2211438
#2	.3432548	.2029141	.2137444	53.83963	.4533016	.2212072
#3	.3404886	.2019798	.2126303	53.59901	.4585522	.2200234

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4682508	3.583308	.2343118	12.31518	.5530231	.0320669
Stddev	.0010149	.018096	.0020151	.03593	.0022300	.0003754
%RSD	.2167336	.5049954	.8599934	.2917595	.4032464	1.170711
#1	.4690009	3.585379	.2320247	12.27554	.5523563	.0322216
#2	.4686555	3.564267	.2358258	12.32442	.5555104	.0316388
#3	.4670961	3.600280	.2350850	12.34559	.5512025	.0323402

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	106.0457	.3294808	.2603660	17.24475	.3090215	.4883030
Stddev	.4841	.0028411	.0002488	.04199	.0011520	.0014692
%RSD	.4564815	.8622941	.0955571	.2434738	.3727823	.3008708
#1	106.0287	.3313102	.2601130	17.26682	.3097047	.4894403
#2	105.5703	.3309244	.2603746	17.19633	.3096683	.4888244
#3	106.5380	.3262077	.2606104	17.27109	.3076915	.4866442

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01MS Acquired: 3/10/2025 15:39:35 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.7622380	.2172166	F 11.57182	6.749814	F 11.12186	.2112421
Stddev	.0030430	.0006551	.06477	.008482	.03201	.0017386
%RSD	.3992185	.3015713	.5596811	.1256632	.2877858	.8230254
#1	.7626361	.2171897	11.58256	6.746231	11.11720	.2107729
#2	.7650624	.2178847	11.50235	6.759499	11.15595	.2131671
#3	.7590156	.2165754	11.63054	6.743711	11.09245	.2097863

Elem	Sr4077
Units	ppm
Avg	.4380358
Stddev	.0008678
%RSD	.1981234
#1	.4371988
#2	.4389315
#3	.4379771

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2988.876	65994.25	13343.58	1950.831	4094.206
Stddev	10.946	165.22	41.52	1.367	12.051
%RSD	.3662311	.2503577	.3111888	.0700956	.2943453
#1	2978.183	65864.99	13330.71	1951.021	4085.561
#2	2988.384	66180.40	13310.01	1949.379	4089.086
#3	3000.059	65937.35	13390.01	1952.094	4107.972

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01MSD Acquired: 3/10/2025 15:43:33 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.9299906	2.036266	1.053322	2.195808	.9499345	2.219539
Stddev	.0032325	.010607	.000690	.003999	.0054521	.016769
%RSD	.3475826	.5208807	.0655028	.1821240	.5739425	.7555297
#1	.9328325	2.046952	1.053754	2.199485	.9511889	2.238779
#2	.9264740	2.025740	1.052527	2.191551	.9439646	2.208028
#3	.9306652	2.036106	1.053686	2.196388	.9546501	2.211811

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3458976	.1981663	.2135842	52.52685	.4485407	.2216232
Stddev	.0032706	.0007781	.0004197	.34934	.0011706	.0001629
%RSD	.9455363	.3926425	.1965003	.6650638	.2609874	.0735145
#1	.3491859	.1989288	.2134874	52.83605	.4498276	.2214404
#2	.3426450	.1973735	.2132214	52.14790	.4475390	.2217530
#3	.3458619	.1981965	.2140439	52.59661	.4482556	.2216763

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4613032	3.633789	.2447516	12.01741	.5551785	.0188033
Stddev	.0018653	.024707	.0015652	.06234	.0005148	.0003285
%RSD	.4043536	.6799112	.6394907	.5187778	.0927328	1.747321
#1	.4607847	3.628756	.2464924	12.02561	.5557727	.0191418
#2	.4597521	3.611987	.2434606	11.95137	.5548964	.0184856
#3	.4633729	3.660625	.2443019	12.07525	.5548663	.0187825

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	101.9369	.3302987	.2536804	17.07326	.3015955	.4938145
Stddev	1.0306	.0031160	.0013408	.12748	.0015539	.0013531
%RSD	1.011042	.9433744	.5285374	.7466698	.5152391	.2740076
#1	102.4863	.3319249	.2521418	17.14142	.3033346	.4934220
#2	100.7480	.3267060	.2543008	16.92618	.3011085	.4927010
#3	102.5764	.3322650	.2545987	17.15216	.3003434	.4953204

Sample Name: Q1429-01MSD Acquired: 3/10/2025 15:43:33 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.7682806	.2206155	F 11.12224	6.755725	F 10.76441	.2126037
Stddev	.0013795	.0005850	.05715	.002711	.01162	.0016672
%RSD	.1795517	.2651815	.5138193	.0401346	.1079523	.7841848
#1	.7698615	.2212831	11.13915	6.756229	10.76498	.2144934
#2	.7676592	.2201923	11.05855	6.752796	10.75252	.2113405
#3	.7673212	.2203711	11.16903	6.758148	10.77574	.2119771

Elem	Sr4077
Units	ppm
Avg	.4376084
Stddev	.0036729
%RSD	.8393188
#1	.4410211
#2	.4337213
#3	.4380829

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3006.749	68357.62	13749.65	2024.233	4117.115
Stddev	4.076	81.22	53.20	5.566	2.086
%RSD	.1355774	.1188157	.3868910	.2749840	.0506579
#1	3006.514	68324.00	13688.26	2022.512	4117.597
#2	3010.938	68450.25	13782.25	2030.456	4118.917
#3	3002.795	68298.61	13778.44	2019.730	4114.830

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01A Acquired: 3/10/2025 15:47:33 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.9207964	2.045540	1.041382	2.168773	.9375175	2.213341
Stddev	.0016196	.005102	.001499	.004843	.0006342	.005559
%RSD	.1758948	.2494204	.1438962	.2233261	.0676439	.2511694
#1	.9218168	2.046822	1.042894	2.172549	.9374272	2.209783
#2	.9189289	2.049879	1.041354	2.170457	.9381920	2.210492
#3	.9216437	2.039919	1.039898	2.163312	.9369333	2.219747

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3360350	.2067076	.2109836	51.75349	.4439899	.2186132
Stddev	.0011387	.0004409	.0000594	.21176	.0012105	.0002892
%RSD	.3388544	.2132705	.0281521	.4091660	.2726464	.1322902
#1	.3362517	.2062189	.2110298	51.84311	.4450051	.2189229
#2	.3370498	.2070753	.2109166	51.90570	.4426502	.2185665
#3	.3348036	.2068287	.2110045	51.51166	.4443143	.2183502

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4571394	3.525255	.2432035	11.96303	.5490458	.0190429
Stddev	.0013198	.006385	.0007973	.05050	.0007992	.0011794
%RSD	.2887081	.1811230	.3278397	.4221202	.1455650	6.193484
#1	.4583900	3.522212	.2429795	12.01048	.5495859	.0203704
#2	.4557599	3.532592	.2440889	11.96865	.5481277	.0181158
#3	.4572681	3.520960	.2425421	11.90995	.5494237	.0186426

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	99.33494	.3273414	.2550695	16.43318	.3143135	.4872902
Stddev	.11948	.0004022	.0005291	.02611	.0010770	.0007719
%RSD	.1202800	.1228629	.2074508	.1589008	.3426425	.1584084
#1	99.22687	.3275070	.2544616	16.46271	.3138329	.4881719
#2	99.46325	.3276343	.2554270	16.41313	.3155471	.4867359
#3	99.31469	.3268828	.2553199	16.42369	.3135605	.4869630

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-01A Acquired: 3/10/2025 15:47:33 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.7590902	.2186596	F 10.76686	6.737646	F 10.70263	.2115907
Stddev	.0014701	.0007557	.02935	.002690	.01626	.0004344
%RSD	.1936663	.3456049	.2725825	.0399268	.1518912	.2052768
#1	.7594481	.2189379	10.79785	6.736096	10.72140	.2120658
#2	.7574741	.2192366	10.76325	6.736090	10.69327	.2114925
#3	.7603482	.2178042	10.73948	6.740753	10.69322	.2112140

Elem	Sr4077
Units	ppm
Avg	.4290377
Stddev	.0018260
%RSD	.4256102
#1	.4289036
#2	.4309271
#3	.4272825

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3026.595	67333.96	13127.43	2015.945	4139.263
Stddev	6.911	199.38	68.05	4.260	7.681
%RSD	.2283555	.2961056	.5183567	.2113355	.1855612
#1	3020.017	67121.08	13090.75	2011.485	4131.933
#2	3025.970	67364.48	13085.60	2016.377	4138.605
#3	3033.797	67516.32	13205.95	2019.973	4147.252

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV05 Acquired: 3/10/2025 15:51:32 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	4.996456	4.847848	4.846274	5.018890	5.094975	9.796813	9.731578
Stddev	.006259	.019247	.003629	.006837	.009104	.025757	.054501
%RSD	.1252775	.3970134	.0748889	.1362252	.1786787	.2629140	.5600408
#1	4.993259	4.825661	4.845060	5.012980	5.088310	9.797895	9.758604
#2	4.992440	4.857838	4.843408	5.026378	5.091268	9.822012	9.668845
#3	5.003668	4.860047	4.850355	5.017313	5.105347	9.770532	9.767283

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2392250	2.419335	23.84226	.9833566	2.440774	1.254059	4.893915
Stddev	.0008723	.002471	.02278	.0026512	.003864	.000585	.017527
%RSD	.3646426	.1021205	.0955346	.2696053	.1583231	.0466809	.3581365
#1	.2382758	2.417891	23.82730	.9811121	2.440253	1.253395	4.914032
#2	.2394077	2.417927	23.83100	.9826759	2.437197	1.254284	4.885767
#3	.2399915	2.422188	23.86847	.9862817	2.444873	1.254500	4.881945

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.357248	24.03924	2.446635	1.245690	24.11040	2.451321	2.500678
Stddev	.002451	.05117	.002984	.000417	.02966	.003643	.009046
%RSD	.1039758	.2128406	.1219668	.0335140	.1230223	.1486333	.3617221
#1	2.357048	24.05016	2.444732	1.246147	24.13137	2.455008	2.494019
#2	2.354903	23.98350	2.445099	1.245594	24.12336	2.447722	2.497040
#3	2.359793	24.08407	2.450074	1.245329	24.07646	2.451234	2.510976

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.97046	4.747788	5.106537	4.825542	4.834743	5.089090	4.868874
Stddev	.14782	.029633	.008000	.015854	.006310	.015101	.012668
%RSD	.5919632	.6241422	.1566559	.3285494	.1305109	.2967268	.2601816
#1	25.14091	4.714050	5.098996	4.809581	4.838338	5.103773	4.855749
#2	24.89292	4.769597	5.105688	4.825758	4.838434	5.073603	4.869846
#3	24.87753	4.759719	5.114928	4.841288	4.827457	5.089895	4.881028

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV05 Acquired: 3/10/2025 15:51:32 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	4.829240	4.828685	4.877518
Stddev	.013725	.010517	.008807
%RSD	.2842107	.2178096	.1805570
#1	4.813775	4.826203	4.882421
#2	4.833972	4.840222	4.882783
#3	4.839973	4.819631	4.867351

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3127.403	67962.45	12831.02	2031.079	4210.557
Stddev	4.654	209.19	13.28	5.380	9.406
%RSD	.1488285	.3078061	.1035364	.2648740	.2233866
#1	3125.836	67728.31	12846.34	2031.815	4210.983
#2	3132.639	68130.95	12824.01	2036.054	4219.742
#3	3123.735	68028.10	12822.71	2025.370	4200.945

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB05 Acquired: 3/10/2025 15:55:43 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001009	.0006727	.0004042	.0032428	.0010175	-.000285	-.006199
Stddev	.001252	.0016579	.0017408	.0020175	.0018169	.003708	.000120
%RSD	124.0190	246.4478	430.6852	62.21522	178.5548	1301.052	1.940334
#1	-.001991	-.001238	-.001201	.0015803	-.000047	.000178	-.006121
#2	.000400	.001530	.002255	.0054874	.003115	-.004203	-.006139
#3	-.001436	.001727	.000159	.0026608	-.000016	.003170	-.006338

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000031	.0000326	.0017697	-.000209	-.000157	-.000262	-.003939
Stddev	.000008	.0000188	.0098694	.000420	.000127	.000278	.001560
%RSD	25.20412	57.71560	557.7038	200.9181	80.84152	106.3632	39.60340
#1	-.000031	.0000109	.0063765	.000005	-.000247	-.000488	-.005355
#2	-.000024	.0000445	-.009561	-.000693	-.000012	.000049	-.002267
#3	-.000040	.0000425	.008493	.000061	-.000214	-.000346	-.004195

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001712	-.006582	-.000217	-.000014	.0158068	-.000851	-.001214
Stddev	.0004234	.012972	.000388	.000258	.0161271	.000450	.000183
%RSD	247.3724	197.0701	178.9818	1881.210	102.0268	52.91427	15.09205
#1	.0006542	.000931	-.000324	-.000300	.0219518	-.000834	-.001125
#2	-.000005	.000883	-.000540	.000202	-.002490	-.000410	-.001093
#3	-.000136	-.021561	.000214	.000057	.027958	-.001310	-.001425

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2225235	.0037132	.0001356	-.000523	.0001776	.0014582	.0022793
Stddev	.0329849	.0009745	.0002150	.000327	.0004356	.0028766	.0005227
%RSD	14.82313	26.24317	158.4958	62.57268	245.2715	197.2702	22.93418
#1	.2456893	.0047023	.0003618	-.000646	-.000171	.0025808	.0024505
#2	.1847582	.0036833	.0001113	-.000152	.000038	-.001810	.0026950
#3	.2371230	.0027541	-.000066	-.000771	.000666	.003604	.0016924

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB05 Acquired: 3/10/2025 15:55:43 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0065746	-.002891	.0000121
Stddev	.0022299	.001321	.0000479
%RSD	33.91749	45.67627	397.6567
#1	.0087643	-.002232	.0000670
#2	.0043065	-.004412	-.000021
#3	.0066530	-.002030	-.000010

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3219.892	70521.79	13291.77	2116.463	4598.352
Stddev	4.844	85.46	100.31	7.420	9.420
%RSD	.1504528	.1211778	.7546625	.3505641	.2048576
#1	3219.197	70620.40	13277.58	2124.545	4592.030
#2	3225.047	70469.38	13199.32	2109.959	4609.178
#3	3215.433	70475.58	13398.42	2114.884	4593.846

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-02 Acquired: 3/10/2025 16:00:02 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.004463	-.004600	.0027745	-.000170	.0044065	.4273667
Stddev	.003039	.002608	.0012765	.002086	.0010950	.0019422
%RSD	68.09221	56.68250	46.00726	1226.570	24.85039	.4544609
#1	-.007113	-.002779	.0041872	-.000255	.0031511	.4254462
#2	-.001146	-.003434	.0017042	.001958	.0049038	.4273241
#3	-.005131	-.007587	.0024321	-.002212	.0051647	.4293299

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1471858	-.000061	-.000003	61.15787	.0084890	.0013040
Stddev	.0002580	.000021	.000062	.20487	.0006385	.0000481
%RSD	.1752529	35.06999	1893.694	.3349929	7.520931	3.687129
#1	.1471778	-.000083	.000069	61.27423	.0085611	.0013172
#2	.1474476	-.000059	-.000042	61.27807	.0090883	.0013441
#3	.1469319	-.000040	-.000036	60.92131	.0078175	.0012507

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2053522	.8085906	.0381575	12.69839	.0081868	-.000128
Stddev	.0006007	.0041273	.0000776	.06798	.0003000	.000198
%RSD	.2925194	.5104289	.2032653	.5353603	3.664150	154.9557
#1	.2048443	.8131814	.0381449	12.77067	.0079289	-.000024
#2	.2051970	.8074031	.0380870	12.68877	.0081153	-.000003
#3	.2060152	.8051872	.0382406	12.63573	.0085160	-.000355

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	133.4022	-.000276	.1126029	8.509188	.0354252	.0016135
Stddev	.5594	.001258	.0003906	.051086	.0003843	.0001595
%RSD	.4193626	456.0173	.3468665	.6003596	1.084930	9.886315
#1	133.9574	-.000411	.1127451	8.529568	.0356581	.0014836
#2	132.8386	-.001461	.1129025	8.451058	.0349816	.0015654
#3	133.4107	.001044	.1121612	8.546938	.0356358	.0017915

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1429-02 Acquired: 3/10/2025 16:00:02 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0010966	.0019633	F 11.85390	.4759718	F 13.08256	-.013170
Stddev	.0004695	.0005303	.02681	.0063742	.00506	.000251
%RSD	42.81759	27.00861	.2261389	1.339208	.0386756	1.904601
#1	.0006762	.0025227	11.88476	.4686228	13.08046	-.012947
#2	.0016033	.0018990	11.83644	.4792928	13.08833	-.013441
#3	.0010104	.0014680	11.84049	.4799998	13.07889	-.013122

Elem	Sr4077
Units	ppm
Avg	.2713087
Stddev	.0014366
%RSD	.5295034
#1	.2726032
#2	.2715598
#3	.2697631

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2967.213	66239.99	13678.85	1963.659	4084.596
Stddev	3.688	215.47	96.68	6.704	1.056
%RSD	.1242908	.3252891	.7067668	.3414018	.0258488
#1	2964.064	65999.09	13617.96	1956.115	4085.221
#2	2971.270	66306.57	13628.27	1968.935	4083.377
#3	2966.305	66414.31	13790.33	1965.928	4085.190

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-02DLX2 Acquired: 3/10/2025 16:04:15 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0212199	.0031597	.0953022	-.026369	-.005320	70.35219
Stddev	.0013245	.0019710	.0009871	.002872	.000856	.11949
%RSD	6.241593	62.37978	1.035757	10.89169	16.09358	.1698442
#1	.0213173	.0039266	.0942934	-.023454	-.004895	70.28420
#2	.0198494	.0046321	.0962661	-.026456	-.004760	70.49016
#3	.0224929	.0009205	.0953469	-.029196	-.006306	70.28221

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5503955	.0054102	-.005033	13.27879	.1410109	.0796216
Stddev	.0005883	.0000562	.000038	.04794	.0003471	.0002877
%RSD	.1068823	1.038134	.7643210	.3609932	.2461348	.3613779
#1	.5507175	.0053702	-.005078	13.28562	.1406115	.0792951
#2	.5507525	.0054744	-.005015	13.32294	.1412392	.0798381
#3	.5497165	.0053859	-.005008	13.22780	.1411820	.0797317

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2108880	147.8224	3.271138	31.32625	.1482502	-.001969
Stddev	.0006105	.0530	.003885	.10641	.0005374	.000267
%RSD	.2894847	.0358596	.1187612	.3396919	.3624801	13.57335
#1	.2102659	147.7618	3.269664	31.24300	.1478687	-.001973
#2	.2109119	147.8605	3.275544	31.44614	.1480171	-.002234
#3	.2114862	147.8448	3.268206	31.28962	.1488648	-.001700

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7804461	.2839567	.3356201	8.552156	-.165967	.0045346
Stddev	.0114081	.0006253	.0017650	.024820	.002402	.0002545
%RSD	1.461745	.2202100	.5258993	.2902203	1.447527	5.612288
#1	.7762131	.2836266	.3341098	8.526700	-.168350	.0043770
#2	.7717596	.2846779	.3375604	8.576287	-.166005	.0048282
#3	.7933657	.2835657	.3351902	8.553479	-.163545	.0043986

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1415-02DLX2 Acquired: 3/10/2025 16:04:15 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0074795	2.340098	F 13.16500	3.536939	.3262167	.1962204
Stddev	.0003588	.004368	.03782	.007856	.0045625	.0005329
%RSD	4.796379	.1866654	.2873025	.2221123	1.398597	.2715935
#1	.0074948	2.341590	13.12263	3.528077	.3218058	.1968344
#2	.0071134	2.343526	13.19537	3.539693	.3259275	.1959483
#3	.0078304	2.335180	13.17699	3.543048	.3309169	.1958785

Elem	Sr4077
Units	ppm
Avg	.0722615
Stddev	.0001211
%RSD	.1676346
#1	.0723918
#2	.0721524
#3	.0722403

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3439.747	77420.43	14221.63	2300.305	4243.672
Stddev	7.944	257.94	44.79	13.263	12.627
%RSD	.2309444	.3331725	.3149134	.5765862	.2975528
#1	3443.263	77691.23	14255.87	2315.513	4248.642
#2	3445.327	77177.63	14170.94	2291.135	4253.057
#3	3430.652	77392.44	14238.07	2294.269	4229.316

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166968TB Acquired: 3/10/2025 16:08:22 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.002530	-.003538	-.000059	.0033965	-.000032	.0117696
Stddev	.001179	.000860	.000568	.0004238	.001512	.0030168
%RSD	46.59289	24.30122	957.1760	12.47675	4658.030	25.63210
#1	-.001662	-.002618	-.000711	.0029116	-.001775	.0152285
#2	-.002056	-.004321	.000327	.0035823	.000735	.0096821
#3	-.003872	-.003675	.000207	.0036957	.000942	.0103982

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006743	-.000123	.0000096	.0494475	.0009463	-.000321
Stddev	.000574	.000038	.0000596	.0112030	.0003839	.000184
%RSD	8.511666	30.59085	624.2496	22.65643	40.57215	57.38598
#1	-.006842	-.000091	-.000042	.0623076	.0010000	-.000387
#2	-.006126	-.000164	-.000005	.0442303	.0013007	-.000463
#3	-.007261	-.000113	.000075	.0418046	.0005384	-.000113

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003066	.0334402	.0055841	-.003197	.0011813	-.000310
Stddev	.0001495	.0061822	.0002886	.004753	.0004298	.000361
%RSD	48.77191	18.48743	5.168558	148.6628	36.38710	116.4032
#1	.0001530	.0358045	.0055131	.001538	.0009799	-.000215
#2	.0003151	.0380912	.0059015	-.007968	.0016748	-.000710
#3	.0004518	.0264247	.0053375	-.003162	.0008891	-.000007

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 314.9049	.0002929	.0013570	.0259401	-.002212	.0000045
Stddev	5.4015	.0011278	.0001239	.0052543	.000506	.0000918
%RSD	1.715283	384.9731	9.133331	20.25568	22.86428	2050.883
#1	314.9210	.0011947	.0014792	.0295707	-.001755	.0000102
#2	309.4954	.0006557	.0013603	.0199150	-.002125	.0000933
#3	320.2984	-.000972	.0012314	.0283345	-.002755	-.000090

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166968TB Acquired: 3/10/2025 16:08:22 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.000372	.0004195	.0027523	.0071885	F .0408681	-.007836
Stddev	.000458	.0004999	.0034116	.0004857	.0006629	.000398
%RSD	123.0634	119.1601	123.9532	6.756961	1.622017	5.074239
#1	-.000900	.0000482	.0055461	.0066389	.0409432	-.007526
#2	-.000144	.0002224	.0037607	.0073664	.0401709	-.007698
#3	-.000073	.0009880	-.001050	.0075602	.0414902	-.008284

Elem	Sr4077
Units	ppm
Avg	.0001544
Stddev	.0000715
%RSD	46.31765
#1	.0000765
#2	.0002171
#3	.0001695

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3054.817	65772.05	13152.14	1976.108	4105.231
Stddev	6.463	300.55	9.45	8.983	15.675
%RSD	.2115603	.4569588	.0718860	.4546018	.3818375
#1	3053.818	66033.86	13143.81	1982.076	4099.796
#2	3048.912	65838.45	13162.41	1980.472	4092.996
#3	3061.721	65443.86	13150.18	1965.776	4122.900

Sample Name: PB166990BL Acquired: 3/10/2025 16:12:50 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001700	.0003694	.0005470	.0005227	.0008690	-.000081	-.005178
Stddev	.000805	.0009328	.0007216	.0032644	.0008258	.001943	.000880
%RSD	47.34480	252.5468	131.9236	624.4830	95.02734	2405.939	16.99242
#1	-.000992	-.000048	.0010840	-.003150	.0009548	.002163	-.004393
#2	-.001533	.001438	.0008302	.001626	.0016485	-.001213	-.005012
#3	-.002575	-.000282	-.000273	.003093	.0000037	-.001192	-.006129

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000006	.0000110	-.003141	.0005054	-.000047	-.000451	-.003735
Stddev	.000049	.0000547	.009474	.0002631	.000306	.000190	.002942
%RSD	851.0553	494.9790	301.6522	52.06025	646.0951	42.17973	78.76984
#1	-.000053	.0000588	-.014081	.0006735	.000077	-.000277	-.003157
#2	.000045	-.000049	.002327	.0002022	-.000396	-.000654	-.006922
#3	-.000009	.000023	.002332	.0006405	.000177	-.000421	-.001124

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000392	-.008212	.0001578	-.000122	.0631573	-.000879	-.001081
Stddev	.000126	.004900	.0003061	.000134	.0049562	.000788	.000311
%RSD	32.11281	59.66953	194.0047	109.5812	7.847393	89.75021	28.81372
#1	-.000537	-.004459	.0005025	-.000085	.0583970	-.000483	-.001371
#2	-.000305	-.013756	.0000526	-.000011	.0682885	-.001786	-.000752
#3	-.000335	-.006422	-.000082	-.000270	.0627863	-.000366	-.001119

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1740651	-.001888	-.000135	-.000651	.0003962	-.000969	.0020049
Stddev	.0255259	.000380	.000207	.000124	.0001425	.001868	.0016151
%RSD	14.66456	20.11166	153.1972	19.05807	35.96889	192.7709	80.55687
#1	.1470988	-.001453	-.000287	-.000626	.0002319	.001180	.0005063
#2	.1978528	-.002058	.000101	-.000541	.0004861	-.002197	.0017929
#3	.1772436	-.002153	-.000219	-.000785	.0004705	-.001890	.0037155

Sample Name: PB166990BL Acquired: 3/10/2025 16:12:50 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0031518	-.000240	-.000012
Stddev	.0020966	.000938	.000055
%RSD	66.52033	391.7250	458.4109
#1	.0040072	.000813	-.000022
#2	.0046855	-.000543	.000047
#3	.0007628	-.000989	-.000061

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3229.626	69619.48	13711.79	2081.426	4664.501
Stddev	4.974	277.56	70.02	2.768	6.019
%RSD	.1540199	.3986756	.5106612	.1330082	.1290484
#1	3231.383	69831.10	13661.74	2078.911	4666.412
#2	3233.483	69722.11	13681.84	2084.392	4669.333
#3	3224.012	69305.22	13791.81	2080.974	4657.758

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166990BS Acquired: 3/10/2025 16:17:10 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.8104634	1.948907	.9543426	2.010464	.8278878	1.900554
Stddev	.0008991	.011180	.0015197	.004131	.0016297	.006316
%RSD	.1109385	.5736612	.1592373	.2054540	.1968485	.3323323
#1	.8096280	1.940212	.9559969	2.014790	.8276247	1.904011
#2	.8114149	1.944991	.9540222	2.010041	.8264057	1.893264
#3	.8103473	1.961518	.9530087	2.006561	.8296331	1.904386

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1766508	.1861427	.1888522	.9528777	.3933713	.1922077
Stddev	.0007197	.0008396	.0000797	.0075207	.0006625	.0000666
%RSD	.4074313	.4510384	.0422118	.7892645	.1684103	.0346554
#1	.1774264	.1852906	.1888055	.9468142	.3941238	.1922287
#2	.1760045	.1861684	.1889442	.9505254	.3931143	.1922613
#3	.1765215	.1869691	.1888067	.9612934	.3928758	.1921331

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3099513	2.911341	.1857530	1.834465	.4847123	.0743054
Stddev	.0011676	.010139	.0009591	.009652	.0003216	.0002575
%RSD	.3767036	.3482615	.5163217	.5261689	.0663443	.3464982
#1	.3106406	2.922100	.1865381	1.844599	.4850442	.0744325
#2	.3086031	2.901963	.1860370	1.825380	.4846904	.0744746
#3	.3106100	2.909962	.1846841	1.833416	.4844022	.0740091

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.661923	.2825052	.2014036	9.682035	.2705315	.4146453
Stddev	.020459	.0003929	.0001862	.057811	.0010277	.0003999
%RSD	.7685837	.1390785	.0924550	.5970907	.3798675	.0964503
#1	2.685337	.2827084	.2012199	9.748397	.2693889	.4147028
#2	2.652938	.2820523	.2013985	9.642603	.2708253	.4150133
#3	2.647494	.2827549	.2015923	9.655104	.2713802	.4142197

Sample Name: PB166990BS Acquired: 3/10/2025 16:17:10 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.6702266	.1887704	.8335876	5.423051	F -.004041	.1881320
Stddev	.0008238	.0002750	.0032595	.013295	.002587	.0006007
%RSD	.1229070	.1456614	.3910240	.2451594	64.01161	.3193147
#1	.6692904	.1890336	.8319502	5.419450	-.001748	.1886324
#2	.6705489	.1884850	.8314714	5.411927	-.006845	.1874658
#3	.6708404	.1887926	.8373412	5.437776	-.003529	.1882979

Elem	Sr4077
Units	ppm
Avg	.1856126
Stddev	.0006482
%RSD	.3492031
#1	.1863264
#2	.1854506
#3	.1850608

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3199.178	69879.54	13356.32	2072.465	4511.094
Stddev	8.218	128.90	36.62	3.319	6.757
%RSD	.2568744	.1844599	.2741661	.1601679	.1497879
#1	3191.070	69731.43	13391.81	2068.894	4505.118
#2	3198.962	69966.42	13358.49	2073.046	4509.736
#3	3207.502	69940.76	13318.67	2075.456	4518.426

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166878TB Acquired: 3/10/2025 16:21:12 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.003643	-.000856	.0001660	.0019489	.0003096	.0029890
Stddev	.000718	.001838	.0010972	.0023314	.0005297	.0037439
%RSD	19.70829	214.7287	660.9725	119.6226	171.0879	125.2535
#1	-.003784	.000620	-.000232	.0033458	.0004963	.0016629
#2	-.002865	-.000273	-.000677	.0032434	-.000288	.0072154
#3	-.004280	-.002915	.001407	-.000742	.000721	.0000887

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005190	-.000067	-.000041	-.003739	.0000815	-.000084
Stddev	.000436	.000018	.000065	.006075	.0005737	.000024
%RSD	8.398138	27.59639	157.4453	162.4462	703.8858	28.31581
#1	-.005579	-.000069	.000026	-.009492	-.000577	-.000111
#2	-.004719	-.000084	-.000045	.002613	.000351	-.000074
#3	-.005271	-.000048	-.000104	-.004339	.000471	-.000066

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004166	.0250434	.0004369	-.011348	.0006969	.0001076
Stddev	.0004042	.0038595	.0002527	.006316	.0001646	.0000952
%RSD	97.02228	15.41115	57.83807	55.65946	23.61487	88.45740
#1	.0000575	.0239599	.0002028	-.012453	.0008014	.0001444
#2	.0008544	.0218416	.0007047	-.017038	.0005072	-.000000
#3	.0003381	.0293289	.0004030	-.004552	.0007821	.000179

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.055711	-.001388	-.000130	.0011190	-.002795	-.000169
Stddev	.004941	.000709	.000233	.0062299	.000562	.000003
%RSD	8.869677	51.04870	180.0391	556.7159	20.11078	2.010233
#1	-.056803	-.000733	-.000341	.0077510	-.002228	-.000165
#2	-.050315	-.001290	-.000168	-.004610	-.003352	-.000172
#3	-.060015	-.002140	.000120	.000217	-.002804	-.000169

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166878TB Acquired: 3/10/2025 16:21:12 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.001970	-.000078	-.001794	.0058360	F 8.097201	-.008283
Stddev	.001011	.000439	.006154	.0009043	.007495	.000345
%RSD	51.32034	563.0194	343.0529	15.49432	.0925572	4.161887
#1	-.001772	-.000327	-.005762	.0053813	8.088931	-.008654
#2	-.001072	-.000336	-.004915	.0052493	8.103544	-.008220
#3	-.003065	.000429	.005295	.0068774	8.099126	-.007973

Elem	Sr4077
Units	ppm
Avg	.0000182
Stddev	.0000507
%RSD	278.1330
#1	-.000015
#2	.000077
#3	-.000007

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3308.341	73506.94	14266.79	2169.703	4851.322
Stddev	3.338	62.60	116.33	4.701	3.986
%RSD	.1009013	.0851572	.8153553	.2166695	.0821699
#1	3311.271	73557.55	14399.72	2173.713	4855.230
#2	3304.707	73436.94	14183.66	2164.529	4847.262
#3	3309.044	73526.32	14216.99	2170.867	4851.474

Sample Name: PB166878BL Acquired: 3/10/2025 16:25:30 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.000784	-.000313	-.000037	.0018685	.0017838	-.003703	-.005576
Stddev	.000333	.000562	.001677	.0015903	.0008378	.000705	.000613
%RSD	42.51732	179.9089	4562.164	85.11256	46.96644	19.02673	10.99004
#1	-.000838	-.000465	-.001238	.0012552	.0016514	-.003206	-.004982
#2	-.001087	-.000782	.001879	.0036742	.0010201	-.003395	-.006206
#3	-.000427	.000310	-.000751	.0006762	.0026799	-.004510	-.005540

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000056	.0000404	-.001691	-.000008	.0001276	-.000514	-.002394
Stddev	.000038	.0000424	.009403	.000536	.0000974	.000107	.003687
%RSD	67.84993	104.8285	556.1438	6485.806	76.32816	20.89198	153.9665
#1	-.000097	.0000888	.006065	-.000355	.0002269	-.000539	-.003217
#2	-.000023	.0000227	.001012	.000610	.0001236	-.000608	-.005600
#3	-.000047	.0000098	-.012150	-.000279	.0000323	-.000397	.001634

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000105	-.010010	-.000041	-.000159	-.015786	-.000707	-.001140
Stddev	.000180	.012529	.000102	.000177	.002822	.001256	.000272
%RSD	171.1856	125.1678	251.5623	111.5790	17.87471	177.6704	23.83689
#1	.000010	-.020021	-.000158	-.000018	-.017198	-.002069	-.000826
#2	-.000013	.004040	.000009	-.000358	-.017623	.000405	-.001300
#3	-.000313	-.014048	.000028	-.000101	-.012537	-.000457	-.001293

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1298823	-.002086	-.000192	-.000873	.0000379	-.002877	.0020195
Stddev	.0206778	.000406	.000268	.000617	.0001689	.005270	.0026570
%RSD	15.92041	19.46284	139.9322	70.65432	445.5842	183.1640	131.5650
#1	.1103012	-.002489	-.000053	-.001493	-.000146	-.001733	.0048470
#2	.1278404	-.001677	-.000501	-.000867	.000073	-.008626	.0016371
#3	.1515053	-.002094	-.000021	-.000259	.000186	.001727	-.000426

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166878BL Acquired: 3/10/2025 16:25:30 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.0007985	-.004496	-.000057
Stddev	.0010387	.000083	.000062
%RSD	130.0791	1.852824	108.8506
#1	.0019531	-.004565	-.000122
#2	-.000060	-.004403	.000002
#3	.000502	-.004519	-.000052

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3242.649	69844.15	13962.50	2099.004	4667.881
Stddev	3.854	378.05	38.76	6.664	6.465
%RSD	.1188516	.5412777	.2775691	.3174787	.1385056
#1	3238.355	70244.29	13938.42	2106.688	4663.004
#2	3245.808	69795.20	14007.21	2095.528	4675.214
#3	3243.784	69492.96	13941.89	2094.798	4665.425

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166878BS Acquired: 3/10/2025 16:29:49 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.7976675	1.944475	.9428865	1.958504	.8019436	1.856590
Stddev	.0016218	.015166	.0015928	.009368	.0017819	.004272
%RSD	.2033160	.7799662	.1689290	.4783131	.2221969	.2301059
#1	.7995395	1.942026	.9436940	1.951103	.8011222	1.852807
#2	.7966853	1.930682	.9410516	1.955372	.8007205	1.861224
#3	.7967779	1.960716	.9439137	1.969036	.8039880	1.855740

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1796504	.1808940	.1865937	.9499299	.3879761	.1906618
Stddev	.0006548	.0002445	.0003523	.0038975	.0011436	.0000769
%RSD	.3644904	.1351372	.1887963	.4102893	.2947691	.0403395
#1	.1788944	.1810445	.1863295	.9488389	.3887561	.1905752
#2	.1800390	.1806120	.1864579	.9466943	.3885089	.1906884
#3	.1800177	.1810256	.1869936	.9542567	.3866633	.1907220

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3069919	2.962791	.1856667	1.830946	.4814083	.0741043
Stddev	.0008394	.002868	.0003168	.023514	.0013106	.0005223
%RSD	.2734366	.0968066	.1706471	1.284271	.2722411	.7047956
#1	.3071356	2.962093	.1853061	1.823689	.4814987	.0742268
#2	.3060899	2.960336	.1859005	1.811916	.4800549	.0735317
#3	.3077502	2.965944	.1857935	1.857234	.4826714	.0745545

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.714207	.2801401	.1987519	9.853642	.2594626	.4055497
Stddev	.016879	.0007278	.0001998	.042825	.0007371	.0011198
%RSD	.6218945	.2598144	.1005236	.4346089	.2840871	.2761236
#1	2.700920	.2801682	.1985710	9.871783	.2596565	.4055902
#2	2.733200	.2793987	.1987184	9.884412	.2586479	.4044102
#3	2.708501	.2808536	.1989663	9.804733	.2600833	.4066487

Sample Name: PB166878BS Acquired: 3/10/2025 16:29:49 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	.6543761	.1851598	.8226756	5.480358	F -.003652	.1855595
Stddev	.0009925	.0013358	.0074298	.014249	.006031	.0009357
%RSD	.1516780	.7214442	.9031259	.2599943	165.1266	.5042569
#1	.6543213	.1865004	.8155433	5.486613	-.000638	.1849395
#2	.6534121	.1851502	.8221127	5.464051	.000278	.1851031
#3	.6553949	.1838288	.8303709	5.490409	-.010596	.1866358

Elem	Sr4077
Units	ppm
Avg	.1864720
Stddev	.0003435
%RSD	.1841959
#1	.1862199
#2	.1868632
#3	.1863329

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3185.556	69409.02	13587.68	2098.293	4471.881
Stddev	6.161	290.64	46.34	8.586	5.360
%RSD	.1934065	.4187416	.3410405	.4091879	.1198557
#1	3183.112	69074.06	13542.81	2088.508	4469.799
#2	3192.564	69594.53	13635.36	2104.570	4477.970
#3	3180.992	69558.48	13584.88	2101.800	4467.875

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166858BL Acquired: 3/10/2025 16:33:52 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.003343	-.001680	.0000098	.0012476	.0017008	.0158418
Stddev	.000929	.000442	.0004972	.0005221	.0008764	.0028424
%RSD	27.80385	26.32660	5079.728	41.84851	51.52874	17.94235
#1	-.002743	-.001169	-.000550	.0007480	.0019609	.0126698
#2	-.004414	-.001927	.000401	.0012052	.0024177	.0181580
#3	-.002872	-.001944	.000178	.0017896	.0007238	.0166974

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007429	-.000085	.0000129	.0255881	.0008939	-.000305
Stddev	.001341	.000013	.0000940	.0041760	.0003483	.000166
%RSD	18.04659	15.10563	726.5383	16.32020	38.96656	54.34260
#1	-.007146	-.000076	-.000087	.0266587	.0012519	-.000463
#2	-.008889	-.000099	.000100	.0291246	.0008735	-.000132
#3	-.006253	-.000079	.000026	.0209810	.0005562	-.000320

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000446	.0272895	.0008294	-.000074	.0004916	.0001811
Stddev	.0002422	.0033237	.0003197	.011666	.0005568	.0002600
%RSD	542.8071	12.17923	38.54516	15737.81	113.2687	143.5309
#1	-.000229	.0276144	.0005085	-.002559	-.000146	-.000027
#2	.000231	.0304387	.0008319	-.010298	.000885	.000098
#3	.000132	.0238153	.0011478	.012634	.000735	.000472

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001936	-.000324	.0094725	.1646312	-.002026	-.000049
Stddev	.007758	.001067	.0000925	.0097247	.000621	.000188
%RSD	400.7677	329.5072	.9760379	5.906960	30.65116	385.7142
#1	.001259	-.000113	.0093846	.1596525	-.002260	-.000129
#2	-.010781	.000622	.0095689	.1584039	-.002495	.000166
#3	.003715	-.001480	.0094641	.1758371	-.001322	-.000183

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166858BL Acquired: 3/10/2025 16:33:52 Type: Unk
Method: NON EPA-6010-200.7(v2770) 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	-.000614	.0005935	.0138323	F .0128021	.0099666	-.005976
Stddev	.000650	.0004604	.0054726	.0008754	.0015525	.000683
%RSD	105.8440	77.57860	39.56391	6.838266	15.57729	11.43681
#1	-.001330	.0003724	.0092826	.0132334	.0105537	-.005191
#2	-.000062	.0011227	.0199051	.0133782	.0082061	-.006439
#3	-.000450	.0002853	.0123092	.0117947	.0111399	-.006299

Elem	Sr4077
Units	ppm
Avg	.0000128
Stddev	.0000464
%RSD	363.8660
#1	.0000373
#2	.0000417
#3	-.000041

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3244.693	70814.42	13820.08	2115.404	4665.800
Stddev	5.628	159.37	24.92	3.890	5.095
%RSD	.1734392	.2250573	.1803125	.1839099	.1091950
#1	3247.684	70637.52	13791.32	2112.178	4662.168
#2	3248.194	70858.94	13835.30	2119.724	4671.624
#3	3238.202	70946.79	13833.62	2114.308	4663.608

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166858BS Acquired: 3/10/2025 16:44:14 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.7580400	1.813837	.9006119	1.810169	.7779335	1.858732
Stddev	.0018439	.015190	.0027219	.000951	.0001533	.005959
%RSD	.2432495	.8374594	.3022311	.0525141	.0197083	.3205834
#1	.7599019	1.804061	.9033674	1.811138	.7779759	1.864284
#2	.7580035	1.806113	.8979248	1.809238	.7780612	1.859477
#3	.7562146	1.831337	.9005435	1.810130	.7777635	1.852436

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1711607	.2073402	.1778329	.9518775	.3850832	.1856263
Stddev	.0009254	.0013177	.0001369	.0113234	.0015465	.0000158
%RSD	.5406842	.6355073	.0769658	1.189585	.4015947	.0085257
#1	.1718805	.2070594	.1778536	.9645717	.3855042	.1856434
#2	.1714848	.2087757	.1776869	.9482437	.3833698	.1856233
#3	.1701168	.2061856	.1779582	.9428171	.3863756	.1856122

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2954368	2.831679	.2077643	1.776330	.4657149	.0708719
Stddev	.0001983	.013425	.0005386	.015166	.0005875	.0004941
%RSD	.0671232	.4741175	.2592210	.8537791	.1261595	.6971117
#1	.2952132	2.843115	.2071728	1.791734	.4651482	.0712246
#2	.2955915	2.816897	.2078939	1.775842	.4663213	.0710839
#3	.2955056	2.835026	.2082263	1.761414	.4656752	.0703072

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.533750	.2746975	.1925966	9.093692	.2509942	.4081932
Stddev	.029557	.0007557	.0011662	.065102	.0019858	.0004728
%RSD	1.166523	.2750978	.6054913	.7158975	.7911634	.1158231
#1	2.565659	.2754955	.1939366	9.167784	.2503320	.4079230
#2	2.507310	.2746043	.1918112	9.045648	.2532265	.4079175
#3	2.528280	.2739928	.1920421	9.067643	.2494242	.4087391

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166858BS Acquired: 3/10/2025 16:44:14 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.6348463	.1825480	.8127631	5.160674	F .0045651	.1797576
Stddev	.0006023	.0004197	.0032631	.014813	.0020664	.0014499
%RSD	.0948661	.2299198	.4014824	.2870293	45.26455	.8065762
#1	.6342077	.1824582	.8146510	5.157238	.0051474	.1808250
#2	.6349272	.1821806	.8089952	5.147881	.0062778	.1803410
#3	.6354040	.1830054	.8146431	5.176902	.0022701	.1781069

Elem	Sr4077
Units	ppm
Avg	.1798422
Stddev	.0008192
%RSD	.4555380
#1	.1807402
#2	.1796509
#3	.1791356

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3181.493	69700.36	13173.41	2081.192	4504.611
Stddev	5.036	364.03	39.47	20.576	6.972
%RSD	.1582837	.5222762	.2996096	.9886538	.1547701
#1	3183.651	69345.94	13162.09	2058.906	4508.847
#2	3175.738	70073.29	13140.83	2099.467	4496.564
#3	3185.090	69681.86	13217.30	2085.202	4508.421

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV06 Acquired: 3/10/2025 16:48:14 Type: Unk
Method: NON EPA-6010-200.7(v2785) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.983536	4.885729	4.825563	5.020164	5.093322	9.596345
Stddev	.004203	.040921	.012017	.005863	.010417	.042621
%RSD	.0843340	.8375571	.2490348	.1167902	.2045135	.4441415
#1	4.981310	4.883263	4.836688	5.024102	5.105344	9.580885
#2	4.988384	4.927827	4.827184	5.013426	5.087626	9.563611
#3	4.980915	4.846097	4.812818	5.022965	5.086996	9.644538

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.716272	.2683380	2.407202	23.66860	.9773836	2.428683
Stddev	.090660	.0004863	.004373	.13689	.0016978	.002469
%RSD	.9330690	.1812397	.1816518	.5783620	.1737091	.1016511
#1	9.657396	.2679076	2.411769	23.65176	.9767666	2.431174
#2	9.820672	.2682408	2.406784	23.54091	.9793036	2.428640
#3	9.670747	.2688656	2.403054	23.81313	.9760806	2.426237

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.248993	5.103523	2.678668	23.58671	2.435873	1.243508
Stddev	.001091	.031375	.013109	.14846	.003087	.001563
%RSD	.0873275	.6147802	.4893987	.6294408	.1267307	.1257000
#1	1.249920	5.118285	2.679374	23.51930	2.439424	1.244974
#2	1.249268	5.067489	2.665220	23.48392	2.434362	1.241863
#3	1.247791	5.124795	2.691410	23.75693	2.433832	1.243686

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.92657	2.420089	2.502662	26.08735	F 4.486513	5.086013
Stddev	.16823	.005938	.010701	.06564	.004545	.011094
%RSD	.6748905	.2453649	.4275891	.2516261	.1013076	.2181354
#1	25.04921	2.418489	2.502228	26.14027	4.491134	5.092021
#2	24.73479	2.415114	2.492185	26.01389	4.482048	5.092808
#3	24.99572	2.426663	2.513574	26.10790	4.486358	5.073210

Sample Name: CCV06 Acquired: 3/10/2025 16:48:14 Type: Unk
Method: NON EPA-6010-200.7(v2785) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.805454	4.799019	5.267660	4.851562	4.829099	4.759970
Stddev	.007650	.024122	.017794	.000913	.008945	.025496
%RSD	.1591880	.5026363	.3377911	.0188260	.1852414	.5356338
#1	4.807996	4.808535	5.264212	4.852324	4.839261	4.775149
#2	4.811509	4.771591	5.251843	4.850550	4.825626	4.730534
#3	4.796857	4.816932	5.286925	4.851813	4.822412	4.774225

Elem	Sr4077
Units	ppm
Avg	4.878992
Stddev	.046251
%RSD	.9479674
#1	4.833504
#2	4.925971
#3	4.877501

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3149.156	68022.44	13628.79	2035.729	4232.339
Stddev	8.279	179.67	41.84	12.442	9.420
%RSD	.2628907	.2641274	.3069985	.6111671	.2225662
#1	3146.094	68138.08	13654.84	2043.348	4226.798
#2	3142.845	68113.79	13651.01	2042.468	4227.004
#3	3158.530	67815.46	13580.53	2021.372	4243.216

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB06 Acquired: 3/10/2025 16:52:25 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	-.003259	.0008217	.0002084	.0026978	-.000783	.0016165	-.005357
Stddev	.001285	.0008918	.0010023	.0011169	.002000	.0011469	.000738
%RSD	39.43498	108.5201	480.9615	41.40089	255.4296	70.94659	13.77560
#1	-.001801	-.000172	.0010343	.0027880	-.002477	.0025422	-.005567
#2	-.003749	.001083	.0004977	.0037670	-.001296	.0003335	-.005967
#3	-.004228	.001554	-.000907	.0015386	.001423	.0019738	-.004537

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000002	.0000128	-.000203	.0002140	-.000129	-.000431	-.004632
Stddev	.000023	.0000742	.004397	.0003907	.000144	.000333	.001132
%RSD	1260.735	579.8726	2165.433	182.6159	111.5052	77.24739	24.44903
#1	-.000028	.0000820	.002117	.0005968	-.000284	-.000798	-.005029
#2	.000010	-.000066	.002548	-.000184	-.000104	-.000343	-.003355
#3	.000013	.000022	-.005274	.000229	.000000	-.000150	-.005513

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000023	.0011166	-.000139	.0001181	-.014904	-.000773	-.000891
Stddev	.000163	.0169315	.000102	.0002057	.010591	.000999	.000354
%RSD	699.6755	1516.298	73.28166	174.1570	71.05998	129.2661	39.69835
#1	-.000208	-.018373	-.000030	.0000583	-.020036	.000196	-.001287
#2	.000100	.009522	-.000232	.0003471	-.021950	-.001799	-.000608
#3	.000037	.012201	-.000155	-.000051	-.002725	-.000716	-.000777

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1709852	.0032286	.0001134	-.000281	.0003567	-.002946	.0026698
Stddev	.0162263	.0002949	.0001744	.000704	.0004240	.004998	.0009494
%RSD	9.489859	9.135627	153.8079	250.3893	118.8835	169.6460	35.56006
#1	.1530951	.0034721	.0003146	.000519	-.000128	.002371	.0019535
#2	.1847521	.0029006	.0000068	-.000803	.000538	-.003661	.0023092
#3	.1751083	.0033130	.0000187	-.000560	.000660	-.007549	.0037466

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB06 Acquired: 3/10/2025 16:52:25 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	-.000455	-.005495	-.000003
Stddev	.002276	.000487	.000072
%RSD	500.0929	8.853880	2498.001
#1	-.002891	-.006040	.000005
#2	.001617	-.005103	-.000078
#3	-.000092	-.005343	.000064

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3262.689	71938.07	13909.09	2149.405	4691.339
Stddev	2.863	130.31	57.36	6.502	3.071
%RSD	.0877461	.1811365	.4123977	.3025116	.0654531
#1	3262.193	72009.89	13885.23	2152.465	4687.880
#2	3260.106	71787.66	13867.51	2141.937	4693.745
#3	3265.767	72016.67	13974.53	2153.813	4692.390

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01DLX2 Acquired: 3/10/2025 16:56:44 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.1156426	.0447948	.1163135	-.108508	-.016564	57.94086
Stddev	.0029352	.0029569	.0005640	.001931	.001319	.11698
%RSD	2.538152	6.600951	.4848900	1.779580	7.963861	.2018892
#1	.1173413	.0428006	.1164771	-.106316	-.015078	58.07572
#2	.1173331	.0481920	.1167775	-.109956	-.017020	57.86683
#3	.1122533	.0433917	.1156857	-.109252	-.017595	57.88004

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4287457	.0068870	-.017469	38.10008	.1320808	.0769849
Stddev	.0011948	.0001640	.000469	.12014	.0004401	.0002296
%RSD	.2786687	2.380876	2.686799	.3153207	.3332197	.2982432
#1	.4287372	.0070088	-.017784	38.03573	.1319916	.0769237
#2	.4275551	.0069517	-.017692	38.02583	.1325587	.0772389
#3	.4299446	.0067006	-.016929	38.23869	.1316921	.0767920

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1684547	541.7178	4.882413	26.18402	.1697251	-.014322
Stddev	.0012934	2.9551	.013714	.05531	.0005811	.000710
%RSD	.7677708	.5455144	.2808832	.2112351	.3423587	4.960022
#1	.1669632	544.6475	4.866731	26.12152	.1691322	-.013510
#2	.1691357	541.7681	4.888349	26.22665	.1697496	-.014829
#3	.1692653	538.7378	4.892159	26.20389	.1702936	-.014626

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7423091	.1990956	.6244207	23.07976	^ *****	-.004587
Stddev	.0110022	.0015225	.0023872	.08821	-----	.000071
%RSD	1.482155	.7647330	.3823132	.3821785	-----	1.545366
#1	.7361730	.1998776	.6219947	23.09033	^ -----	-.004557
#2	.7550109	.2000683	.6245000	23.16221	^ -----	-.004536
#3	.7357434	.1973410	.6267673	22.98675	^ -----	-.004668

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01DLX2 Acquired: 3/10/2025 16:56:44 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.0066531	.7902468	4.390374	4.449682	F 70.04347	.4209838
Stddev	.0004140	.0036274	.028781	.002162	.02620	.0011700
%RSD	6.222740	.4590182	.6555582	.0485924	.0374057	.2779178
#1	.0071193	.7917129	4.412279	4.449745	70.07372	.4214656
#2	.0063283	.7861159	4.401067	4.451812	70.02885	.4218360
#3	.0065117	.7929117	4.357777	4.447489	70.02784	.4196499

Elem	Sr4077
Units	ppm
Avg	.2079923
Stddev	.0002334
%RSD	.1121919
#1	.2082382
#2	.2077740
#3	.2079648

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3330.428	73048.20	14097.59	2174.668	4070.482
Stddev	6.877	122.10	61.86	9.750	4.587
%RSD	.2064918	.1671483	.4388108	.4483450	.1126939
#1	3324.923	73133.74	14144.68	2173.849	4065.191
#2	3338.137	72908.38	14120.56	2165.354	4073.343
#3	3328.225	73102.50	14027.53	2184.802	4072.912

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01DUPDLX2 Acquired: 3/10/2025 17:00:56 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.1476817	.0465117	.1294783	-.108585	-.016995	61.31636
Stddev	.0029006	.0015390	.0006942	.001359	.002349	.09827
%RSD	1.964076	3.308827	.5361911	1.251924	13.82187	.1602635
#1	.1473529	.0447349	.1292130	-.108742	-.016923	61.27037
#2	.1449595	.0474302	.1302661	-.109859	-.019379	61.24952
#3	.1507327	.0473699	.1289558	-.107154	-.014682	61.42919

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4229106	.0072563	-.021006	38.12463	.1432234	.0826573
Stddev	.0010225	.0000074	.000351	.15974	.0003913	.0003099
%RSD	.2417650	.1026403	1.672984	.4189881	.2732192	.3748903
#1	.4231261	.0072492	-.021016	38.11759	.1428055	.0823720
#2	.4217975	.0072641	-.020649	37.96853	.1435811	.0826129
#3	.4238080	.0072555	-.021352	38.28777	.1432834	.0829870

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1686566	583.5383	4.937052	27.26375	.1844545	-.010287
Stddev	.0007795	1.9006	.015952	.06520	.0001482	.000702
%RSD	.4621748	.3257106	.3231119	.2391279	.0803272	6.822873
#1	.1688554	582.9363	4.940067	27.29456	.1846021	-.010642
#2	.1693174	582.0116	4.919807	27.18886	.1844556	-.010741
#3	.1677970	585.6671	4.951282	27.30783	.1843058	-.009479

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8403297	.2192287	.6273450	24.74021	^ *****	-.004266
Stddev	.0094649	.0005338	.0022126	.04014	-----	.000119
%RSD	1.126332	.2434724	.3526929	.1622391	-----	2.783370
#1	.8304504	.2197997	.6277400	24.69413	^ -----	-.004213
#2	.8493171	.2187422	.6293335	24.76756	^ -----	-.004402
#3	.8412217	.2191441	.6249615	24.75893	^ -----	-.004184

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01DUPDLX2 Acquired: 3/10/2025 17:00:56 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.0069997	.9303744	4.052435	4.874243	F 98.38345	.4507029
Stddev	.0006297	.0039141	.019751	.002106	.21576	.0006786
%RSD	8.996601	.4207020	.4873907	.0432090	.2193067	.1505627
#1	.0077249	.9310483	4.033455	4.876506	98.16910	.4508257
#2	.0065911	.9261671	4.050974	4.873882	98.60060	.4499713
#3	.0066830	.9339078	4.072876	4.872340	98.38066	.4513117

Elem	Sr4077
Units	ppm
Avg	.2117643
Stddev	.0006403
%RSD	.3023603
#1	.2115660
#2	.2112467
#3	.2124804

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3306.803	73577.23	14793.49	2179.311	4053.213
Stddev	7.259	157.52	48.17	2.923	10.412
%RSD	.2195213	.2140864	.3256434	.1341057	.2568705
#1	3314.773	73619.83	14793.33	2176.148	4061.931
#2	3305.068	73709.07	14841.74	2181.911	4056.024
#3	3300.569	73402.79	14745.40	2179.875	4041.685

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01LDLX10 Acquired: 3/10/2025 17:05:09 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.0328721	.0124032	.0267980	-.022735	-.004392	13.77177
Stddev	.0018784	.0008184	.0010657	.002588	.000981	.04644
%RSD	5.714358	6.598229	3.976723	11.38255	22.34157	.3372419
#1	.0314007	.0114880	.0280105	-.020037	-.005500	13.78982
#2	.0322277	.0126571	.0263736	-.022972	-.003635	13.80649
#3	.0349879	.0130646	.0260099	-.025196	-.004039	13.71902

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0896325	.0013422	-.008322	8.643896	.0322992	.0168244
Stddev	.0000724	.0000524	.000136	.022845	.0004729	.0001496
%RSD	.0808245	3.901272	1.631822	.2642905	1.464142	.8889701
#1	.0895549	.0013996	-.008316	8.669768	.0317685	.0167018
#2	.0896982	.0012972	-.008190	8.635415	.0326761	.0169910
#3	.0896445	.0013298	-.008461	8.626504	.0324530	.0167803

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0375304	135.6310	1.112915	6.160234	.0385626	-.001241
Stddev	.0006651	.3582	.005742	.008233	.0003922	.000114
%RSD	1.772155	.2641183	.5159177	.1336430	1.017067	9.159005
#1	.0367635	135.6062	1.115161	6.169568	.0389436	-.001337
#2	.0379506	135.2858	1.117193	6.157129	.0385842	-.001269
#3	.0378770	136.0010	1.106389	6.154006	.0381601	-.001115

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1695785	.0499214	.1404387	5.491775	-.112628	-.001330
Stddev	.0077177	.0022969	.0008082	.044392	.001709	.000077
%RSD	4.551092	4.600928	.5755146	.8083430	1.517073	5.753233
#1	.1613222	.0524868	.1402192	5.440666	-.113557	-.001249
#2	.1708018	.0480561	.1413340	5.520736	-.113671	-.001340
#3	.1766115	.0492211	.1397628	5.513923	-.110656	-.001401

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01LDLX10 Acquired: 3/10/2025 17:05:09 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.0007494	.2110196	1.333160	.9626893	F 19.67197	.0965774
Stddev	.0003710	.0006465	.006564	.0034475	.04759	.0004051
%RSD	49.50656	.3063915	.4923926	.3581159	.2418984	.4194846
#1	.0005612	.2103324	1.326611	.9587474	19.63270	.0964423
#2	.0011767	.2116158	1.333130	.9641786	19.72489	.0962571
#3	.0005101	.2111106	1.339739	.9651418	19.65832	.0970328

Elem	Sr4077
Units	ppm
Avg	.0469610
Stddev	.0001993
%RSD	.4243345
#1	.0471746
#2	.0467800
#3	.0469285

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3282.073	70507.78	14113.06	2107.844	4475.582
Stddev	4.480	99.55	40.60	15.574	5.531
%RSD	.1365024	.1411918	.2876924	.7388796	.1235802
#1	3283.965	70619.55	14100.92	2122.795	4479.482
#2	3285.297	70428.63	14079.91	2091.713	4478.013
#3	3276.957	70475.16	14158.35	2109.025	4469.252

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-02DLX2 Acquired: 3/10/2025 17:09:21 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.5041806	.9320216	.5829163	.7356347	.1031857	66.50244
Stddev	.0045221	.0045052	.0018805	.0096344	.0021092	.11192
%RSD	.8969207	.4833741	.3226104	1.309672	2.044038	.1682924
#1	.5059516	.9299475	.5850102	.7410869	.1053913	66.37449
#2	.5075492	.9289270	.5823677	.7245105	.1029771	66.58216
#3	.4990411	.9371902	.5813711	.7413066	.1011885	66.55066

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5157052	.1046545	.0711115	38.37993	.3350551	.1792690
Stddev	.0019660	.0008785	.0007505	.12616	.0002418	.0009454
%RSD	.3812154	.8394493	1.055433	.3287156	.0721631	.5273570
#1	.5135015	.1042672	.0716237	38.25362	.3347800	.1796226
#2	.5163351	.1040363	.0702500	38.38025	.3352335	.1781978
#3	.5172790	.1056602	.0714608	38.50594	.3351519	.1799866

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3022809	613.7337	5.165023	28.61676	.4203521	.0270205
Stddev	.0014963	.6989	.017807	.13345	.0018956	.0003999
%RSD	.4949855	.1138690	.3447588	.4663340	.4509651	1.480180
#1	.3033565	613.1090	5.151058	28.48194	.4224199	.0272100
#2	.3005722	614.4884	5.158936	28.61955	.4186964	.0265610
#3	.3029141	613.6038	5.185076	28.74879	.4199402	.0272904

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.210295	.3487238	.7279954	31.50338	^ *****	.1575117
Stddev	.033413	.0012905	.0010229	.12247	-----	.0001799
%RSD	1.511703	.3700683	.1405155	.3887667	-----	.1142375
#1	2.173897	.3475439	.7268516	31.49066	^ -----	.1576976
#2	2.239576	.3485256	.7283120	31.63171	^ -----	.1574990
#3	2.217413	.3501020	.7288226	31.38775	^ -----	.1573384

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-02DLX2 Acquired: 3/10/2025 17:09:21 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.3278063	.9460766	5.801431	7.310106	F 66.24964	.5576880
Stddev	.0006068	.0035230	.015803	.031263	.19795	.0016827
%RSD	.1851141	.3723751	.2723985	.4276723	.2987875	.3017248
#1	.3284020	.9420422	5.817678	7.313255	66.24600	.5561886
#2	.3278280	.9476425	5.800502	7.277387	66.05354	.5595079
#3	.3271889	.9485451	5.786113	7.339675	66.44938	.5573674

Elem	Sr4077
Units	ppm
Avg	.3047323
Stddev	.0010672
%RSD	.3502113
#1	.3035000
#2	.3053451
#3	.3053518

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3321.128	72874.64	14974.94	2164.628	4068.329
Stddev	6.206	86.69	67.00	7.110	6.452
%RSD	.1868661	.1189570	.4474132	.3284710	.1586030
#1	3315.209	72779.76	14997.92	2168.280	4064.037
#2	3327.586	72949.72	15027.42	2169.171	4075.749
#3	3320.588	72894.43	14899.47	2156.434	4065.201

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-03DLX2 Acquired: 3/10/2025 17:13:31 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.5060826	.9402511	.5852545	.7446386	.1053049	66.36362
Stddev	.0033912	.0043262	.0019588	.0072641	.0022129	.12328
%RSD	.6700971	.4601135	.3346850	.9755229	2.101436	.1857657
#1	.5027074	.9452399	.5849570	.7506521	.1037986	66.43817
#2	.5060505	.9375337	.5873449	.7365677	.1042705	66.22132
#3	.5094897	.9379796	.5834614	.7466961	.1078456	66.43138

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5320845	.1032645	.0686068	38.75972	.3323713	.1808556
Stddev	.0029783	.0009601	.0011579	.11729	.0014119	.0011512
%RSD	.5597463	.9297722	1.687717	.3026115	.4247833	.6365050
#1	.5354249	.1021561	.0679005	38.86744	.3335905	.1808088
#2	.5311227	.1037977	.0679768	38.63476	.3308244	.1797286
#3	.5297060	.1038396	.0699431	38.77697	.3326989	.1820295

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3027696	632.8451	5.274328	28.78569	.4249032	.0303365
Stddev	.0023878	3.3000	.020233	.13746	.0012391	.0005383
%RSD	.7886490	.5214473	.3836145	.4775342	.2916112	1.774389
#1	.3007217	636.6545	5.291617	28.65650	.4249371	.0309578
#2	.3021947	630.8605	5.252075	28.77042	.4236475	.0300419
#3	.3053923	631.0204	5.279292	28.93015	.4261250	.0300099

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.286536	.3544019	.7257108	32.41442	^ *****	.1581078
Stddev	.054099	.0012660	.0018654	.39590	-----	.0006087
%RSD	2.365969	.3572072	.2570443	1.221361	-----	.3849739
#1	2.346055	.3536377	.7268690	32.87101	^ -----	.1582233
#2	2.240353	.3537048	.7267045	32.16654	^ -----	.1574497
#3	2.273198	.3558632	.7235589	32.20573	^ -----	.1586505

Sample Name: Q1421-03DLX2 Acquired: 3/10/2025 17:13:31 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.3300328	.9596316	5.902674	7.429850	F 66.97854	.5704050
Stddev	.0014450	.0053453	.061293	.031934	.24373	.0030816
%RSD	.4378371	.5570155	1.038397	.4298108	.3638919	.5402483
#1	.3292151	.9653766	5.973117	7.439818	67.03616	.5739230
#2	.3291821	.9548049	5.873381	7.394121	66.71117	.5691086
#3	.3317013	.9587135	5.861523	7.455612	67.18830	.5681834

Elem	Sr4077
Units	ppm
Avg	.3111471
Stddev	.0014299
%RSD	.4595479
#1	.3126857
#2	.3098591
#3	.3108966

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3316.683	73174.55	15213.66	2185.258	4057.190
Stddev	13.054	264.27	74.73	16.389	11.816
%RSD	.3935727	.3611539	.4911791	.7499609	.2912318
#1	3316.311	72876.20	15295.97	2167.185	4055.644
#2	3329.918	73379.21	15194.92	2189.438	4069.703
#3	3303.819	73268.25	15150.09	2199.153	4046.223

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01ADLX2 Acquired: 3/10/2025 17:17:39 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.4910062	.9325106	.5751601	.7076767	.0959717	66.82382
Stddev	.0011802	.0131900	.0045175	.0035565	.0019213	.07598
%RSD	.2403624	1.414456	.7854287	.5025544	2.001897	.1137065
#1	.4919878	.9473042	.5747245	.7047252	.0940248	66.76576
#2	.4896968	.9219775	.5798795	.7066797	.0960239	66.90981
#3	.4913341	.9282502	.5708761	.7116253	.0978663	66.79588

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5259033	.1032215	.0709864	38.61613	.3320830	.1778227
Stddev	.0008870	.0007372	.0008999	.01274	.0007085	.0008725
%RSD	.1686633	.7142211	1.267640	.0329984	.2133565	.4906364
#1	.5258020	.1029361	.0716683	38.61828	.3316035	.1786837
#2	.5268365	.1040588	.0713245	38.62765	.3317487	.1769392
#3	.5250712	.1026697	.0699665	38.60244	.3328969	.1778452

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3025528	610.4901	5.243313	28.89871	.4164721	.0271890
Stddev	.0003031	4.5909	.002365	.10090	.0001263	.0009604
%RSD	.1001847	.7519977	.0451069	.3491409	.0303178	3.532191
#1	.3022032	608.6406	5.244474	29.01130	.4165217	.0267171
#2	.3027123	607.1124	5.244873	28.81647	.4165662	.0265559
#3	.3027428	615.7172	5.240592	28.86836	.4163286	.0282940

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.188938	.3532727	.7213805	31.45211	^ *****	.1546573
Stddev	.032211	.0003034	.0012390	.17902	-----	.0005706
%RSD	1.471522	.0858960	.1717558	.5691909	-----	.3689170
#1	2.152756	.3535609	.7199973	31.30064	^ -----	.1552215
#2	2.199566	.3533010	.7223887	31.40601	^ -----	.1540806
#3	2.214491	.3529560	.7217554	31.64967	^ -----	.1546697

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-01ADLX2 Acquired: 3/10/2025 17:17:39 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.3218841	.9617889	6.438838	7.228882	F 64.93072	.5600818
Stddev	.0016561	.0011296	.033285	.020147	.18335	.0023991
%RSD	.5144984	.1174457	.5169455	.2786972	.2823722	.4283541
#1	.3231032	.9611481	6.413638	7.232021	65.05441	.5584218
#2	.3225505	.9630932	6.426305	7.207349	64.72008	.5589912
#3	.3199987	.9611255	6.476570	7.247274	65.01768	.5628325

Elem	Sr4077
Units	ppm
Avg	.3087891
Stddev	.0006973
%RSD	.2258302
#1	.3081408
#2	.3095268
#3	.3086996

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3385.033	74896.38	15133.37	2206.306	4151.284
Stddev	2.257	181.58	50.55	8.712	4.194
%RSD	.0666753	.2424391	.3340240	.3948496	.1010184
#1	3385.897	74898.59	15087.93	2211.038	4147.599
#2	3386.730	75076.84	15124.36	2211.628	4155.847
#3	3382.471	74713.70	15187.81	2196.253	4150.405

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-07DLX2 Acquired: 3/10/2025 17:21:48 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.1601890	.0544123	.1484883	-.123546	-.019848	59.80703
Stddev	.0018107	.0021751	.0005412	.002798	.002078	.12150
%RSD	1.130329	3.997515	.3644482	2.264925	10.46856	.2031503
#1	.1581034	.0543038	.1485211	-.120989	-.017483	59.77882
#2	.1611055	.0566396	.1479316	-.123114	-.021378	59.94015
#3	.1613582	.0522934	.1490124	-.126535	-.020683	59.70211

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4406225	.0075464	-.025607	42.00406	.1444940	.0947409
Stddev	.0031574	.0000985	.000704	.20257	.0002031	.0005501
%RSD	.7165860	1.304807	2.749908	.4822512	.1405483	.5806237
#1	.4383167	.0076600	-.026324	41.89637	.1442605	.0950943
#2	.4442212	.0074947	-.025579	42.23772	.1445914	.0941071
#3	.4393296	.0074846	-.024917	41.87808	.1446300	.0950211

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2013642	675.3106	6.500206	28.82041	.2235679	-.010356
Stddev	.0022767	2.0803	.037403	.11667	.0004534	.000572
%RSD	1.130642	.3080536	.5754084	.4048010	.2028239	5.527066
#1	.2000307	677.0609	6.475725	28.71978	.2239169	-.009788
#2	.2000689	675.8604	6.543260	28.94829	.2230554	-.010349
#3	.2039930	673.0107	6.481633	28.79317	.2237314	-.010932

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9265290	.2417432	.7368039	19.92228	^ *****	-.005647
Stddev	.0179015	.0018626	.0028850	.08838	-----	.000090
%RSD	1.932104	.7704829	.3915573	.4436431	-----	1.587559
#1	.9066611	.2435219	.7360556	19.86121	^ -----	-.005610
#2	.9414040	.2419008	.7399894	20.02362	^ -----	-.005749
#3	.9315218	.2398068	.7343668	19.88200	^ -----	-.005582

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-07DLX2 Acquired: 3/10/2025 17:21:48 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.0085081	.9699740	5.006283	3.996228	F 93.19725	.5153578
Stddev	.0003095	.0058117	.011185	.007200	.07735	.0015539
%RSD	3.637769	.5991581	.2234268	.1801697	.0829932	.3015129
#1	.0085601	.9661003	5.010009	4.003597	93.23886	.5144514
#2	.0087884	.9766566	5.015129	3.995875	93.10800	.5171520
#3	.0081759	.9671652	4.993710	3.989211	93.24488	.5144699

Elem	Sr4077
Units	ppm
Avg	.2164598
Stddev	.0012121
%RSD	.5599660
#1	.2159187
#2	.2178482
#3	.2156125

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3355.202	75398.33	15285.81	2213.405	4129.753
Stddev	5.560	256.57	73.46	8.058	5.233
%RSD	.1657257	.3402883	.4805812	.3640418	.1267204
#1	3359.939	75599.52	15332.00	2219.771	4135.302
#2	3349.080	75109.40	15201.10	2204.345	4124.906
#3	3356.587	75486.07	15324.33	2216.098	4129.051

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-09DLX2 Acquired: 3/10/2025 17:26:01 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.1366821	.0462248	.1245629	-.096963	-.015756	55.63066
Stddev	.0014740	.0010029	.0017299	.002090	.000240	.17120
%RSD	1.078397	2.169516	1.388748	2.155737	1.522857	.3077448
#1	.1381429	.0470194	.1254327	-.098714	-.015832	55.61681
#2	.1367082	.0465571	.1225708	-.094649	-.015949	55.80836
#3	.1351953	.0450980	.1256853	-.097525	-.015487	55.46680

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3893060	.0068999	-.021709	31.50116	.1474734	.0754871
Stddev	.0007656	.0000915	.001026	.10430	.0011170	.0000994
%RSD	.1966457	1.325652	4.728146	.3311020	.7574275	.1316622
#1	.3897664	.0069977	-.022894	31.57137	.1461901	.0753877
#2	.3884223	.0068856	-.021128	31.55080	.1482274	.0754871
#3	.3897293	.0068164	-.021104	31.38131	.1480027	.0755865

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1731316	549.6014	4.344774	24.11447	.1715871	-.009737
Stddev	.0027835	4.8525	.007587	.07449	.0004926	.000700
%RSD	1.607754	.8829058	.1746260	.3089199	.2871068	7.194049
#1	.1699268	555.1689	4.350590	24.20048	.1718749	-.009282
#2	.1749459	546.2712	4.336192	24.07060	.1710183	-.010543
#3	.1745222	547.3641	4.347541	24.07233	.1718683	-.009384

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7060772	.2179682	.6241908	17.95418	^ *****	-.003767
Stddev	.0174989	.0009532	.0035642	.07415	-----	.000058
%RSD	2.478321	.4373144	.5710057	.4129981	-----	1.527487
#1	.6903948	.2173818	.6247609	17.86860	-.560127	-.003701
#2	.7249527	.2174548	.6274355	17.99463	^ -----	-.003799
#3	.7028839	.2190681	.6203759	17.99931	-.568460	-.003802

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1421-09DLX2 Acquired: 3/10/2025 17:26:01 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.0061175	.9335914	7.326684	3.989835	F 75.27825	.4255018
Stddev	.0008029	.0015294	.030617	.011542	.05220	.0016342
%RSD	13.12488	.1638152	.4178851	.2892769	.0693479	.3840641
#1	.0051937	.9333073	7.313099	4.000821	75.31635	.4273290
#2	.0066471	.9352429	7.361743	3.977808	75.21875	.4249963
#3	.0065117	.9322240	7.305209	3.990875	75.29965	.4241800

Elem	Sr4077
Units	ppm
Avg	.1672438
Stddev	.0001180
%RSD	.0705410
#1	.1671937
#2	.1673786
#3	.1671592

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3351.473	73741.66	14592.21	2201.282	4128.309
Stddev	3.978	184.73	60.11	11.240	7.398
%RSD	.1187029	.2505097	.4119475	.5106019	.1792107
#1	3351.349	73836.52	14541.25	2197.000	4122.983
#2	3355.512	73528.77	14576.88	2192.812	4136.756
#3	3347.558	73859.68	14658.51	2214.033	4125.187

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166927TB Acquired: 3/10/2025 17:30:14 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	-.003780	-.003807	-.001310	.0038881	.0015998	.0201136
Stddev	.001097	.002586	.000477	.0009743	.0013352	.0021601
%RSD	29.02244	67.91528	36.43938	25.05750	83.45983	10.73953
#1	-.004638	-.001014	-.001861	.0050129	.0031057	.0225625
#2	-.004160	-.006117	-.001019	.0033429	.0005604	.0192992
#3	-.002544	-.004291	-.001051	.0033085	.0011333	.0184790

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007767	.0000289	-.000031	-.007324	.0001788	-.000380
Stddev	.000674	.0000115	.000065	.007388	.0002120	.000084
%RSD	8.681676	39.77704	210.8302	100.8810	118.6014	22.02127
#1	-.007101	.0000159	.000001	-.009861	-.000024	-.000322
#2	-.008449	.0000330	-.000105	.000999	.000161	-.000476
#3	-.007752	.0000378	.000012	-.013109	.000399	-.000342

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000203	.0109371	.0047817	-.011538	.0002805	-.000316
Stddev	.000229	.0029783	.0002089	.007030	.0003832	.000274
%RSD	112.4770	27.23077	4.367972	60.92971	136.6128	86.79997
#1	-.000279	.0134444	.0049935	-.006392	-.000161	-.000590
#2	.000054	.0076450	.0047758	-.019548	.000532	-.000042
#3	-.000384	.0117218	.0045759	-.008674	.000470	-.000314

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 342.5280	-.000321	.0033357	.0070069	-.002551	-.000098
Stddev	.9357	.000962	.0004572	.0087344	.000047	.000108
%RSD	.2731733	299.9989	13.70776	124.6540	1.824054	110.3989
#1	341.5604	.000418	.0033652	-.000615	-.002553	-.000144
#2	343.4282	.000028	.0028644	.016538	-.002504	.000026
#3	342.5953	-.001408	.0037775	.005098	-.002597	-.000175

Sample Name: PB166927TB Acquired: 3/10/2025 17:30:14 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	-.000412	.0005891	.0038480	.0075986	F .0102934	-.009182
Stddev	.000177	.0002554	.0014860	.0011162	.0033797	.000673
%RSD	43.03713	43.35615	38.61672	14.68968	32.83359	7.331433
#1	-.000431	.0005013	.0045658	.0081121	.0132951	-.008540
#2	-.000226	.0003892	.0021394	.0063180	.0066327	-.009883
#3	-.000580	.0008769	.0048388	.0083656	.0109523	-.009125

Elem	Sr4077
Units	ppm
Avg	-.000079
Stddev	.000035
%RSD	43.67357
#1	-.000039
#2	-.000097
#3	-.000102

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3087.509	66459.09	13514.73	1993.235	4157.601
Stddev	19.784	147.23	44.62	7.978	28.712
%RSD	.6407655	.2215313	.3301367	.4002723	.6905851
#1	3090.132	66547.61	13481.58	1990.168	4154.831
#2	3066.545	66289.14	13497.15	1987.246	4130.375
#3	3105.850	66540.52	13565.46	2002.292	4187.598

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166859BL Acquired: 3/10/2025 17:34:42 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	-.002652	-.000845	-.000146	.0016349	.0014340	.0012116	-.005395
Stddev	.000736	.000444	.000714	.0016369	.0014151	.0048317	.001177
%RSD	27.75541	52.50612	487.2019	100.1208	98.68097	398.7871	21.81071
#1	-.002901	-.001337	.000646	.0033046	.0021550	-.001807	-.005170
#2	-.003231	-.000476	-.000738	.0000330	.0023434	.006784	-.006669
#3	-.001823	-.000722	-.000348	.0015671	-.000196	-.001342	-.004348

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000024	.0000232	-.011988	.0002323	-.000053	-.000024	-.002182
Stddev	.000045	.0000172	.000599	.0000998	.000154	.000089	.002370
%RSD	183.5184	74.23337	4.994593	42.95119	292.2734	377.2055	108.6171
#1	.000020	.0000373	-.011312	.0001828	-.000115	-.000125	.000551
#2	-.000023	.0000283	-.012453	.0001670	-.000166	.000012	-.003430
#3	-.000069	.0000040	-.012198	.0003472	.000123	.000042	-.003668

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000019	-.013290	-.000043	.0000538	.0183579	-.000238	-.000775
Stddev	.000131	.010515	.000103	.0000650	.0108910	.000552	.000368
%RSD	699.0869	79.11718	241.4160	120.7783	59.32567	232.2066	47.46517
#1	-.000162	-.011206	.000041	.0001051	.0129773	.000210	-.000530
#2	.000094	-.003974	-.000158	-.000019	.0308920	-.000069	-.000597
#3	.000013	-.024691	-.000012	.000076	.0112044	-.000855	-.001198

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1078174	-.002483	-.000265	-.000898	.0001264	-.001528	.0037684
Stddev	.0174484	.000075	.000182	.000102	.0001760	.002316	.0020542
%RSD	16.18325	3.007314	68.50452	11.38974	139.1979	151.5789	54.51266
#1	.0922628	-.002565	-.000406	-.000862	.0001697	.001142	.0014147
#2	.1045048	-.002464	-.000331	-.001014	-.000067	-.002735	.0052001
#3	.1266846	-.002419	-.000060	-.000819	.000277	-.002990	.0046904

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166859BL Acquired: 3/10/2025 17:34:42 Type: Unk
Method: NON EPA-6010-200.7(v2785) 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	.0001809	-.002967	-.000030
Stddev	.0040316	.000422	.000030
%RSD	2229.165	14.22621	100.9359
#1	.0006403	-.003162	.000005
#2	-.004061	-.002483	-.000045
#3	.003963	-.003256	-.000050

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3295.617	70891.52	14138.85	2130.674	4759.863
Stddev	2.934	279.09	62.12	5.017	2.448
%RSD	.0890269	.3936862	.4393463	.2354529	.0514250
#1	3294.811	70910.05	14115.18	2132.590	4760.734
#2	3298.869	70603.62	14209.32	2124.982	4761.757
#3	3293.170	71160.88	14092.04	2134.451	4757.099

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV07 Acquired: 3/10/2025 17:39:02 Type: Unk
Method: NON EPA-6010-200.7(v2785) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.892049	4.819899	4.705932	4.948005	5.006109	9.376062
Stddev	.003903	.022203	.004070	.007181	.002274	.008666
%RSD	.0797871	.4606463	.0864769	.1451201	.0454333	.0924294
#1	4.892256	4.797297	4.706510	4.941807	5.004864	9.367338
#2	4.888046	4.841679	4.709682	4.946333	5.008734	9.376178
#3	4.895844	4.820721	4.701605	4.955873	5.004728	9.384669

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.379302	.2588628	2.349966	22.93096	.9416205	2.369232
Stddev	.085392	.0006543	.004584	.02910	.0020696	.003919
%RSD	.9104287	.2527607	.1950857	.1269228	.2197874	.1653927
#1	9.476280	.2583500	2.354586	22.95663	.9395844	2.373424
#2	9.315375	.2595997	2.349893	22.89934	.9437220	2.368610
#3	9.346253	.2586388	2.345418	22.93691	.9415552	2.365661

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.222224	4.821588	2.581521	23.00000	2.376982	1.191027
Stddev	.002889	.004501	.003959	.11396	.006240	.001277
%RSD	.2363779	.0933526	.1533597	.4954584	.2625105	.1072081
#1	1.223199	4.825295	2.583811	22.88430	2.383207	1.190754
#2	1.224500	4.816579	2.576949	23.11212	2.377012	1.192418
#3	1.218974	4.822889	2.583803	23.00359	2.370728	1.189909

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.28750	2.346648	2.407422	24.60952	F 4.352279	4.995610
Stddev	.20018	.006164	.002938	.04905	.012770	.007306
%RSD	.8596127	.2626697	.1220587	.1993274	.2934120	.1462506
#1	23.39454	2.348129	2.409006	24.65050	4.338884	5.001612
#2	23.05655	2.339879	2.409229	24.55517	4.364316	4.997744
#3	23.41141	2.351937	2.404032	24.62288	4.353635	4.987475

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV07 Acquired: 3/10/2025 17:39:02 Type: Unk
Method: NON EPA-6010-200.7(v2785) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.685432	4.651311	4.972750	4.719299	4.710332	4.611491
Stddev	.006413	.011759	.012134	.010597	.005338	.011721
%RSD	.1368774	.2528041	.2440097	.2245466	.1133240	.2541667
#1	4.685481	4.664581	4.966086	4.721294	4.716433	4.617116
#2	4.691821	4.642186	4.965407	4.728757	4.708042	4.598018
#3	4.678994	4.647167	4.986755	4.707846	4.706521	4.619339

Elem	Sr4077
Units	ppm
Avg	4.731568
Stddev	.027375
%RSD	.5785612
#1	4.700161
#2	4.744171
#3	4.750371

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3163.643	70443.86	13765.67	2049.791	4271.716
Stddev	7.414	170.61	45.61	6.039	10.729
%RSD	.2343584	.2421908	.3313263	.2946035	.2511611
#1	3156.239	70461.64	13777.09	2043.307	4259.897
#2	3163.623	70265.06	13715.44	2050.812	4274.410
#3	3171.068	70604.89	13804.49	2055.254	4280.841

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB07 Acquired: 3/10/2025 17:44:13 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	-.001008	.0002855	.0008546	.0010294	-.000954	.0032013	-.006434
Stddev	.001516	.0005181	.0006035	.0027947	.001217	.0022582	.000583
%RSD	150.3077	181.4331	70.61372	271.4976	127.5735	70.53992	9.060766
#1	-.002725	.0005666	.0001601	.0005056	-.000600	.0007608	-.005871
#2	-.000446	.0006023	.0011522	.0040489	.000047	.0052168	-.006396
#3	.000146	-.000312	.0012514	-.001466	-.002308	.0036263	-.007035

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000014	.0000124	-.006340	.0002122	.0001142	-.000405	-.005302
Stddev	.000023	.0000448	.007560	.0003414	.0000453	.000117	.000275
%RSD	160.6171	361.7609	119.2464	160.8717	39.70044	29.02869	5.188321
#1	-.000039	.0000618	-.014772	.0005249	.0000634	-.000530	-.005384
#2	.000007	-.000026	-.000167	.0002639	.0001504	-.000387	-.004995
#3	-.000011	.000001	-.004081	-.000152	.0001289	-.000297	-.005527

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003066	-.016440	-.000033	-.000159	-.031835	-.001703	-.000869
Stddev	.0000683	.004058	.000093	.000128	.004597	.000800	.000223
%RSD	22.29246	24.68539	280.6334	80.90414	14.43918	46.96671	25.69153
#1	.0003624	-.011802	-.000138	-.000020	-.028736	-.001536	-.000803
#2	.0003270	-.019339	-.000003	-.000182	-.029651	-.002574	-.000686
#3	.0002304	-.018179	.000041	-.000274	-.037116	-.001001	-.001117

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1335693	.0005236	.0001082	-.000288	.0002875	.0021294	.0044477
Stddev	.0163140	.0004376	.0001713	.001097	.0001516	.0001736	.0008186
%RSD	12.21388	83.57914	158.2696	381.2922	52.74223	8.153733	18.40571
#1	.1427415	.0004690	-.000072	.000130	.0004455	.0020277	.0047378
#2	.1147336	.0009860	.000127	-.001532	.0002736	.0020306	.0050818
#3	.1432327	.0001159	.000270	.000539	.0001432	.0023299	.0035235

Sample Name: CCB07 Acquired: 3/10/2025 17:44:13 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.0006200	-.005577	-.000018
Stddev	.0022709	.001315	.000058
%RSD	366.2547	23.58062	325.2996
#1	.0031263	-.004282	.000035
#2	.0000347	-.005537	-.000009
#3	-.001301	-.006912	-.000079

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3262.048	71060.16	14639.08	2109.830	4715.542
Stddev	4.061	284.00	40.11	10.617	7.656
%RSD	.1244916	.3996658	.2739990	.5032331	.1623589
#1	3258.893	71064.30	14648.32	2106.512	4715.608
#2	3260.623	71342.08	14595.16	2121.710	4707.853
#3	3266.630	70774.12	14673.77	2101.267	4723.165

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166859BS Acquired: 3/10/2025 17:48:33 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.7821951	1.901033	.9256725	1.920516	.7954695	1.854881
Stddev	.0024340	.010293	.0009085	.004810	.0014646	.003329
%RSD	.3111790	.5414219	.0981413	.2504515	.1841212	.1794786
#1	.7810981	1.895618	.9263978	1.918299	.7947234	1.858100
#2	.7849845	1.912903	.9259662	1.926035	.7971570	1.855092
#3	.7805025	1.894579	.9246535	1.917214	.7945282	1.851452

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1783813	.2052085	.1818942	.9405582	.3827644	.1870256
Stddev	.0002181	.0005386	.0000889	.0068677	.0017797	.0003981
%RSD	.1222839	.2624843	.0488649	.7301759	.4649507	.2128770
#1	.1785489	.2048352	.1819887	.9452997	.3831278	.1873840
#2	.1781346	.2058260	.1818123	.9326825	.3808312	.1870958
#3	.1784602	.2049644	.1818817	.9436923	.3843344	.1865971

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3024818	2.928989	.2105267	1.801384	.4713425	.0723018
Stddev	.0007207	.027226	.0004712	.003884	.0006877	.0002088
%RSD	.2382707	.9295252	.2238181	.2156186	.1459042	.2887881
#1	.3024793	2.909998	.2100466	1.797318	.4709191	.0722127
#2	.3032038	2.916788	.2105448	1.805056	.4721360	.0725404
#3	.3017624	2.960181	.2109885	1.801778	.4709723	.0721523

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.672647	.2785637	.1954032	9.740125	.2542043	.4047247
Stddev	.042168	.0011553	.0008783	.068681	.0007857	.0002435
%RSD	1.577746	.4147400	.4494786	.7051389	.3090805	.0601636
#1	2.675077	.2797070	.1948066	9.774197	.2549888	.4044946
#2	2.629318	.2785875	.1949912	9.661069	.2542066	.4049797
#3	2.713548	.2773967	.1964118	9.785109	.2534174	.4047000

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB166859BS Acquired: 3/10/2025 17:48:33 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.6406566	.1857982	.8201314	5.232490	F -.005632	.1837991
Stddev	.0006619	.0006420	.0019002	.015220	.001415	.0002522
%RSD	.1033178	.3455296	.2316926	.2908699	25.11737	.1372189
#1	.6412555	.1861161	.8212944	5.223040	-.006492	.1837534
#2	.6407684	.1862192	.8179386	5.250047	-.004000	.1835729
#3	.6399459	.1850593	.8211612	5.224382	-.006405	.1840710

Elem	Sr4077
Units	ppm
Avg	.1863563
Stddev	.0006299
%RSD	.3380315
#1	.1865590
#2	.1856500
#3	.1868599

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3297.294	72471.46	14225.23	2148.855	4688.977
Stddev	6.441	155.22	22.89	3.254	6.330
%RSD	.1953462	.2141753	.1609407	.1514249	.1349998
#1	3299.570	72389.10	14229.60	2145.329	4693.141
#2	3290.024	72650.50	14200.47	2151.741	4681.692
#3	3302.288	72374.79	14245.63	2149.494	4692.097

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01 Acquired: 3/10/2025 17:52:34 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.0680770	.0043222	.5788947	-.035335	-.000186	112.2844	.6704509
Stddev	.0014079	.0022758	.0014730	.004365	.000266	.1388	.0023855
%RSD	2.068110	52.65526	.2544565	12.35305	143.2931	.1236516	.3558013
#1	.0665205	.0023527	.5789804	-.030295	-.000447	112.2207	.6705291
#2	.0692617	.0068137	.5773807	-.037818	.000086	112.1888	.6727964
#3	.0684488	.0038001	.5803230	-.037891	-.000196	112.4436	.6680274

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056615	-.005786	23.39219	.2075217	.0979289	.6013626	240.4970
Stddev	.0000364	.000218	.05816	.0001954	.0002290	.0011105	.8607
%RSD	.6426555	3.767612	.2486251	.0941499	.2338126	.1846563	.3578697
#1	.0056996	-.006037	23.38956	.2077188	.0979709	.6010923	241.4418
#2	.0056577	-.005639	23.33539	.2075183	.0981339	.6004122	240.2915
#3	.0056272	-.005683	23.45162	.2073281	.0976818	.6025833	239.7577

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.015744	27.76309	.1927078	-.001108	4.322016	.3742641	1.908800
Stddev	.011046	.18028	.0007496	.000156	.038319	.0016225	.006131
%RSD	.2750655	.6493514	.3889940	14.08207	.8866104	.4335307	.3212213
#1	4.028462	27.84109	.1930841	-.000979	4.323566	.3761190	1.911828
#2	4.010227	27.55694	.1918445	-.001063	4.359537	.3731082	1.901743
#3	4.008544	27.89123	.1931946	-.001281	4.282945	.3735652	1.912828

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.22316	-.169809	.0021225	.0158749	2.952904	8.421691	5.992044
Stddev	.04051	.006721	.0002954	.0010819	.006769	.043467	.016814
%RSD	.3962996	3.958051	13.91535	6.815049	.2292284	.5161355	.2806027
#1	10.25087	-.162052	.0022463	.0146962	2.960706	8.372399	5.992721
#2	10.24194	-.173898	.0023358	.0168227	2.948593	8.454529	5.974902
#3	10.17666	-.173478	.0017854	.0161057	2.949414	8.438145	6.008509

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01 Acquired: 3/10/2025 17:52:34 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.9168201	.2120231	.1245876
Stddev	.0055104	.0006658	.0002653
%RSD	.6010294	.3140466	.2129385
#1	.9131202	.2122750	.1247960
#2	.9231530	.2125263	.1246779
#3	.9141871	.2112681	.1242890

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3568.833	78563.87	16089.97	2359.436	4204.251
Stddev	1.802	240.76	67.28	15.410	3.210
%RSD	.0504995	.3064452	.4181508	.6531046	.0763588
#1	3568.174	78435.36	16103.56	2347.691	4207.813
#2	3570.873	78841.62	16149.41	2376.884	4201.581
#3	3567.454	78414.65	16016.93	2353.731	4203.359

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01DUP Acquired: 3/10/2025 17:56:38 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.0632227	.0030948	.5771671	-.038746	.0014319	112.4605	.6684099
Stddev	.0019979	.0021305	.0023839	.002203	.0007654	.3509	.0003572
%RSD	3.160052	68.84310	.4130360	5.685846	53.45229	.3120411	.0534428
#1	.0620726	.0036376	.5773048	-.041283	.0011292	112.4396	.6683596
#2	.0620658	.0049014	.5794792	-.037306	.0023023	112.1205	.6687895
#3	.0655296	.0007453	.5747173	-.037651	.0008642	112.8214	.6680804

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057630	-.005822	23.14824	.2085451	.0974665	.5973850	240.2843
Stddev	.0002015	.000074	.07266	.0006525	.0005464	.0013821	1.2299
%RSD	3.495986	1.276053	.3138863	.3128845	.5605857	.2313595	.5118707
#1	.0057839	-.005823	23.06458	.2087413	.0977829	.5969559	240.6225
#2	.0055519	-.005896	23.18464	.2090770	.0977809	.5989308	241.3096
#3	.0059532	-.005748	23.19551	.2078170	.0968356	.5962684	238.9206

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.013527	27.65057	.1919063	-.001354	4.310702	.3738941	1.907771
Stddev	.014102	.13101	.0007685	.000106	.033171	.0006253	.003237
%RSD	.3513717	.4737904	.4004590	7.857826	.7695088	.1672427	.1696535
#1	3.998009	27.54682	.1911945	-.001437	4.301451	.3745638	1.905857
#2	4.025560	27.60710	.1927212	-.001234	4.347517	.3737931	1.911508
#3	4.017011	27.79778	.1918032	-.001392	4.283139	.3733255	1.905948

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.25167	-.167986	.0022596	.0150271	2.956007	8.865024	5.889357
Stddev	.06872	.003915	.0002894	.0007728	.002782	.093128	.017802
%RSD	.6703018	2.330347	12.80801	5.142436	.0941091	1.050510	.3022708
#1	10.30605	-.164328	.0024495	.0154656	2.953892	8.971248	5.897159
#2	10.27452	-.167514	.0019265	.0154810	2.959159	8.797412	5.901925
#3	10.17444	-.172115	.0024028	.0141349	2.954971	8.826414	5.868986

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01DUP Acquired: 3/10/2025 17:56:38 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.8821344	.2123313	.1243086
Stddev	.0016774	.0005759	.0001140
%RSD	.1901553	.2712161	.0917128
#1	.8840666	.2129213	.1244085
#2	.8810509	.2117707	.1241844
#3	.8812857	.2123018	.1243328

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3584.915	77727.24	15920.32	2347.031	4237.895
Stddev	9.214	208.57	86.33	9.936	8.989
%RSD	.2570236	.2683377	.5422539	.4233356	.2121064
#1	3585.546	77790.52	16019.02	2352.127	4238.688
#2	3575.401	77494.36	15883.10	2335.581	4228.536
#3	3593.797	77896.84	15858.85	2353.384	4246.461

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01LX5 Acquired: 3/10/2025 18:00:43 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.0123346	.0004392	.1189869	-.008137	.0005690	25.08393	.1439766
Stddev	.0005971	.0007008	.0024013	.001427	.0009094	.04116	.0002757
%RSD	4.840981	159.5649	2.018145	17.54199	159.8351	.1640834	.1914710
#1	.0127569	-.000289	.1192886	-.009119	-.000304	25.07380	.1442625
#2	.0125954	.000497	.1212231	-.006500	.000500	25.12921	.1439549
#3	.0116514	.001109	.1164490	-.008794	.001511	25.04879	.1437124

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012445	-.002502	5.275936	.0473662	.0195020	.1387522	53.00417
Stddev	.0000444	.000090	.008946	.0003637	.0001876	.0010410	.10107
%RSD	3.564855	3.593593	.1695552	.7678685	.9617155	.7502308	.1906903
#1	.0011941	-.002414	5.279048	.0477610	.0196903	.1399184	52.93131
#2	.0012617	-.002593	5.265850	.0472928	.0193152	.1384211	53.11956
#3	.0012776	-.002498	5.282910	.0470448	.0195005	.1379170	52.96164

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9211855	6.262901	.0387377	-.000318	.8705757	.0833594	.4349000
Stddev	.0026752	.004901	.0004888	.000098	.0328272	.0014653	.0010561
%RSD	.2904061	.0782473	1.261742	30.93039	3.770746	1.757771	.2428269
#1	.9235223	6.268324	.0392774	-.000426	.8463058	.0825329	.4345974
#2	.9217667	6.261592	.0386109	-.000234	.9079268	.0824942	.4360744
#3	.9182675	6.258788	.0383249	-.000294	.8574945	.0850512	.4340283

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.196524	-.043849	.0003261	.0030715	.6699545	1.902343	1.172546
Stddev	.019937	.000410	.0001131	.0005723	.0040799	.012673	.006793
%RSD	.9076522	.9343557	34.69129	18.63342	.6089797	.6661593	.5793655
#1	2.204189	-.043394	.0004143	.0037306	.6733055	1.913997	1.177546
#2	2.173893	-.043964	.0001986	.0027844	.6711466	1.888852	1.175282
#3	2.211491	-.044189	.0003654	.0026996	.6654113	1.904181	1.164812

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01LX5 Acquired: 3/10/2025 18:00:43 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.1699990	.0414674	.0281531
Stddev	.0008660	.0009292	.0001263
%RSD	.5094315	2.240779	.4487228
#1	.1709121	.0410804	.0280527
#2	.1698954	.0407943	.0282950
#3	.1691894	.0425276	.0281117

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3351.553	72318.32	14311.04	2186.268	4530.659
Stddev	7.120	259.81	67.98	11.875	14.785
%RSD	.2124430	.3592568	.4749881	.5431857	.3263270
#1	3346.813	72067.99	14249.74	2172.868	4521.350
#2	3348.104	72300.31	14299.22	2190.445	4522.921
#3	3359.740	72586.67	14384.15	2195.490	4547.707

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01MS Acquired: 3/10/2025 18:04:56 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.7836352	1.817831	1.575675	1.570530	.2873472	134.5507
Stddev	.0011182	.005234	.002477	.004986	.0013581	1.9484
%RSD	.1426920	.2879127	.1572068	.3174422	.4726486	1.448113
#1	.7839920	1.816941	1.577896	1.568294	.2869614	133.3001
#2	.7845314	1.823453	1.576127	1.567053	.2888565	136.7957
#3	.7823821	1.813100	1.573004	1.576242	.2862238	133.5563

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8956893	.1908419	.1800151	27.21760	.5854305	.3013625
Stddev	.0132000	.0025609	.0003939	.39345	.0018757	.0010246
%RSD	1.473727	1.341893	.2188003	1.445556	.3204034	.3399899
#1	.8856865	.1890767	.1804256	26.91824	.5862725	.3023753
#2	.9106505	.1937791	.1796403	27.66323	.5867377	.3003265
#3	.8907307	.1896700	.1799793	27.07132	.5832813	.3013858

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.030246	268.0823	4.781980	34.20568	.7062035	.0651088
Stddev	.000581	.3230	.065312	.52437	.0010773	.0002202
%RSD	.0564121	.1204912	1.365801	1.532978	.1525503	.3381937
#1	1.030911	268.1664	4.732199	33.83794	.7072365	.0648842
#2	1.029835	267.7255	4.855933	34.80613	.7050868	.0653243
#3	1.029993	268.3549	4.757809	33.97298	.7062872	.0651180

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.915379	.6590320	3.664000	20.45597	-.024072	.3426597
Stddev	.011944	.0084807	.022039	.04406	.010260	.0003416
%RSD	.1727192	1.286836	.6014916	.2154089	42.62092	.0996791
#1	6.916033	.6530968	3.641162	20.46320	-.017922	.3427718
#2	6.903121	.6687451	3.685141	20.40873	-.035916	.3429312
#3	6.926983	.6552540	3.665697	20.49596	-.018378	.3422762

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01MS Acquired: 3/10/2025 18:04:56 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.6380511	3.193429	8.501437	F 11.88182	.9420074	.4177945
Stddev	.0012810	.039024	.103169	.01751	.0088268	.0053350
%RSD	.2007743	1.222016	1.213544	.1473713	.9370188	1.276947
#1	.6395302	3.165891	8.620546	11.90151	.9462352	.4132793
#2	.6373277	3.238087	8.443764	11.87596	.9318619	.4236815
#3	.6372953	3.176309	8.440001	11.86799	.9479250	.4164228

Elem	Sr4077
Units	ppm
Avg	.2947849
Stddev	.0037252
%RSD	1.263696
#1	.2924629
#2	.2990817
#3	.2928101

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3500.671	76458.14	15563.44	2290.160	4123.546
Stddev	4.417	160.66	199.84	13.537	5.017
%RSD	.1261726	.2101218	1.284023	.5910746	.1216589
#1	3504.452	76310.04	15701.39	2305.268	4122.705
#2	3501.745	76628.93	15334.27	2279.135	4128.930
#3	3495.816	76435.45	15654.66	2286.077	4119.002

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01MSD Acquired: 3/10/2025 18:08:55 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.7738664	1.768809	1.551534	1.548981	.2849813	132.7711
Stddev	.0020450	.001533	.004846	.006268	.0019195	.4792
%RSD	.2642566	.0866425	.3123152	.4046715	.6735684	.3609218
#1	.7749472	1.769129	1.546317	1.548582	.2857083	132.7355
#2	.7751442	1.770156	1.552391	1.542922	.2828044	133.2671
#3	.7715078	1.767142	1.555894	1.555440	.2864310	132.3107

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9000870	.1835321	.1763702	27.06875	.5796297	.2985131
Stddev	.0062081	.0011465	.0006058	.15224	.0018871	.0007287
%RSD	.6897183	.6246810	.3434686	.5624293	.3255764	.2441229
#1	.9004444	.1829909	.1756934	27.08465	.5801614	.2977995
#2	.9061086	.1848490	.1768615	27.21242	.5775337	.2984839
#3	.8937079	.1827564	.1765558	26.90918	.5811939	.2992561

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.016127	273.5642	4.749609	33.77385	.6981772	.0657173
Stddev	.003033	1.1355	.027040	.16371	.0008855	.0002194
%RSD	.2984631	.4150677	.5693060	.4847151	.1268353	.3338528
#1	1.014110	274.7014	4.753516	33.80938	.6973777	.0659575
#2	1.014656	272.4305	4.774482	33.91688	.6980249	.0656671
#3	1.019615	273.5608	4.720828	33.59530	.6991290	.0655274

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.086402	.6520598	3.646809	21.01573	.0108004	.3389152
Stddev	.019674	.0050651	.005321	.01616	.0052225	.0006092
%RSD	.2776348	.7767797	.1458997	.0769050	48.35516	.1797354
#1	7.108596	.6551398	3.649182	21.02720	.0161601	.3386354
#2	7.079506	.6548256	3.640715	20.99725	.0057268	.3384962
#3	7.071103	.6462140	3.650531	21.02275	.0105142	.3396140

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01MSD Acquired: 3/10/2025 18:08:55 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.6292629	3.189063	9.039684	F 11.64407	.9374753	.4189871
Stddev	.0016497	.026545	.106451	.00986	.0061643	.0008635
%RSD	.2621588	.8323853	1.177602	.0846472	.6575398	.2060914
#1	.6274217	3.202761	9.108441	11.63652	.9304544	.4191351
#2	.6297606	3.205962	8.917066	11.65522	.9399715	.4197670
#3	.6306064	3.158467	9.093546	11.64049	.9419999	.4180592

Elem	Sr4077
Units	ppm
Avg	.2946733
Stddev	.0019304
%RSD	.6550976
#1	.2948193
#2	.2965265
#3	.2926740

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3538.250	76606.98	16124.58	2290.218	4180.038
Stddev	8.020	347.41	62.84	18.600	8.667
%RSD	.2266791	.4534907	.3896899	.8121639	.2073491
#1	3543.353	76355.53	16108.26	2283.085	4189.335
#2	3542.391	77003.39	16071.52	2311.329	4178.597
#3	3529.005	76462.01	16193.97	2276.239	4172.181

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-01A Acquired: 3/10/2025 18:12:53 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.7791497	1.794841	1.565392	1.565597	.2915491	135.1591
Stddev	.0033875	.007082	.006101	.007420	.0011814	.3260
%RSD	.4347724	.3945673	.3897557	.4739643	.4052061	.2411877
#1	.7811598	1.799478	1.561567	1.571017	.2925158	134.8994
#2	.7752386	1.786690	1.562182	1.557140	.2918994	135.0531
#3	.7810507	1.798356	1.572428	1.568633	.2902322	135.5249

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8762987	.1929499	.1801304	26.80192	.5880389	.2999599
Stddev	.0018224	.0017312	.0004950	.11749	.0008736	.0004686
%RSD	.2079640	.8972282	.2748038	.4383707	.1485681	.1562265
#1	.8756865	.1914356	.1798638	26.73607	.5872687	.2996813
#2	.8748612	.1925768	.1798258	26.73212	.5889882	.2996974
#3	.8783483	.1948372	.1807015	26.93757	.5878598	.3005009

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.014372	262.1723	4.659749	33.79172	.7007723	.0639551
Stddev	.001967	.9361	.017338	.22561	.0023274	.0003758
%RSD	.1939447	.3570442	.3720875	.6676577	.3321190	.5875445
#1	1.013368	262.7998	4.651542	33.65930	.6988413	.0639563
#2	1.013110	262.6207	4.648038	33.66364	.7001191	.0643302
#3	1.016639	261.0964	4.679667	34.05222	.7033565	.0635787

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.768399	.6498191	3.687038	20.17943	-.051061	.3455497
Stddev	.052205	.0033495	.015972	.15670	.005557	.0013265
%RSD	.7713022	.5154528	.4331883	.7765553	10.88286	.3838946
#1	6.764315	.6480194	3.668599	20.26427	-.045528	.3462291
#2	6.822526	.6477542	3.696555	20.27542	-.051015	.3440211
#3	6.718357	.6536837	3.695961	19.99860	-.056642	.3463990

Sample Name: Q1524-01A Acquired: 3/10/2025 18:12:53 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.6295655	3.213263	F 10.73104	F 11.52637	.9242954	.4118083
Stddev	.0014423	.016020	.14486	.04295	.0051429	.0010625
%RSD	.2290950	.4985664	1.349915	.3726553	.5564144	.2580030
#1	.6312246	3.212710	10.56536	11.54241	.9240306	.4109354
#2	.6288615	3.229553	10.83383	11.47770	.9192900	.4129913
#3	.6286104	3.197526	10.79392	11.55899	.9295656	.4114981

Elem	Sr4077
Units	ppm
Avg	.2893314
Stddev	.0004229
%RSD	.1461746
#1	.2888442
#2	.2895457
#3	.2896043

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3556.031	76330.14	15437.32	2259.135	4198.100
Stddev	4.405	23.36	126.72	8.733	3.916
%RSD	.1238828	.0306005	.8208718	.3865715	.0932716
#1	3554.200	76353.44	15522.36	2267.292	4197.905
#2	3561.057	76306.73	15497.93	2260.191	4202.109
#3	3552.837	76330.24	15291.68	2249.922	4194.285

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-02 Acquired: 3/10/2025 18:16:52 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.0464403	.0087054	.6230304	-.032954	-.006136	106.2211	.6051701
Stddev	.0028053	.0026488	.0018035	.003953	.000344	.1746	.0025008
%RSD	6.040669	30.42682	.2894690	11.99655	5.598535	.1644168	.4132341
#1	.0474064	.0094764	.6213562	-.028636	-.005743	106.0212	.6041153
#2	.0432796	.0057567	.6249400	-.033830	-.006287	106.3440	.6080255
#3	.0486349	.0108832	.6227951	-.036396	-.006378	106.2981	.6033696

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057215	-.003009	13.95992	.1955286	.0790096	.3856279	211.6244
Stddev	.0001033	.000329	.03926	.0003072	.0001803	.0005174	1.7501
%RSD	1.805881	10.94128	.2812279	.1571047	.2281627	.1341657	.8269877
#1	.0056784	-.002828	13.95402	.1953796	.0792077	.3853319	210.6338
#2	.0056467	-.003389	14.00179	.1953243	.0788551	.3862253	213.6451
#3	.0058394	-.002810	13.92394	.1958818	.0789659	.3853265	210.5943

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.387368	20.08372	.1592650	-.001065	4.503715	.2751089	1.331555
Stddev	.013988	.02226	.0002157	.000362	.053314	.0010231	.002507
%RSD	.3188207	.1108261	.1354627	34.03135	1.183788	.3718693	.1882396
#1	4.374569	20.08057	.1595069	-.001417	4.497814	.2739785	1.333023
#2	4.402300	20.10738	.1590924	-.000693	4.559735	.2759713	1.332981
#3	4.385233	20.06320	.1591956	-.001086	4.453597	.2753768	1.328661

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.317239	-.170807	.0044581	.0198092	2.153061	6.777352	6.624709
Stddev	.073625	.006901	.0003070	.0007321	.011624	.052883	.005921
%RSD	1.006187	4.040378	6.886647	3.695686	.5398740	.7802856	.0893827
#1	7.257929	-.174129	.0041060	.0202435	2.147113	6.717785	6.624060
#2	7.399642	-.162873	.0046698	.0189640	2.166455	6.818772	6.619139
#3	7.294146	-.175420	.0045985	.0202202	2.145615	6.795499	6.630928

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: Q1524-02 Acquired: 3/10/2025 18:16:52 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	1.053492	.1639255	.0783455
Stddev	.004288	.0004707	.0003303
%RSD	.4070617	.2871305	.4216422
#1	1.055667	.1634250	.0784337
#2	1.048552	.1639923	.0786227
#3	1.056256	.1643592	.0779800

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3655.581	78356.06	16082.43	2347.831	4330.244
Stddev	7.614	121.11	70.26	17.034	7.075
%RSD	.2082851	.1545608	.4368548	.7255075	.1633896
#1	3660.278	78417.47	16030.68	2342.052	4331.832
#2	3646.796	78216.55	16162.41	2334.439	4322.510
#3	3659.670	78434.16	16054.21	2367.002	4336.390

Sample Name: PB167039BL Acquired: 3/10/2025 18:20:56 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	-.000479	-.001438	-.000489	-.001422	.0009104	.0002351	-.006536
Stddev	.001134	.001419	.000495	.001032	.0006313	.0077305	.000464
%RSD	236.7744	98.68930	101.3154	72.57567	69.34138	3287.668	7.096834
#1	.000597	-.001889	-.000570	-.002613	.0011689	.0072218	-.006875
#2	-.000371	-.002576	.000042	-.000777	.0013715	-.008070	-.006725
#3	-.001663	.000152	-.000937	-.000877	.0001909	.001553	-.006007

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000064	-.000005	-.011617	.0000668	-.000116	-.000208	.0008511
Stddev	.0000361	.000043	.005173	.0003687	.000148	.000461	.0042579
%RSD	567.5441	858.0159	44.52513	551.9316	127.7386	221.8126	500.2544
#1	.0000452	-.000023	-.014288	-.000145	-.000044	-.000488	.0056047
#2	-.000026	.000044	-.005655	-.000147	-.000017	.000325	-.002613
#3	-.000000	-.000036	-.014908	.000492	-.000286	-.000460	-.000438

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000750	-.009466	-.000090	-.000055	-.058956	-.000927	-.001190
Stddev	.0005001	.008108	.000134	.000251	.015934	.001199	.000082
%RSD	666.7840	85.64876	148.2595	457.6191	27.02604	129.3614	6.855990
#1	.0006270	-.016559	-.000181	-.000308	-.042459	-.001257	-.001152
#2	-.000348	-.000628	-.000154	-.000050	-.074259	.000403	-.001135
#3	-.000054	-.011213	.000064	.000193	-.060151	-.001927	-.001284

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0409131	-.002373	-.000026	-.001044	.0004119	-.003545	.0027706
Stddev	.0348231	.000467	.000238	.000470	.0006913	.002652	.0028601
%RSD	85.11467	19.68640	908.3382	44.98805	167.8229	74.80355	103.2293
#1	.0266652	-.001944	-.000007	-.001583	.0011726	-.002698	.0036243
#2	.0154734	-.002871	-.000273	-.000719	.0002411	-.006517	-.000419
#3	.0806008	-.002303	.000201	-.000831	-.000178	-.001420	.005107

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB167039BL Acquired: 3/10/2025 18:20:56 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.0013111	-.006349	-.000069
Stddev	.0032439	.000576	.000067
%RSD	247.4271	9.073832	97.30855
#1	-.002121	-.006997	-.000145
#2	.001728	-.005897	-.000047
#3	.004326	-.006152	-.000016

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3321.592	73255.31	13879.27	2162.706	4796.331
Stddev	2.930	147.55	96.77	11.464	1.361
%RSD	.0881979	.2014164	.6972574	.5300822	.0283726
#1	3320.248	73181.20	13945.06	2160.436	4797.738
#2	3319.575	73159.51	13768.15	2152.547	4795.022
#3	3324.952	73425.23	13924.60	2175.136	4796.233

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB167039BS Acquired: 3/10/2025 18:25:16 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.7627633	1.863106	.8982190	1.868938	.7703209	1.780907
Stddev	.0024514	.018536	.0045718	.008423	.0024407	.008944
%RSD	.3213784	.9949241	.5089833	.4506652	.3168455	.5021957
#1	.7613859	1.862855	.8966068	1.868524	.7693741	1.770699
#2	.7613105	1.844696	.8946718	1.860730	.7684955	1.784661
#3	.7655936	1.881766	.9033785	1.877560	.7730932	1.787363

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1722927	.2009464	.1778366	.9069909	.3701185	.1825932
Stddev	.0005850	.0011990	.0006027	.0050505	.0005785	.0012420
%RSD	.3395559	.5966978	.3388862	.5568370	.1563027	.6802027
#1	.1716482	.2015015	.1772501	.9061912	.3694620	.1820080
#2	.1724397	.1995703	.1778054	.9023879	.3705537	.1817518
#3	.1727903	.2017672	.1784542	.9123935	.3703399	.1840197

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2938952	2.864671	.2039531	1.734623	.4593859	.0713255
Stddev	.0011418	.015506	.0003826	.017184	.0016027	.0002799
%RSD	.3885158	.5412996	.1876058	.9906437	.3488832	.3923887
#1	.2935831	2.847728	.2039701	1.733901	.4583796	.0710310
#2	.2929419	2.868130	.2043269	1.717812	.4585441	.0715880
#3	.2951607	2.878156	.2035622	1.752157	.4612342	.0713575

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.575666	.2697485	.1911706	9.470618	.2454193	.3905274
Stddev	.046151	.0017126	.0012406	.081844	.0015645	.0017013
%RSD	1.791809	.6348857	.6489707	.8641931	.6374806	.4356400
#1	2.522376	.2677848	.1898558	9.384450	.2454117	.3897927
#2	2.602532	.2705283	.1923207	9.547314	.2438586	.3893169
#3	2.602089	.2709325	.1913354	9.480090	.2469876	.3924726

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: PB167039BS Acquired: 3/10/2025 18:25:16 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	.6237004	.1774430	.8039860	5.221973	F -.008667	.1749870
Stddev	.0026089	.0002393	.0186179	.027478	.002791	.0004205
%RSD	.4182931	.1348529	2.315695	.5261934	32.20632	.2403240
#1	.6232542	.1776523	.7846766	5.216742	-.010824	.1754545
#2	.6213434	.1771822	.8218251	5.197487	-.005515	.1746394
#3	.6265036	.1774946	.8054562	5.251691	-.009663	.1748670

Elem	Sr4077
Units	ppm
Avg	.1785298
Stddev	.0002998
%RSD	.1679494
#1	.1782949
#2	.1788675
#3	.1784271

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3275.266	70818.40	14087.32	2138.654	4619.093
Stddev	10.654	138.00	77.31	2.501	16.034
%RSD	.3252856	.1948602	.5487745	.1169361	.3471242
#1	3279.788	70970.96	14039.62	2141.250	4630.523
#2	3282.912	70781.98	14176.51	2138.452	4625.992
#3	3263.096	70702.27	14045.82	2136.261	4600.765

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV08 Acquired: 3/10/2025 18:29:19 Type: Unk
Method: NON EPA-6010-200.7(v2786) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.784062	4.755083	4.631179	4.803858	4.880860	9.214422
Stddev	.035924	.028095	.016064	.029529	.031965	.030521
%RSD	.7509146	.5908467	.3468679	.6146857	.6549128	.3312273
#1	4.755195	4.772374	4.627377	4.788995	4.860204	9.247254
#2	4.772697	4.722666	4.617356	4.784715	4.864696	9.209099
#3	4.824294	4.770210	4.648803	4.837865	4.917679	9.186913

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.558598	.2585166	2.316428	22.93984	.9334678	2.338451
Stddev	.074178	.0011614	.007739	.09403	.0016424	.008398
%RSD	.7760343	.4492558	.3340784	.4099130	.1759409	.3591173
#1	9.641314	.2597890	2.312514	23.02000	.9320763	2.333081
#2	9.497982	.2582470	2.311429	22.96318	.9352794	2.334144
#3	9.536497	.2575136	2.325342	22.83633	.9330476	2.348129

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.202685	4.930501	2.612352	22.92454	2.347568	1.197330
Stddev	.007386	.013719	.018345	.11215	.008692	.001728
%RSD	.6141007	.2782394	.7022446	.4892236	.3702563	.1443016
#1	1.195958	4.946315	2.633235	23.05121	2.342434	1.199296
#2	1.201510	4.921792	2.604988	22.88453	2.342667	1.196054
#3	1.210588	4.923395	2.598833	22.83788	2.357604	1.196640

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.77330	2.329916	2.405634	25.06346	F 4.331398	4.905548
Stddev	.04156	.015367	.002618	.03874	.011825	.023597
%RSD	.1748003	.6595635	.1088371	.1545788	.2730092	.4810317
#1	23.81676	2.342640	2.407788	25.10808	4.343007	4.889419
#2	23.73395	2.334263	2.402720	25.04400	4.331819	4.894592
#3	23.76917	2.312843	2.406394	25.03832	4.319368	4.932631

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV08 Acquired: 3/10/2025 18:29:19 Type: Unk
Method: NON EPA-6010-200.7(v2786) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.587927	4.637045	5.053284	4.679348	4.651231	4.583812
Stddev	.013161	.030364	.022835	.020162	.014600	.019914
%RSD	.2868672	.6548194	.4518756	.4308707	.3138854	.4344508
#1	4.590783	4.669432	5.027008	4.676360	4.647937	4.604704
#2	4.573572	4.632483	5.064521	4.660846	4.638560	4.581686
#3	4.599425	4.609220	5.068322	4.700837	4.667196	4.565046

Elem	Sr4077
Units	ppm
Avg	4.679201
Stddev	.050499
%RSD	1.079225
#1	4.723799
#2	4.624369
#3	4.689436

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3217.310	69270.69	13822.93	2084.231	4329.491
Stddev	12.505	257.49	96.66	4.027	8.474
%RSD	.3886870	.3717169	.6992494	.1932093	.1957298
#1	3230.076	68973.73	13711.77	2079.600	4336.727
#2	3216.771	69431.96	13869.87	2086.182	4331.577
#3	3205.083	69406.38	13887.15	2086.911	4320.169

Sample Name: CCB08 Acquired: 3/10/2025 18:33:29 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	-.000869	-.000971	.0002008	.0010180	.0003603	-.001914	-.006949
Stddev	.001561	.001494	.0007472	.0005349	.0010543	.002316	.000541
%RSD	179.6490	153.8217	372.1795	52.54670	292.6611	120.9989	7.785605
#1	-.001534	.000330	.0010313	.0015511	-.000578	-.004589	-.007239
#2	.000915	-.000641	-.000012	.0004812	.000158	-.000584	-.006325
#3	-.001987	-.002602	-.000417	.0010218	.001501	-.000570	-.007284

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000002	.0000148	-.007333	.0002516	-.000181	-.000453	-.004731
Stddev	.000025	.0000112	.004406	.0002790	.000092	.000176	.002204
%RSD	1456.900	75.59200	60.07714	110.9105	50.71588	38.80287	46.58841
#1	-.000031	.0000241	-.002798	.0000137	-.000178	-.000319	-.002408
#2	.000009	.0000024	-.011597	.0001823	-.000091	-.000652	-.006793
#3	.000017	.0000179	-.007605	.0005587	-.000274	-.000389	-.004990

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003099	-.003937	.0000329	-.000171	-.042749	-.000795	-.000823
Stddev	.0001988	.019921	.0001733	.000202	.009209	.001094	.000461
%RSD	64.14159	506.0422	527.4088	118.5071	21.54221	137.4904	56.03000
#1	.0005294	.018104	-.000074	-.000272	-.039476	-.000521	-.000566
#2	.0002586	-.020659	.000233	.000062	-.053147	.000135	-.001355
#3	.0001419	-.009255	-.000060	-.000302	-.035623	-.002000	-.000547

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0843523	.0021131	.0002120	-.000616	.0007094	.0039048	.0039357
Stddev	.0100314	.0001968	.0001493	.000372	.0001926	.0042398	.0002240
%RSD	11.89223	9.310785	70.42466	60.36695	27.14893	108.5784	5.690967
#1	.0891272	.0020464	.0003499	-.000206	.0005312	.0044616	.0040076
#2	.0911043	.0019584	.0002327	-.000710	.0009138	-.000586	.0036846
#3	.0728255	.0023345	.0000534	-.000931	.0006833	.007839	.0041149

Sample Name: CCB08 Acquired: 3/10/2025 18:33:29 Type: Unk
Method: NON EPA-6010-200.7(v2786) 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	-.000675	-.006390	.0000260
Stddev	.002043	.000642	.0000308
%RSD	302.4456	10.04451	118.2711
#1	.000696	-.006437	.0000150
#2	.000301	-.007007	.0000023
#3	-.003023	-.005726	.0000608

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3321.068	72389.58	14050.90	2146.035	4817.500
Stddev	16.604	257.63	40.16	9.820	16.581
%RSD	.4999651	.3558890	.2857972	.4575756	.3441811
#1	3327.007	72255.07	14052.49	2142.240	4825.632
#2	3333.886	72227.06	14009.98	2138.680	4828.445
#3	3302.311	72686.62	14090.25	2157.186	4798.423

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: LR1 Acquired: 3/10/2025 18:37:27 Type: Unk
Method: NON EPA-6010-200.7(v2787) 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	.0383769	.0747729	.0220966	-.208056	-.020011	2057.818	.0238545
Stddev	.0067519	.0061908	.0095561	.002052	.002763	18.581	.0019116
%RSD	17.59356	8.279456	43.24706	.9864552	13.80472	.9029247	8.013485
#1	.0413562	.0676614	.0117052	-.205806	-.023153	2037.775	.0219620
#2	.0306478	.0776989	.0240775	-.209825	-.017960	2061.212	.0238168
#3	.0431266	.0789583	.0305070	-.208537	-.018921	2074.468	.0257846

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074535	-.007880	1894.026	.0269895	.0309260	.0681589	1034.789
Stddev	.0001370	.002779	10.477	.0009695	.0011860	.0023449	9.668
%RSD	1.838361	35.26360	.5531751	3.592284	3.835113	3.440387	.9343017
#1	.0073073	-.009316	1890.946	.0259357	.0300003	.0670874	1042.501
#2	.0074741	-.009647	1885.433	.0278437	.0305147	.0665411	1037.923
#3	.0075790	-.004677	1905.698	.0271891	.0322629	.0708481	1023.943

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.110912	1675.446	.0062791	-.029607	1931.094	.0166998	.1580283
Stddev	.000160	9.860	.0008057	.001059	24.152	.0019725	.0009684
%RSD	.1440523	.5884787	12.83123	3.575848	1.250695	11.81178	.6128204
#1	-.111096	1664.083	.0071144	-.028641	1954.543	.0189524	.1581241
#2	-.110811	1680.519	.0062163	-.029442	1906.296	.0152813	.1570156
#3	-.110828	1681.737	.0055067	-.030739	1932.445	.0158658	.1589453

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1439.233	^ *****	.0063722	.0046631	-.036621	.1839311	.1456642
Stddev	2.113	-----	.0012344	.0017134	.000700	.0047494	.0040709
%RSD	.1467985	-----	19.37127	36.74237	1.910964	2.582150	2.794741
#1	1436.837	^ -----	.0055529	.0061229	-.037080	.1805960	.1463351
#2	1440.832	^ -----	.0057718	.0050897	-.036968	.1893689	.1412995
#3	1440.028	^ -----	.0077919	.0027768	-.035816	.1818285	.1493580

Sample Name: LR1 Acquired: 3/10/2025 18:37:27 Type: Unk
Method: NON EPA-6010-200.7(v2787) 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	-.199074	.1166978	.0123034
Stddev	.020605	.0062171	.0000504
%RSD	10.35052	5.327518	.4094970
#1	-.213235	.1208317	.0123608
#2	-.208552	.1197138	.0122665
#3	-.175435	.1095480	.0122829

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2145.311	47631.64	11552.22	1385.268	2521.685
Stddev	2.359	94.41	93.58	4.803	3.213
%RSD	.1099624	.1982049	.8100942	.3467414	.1273972
#1	2146.313	47579.21	11628.31	1379.909	2523.488
#2	2147.004	47740.62	11580.63	1386.708	2523.591
#3	2142.616	47575.07	11447.72	1389.187	2517.976

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: LR2 Acquired: 3/10/2025 18:42:24 Type: Unk
Method: NON EPA-6010-200.7(v2787) 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	.0098212	-.002969	226.7213	.0098489	-.005067	.1588108	105.9375
Stddev	.0020439	.001080	.5136	.0005816	.001038	.0038816	1.0776
%RSD	20.81156	36.36701	.2265130	5.905705	20.49317	2.444148	1.017236
#1	.0121002	-.002561	226.9633	.0105142	-.005837	.1562999	105.9711
#2	.0081503	-.004194	226.1314	.0095957	-.003886	.1632816	106.9979
#3	.0092131	-.002153	227.0691	.0094368	-.005479	.1568510	104.8434

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002857	-.002920	.2247432	.0005645	.0059863	264.8759	-.002772
Stddev	.000071	.000033	.0108827	.0000263	.0002002	1.5008	.004345
%RSD	2.478137	1.132657	4.842260	4.664695	3.345099	.5666191	156.7523
#1	-.002924	-.002883	.2252235	.0005656	.0058705	266.5543	.002242
#2	-.002865	-.002947	.2353777	.0005902	.0058708	264.4105	-.005130
#3	-.002783	-.002930	.2136283	.0005376	.0062175	263.6629	-.005429

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	44.12390	-.114059	45.42857	.0012419	.1742267	-.012295	34.23113
Stddev	.17011	.002342	.10621	.0003326	.0261065	.000476	.11914
%RSD	.3855177	2.053424	.2338013	26.77737	14.98423	3.867573	.3480561
#1	43.99814	-.113537	45.46796	.0016220	.1954985	-.012310	34.09626
#2	44.05612	-.112022	45.30829	.0010993	.1820889	-.012762	34.27506
#3	44.31745	-.116618	45.50946	.0010045	.1450926	-.011812	34.32207

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4022701	-.001702	-.007502	-.005724	-.036085	-.009663	.3121627
Stddev	.0438135	.000969	.000212	.000287	.000546	.003717	.0059468
%RSD	10.89157	56.91813	2.821006	5.010975	1.514279	38.47213	1.905045
#1	.4375938	-.000883	-.007261	-.006014	-.036715	-.008572	.3078167
#2	.4159739	-.002771	-.007656	-.005441	-.035799	-.013803	.3189399
#3	.3532426	-.001452	-.007589	-.005717	-.035742	-.006613	.3097313

Sample Name: LR2 Acquired: 3/10/2025 18:42:24 Type: Unk
Method: NON EPA-6010-200.7(v2787) 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	.0323364	-.002096	.0015251
Stddev	.0017629	.000763	.0000400
%RSD	5.451697	36.39281	2.620621
#1	.0318975	-.002819	.0015569
#2	.0308344	-.001299	.0014803
#3	.0342773	-.002170	.0015382

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2869.470	71184.34	13761.79	2036.739	4463.245
Stddev	4.936	230.60	31.63	7.877	2.941
%RSD	.1720080	.3239420	.2298099	.3867453	.0658867
#1	2864.004	71246.45	13747.58	2027.769	4460.283
#2	2873.602	71377.52	13739.76	2039.918	4466.164
#3	2870.804	70929.05	13798.03	2042.529	4463.287

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV09 Acquired: 3/10/2025 18:46:37 Type: Unk
Method: NON EPA-6010-200.7(v2788) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV09 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.795447	4.747746	4.633547	4.840756	4.908403	9.208744
Stddev	.000504	.029313	.013492	.008901	.001610	.008501
%RSD	.0105045	.6174066	.2911826	.1838815	.0327975	.0923111
#1	4.795475	4.735045	4.626369	4.832911	4.906916	9.216764
#2	4.795937	4.781268	4.625161	4.838928	4.908182	9.209636
#3	4.794930	4.726926	4.649111	4.850429	4.910113	9.199833

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.695524	.2525993	2.318217	22.89577	.9230013	2.343261
Stddev	.099616	.0006651	.006848	.03531	.0037647	.005941
%RSD	1.027447	.2632983	.2954148	.1542272	.4078761	.2535421
#1	9.710228	.2520485	2.313000	22.92547	.9222569	2.339024
#2	9.786972	.2524112	2.315679	22.90511	.9270826	2.340706
#3	9.589374	.2533382	2.325972	22.85673	.9196644	2.350052

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.209019	4.906920	2.538674	22.67009	2.352881	1.182742
Stddev	.003964	.023924	.008211	.00984	.006575	.003452
%RSD	.3278412	.4875513	.3234436	.0433879	.2794354	.2918939
#1	1.208403	4.920139	2.545383	22.66559	2.346526	1.184623
#2	1.205399	4.921318	2.541123	22.66332	2.352461	1.184846
#3	1.213254	4.879304	2.529517	22.68137	2.359656	1.178758

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.00458	2.338581	2.356569	25.30832	F 4.270665	4.926046
Stddev	.29503	.006421	.007652	.24267	.017159	.009027
%RSD	1.229052	.2745886	.3246930	.9588678	.4017956	.1832583
#1	24.18594	2.331448	2.363526	25.41554	4.266087	4.915804
#2	24.16365	2.343902	2.357806	25.47892	4.256259	4.929490
#3	23.66415	2.340393	2.348374	25.03051	4.289650	4.932845

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCV09 Acquired: 3/10/2025 18:46:37 Type: Unk
Method: NON EPA-6010-200.7(v2788) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV09 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.586065	4.659378	5.037986	4.643842	4.650140	4.615744
Stddev	.008839	.007863	.034168	.008801	.005903	.014943
%RSD	.1927274	.1687664	.6782138	.1895243	.1269347	.3237505
#1	4.589817	4.665601	5.063329	4.636551	4.644656	4.621010
#2	4.575969	4.661993	5.051503	4.641356	4.649377	4.627341
#3	4.592409	4.650540	4.999127	4.653618	4.656387	4.598880

Elem	Sr4077
Units	ppm
Avg	4.777129
Stddev	.048951
%RSD	1.024685
#1	4.758833
#2	4.832592
#3	4.739961

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3230.427	71035.51	14129.15	2096.975	4351.888
Stddev	.274	325.81	27.72	8.046	4.443
%RSD	.0084904	.4586545	.1961597	.3837041	.1020985
#1	3230.485	70921.23	14149.09	2091.796	4350.004
#2	3230.668	70782.24	14140.87	2092.886	4356.963
#3	3230.128	71403.07	14097.50	2106.245	4348.697

Sample Name: CCB09 Acquired: 3/10/2025 18:50:48 Type: Unk
Method: NON EPA-6010-200.7(v2788) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB09 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001151	.0000874	.0007884	.0003463	.0008522	.0005162	-.008805
Stddev	.002045	.0006687	.0005082	.0019133	.0000732	.0027157	.000414
%RSD	177.7466	765.2431	64.45343	552.4988	8.591542	526.0642	4.698640
#1	.001182	-.000683	.0009443	.0004952	.0009316	.0036521	-.009179
#2	-.002636	.000434	.0012004	.0021808	.0007872	-.001054	-.008876
#3	-.001998	.000512	.0002206	-.001637	.0008379	-.001050	-.008360

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000054	.0000091	-.004281	.0000348	-.000142	-.000193	-.004928
Stddev	.0000208	.0000132	.003858	.0002469	.000155	.000305	.007020
%RSD	387.1938	144.9693	90.11638	708.7527	109.2379	158.1193	142.4306
#1	-.000015	.0000032	-.008182	.0002988	-.000294	-.000527	-.011831
#2	.000005	.0000242	-.004194	-.000190	-.000149	-.000124	.002202
#3	.000026	-.000000	-.000467	-.000004	.000016	.000072	-.005156

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003921	-.016574	.0001792	-.000030	.0517866	-.001583	-.001025
Stddev	.0001990	.006745	.0001794	.000346	.0201273	.000786	.000153
%RSD	50.76941	40.69362	100.0914	1161.928	38.86585	49.63938	14.92313
#1	.0006177	-.011180	.0001411	-.000359	.0391656	-.002483	-.000911
#2	.0002412	-.014406	.0003746	.000330	.0749980	-.001032	-.001198
#3	.0003173	-.024136	.0000220	-.000060	.0411961	-.001234	-.000964

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1791508	.0026453	-.000033	.0000333	.0005363	-.001241	.0031285
Stddev	.0295336	.0003887	.000054	.0002645	.0006950	.006243	.0007287
%RSD	16.48530	14.69476	161.5781	795.5372	129.5994	502.8945	23.29198
#1	.1491925	.0026714	-.000083	-.000047	-.000016	.005767	.0039282
#2	.1800196	.0030203	.000024	.000328	.001317	-.003282	.0025021
#3	.2082404	.0022442	-.000041	-.000182	.000308	-.006209	.0029552

Reviewed By:kareem
On:3/11/2025 9:00:40 AM
Inst Id :P4
LB :LB134965

Sample Name: CCB09 Acquired: 3/10/2025 18:50:48 Type: Unk
Method: NON EPA-6010-200.7(v2788) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB09 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001095	-.004269	.0000292
Stddev	.001281	.000567	.0000314
%RSD	116.9408	13.27195	107.5470
#1	-.002495	-.003928	.0000314
#2	.000018	-.004923	-.000003
#3	-.000809	-.003957	.000059

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3351.718	72438.61	14154.32	2154.991	4885.743
Stddev	6.514	126.63	20.02	8.481	7.432
%RSD	.1943381	.1748152	.1414489	.3935498	.1521114
#1	3350.671	72335.35	14131.71	2161.549	4881.435
#2	3358.691	72400.58	14161.41	2158.011	4894.325
#3	3345.791	72579.90	14169.82	2145.414	4881.470

Reviewed By:jaswal
On:3/7/2025 9:06:18 PM
Inst Id :CV1
LB :LB134924

LB134924 INSTRUMENT ID : CV1

Method: 7470A Operator: Admin Date of Analysis: 06 Mar 2025 12:56:13

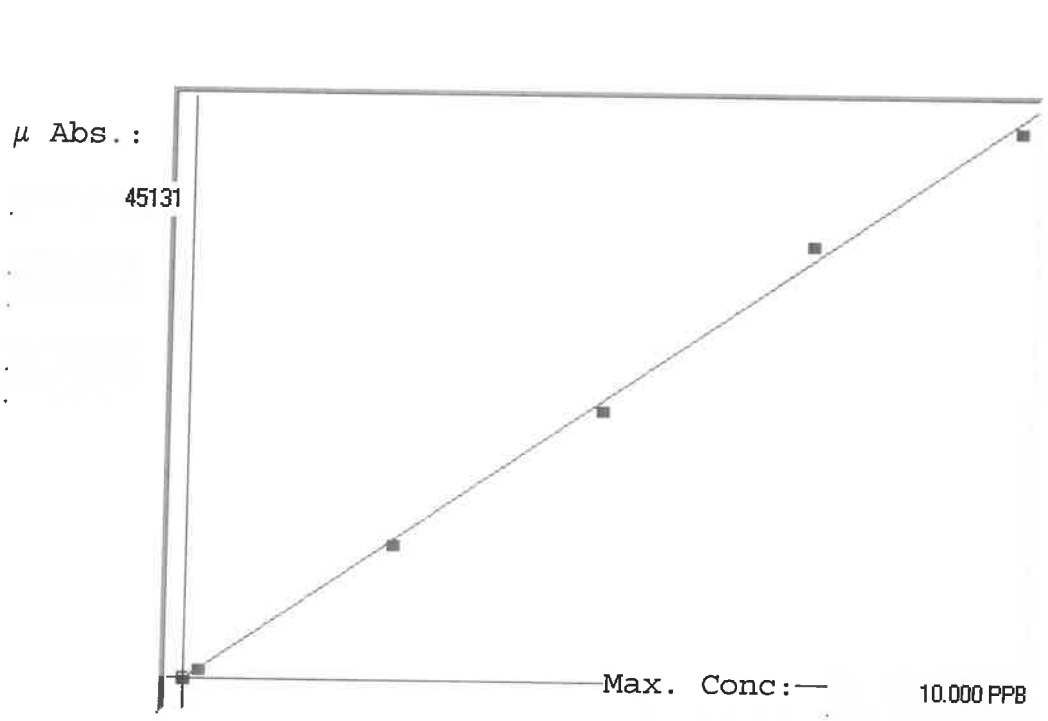
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0.2 - 1		928	-	0.20000	7470A	PPB	06 Mar 2025 12:59:59	S	Std
2.5 - 1		11137	-	2.50000	7470A	PPB	06 Mar 2025 13:02:16	S	Std
5.0 - 1		22234	-	5.00000	7470A	PPB	06 Mar 2025 13:04:33	S	Std
7.5 - 1		35861	-	7.50000	7470A	PPB	06 Mar 2025 13:09:38	S	Std
10.0 - 1		45131	-	10.00000	7470A	PPB	06 Mar 2025 13:14:35	S	Std
ICV34 - 1	ICV34	18801	4.1082		-7470A	PPB	06 Mar 2025 13:25:15	U	SMPL
ICB34 - 1	ICB34	-278	-0.0401		-7470A	PPB	06 Mar 2025 13:27:30	U	SMPL
CCV72 - 1	CCV72	21398	4.6729		-7470A	PPB	06 Mar 2025 13:29:47	U	SMPL
CCB72 - 1	CCB72	-215	-0.0264		-7470A	PPB	06 Mar 2025 13:32:03	U	SMPL
CRA - 1	CRA	696	0.1717		-7470A	PPB	06 Mar 2025 13:34:21	U	SMPL
HighStd - 1	HighStd	44987	9.8018		-7470A	PPB	06 Mar 2025 13:36:36	U	SMPL
ChkStd - 1	ChkStd	33225	7.2444		-7470A	PPB	06 Mar 2025 13:38:51	U	SMPL
PB167014BL - 1	PBW	-457	-0.0790		-7470A	PPB	06 Mar 2025 13:41:11	U	SMPL
PB167014BS - 1	LCSW	19162	4.1867		-7470A	PPB	06 Mar 2025 13:46:18	U	SMPL
Q1478-13 - 1	IDW-SO-COMP-022825	-279	-0.0403		-7470A	PPB	06 Mar 2025 13:48:34	U	SMPL
Q1480-08 - 1	TP-1	113	0.0450		-7470A	PPB	06 Mar 2025 13:50:53	U	SMPL
Q1480-16 - 1	TP-2	16	0.0239		-7470A	PPB	06 Mar 2025 13:53:10	U	SMPL
Q1480-24 - 1	TP-3	59	0.0332		-7470A	PPB	06 Mar 2025 13:55:27	U	SMPL
Q1480-32 - 1	TP-4	58	0.0330		-7470A	PPB	06 Mar 2025 13:57:43	U	SMPL
CCV73 - 1	CCV73	25124	5.4830		-7470A	PPB	06 Mar 2025 13:59:58	U	SMPL
CCB73 - 1	CCB73	-275	-0.0394		-7470A	PPB	06 Mar 2025 14:02:13	U	SMPL
Q1481-02 - 1	WC-K1311	-4	0.0195		-7470A	PPB	06 Mar 2025 14:04:31	U	SMPL
Q1484-06 - 1	TR-OTR-COMP-01	18	0.0243		-7470A	PPB	06 Mar 2025 14:06:47	U	SMPL
Q1489-04 - 1	TP-1	66	0.0347		-7470A	PPB	06 Mar 2025 14:09:02	U	SMPL
Q1489-08 - 1	TP-2	185	0.0606		-7470A	PPB	06 Mar 2025 14:11:18	U	SMPL
Q1489-12 - 1	TP-3	120	0.0465		-7470A	PPB	06 Mar 2025 14:13:34	U	SMPL
Q1489-16 - 1	TP-4	24	0.0256		-7470A	PPB	06 Mar 2025 14:15:51	U	SMPL
Q1489-16DUP - 1	TP-4DUP	48	0.0308		-7470A	PPB	06 Mar 2025 14:18:08	U	SMPL
Q1489-16MS - 1	TP-4MS	18779	4.1035		-7470A	PPB	06 Mar 2025 14:20:25	U	SMPL
Q1489-16MSD - 1	TP-4MSD	17411	3.8060		-7470A	PPB	06 Mar 2025 14:22:42	U	SMPL
CCV74 - 1	CCV74	23083	5.0393		-7470A	PPB	06 Mar 2025 14:27:58	U	SMPL
CCB74 - 1	CCB74	-273	-0.0390		-7470A	PPB	06 Mar 2025 14:30:13	U	SMPL
Q1489-16LX5 - 1		45	0.0302		-7470A	PPB	06 Mar 2025 14:32:31	U	SMPL
Q1489-16A - 1		18059	3.9469		-7470A	PPB	06 Mar 2025 14:34:47	U	SMPL
PB166968TB - 1	PB166968TB	-155	-0.0133		-7470A	PPB	06 Mar 2025 14:37:02	U	SMPL
CCV75 - 1	CCV75	22353	4.8805		-7470A	PPB	06 Mar 2025 14:41:23	U	SMPL
CCB75 - 1	CCB75	-201	-0.0233		-7470A	PPB	06 Mar 2025 14:43:38	U	SMPL

Reviewed By:jaswal
On:3/7/2025 9:06:18 PM
Inst Id :CV1
LB :LB134924

LB134924

7470A

INSTRUMENT ID: CV1



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	a/b))
0.0	0.000	0.031	0.031	47	0.000	47	0				1
0.2	0.200	0.222	0.022	928	0.0 %	928					11
2.5	2.500	2.442	-0.058	11137	0.0 %	11137					-2
5.0	5.000	4.855	-0.145	22234	0.0 %	22234					-3
7.5	7.500	7.818	0.318	35861	0.0 %	35861					4
10.0	10.000	9.833	-0.167	45131	0.0 %	45131					-2

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166990

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: 03/05/2025 **Time :** 13:05 **Temp :** 96 °C

End Digest Date: 03/05/2025 **Time :** 16:10 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: [signature]

Supervisor Signature: [signature]

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6003
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	MP84720
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 BLOCL #1 CELL#50 96 c

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/05/25 17:10	[signature]	[signature]
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB166990

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB166968TB	PB166968TB	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	1
PB166990BL	PBW990	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	2
PB166990BS	LCS990	<2	5	25	Colorless	Colorless	Clear	Clear	M6003,M6011	3
Q1478-13	IDW-SO-COMP-022825	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	4
Q1480-08	TP-1	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	5
Q1480-16	TP-2	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	6
Q1480-24	TP-3	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	7
Q1480-32	TP-4	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	8
Q1481-02	WC-K1311	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	9
Q1484-06	TR-OTR-COMP-01	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	10
Q1489-04	TP-1	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	11
Q1489-08	TP-2	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	12
Q1489-12	TP-3	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	13
Q1489-16	TP-4	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	14
Q1489-16MS	TP-4MS	<2	5	25	Colorless	Colorless	Clear	Clear	M6003,M6011	16
Q1489-16MSD	TP-4MSD	<2	5	25	Colorless	Colorless	Clear	Clear	M6003,M6011	17
Q1489-16DUP	TP-4DUP	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	15

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166968

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 Pos
PB166968TB	LEB968	12	N/A	2000	N/A	N/A	N/A	4.93	1.0	T-
Q1478-13	IDW-SO-COMP-022825	01	100.02	2000	N/A	N/A	N/A	5.6	1.5	T-
Q1480-08	TP-1	02	100.03	2000	N/A	N/A	N/A	5.8	1.0	T-
Q1480-16	TP-2	03	100.04	2000	N/A	N/A	N/A	5.6	1.5	T-1
Q1480-24	TP-3	04	100.03	2000	N/A	N/A	N/A	5.5	1.0	T-1
Q1480-32	TP-4	05	100.02	2000	N/A	N/A	N/A	4.0	1.5	T-1
Q1481-02	WC-K1311	06	100.02	2000	N/A	N/A	N/A	5.6	1.0	T-1
Q1484-06	TR-OTR-COMP-01	07	100.03	2000	N/A	N/A	N/A	5.5	1.5	T-1
Q1489-04	TP-1	08	100.04	2000	N/A	N/A	N/A	4.0	1.0	T-1
Q1489-08	TP-2	09	100.02	2000	N/A	N/A	N/A	4.5	1.5	T-1
Q1489-12	TP-3	10	100.03	2000	N/A	N/A	N/A	4.5	1.0	T-1
Q1489-16	TP-4	11	100.02	2000	N/A	N/A	N/A	4.0	1.5	T-2

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB167014

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: 03/05/2025 **Time :** 15:15 **Temp :** 95 °C

End Digest Date: 03/05/2025 **Time :** 17:15 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: HG-DIG#3

Dig Technician Signature: [signature]

Supervisor Signature: [signature]

Temp : 1. 95°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP84766
CCV	30mL	MP84768
CRA	30mL	MP84770
Blank Spike	0.48mL	MP84759
Matrix Spike	0.48mL	MP84759

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.5mL	MP84563
KMnO4 (5%)	4.5mL	MP84564
K2S2O8 (5%)	2.5mL	MP84565
Hydroxylamine HCL (12%)	2.0mL	MP84566
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	MP84760
0.05 ppb	S0.05	N/A	N/A
0.2 ppb	S0.2	30mL	MP84761
2.5 ppb	S2.5	30mL	MP84762
5.0 ppb	S5.0	30mL	MP84763
7.5 ppb	S7.5	30mL	MP84764
10.0 ppb	S10.0	30mL	MP84765
ICV	ICV	30mL	MP84766
ICB	ICB	30mL	MP84767
CCV	CCV	30mL	MP84768
CCB	CCB	30mL	MP84769
CRI	CRI	30mL	MP84770
CHK STD	CHK STD	30mL	MP84771

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
3/5/25 @ 17:40	[signature] - Bldg. CMS	[signature] - Central CMS
	Preparation Group	**Analysis Group**

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB167014

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
PB166968TB	PB166968TB	3	30	<2	N/A	3-1
PB167014BL	PBW014	30	30	<2	N/A	2
PB167014BS	LCS014	30	30	<2	MP84759	3
Q1478-13	IDW-SO-COMP-022825	3	30	<2	N/A	4
Q1480-08	TP-1	3	30	<2	N/A	5
Q1480-16	TP-2	3	30	<2	N/A	6
Q1480-24	TP-3	3	30	<2	N/A	7
Q1480-32	TP-4	3	30	<2	N/A	8
Q1481-02	WC-K1311	3	30	<2	N/A	9
Q1484-06	TR-OTR-COMP-01	3	30	<2	N/A	10
Q1489-04	TP-1	3	30	<2	N/A	11
Q1489-08	TP-2	3	30	<2	N/A	12
Q1489-12	TP-3	3	30	<2	N/A	13
Q1489-16	TP-4	3	30	<2	N/A	14
Q1489-16DUP	TP-4DUP	3	30	<2	N/A	15
Q1489-16MS	TP-4MS	3	30	<2	MP84759	16
Q1489-16MSD	TP-4MSD	3	30	<2	MP84759	17

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166968

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 / T-2

TCLP Filter ID : 115525

Start Prep Date : 03/04/2025 Time : 17:00

End Prep Date : 03/05/2025 Time : 11:20

Combination Ratio : 20

ZHE Cleaning Batch : N/A

Initial Room Temperature: 23 °C

Final Room Temperature: 22 °C

TCLP Technician Signature : JP

Supervisor By : R

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	WP110802
HCL-TCLP,1N	N/A	WP110803
HNO3-TCLP,1N	N/A	WP110804
pH Strips	W3172.	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. Particle size reduction is mot required. Tumbler T-1 / T-2 checked,30 rpm. Q1489-16 IS USED FOR MS-MSD.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/05/25 12:40	JP / TCLP Room	SLG. AS TEXT
	Preparation Group	Analysis Group MW DW

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 # LB134924

Review By	Mohan	Review On	3/7/2025 9:13:04 AM
Supervise By	jaswal	Supervise On	3/7/2025 9:06:18 PM

STD. NAME	STD REF.#
ICAL Standard	MP84777,MP84778,MP84779,MP84780,MP84781,MP84782
ICV Standard	MP84783
CCV Standard	MP84785
ICSA Standard	
CRI Standard	MP84787
LCS Standard	
Chk Standard	MP84784,MP84786,MP84788,MP84790

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	03/06/25 12:57		Mohan	OK
2	S0.2	S0.2	CAL2	03/06/25 12:59		Mohan	OK
3	S2.5	S2.5	CAL3	03/06/25 13:02		Mohan	OK
4	S5	S5	CAL4	03/06/25 13:04		Mohan	OK
5	S7.5	S7.5	CAL5	03/06/25 13:09		Mohan	OK
6	S10	S10	CAL6	03/06/25 13:14		Mohan	OK
7	ICV34	ICV34	ICV	03/06/25 13:25		Mohan	OK
8	ICB34	ICB34	ICB	03/06/25 13:27		Mohan	OK
9	CCV72	CCV72	CCV	03/06/25 13:29		Mohan	OK
10	CCB72	CCB72	CCB	03/06/25 13:32		Mohan	OK
11	CRA	CRA	CRDL	03/06/25 13:34		Mohan	OK
12	HighStd	HighStd	HIGH STD	03/06/25 13:36		Mohan	OK
13	ChkStd	ChkStd	SAM	03/06/25 13:38		Mohan	OK
14	PB167014BL	PB167014BL	MB	03/06/25 13:41		Mohan	OK
15	PB167014BS	PB167014BS	LCS	03/06/25 13:46		Mohan	OK
16	Q1478-13	IDW-SO-COMP-0228	SAM	03/06/25 13:48		Mohan	OK
17	Q1480-08	TP-1	SAM	03/06/25 13:50		Mohan	OK
18	Q1480-16	TP-2	SAM	03/06/25 13:53		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 # LB134924

Review By	Mohan	Review On	3/7/2025 9:13:04 AM
Supervise By	jaswal	Supervise On	3/7/2025 9:06:18 PM

STD. NAME	STD REF.#
ICAL Standard	MP84777,MP84778,MP84779,MP84780,MP84781,MP84782
ICV Standard	MP84783
CCV Standard	MP84785
ICSA Standard	
CRI Standard	MP84787
LCS Standard	
Chk Standard	MP84784,MP84786,MP84788,MP84790

19	Q1480-24	TP-3	SAM	03/06/25 13:55		Mohan	OK
20	Q1480-32	TP-4	SAM	03/06/25 13:57		Mohan	OK
21	CCV73	CCV73	CCV	03/06/25 13:59		Mohan	OK
22	CCB73	CCB73	CCB	03/06/25 14:02		Mohan	OK
23	Q1481-02	WC-K1311	SAM	03/06/25 14:04		Mohan	OK
24	Q1484-06	TR-OTR-COMP-01	SAM	03/06/25 14:06		Mohan	OK
25	Q1489-04	TP-1	SAM	03/06/25 14:09		Mohan	OK
26	Q1489-08	TP-2	SAM	03/06/25 14:11		Mohan	OK
27	Q1489-12	TP-3	SAM	03/06/25 14:13		Mohan	OK
28	Q1489-16	TP-4	SAM	03/06/25 14:15		Mohan	OK
29	Q1489-16DUP	TP-4DUP	DUP	03/06/25 14:18		Mohan	OK
30	Q1489-16MS	TP-4MS	MS	03/06/25 14:20		Mohan	OK
31	Q1489-16MSD	TP-4MSD	MSD	03/06/25 14:22		Mohan	OK
32	CCV74	CCV74	CCV	03/06/25 14:27		Mohan	OK
33	CCB74	CCB74	CCB	03/06/25 14:30		Mohan	OK
34	Q1489-16L	TP-4L	SD	03/06/25 14:32		Mohan	OK
35	Q1489-16A	TP-4A	PS	03/06/25 14:34		Mohan	OK
36	PB166968TB	PB166968TB	MB	03/06/25 14:37		Mohan	OK
37	CCV75	CCV75	CCV	03/06/25 14:41		Mohan	OK
38	CCB75	CCB75	CCB	03/06/25 14:43		Mohan	OK

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

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134965

Review By	jaswal	Review On	3/11/2025 8:55:53 AM
Supervise By	kareem	Supervise On	3/11/2025 9:00:40 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84642
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84642
LCS Standard	
Chk Standard	MP84649,MP84650

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	03/10/25 11:17		Kareem	OK
2	S1	S1	CAL2	03/10/25 11:22		Kareem	OK
3	S2	S2	CAL3	03/10/25 11:26		Kareem	OK
4	S3	S3	CAL4	03/10/25 11:30		Kareem	OK
5	S4	S4	CAL5	03/10/25 11:34		Kareem	OK
6	S5	S5	CAL6	03/10/25 11:38		Kareem	OK
7	ICV01	ICV01	ICV	03/10/25 11:48		Kareem	OK
8	LLICV01	LLICV01	LLICV	03/10/25 11:52		Kareem	OK
9	ICB01	ICB01	ICB	03/10/25 11:57		Kareem	OK
10	CRI01	CRI01	CRDL	03/10/25 12:01		Kareem	OK
11	ICSA01	ICSA01	ICSA	03/10/25 12:05		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	03/10/25 12:10		Kareem	OK
13	ICSADL	ICSADL	ICSA	03/10/25 12:14		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	03/10/25 12:18		Kareem	OK
15	CCV01	CCV01	CCV	03/10/25 12:27		Kareem	OK
16	CCB01	CCB01	CCB	03/10/25 12:34		Kareem	OK
17	Q1489-16MSD	TP-4MSD	MSD	03/10/25 12:38		Kareem	OK
18	Q1489-16A	TP-4A	PS	03/10/25 12:42		Kareem	OK

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

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134965

Review By	jaswal	Review On	3/11/2025 8:55:53 AM
Supervise By	kareem	Supervise On	3/11/2025 9:00:40 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84642
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84642
LCS Standard	
Chk Standard	MP84649,MP84650

19	Q1478-13	IDW-SO-COMP-0228	SAM	03/10/25 12:46		Kareem	OK
20	Q1481-01	WC-K1311	SAM	03/10/25 12:51		Kareem	OK
21	Q1489-12	TP-3	SAM	03/10/25 12:55		Kareem	OK
22	Q1489-16	TP-4	SAM	03/10/25 12:59		Kareem	OK
23	Q1489-16DUP	TP-4DUP	DUP	03/10/25 13:04		Kareem	OK
24	Q1489-16L	TP-4L	SD	03/10/25 13:08		Kareem	OK
25	Q1489-16MS	TP-4MS	MS	03/10/25 13:12		Kareem	OK
26	Q1415-05	FB02222025	SAM	03/10/25 13:17		Kareem	OK
27	CCV02	CCV02	CCV	03/10/25 13:21		Kareem	OK
28	CCB02	CCB02	CCB	03/10/25 13:25		Kareem	OK
29	Q1415-05DUP	FB02222025DUP	DUP	03/10/25 13:29	NOT USE	Kareem	Not Ok
30	Q1415-05L	FB02222025L	SD	03/10/25 13:34	NOT USE	Kareem	Not Ok
31	Q1415-05MS	FB02222025MS	MS	03/10/25 13:38	NOT USE	Kareem	Not Ok
32	Q1415-05MSD	FB02222025MSD	MSD	03/10/25 13:42	NOT USE	Kareem	Not Ok
33	Q1415-05A	FB02222025A	PS	03/10/25 13:46	NOT USE	Kareem	Not Ok
34	Q1415-06	B-173-GW01	SAM	03/10/25 13:50	NOT USE	Kareem	Not Ok
35	Q1421-04	P001-CLAY-CF01-01	SAM	03/10/25 13:55	MS/MSD fail for more than 50% parameters	Kareem	Not Ok
36	Q1421-04DUP	P001-CLAY-CF01-01D	DUP	03/10/25 13:59	MS/MSD fail for more than 50% parameters	Kareem	Not Ok
37	Q1421-04L	P001-CLAY-CF01-01L	SD	03/10/25 14:03	MS/MSD fail for more than 50% parameters	Kareem	Not Ok

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134965

Review By	jaswal	Review On	3/11/2025 8:55:53 AM
Supervise By	kareem	Supervise On	3/11/2025 9:00:40 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84642
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84642
LCS Standard	
Chk Standard	MP84649,MP84650

38	Q1421-05	P001-CLAY-CF01-01M	MS	03/10/25 14:07	MS/MSD fail for more than 50% parameters	Kareem	Not Ok
39	CCV03	CCV03	CCV	03/10/25 14:11		Kareem	OK
40	CCB03	CCB03	CCB	03/10/25 14:15		Kareem	OK
41	Q1421-06	P001-CLAY-CF01-01M	MSD	03/10/25 14:20	MS/MSD fail for more than 50% parameters	Kareem	Not Ok
42	Q1421-04A	P001-CLAY-CF01-01A	PS	03/10/25 14:24	MS/MSD fail for more than 50% parameters	Kareem	Not Ok
43	Q1421-08	P001-CLAY-CF01-02	SAM	03/10/25 14:28		Kareem	OK
44	Q1421-10	P001-CLAY-CF02-01	SAM	03/10/25 14:32		Kareem	OK
45	Q1421-01	P001-CLAY-CF01-01	SAM	03/10/25 14:36	Fe high	Kareem	Dilution
46	Q1421-01DUP	P001-CLAY-CF01-01D	DUP	03/10/25 14:41	Fe high	Kareem	Dilution
47	Q1421-01L	P001-CLAY-CF01-01L	SD	03/10/25 14:45		Kareem	OK
48	Q1421-02	P001-CLAY-CF01-01M	MS	03/10/25 14:49	Fe high	Kareem	Dilution
49	Q1421-03	P001-CLAY-CF01-01M	MSD	03/10/25 14:53	Fe high	Kareem	Dilution
50	Q1421-01A	P001-CLAY-CF01-01A	PS	03/10/25 14:57		Kareem	OK
51	CCV04	CCV04	CCV	03/10/25 15:01		Kareem	OK
52	CCB04	CCB04	CCB	03/10/25 15:05		Kareem	OK
53	Q1421-07	P001-CLAY-CF01-02	SAM	03/10/25 15:10	Fe high, Ag (oversaturated)	Kareem	Dilution
54	Q1421-09	P001-CLAY-CF02-01	SAM	03/10/25 15:14		Kareem	OK
55	Q1422-01	B-154-SB01	SAM	03/10/25 15:18		Kareem	OK
56	Q1422-02	B-154-SB02	SAM	03/10/25 15:22		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134965

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Supervise By	kareem	Supervise On	3/11/2025 9:00:40 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84642
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CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84642
LCS Standard	
Chk Standard	MP84649,MP84650

57	Q1429-01	OUTFALL-DSN-001	SAM	03/10/25 15:26		Kareem	OK
58	Q1429-01DUP	OUTFALL-DSN-001D	DUP	03/10/25 15:31		Kareem	OK
59	Q1429-01L	OUTFALL-DSN-001L	SD	03/10/25 15:35		Kareem	OK
60	Q1429-01MS	OUTFALL-DSN-001M	MS	03/10/25 15:39		Kareem	OK
61	Q1429-01MSD	OUTFALL-DSN-001M	MSD	03/10/25 15:43		Kareem	OK
62	Q1429-01A	OUTFALL-DSN-001A	PS	03/10/25 15:47		Kareem	OK
63	CCV05	CCV05	CCV	03/10/25 15:51		Kareem	OK
64	CCB05	CCB05	CCB	03/10/25 15:55		Kareem	OK
65	Q1429-02	OUTFALL-DSN-002	SAM	03/10/25 16:00		Kareem	OK
66	Q1415-02DL	B-172-SB01DL	SAM	03/10/25 16:04	2x for Mn	Kareem	Confirms
67	PB166968TB	PB166968TB	MB	03/10/25 16:08		Kareem	OK
68	PB166990BL	PB166990BL	MB	03/10/25 16:12		Kareem	OK
69	PB166990BS	PB166990BS	LCS	03/10/25 16:17		Kareem	OK
70	PB166878TB	PB166878TB	MB	03/10/25 16:21		Kareem	OK
71	PB166878BL	PB166878BL	MB	03/10/25 16:25		Kareem	OK
72	PB166878BS	PB166878BS	LCS	03/10/25 16:29		Kareem	OK
73	PB166858BL	PB166858BL	MB	03/10/25 16:33		Kareem	OK
74	PB166858BS	PB166858BS	LCS	03/10/25 16:44		Kareem	OK
75	CCV06	CCV06	CCV	03/10/25 16:48		Kareem	OK
76	CCB06	CCB06	CCB	03/10/25 16:52		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134965

Review By	jaswal	Review On	3/11/2025 8:55:53 AM
Supervise By	kareem	Supervise On	3/11/2025 9:00:40 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84642
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84642
LCS Standard	
Chk Standard	MP84649,MP84650

77	Q1421-01DL	P001-CLAY-CF01-01D	SAM	03/10/25 16:56	2x for Fe	Kareem	Confirms
78	Q1421-01DUPDL	P001-CLAY-CF01-01D	DUP	03/10/25 17:00	2x for Fe	Kareem	Confirms
79	Q1421-01LDL	P001-CLAY-CF01-01L	SD	03/10/25 17:05	NOT REQUIRED	Kareem	Not Ok
80	Q1421-02DL	P001-CLAY-CF01-01M	MS	03/10/25 17:09	2x for Fe	Kareem	Confirms
81	Q1421-03DL	P001-CLAY-CF01-01M	MSD	03/10/25 17:13	2x for Fe	Kareem	Confirms
82	Q1421-01ADL	P001-CLAY-CF01-01A	PS	03/10/25 17:17	NOT REQUIRED	Kareem	Not Ok
83	Q1421-07DL	P001-CLAY-CF01-02D	SAM	03/10/25 17:21	2x for Fe,Ag	Kareem	Confirms
84	Q1421-09DL	P001-CLAY-CF02-01D	SAM	03/10/25 17:26	NOT USE	Kareem	Not Ok
85	PB166927TB	PB166927TB	MB	03/10/25 17:30		Kareem	OK
86	PB166859BL	PB166859BL	MB	03/10/25 17:34		Kareem	OK
87	CCV07	CCV07	CCV	03/10/25 17:39		Kareem	OK
88	CCB07	CCB07	CCB	03/10/25 17:44		Kareem	OK
89	PB166859BS	PB166859BS	LCS	03/10/25 17:48		Kareem	OK
90	Q1524-01	72-11930-343-COMP	SAM	03/10/25 17:52		Kareem	OK
91	Q1524-01DUP	72-11930-343-COMPD	DUP	03/10/25 17:56		Kareem	OK
92	Q1524-01L	72-11930-343-COMPL	SD	03/10/25 18:00		Kareem	OK
93	Q1524-01MS	72-11930-343-COMPM	MS	03/10/25 18:04		Kareem	OK
94	Q1524-01MSD	72-11930-343-COMPM	MSD	03/10/25 18:08		Kareem	OK
95	Q1524-01A	72-11930-343-COMPA	PS	03/10/25 18:12		Kareem	OK
96	Q1524-02	VNJ-241	SAM	03/10/25 18:16		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB134965

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Supervise By	kareem	Supervise On	3/11/2025 9:00:40 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84642
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84642
LCS Standard	
Chk Standard	MP84649,MP84650

97	PB167039BL	PB167039BL	MB	03/10/25 18:20		Kareem	OK
98	PB167039BS	PB167039BS	LCS	03/10/25 18:25		Kareem	OK
99	CCV08	CCV08	CCV	03/10/25 18:29		Kareem	OK
100	CCB08	CCB08	CCB	03/10/25 18:33		Kareem	OK
101	LR1	LR1	HIGH STD	03/10/25 18:37		Kareem	OK
102	LR2	LR2	HIGH STD	03/10/25 18:42		Kareem	OK
103	CCV09	CCV09	CCV	03/10/25 18:46		Kareem	OK
104	CCB09	CCB09	CCB	03/10/25 18:50		Kareem	OK

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166968

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 / T-2

TCLP Filter ID : 115525

Start Prep Date : 03/04/2025 **Time :** 17:00

End Prep Date : 03/05/2025 **Time :** 11:20

Combination Ratio : 20

ZHE Cleaning Batch : ~~N/A~~ 18

Initial Room Temperature: 23 °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	WP110802
HCL-TCLP,1N	N/A	WP110803
HNO3-TCLP,1N	N/A	WP110804
pH Strips	W3172.	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. Particle size reduction is mot required. Tumbler T-1 / T-2 checked,30 rpm. Q1489-16 IS USED FOR MS-MSD.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/05/25 12:40	JP / TCLP Room	SLG. AS TEXT
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB166968

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	Pres Po
PB166968TB	LEB968	12	N/A	2000	N/A	N/A	N/A	4.93	1.0	T-2
Q1478-13	IDW-SO-COMP-022825	01	100.02	2000	N/A	N/A	N/A	5.6	1.5	T-1
Q1480-08	TP-1	02	100.03	2000	N/A	N/A	N/A	5.8	1.0	T-1
Q1480-16	TP-2	03	100.04	2000	N/A	N/A	N/A	5.6	1.5	T-1
Q1480-24	TP-3	04	100.03	2000	N/A	N/A	N/A	5.5	1.0	T-1
Q1480-32	TP-4	05	100.02	2000	N/A	N/A	N/A	4.0	1.5	T-1
Q1481-02	WC-K1311	06	100.02	2000	N/A	N/A	N/A	5.6	1.0	T-1
Q1484-06	TR-OTR-COMP-01	07	100.03	2000	N/A	N/A	N/A	5.5	1.5	T-1
Q1489-04	TP-1	08	100.04	2000	N/A	N/A	N/A	4.0	1.0	T-1
Q1489-08	TP-2	09	100.02	2000	N/A	N/A	N/A	4.5	1.5	T-1
Q1489-12	TP-3	10	100.03	2000	N/A	N/A	N/A	4.5	1.0	T-1
Q1489-16	TP-4	11	100.02	2000	N/A	N/A	N/A	4.0	1.5	T-2

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
PB166968TB	LEB968	N/A	N/A	N/A	N/A	N/A	N/A
Q1478-13	IDW-SO-COMP-022825	N/A	N/A	N/A	N/A	100	N/A
Q1480-08	TP-1	N/A	N/A	N/A	N/A	100	N/A
Q1480-16	TP-2	N/A	N/A	N/A	N/A	100	N/A
Q1480-24	TP-3	N/A	N/A	N/A	N/A	100	N/A
Q1480-32	TP-4	N/A	N/A	N/A	N/A	100	N/A
Q1481-02	WC-K1311	N/A	N/A	N/A	N/A	100	N/A
Q1484-06	TR-OTR-COMP-01	N/A	N/A	N/A	N/A	100	N/A
Q1489-04	TP-1	N/A	N/A	N/A	N/A	100	N/A
Q1489-08	TP-2	N/A	N/A	N/A	N/A	100	N/A
Q1489-12	TP-3	N/A	N/A	N/A	N/A	100	N/A
Q1489-16	TP-4	N/A	N/A	N/A	N/A	100	N/A

Alliance TECHNICAL GROUP

TCLP Fluid Determination

PB166968

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
PB166968TB	LEB968	N/A	N/A	N/A	N/A	#1	4.93
Q1478-13	IDW-SO-COMP-022825	5.02	96.5	7.2	2.5	#1	4.93
Q1480-08	TP-1	5.01	96.5	8.0	3.0	#1	4.93
Q1480-16	TP-2	5.02	96.5	8.2	3.0	#1	4.93
Q1480-24	TP-3	5.03	96.5	7.0	2.5	#1	4.93
Q1480-32	TP-4	5.04	96.5	6.0	2.0	#1	4.93
Q1481-02	WC-K1311	5.02	96.5	7.2	2.5	#1	4.93
Q1484-06	TR-OTR-COMP-01	5.03	96.5	7.2	2.5	#1	4.93
Q1489-04	TP-1	5.02	96.5	6.2	2.0	#1	4.93
Q1489-08	TP-2	5.01	96.5	6.6	2.5	#1	4.93
Q1489-12	TP-3	5.02	96.5	6.6	2.0	#1	4.93
Q1489-16	TP-4	5.03	96.5	6.0	2.0	#1	4.93

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Prep Standard - Chemical Standard Summary

Order ID : Q1478

Test : TCLP ICP Metals,TCLP Mercury

Prepbatch ID : PB166990,PB167014,

Sequence ID/Qc Batch ID: LB134924,LB134965,LB134965,

Standard ID :
MP84563,MP84564,MP84565,MP84566,MP84636,MP84637,MP84638,MP84639,MP84640,MP84641,MP84642,MP84643,MP84644,MP84646,MP84649,MP84650,MP84720,MP84721,MP84759,MP84766,MP84768,MP84770,MP84776,MP84777,MP84778,MP84779,MP84780,MP84781,MP84782,MP84783,MP84784,MP84785,MP84786,MP84787,MP84788,MP84790,

Chemical ID :
M4371,M4465,M4884,M4916,M5062,M5192,M5218,M5288,M5296,M5395,M5429,M5467,M5472,M5496,M5497,M5532,M5658,M5747,M5748,M5751,M5789,M5792,M5798,M5799,M5800,M5801,M5811,M5814,M5815,M5816,M5817,M5820,M5875,M5882,M5884,M5959,M5962,M5970,M5978,M5985,M6003,M6011,M6021,M6023,M6028,M6030,M6032,M6041,M6077,M6126,M6127,M6128,M6144,M6145,M6146,M6150,M6151,M6152,M6155,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3965	2:1 H2SO4 : HNO3	MP84563	02/18/2025	06/03/2025	Mohan Bera	None	None	Janvi Patel 02/19/2025

FROM 1600.00000ml of M6041 + 800.00000ml of M6126 = Final Quantity: 3200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
65	POTASSIUM PERMANGANATE SOLUTION 5 %	MP84564	02/18/2025	08/18/2025	Mohan Bera	None	None	Janvi Patel 02/19/2025

FROM 100.00000gram of M4916 + 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
66	POTASSIUM PERSULFATE SOLUTION 5 %	MP84565	02/18/2025	08/06/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Janvi Patel 02/19/2025

FROM 100.00000ml of M4465 + 2000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
67	SODIUM CHLORIDE - HYDROXYL- CHLORIDE SOLUTION	MP84566	02/18/2025	06/25/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Janvi Patel 02/19/2025

FROM 2000.00000ml of W3112 + 240.00000gram of M4371 + 240.00000gram of M5884 = 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
902	ICP AES CAL BLK (SO/ICB/CCB)	MP84636	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 125.00000ml of M5792 + 2350.00000ml of W3112 + 25.00000ml of M5789 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP84637	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 5.00000ml of M5395 + 5.00000ml of M5467 + 5.00000ml of M5472 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M6077 + 5.00000ml of M6146 + 455.00000ml of MP84636 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP84638	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 50.00000ml of MP84636 + 50.00000ml of MP84637 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP84639	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 25.00000ml of MP84637 + 75.00000ml of MP84636 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP84640	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 16.00000ml of MP84637 + 184.00000ml of MP84636 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP84641	02/25/2025	03/09/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 0.00200ml of M5816 + 0.00400ml of M5978 + 0.03000ml of M6028 + 0.04000ml of M4884 + 0.05000ml of M5496 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.06000ml of M5747 + 0.10000ml of M5472 + 0.10000ml of M5751 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.20000ml of M6145 + 0.25000ml of M5467 + 0.25000ml of M6146 + 0.50000ml of M5798 + 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 + 77.68000ml of MP84636 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP84642	02/25/2025	03/09/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 2.00000ml of MP84641 + 98.00000ml of MP84636 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
912	ICP AES ICV SOLN	MP84643	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

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 M6150 + 89.77500ml of MP84636 = 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
904	ICP AES ICSA SOLN	MP84644	02/24/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 25.00000ml of M6152 + 225.00000ml of MP84636 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP84646	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 50.00000ml of MP84636 + 50.00000ml of MP84637 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP84649	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M5789 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
513	RINSE SOLN	MP84650	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 200.00000ml of M5789 + 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
170	1:1HCL	MP84720	03/03/2025	04/04/2025	Sagar Kanani	None	METALS_PIPETTE_1 (ICPA)	Sarabjit Jaswal 03/03/2025

FROM 1000.00000ml of M6151 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP84721	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5296 + 0.10000ml of M5472 + 0.10000ml of M5970 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.50000ml of MP84636 = 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.	MP84759	03/05/2025	03/06/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 03/05/2025

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
1346	Hg ICV SOLUTION	MP84766	03/05/2025	03/06/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 03/05/2025

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
1358	CCV (Hg 5.0 PPB SOLUTION)	MP84768	03/05/2025	03/06/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 03/05/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6126 + 10.00000ml of MP84759 = 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)	MP84770	03/05/2025	03/06/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 03/05/2025

FROM 2.50000ml of M6126 + 247.30000ml of W3112 + 0.20000ml of MP84759 = 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
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP84776	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

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	MP84777	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

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	MP84778	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

FROM 2.50000ml of M6126 + 247.30000ml of W3112 + 0.20000ml of MP84776 = 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	MP84779	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

FROM 2.50000ml of M6126 + 245.00000ml of W3112 + 2.50000ml of MP84776 = 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	MP84780	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

FROM 2.50000ml of M6126 + 242.50000ml of W3112 + 5.00000ml of MP84776 = 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	MP84781	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

FROM 2.50000ml of M6126 + 240.00000ml of W3112 + 7.50000ml of MP84776 = 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	MP84782	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

FROM 2.50000ml of M6126 + 237.50000ml of W3112 + 10.00000ml of MP84776 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP84783	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

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)	MP84784	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

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)	MP84785	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

FROM 485.00000ml of W3112 + 5.00000ml of M6126 + 10.00000ml of MP84776 = 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)	MP84786	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

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)	MP84787	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Kareem Khairalla 03/10/2025

FROM 2.50000ml of M6126 + 247.30000ml of W3112 + 0.20000ml of MP84776 = 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)	MP84788	03/06/2025	03/07/2025	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Kareem Khairalla 03/10/2025

FROM 2.50000ml of M6126 + 240.50000ml of W3112 + 7.00000ml of MP84776 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP84790	03/06/2025	03/07/2025	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Kareem Khairalla 03/10/2025

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6151 = 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 / jaswal	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 #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

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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	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 #
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 #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

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	01/30/2024 / bin	09/19/2022 / bin	M5395

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

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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

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	03/15/2025	01/02/2025 / jaswal	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.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	071723	07/17/2026	10/01/2024 / Jaswal	08/25/2023 / jaswal	M5751

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	23G1262003	07/30/2025	02/08/2024 / Al-Terek	06/26/2023 / Al-Terek	M5789

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)	22D1462006	08/05/2025	02/05/2024 / Al-Terek	02/24/2022 / Al-Terek	M5792

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

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

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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.	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

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

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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.	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

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	08/26/2025	02/26/2025 / Eman	05/14/2024 / Jaswal	M6003

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

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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.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

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

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

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

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

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

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	112124	11/21/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6127

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

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

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

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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.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	01/31/2025 / kareem	10/18/2024 / kareem	M6146

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-1014	07/07/2025	02/07/2025 / JANVI	04/20/2021 / JANVI	M6150

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	08/24/2025	02/24/2025 / kareem	04/20/2021 / kareem	M6152

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	06/20/2025	02/10/2025 / kareem	02/09/2024 / kareem	M6155

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	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

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)

Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Absolute Standards, Inc.
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www.absolutestandards.com

Certified Reference Material CRM

M6032

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AR-1539 Certificate Number
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R 8/5/24

CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**	
Lot Number:	**010924**	**Solvent:**	24002546	Nitric Acid
Description:	**Barium (Ba)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	010927			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Giovanni Esposito

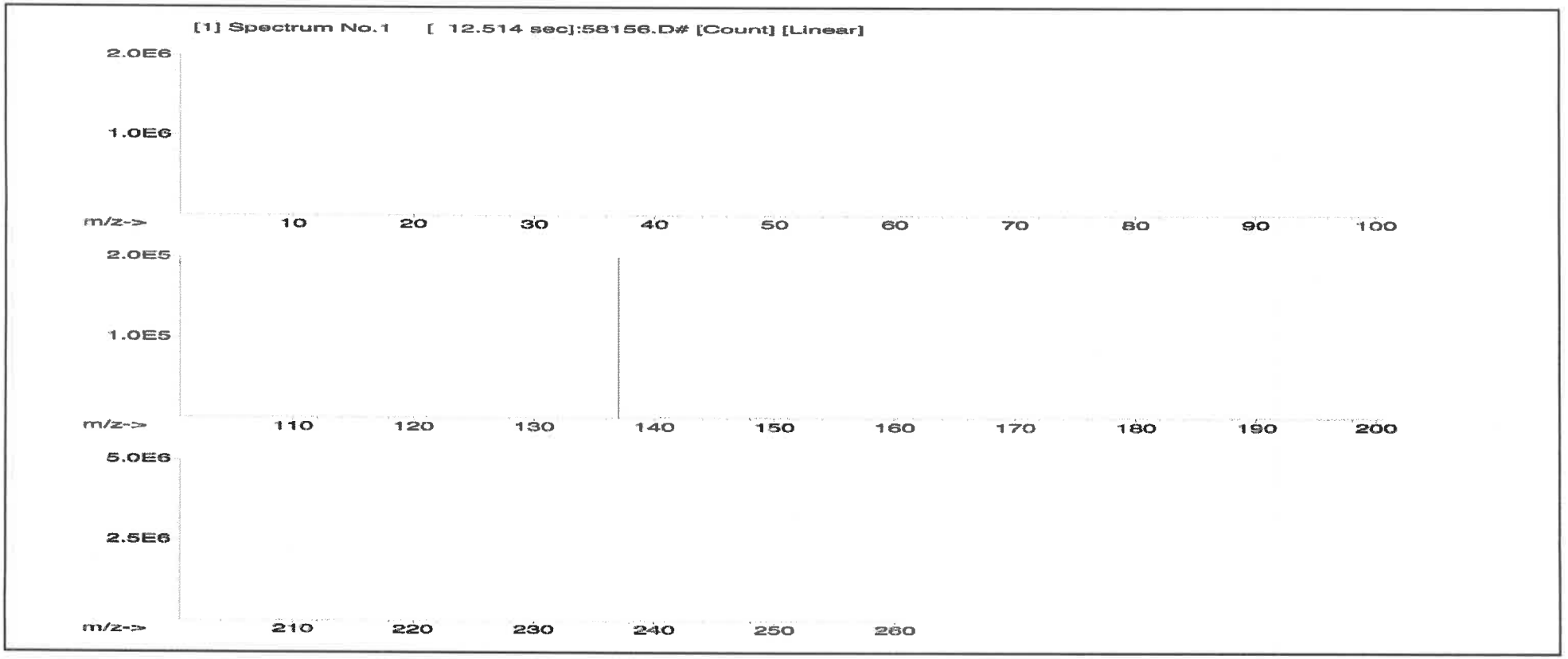
Formulated By:	Giovanni Esposito	010924

Pedro Rentas

Reviewed By:	Pedro L. Rentas	010924

346 of 480

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



Q1478-METALS

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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M6028

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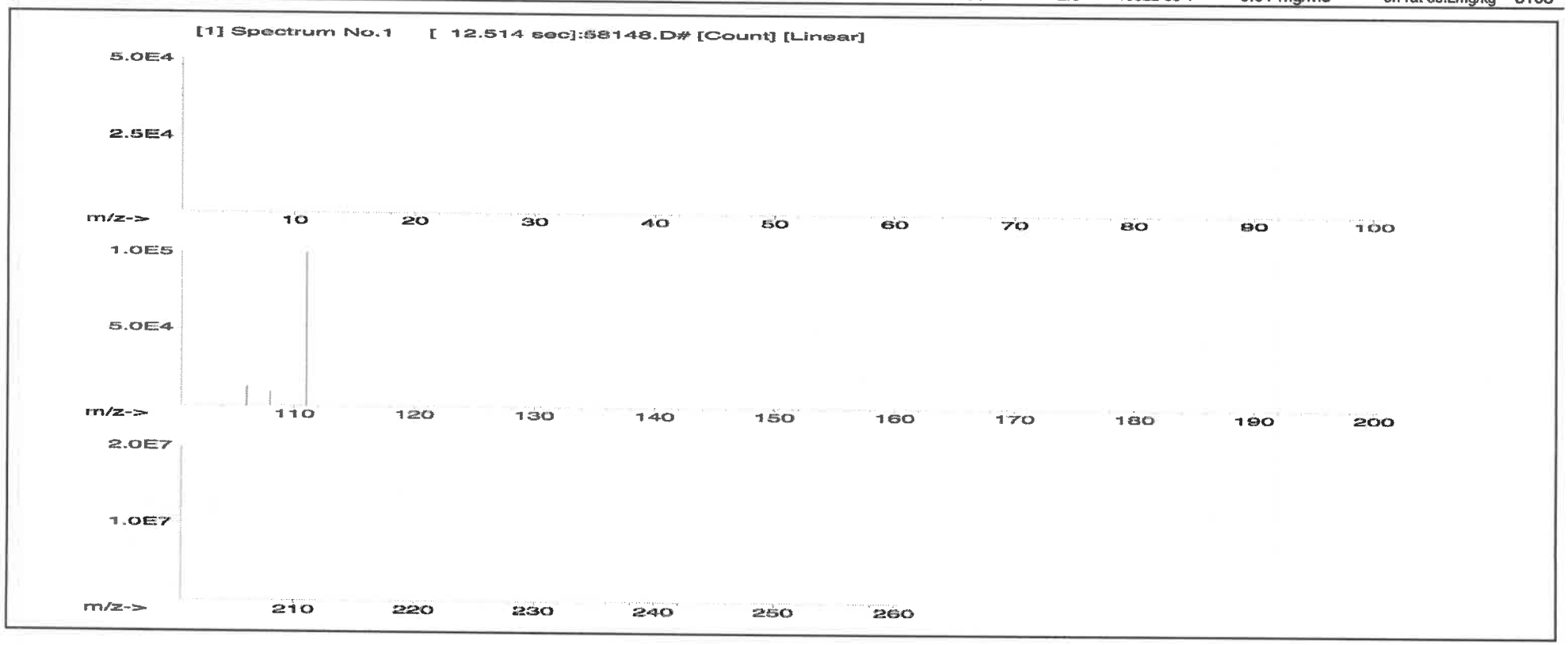
CERTIFIED WEIGHT REPORT:

Part Number:	**57048**		**Lot #**		
Lot Number:	**070124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Cadmium (Cd)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	070127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	070124
Reviewed By:	Pedro L. Rentas	070124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	T	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	S2-MEB711673
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 ± 6 µg/mL**	**Molybdenum, Mo**	**1 000 ± 6 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 6 µg/mL**
Titanium, Ti	**1 000 ± 7 µg/mL**		

Density: 1.030 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



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:	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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

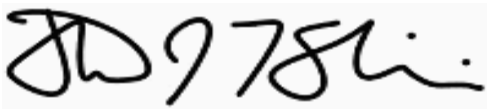
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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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:	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

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 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

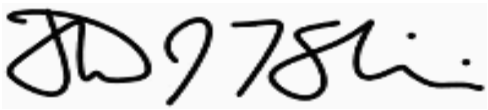
- Sealed TCT Bag Open Date: _____

- 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



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R : 01/03/24. M5810, M5811

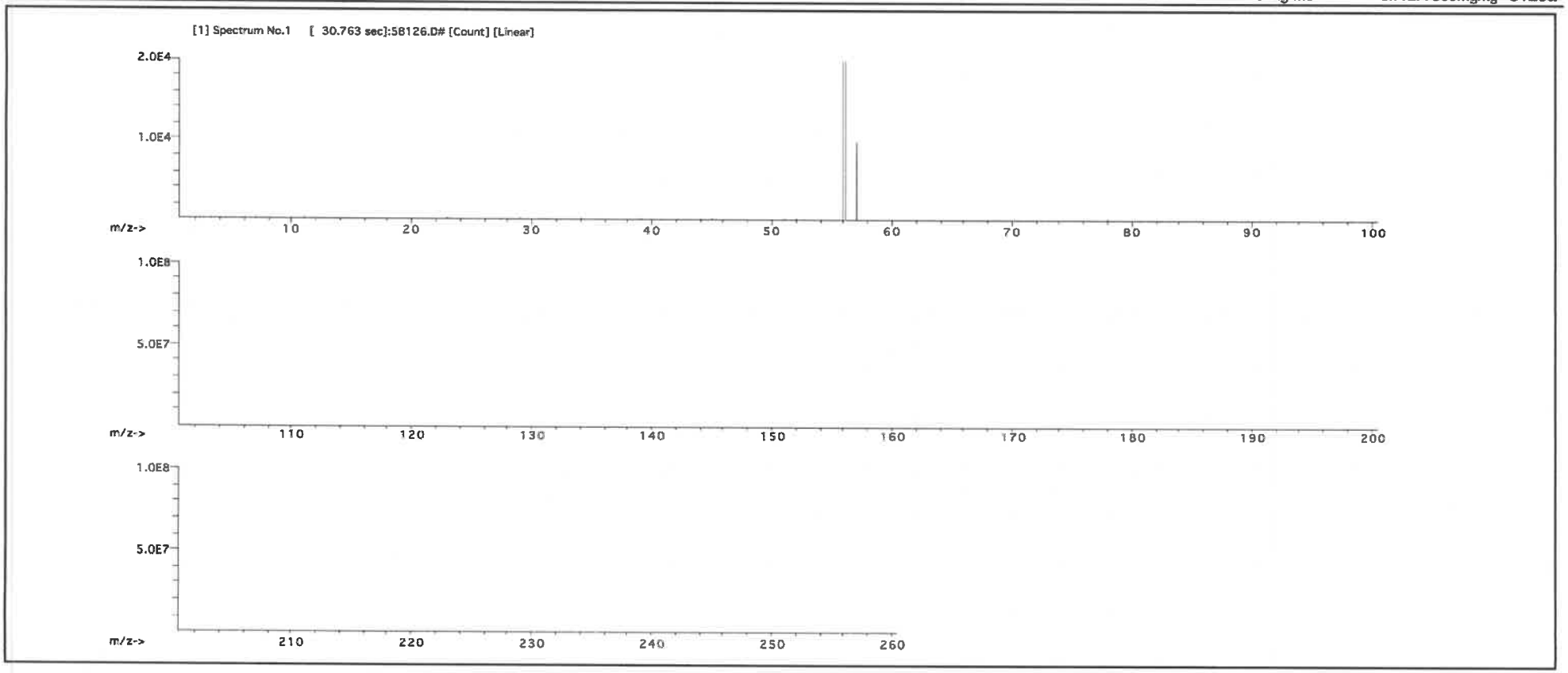
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**58126**		**Lot #**	
Lot Number:	**051523**	**Solvent:**	21110221	Nitric Acid
Description:	**Iron (Fe)**	5.0%	250.0 (mL)	Nitric Acid
Expiration Date:	051526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**10000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	5000.1	0.12	Flask Uncertainty	

Giovanni Esposito		
Formulated By:	Giovanni Esposito	051523
Pedro Rentas		
Reviewed By:	Pedro L. Rentas	051523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES

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Certificate of Analysis

RD:05/14/2024

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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:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

Value / Analyte(s):	1 000 µg/mL ea: Potassium,	
	600 µg/mL ea: Phosphorus,	
	300 µg/mL ea: Sodium,	Iron,
	200 µg/mL ea: Magnesium, Cerium, Thallium,	Aluminum, Selenium,
	100 µg/mL ea: Lead,	Calcium,
	80 µg/mL ea: Arsenic,	
	70 µg/mL ea: Mercury,	
	50 µg/mL ea: Nickel,	
	40 µg/mL ea: Chromium,	
	30 µg/mL ea: Copper, Vanadium,	Boron,
	20 µg/mL ea: Zinc, Barium, Cadmium, Manganese,	Strontium, Beryllium, Cobalt, Lithium,
	7.5 µg/mL ea: Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 30, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



INORGANIC VENTURES

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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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 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

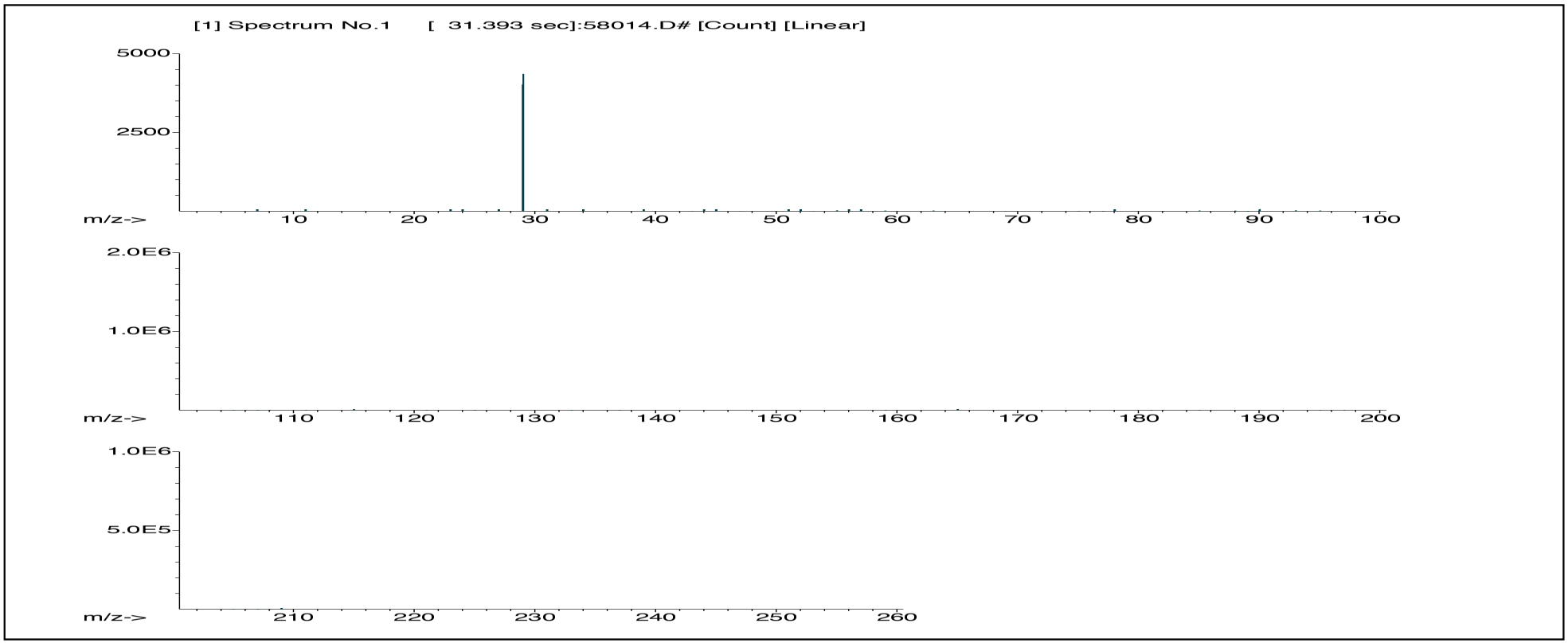
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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



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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 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 (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/4}$

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 HNO3. 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% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); 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

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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



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
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CERTIFIED WEIGHT REPORT:

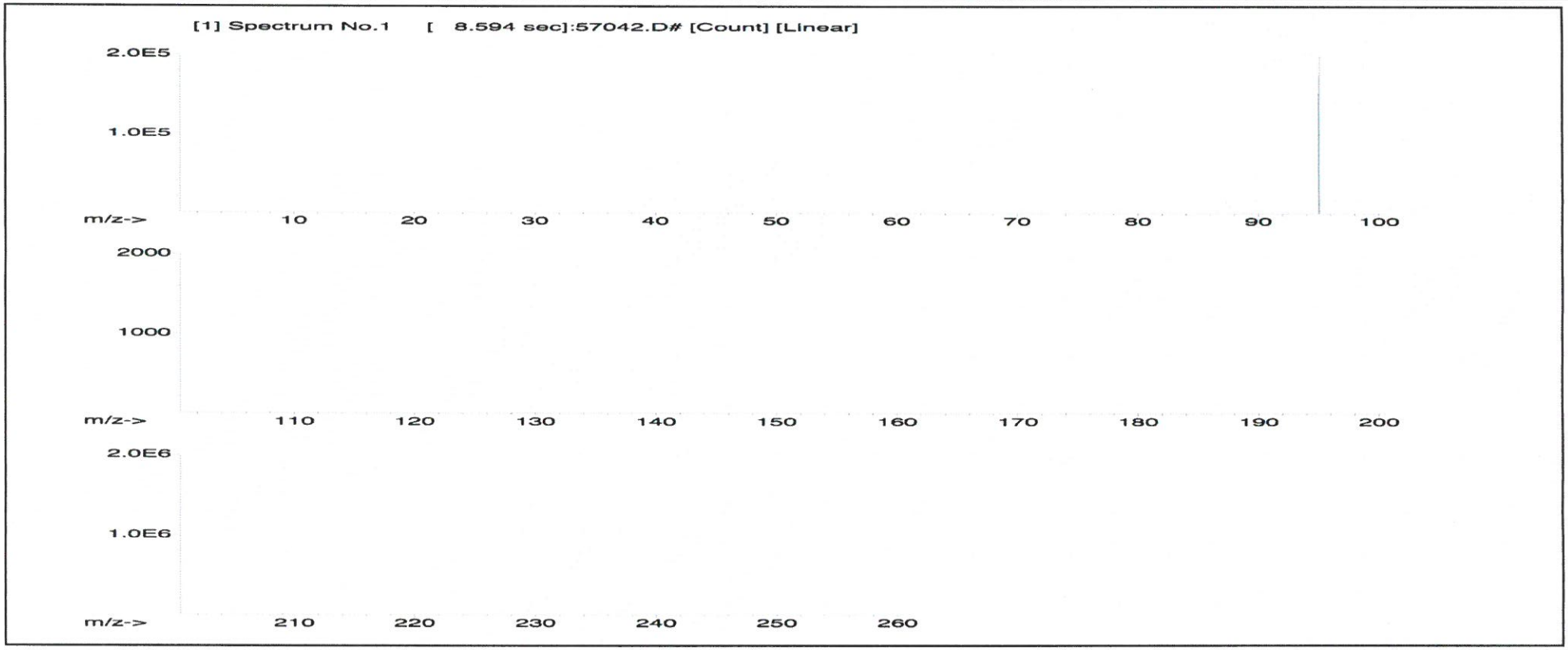
Part Number: 57042
Lot Number: 051722
Description: Molybdenum (Mo)
Expiration Date: 051725
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 3000.41

Lot #	Solvent:		
MKBQ8597V	Ammonium hydroxide	0.5%	15.0 (mL)

5E-05 Balance Uncertainty
0.058 Flask Uncertainty
Ammonium hydroxide

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



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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	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™
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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	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

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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



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www.absolutestandards.com

Certified Reference Material CRM

M5288 R: 07/21/2022

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

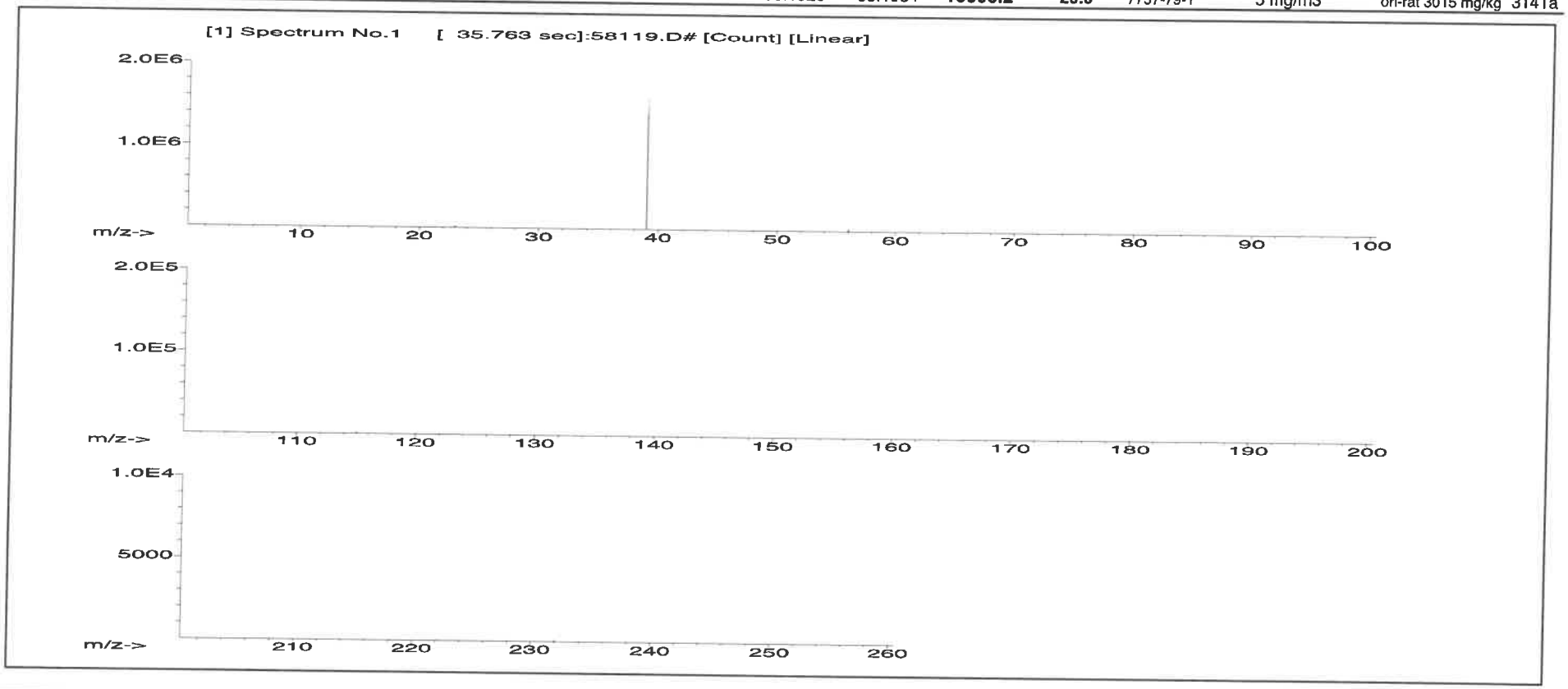
Expiration Date: 071125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

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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Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<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).

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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)

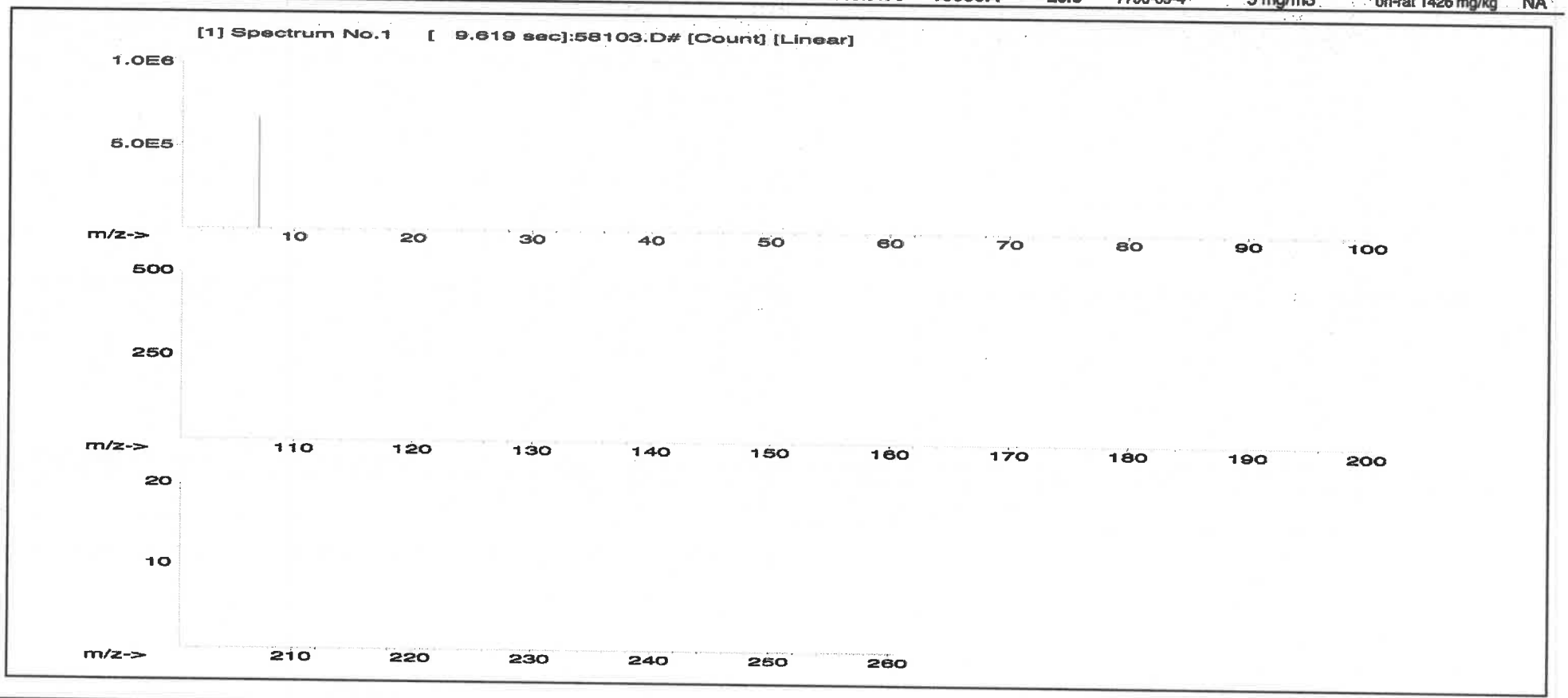
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	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



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.
* 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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M5467 R: 03/01/23 (LA)

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CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

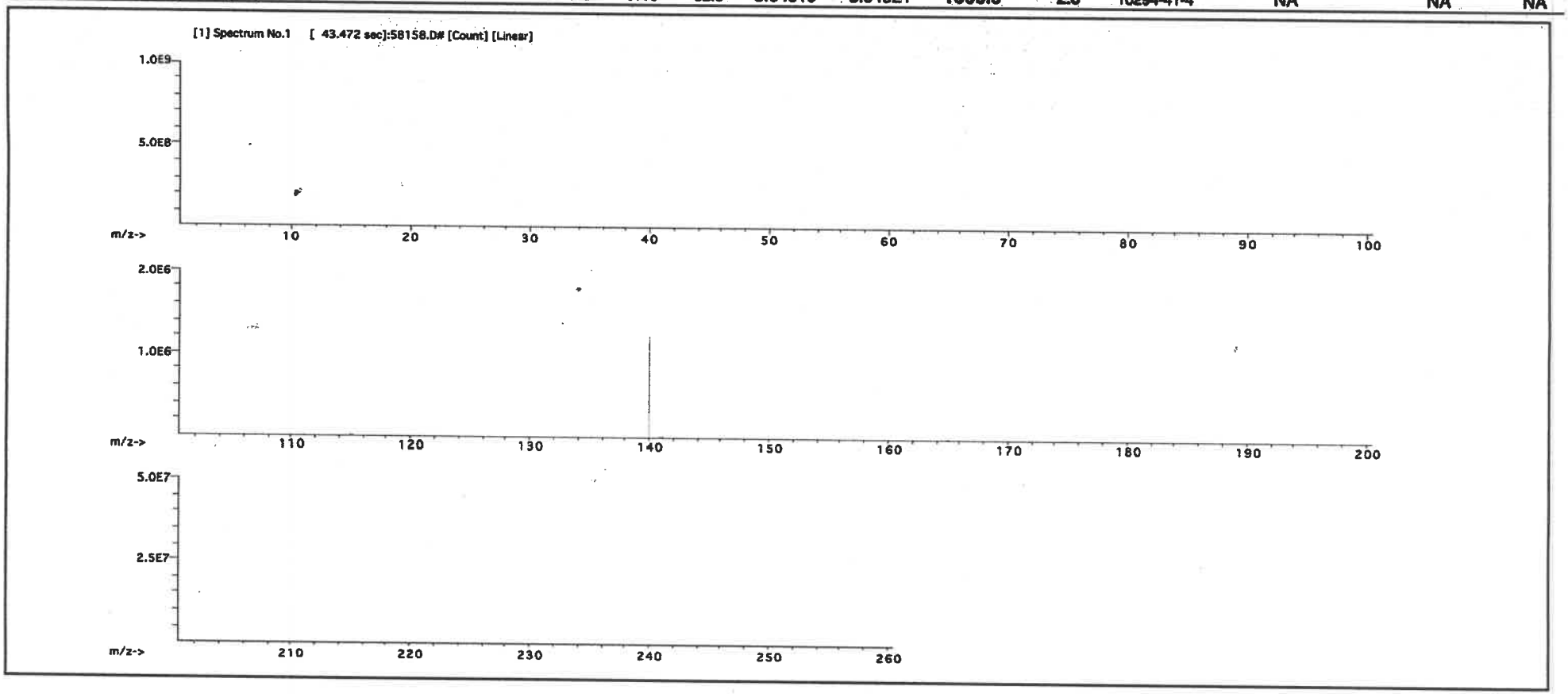
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	1000.0	2.0	10294-41-4	NA	NA	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* 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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M5496 R 7/20/23

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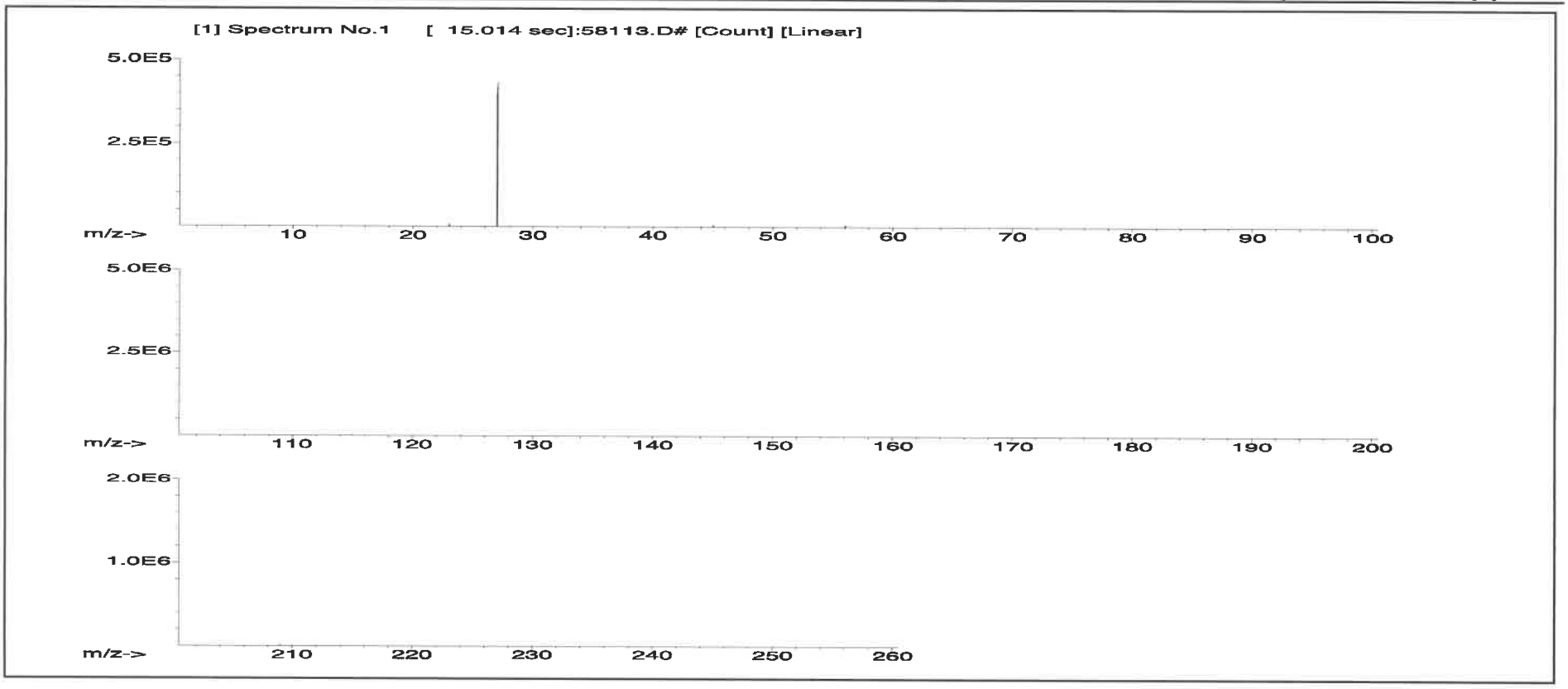
CERTIFIED WEIGHT REPORT:

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
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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Certified Reference Material CRM

M5497 - M5498 R: 03/17/23 (BP)

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

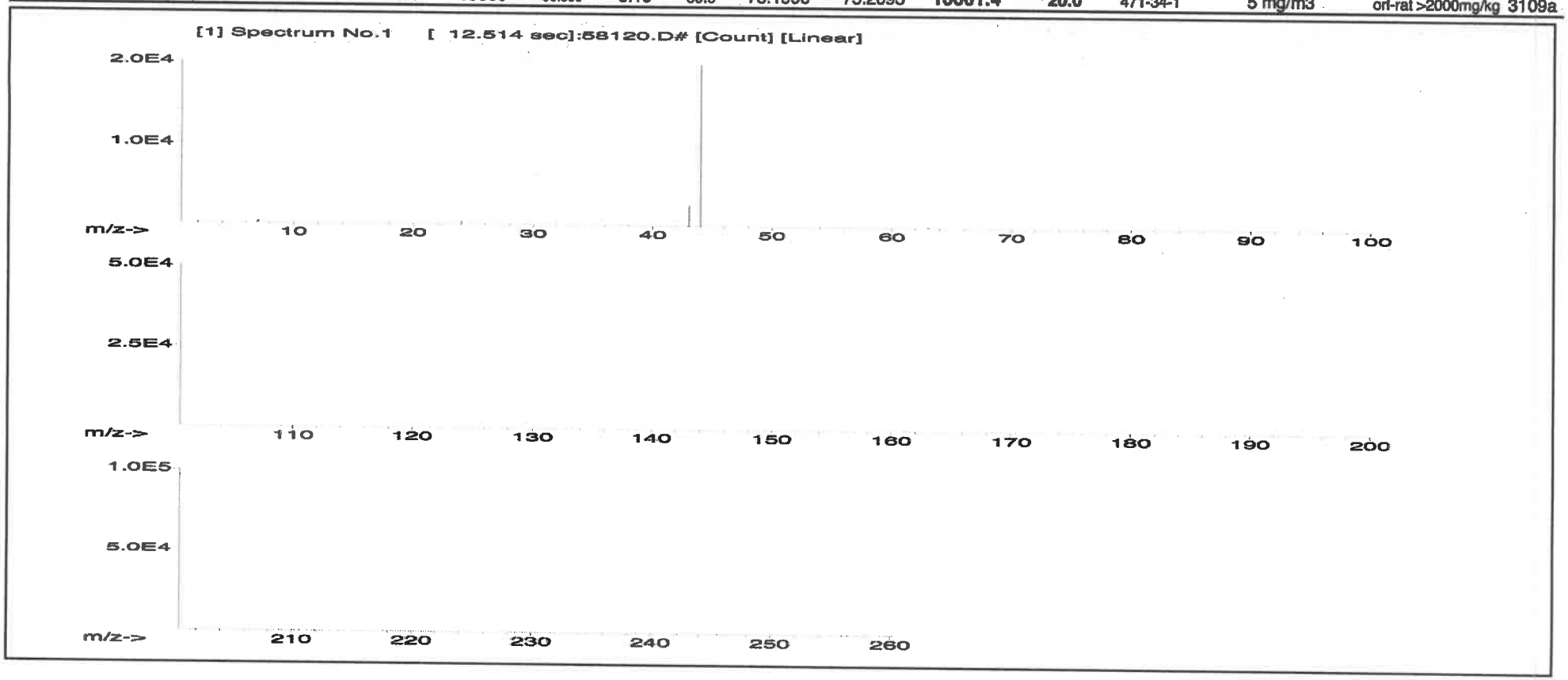
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	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
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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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

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M5658 R ! 8/25/23

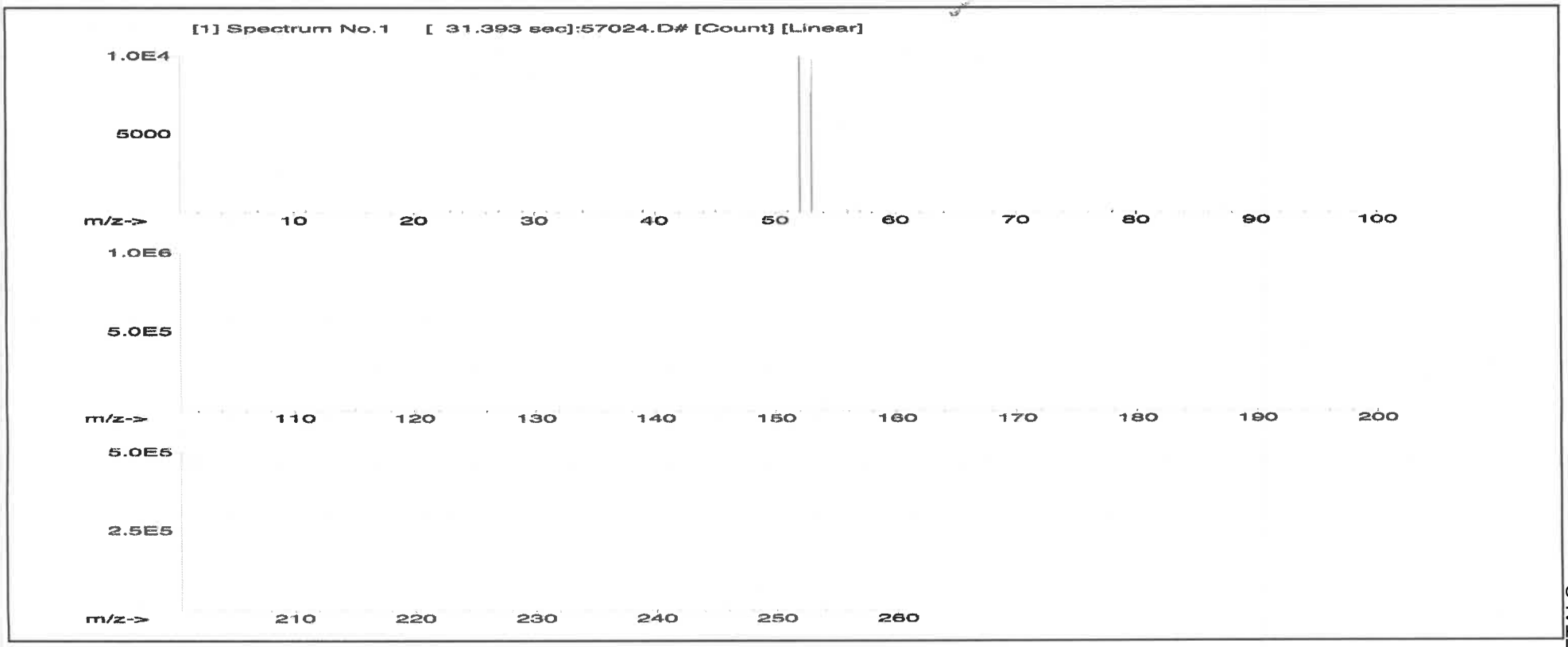
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https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Rentas	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



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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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* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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R: 12/20/23 M5747

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

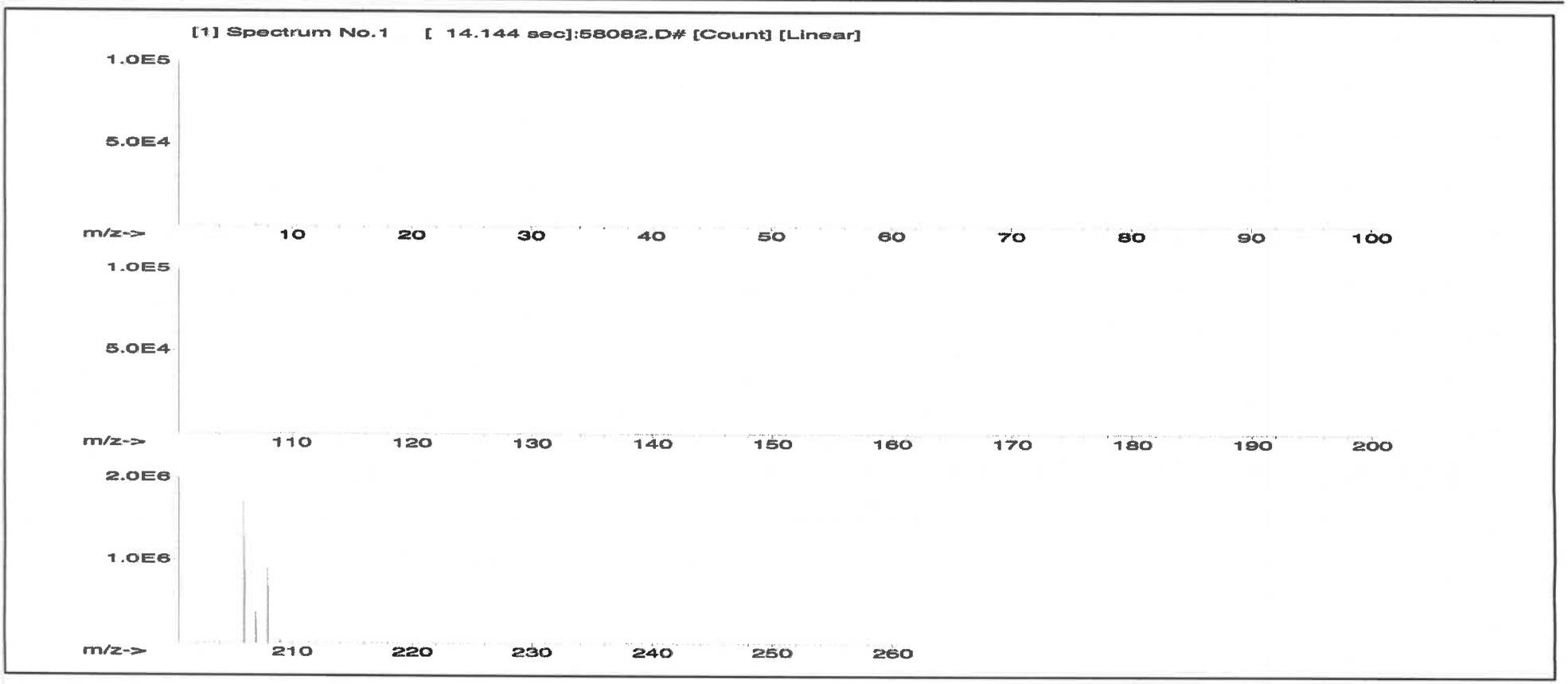
Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.41 5E-05 Balance Uncertainty 0.06 Flask Uncertainty

	Lot #	
Solvent:	24002546	Nitric Acid
2%	60.0 (mL)	Nitric Acid

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 12/20/23 M5748

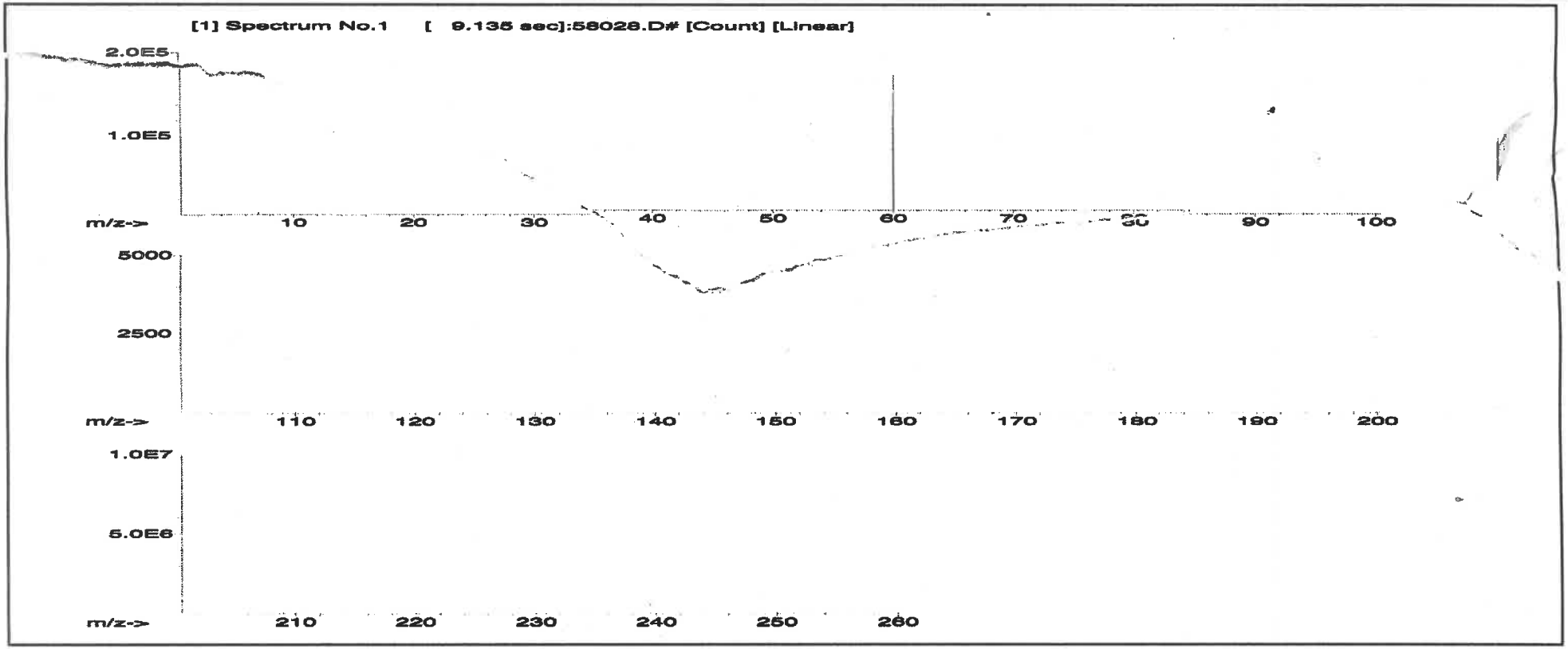
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57028**	24002546	Nitric Acid	
Lot Number:	**091223**			
Description:	**Nickel (Ni)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	091226			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091223
Reviewed By:	Pedro L. Rentas	091223

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.1000	200.0	0.084	1000	10000.4	**1000.0**	2.2	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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R: 8/25/23 M5751

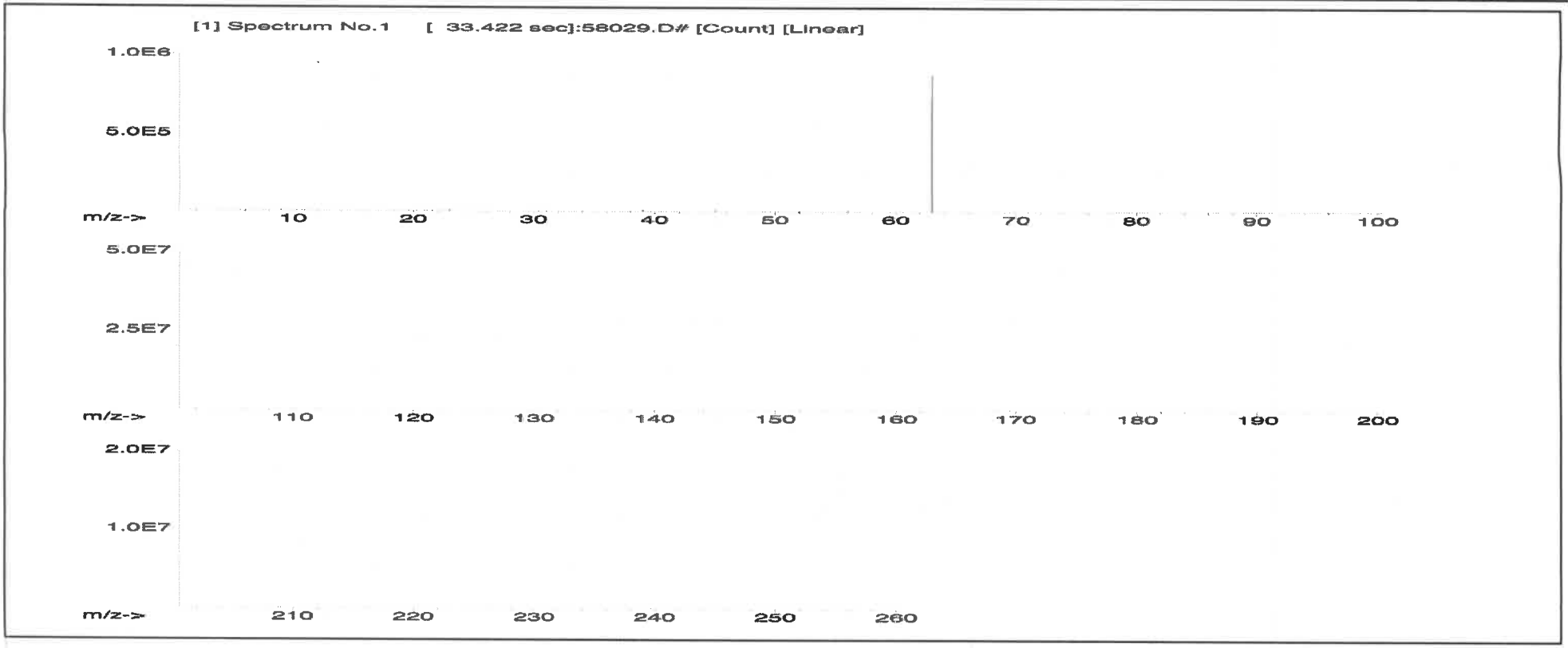
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	58029	21110221	Nitric Acid	
Lot Number:	071723			
Description:	Copper (Cu)	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	071726			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	1000			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	071723
Reviewed By:	Pedro L. Rentas	071723

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	022723	0.1000	200.0	0.084	1000	10000.5	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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R: 02/09/24 M5798

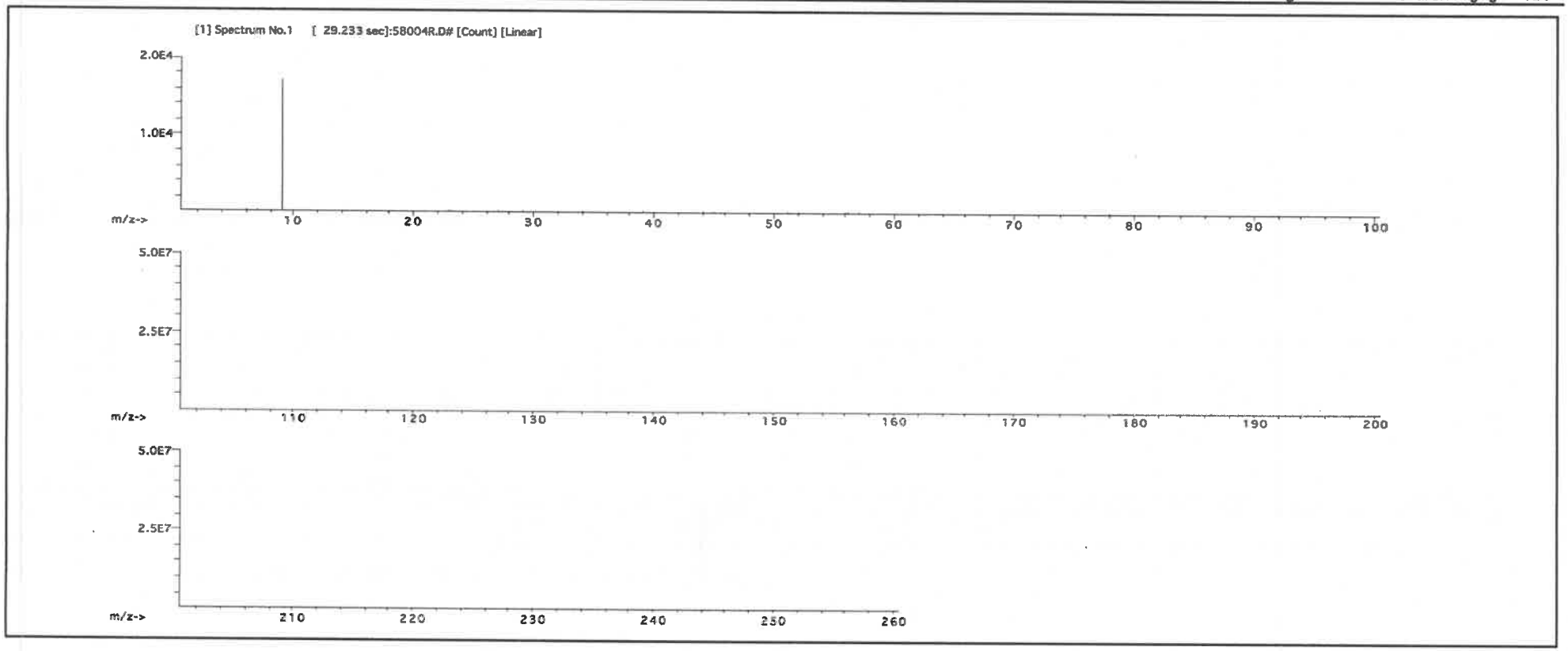
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CERTIFIED WEIGHT REPORT:

		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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
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R1.02/09/24 IV15799

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

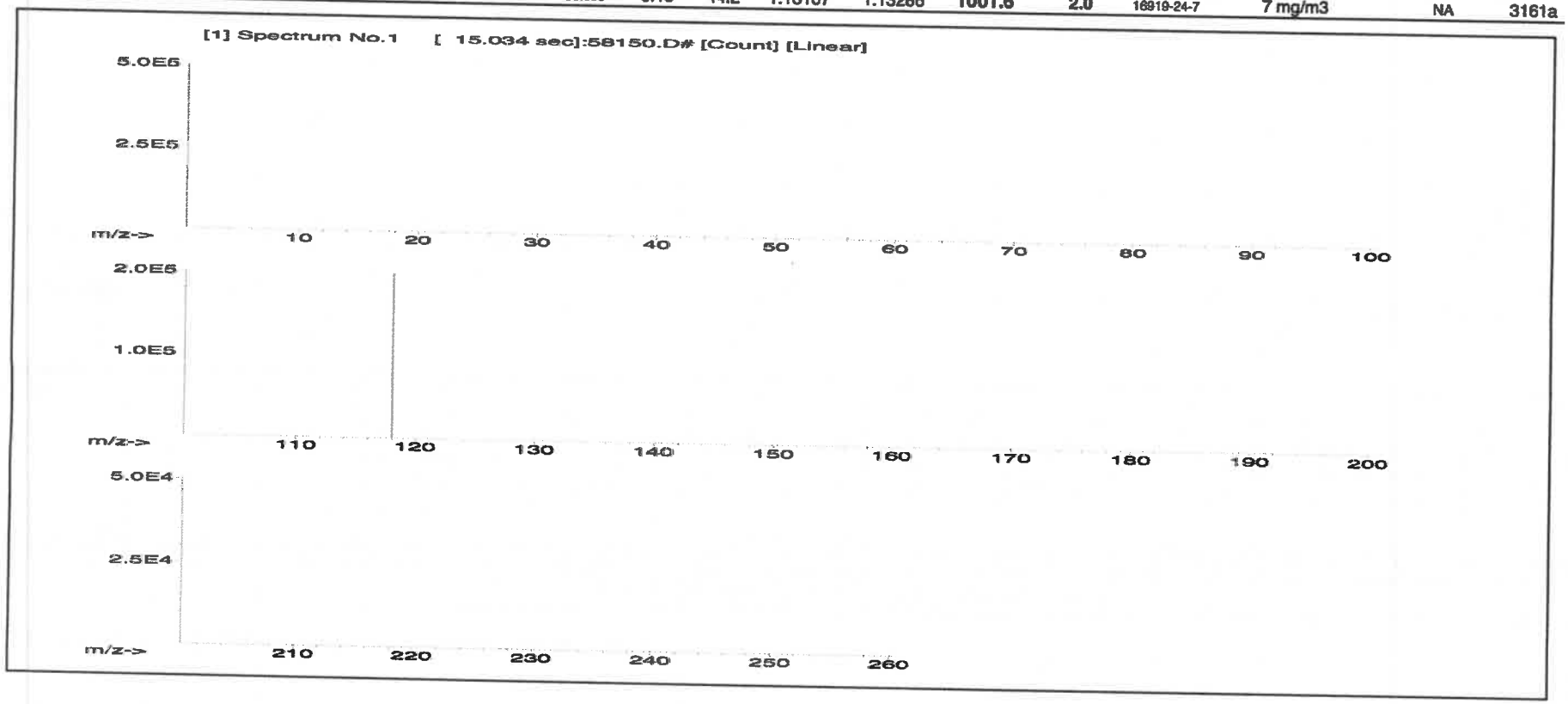
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	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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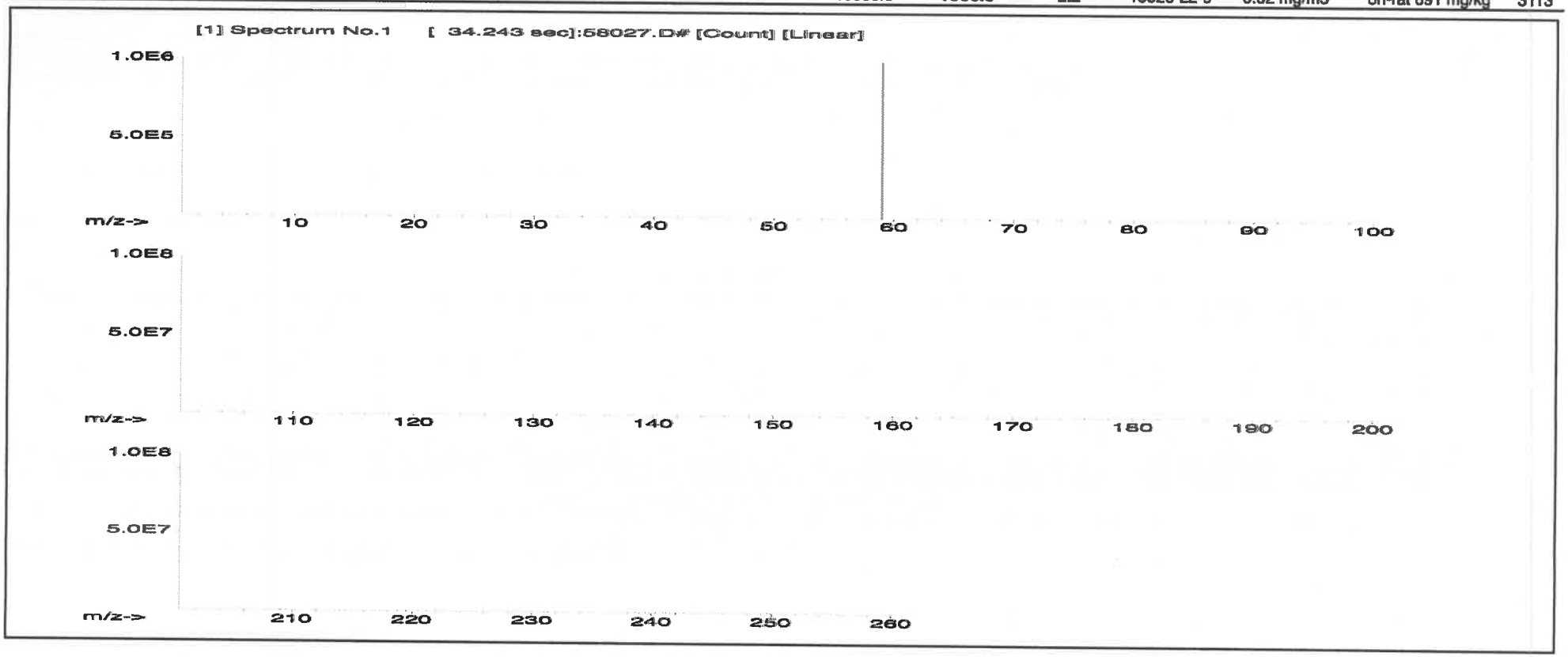
CERTIFIED WEIGHT REPORT:

		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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R: 02/09/24 M5801 BH

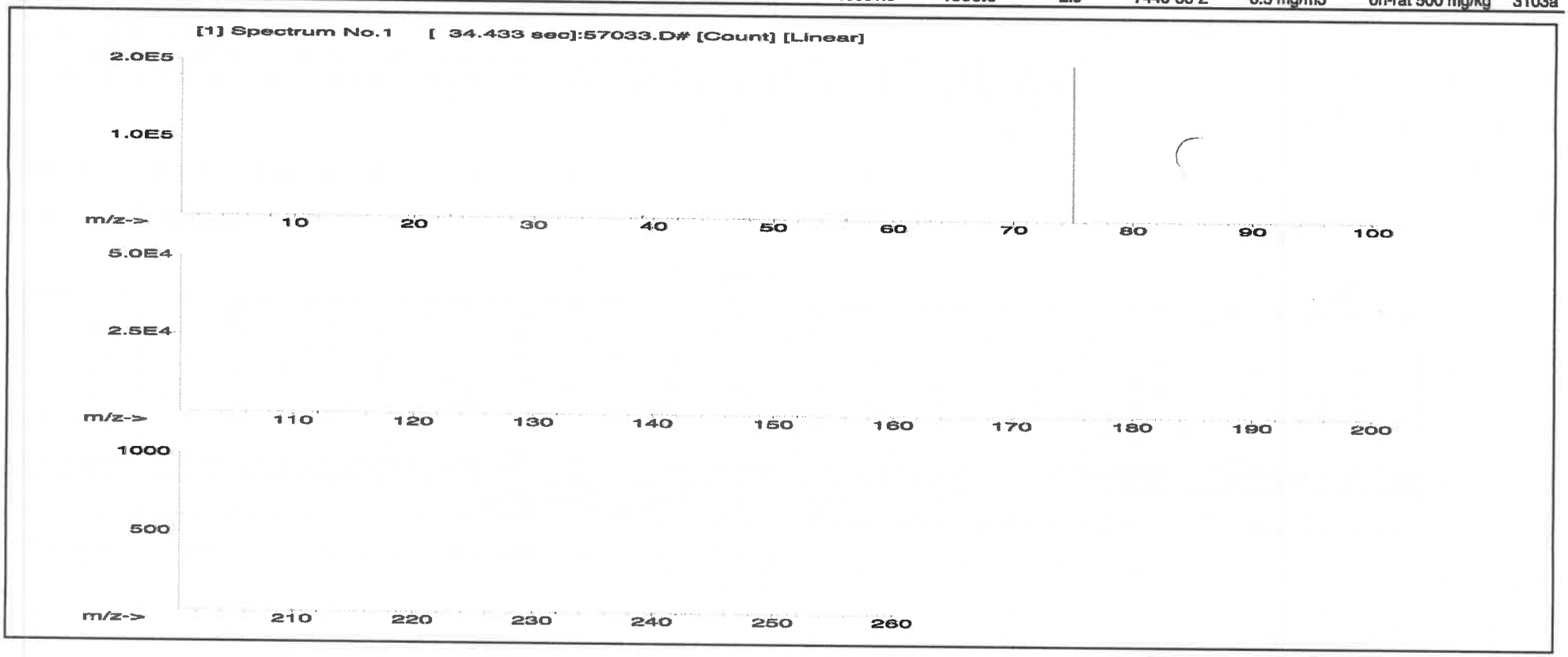
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CERTIFIED **WEIGHT** REPORT:

		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.

* 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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A: 02/09/24 M.5814

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CERTIFIED WEIGHT REPORT:

Part Number: 57005
Lot Number: 071123
Description: Boron (B)

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 1999.48 0.058 Flask Uncertainty

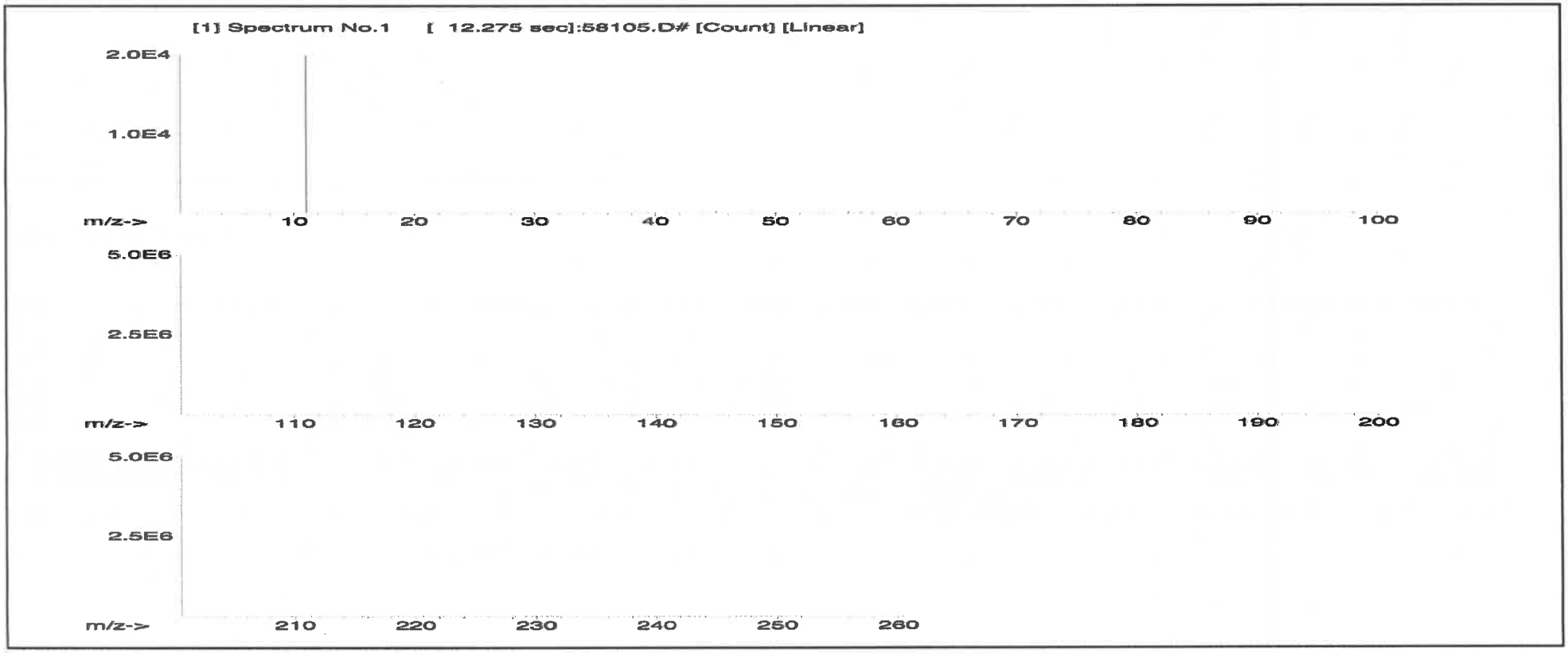
	Lot #			
Solvent:	MKBQ8597V	Ammonium hydroxide		
	2.0%	40.0 (mL)	Ammonium hydroxide	

5E-05 Balance Uncertainty

Formulated By: Benson Chan 071123

Reviewed By: Pedro L. Rentas 071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R1 02/09/24. M58165

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CERTIFIED WEIGHT REPORT:

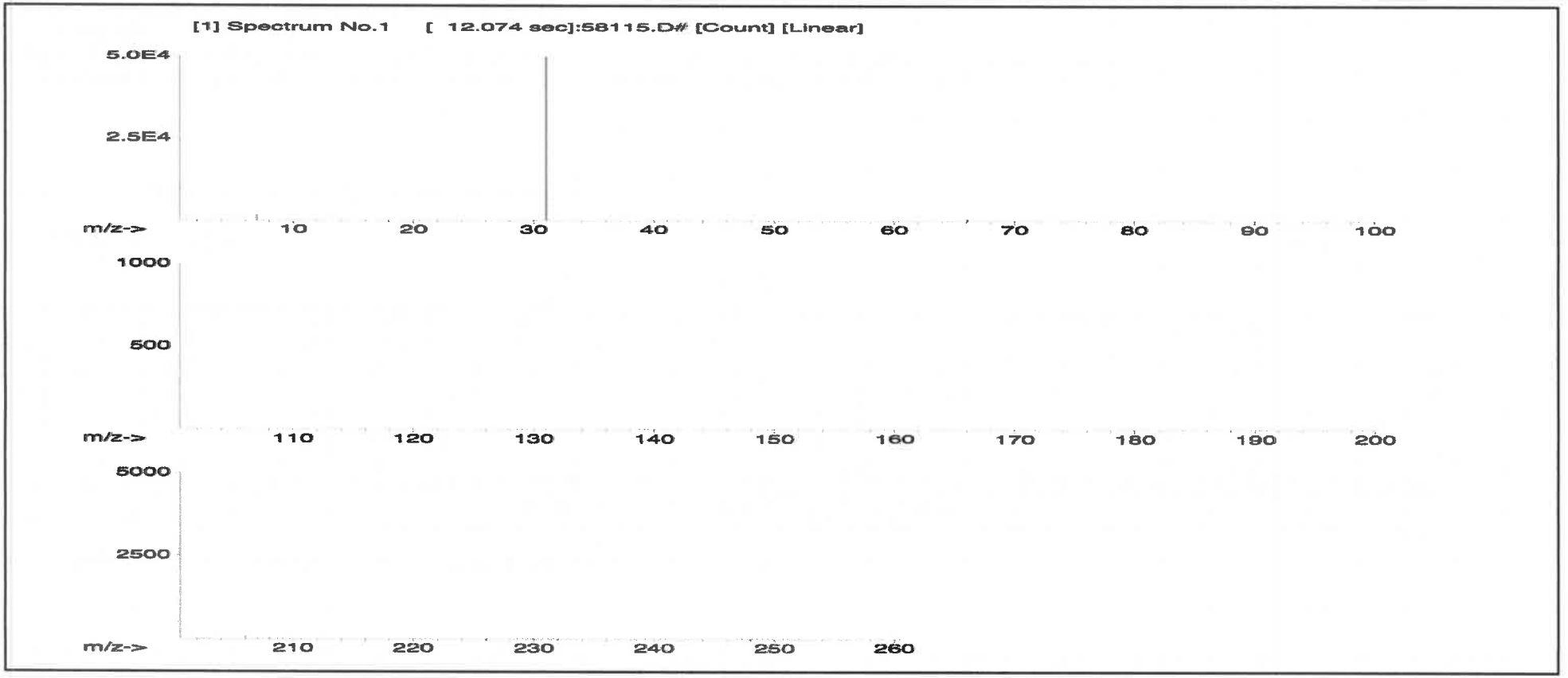
Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

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)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 02/09/24 M5816

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CERTIFIED WEIGHT REPORT:

Part Number: 57016
Lot Number: 122923
Description: Sulfur (S)

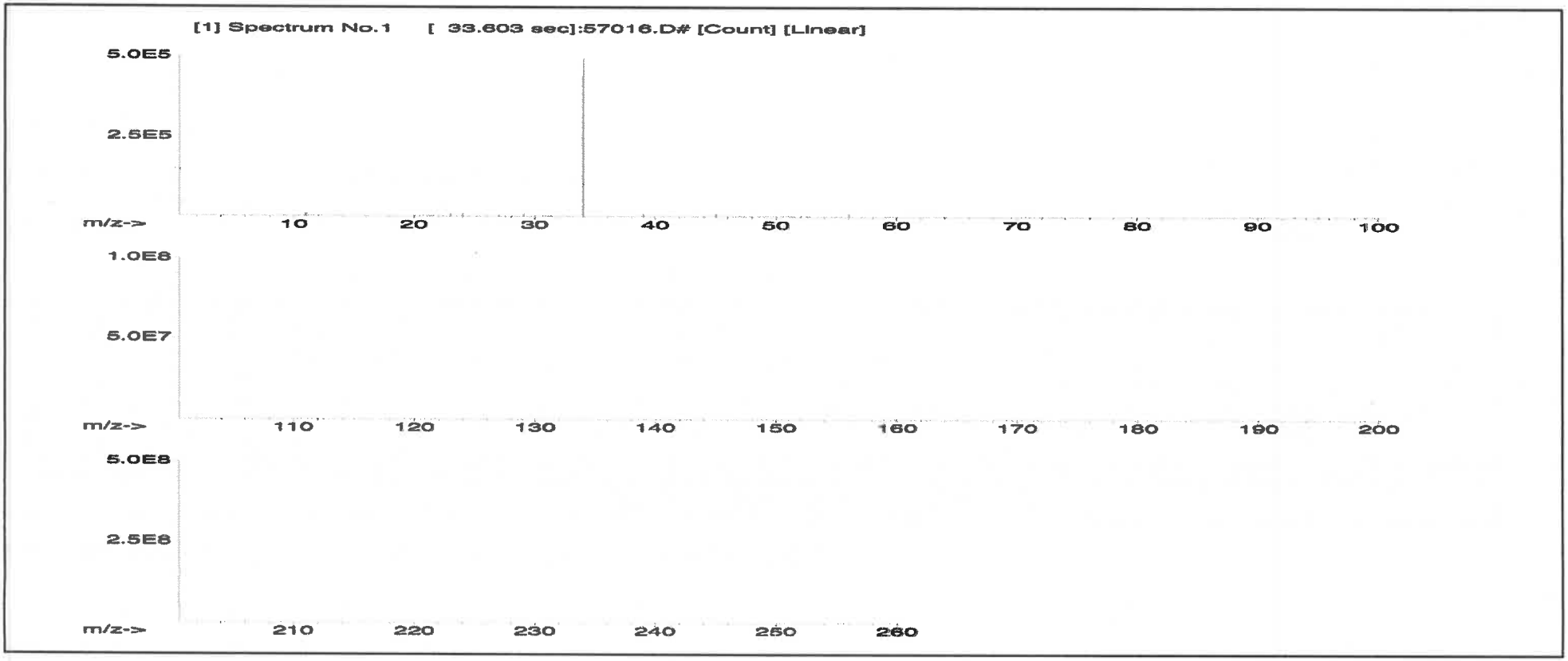
Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 4000.0

Lot #		
Solvent:	122923	ASTM Type 1 Water
	5E-05	Balance Uncertainty
	0.06	Flask Uncertainty

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 02/09/24 M5817

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CERTIFIED WEIGHT REPORT:

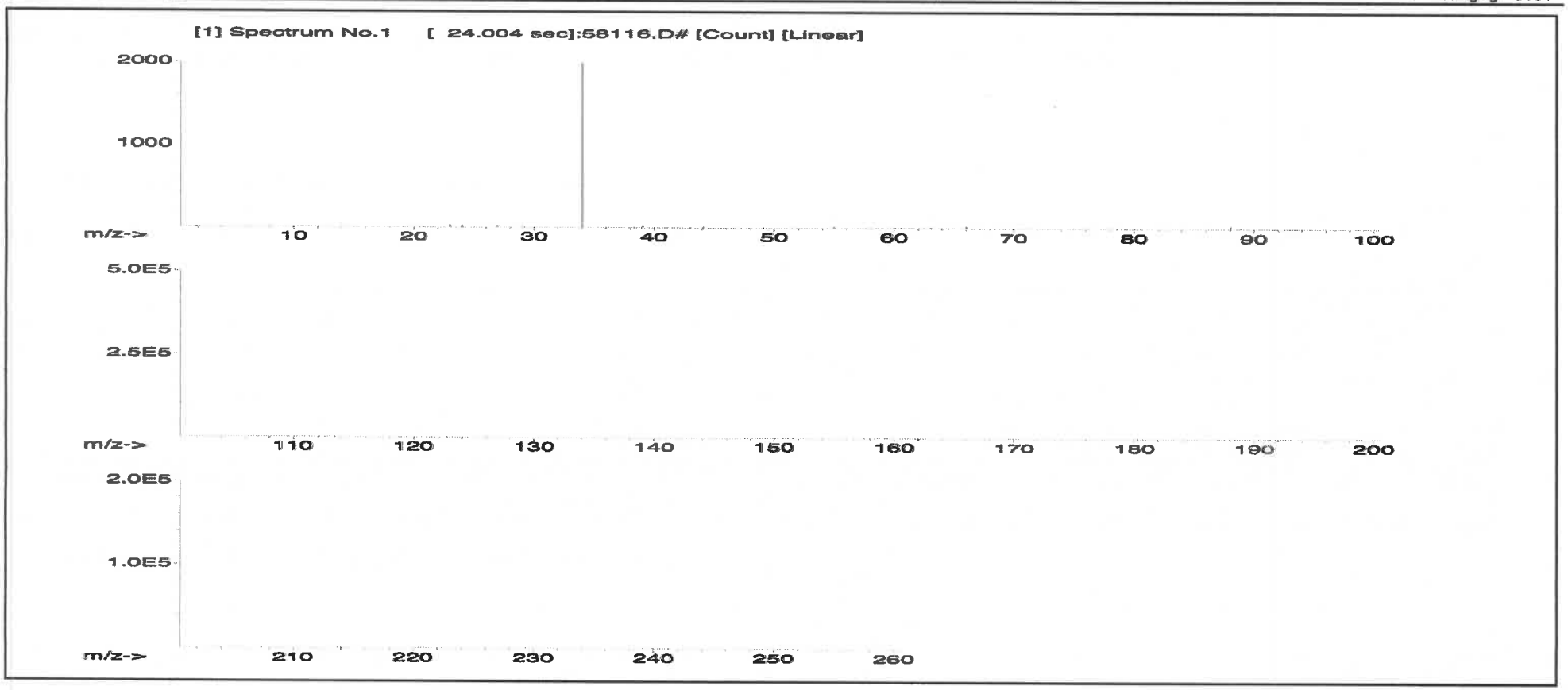
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

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	ori-rat 4250mg/kg	3181



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 02/09/24 M5820

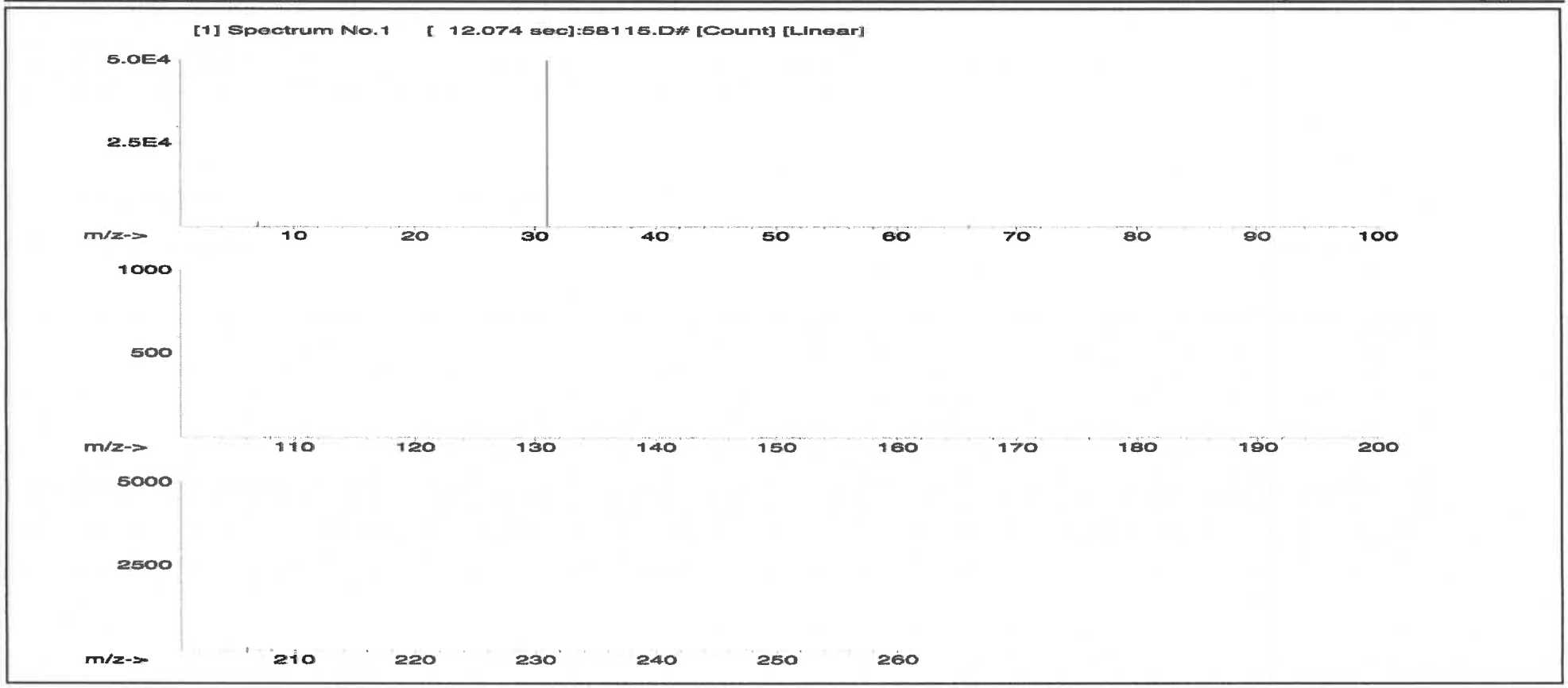
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CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Lot #**		
Lot Number:	**091123**	**Solvent:**	24002546	Nitric Acid	
Description:	**Phosphorous (P)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	091126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091123
Reviewed By:	Pedro L. Rentas	091123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/k	3186



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

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

INORGANIC VENTURES
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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.

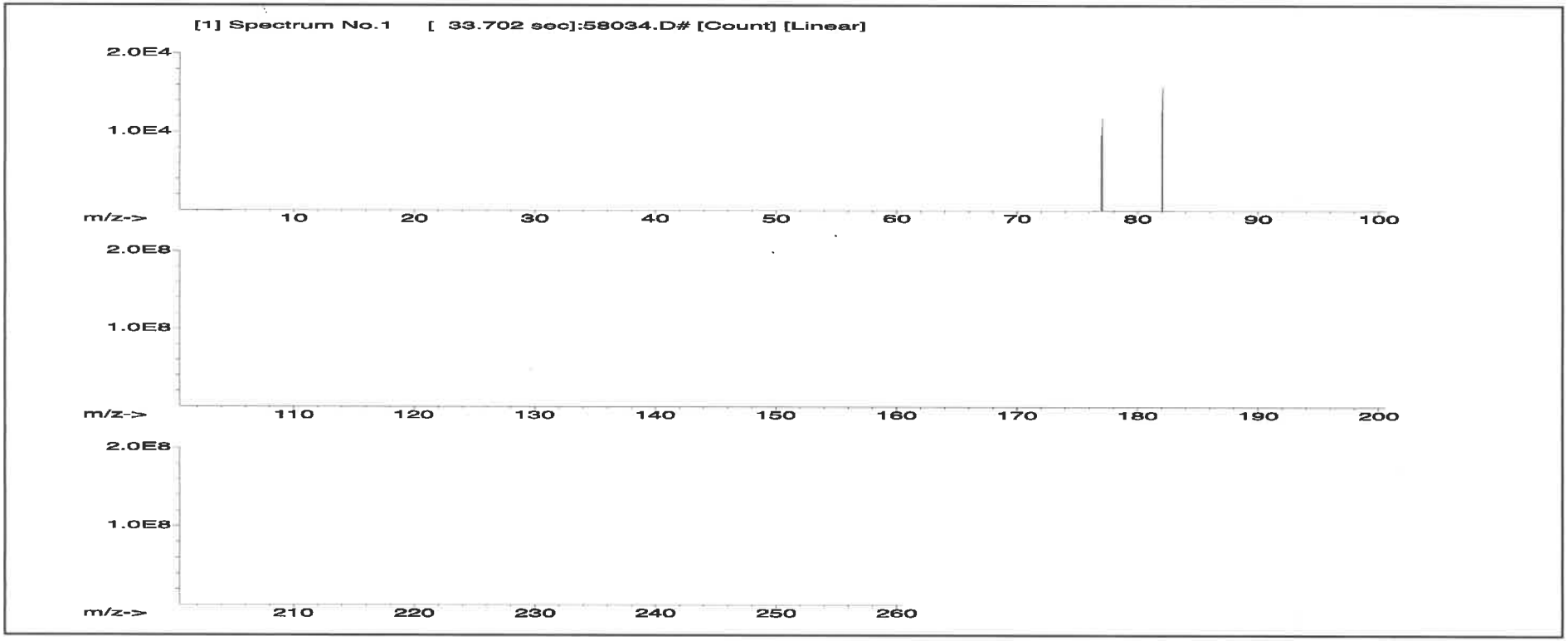
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

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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Certified Reference Material CRM

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AR-1539 Certificate Number
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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Certified Reference Material CRM

M5970, M5971 R: 7/01/24

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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57003**	24002546	Nitric Acid		
Lot Number:	**062124**				
Description:	**Lithium (Li)**	2.0%	5.0 (mL)	Nitric Acid	
Expiration Date:	062127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	250.11	0.016	Flask Uncertainty		

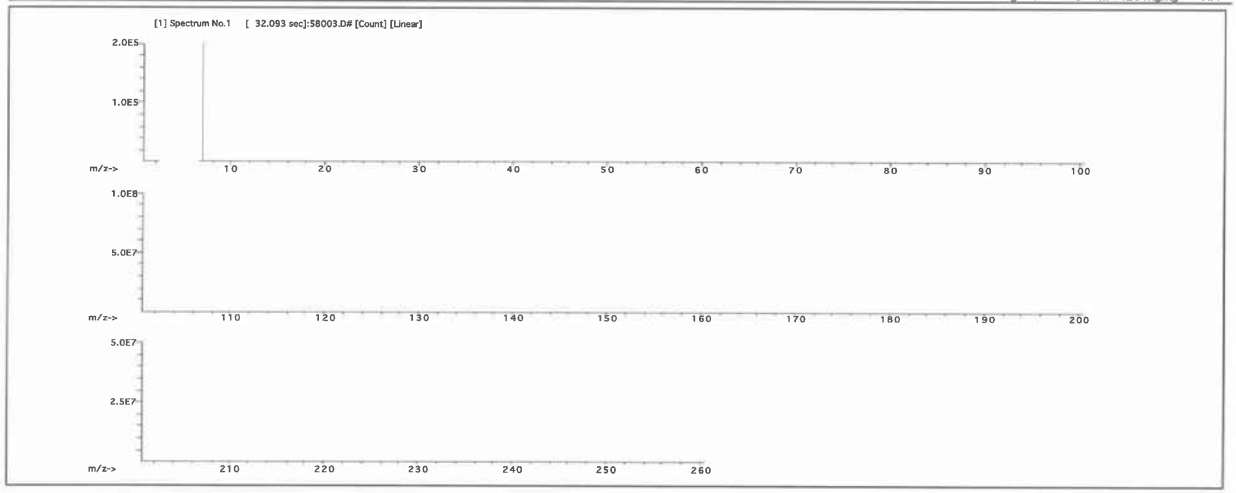
Giovanni Esposito

Formulated By: Giovanni Esposito 062124

Pedro Rentas

Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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Certified Reference Material CRM

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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Sc	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certificate of Analysis

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R: 2/22/24

1.0 ACCREDITATION / REGISTRATION

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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, $X_{CRM/MM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \Sigma(w_i)\,(x_i)$$

x_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance

$$w_i = (1/u_{char\ i})^2 \,/\, (\Sigma(1/u_{char\ i})^2)$$

CRM/RM Expanded Uncertainty ($\pm$) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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 ($\pm$) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

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

11.1 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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F: 540-585-3012
info@inorganicventures.com

MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

M 6041-46
MS

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

INORGANIC VENTURES™
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Certificate of Analysis

M6074
M6075
M6076
M6077

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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

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 06, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R -> 11/12/24

M6126

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

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CERTIFIED WEIGHT REPORT:

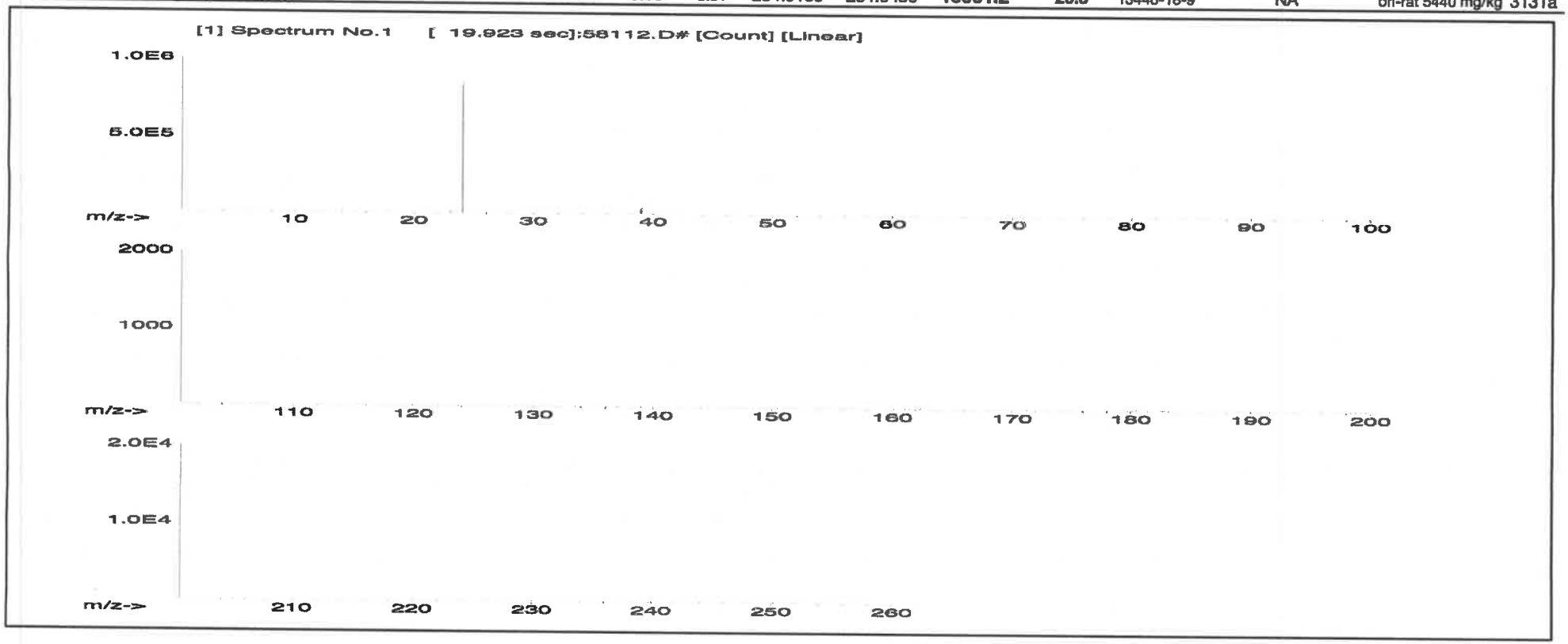
R -> 1/13/25
M 6127

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.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

R->1/13/25
M6128

Part Number:	**58025**		**Lot #**		
Lot Number:	**101124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Manganese (Mn)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	101127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.2	0.10	Flask Uncertainty		

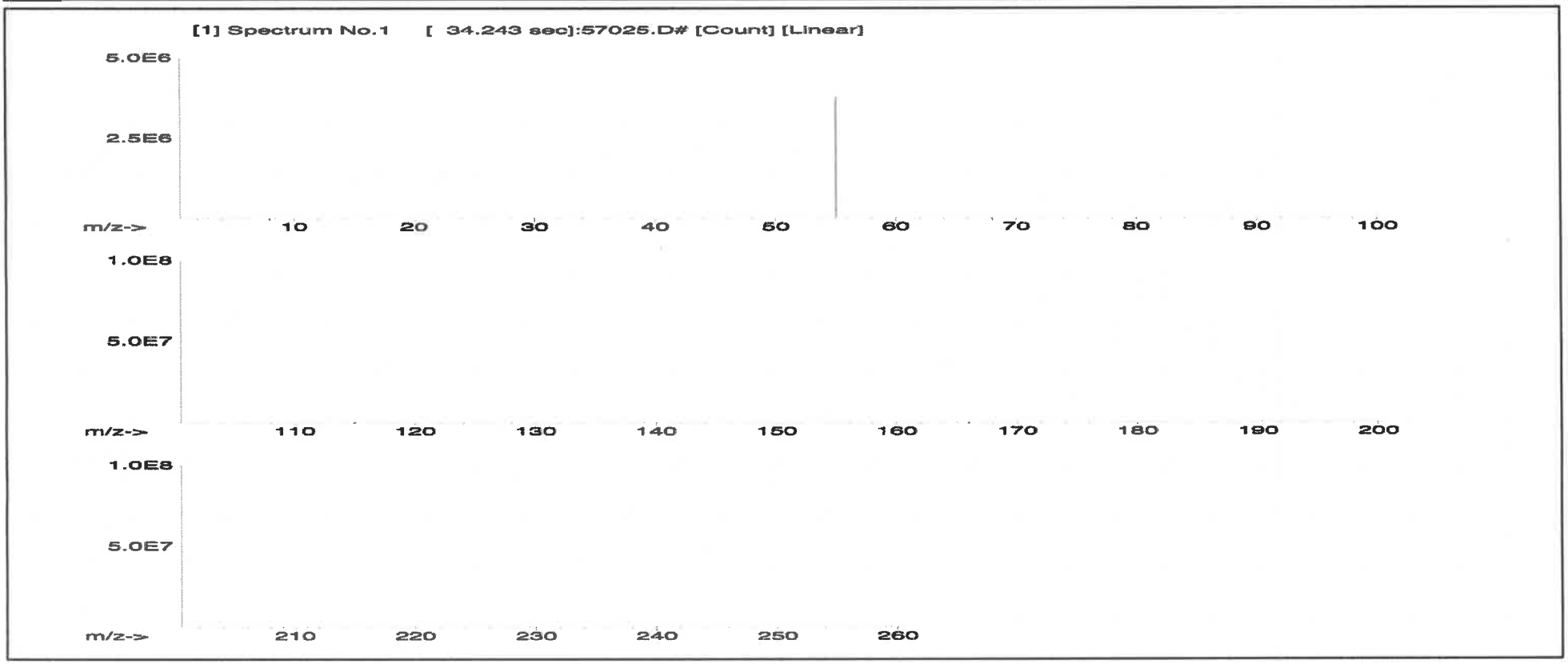
Giovanni Esposito

Formulated By:	Giovanni Esposito	101124

Pedro Rentas

Reviewed By:	Pedro L. Rentas	101124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	**Actual Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Manganese(II) nitrate hydrate (Mn)	IN031	MNM092020A1	1000	99.999	0.10	20.8	19.2322	19.2344	**1000.1**	**2.0**	15710-66-4	5 mg/m3	orl-rat >300mg/kg	3132



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	T	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

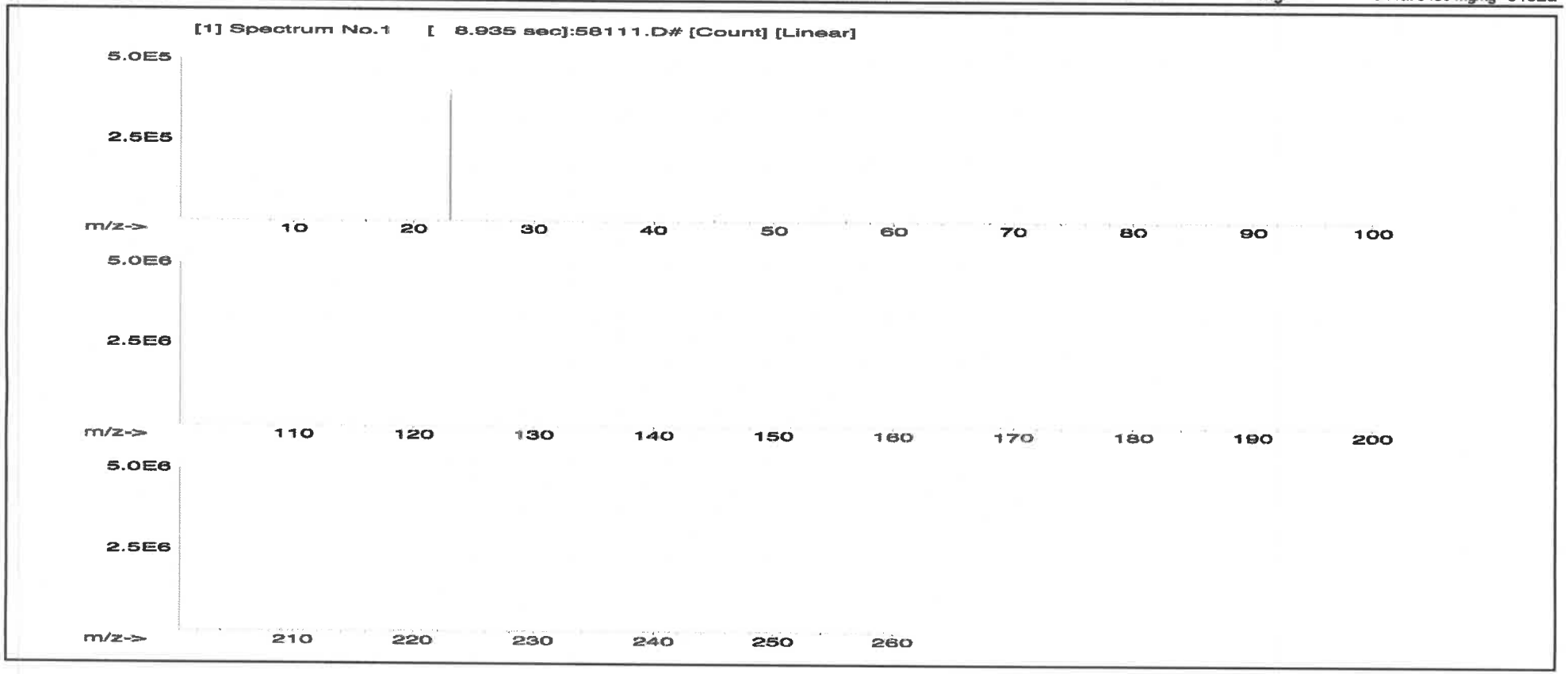
R->1/13/25

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.

* 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).
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 121724
Description: Zinc (Zn)

R → 1/13/25

M6145

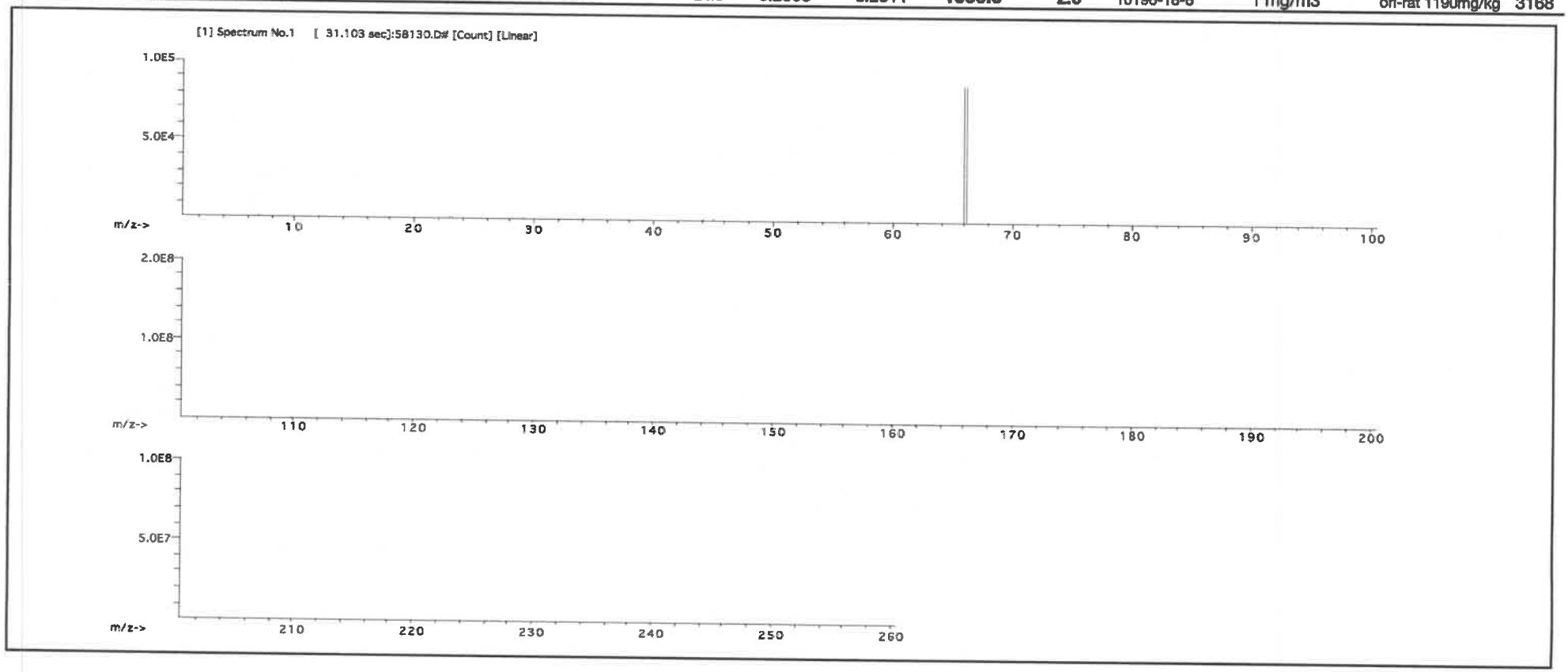
Expiration Date: 121727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

				Lot #	
Solvent:			24012496	Nitric Acid
	2%		40.0 (mL)	Nitric Acid
		5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty	

Aleah O'Brady

Formulated By:	Aleah O'Brady	121724
Reviewed By:	Pedro L. Rentas	121724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	8.2308	8.2311	**1000.0**	**2.0**	10196-18-6	1 mg/m3	ori-rat 1190mg/kg	3168



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

M6150

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) ***CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS***

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	CN^-	99

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R-> 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6030

R: 8/5/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

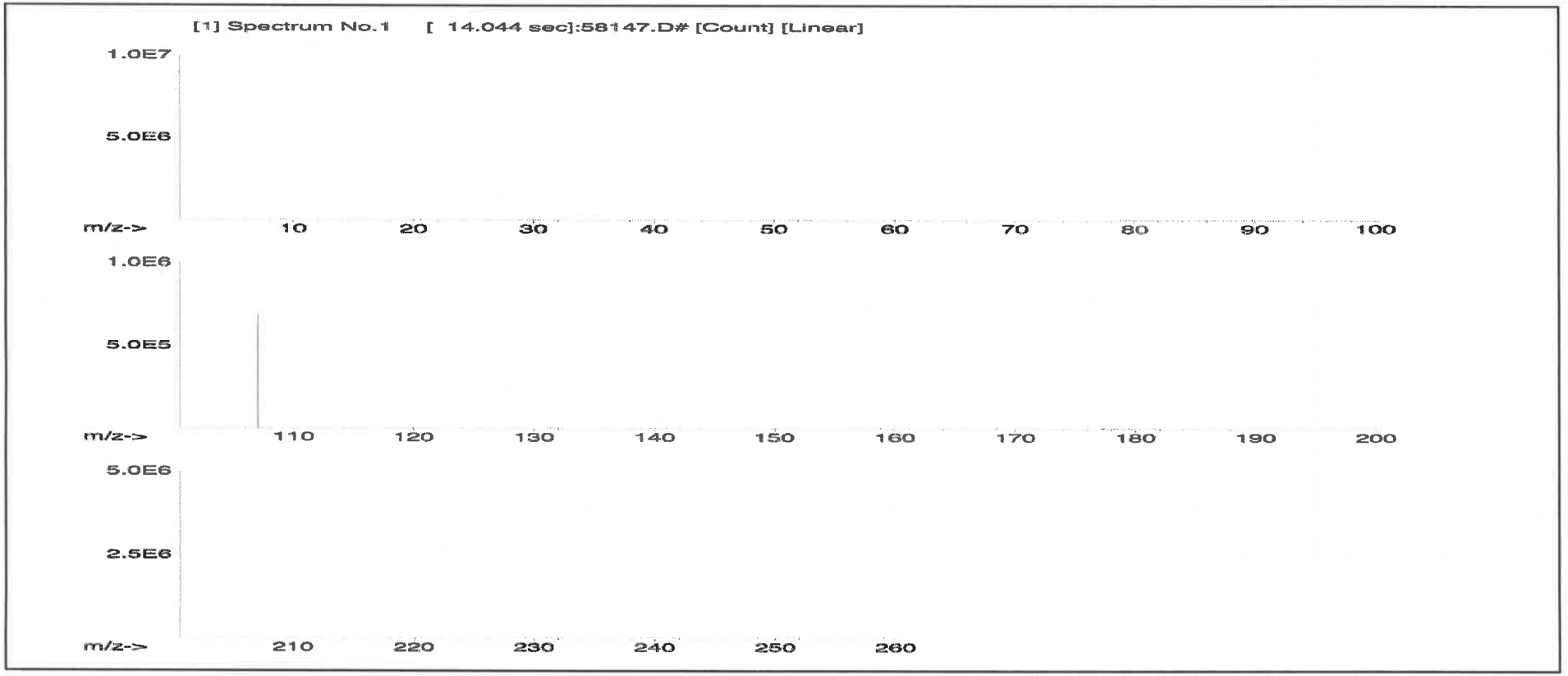
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



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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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Certified Reference Material CRM

R: 10/18/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

MG146

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)
Expiration Date: 071727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.26

Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

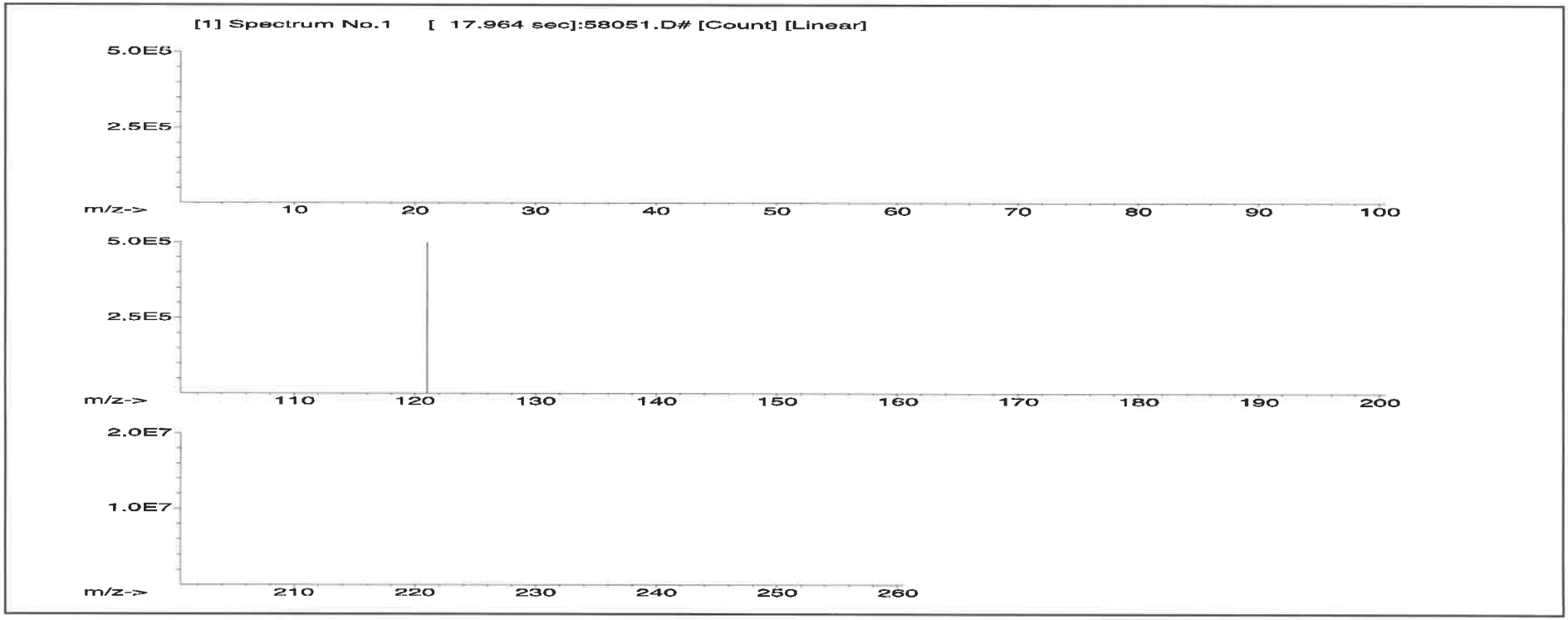
Giovanni Esposito

Formulated By:	Giovanni Esposito	071724

Pedro Rentas

Reviewed By:	Pedro L. Rentas	071724

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	060324	0.1000	200.0	0.084	1000	10001.4	**1000.0**	**2.2**	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



Absolute Standards, Inc.
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www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	T	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

R : 04/20/21

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

APTIM

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6152

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
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Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6155

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,



Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

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Certificate of Analysis

R: 8/5/24 M6019

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Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 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

R ! 8/5/24

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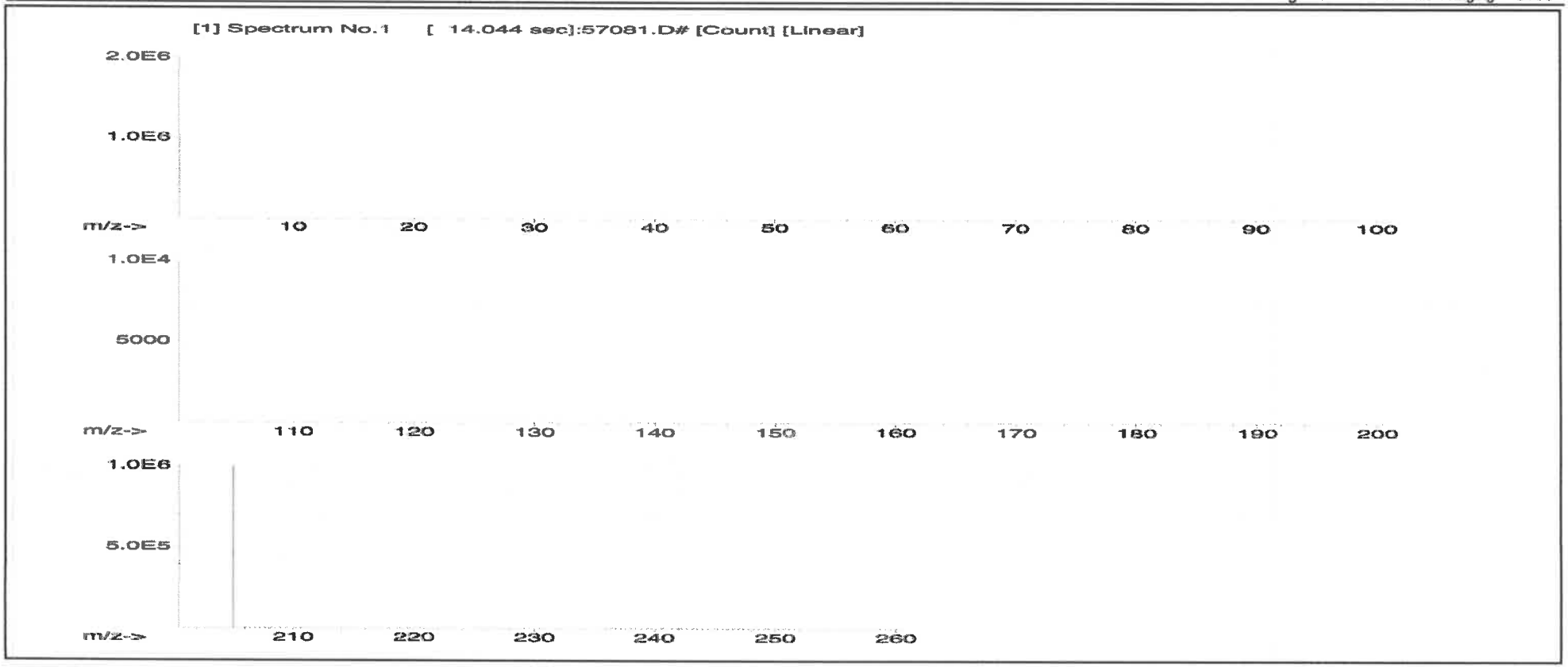
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	062724
Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M6021

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Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**	24002546	Nitric Acid	
Description:	**Vanadium (V)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

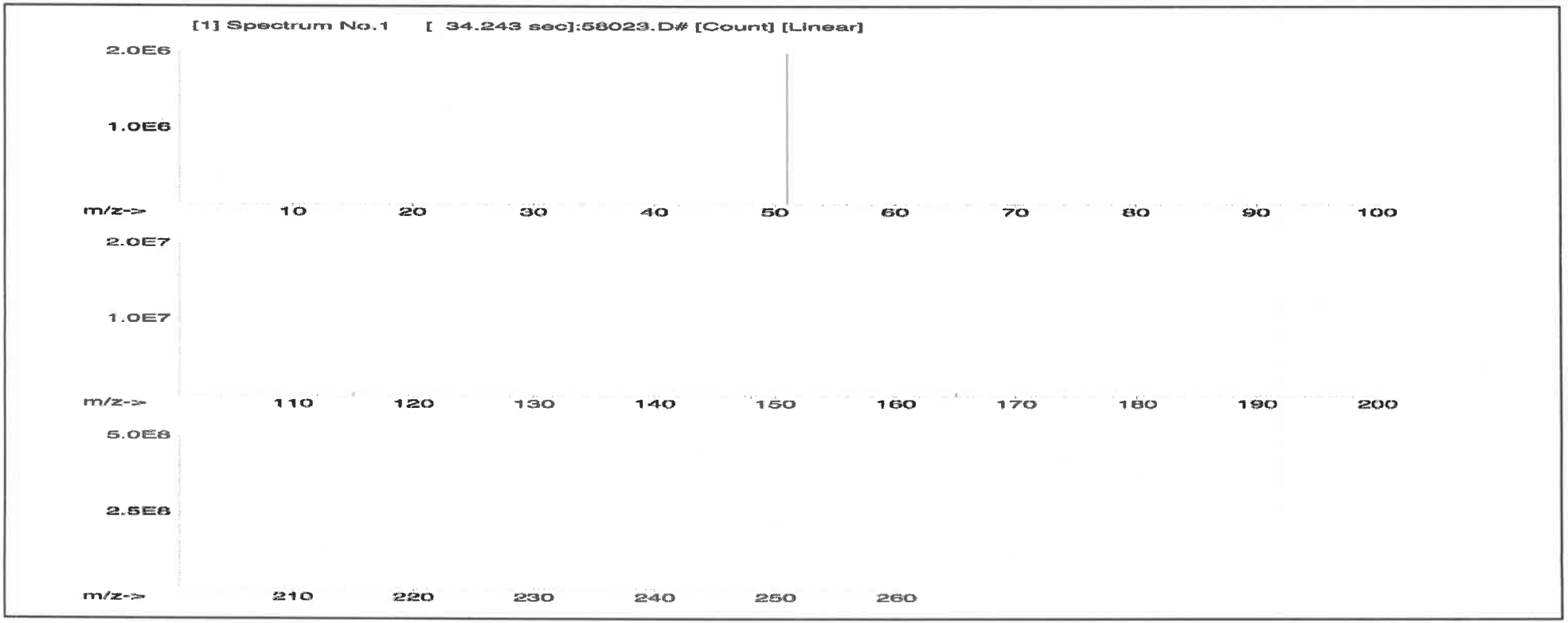
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



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Certified Reference Material CRM

ANAB ISO 17034 Accredited
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	T
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 · Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO.
QUOTE NO. Q1478
COC Number 2045803

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Jacobs
ADDRESS: 412 Mt Kemble Ave Suite #100
CITY Morristown STATE: NJ ZIP: 07960
ATTENTION: John Vafiadis
PHONE: (281) 414-1719 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PTC
PROJECT NO.: D3868221 LOCATION: Princeton Junction
PROJECT MANAGER: Mary Murphy
e-mail: Mary.Murphy@Jacobs.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Mary Murphy PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) STANDARD TAT DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

- ❑ Level 1 (Results Only)
- ❑ Level 2 (Results + QC)
- ☒ Level 3 (Results + QC + Raw Data)
- ❑ Level 4 (QC + Full Raw Data)
- ❑ NJ Reduced
- ❑ NYS ASP A
- ❑ NYS ASP B
- ❑ Other
- ❑ EDD FORMAT

ANALYSIS

1. VOCs (8260B)
2. SVOCs (8270C)
3. TPH DRO – TPH-GRO (Jacobs)
4. Metals (6010B + 7471A)
5. PCBs (8082)
6. Ignitability (1030)
7. Corrosivity (9045C)
8. TPH GRO (8015B)
9.

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
								A/E	E	E	B/E	E	E	E	E		← Specify Preservatives A-HCl D-NaOH B-HN03 E-ICE C-H2SO4 F-OTHER
1.	IDW-AQ-MW-19B-COMP-022825	AQ	X		2-28-25	1110	5		X	X	X	X	X	X			
2.	IDW-AQ-DRUM-610-022825	AQ		X	2-28-25	1115	3	X		X					X		
3.	IDW-AQ-IW-01-COMP-022825	AQ	X		2-28-25	1120	5		X	X	X	X	X	X			
4.	IDW-AQ-DRUM-616-022825	AQ		X	2-28-25	1125	3	X		X					X		
5.	IDW-AQ-IW-02-COMP-022825	AQ	X		2-28-25	1130	4		X	X	X	X	X	X			
6.	IDW-AQ-DRUM-614-022825	AQ		X	2-28-25	1135	3	X		X					X		
7.	IDW-AQ-IW-03-COMP-022825	AQ	X		2-28-25	1140	4	~~X~~	X	X	X	X	X	X			
8.	IDW-AQ-DRUM-612-022825	AQ		X	2-28-25	1145	3	X		X					X		
9.	~~IDW-SO-COMP-022825~~ (TH)	~~SO~~	X		~~2-28-25~~	~~1230~~	~~5~~		~~X~~	X	X	X	X	X			
10.	~~IDW-SO-DRUM-582-022825~~ (TH)	~~SO~~		X	~~2-28-25~~		~~1~~										

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	1720 2-28-25	1. 2-28-25 1720
2.		2.
3.		3.

Conditions of bottles or coolers at receipt: ❑ COMPLIANT ❑ NON COMPLIANT ☒ COOLER TEMP 2.1 °C
Comments:

Page 1 of 2

CLIENT: ❑ Hand Delivered ❑ Other

Shipment Complete ❑ YES ❑ NO

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Alliance TECHNICAL GROUP

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www.chemtech.net

ALLIANCE PROJECT NO.
QUOTE NO. Q1478
COC Number 2045804

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Jacobs
ADDRESS: 412 Mt Kemble Ave Suite #1 100
CITY Morristown STATE: NJ ZIP: 07960
ATTENTION: John Yafante
PHONE: (781)414-1719 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PTC
PROJECT NO.: D3868221 LOCATION: Princeton Junction
PROJECT MANAGER: Mary Murphy
e-mail: Mary.Murphy@Jacobs.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Mary Murphy PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) STANDARD TAT DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

❑ Level 1 (Results Only) ❑ Level 4 (QC + Full Raw Data)
❑ Level 2 (Results + QC) ❑ NJ Reduced ❑ US EPA CLP
❑ Level 3 (Results + QC + Raw Data) ❑ NYS ASP A ❑ NYS ASP B
❑ Other
❑ EDD FORMAT

ANALYSIS

1. TCLP SVOCs (1311/8270C)
2. TCLP VOCs (1311/8260C)
3. TPH GRO / TPH DRO (8015)
4. TCLP Metals (1311/6010)
5. PCBs (8082)
6. Ignitability (1030)
7. Corrosivity (9040C)
8. TPH DRO (8015B)
9.

PRESERVATIVES

COMMENTS

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRES 1	PRES 2	PRES 3	PRES 4	PRES 5	PRES 6	PRES 7	PRES 8	PRES 9
1.	IDW-SO-COMP-022825	SO	X		2-28-25	1230	5	X	X	X	X	X	X	X	X	
2.	IDW-SO-DRUM-582-022825	SO		X	2-28-25	1225	1		X	X						
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	2-28-25 1820	1. 2.28.2025 1720
2.		2.
3.		3.

Conditions of bottles or coolers at receipt: ❑ COMPLIANT ❑ NON COMPLIANT X COOLER TEMP 2.0 °C
Comments:

Page 2 of 2

CLIENT: ❑ Hand Delivered ❑ Other

Shipment Complete ❑ YES ❑ NO

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284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1478 JACO05
Client Name : JACOBS Engineering Grou
Client Contact : John Ynfante
Invoice Name : JACOBS Engineering Grou
Invoice Contact : John Ynfante

Order Date : 3/3/2025 10:28:22 AM
Project Name : Former Schlumberger Site I
Receive DateTime : 2/28/2025 5:20:00 PM
Purchase Order :

Project Mgr :
Report Type : Level 4
EDD Type : CH2MHILL
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1478-02	IDW-AQ-DRUM-610-022825	Water	02/28/2025	11:15					
					VOC-TCLVOA-10		8260-Low		10 Bus. Days
Q1478-04	IDW-AQ-DRUM-616-022825	Water	02/28/2025	11:25					
					VOC-TCLVOA-10		8260-Low		10 Bus. Days
Q1478-06	IDW-AQ-DRUM-614-022825	Water	02/28/2025	11:35					
					VOC-TCLVOA-10		8260-Low		10 Bus. Days
Q1478-08	IDW-AQ-DRUM-612-022825	Water	02/28/2025	11:45					
					VOC-TCLVOA-10		8260-Low		10 Bus. Days

Relinguished By :
Date / Time : 3-3-25 1200

Received By :
Date / Time : 3/3/25 1200

Storage Area : VOA Refridgerator Room