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

DATA PACKAGE

METALS

PROJECT NAME : NJ WASTE WATER PT

CHEMTECH CONSULTING GROUP

284 Sheffield St,

Mountainside, NJ - 07092

Phone No: 908-789-8900

ORDER ID : P3846

ATTENTION : QA Officer

Laboratory Certification ID # 20012

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Cover Page

Order ID : P3846

Project ID : NJ Waste Water PT

Client : Chemtech Consulting Group

Lab Sample Number	Client Sample Number
P3846-01	PT-TM1-WP
P3846-02	PT-TM1-WP
P3846-03	PT-SNTI-WP
P3846-04	PT-SNTI-WP
P3846-05	PT-MIN2-WP
P3846-06	PT-MIN2-WP
P3846-07	PT-SIO2-WP
P3846-08	PT-HG-WP

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

Signature : _____ Date: 11/29/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Chemtech Consulting Group
Project Name: NJ Waste Water PT
Project # N/A
Chemtech Project # P3846
Test Name: Metals Group3,Metals Group4,Metals Group5,Mercury,Silica,Hardness, Calcium

A. Number of Samples and Date of Receipt:
8 Water samples were received on 09/05/2024.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Hardness, Calcium, Hardness, Total, Mercury, Metals Group3, Metals Group4, Metals Group5 and Silica. This data package contains results for Metals Group3,Metals Group4,Metals Group5,Mercury,Silica,Hardness, Calcium.

C. Analytical Techniques:
The analysis and digestion of Metals Group3,Metals Group4,Metals Group5,Silica was based on 200.7, and The analysis and digestion of Mercury was based on 245.1.

D. QA/ QC Samples:

The Holding Times were met for all analysis.
Sample PT-MIN2-WP was diluted due to high concentrations for Calcium and Sodium &
Sample PT-SIO2-WP was diluted due to high concentrations for Dissolved Silica &
Sample PT-HG-WP was diluted due to high concentrations for Mercury.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis met criteria for all samples.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:

In analytical sequence LB133014, The % recovery was outside of acceptance limit for Aluminum, Chromium, Copper, Silver, Thallium, and Zinc of ICV01 but, from this analytical sequence only Calcium and Magnesium parameter reported.

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_____

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

QA Control # A3040961

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P3846 MATRIX: Water

METHOD: 200.7,200.8,245.1,SM2340B

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

ADDITIONAL COMMENTS:

In analytical sequence LB133014, The % recovery was outside of acceptance limit for Aluminum, Chromium, Copper, Silver, Thallium, and Zinc of ICV01 but, from this analytical sequence only Calcium and Magnesium parameter reported.

_____ _____

QA REVIEW Date

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

QA REVIEW GENERAL DOCUMENTATION

Project #: P3846

	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:** 11/29/2024

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LAB CHRONICLE

OrderID:	P3846	**OrderDate:**	9/5/2024 2:21:00 PM
Client:	Chemtech Consulting Group	**Project:**	NJ Waste Water PT
Contact:	QA Officer	**Location:**	QA Office

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P3846-01	**PT-TM1-WP**	**Water**			**09/03/24**			**09/05/24**
			Metals Group3	200.7		10/17/24	10/17/24	
P3846-03	**PT-SNTI-WP**	**Water**			**09/03/24**			**09/05/24**
			Metals Group4	200.7		10/17/24	10/17/24	
P3846-05	**PT-MIN2-WP**	**Water**			**09/03/24**			**09/05/24**
			Hardness, Calcium	SM2340B		10/17/24	10/17/24	
			Hardness, Calcium	SM2340B		10/17/24	10/18/24	
			Metals Group5	200.7		10/17/24	10/17/24	
			Metals Group5	200.7		10/17/24	10/18/24	
P3846-07	**PT-SIO2-WP**	**Water**			**09/03/24**			**09/05/24**
			Silica	200.7		10/17/24	10/17/24	
P3846-08	**PT-HG-WP**	**Water**			**09/03/24**			**09/05/24**
			Mercury	245.1		10/08/24	10/08/24	

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Hit Summary Sheet
SW-846

SDG No.: P3846 **Order ID:** P3846

Client: Chemtech Consulting Group **Project ID:** NJ Waste Water PT

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : PT-TM1-WP								
P3846-01	PT-TM1-WP	Water	Aluminum	2440		21.2	100	ug/L
P3846-01	PT-TM1-WP	Water	Antimony	743		5.92	50.0	ug/L
P3846-01	PT-TM1-WP	Water	Arsenic	545		5.68	20.0	ug/L
P3846-01	PT-TM1-WP	Water	Barium	597		22.6	100	ug/L
P3846-01	PT-TM1-WP	Water	Beryllium	280		0.38	6.00	ug/L
P3846-01	PT-TM1-WP	Water	Boron	1190		10.7	100	ug/L
P3846-01	PT-TM1-WP	Water	Cadmium	360		0.42	6.00	ug/L
P3846-01	PT-TM1-WP	Water	Chromium	569		1.04	10.0	ug/L
P3846-01	PT-TM1-WP	Water	Cobalt	175		1.76	30.0	ug/L
P3846-01	PT-TM1-WP	Water	Copper	707		3.04	20.0	ug/L
P3846-01	PT-TM1-WP	Water	Iron	1310		24.8	100	ug/L
P3846-01	PT-TM1-WP	Water	Lead	933		3.14	12.0	ug/L
P3846-01	PT-TM1-WP	Water	Manganese	616		1.74	20.0	ug/L
P3846-01	PT-TM1-WP	Water	Molybdenum	536		10.2	200	ug/L
P3846-01	PT-TM1-WP	Water	Nickel	1540		2.56	40.0	ug/L
P3846-01	PT-TM1-WP	Water	Selenium	451		6.14	20.0	ug/L
P3846-01	PT-TM1-WP	Water	Silicon	252	J	59.8	400	ug/L
P3846-01	PT-TM1-WP	Water	Silver	556		1.66	10.0	ug/L
P3846-01	PT-TM1-WP	Water	Strontium	443		5.91	20.0	ug/L
P3846-01	PT-TM1-WP	Water	Thallium	411		4.42	40.0	ug/L
P3846-01	PT-TM1-WP	Water	Vanadium	1040		4.80	40.0	ug/L
P3846-01	PT-TM1-WP	Water	Zinc	619		2.88	40.0	ug/L
Client ID : PT-SNTI-WP								
P3846-03	PT-SNTI-WP	Water	Tin	1190		3.28	40.0	ug/L
P3846-03	PT-SNTI-WP	Water	Titanium	86.7		9.18	40.0	ug/L
Client ID : PT-MIN2-WP								
P3846-05	PT-MIN2-WP	Water	Calcium	62700	D	207	4000	ug/L
P3846-05	PT-MIN2-WP	Water	Calcium Hardness	157000	D	517	9990	ug/L
P3846-05	PT-MIN2-WP	Water	Magnesium	28200		122	2000	ug/L
P3846-05	PT-MIN2-WP	Water	Potassium	22800		562	2000	ug/L
P3846-05	PT-MIN2-WP	Water	Sodium	83000	D	1790	4000	ug/L
P3846-05	PT-MIN2-WP	Water	Hardness, Total	273000		1020	18200	ug/L
Client ID : PT-SIO2-WP								
P3846-07	PT-SIO2-WP	Water	Dissolved Silica	162000	D	1280	8560	ug/L

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Hit Summary Sheet
SW-846

SDG No.:	P3846	**Order ID:**	P3846
Client:	Chemtech Consulting Group	**Project ID:**	NJ Waste Water PT

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : PT-HG-WP								
P3846-08	PT-HG-WP	Water	Mercury	26.7	D	0.11	1.00	ug/L

SAMPLE DATA

Alliance TECHNICAL GROUP
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Report of Analysis

Client:	Chemtech Consulting Group	Date Collected:	09/03/24
Project:	NJ Waste Water PT	Date Received:	09/05/24
Client Sample ID:	PT-TM1-WP	SDG No.:	P3846
Lab Sample ID:	P3846-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7429-90-5	Aluminum	2440		1	21.2	100	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-36-0	Antimony	743		1	5.92	50.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-38-2	Arsenic	545		1	5.68	20.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-39-3	Barium	597		1	22.6	100	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-41-7	Beryllium	280		1	0.38	6.00	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-42-8	Boron	1190		1	10.7	100	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-43-9	Cadmium	360		1	0.42	6.00	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-70-2	Calcium	104	U	1	104	2000	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-47-3	Chromium	569		1	1.04	10.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-48-4	Cobalt	175		1	1.76	30.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-50-8	Copper	707		1	3.04	20.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7439-89-6	Iron	1310		1	24.8	100	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7439-92-1	Lead	933		1	3.14	12.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7439-95-4	Magnesium	122	U	1	122	2000	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7439-96-5	Manganese	616		1	1.74	20.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7439-98-7	Molybdenum	536		1	10.2	200	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-02-0	Nickel	1540		1	2.56	40.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-09-7	Potassium	562	U	1	562	2000	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7782-49-2	Selenium	451		1	6.14	20.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-21-3	Silicon	252	J	1	59.8	400	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-22-4	Silver	556		1	1.66	10.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-23-5	Sodium	896	U	1	896	2000	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-24-6	Strontium	443		1	5.91	20.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-28-0	Thallium	411		1	4.42	40.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-31-5	Tin	3.28	U	1	3.28	40.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-32-6	Titanium	9.18	U	1	9.18	40.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-62-2	Vanadium	1040		1	4.80	40.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	
7440-66-6	Zinc	619		1	2.88	40.0	ug/L	10/17/24 12:30	10/17/24 14:33	EPA 200.7	

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	Metals Group3				

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

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

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Report of Analysis

Client:	Chemtech Consulting Group	Date Collected:	09/03/24
Project:	NJ Waste Water PT	Date Received:	09/05/24
Client Sample ID:	PT-SNTI-WP	SDG No.:	P3846
Lab Sample ID:	P3846-03	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-31-5	Tin	1190		1	3.28	40.0	ug/L	10/17/24 12:30	10/17/24 14:37	EPA 200.7	
7440-32-6	Titanium	86.7		1	9.18	40.0	ug/L	10/17/24 12:30	10/17/24 14:37	EPA 200.7	

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	Metals Group4				

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

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

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Report of Analysis

Client:	Chemtech Consulting Group	Date Collected:	09/03/24
Project:	NJ Waste Water PT	Date Received:	09/05/24
Client Sample ID:	PT-MIN2-WP	SDG No.:	P3846
Lab Sample ID:	P3846-05	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-70-2	Calcium	62700	D	2	207	4000	ug/L	10/17/24 12:30	10/18/24 14:19	EPA 200.7	
Calcium Hardness	Calcium Hardness	157000	D	2	517	9990	ug/L	10/17/24 12:30	10/18/24 14:19	EPA 200.7	
Hardness	Hardness, Total	273000		1	1020	18200	ug/L	10/17/24 12:30	10/17/24 14:46	EPA 200.7	
7439-95-4	Magnesium	28200		1	122	2000	ug/L	10/17/24 12:30	10/17/24 14:46	EPA 200.7	
7440-09-7	Potassium	22800		1	562	2000	ug/L	10/17/24 12:30	10/17/24 14:46	EPA 200.7	
7440-23-5	Sodium	83000	D	2	1790	4000	ug/L	10/17/24 12:30	10/18/24 14:19	EPA 200.7	

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	Hardness, Calcium				

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

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

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Report of Analysis

Client:	Chemtech Consulting Group	Date Collected:	09/03/24
Project:	NJ Waste Water PT	Date Received:	09/05/24
Client Sample ID:	PT-SIO2-WP	SDG No.:	P3846
Lab Sample ID:	P3846-07	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
Dissolved Silica	Dissolved Silica	162000	D	10	1280	8560	ug/L	10/17/24 12:30	10/17/24 15:16	EPA 200.7	

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	Silica				

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

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

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Report of Analysis

Client:	Chemtech Consulting Group	Date Collected:	09/03/24
Project:	NJ Waste Water PT	Date Received:	09/05/24
Client Sample ID:	PT-HG-WP	SDG No.:	P3846
Lab Sample ID:	P3846-08	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7439-97-6	Mercury	26.7	D	5	0.11	1.00	ug/L	10/08/24 10:15	10/08/24 17:17	E245.1	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments: Mercury

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

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
ICV29	Mercury	3.98	4.0	99	95 - 105	CV	10/08/2024	16:09	LB132826

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
CCV89	Mercury	4.93	5.0	99	90 - 110	CV	10/08/2024	16:14	LB132826
CCV90	Mercury	5.33	5.0	107	90 - 110	CV	10/08/2024	16:51	LB132826
CCV91	Mercury	5.42	5.0	108	90 - 110	CV	10/08/2024	17:24	LB132826

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Aluminum	2470	2500	99	95 - 105	P	10/17/2024	13:00	LB132991
	Antimony	1000	1000	100	95 - 105	P	10/17/2024	13:00	LB132991
	Arsenic	1040	1000	104	95 - 105	P	10/17/2024	13:00	LB132991
	Barium	535	520	103	95 - 105	P	10/17/2024	13:00	LB132991
	Beryllium	522	510	102	95 - 105	P	10/17/2024	13:00	LB132991
	Boron	2380	2500	95	95 - 105	P	10/17/2024	13:00	LB132991
	Cadmium	516	510	101	95 - 105	P	10/17/2024	13:00	LB132991
	Calcium	10300	10000	103	95 - 105	P	10/17/2024	13:00	LB132991
	Chromium	533	520	102	95 - 105	P	10/17/2024	13:00	LB132991
	Cobalt	519	520	100	95 - 105	P	10/17/2024	13:00	LB132991
	Copper	526	510	103	95 - 105	P	10/17/2024	13:00	LB132991
	Iron	10100	10000	101	95 - 105	P	10/17/2024	13:00	LB132991
	Lead	1030	1000	103	95 - 105	P	10/17/2024	13:00	LB132991
	Magnesium	6200	6000	103	95 - 105	P	10/17/2024	13:00	LB132991
	Manganese	536	520	103	95 - 105	P	10/17/2024	13:00	LB132991
	Molybdenum	2560	2500	102	95 - 105	P	10/17/2024	13:00	LB132991
	Nickel	556	530	105	95 - 105	P	10/17/2024	13:00	LB132991
	Potassium	9980	9900	101	95 - 105	P	10/17/2024	13:00	LB132991
	Selenium	1030	1000	103	95 - 105	P	10/17/2024	13:00	LB132991
	Silicon	2460	2500	98	95 - 105	P	10/17/2024	13:00	LB132991
	Silver	262	250	105	95 - 105	P	10/17/2024	13:00	LB132991
	Sodium	9720	10000	97	95 - 105	P	10/17/2024	13:00	LB132991
	Strontium	2470	2500	99	95 - 105	P	10/17/2024	13:00	LB132991
	Thallium	1050	1000	105	95 - 105	P	10/17/2024	13:00	LB132991
	Tin	2480	2500	99	95 - 105	P	10/17/2024	13:00	LB132991
	Titanium	2400	2500	96	95 - 105	P	10/17/2024	13:00	LB132991
	Vanadium	512	500	102	95 - 105	P	10/17/2024	13:00	LB132991
	Zinc	1030	1000	103	95 - 105	P	10/17/2024	13:00	LB132991

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- 2a -
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Aluminum	96.7	100	97	80 - 120	P	10/17/2024	13:06	LB132991
	Antimony	46.6	50.0	93	80 - 120	P	10/17/2024	13:06	LB132991
	Arsenic	17.5	20.0	87	80 - 120	P	10/17/2024	13:06	LB132991
	Barium	91.1	100	91	80 - 120	P	10/17/2024	13:06	LB132991
	Beryllium	5.50	6.0	92	80 - 120	P	10/17/2024	13:06	LB132991
	Boron	96.7	100	97	80 - 120	P	10/17/2024	13:06	LB132991
	Cadmium	5.72	6.0	95	80 - 120	P	10/17/2024	13:06	LB132991
	Calcium	1780	2000	89	80 - 120	P	10/17/2024	13:06	LB132991
	Chromium	9.05	10.0	90	80 - 120	P	10/17/2024	13:06	LB132991
	Cobalt	27.3	30.0	91	80 - 120	P	10/17/2024	13:06	LB132991
	Copper	20.5	20.0	103	80 - 120	P	10/17/2024	13:06	LB132991
	Iron	99.4	100	99	80 - 120	P	10/17/2024	13:06	LB132991
	Lead	13.4	12.0	112	80 - 120	P	10/17/2024	13:06	LB132991
	Magnesium	1870	2000	93	80 - 120	P	10/17/2024	13:06	LB132991
	Manganese	18.5	20.0	92	80 - 120	P	10/17/2024	13:06	LB132991
	Molybdenum	187	200	93	80 - 120	P	10/17/2024	13:06	LB132991
	Nickel	36.3	40.0	91	80 - 120	P	10/17/2024	13:06	LB132991
	Potassium	1860	2000	93	80 - 120	P	10/17/2024	13:06	LB132991
	Selenium	18.2	20.0	91	80 - 120	P	10/17/2024	13:06	LB132991
	Silicon	331	400	83	80 - 120	P	10/17/2024	13:06	LB132991
	Silver	10.9	10.0	109	80 - 120	P	10/17/2024	13:06	LB132991
	Sodium	1800	2000	90	80 - 120	P	10/17/2024	13:06	LB132991
	Strontium	19.0	20.0	95	80 - 120	P	10/17/2024	13:06	LB132991
	Thallium	38.6	40.0	96	80 - 120	P	10/17/2024	13:06	LB132991
	Tin	32.4	40.0	81	80 - 120	P	10/17/2024	13:06	LB132991
	Titanium	34.9	40.0	87	80 - 120	P	10/17/2024	13:06	LB132991
	Vanadium	35.8	40.0	90	80 - 120	P	10/17/2024	13:06	LB132991
	Zinc	40.0	40.0	100	80 - 120	P	10/17/2024	13:06	LB132991

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Aluminum	9720	10000	97	90 - 110	P	10/17/2024	14:14	LB132991
	Antimony	5000	5000	100	90 - 110	P	10/17/2024	14:14	LB132991
	Arsenic	5010	5000	100	90 - 110	P	10/17/2024	14:14	LB132991
	Barium	9840	10000	98	90 - 110	P	10/17/2024	14:14	LB132991
	Beryllium	245	250	98	90 - 110	P	10/17/2024	14:14	LB132991
	Boron	4900	5000	98	90 - 110	P	10/17/2024	14:14	LB132991
	Cadmium	2500	2500	100	90 - 110	P	10/17/2024	14:14	LB132991
	Calcium	24300	25000	97	90 - 110	P	10/17/2024	14:14	LB132991
	Chromium	988	1000	99	90 - 110	P	10/17/2024	14:14	LB132991
	Cobalt	2490	2500	100	90 - 110	P	10/17/2024	14:14	LB132991
	Copper	1260	1250	101	90 - 110	P	10/17/2024	14:14	LB132991
	Iron	4900	5000	98	90 - 110	P	10/17/2024	14:14	LB132991
	Lead	4990	5000	100	90 - 110	P	10/17/2024	14:14	LB132991
	Magnesium	24100	25000	96	90 - 110	P	10/17/2024	14:14	LB132991
	Manganese	2430	2500	97	90 - 110	P	10/17/2024	14:14	LB132991
	Molybdenum	5020	5000	100	90 - 110	P	10/17/2024	14:14	LB132991
	Nickel	2500	2500	100	90 - 110	P	10/17/2024	14:14	LB132991
	Potassium	24600	25000	98	90 - 110	P	10/17/2024	14:14	LB132991
	Selenium	5010	5000	100	90 - 110	P	10/17/2024	14:14	LB132991
	Silicon	4720	5000	94	90 - 110	P	10/17/2024	14:14	LB132991
	Silver	1230	1250	99	90 - 110	P	10/17/2024	14:14	LB132991
	Sodium	24500	25000	98	90 - 110	P	10/17/2024	14:14	LB132991
	Strontium	4990	5000	100	90 - 110	P	10/17/2024	14:14	LB132991
	Thallium	5070	5000	102	90 - 110	P	10/17/2024	14:14	LB132991
	Tin	5030	5000	101	90 - 110	P	10/17/2024	14:14	LB132991
	Titanium	4880	5000	98	90 - 110	P	10/17/2024	14:14	LB132991
	Vanadium	2440	2500	98	90 - 110	P	10/17/2024	14:14	LB132991
	Zinc	2490	2500	100	90 - 110	P	10/17/2024	14:14	LB132991
CCV02	Aluminum	9720	10000	97	90 - 110	P	10/17/2024	15:40	LB132991
	Antimony	4890	5000	98	90 - 110	P	10/17/2024	15:40	LB132991
	Arsenic	4910	5000	98	90 - 110	P	10/17/2024	15:40	LB132991
	Barium	9720	10000	97	90 - 110	P	10/17/2024	15:40	LB132991
	Beryllium	250	250	100	90 - 110	P	10/17/2024	15:40	LB132991
	Boron	4980	5000	100	90 - 110	P	10/17/2024	15:40	LB132991

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
CCV02	Cadmium	2480	2500	99	90 - 110	P	10/17/2024	15:40	LB132991
	Calcium	24600	25000	98	90 - 110	P	10/17/2024	15:40	LB132991
	Chromium	1000	1000	100	90 - 110	P	10/17/2024	15:40	LB132991
	Cobalt	2470	2500	99	90 - 110	P	10/17/2024	15:40	LB132991
	Copper	1240	1250	99	90 - 110	P	10/17/2024	15:40	LB132991
	Iron	4870	5000	98	90 - 110	P	10/17/2024	15:40	LB132991
	Lead	4960	5000	99	90 - 110	P	10/17/2024	15:40	LB132991
	Magnesium	24400	25000	98	90 - 110	P	10/17/2024	15:40	LB132991
	Manganese	2450	2500	98	90 - 110	P	10/17/2024	15:40	LB132991
	Molybdenum	4950	5000	99	90 - 110	P	10/17/2024	15:40	LB132991
	Nickel	2480	2500	99	90 - 110	P	10/17/2024	15:40	LB132991
	Potassium	24200	25000	97	90 - 110	P	10/17/2024	15:40	LB132991
	Selenium	4890	5000	98	90 - 110	P	10/17/2024	15:40	LB132991
	Silicon	4720	5000	94	90 - 110	P	10/17/2024	15:40	LB132991
	Silver	1240	1250	99	90 - 110	P	10/17/2024	15:40	LB132991
	Sodium	24100	25000	96	90 - 110	P	10/17/2024	15:40	LB132991
	Strontium	5000	5000	100	90 - 110	P	10/17/2024	15:40	LB132991
	Thallium	4970	5000	99	90 - 110	P	10/17/2024	15:40	LB132991
	Tin	4990	5000	100	90 - 110	P	10/17/2024	15:40	LB132991
	Titanium	4900	5000	98	90 - 110	P	10/17/2024	15:40	LB132991
	Vanadium	2450	2500	98	90 - 110	P	10/17/2024	15:40	LB132991
	Zinc	2500	2500	100	90 - 110	P	10/17/2024	15:40	LB132991
CCV03	Aluminum	9800	10000	98	90 - 110	P	10/17/2024	15:57	LB132991
	Antimony	4970	5000	100	90 - 110	P	10/17/2024	15:57	LB132991
	Arsenic	5170	5000	103	90 - 110	P	10/17/2024	15:57	LB132991
	Barium	9830	10000	98	90 - 110	P	10/17/2024	15:57	LB132991
	Beryllium	251	250	100	90 - 110	P	10/17/2024	15:57	LB132991
	Boron	5040	5000	101	90 - 110	P	10/17/2024	15:57	LB132991
	Cadmium	2570	2500	103	90 - 110	P	10/17/2024	15:57	LB132991
	Calcium	24700	25000	99	90 - 110	P	10/17/2024	15:57	LB132991
	Chromium	1020	1000	102	90 - 110	P	10/17/2024	15:57	LB132991
	Cobalt	2490	2500	100	90 - 110	P	10/17/2024	15:57	LB132991
	Copper	1250	1250	100	90 - 110	P	10/17/2024	15:57	LB132991
	Iron	5000	5000	100	90 - 110	P	10/17/2024	15:57	LB132991

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
CCV03	Lead	5130	5000	102	90 - 110	P	10/17/2024	15:57	LB132991
	Magnesium	24600	25000	98	90 - 110	P	10/17/2024	15:57	LB132991
	Manganese	2450	2500	98	90 - 110	P	10/17/2024	15:57	LB132991
	Molybdenum	5030	5000	101	90 - 110	P	10/17/2024	15:57	LB132991
	Nickel	2500	2500	100	90 - 110	P	10/17/2024	15:57	LB132991
	Potassium	24800	25000	99	90 - 110	P	10/17/2024	15:57	LB132991
	Selenium	5090	5000	102	90 - 110	P	10/17/2024	15:57	LB132991
	Silicon	5290	5000	106	90 - 110	P	10/17/2024	15:57	LB132991
	Silver	1260	1250	101	90 - 110	P	10/17/2024	15:57	LB132991
	Sodium	24700	25000	99	90 - 110	P	10/17/2024	15:57	LB132991
	Strontium	5030	5000	101	90 - 110	P	10/17/2024	15:57	LB132991
	Thallium	5130	5000	103	90 - 110	P	10/17/2024	15:57	LB132991
	Tin	5070	5000	101	90 - 110	P	10/17/2024	15:57	LB132991
	Titanium	4960	5000	99	90 - 110	P	10/17/2024	15:57	LB132991
	Vanadium	2460	2500	98	90 - 110	P	10/17/2024	15:57	LB132991
	Zinc	2550	2500	102	90 - 110	P	10/17/2024	15:57	LB132991

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Aluminum	2330	2500	93	95 - 105	P	10/18/2024	13:08	LB133014
	Antimony	1020	1000	102	95 - 105	P	10/18/2024	13:08	LB133014
	Arsenic	1030	1000	103	95 - 105	P	10/18/2024	13:08	LB133014
	Barium	498	520	96	95 - 105	P	10/18/2024	13:08	LB133014
	Beryllium	504	510	99	95 - 105	P	10/18/2024	13:08	LB133014
	Cadmium	517	510	101	95 - 105	P	10/18/2024	13:08	LB133014
	Calcium	9990	10000	100	95 - 105	P	10/18/2024	13:08	LB133014
	Chromium	551	520	106	95 - 105	P	10/18/2024	13:08	LB133014
	Cobalt	533	520	103	95 - 105	P	10/18/2024	13:08	LB133014
	Copper	544	510	107	95 - 105	P	10/18/2024	13:08	LB133014
	Iron	10500	10000	104	95 - 105	P	10/18/2024	13:08	LB133014
	Lead	1030	1000	103	95 - 105	P	10/18/2024	13:08	LB133014
	Magnesium	5790	6000	96	95 - 105	P	10/18/2024	13:08	LB133014
	Manganese	512	520	98	95 - 105	P	10/18/2024	13:08	LB133014
	Nickel	536	530	101	95 - 105	P	10/18/2024	13:08	LB133014
	Potassium	10300	9900	104	95 - 105	P	10/18/2024	13:08	LB133014
	Selenium	1030	1000	103	95 - 105	P	10/18/2024	13:08	LB133014
	Silver	269	250	108	95 - 105	P	10/18/2024	13:08	LB133014
	Sodium	10100	10000	101	95 - 105	P	10/18/2024	13:08	LB133014
	Thallium	1080	1000	108	95 - 105	P	10/18/2024	13:08	LB133014
	Vanadium	486	500	97	95 - 105	P	10/18/2024	13:08	LB133014
	Zinc	1070	1000	107	95 - 105	P	10/18/2024	13:08	LB133014

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Aluminum	95.8	100	96	80 - 120	P	10/18/2024	13:13	LB133014
	Antimony	47.7	50.0	95	80 - 120	P	10/18/2024	13:13	LB133014
	Arsenic	19.3	20.0	97	80 - 120	P	10/18/2024	13:13	LB133014
	Barium	92.1	100	92	80 - 120	P	10/18/2024	13:13	LB133014
	Beryllium	5.87	6.0	98	80 - 120	P	10/18/2024	13:13	LB133014
	Cadmium	5.61	6.0	94	80 - 120	P	10/18/2024	13:13	LB133014
	Calcium	1900	2000	95	80 - 120	P	10/18/2024	13:13	LB133014
	Chromium	9.84	10.0	98	80 - 120	P	10/18/2024	13:13	LB133014
	Cobalt	28.9	30.0	96	80 - 120	P	10/18/2024	13:13	LB133014
	Copper	21.7	20.0	108	80 - 120	P	10/18/2024	13:13	LB133014
	Iron	105	100	105	80 - 120	P	10/18/2024	13:13	LB133014
	Lead	14.2	12.0	118	80 - 120	P	10/18/2024	13:13	LB133014
	Magnesium	2010	2000	100	80 - 120	P	10/18/2024	13:13	LB133014
	Manganese	19.0	20.0	95	80 - 120	P	10/18/2024	13:13	LB133014
	Nickel	38.7	40.0	97	80 - 120	P	10/18/2024	13:13	LB133014
	Potassium	1920	2000	96	80 - 120	P	10/18/2024	13:13	LB133014
	Selenium	17.4	20.0	87	80 - 120	P	10/18/2024	13:13	LB133014
	Silver	11.8	10.0	118	80 - 120	P	10/18/2024	13:13	LB133014
	Sodium	1880	2000	94	80 - 120	P	10/18/2024	13:13	LB133014
	Thallium	39.2	40.0	98	80 - 120	P	10/18/2024	13:13	LB133014
	Vanadium	37.8	40.0	94	80 - 120	P	10/18/2024	13:13	LB133014
	Zinc	41.1	40.0	103	80 - 120	P	10/18/2024	13:13	LB133014

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Aluminum	9900	10000	99	90 - 110	P	10/18/2024	14:00	LB133014
	Antimony	5110	5000	102	90 - 110	P	10/18/2024	14:00	LB133014
	Arsenic	5310	5000	106	90 - 110	P	10/18/2024	14:00	LB133014
	Barium	9920	10000	99	90 - 110	P	10/18/2024	14:00	LB133014
	Beryllium	251	250	100	90 - 110	P	10/18/2024	14:00	LB133014
	Cadmium	2620	2500	105	90 - 110	P	10/18/2024	14:00	LB133014
	Calcium	25000	25000	100	90 - 110	P	10/18/2024	14:00	LB133014
	Chromium	1030	1000	103	90 - 110	P	10/18/2024	14:00	LB133014
	Cobalt	2530	2500	101	90 - 110	P	10/18/2024	14:00	LB133014
	Copper	1280	1250	102	90 - 110	P	10/18/2024	14:00	LB133014
	Iron	5120	5000	102	90 - 110	P	10/18/2024	14:00	LB133014
	Lead	5220	5000	104	90 - 110	P	10/18/2024	14:00	LB133014
	Magnesium	25000	25000	100	90 - 110	P	10/18/2024	14:00	LB133014
	Manganese	2480	2500	99	90 - 110	P	10/18/2024	14:00	LB133014
	Nickel	2530	2500	101	90 - 110	P	10/18/2024	14:00	LB133014
	Potassium	25400	25000	102	90 - 110	P	10/18/2024	14:00	LB133014
	Selenium	5250	5000	105	90 - 110	P	10/18/2024	14:00	LB133014
	Silver	1280	1250	103	90 - 110	P	10/18/2024	14:00	LB133014
	Sodium	25200	25000	101	90 - 110	P	10/18/2024	14:00	LB133014
	Thallium	5120	5000	102	90 - 110	P	10/18/2024	14:00	LB133014
	Vanadium	2490	2500	100	90 - 110	P	10/18/2024	14:00	LB133014
	Zinc	2560	2500	102	90 - 110	P	10/18/2024	14:00	LB133014
CCV02	Aluminum	9570	10000	96	90 - 110	P	10/18/2024	14:53	LB133014
	Antimony	4850	5000	97	90 - 110	P	10/18/2024	14:53	LB133014
	Arsenic	5040	5000	101	90 - 110	P	10/18/2024	14:53	LB133014
	Barium	9490	10000	95	90 - 110	P	10/18/2024	14:53	LB133014
	Beryllium	246	250	98	90 - 110	P	10/18/2024	14:53	LB133014
	Cadmium	2500	2500	100	90 - 110	P	10/18/2024	14:53	LB133014
	Calcium	24000	25000	96	90 - 110	P	10/18/2024	14:53	LB133014
	Chromium	1000	1000	100	90 - 110	P	10/18/2024	14:53	LB133014
	Cobalt	2410	2500	96	90 - 110	P	10/18/2024	14:53	LB133014
	Copper	1210	1250	96	90 - 110	P	10/18/2024	14:53	LB133014
	Iron	5030	5000	100	90 - 110	P	10/18/2024	14:53	LB133014
	Lead	5010	5000	100	90 - 110	P	10/18/2024	14:53	LB133014

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
CCV02	Magnesium	24000	25000	96	90 - 110	P	10/18/2024	14:53	LB133014
	Manganese	2390	2500	96	90 - 110	P	10/18/2024	14:53	LB133014
	Nickel	2410	2500	96	90 - 110	P	10/18/2024	14:53	LB133014
	Potassium	24900	25000	100	90 - 110	P	10/18/2024	14:53	LB133014
	Selenium	4990	5000	100	90 - 110	P	10/18/2024	14:53	LB133014
	Silver	1260	1250	101	90 - 110	P	10/18/2024	14:53	LB133014
	Sodium	24800	25000	99	90 - 110	P	10/18/2024	14:53	LB133014
	Thallium	5350	5000	107	90 - 110	P	10/18/2024	14:53	LB133014
	Vanadium	2390	2500	96	90 - 110	P	10/18/2024	14:53	LB133014
	Zinc	2500	2500	100	90 - 110	P	10/18/2024	14:53	LB133014
CCV03	Aluminum	9330	10000	93	90 - 110	P	10/18/2024	16:05	LB133014
	Antimony	4690	5000	94	90 - 110	P	10/18/2024	16:05	LB133014
	Arsenic	4920	5000	98	90 - 110	P	10/18/2024	16:05	LB133014
	Barium	9220	10000	92	90 - 110	P	10/18/2024	16:05	LB133014
	Beryllium	255	250	102	90 - 110	P	10/18/2024	16:05	LB133014
	Cadmium	2500	2500	100	90 - 110	P	10/18/2024	16:05	LB133014
	Calcium	23900	25000	96	90 - 110	P	10/18/2024	16:05	LB133014
	Chromium	984	1000	98	90 - 110	P	10/18/2024	16:05	LB133014
	Cobalt	2390	2500	96	90 - 110	P	10/18/2024	16:05	LB133014
	Copper	1180	1250	94	90 - 110	P	10/18/2024	16:05	LB133014
	Iron	4600	5000	92	90 - 110	P	10/18/2024	16:05	LB133014
	Lead	4990	5000	100	90 - 110	P	10/18/2024	16:05	LB133014
	Magnesium	23600	25000	94	90 - 110	P	10/18/2024	16:05	LB133014
	Manganese	2290	2500	92	90 - 110	P	10/18/2024	16:05	LB133014
	Nickel	2400	2500	96	90 - 110	P	10/18/2024	16:05	LB133014
	Potassium	22500	25000	90	90 - 110	P	10/18/2024	16:05	LB133014
	Selenium	4840	5000	97	90 - 110	P	10/18/2024	16:05	LB133014
	Silver	1200	1250	96	90 - 110	P	10/18/2024	16:05	LB133014
	Sodium	24500	25000	98	90 - 110	P	10/18/2024	16:05	LB133014
	Thallium	5190	5000	104	90 - 110	P	10/18/2024	16:05	LB133014
	Vanadium	2310	2500	92	90 - 110	P	10/18/2024	16:05	LB133014
	Zinc	2360	2500	95	90 - 110	P	10/18/2024	16:05	LB133014
CCV04	Aluminum	9210	10000	92	90 - 110	P	10/18/2024	17:28	LB133014
	Antimony	4730	5000	95	90 - 110	P	10/18/2024	17:28	LB133014

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
CCV04	Arsenic	4890	5000	98	90 - 110	P	10/18/2024	17:28	LB133014
	Barium	9280	10000	93	90 - 110	P	10/18/2024	17:28	LB133014
	Beryllium	242	250	97	90 - 110	P	10/18/2024	17:28	LB133014
	Cadmium	2420	2500	97	90 - 110	P	10/18/2024	17:28	LB133014
	Calcium	23100	25000	92	90 - 110	P	10/18/2024	17:28	LB133014
	Chromium	954	1000	95	90 - 110	P	10/18/2024	17:28	LB133014
	Cobalt	2330	2500	93	90 - 110	P	10/18/2024	17:28	LB133014
	Copper	1170	1250	94	90 - 110	P	10/18/2024	17:28	LB133014
	Iron	4840	5000	97	90 - 110	P	10/18/2024	17:28	LB133014
	Lead	4850	5000	97	90 - 110	P	10/18/2024	17:28	LB133014
	Magnesium	24800	25000	99	90 - 110	P	10/18/2024	17:28	LB133014
	Manganese	2590	2500	104	90 - 110	P	10/18/2024	17:28	LB133014
	Nickel	2330	2500	93	90 - 110	P	10/18/2024	17:28	LB133014
	Potassium	23500	25000	94	90 - 110	P	10/18/2024	17:28	LB133014
	Selenium	4850	5000	97	90 - 110	P	10/18/2024	17:28	LB133014
	Silver	1200	1250	96	90 - 110	P	10/18/2024	17:28	LB133014
	Sodium	23300	25000	93	90 - 110	P	10/18/2024	17:28	LB133014
	Thallium	5110	5000	102	90 - 110	P	10/18/2024	17:28	LB133014
	Vanadium	2250	2500	90	90 - 110	P	10/18/2024	17:28	LB133014
	Zinc	2370	2500	95	90 - 110	P	10/18/2024	17:28	LB133014

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	0.052	0.05	104	40 - 160	CV	10/08/2024	16:18	LB132826
CRI01	Aluminum	91.4	100	91	40 - 160	P	10/17/2024	13:21	LB132991
	Antimony	44.9	50.0	90	40 - 160	P	10/17/2024	13:21	LB132991
	Arsenic	18.5	20.0	93	40 - 160	P	10/17/2024	13:21	LB132991
	Barium	89.8	100	90	40 - 160	P	10/17/2024	13:21	LB132991
	Beryllium	5.42	6.0	90	40 - 160	P	10/17/2024	13:21	LB132991
	Boron	84.2	100	84	40 - 160	P	10/17/2024	13:21	LB132991
	Cadmium	5.67	6.0	94	40 - 160	P	10/17/2024	13:21	LB132991
	Calcium	1760	2000	88	40 - 160	P	10/17/2024	13:21	LB132991
	Chromium	8.81	10.0	88	40 - 160	P	10/17/2024	13:21	LB132991
	Cobalt	26.7	30.0	89	40 - 160	P	10/17/2024	13:21	LB132991
	Copper	20.2	20.0	101	40 - 160	P	10/17/2024	13:21	LB132991
	Iron	94.7	100	95	40 - 160	P	10/17/2024	13:21	LB132991
	Lead	13.3	12.0	111	40 - 160	P	10/17/2024	13:21	LB132991
	Magnesium	1860	2000	93	40 - 160	P	10/17/2024	13:21	LB132991
	Manganese	18.1	20.0	91	40 - 160	P	10/17/2024	13:21	LB132991
	Molybdenum	183	200	91	40 - 160	P	10/17/2024	13:21	LB132991
	Nickel	35.6	40.0	89	40 - 160	P	10/17/2024	13:21	LB132991
	Potassium	1790	2000	89	40 - 160	P	10/17/2024	13:21	LB132991
	Selenium	17.8	20.0	89	40 - 160	P	10/17/2024	13:21	LB132991
	Silicon	321	400	80	40 - 160	P	10/17/2024	13:21	LB132991
	Silver	11.2	10.0	112	40 - 160	P	10/17/2024	13:21	LB132991
	Sodium	1720	2000	86	40 - 160	P	10/17/2024	13:21	LB132991
	Strontium	18.6	20.0	93	40 - 160	P	10/17/2024	13:21	LB132991
	Thallium	37.6	40.0	94	40 - 160	P	10/17/2024	13:21	LB132991
	Tin	32.1	40.0	80	40 - 160	P	10/17/2024	13:21	LB132991
	Titanium	34.0	40.0	85	40 - 160	P	10/17/2024	13:21	LB132991
	Vanadium	34.4	40.0	86	40 - 160	P	10/17/2024	13:21	LB132991
	Zinc	39.1	40.0	98	40 - 160	P	10/17/2024	13:21	LB132991
CRI01	Aluminum	93.0	100	93	40 - 160	P	10/18/2024	13:27	LB133014
	Antimony	48.2	50.0	96	40 - 160	P	10/18/2024	13:27	LB133014
	Arsenic	20.0	20.0	100	40 - 160	P	10/18/2024	13:27	LB133014
	Barium	92.1	100	92	40 - 160	P	10/18/2024	13:27	LB133014
	Beryllium	5.98	6.0	100	40 - 160	P	10/18/2024	13:27	LB133014
	Cadmium	5.44	6.0	91	40 - 160	P	10/18/2024	13:27	LB133014

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Metals

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CRDL STANDARD FOR AA & ICP

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Calcium	1910	2000	96	40 - 160	P	10/18/2024	13:27	LB133014
	Chromium	9.88	10.0	99	40 - 160	P	10/18/2024	13:27	LB133014
	Cobalt	28.8	30.0	96	40 - 160	P	10/18/2024	13:27	LB133014
	Copper	21.7	20.0	108	40 - 160	P	10/18/2024	13:27	LB133014
	Iron	105	100	105	40 - 160	P	10/18/2024	13:27	LB133014
	Lead	12.8	12.0	107	40 - 160	P	10/18/2024	13:27	LB133014
	Magnesium	2030	2000	102	40 - 160	P	10/18/2024	13:27	LB133014
	Manganese	19.3	20.0	96	40 - 160	P	10/18/2024	13:27	LB133014
	Nickel	38.5	40.0	96	40 - 160	P	10/18/2024	13:27	LB133014
	Potassium	1980	2000	99	40 - 160	P	10/18/2024	13:27	LB133014
	Selenium	17.9	20.0	89	40 - 160	P	10/18/2024	13:27	LB133014
	Silver	12.4	10.0	124	40 - 160	P	10/18/2024	13:27	LB133014
	Sodium	1940	2000	97	40 - 160	P	10/18/2024	13:27	LB133014
	Thallium	38.6	40.0	97	40 - 160	P	10/18/2024	13:27	LB133014
	Vanadium	37.5	40.0	94	40 - 160	P	10/18/2024	13:27	LB133014
	Zinc	42.5	40.0	106	40 - 160	P	10/18/2024	13:27	LB133014

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB29	Mercury	0.20	+/-0.20	U	0.20	CV	10/08/2024	16:12	LB132826

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB89	Mercury	0.20	+/-0.20	U	0.20	CV	10/08/2024	16:16	LB132826
CCB90	Mercury	0.20	+/-0.20	U	0.20	CV	10/08/2024	16:54	LB132826
CCB91	Mercury	0.20	+/-0.20	U	0.20	CV	10/08/2024	17:27	LB132826

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	10/17/2024	13:14	LB132991
	Antimony	50.0	+/-50.0	U	50.0	P	10/17/2024	13:14	LB132991
	Arsenic	20.0	+/-20.0	U	20.0	P	10/17/2024	13:14	LB132991
	Barium	100	+/-100	U	100	P	10/17/2024	13:14	LB132991
	Beryllium	6.00	+/-6.00	U	6.00	P	10/17/2024	13:14	LB132991
	Boron	100	+/-100	U	100	P	10/17/2024	13:14	LB132991
	Cadmium	6.00	+/-6.00	U	6.00	P	10/17/2024	13:14	LB132991
	Calcium	2000	+/-2000	U	2000	P	10/17/2024	13:14	LB132991
	Chromium	10.0	+/-10.0	U	10.0	P	10/17/2024	13:14	LB132991
	Cobalt	30.0	+/-30.0	U	30.0	P	10/17/2024	13:14	LB132991
	Copper	20.0	+/-20.0	U	20.0	P	10/17/2024	13:14	LB132991
	Iron	100	+/-100	U	100	P	10/17/2024	13:14	LB132991
	Lead	12.0	+/-12.0	U	12.0	P	10/17/2024	13:14	LB132991
	Magnesium	2000	+/-2000	U	2000	P	10/17/2024	13:14	LB132991
	Manganese	20.0	+/-20.0	U	20.0	P	10/17/2024	13:14	LB132991
	Molybdenum	200	+/-200	U	200	P	10/17/2024	13:14	LB132991
	Nickel	40.0	+/-40.0	U	40.0	P	10/17/2024	13:14	LB132991
	Potassium	2000	+/-2000	U	2000	P	10/17/2024	13:14	LB132991
	Selenium	20.0	+/-20.0	U	20.0	P	10/17/2024	13:14	LB132991
	Silicon	400	+/-400	U	400	P	10/17/2024	13:14	LB132991
	Silver	10.0	+/-10.0	U	10.0	P	10/17/2024	13:14	LB132991
	Sodium	2000	+/-2000	U	2000	P	10/17/2024	13:14	LB132991
	Strontium	20.0	+/-20.0	U	20.0	P	10/17/2024	13:14	LB132991
	Thallium	40.0	+/-40.0	U	40.0	P	10/17/2024	13:14	LB132991
	Tin	40.0	+/-40.0	U	40.0	P	10/17/2024	13:14	LB132991
	Titanium	40.0	+/-40.0	U	40.0	P	10/17/2024	13:14	LB132991
	Vanadium	40.0	+/-40.0	U	40.0	P	10/17/2024	13:14	LB132991
	Zinc	40.0	+/-40.0	U	40.0	P	10/17/2024	13:14	LB132991

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	10/17/2024	14:29	LB132991
	Antimony	50.0	+/-50.0	U	50.0	P	10/17/2024	14:29	LB132991
	Arsenic	20.0	+/-20.0	U	20.0	P	10/17/2024	14:29	LB132991
	Barium	100	+/-100	U	100	P	10/17/2024	14:29	LB132991
	Beryllium	6.00	+/-6.00	U	6.00	P	10/17/2024	14:29	LB132991
	Boron	100	+/-100	U	100	P	10/17/2024	14:29	LB132991
	Cadmium	6.00	+/-6.00	U	6.00	P	10/17/2024	14:29	LB132991
	Calcium	2000	+/-2000	U	2000	P	10/17/2024	14:29	LB132991
	Chromium	10.0	+/-10.0	U	10.0	P	10/17/2024	14:29	LB132991
	Cobalt	30.0	+/-30.0	U	30.0	P	10/17/2024	14:29	LB132991
	Copper	20.0	+/-20.0	U	20.0	P	10/17/2024	14:29	LB132991
	Iron	100	+/-100	U	100	P	10/17/2024	14:29	LB132991
	Lead	12.0	+/-12.0	U	12.0	P	10/17/2024	14:29	LB132991
	Magnesium	2000	+/-2000	U	2000	P	10/17/2024	14:29	LB132991
	Manganese	20.0	+/-20.0	U	20.0	P	10/17/2024	14:29	LB132991
	Molybdenum	200	+/-200	U	200	P	10/17/2024	14:29	LB132991
	Nickel	40.0	+/-40.0	U	40.0	P	10/17/2024	14:29	LB132991
	Potassium	2000	+/-2000	U	2000	P	10/17/2024	14:29	LB132991
	Selenium	20.0	+/-20.0	U	20.0	P	10/17/2024	14:29	LB132991
	Silicon	400	+/-400	U	400	P	10/17/2024	14:29	LB132991
	Silver	10.0	+/-10.0	U	10.0	P	10/17/2024	14:29	LB132991
	Sodium	2000	+/-2000	U	2000	P	10/17/2024	14:29	LB132991
	Strontium	20.0	+/-20.0	U	20.0	P	10/17/2024	14:29	LB132991
	Thallium	40.0	+/-40.0	U	40.0	P	10/17/2024	14:29	LB132991
	Tin	40.0	+/-40.0	U	40.0	P	10/17/2024	14:29	LB132991
	Titanium	40.0	+/-40.0	U	40.0	P	10/17/2024	14:29	LB132991
	Vanadium	40.0	+/-40.0	U	40.0	P	10/17/2024	14:29	LB132991
	Zinc	40.0	+/-40.0	U	40.0	P	10/17/2024	14:29	LB132991
CCB02	Aluminum	100	+/-100	U	100	P	10/17/2024	15:45	LB132991
	Antimony	50.0	+/-50.0	U	50.0	P	10/17/2024	15:45	LB132991
	Arsenic	20.0	+/-20.0	U	20.0	P	10/17/2024	15:45	LB132991
	Barium	100	+/-100	U	100	P	10/17/2024	15:45	LB132991
	Beryllium	6.00	+/-6.00	U	6.00	P	10/17/2024	15:45	LB132991
	Boron	100	+/-100	U	100	P	10/17/2024	15:45	LB132991
	Cadmium	0.85	+/-6.00	J	6.00	P	10/17/2024	15:45	LB132991
	Calcium	2000	+/-2000	U	2000	P	10/17/2024	15:45	LB132991
	Chromium	10.0	+/-10.0	U	10.0	P	10/17/2024	15:45	LB132991
	Cobalt	30.0	+/-30.0	U	30.0	P	10/17/2024	15:45	LB132991
	Copper	20.0	+/-20.0	U	20.0	P	10/17/2024	15:45	LB132991

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Iron	100	+/-100	U	100	P	10/17/2024	15:45	LB132991
	Lead	12.0	+/-12.0	U	12.0	P	10/17/2024	15:45	LB132991
	Magnesium	2000	+/-2000	U	2000	P	10/17/2024	15:45	LB132991
	Manganese	20.0	+/-20.0	U	20.0	P	10/17/2024	15:45	LB132991
	Molybdenum	200	+/-200	U	200	P	10/17/2024	15:45	LB132991
	Nickel	40.0	+/-40.0	U	40.0	P	10/17/2024	15:45	LB132991
	Potassium	2000	+/-2000	U	2000	P	10/17/2024	15:45	LB132991
	Selenium	20.0	+/-20.0	U	20.0	P	10/17/2024	15:45	LB132991
	Silicon	400	+/-400	U	400	P	10/17/2024	15:45	LB132991
	Silver	10.0	+/-10.0	U	10.0	P	10/17/2024	15:45	LB132991
	Sodium	2000	+/-2000	U	2000	P	10/17/2024	15:45	LB132991
	Strontium	20.0	+/-20.0	U	20.0	P	10/17/2024	15:45	LB132991
	Thallium	40.0	+/-40.0	U	40.0	P	10/17/2024	15:45	LB132991
	Tin	40.0	+/-40.0	U	40.0	P	10/17/2024	15:45	LB132991
	Titanium	40.0	+/-40.0	U	40.0	P	10/17/2024	15:45	LB132991
	Vanadium	40.0	+/-40.0	U	40.0	P	10/17/2024	15:45	LB132991
	Zinc	40.0	+/-40.0	U	40.0	P	10/17/2024	15:45	LB132991
CCB03	Aluminum	100	+/-100	U	100	P	10/17/2024	16:01	LB132991
	Antimony	50.0	+/-50.0	U	50.0	P	10/17/2024	16:01	LB132991
	Arsenic	20.0	+/-20.0	U	20.0	P	10/17/2024	16:01	LB132991
	Barium	100	+/-100	U	100	P	10/17/2024	16:01	LB132991
	Beryllium	6.00	+/-6.00	U	6.00	P	10/17/2024	16:01	LB132991
	Boron	100	+/-100	U	100	P	10/17/2024	16:01	LB132991
	Cadmium	1.00	+/-6.00	J	6.00	P	10/17/2024	16:01	LB132991
	Calcium	2000	+/-2000	U	2000	P	10/17/2024	16:01	LB132991
	Chromium	10.0	+/-10.0	U	10.0	P	10/17/2024	16:01	LB132991
	Cobalt	30.0	+/-30.0	U	30.0	P	10/17/2024	16:01	LB132991
	Copper	20.0	+/-20.0	U	20.0	P	10/17/2024	16:01	LB132991
	Iron	100	+/-100	U	100	P	10/17/2024	16:01	LB132991
	Lead	12.0	+/-12.0	U	12.0	P	10/17/2024	16:01	LB132991
	Magnesium	2000	+/-2000	U	2000	P	10/17/2024	16:01	LB132991
	Manganese	20.0	+/-20.0	U	20.0	P	10/17/2024	16:01	LB132991
	Molybdenum	200	+/-200	U	200	P	10/17/2024	16:01	LB132991
	Nickel	40.0	+/-40.0	U	40.0	P	10/17/2024	16:01	LB132991
	Potassium	2000	+/-2000	U	2000	P	10/17/2024	16:01	LB132991
	Selenium	20.0	+/-20.0	U	20.0	P	10/17/2024	16:01	LB132991
	Silicon	400	+/-400	U	400	P	10/17/2024	16:01	LB132991
	Silver	10.0	+/-10.0	U	10.0	P	10/17/2024	16:01	LB132991
	Sodium	2000	+/-2000	U	2000	P	10/17/2024	16:01	LB132991

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB03	Strontium	20.0	+/-20.0	U	20.0	P	10/17/2024	16:01	LB132991
	Thallium	40.0	+/-40.0	U	40.0	P	10/17/2024	16:01	LB132991
	Tin	40.0	+/-40.0	U	40.0	P	10/17/2024	16:01	LB132991
	Titanium	40.0	+/-40.0	U	40.0	P	10/17/2024	16:01	LB132991
	Vanadium	40.0	+/-40.0	U	40.0	P	10/17/2024	16:01	LB132991
	Zinc	40.0	+/-40.0	U	40.0	P	10/17/2024	16:01	LB132991

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Aluminum	100	+/-100	U	100	P	10/18/2024	13:23	LB133014
	Antimony	50.0	+/-50.0	U	50.0	P	10/18/2024	13:23	LB133014
	Arsenic	20.0	+/-20.0	U	20.0	P	10/18/2024	13:23	LB133014
	Barium	100	+/-100	U	100	P	10/18/2024	13:23	LB133014
	Beryllium	6.00	+/-6.00	U	6.00	P	10/18/2024	13:23	LB133014
	Cadmium	6.00	+/-6.00	U	6.00	P	10/18/2024	13:23	LB133014
	Calcium	2000	+/-2000	U	2000	P	10/18/2024	13:23	LB133014
	Chromium	10.0	+/-10.0	U	10.0	P	10/18/2024	13:23	LB133014
	Cobalt	30.0	+/-30.0	U	30.0	P	10/18/2024	13:23	LB133014
	Copper	20.0	+/-20.0	U	20.0	P	10/18/2024	13:23	LB133014
	Iron	100	+/-100	U	100	P	10/18/2024	13:23	LB133014
	Lead	12.0	+/-12.0	U	12.0	P	10/18/2024	13:23	LB133014
	Magnesium	2000	+/-2000	U	2000	P	10/18/2024	13:23	LB133014
	Manganese	20.0	+/-20.0	U	20.0	P	10/18/2024	13:23	LB133014
	Nickel	40.0	+/-40.0	U	40.0	P	10/18/2024	13:23	LB133014
	Potassium	2000	+/-2000	U	2000	P	10/18/2024	13:23	LB133014
	Selenium	20.0	+/-20.0	U	20.0	P	10/18/2024	13:23	LB133014
	Silver	10.0	+/-10.0	U	10.0	P	10/18/2024	13:23	LB133014
	Sodium	2000	+/-2000	U	2000	P	10/18/2024	13:23	LB133014
	Thallium	40.0	+/-40.0	U	40.0	P	10/18/2024	13:23	LB133014
	Vanadium	40.0	+/-40.0	U	40.0	P	10/18/2024	13:23	LB133014
	Zinc	40.0	+/-40.0	U	40.0	P	10/18/2024	13:23	LB133014

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Aluminum	100	+/-100	U	100	P	10/18/2024	14:05	LB133014
	Antimony	50.0	+/-50.0	U	50.0	P	10/18/2024	14:05	LB133014
	Arsenic	20.0	+/-20.0	U	20.0	P	10/18/2024	14:05	LB133014
	Barium	100	+/-100	U	100	P	10/18/2024	14:05	LB133014
	Beryllium	6.00	+/-6.00	U	6.00	P	10/18/2024	14:05	LB133014
	Cadmium	0.48	+/-6.00	J	6.00	P	10/18/2024	14:05	LB133014
	Calcium	2000	+/-2000	U	2000	P	10/18/2024	14:05	LB133014
	Chromium	10.0	+/-10.0	U	10.0	P	10/18/2024	14:05	LB133014
	Cobalt	30.0	+/-30.0	U	30.0	P	10/18/2024	14:05	LB133014
	Copper	20.0	+/-20.0	U	20.0	P	10/18/2024	14:05	LB133014
	Iron	100	+/-100	U	100	P	10/18/2024	14:05	LB133014
	Lead	12.0	+/-12.0	U	12.0	P	10/18/2024	14:05	LB133014
	Magnesium	2000	+/-2000	U	2000	P	10/18/2024	14:05	LB133014
	Manganese	20.0	+/-20.0	U	20.0	P	10/18/2024	14:05	LB133014
	Nickel	40.0	+/-40.0	U	40.0	P	10/18/2024	14:05	LB133014
	Potassium	2000	+/-2000	U	2000	P	10/18/2024	14:05	LB133014
	Selenium	20.0	+/-20.0	U	20.0	P	10/18/2024	14:05	LB133014
	Silver	10.0	+/-10.0	U	10.0	P	10/18/2024	14:05	LB133014
	Sodium	2000	+/-2000	U	2000	P	10/18/2024	14:05	LB133014
	Thallium	40.0	+/-40.0	U	40.0	P	10/18/2024	14:05	LB133014
	Vanadium	40.0	+/-40.0	U	40.0	P	10/18/2024	14:05	LB133014
	Zinc	40.0	+/-40.0	U	40.0	P	10/18/2024	14:05	LB133014
CCB02	Aluminum	100	+/-100	U	100	P	10/18/2024	14:57	LB133014
	Antimony	50.0	+/-50.0	U	50.0	P	10/18/2024	14:57	LB133014
	Arsenic	20.0	+/-20.0	U	20.0	P	10/18/2024	14:57	LB133014
	Barium	100	+/-100	U	100	P	10/18/2024	14:57	LB133014
	Beryllium	6.00	+/-6.00	U	6.00	P	10/18/2024	14:57	LB133014
	Cadmium	6.00	+/-6.00	U	6.00	P	10/18/2024	14:57	LB133014
	Calcium	2000	+/-2000	U	2000	P	10/18/2024	14:57	LB133014
	Chromium	10.0	+/-10.0	U	10.0	P	10/18/2024	14:57	LB133014
	Cobalt	30.0	+/-30.0	U	30.0	P	10/18/2024	14:57	LB133014
	Copper	20.0	+/-20.0	U	20.0	P	10/18/2024	14:57	LB133014
	Iron	100	+/-100	U	100	P	10/18/2024	14:57	LB133014
	Lead	12.0	+/-12.0	U	12.0	P	10/18/2024	14:57	LB133014
	Magnesium	2000	+/-2000	U	2000	P	10/18/2024	14:57	LB133014
	Manganese	20.0	+/-20.0	U	20.0	P	10/18/2024	14:57	LB133014
	Nickel	40.0	+/-40.0	U	40.0	P	10/18/2024	14:57	LB133014
	Potassium	2000	+/-2000	U	2000	P	10/18/2024	14:57	LB133014
	Selenium	20.0	+/-20.0	U	20.0	P	10/18/2024	14:57	LB133014

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB02	Silver	10.0	+/-10.0	U	10.0	P	10/18/2024	14:57	LB133014
	Sodium	2000	+/-2000	U	2000	P	10/18/2024	14:57	LB133014
	Thallium	40.0	+/-40.0	U	40.0	P	10/18/2024	14:57	LB133014
	Vanadium	40.0	+/-40.0	U	40.0	P	10/18/2024	14:57	LB133014
	Zinc	40.0	+/-40.0	U	40.0	P	10/18/2024	14:57	LB133014
CCB03	Aluminum	100	+/-100	U	100	P	10/18/2024	16:39	LB133014
	Antimony	50.0	+/-50.0	U	50.0	P	10/18/2024	16:39	LB133014
	Arsenic	20.0	+/-20.0	U	20.0	P	10/18/2024	16:39	LB133014
	Barium	100	+/-100	U	100	P	10/18/2024	16:39	LB133014
	Beryllium	6.00	+/-6.00	U	6.00	P	10/18/2024	16:39	LB133014
	Cadmium	6.00	+/-6.00	U	6.00	P	10/18/2024	16:39	LB133014
	Calcium	2000	+/-2000	U	2000	P	10/18/2024	16:39	LB133014
	Chromium	10.0	+/-10.0	U	10.0	P	10/18/2024	16:39	LB133014
	Cobalt	30.0	+/-30.0	U	30.0	P	10/18/2024	16:39	LB133014
	Copper	20.0	+/-20.0	U	20.0	P	10/18/2024	16:39	LB133014
	Iron	100	+/-100	U	100	P	10/18/2024	16:39	LB133014
	Lead	12.0	+/-12.0	U	12.0	P	10/18/2024	16:39	LB133014
	Magnesium	2000	+/-2000	U	2000	P	10/18/2024	16:39	LB133014
	Manganese	20.0	+/-20.0	U	20.0	P	10/18/2024	16:39	LB133014
	Nickel	40.0	+/-40.0	U	40.0	P	10/18/2024	16:39	LB133014
	Potassium	2000	+/-2000	U	2000	P	10/18/2024	16:39	LB133014
	Selenium	20.0	+/-20.0	U	20.0	P	10/18/2024	16:39	LB133014
	Silver	10.0	+/-10.0	U	10.0	P	10/18/2024	16:39	LB133014
	Sodium	2000	+/-2000	U	2000	P	10/18/2024	16:39	LB133014
	Thallium	40.0	+/-40.0	U	40.0	P	10/18/2024	16:39	LB133014
	Vanadium	40.0	+/-40.0	U	40.0	P	10/18/2024	16:39	LB133014
	Zinc	40.0	+/-40.0	U	40.0	P	10/18/2024	16:39	LB133014
CCB04	Aluminum	100	+/-100	U	100	P	10/18/2024	17:32	LB133014
	Antimony	50.0	+/-50.0	U	50.0	P	10/18/2024	17:32	LB133014
	Arsenic	20.0	+/-20.0	U	20.0	P	10/18/2024	17:32	LB133014
	Barium	100	+/-100	U	100	P	10/18/2024	17:32	LB133014
	Beryllium	6.00	+/-6.00	U	6.00	P	10/18/2024	17:32	LB133014
	Cadmium	6.00	+/-6.00	U	6.00	P	10/18/2024	17:32	LB133014
	Calcium	2000	+/-2000	U	2000	P	10/18/2024	17:32	LB133014
	Chromium	10.0	+/-10.0	U	10.0	P	10/18/2024	17:32	LB133014
	Cobalt	30.0	+/-30.0	U	30.0	P	10/18/2024	17:32	LB133014
	Copper	20.0	+/-20.0	U	20.0	P	10/18/2024	17:32	LB133014
	Iron	100	+/-100	U	100	P	10/18/2024	17:32	LB133014
	Lead	12.0	+/-12.0	U	12.0	P	10/18/2024	17:32	LB133014

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB04	Magnesium	2000	+/-2000	U	2000	P	10/18/2024	17:32	LB133014
	Manganese	20.0	+/-20.0	U	20.0	P	10/18/2024	17:32	LB133014
	Nickel	40.0	+/-40.0	U	40.0	P	10/18/2024	17:32	LB133014
	Potassium	2000	+/-2000	U	2000	P	10/18/2024	17:32	LB133014
	Selenium	20.0	+/-20.0	U	20.0	P	10/18/2024	17:32	LB133014
	Silver	10.0	+/-10.0	U	10.0	P	10/18/2024	17:32	LB133014
	Sodium	2000	+/-2000	U	2000	P	10/18/2024	17:32	LB133014
	Thallium	40.0	+/-40.0	U	40.0	P	10/18/2024	17:32	LB133014
	Vanadium	40.0	+/-40.0	U	40.0	P	10/18/2024	17:32	LB133014
	Zinc	40.0	+/-40.0	U	40.0	P	10/18/2024	17:32	LB133014

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PREPARATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB163988BL		**WATER**		**Batch Number:**	**PB163988**		**Prep Date:**	**10/08/2024**	
	Mercury	0.20	<0.20	U	0.20	CV	10/08/2024	16:28	LB132826

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PREPARATION BLANK SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB164232BL		**WATER**		**Batch Number:**	**PB164232**		**Prep Date:**	**10/17/2024**	
	Aluminum	100	<100	U	100	P	10/17/2024	15:49	LB132991
	Antimony	50.0	<50.0	U	50.0	P	10/17/2024	15:49	LB132991
	Arsenic	20.0	<20.0	U	20.0	P	10/17/2024	15:49	LB132991
	Barium	100	<100	U	100	P	10/17/2024	15:49	LB132991
	Beryllium	6.00	<6.00	U	6.00	P	10/17/2024	15:49	LB132991
	Boron	100	<100	U	100	P	10/17/2024	15:49	LB132991
	Cadmium	6.00	<6.00	U	6.00	P	10/17/2024	15:49	LB132991
	Calcium	2000	<2000	U	2000	P	10/17/2024	15:49	LB132991
	Chromium	10.0	<10.0	U	10.0	P	10/17/2024	15:49	LB132991
	Cobalt	30.0	<30.0	U	30.0	P	10/17/2024	15:49	LB132991
	Copper	20.0	<20.0	U	20.0	P	10/17/2024	15:49	LB132991
	Iron	100	<100	U	100	P	10/17/2024	15:49	LB132991
	Lead	12.0	<12.0	U	12.0	P	10/17/2024	15:49	LB132991
	Magnesium	2000	<2000	U	2000	P	10/17/2024	15:49	LB132991
	Manganese	20.0	<20.0	U	20.0	P	10/17/2024	15:49	LB132991
	Molybdenum	200	<200	U	200	P	10/17/2024	15:49	LB132991
	Nickel	40.0	<40.0	U	40.0	P	10/17/2024	15:49	LB132991
	Potassium	2000	<2000	U	2000	P	10/17/2024	15:49	LB132991
	Selenium	20.0	<20.0	U	20.0	P	10/17/2024	15:49	LB132991
	Silicon	400	<400	U	400	P	10/17/2024	15:49	LB132991
	Silver	10.0	<10.0	U	10.0	P	10/17/2024	15:49	LB132991
	Sodium	2000	<2000	U	2000	P	10/17/2024	15:49	LB132991
	Strontium	20.0	<20.0	U	20.0	P	10/17/2024	15:49	LB132991
	Thallium	40.0	<40.0	U	40.0	P	10/17/2024	15:49	LB132991
	Tin	40.0	<40.0	U	40.0	P	10/17/2024	15:49	LB132991
	Titanium	40.0	<40.0	U	40.0	P	10/17/2024	15:49	LB132991
	Vanadium	40.0	<40.0	U	40.0	P	10/17/2024	15:49	LB132991
	Zinc	40.0	<40.0	U	40.0	P	10/17/2024	15:49	LB132991

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Aluminum	246000	255000	96	216000	294000	10/17/2024	13:25	LB132991
	Antimony	0.063			-50	50	10/17/2024	13:25	LB132991
	Arsenic	-0.86			-20	20	10/17/2024	13:25	LB132991
	Barium	4.99	6.0	83	-94	106	10/17/2024	13:25	LB132991
	Beryllium	1.14			-6	6	10/17/2024	13:25	LB132991
	Boron	68.7	1000	7	-100	100	10/17/2024	13:25	LB132991
	Cadmium	0.88	1.0	88	-5	7	10/17/2024	13:25	LB132991
	Calcium	232000	245000	95	208000	282000	10/17/2024	13:25	LB132991
	Chromium	56.9	52.0	109	42	62	10/17/2024	13:25	LB132991
	Cobalt	2.05			-30	30	10/17/2024	13:25	LB132991
	Copper	-1.13	2.0	56	-18	22	10/17/2024	13:25	LB132991
	Iron	101000	101000	100	85600	116500	10/17/2024	13:25	LB132991
	Lead	7.12			-12	12	10/17/2024	13:25	LB132991
	Magnesium	253000	255000	99	216000	294000	10/17/2024	13:25	LB132991
	Manganese	5.58	7.0	80	-13	27	10/17/2024	13:25	LB132991
	Molybdenum	0.67	1000		-200	200	10/17/2024	13:25	LB132991
	Nickel	2.73	2.0	136	-38	42	10/17/2024	13:25	LB132991
	Potassium	-24.7			0	0	10/17/2024	13:25	LB132991
	Selenium	-11.1			-20	20	10/17/2024	13:25	LB132991
	Silicon	12.9			0	0	10/17/2024	13:25	LB132991
	Silver	-8.01			-10	10	10/17/2024	13:25	LB132991
	Sodium	20.3			0	0	10/17/2024	13:25	LB132991
	Strontium	-0.40			0	0	10/17/2024	13:25	LB132991
	Thallium	17.6			-40	40	10/17/2024	13:25	LB132991
	Tin	-4.21	1000		-40	40	10/17/2024	13:25	LB132991
	Titanium	-2.26			0	0	10/17/2024	13:25	LB132991
	Vanadium	6.80			-40	40	10/17/2024	13:25	LB132991
	Zinc	5.25			-40	40	10/17/2024	13:25	LB132991
ICSAB01	Aluminum	250000	247000	101	209000	285000	10/17/2024	14:01	LB132991
	Antimony	629	618	102	525	711	10/17/2024	14:01	LB132991
	Arsenic	113	104	109	88.4	120	10/17/2024	14:01	LB132991
	Barium	512	537	95	437	637	10/17/2024	14:01	LB132991
	Beryllium	504	495	102	420	570	10/17/2024	14:01	LB132991
	Boron	959	1000	96	850	1150	10/17/2024	14:01	LB132991
	Cadmium	1040	972	107	826	1120	10/17/2024	14:01	LB132991
	Calcium	236000	235000	100	199000	271000	10/17/2024	14:01	LB132991
	Chromium	568	542	105	460	624	10/17/2024	14:01	LB132991
	Cobalt	519	476	109	404	548	10/17/2024	14:01	LB132991
	Copper	490	511	96	434	588	10/17/2024	14:01	LB132991
	Iron	99600	99300	100	84400	114500	10/17/2024	14:01	LB132991
	Lead	58.7	49.0	120	37	61	10/17/2024	14:01	LB132991
	Magnesium	255000	248000	103	210000	286000	10/17/2024	14:01	LB132991

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
ICSAB01	Manganese	494	507	97	430	584	10/17/2024	14:01	LB132991
	Molybdenum	1010	1000	101	850	1150	10/17/2024	14:01	LB132991
	Nickel	1020	954	107	810	1100	10/17/2024	14:01	LB132991
	Potassium	-49.3			0	0	10/17/2024	14:01	LB132991
	Selenium	33.5	46.0	73	26	66	10/17/2024	14:01	LB132991
	Silicon	930			0	0	10/17/2024	14:01	LB132991
	Silver	206	201	102	170	232	10/17/2024	14:01	LB132991
	Sodium	38.7			0	0	10/17/2024	14:01	LB132991
	Strontium	999			0	0	10/17/2024	14:01	LB132991
	Thallium	111	108	103	68	148	10/17/2024	14:01	LB132991
	Tin	1010	1000	101	850	1150	10/17/2024	14:01	LB132991
	Titanium	970			0	0	10/17/2024	14:01	LB132991
	Vanadium	482	491	98	417	565	10/17/2024	14:01	LB132991
	Zinc	1080	952	113	809	1095	10/17/2024	14:01	LB132991
ICSA	Aluminum	246000	255000	96	216000	294000	10/17/2024	14:05	LB132991
	Antimony	-1.08			-50	50	10/17/2024	14:05	LB132991
	Arsenic	-47.2			-20	20	10/17/2024	14:05	LB132991
	Barium	-4.20	6.0	70	-94	106	10/17/2024	14:05	LB132991
	Beryllium	2.49			-6	6	10/17/2024	14:05	LB132991
	Boron	-38.9	1000	4	-100	100	10/17/2024	14:05	LB132991
	Cadmium	16.8	1.0	1680	-5	7	10/17/2024	14:05	LB132991
	Calcium	242000	245000	99	208000	282000	10/17/2024	14:05	LB132991
	Chromium	51.0	52.0	98	42	62	10/17/2024	14:05	LB132991
	Cobalt	9.25			-30	30	10/17/2024	14:05	LB132991
	Copper	61.6	2.0	3080	-18	22	10/17/2024	14:05	LB132991
	Iron	102000	101000	101	85600	116500	10/17/2024	14:05	LB132991
	Lead	2.90			-12	12	10/17/2024	14:05	LB132991
	Magnesium	246000	255000	96	216000	294000	10/17/2024	14:05	LB132991
	Manganese	5.02	7.0	72	-13	27	10/17/2024	14:05	LB132991
	Molybdenum	10.1	1000	1	-200	200	10/17/2024	14:05	LB132991
	Nickel	31.0	2.0	1550	-38	42	10/17/2024	14:05	LB132991
	Potassium	-397			0	0	10/17/2024	14:05	LB132991
	Selenium	-20.7			-20	20	10/17/2024	14:05	LB132991
	Silicon	-137			0	0	10/17/2024	14:05	LB132991
	Silver	1.76			-10	10	10/17/2024	14:05	LB132991
	Sodium	295			0	0	10/17/2024	14:05	LB132991
	Strontium	4.15			0	0	10/17/2024	14:05	LB132991
	Thallium	43.9			-40	40	10/17/2024	14:05	LB132991
	Tin	-54.6	1000	6	-40	40	10/17/2024	14:05	LB132991
	Titanium	-4.52			0	0	10/17/2024	14:05	LB132991
	Vanadium	3.72			-40	40	10/17/2024	14:05	LB132991
	Zinc	30.3			-40	40	10/17/2024	14:05	LB132991

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
ICSAB	Aluminum	246000	247000	100	209000	285000	10/17/2024	14:10	LB132991
	Antimony	639	618	103	525	711	10/17/2024	14:10	LB132991
	Arsenic	116	104	112	88.4	120	10/17/2024	14:10	LB132991
	Barium	498	537	93	437	637	10/17/2024	14:10	LB132991
	Beryllium	507	495	102	420	570	10/17/2024	14:10	LB132991
	Boron	901	1000	90	850	1150	10/17/2024	14:10	LB132991
	Cadmium	1050	972	108	826	1120	10/17/2024	14:10	LB132991
	Calcium	242000	235000	103	199000	271000	10/17/2024	14:10	LB132991
	Chromium	592	542	109	460	624	10/17/2024	14:10	LB132991
	Cobalt	517	476	109	404	548	10/17/2024	14:10	LB132991
	Copper	545	511	107	434	588	10/17/2024	14:10	LB132991
	Iron	102000	99300	103	84400	114500	10/17/2024	14:10	LB132991
	Lead	73.4	49.0	150	37	61	10/17/2024	14:10	LB132991
	Magnesium	246000	248000	99	210000	286000	10/17/2024	14:10	LB132991
	Manganese	507	507	100	430	584	10/17/2024	14:10	LB132991
	Molybdenum	1060	1000	106	850	1150	10/17/2024	14:10	LB132991
	Nickel	1040	954	109	810	1100	10/17/2024	14:10	LB132991
	Potassium	66.5			0	0	10/17/2024	14:10	LB132991
	Selenium	68.6	46.0	149	26	66	10/17/2024	14:10	LB132991
	Silicon	826			0	0	10/17/2024	14:10	LB132991
	Silver	201	201	100	170	232	10/17/2024	14:10	LB132991
	Sodium	239			0	0	10/17/2024	14:10	LB132991
	Strontium	1000			0	0	10/17/2024	14:10	LB132991
	Thallium	121	108	112	68	148	10/17/2024	14:10	LB132991
	Tin	943	1000	94	850	1150	10/17/2024	14:10	LB132991
	Titanium	967			0	0	10/17/2024	14:10	LB132991
	Vanadium	516	491	105	417	565	10/17/2024	14:10	LB132991
	Zinc	1100	952	116	809	1095	10/17/2024	14:10	LB132991
ICSA01	Aluminum	237000	255000	93	216000	294000	10/18/2024	13:32	LB133014
	Antimony	-1.32			-50	50	10/18/2024	13:32	LB133014
	Arsenic	-4.50			-20	20	10/18/2024	13:32	LB133014
	Barium	2.49	6.0	42	-94	106	10/18/2024	13:32	LB133014
	Beryllium	1.11			-6	6	10/18/2024	13:32	LB133014
	Cadmium	6.89	1.0	689	-5	7	10/18/2024	13:32	LB133014
	Calcium	226000	245000	92	208000	282000	10/18/2024	13:32	LB133014
	Chromium	55.6	52.0	107	42	62	10/18/2024	13:32	LB133014
	Cobalt	1.25			-30	30	10/18/2024	13:32	LB133014
	Copper	-8.46	2.0	423	-18	22	10/18/2024	13:32	LB133014
	Iron	98700	101000	98	85600	116500	10/18/2024	13:32	LB133014
	Lead	6.37			-12	12	10/18/2024	13:32	LB133014
	Magnesium	246000	255000	96	216000	294000	10/18/2024	13:32	LB133014
	Manganese	5.78	7.0	83	-13	27	10/18/2024	13:32	LB133014

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Metals
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INTERFERENCE CHECK SAMPLE

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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	Nickel	2.27	2.0	114	-38	42	10/18/2024	13:32	LB133014
	Potassium	-34.9			0	0	10/18/2024	13:32	LB133014
	Selenium	-14.0			-20	20	10/18/2024	13:32	LB133014
	Silver	3.92			-10	10	10/18/2024	13:32	LB133014
	Sodium	20.9			0	0	10/18/2024	13:32	LB133014
	Thallium	5.51			-40	40	10/18/2024	13:32	LB133014
	Vanadium	5.78			-40	40	10/18/2024	13:32	LB133014
	Zinc	3.80			-40	40	10/18/2024	13:32	LB133014
ICSAB01	Aluminum	240000	247000	97	209000	285000	10/18/2024	13:56	LB133014
	Antimony	622	618	101	525	711	10/18/2024	13:56	LB133014
	Arsenic	107	104	103	88.4	120	10/18/2024	13:56	LB133014
	Barium	482	537	90	437	637	10/18/2024	13:56	LB133014
	Beryllium	490	495	99	420	570	10/18/2024	13:56	LB133014
	Cadmium	1010	972	104	826	1120	10/18/2024	13:56	LB133014
	Calcium	229000	235000	97	199000	271000	10/18/2024	13:56	LB133014
	Chromium	573	542	106	460	624	10/18/2024	13:56	LB133014
	Cobalt	516	476	108	404	548	10/18/2024	13:56	LB133014
	Copper	484	511	95	434	588	10/18/2024	13:56	LB133014
	Iron	101000	99300	102	84400	114500	10/18/2024	13:56	LB133014
	Lead	55.1	49.0	112	37	61	10/18/2024	13:56	LB133014
	Magnesium	250000	248000	101	210000	286000	10/18/2024	13:56	LB133014
	Manganese	481	507	95	430	584	10/18/2024	13:56	LB133014
	Nickel	1020	954	107	810	1100	10/18/2024	13:56	LB133014
	Potassium	-21.9			0	0	10/18/2024	13:56	LB133014
	Selenium	37.2	46.0	81	26	66	10/18/2024	13:56	LB133014
	Silver	229	201	114	170	232	10/18/2024	13:56	LB133014
	Sodium	29.5			0	0	10/18/2024	13:56	LB133014
	Thallium	97.0	108	90	68	148	10/18/2024	13:56	LB133014
	Vanadium	472	491	96	417	565	10/18/2024	13:56	LB133014
	Zinc	1080	952	113	809	1095	10/18/2024	13:56	LB133014

METAL QC DATA

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metals
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MATRIX SPIKE SUMMARY

client: Chemtech Consulting Group **level:** low **sdg no.:** P3846

contract: CHEM02 **lab code:** CHEM **case no.:** P3846 **sas no.:** P3846

matrix: Water **sample id:** P4289-02 **client id:** EFF-Waste WaterMS

Percent Solids for Sample: NA **Spiked ID:** P4289-02MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	3.68		0.034	J	4.0	91		CV

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: Chemtech Consulting Group **level:** low **sdg no.:** P3846

contract: CHEM02 **lab code:** CHEM **case no.:** P3846 **sas no.:** P3846

matrix: Water **sample id:** P4289-02 **client id:** EFF-Waste WaterMSD

Percent Solids for Sample: NA **Spiked ID:** P4289-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	3.80		0.034	J	4.0	94		CV

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Metals
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Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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

Sample ID: **Spiked ID:**

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

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DUPLICATE SAMPLE SUMMARY

Client: Chemtech Consulting Group **Level:** LOW **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Matrix: Water **Sample ID:** P4289-02 **Client ID:** EFF-Waste WaterDUP

Percent Solids for Sample: NA **Duplicate ID** P4289-02DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	0.034	J	0.082	J	83		CV

"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: Chemtech Consulting Group **Level:** LOW **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Matrix: Water **Sample ID:** P4289-02MS **Client ID:** EFF-Waste WaterMSD

Percent Solids for Sample: NA **Duplicate ID** P4289-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	3.68		3.80		3		CV

"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: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB163988BS							
Mercury	ug/L	4.0	3.70		92	85 - 115	CV

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB164232BS							
Aluminum	ug/L	2000	1980		99	85 - 115	P
Antimony	ug/L	800	813		102	85 - 115	P
Arsenic	ug/L	800	830		104	85 - 115	P
Barium	ug/L	200	197		98	85 - 115	P
Beryllium	ug/L	200	204		102	85 - 115	P
Boron	ug/L	300	293		98	85 - 115	P
Cadmium	ug/L	200	204		102	85 - 115	P
Calcium	ug/L	1000	1040	J	104	85 - 115	P
Chromium	ug/L	400	425		106	85 - 115	P
Cobalt	ug/L	200	204		102	85 - 115	P
Copper	ug/L	300	317		106	85 - 115	P
Iron	ug/L	3000	3060		102	85 - 115	P
Lead	ug/L	1000	1030		103	85 - 115	P
Magnesium	ug/L	2000	1970	J	98	85 - 115	P
Manganese	ug/L	200	202		101	85 - 115	P
Molybdenum	ug/L	400	415		104	85 - 115	P
Nickel	ug/L	500	514		103	85 - 115	P
Potassium	ug/L	10000	10100		101	85 - 115	P
Selenium	ug/L	2000	2020		101	85 - 115	P
Silicon	ug/L	930	837		90	85 - 115	P
Silver	ug/L	75.0	78.0		104	85 - 115	P
Sodium	ug/L	3000	2930		98	85 - 115	P
Strontium	ug/L	200	205		102	85 - 115	P
Thallium	ug/L	2000	2100		105	85 - 115	P
Tin	ug/L	700	699		100	85 - 115	P
Titanium	ug/L	200	195		98	85 - 115	P
Vanadium	ug/L	300	298		99	85 - 115	P
Zinc	ug/L	200	215		108	85 - 115	P

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

EFF-Waste WaterL

Lab Name: Chemtech Consulting Group **Contract:** CHEM02

Lab Code: CHEM **Lb No.:** lb132826 **Lab Sample ID :** P4289-02L **SDG No.:** P3846

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
Mercury	0.034	J	1.00	U	100.0		CV

METAL PREPARATION & INSTRUMENT DATA

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
Aluminum	396.100	0.0000000	-0.0002060	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	-0.0075970	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0007850	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	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
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001050	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0002870
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0009530
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	-0.0039600
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	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
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0054900
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
Aluminum	396.100	0.0000000	0.0000000	0.0000590	0.0000000	0.0396900
Antimony	206.833	0.0122000	0.0000000	0.0000000	0.0000000	0.0000000
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
Beryllium	234.861	0.0000000	0.0000000	0.0000000	-0.0000710	-0.0003400
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000070	0.0002200	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	-0.0007860
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0006510	0.0020500
Iron	240.488	0.0000000	0.0000000	0.0000730	0.0000000	-0.0015250
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0017400	-0.0100400
Vanadium	292.402	-0.0025100	0.0000000	0.0000000	0.0000000	-0.0072000
Zinc	213.800	0.0000000	0.0009010	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
Aluminum	396.100	0.0000000	0.0000000	0.0012800	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0047000	0.0036100	0.0000000	0.0000000
Iron	240.488	0.0000000	-0.0017000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
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
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0067600	0.0000000	0.0000000	0.0000000

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ICP INTERELEMENT CORRECTION FACTORS

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Case No.:** P3846 **SAS No.:** P3846

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
Aluminum	396.100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	-0.0035600	-0.0007970	0.0000000	-0.0018900	0.0000000
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
Beryllium	234.861	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000630	0.0001280	0.0000000	0.0000000
Calcium	373.690	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0001110	0.0000000
Cobalt	228.616	0.0000000	0.0018800	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0003840	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Magnesium	279.079	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.610	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.490	0.0000000	0.0000000	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
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0039700	0.0000000	-0.0115600	0.0000000
Vanadium	292.402	0.0000000	0.0005320	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Method:**

Case No.: P3846 **SAS No.:** P3846

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB163988**						
P3846-08	PT-HG-WP	SAM	WATER	10/08/2024	30.0	30.0	
P4289-02DUP	EFF-Waste WaterDUP	DUP	WATER	10/08/2024	30.0	30.0	
P4289-02MS	EFF-Waste WaterMS	MS	WATER	10/08/2024	30.0	30.0	
P4289-02MSD	EFF-Waste WaterMSD	MSD	WATER	10/08/2024	30.0	30.0	
PB163988BL	PB163988BL	MB	WATER	10/08/2024	30.0	30.0	
PB163988BS	PB163988BS	LCS	WATER	10/08/2024	30.0	30.0	

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SAMPLE PREPARATION SUMMARY

Client: Chemtech Consulting Group **SDG No.:** P3846

Contract: CHEM02 **Lab Code:** CHEM **Method:**

Case No.: P3846 **SAS No.:** P3846

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB164232**						
P3846-01	PT-TM1-WP	SAM	WATER	10/17/2024	50.0	50.0	
P3846-03	PT-SNTI-WP	SAM	WATER	10/17/2024	50.0	50.0	
P3846-05	PT-MIN2-WP	SAM	WATER	10/17/2024	50.0	50.0	
P3846-07	PT-SIO2-WP	SAM	WATER	10/17/2024	50.0	50.0	
PB164232BL	PB164232BL	MB	WATER	10/17/2024	50.0	50.0	
PB164232BS	PB164232BS	LCS	WATER	10/17/2024	50.0	50.0	

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ANALYSIS RUN LOG

Client: Chemtech Consulting Group **Contract:** CHEM02

Lab code: CHEM **Case no.:** P3846 **Sas no.:** P3846 **Sdg no.:** P3846

Instrument id number: **Method:** **Run number:** LB132826

Start date: 10/08/2024 **End date:** 10/08/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1548	HG
S0.05	S0.05	1	1552	HG
S0.2	S0.2	1	1555	HG
S2.5	S2.5	1	1557	HG
S5	S5	1	1559	HG
S7.5	S7.5	1	1601	HG
S10	S10	1	1604	HG
ICV29	ICV29	1	1609	HG
ICB29	ICB29	1	1612	HG
CCV89	CCV89	1	1614	HG
CCB89	CCB89	1	1616	HG
CRA	CRA	1	1618	HG
PB163988BL	PB163988BL	1	1628	HG
PB163988BS	PB163988BS	1	1633	HG
P4289-02DUP	EFF-Waste WaterDUP	1	1645	HG
CCV90	CCV90	1	1651	HG
CCB90	CCB90	1	1654	HG
P4289-02MS	EFF-Waste WaterMS	1	1656	HG
P4289-02MSD	EFF-Waste WaterMSD	1	1658	HG
P4289-02L	EFF-Waste WaterL	5	1708	HG
P3846-08	PT-HG-WP	5	1717	HG
CCV91	CCV91	1	1724	HG
CCB91	CCB91	1	1727	HG

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ANALYSIS RUN LOG

Client: Chemtech Consulting Group **Contract:** CHEM02

Lab code: CHEM **Case no.:** P3846 **Sas no.:** P3846 **Sdg no.:** P3846

Instrument id number: **Method:** **Run number:** LB132991

Start date: 10/17/2024 **End date:** 10/17/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1234	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V
S1	S1	1	1239	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
S2	S2	1	1243	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V
S3	S3	1	1247	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
S4	S4	1	1252	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
S5	S5	1	1256	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V
ICV01	ICV01	1	1300	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
LLICV01	LLICV01	1	1306	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
ICB01	ICB01	1	1314	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V
CRI01	CRI01	1	1321	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
ICSA01	ICSA01	1	1325	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
ICSAB01	ICSAB01	1	1401	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V
ICSA	ICSA	20	1405	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
ICSAB	ICSAB	20	1410	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,
CCV01	CCV01	1	1414	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V
CCB01	CCB01	1	1429	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
P3846-01	PT-TM1-WP	1	1433	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
P3846-03	PT-SNTI-WP	1	1437	Sn,Ti
P3846-05	PT-MIN2-WP	1	1446	K,Mg
P3846-07	PT-SIO2-WP	10	1516	Si,
CCV02	CCV02	1	1540	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
CCB02	CCB02	1	1545	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
PB164232BL	PB164232BL	1	1549	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
PB164232BS	PB164232BS	1	1553	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
CCV03	CCV03	1	1557	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn
CCB03	CCB03	1	1601	Ag,Al,As,B,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Mo,Na,Ni,Pb,Sb,Se,Si,Sn,Sr,Ti,Tl,V,Zn

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ANALYSIS RUN LOG

Client: Chemtech Consulting Group **Contract:** CHEM02

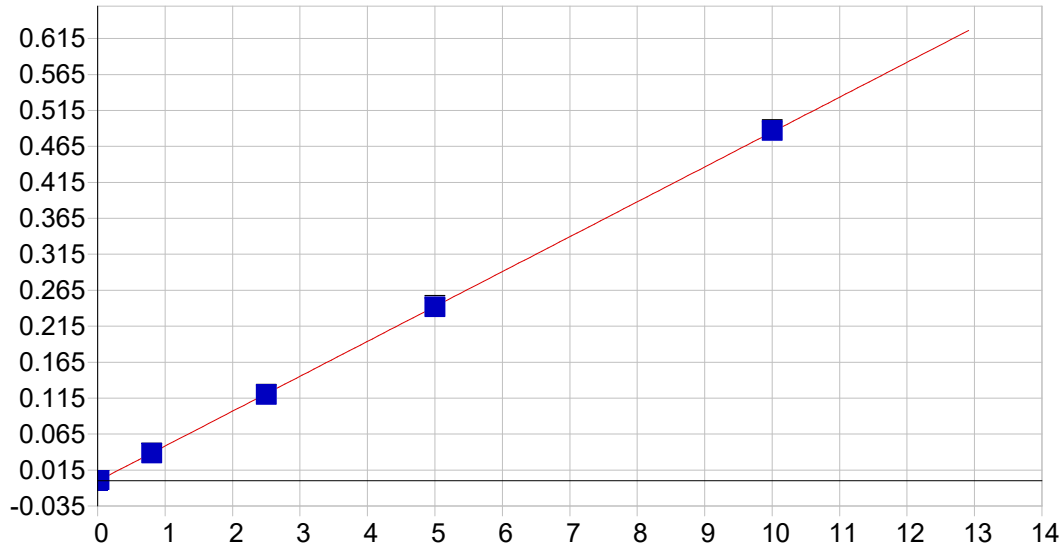
Lab code: CHEM **Case no.:** P3846 **Sas no.:** P3846 **Sdg no.:** P3846

Instrument id number: **Method:** **Run number:** LB133014

Start date: 10/18/2024 **End date:** 10/18/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1203	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S1	S1	1	1207	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S2	S2	1	1212	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S3	S3	1	1216	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S4	S4	1	1220	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
S5	S5	1	1224	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICV01	ICV01	1	1308	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
LLICV01	LLICV01	1	1313	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICB01	ICB01	1	1323	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CRI01	CRI01	1	1327	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSA01	ICSA01	1	1332	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
ICSAB01	ICSAB01	1	1356	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV01	CCV01	1	1400	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB01	CCB01	1	1405	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
P3846-05	PT-MIN2-WP	2	1419	Ca,Na
CCV02	CCV02	1	1453	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB02	CCB02	1	1457	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV03	CCV03	1	1605	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB03	CCB03	1	1639	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCV04	CCV04	1	1728	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn
CCB04	CCB04	1	1732	Ag,Al,As,Ba,Be,Ca,Cd,Co,Cr,Cu,Fe,K,Mg,Mn,Na,Ni,Pb,Sb,Se,Tl,V,Zn

METAL
RAW DATA

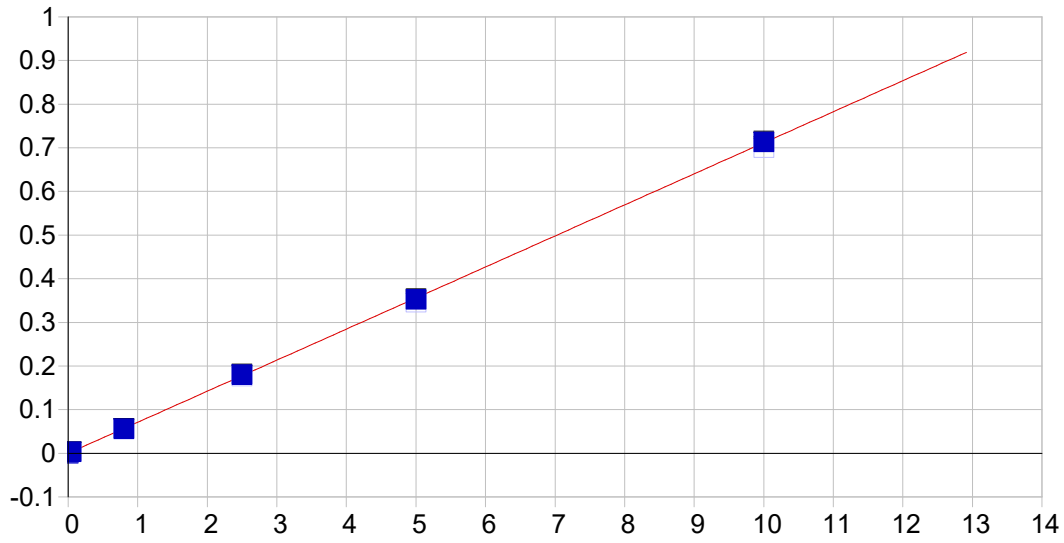


As 189.042 {479}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000199	Re-Slope:	1.000000
A1 (Gain):	0.048511	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.002455		
Predicted MQL:	0.008182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00020	.000	1
S1	.02000	.02303	.003	15.2	.00091	.000	1
S3	2.5000	2.4741	-.026	-1.03	.11969	.000	1
S4	5.0000	4.9887	-.011	-.227	.24155	.002	1
S5	10.000	10.042	.042	.417	.48641	.001	1
S2	.80000	.79251	-.007	-.937	.03820	.000	1

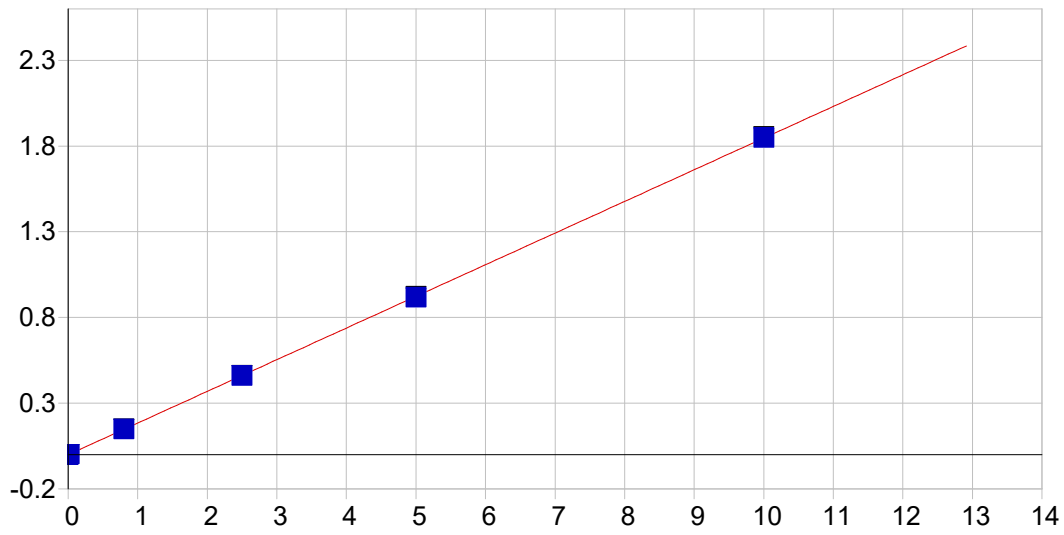


Tl 190.856 {477}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000064	Re-Slope:	1.000000
A1 (Gain):	0.071158	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.001426		
Predicted MQL:	0.004754		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00006	.000	1
S1	.04000	.04386	.004	9.65	.00287	.000	1
S3	2.5000	2.5305	.031	1.22	.17673	.002	1
S4	5.0000	4.9504	-.050	-.992	.34564	.002	1
S5	10.000	10.026	.026	.260	.70026	.002	1
S2	.80000	.78943	-.011	-1.32	.05506	.000	1

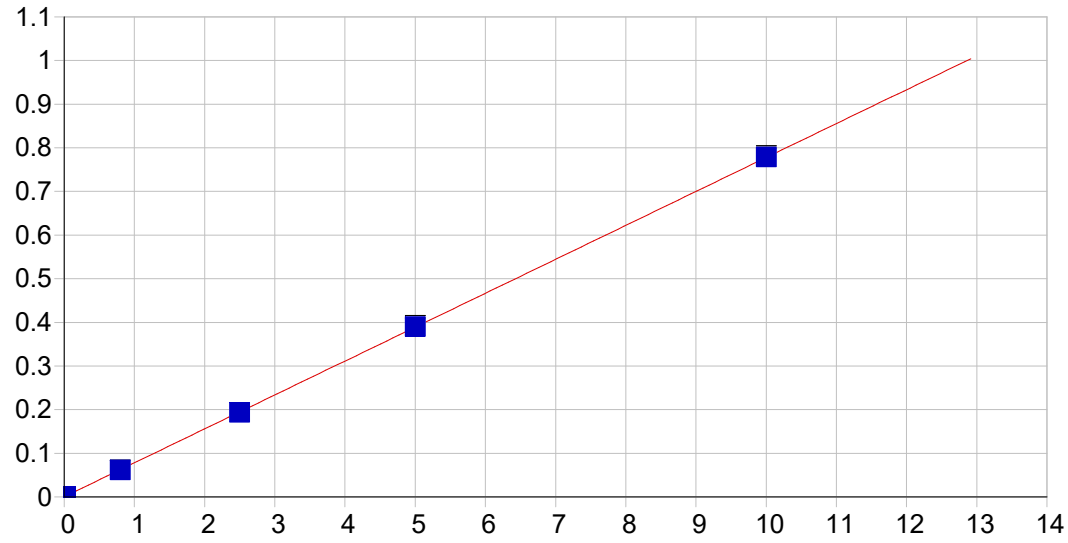


Pb 220.353 {453}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000221	Re-Slope:	1.000000
A1 (Gain):	0.184654	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	0.001092		
Predicted MQL:	0.003641		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00022	.000	1
S1	.01200	.01561	.004	30.0	.00262	.000	1
S3	2.5000	2.4998	-.000	-.007	.46088	.001	1
S4	5.0000	4.9708	-.029	-.585	.91663	.005	1
S5	10.000	10.020	.020	.195	1.8479	.005	1
S2	.80000	.80634	.006	.792	.14851	.000	1

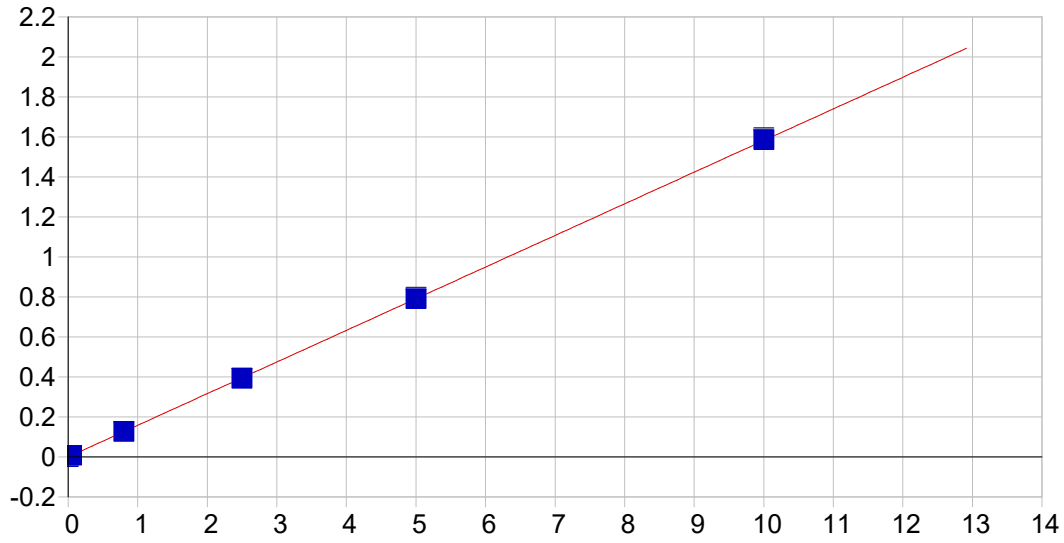


Se 196.090 {472}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000366	Re-Slope:	1.000000
A1 (Gain):	0.077733	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.002073		
Predicted MQL:	0.006911		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00037	.000	1
S1	.02000	.01899	-.001	-5.03	.00184	.000	1
S3	2.5000	2.4875	-.012	-.499	.19368	.000	1
S4	5.0000	5.0142	.014	.285	.39004	.003	1
S5	10.000	10.015	.015	.152	.77868	.003	1
S2	.80000	.78402	-.016	-2.00	.06129	.000	1

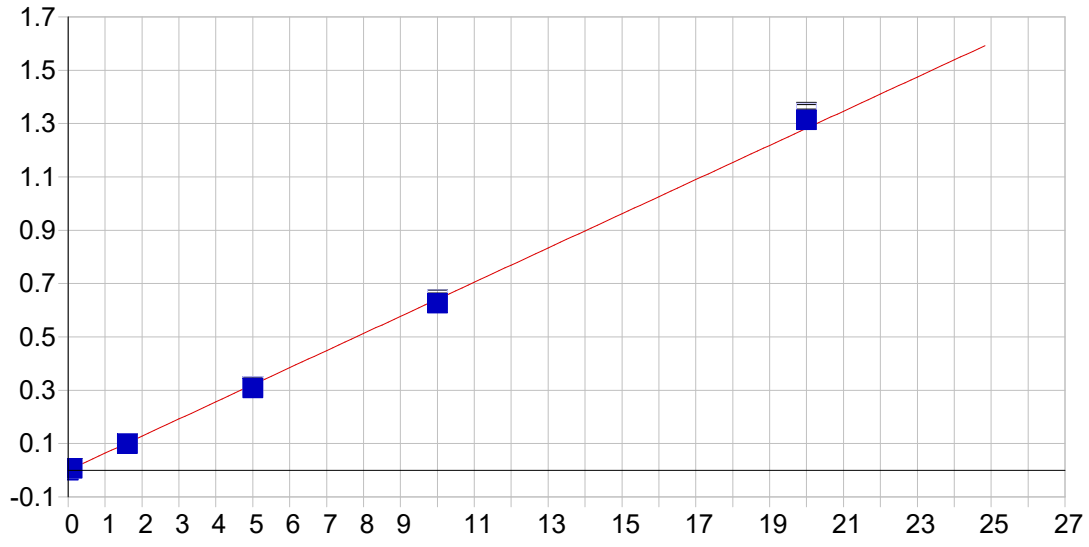


Sb 206.833 {463}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000074	Re-Slope:	1.000000
A1 (Gain):	0.158181	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	0.001229		
Predicted MQL:	0.004096		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00007	.000	1
S1	.05000	.05225	.002	4.50	.00836	.000	1
S3	2.5000	2.4797	-.020	-.813	.39339	.001	1
S4	5.0000	5.0006	.001	.012	.79323	.005	1
S5	10.000	10.024	.024	.237	1.5899	.005	1
S2	.80000	.79377	-.006	-.778	.12598	.000	1

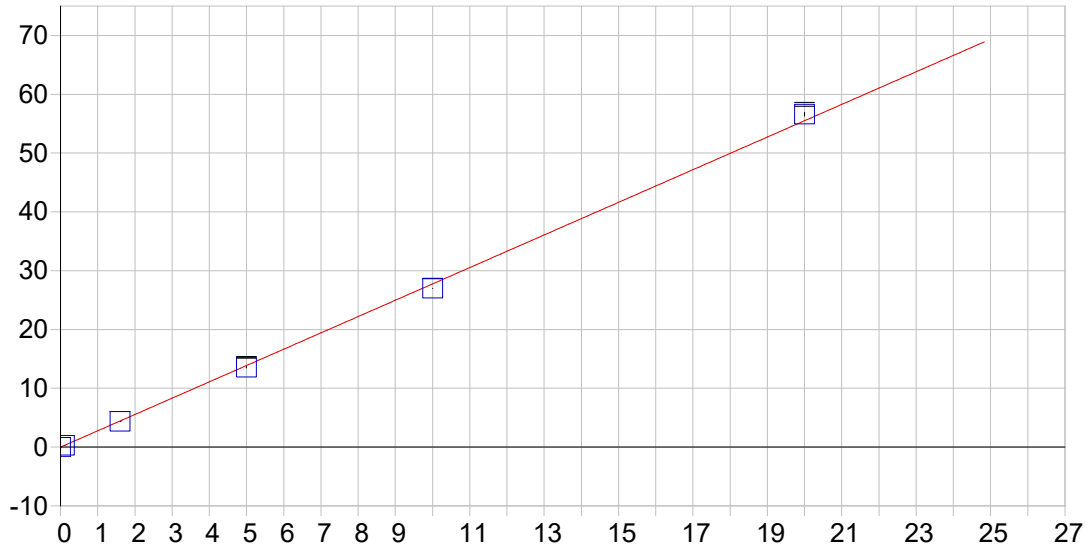


Al 396.152 { 85}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000104	Re-Slope:	1.000000
A1 (Gain):	0.064121	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999640	Status:	OK.
Std Error of Est:	0.000130		
Predicted MDL:	0.005286		
Predicted MQL:	0.017619		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00010	.001	1
S1	.10000	.10405	.004	4.05	.00707	.000	1
S3	5.0000	4.8014	-.199	-3.97	.31398	.000	1
S4	10.000	9.7673	-.233	-2.33	.63862	.001	1
S5	20.000	20.486	.486	2.43	1.3384	.004	1
S2	1.6000	1.5408	-.059	-3.70	.10068	.000	1

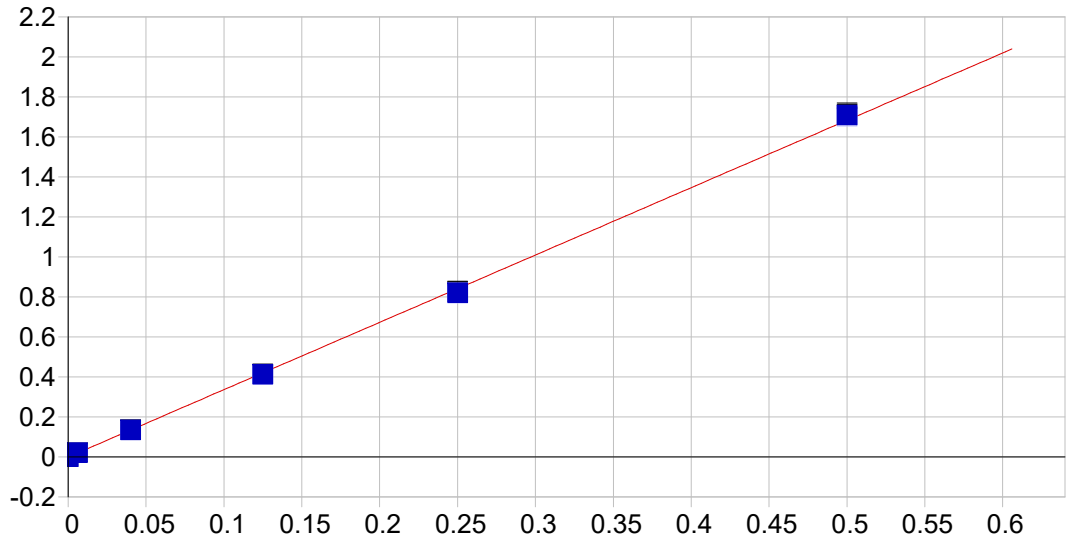


Ba 493.409 { 68}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.010898	Re-Slope:	1.000000
A1 (Gain):	2.775765	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999757	Status:	OK.
Std Error of Est:	0.004542		
Predicted MDL:	0.000439		
Predicted MQL:	0.001462		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.01089	.001	1
S1	.10000	.10146	.001	1.46	.27074	.001	1
S3	5.0000	4.8975	-.102	-2.05	13.584	.127	1
S4	10.000	9.7226	-.277	-2.77	26.977	.030	1
S5	20.000	20.396	.396	1.98	56.605	.304	1
S2	1.6000	1.5820	-.018	-1.13	4.3803	.011	1

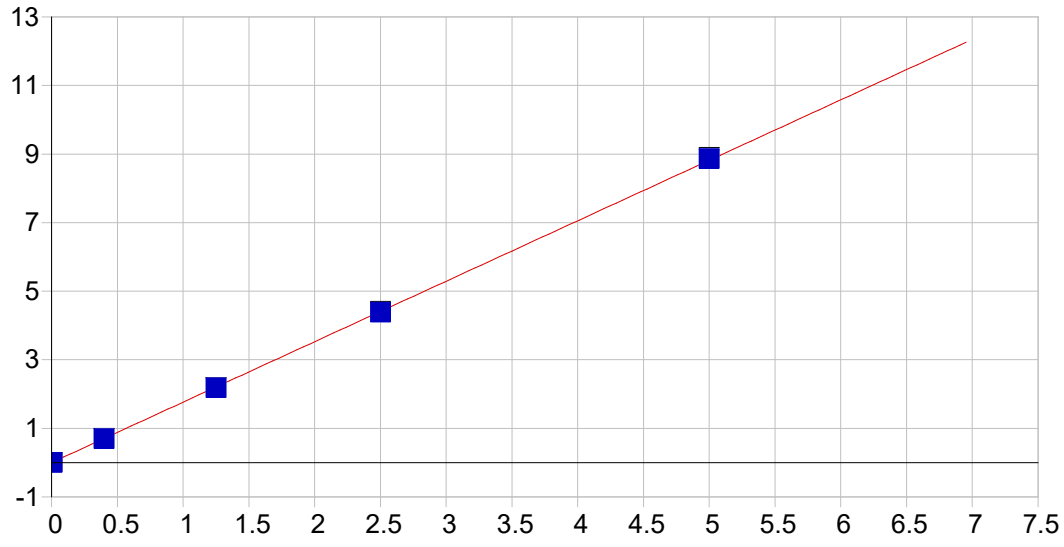


Be 234.861 {144}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000498	Re-Slope:	1.000000
A1 (Gain):	3.366766	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999829	Status:	OK.
Std Error of Est:	0.000179		
Predicted MDL:	0.000053		
Predicted MQL:	0.000175		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00050	.000	1
S1	.00600	.00616	.000	2.71	.02010	.000	1
S3	.12500	.12269	-.002	-1.85	.41067	.003	1
S4	.25000	.24407	-.006	-2.37	.81747	.008	1
S5	.50000	.50789	.008	1.58	1.7019	.011	1
S2	.04000	.04019	.000	.479	.13421	.001	1

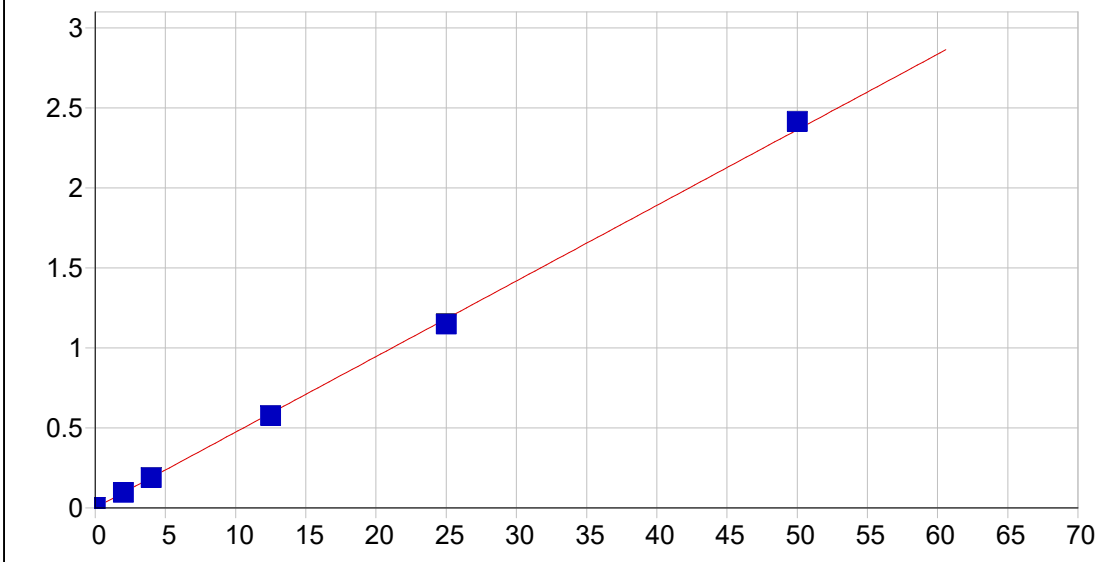


Cd 226.502 {449}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000133	Re-Slope:	1.000000
A1 (Gain):	1.763572	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000103		
Predicted MDL:	0.000087		
Predicted MQL:	0.000291		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00013	.000	1
S1	.00600	.00649	.000	8.24	.01137	.000	1
S3	1.2500	1.2379	-.012	-.966	2.1849	.006	1
S4	2.5000	2.4866	-.013	-.538	4.3888	.021	1
S5	5.0000	5.0268	.027	.536	8.8723	.027	1
S2	.40000	.39824	-.002	-.440	.70278	.001	1

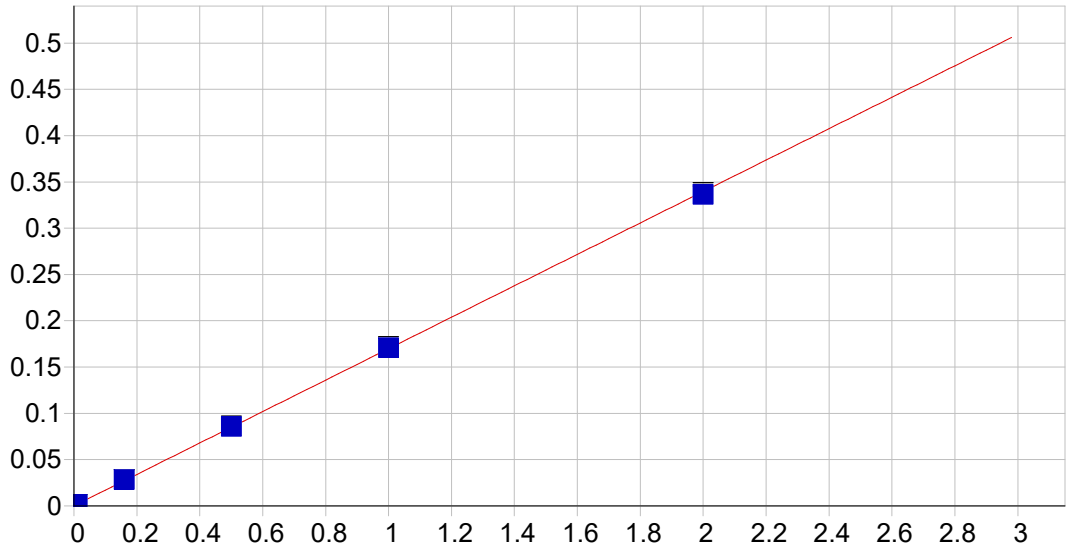


Ca 373.690 { 90}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001201	Re-Slope:	1.000000
A1 (Gain):	0.047237	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999708	Status:	OK.
Std Error of Est:	0.000604		
Predicted MDL:	0.006931		
Predicted MQL:	0.023103		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00007	.000	.000	.00120	.000	1
S2	4.0000	3.9716	-.028	-.710	.18881	.000	1
S3	12.500	12.164	-.336	-2.69	.57578	.002	1
S4	25.000	24.265	-.735	-2.94	1.1474	.004	1
S5	50.000	51.089	1.09	2.18	2.4145	.002	1
S1	2.0000	2.0108	.011	.541	.09619	.000	1

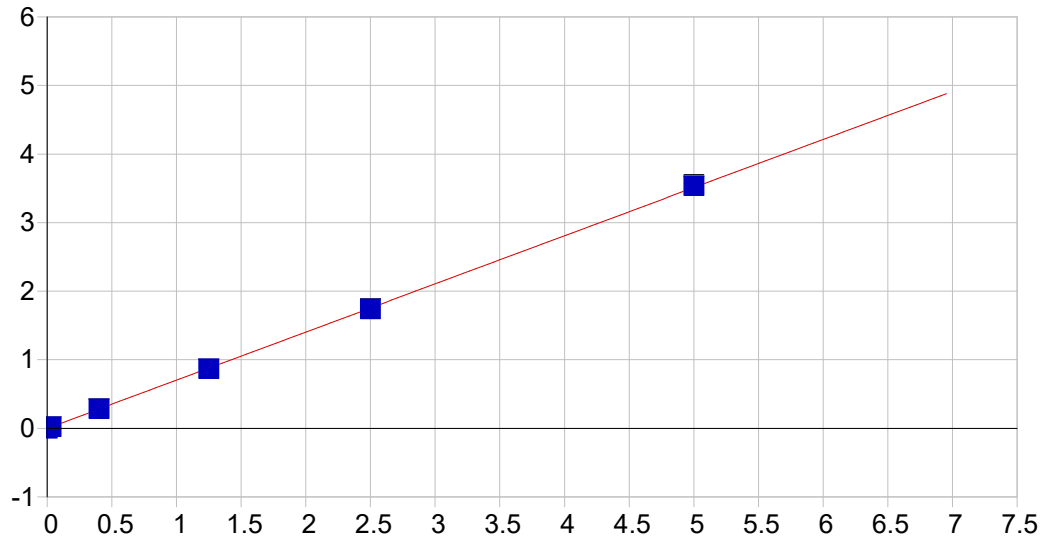


Cr 267.716 {126}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000085	Re-Slope:	1.000000
A1 (Gain):	0.169781	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999926	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.000385		
Predicted MQL:	0.001284		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00009	.000	1
S1	.01000	.01029	.000	2.90	.00183	.000	1
S3	.50000	.50530	.005	1.06	.08590	.000	1
S4	1.0000	1.0061	.006	.609	.17095	.001	1
S5	2.0000	1.9817	-.018	-.916	.33664	.002	1
S2	.16000	.16664	.007	4.15	.02839	.000	1

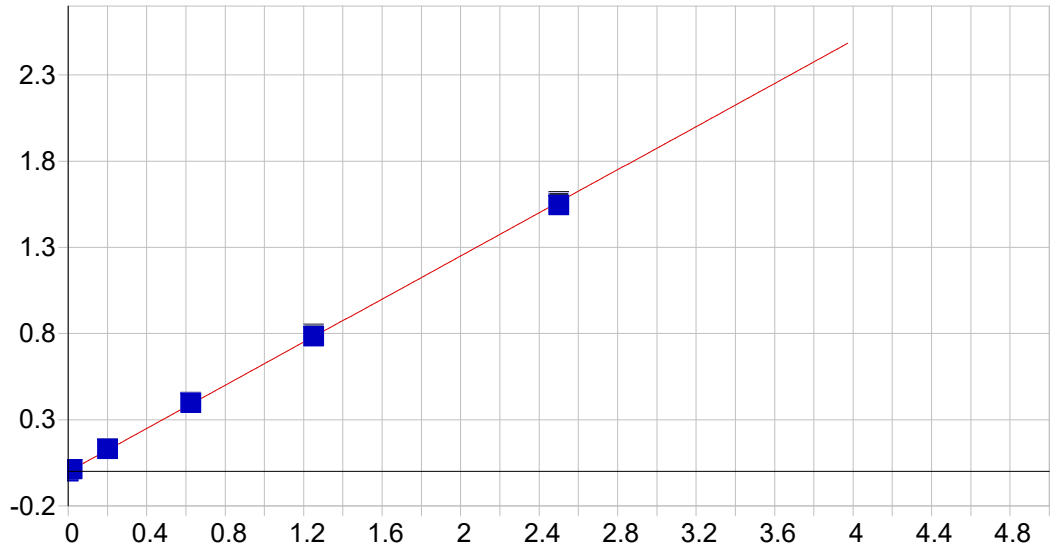


Co 228.616 {448}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000014	Re-Slope:	1.000000
A1 (Gain):	0.702159	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	0.000118		
Predicted MDL:	0.000196		
Predicted MQL:	0.000655		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00001	.000	1
S1	.03000	.03042	.000	1.41	.02126	.000	1
S3	1.2500	1.2375	-.012	-.997	.87042	.002	1
S4	2.5000	2.4756	-.024	-.978	1.7412	.009	1
S5	5.0000	5.0358	.036	.717	3.5419	.012	1
S2	.40000	.40065	.001	.163	.28178	.000	1

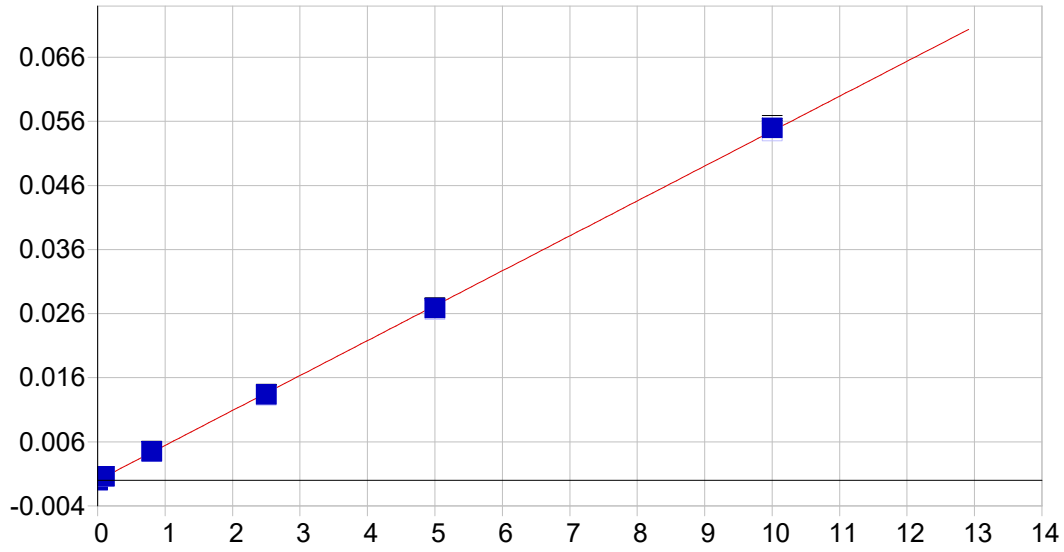


Cu 224.700 {450}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000399	Re-Slope:	1.000000
A1 (Gain):	0.625289	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999864	Status:	OK.
Std Error of Est:	0.000122		
Predicted MDL:	0.000398		
Predicted MQL:	0.001327		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00040	.000	1
S1	.02000	.02272	.003	13.6	.01397	.000	1
S3	.62500	.63557	.011	1.69	.40074	.001	1
S4	1.2500	1.2552	.005	.414	.79190	.005	1
S5	2.5000	2.4726	-.027	-1.10	1.5606	.006	1
S2	.20000	.20892	.009	4.46	.13143	.001	1

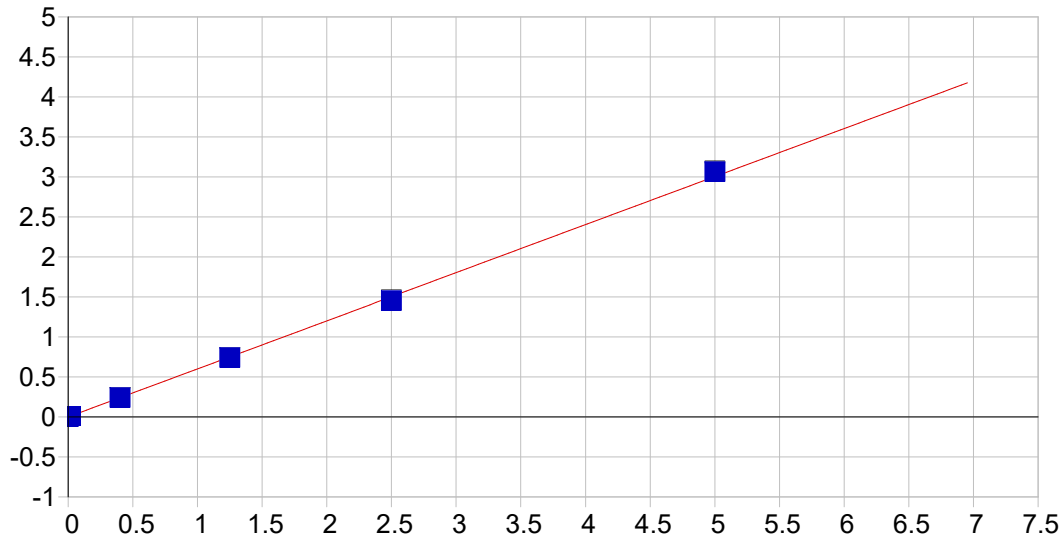


Fe 240.488 {140}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.005449	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999884	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.003850		
Predicted MQL:	0.012833		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00001	.000	1
S1	.10000	.10861	.009	8.61	.00058	.000	1
S3	2.5000	2.4540	-.046	-1.84	.01325	.000	1
S4	5.0000	4.9265	-.073	-1.47	.02661	.000	1
S5	10.000	10.086	.086	.860	.05449	.000	1
S2	.80000	.82495	.025	3.12	.00445	.000	1

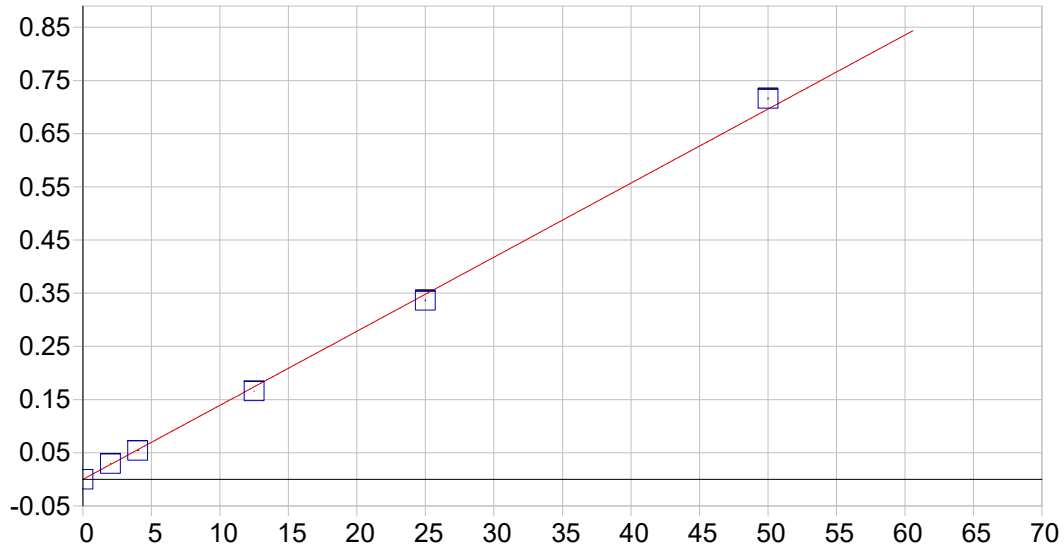


Mn 257.610 {131}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000076	Re-Slope:	1.000000
A1 (Gain):	0.600819	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999740	Status:	OK.
Std Error of Est:	0.000227		
Predicted MDL:	0.000235		
Predicted MQL:	0.000784		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00008	.000	1
S1	.02000	.02070	.001	3.49	.01252	.000	1
S3	1.2500	1.2313	-.019	-1.50	.74001	.002	1
S4	2.5000	2.4196	-.080	-3.22	1.4541	.006	1
S5	5.0000	5.0966	.097	1.93	3.0628	.009	1
S2	.40000	.40175	.002	.438	.24150	.000	1

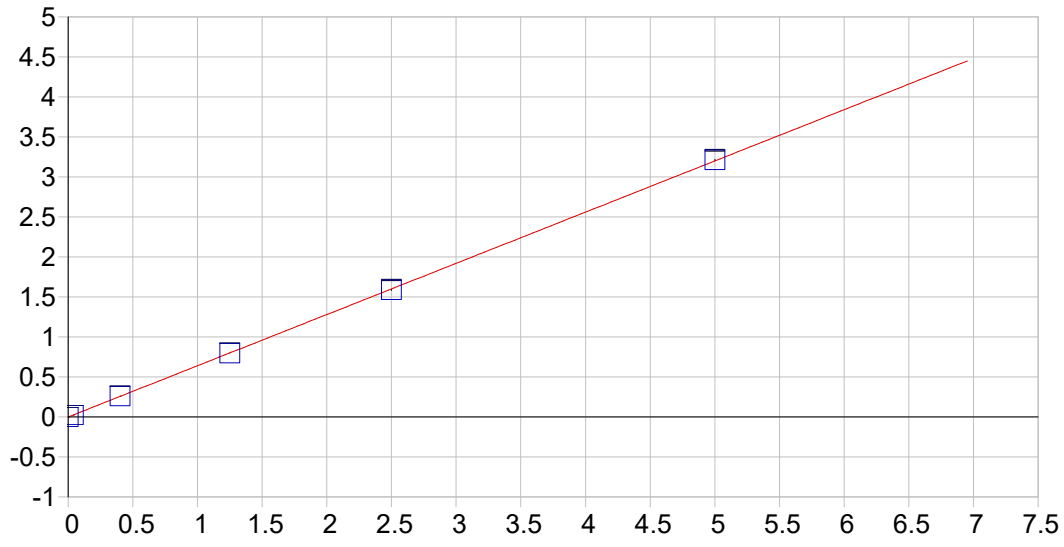


Mg 279.079 {121}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000065	Re-Slope:	1.000000
A1 (Gain):	0.013927	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999421	Status:	OK.
Std Error of Est:	0.000251		
Predicted MDL:	0.010910		
Predicted MQL:	0.036368		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00003	.000	.000	-.00006	.000	1
S2	4.0000	3.8841	-.116	-2.90	.05403	.000	1
S3	12.500	11.912	-.588	-4.70	.16584	.000	1
S4	25.000	24.155	-.845	-3.38	.33635	.001	1
S5	50.000	51.419	1.42	2.84	.71605	.001	1
S1	2.0000	2.1301	.130	6.50	.02960	.000	1

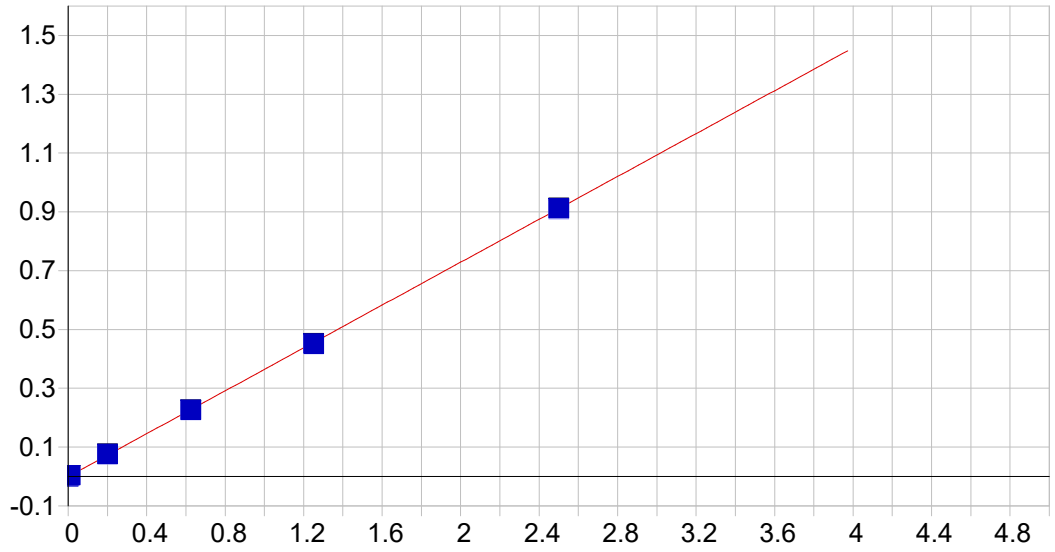


Ni 231.604 {446}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000118	Re-Slope:	1.000000
A1 (Gain):	0.639964	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.000261		
Predicted MQL:	0.000872		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00012	.000	1
S1	.04000	.04052	.001	1.31	.02582	.000	1
S3	1.2500	1.2458	-.004	-.338	.79713	.002	1
S4	2.5000	2.4834	-.017	-.662	1.5892	.008	1
S5	5.0000	5.0161	.016	.323	3.2100	.010	1
S2	.40000	.40412	.004	1.03	.25851	.000	1

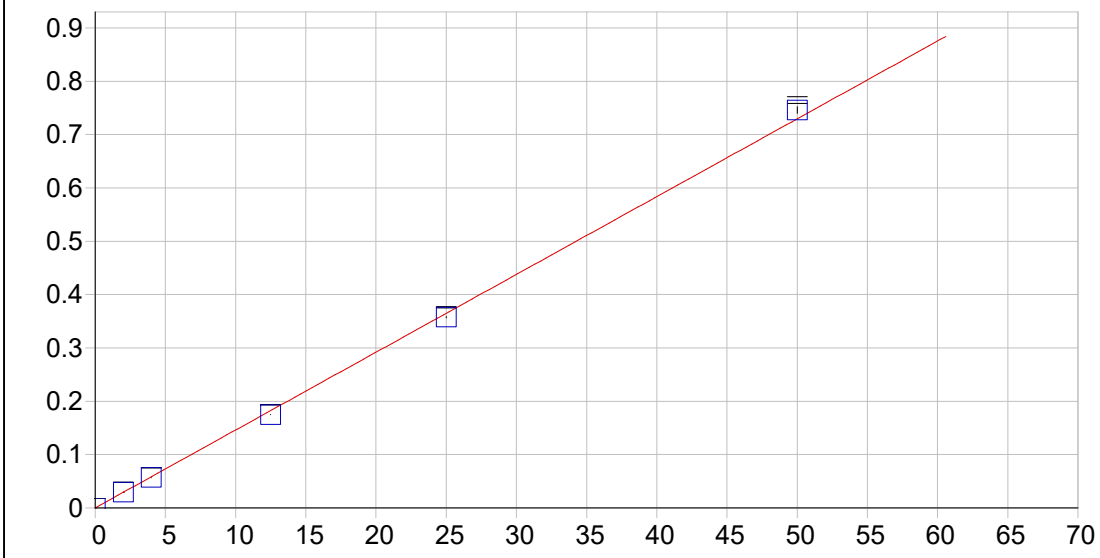


Ag 328.068 {103}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000228	Re-Slope:	1.000000
A1 (Gain):	0.364530	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999878	Status:	OK.
Std Error of Est:	0.000047		
Predicted MDL:	0.000385		
Predicted MQL:	0.001283		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00023	.000	1
S1	.01000	.01253	.003	25.3	.00431	.000	1
S3	.62500	.62074	-.004	-.682	.22494	.001	1
S4	1.2500	1.2408	-.009	-.739	.44986	.001	1
S5	2.5000	2.5024	.002	.098	.90757	.001	1
S2	.20000	.20853	.009	4.26	.07543	.000	1

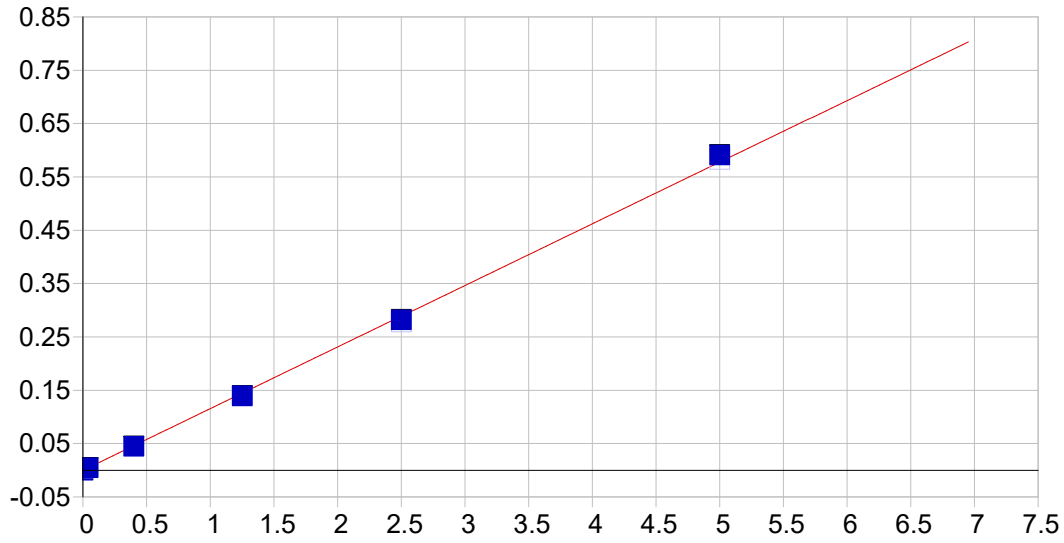


Na 589.592 { 57}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000166	Re-Slope:	1.000000
A1 (Gain):	0.014587	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999677	Status:	OK.
Std Error of Est:	0.000196		
Predicted MDL:	0.008743		
Predicted MQL:	0.029143		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00013	.000	.000	.00017	.000	1
S2	4.0000	3.8904	-.110	-2.74	.05691	.000	1
S3	12.500	11.978	-.522	-4.18	.17488	.001	1
S4	25.000	24.499	-.501	-2.00	.35753	.001	1
S5	50.000	51.130	1.13	2.26	.74600	.006	1
S1	2.0000	2.0027	.003	.133	.02938	.000	1

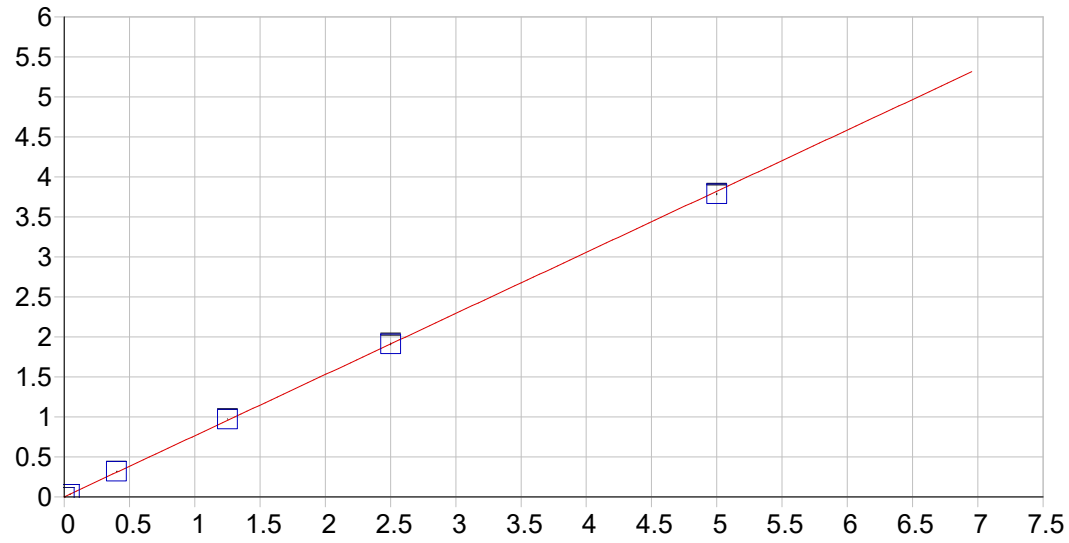


V 292.402 {115}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.115523	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999680	Status:	OK.
Std Error of Est:	0.000068		
Predicted MDL:	0.001343		
Predicted MQL:	0.004477		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00000	.000	1
S1	.04000	.03860	-.001	-3.51	.00428	.000	1
S3	1.2500	1.2087	-.041	-3.31	.13752	.000	1
S4	2.5000	2.4410	-.059	-2.36	.27778	.001	1
S5	5.0000	5.1133	.113	2.27	.58227	.001	1
S2	.40000	.38841	-.012	-2.90	.04419	.000	1

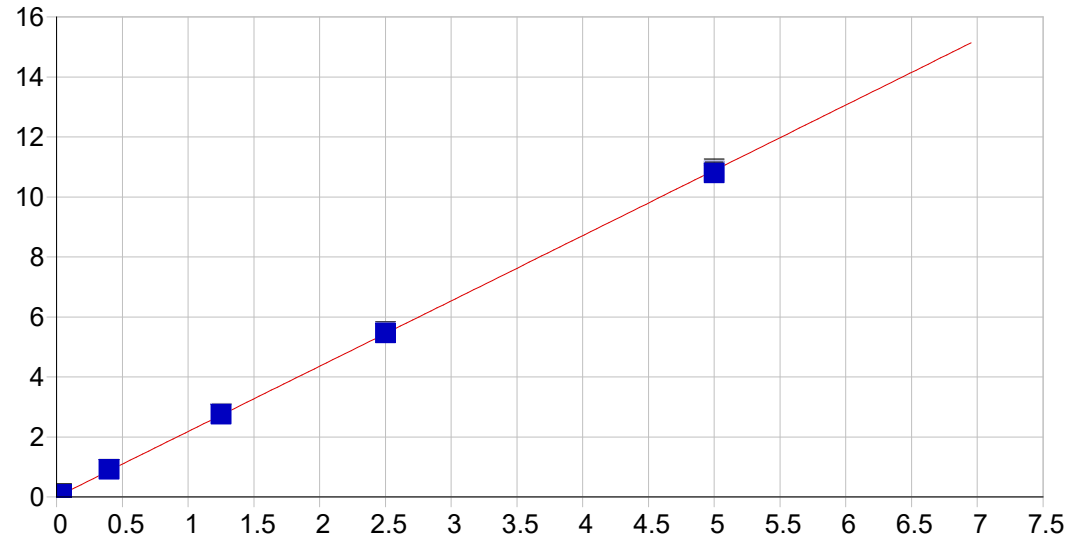


Zn 206.200 {464}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000866	Re-Slope:	1.000000
A1 (Gain):	0.764117	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999893	Status:	OK.
Std Error of Est:	0.000263		
Predicted MDL:	0.000206		
Predicted MQL:	0.000687		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00086	.000	1
S1	.04000	.04329	.003	8.22	.03394	.000	1
S3	1.2500	1.2729	.023	1.83	.97354	.002	1
S4	2.5000	2.5001	.000	.005	1.9112	.011	1
S5	5.0000	4.9550	-.045	-.901	3.7870	.009	1
S2	.40000	.41871	.019	4.68	.32081	.001	1

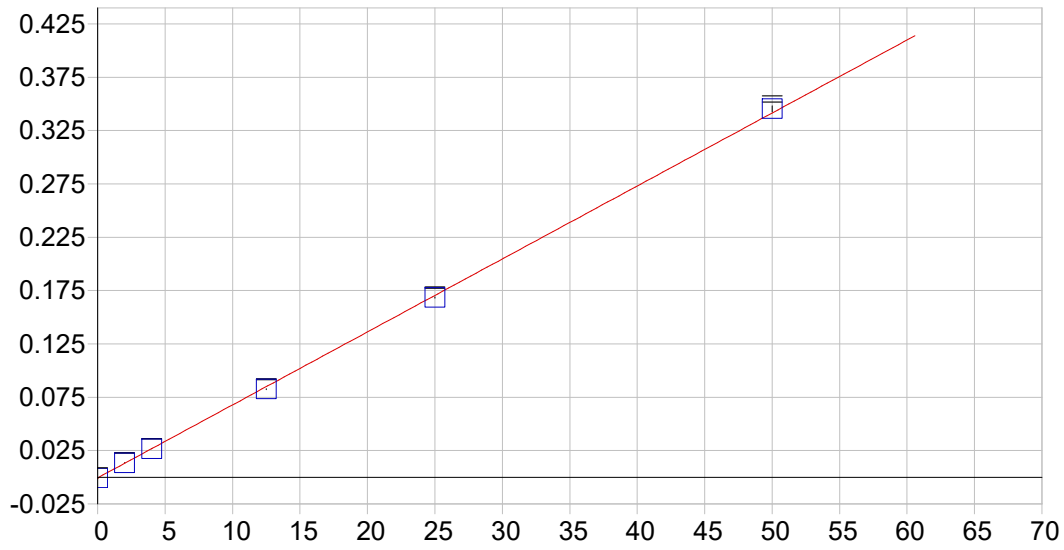


Zn 213.856 {158}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003294	Re-Slope:	1.000000
A1 (Gain):	2.176552	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999907	Status:	OK.
Std Error of Est:	0.000700		
Predicted MDL:	0.000297		
Predicted MQL:	0.000991		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00328	.001	1
S1	.04000	.04420	.004	10.5	.10011	.001	1
S3	1.2500	1.2630	.013	1.04	2.7712	.014	1
S4	2.5000	2.5063	.006	.251	5.4962	.017	1
S5	5.0000	4.9587	-.041	-.826	10.872	.067	1
S2	.40000	.41781	.018	4.45	.91874	.002	1

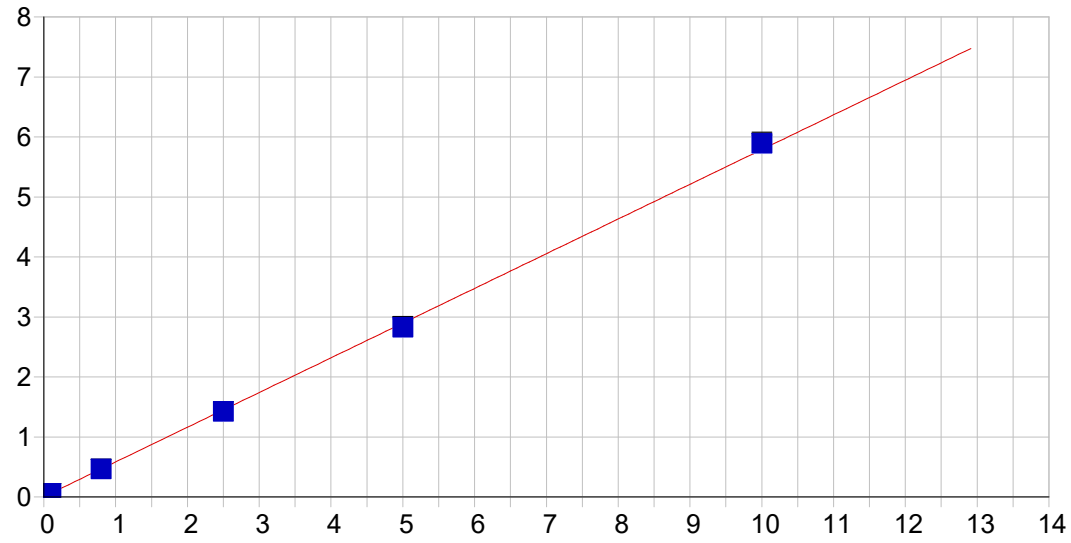


K 766.490 { 44}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000611	Re-Slope:	1.000000
A1 (Gain):	0.006842	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999885	Status:	OK.
Std Error of Est:	0.000055		
Predicted MDL:	0.022155		
Predicted MQL:	0.073852		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00061	.000	1
S2	4.0000	3.9954	-.005	-.115	.02673	.000	1
S3	12.500	12.155	-.345	-2.76	.08255	.000	1
S4	25.000	24.714	-.286	-1.14	.16848	.001	1
S5	50.000	50.569	.569	1.14	.34538	.003	1
S1	2.0000	2.0661	.066	3.30	.01352	.000	1

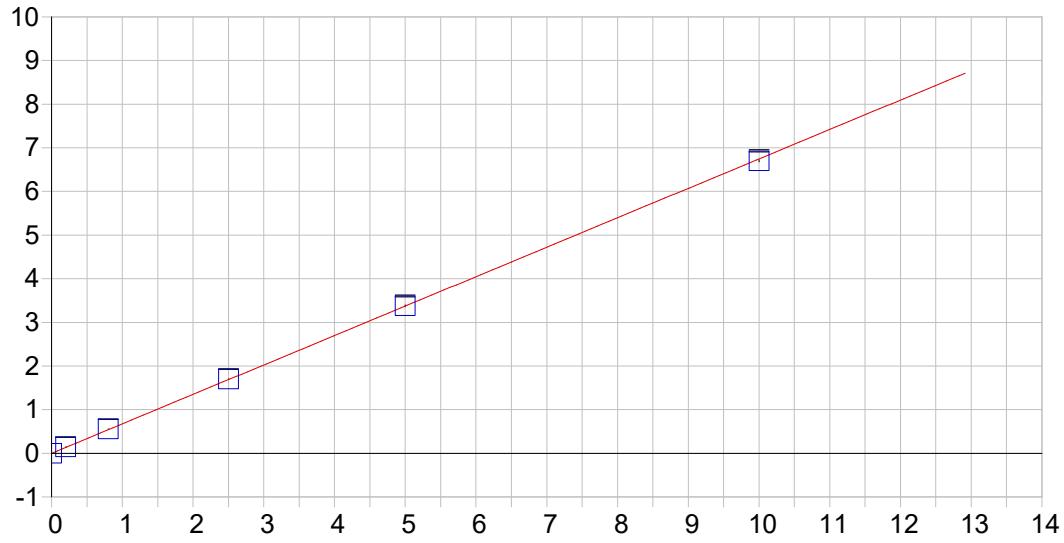


B 249.678 {135}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004162	Re-Slope:	1.000000
A1 (Gain):	0.578439	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999799	Status:	OK.
Std Error of Est:	0.000608		
Predicted MDL:	0.000554		
Predicted MQL:	0.001845		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00417	.000	1
S1	.10000	.09663	-.003	-3.37	.05981	.001	1
S3	2.5000	2.4513	-.049	-1.95	1.4193	.004	1
S4	5.0000	4.8788	-.121	-2.42	2.8206	.019	1
S5	10.000	10.181	.181	1.81	5.8821	.019	1
S2	.80000	.79200	-.008	-1.00	.46138	.003	1

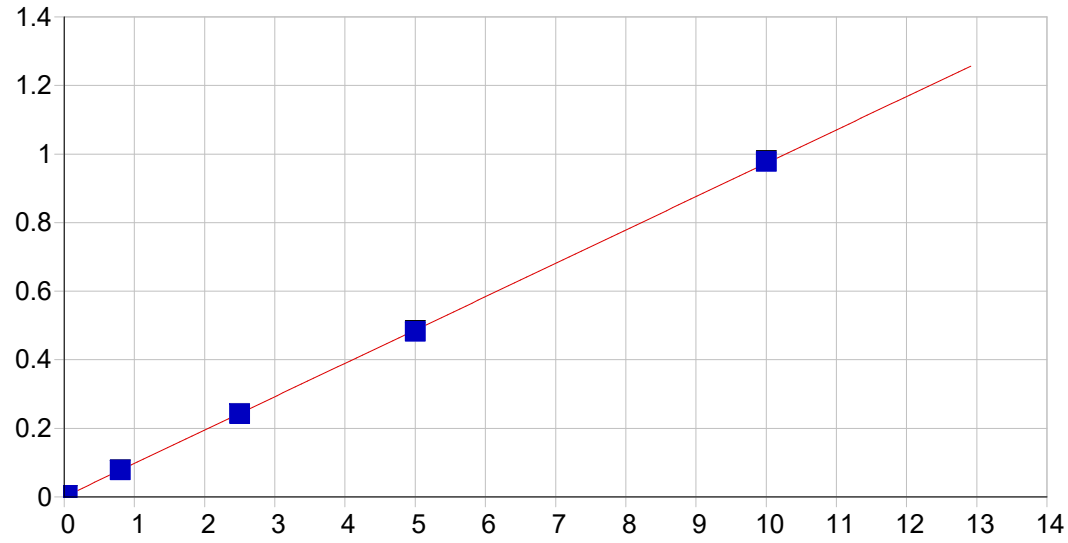


Mo 202.030 {467}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.674528	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999958	Status:	OK.
Std Error of Est:	0.000462		
Predicted MDL:	0.000248		
Predicted MQL:	0.000828		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.00001	.000	1
S1	.20000	.20931	.009	4.65	.14120	.000	1
S3	2.5000	2.5203	.020	.812	1.7000	.003	1
S4	5.0000	5.0111	.011	.221	3.3801	.021	1
S5	10.000	9.9382	-.062	-.618	6.7036	.022	1
S2	.80000	.82117	.021	2.65	.55392	.001	1

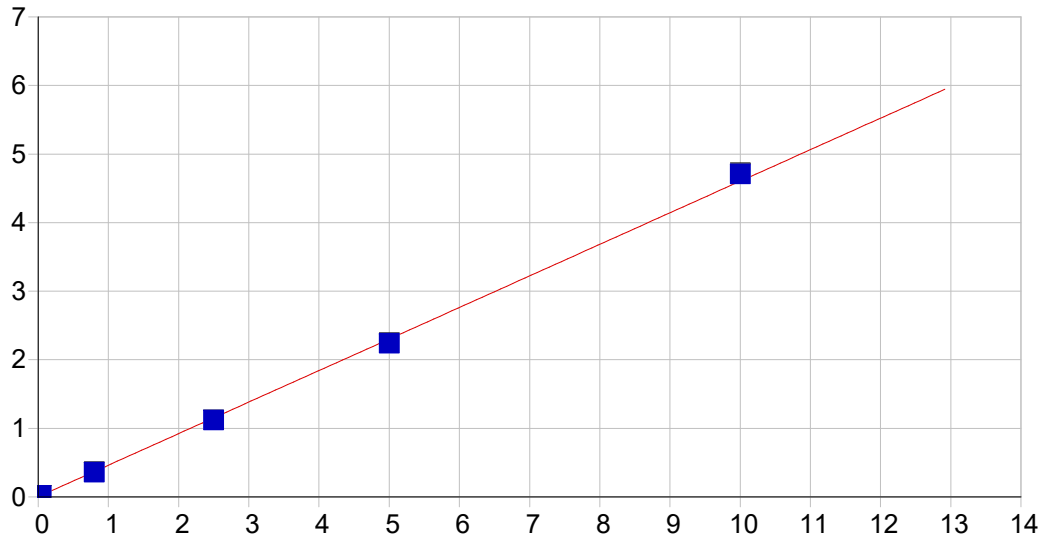


Sn 189.989 {478}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000346	Re-Slope:	1.000000
A1 (Gain):	0.097263	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999977	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	0.000742		
Predicted MQL:	0.002475		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00035	.000	1
S1	.04000	.03742	-.003	-6.44	.00398	.000	1
S3	2.5000	2.4898	-.010	-.410	.24226	.001	1
S4	5.0000	4.9588	-.041	-.824	.48215	.003	1
S5	10.000	10.054	.054	.536	.97719	.003	1
S2	.80000	.80045	.000	.056	.07812	.000	1

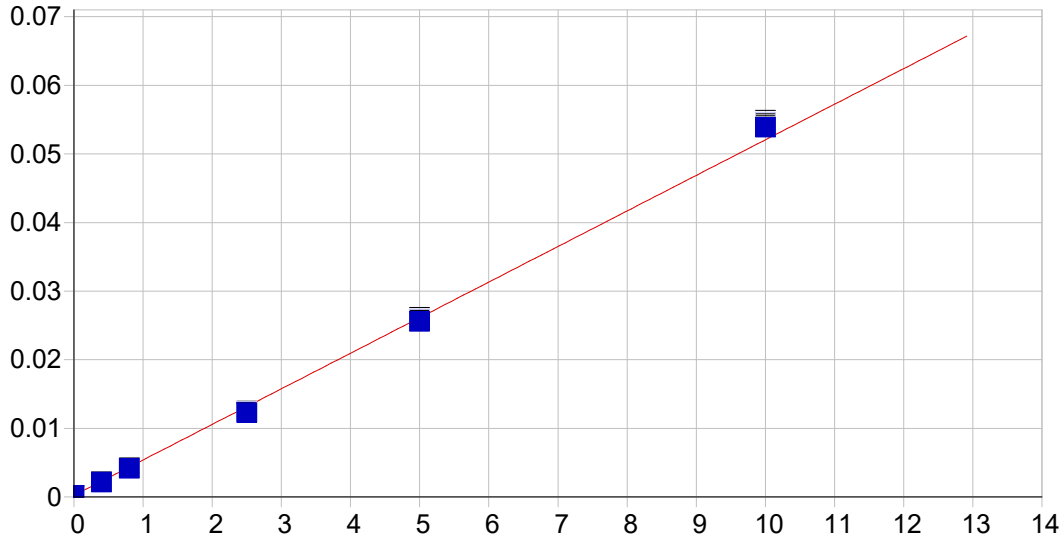


Ti 336.121 {100}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001976	Re-Slope:	1.000000
A1 (Gain):	0.460133	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999674	Status:	OK.
Std Error of Est:	0.000390		
Predicted MDL:	0.000490		
Predicted MQL:	0.001634		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00198	.000	1
S1	.04000	.03885	-.001	-2.87	.01984	.000	1
S3	2.5000	2.4265	-.074	-2.94	1.1181	.002	1
S4	5.0000	4.8609	-.139	-2.78	2.2378	.008	1
S5	10.000	10.233	.233	2.33	4.7089	.012	1
S2	.80000	.78064	-.019	-2.42	.36104	.001	1

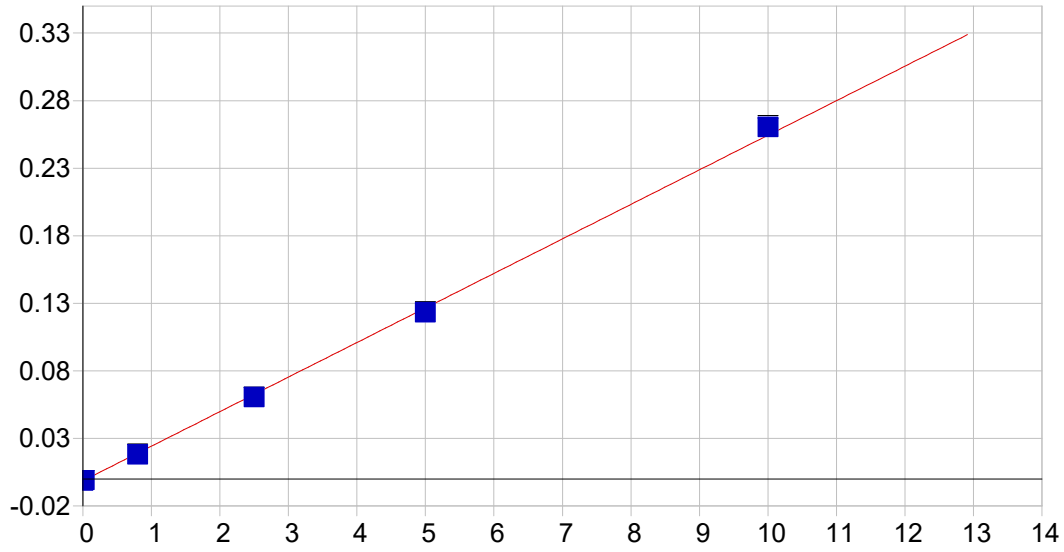


Si 288.158 {117}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000201	Re-Slope:	1.000000
A1 (Gain):	0.005186	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999218	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	0.006895		
Predicted MQL:	0.022982		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00007	.000	.000	.00020	.000	1
S1	.40000	.37364	-.026	-6.59	.00214	.000	1
S3	2.5000	2.3285	-.172	-6.86	.01247	.000	1
S4	5.0000	4.8920	-.108	-2.16	.02596	.000	1
S5	10.000	10.348	.348	3.48	.05464	.000	1
S2	.80000	.75798	-.042	-5.25	.00419	.000	1

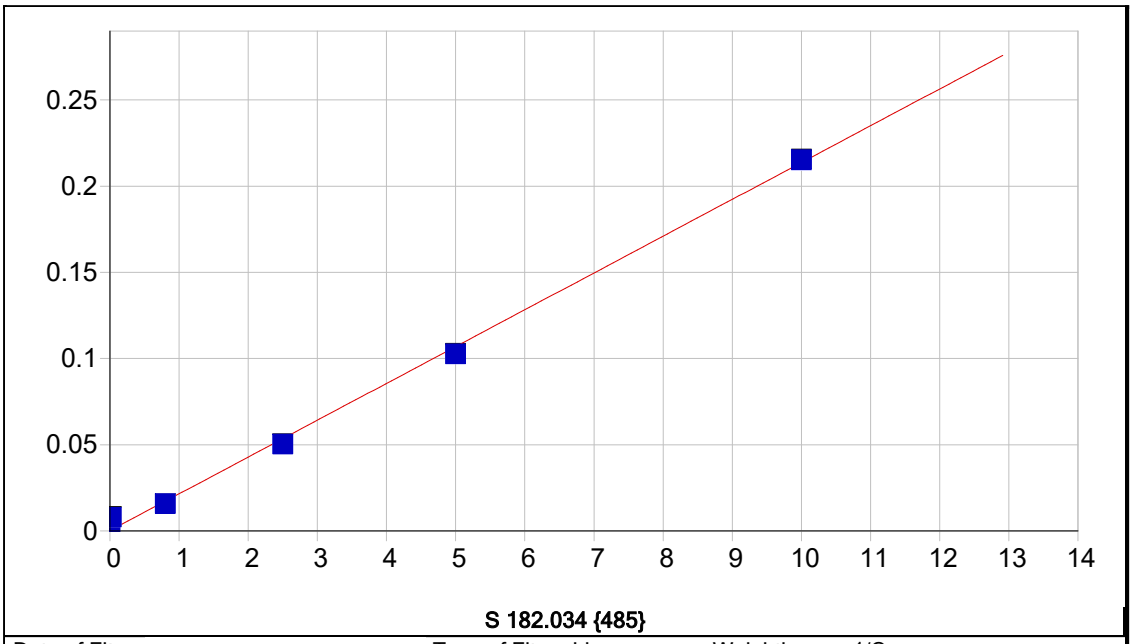


P 177.495 {490}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001355	Re-Slope:	1.000000
A1 (Gain):	0.025572	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999637	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.002671		
Predicted MQL:	0.008903		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00135	.000	1
S1	.02000	.01921	-.001	-3.97	-.00086	.000	1
S3	2.5000	2.4197	-.080	-3.21	.06051	.000	1
S4	5.0000	4.8742	-.126	-2.52	.12326	.000	1
S5	10.000	10.243	.243	2.43	.26053	.001	1
S2	.80000	.76395	-.036	-4.51	.01818	.000	1

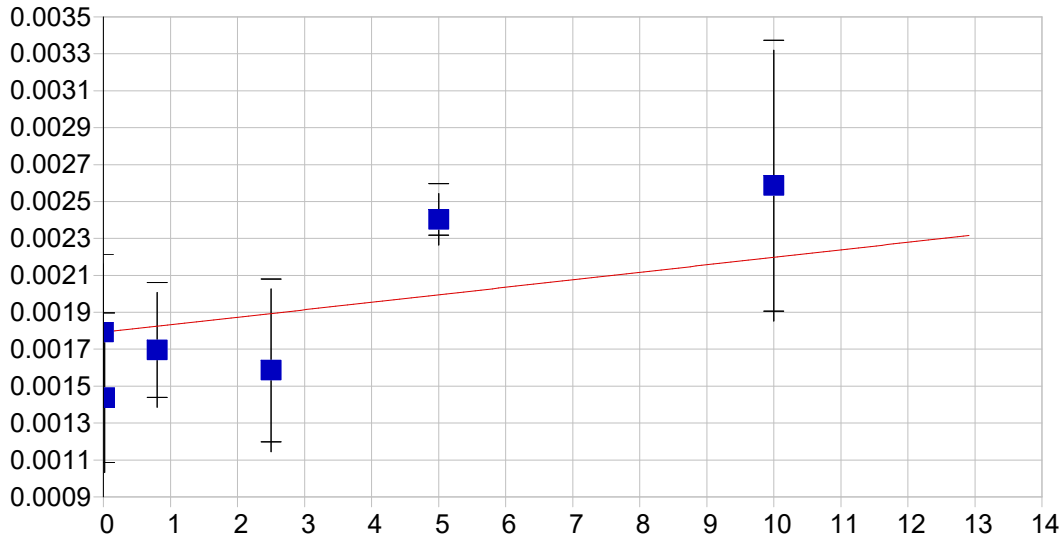


S 182.034 {485}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000170	Re-Slope:	1.000000
A1 (Gain):	0.021353	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.865170	Status:	OK.
Std Error of Est:	0.000289		
Predicted MDL:	0.003130		
Predicted MQL:	0.010432		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00035	-.000	.000	.00016	.000	1
S1	.02000	.36908	.349	1750.	.00803	.000	1
S3	2.5000	2.3513	-.149	-5.95	.05024	.000	1
S4	5.0000	4.8021	-.198	-3.96	.10243	.000	1
S5	10.000	10.082	.082	.819	.21489	.000	1
S2	.80000	.72959	-.070	-8.80	.01570	.000	1

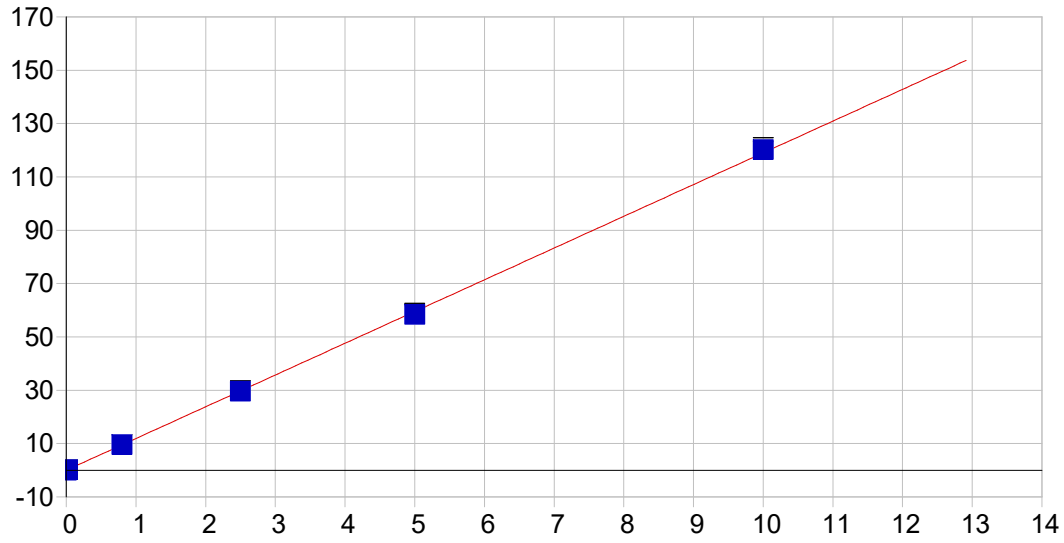


Li 670.784 { 50}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001792	Re-Slope:	1.000000
A1 (Gain):	0.000041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.068448	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	14.665379		
Predicted MQL:	48.884597		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00883	.009	.000	.00179	.000	1
S5	10.000	19.568	9.57	95.7	.00259	.001	1
S4	5.0000	15.059	10.1	201.	.00240	.000	1
S3	2.5000	-5.0762	-7.58	-303.	.00159	.000	1
S1	.02000	-8.7325	-8.75	-43800.	.00144	.000	1
S2	.80000	-2.3492	-3.15	-394.	.00170	.000	1

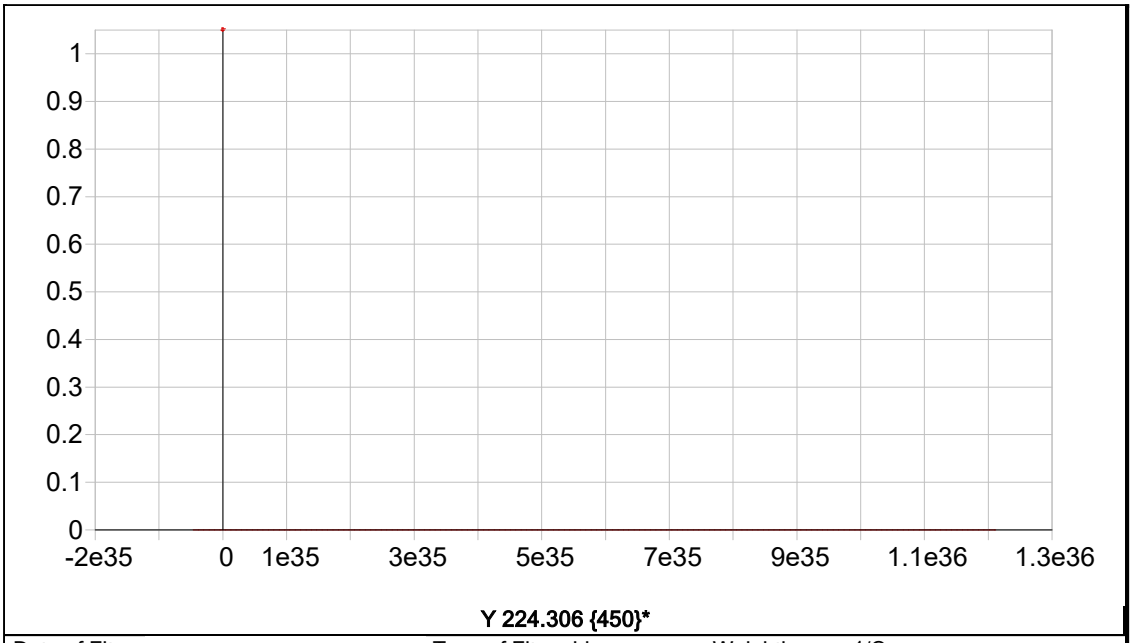


Sr 407.771 { 83}

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000976	Re-Slope:	1.000000
A1 (Gain):	11.902198	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999919	Status:	OK.
Std Error of Est:	0.003556		
Predicted MDL:	0.000032		
Predicted MQL:	0.000105		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00099	.000	1
S1	.02000	.02103	.001	5.16	.25054	.001	1
S3	2.5000	2.4879	-.012	-.484	29.640	.231	1
S4	5.0000	4.9047	-.095	-1.91	58.435	.477	1
S5	10.000	10.098	.098	.982	120.31	.680	1
S2	.80000	.80818	.008	1.02	9.6277	.017	1

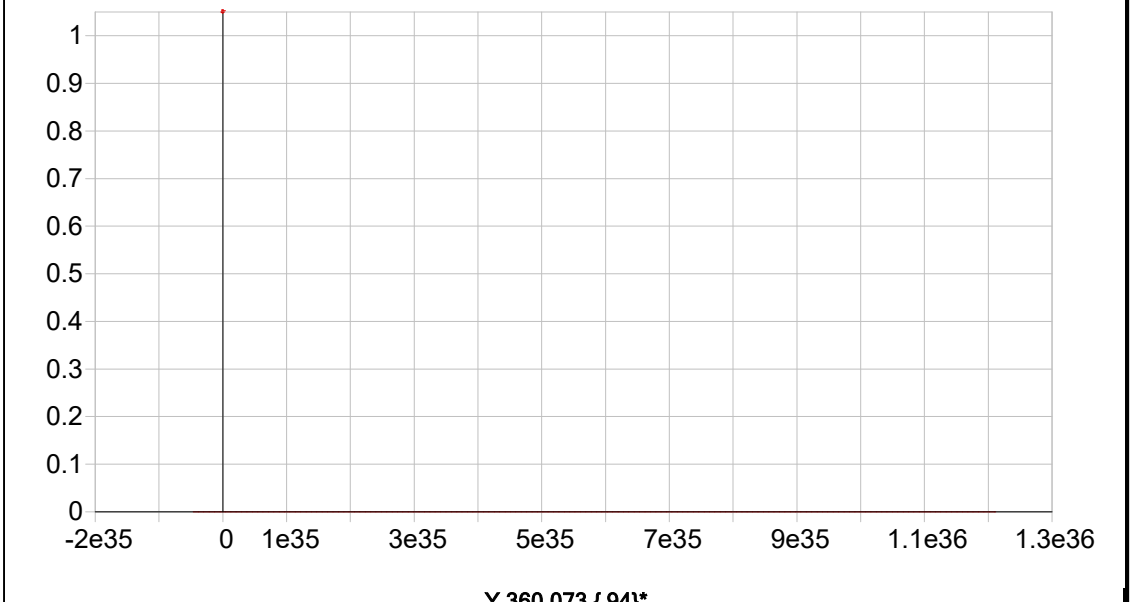


Y 224.306 {450}*

Date of Fit:	10/17/2024 12:58:49	Type of Fit:	Linear	Weighting:	1/Conc

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

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



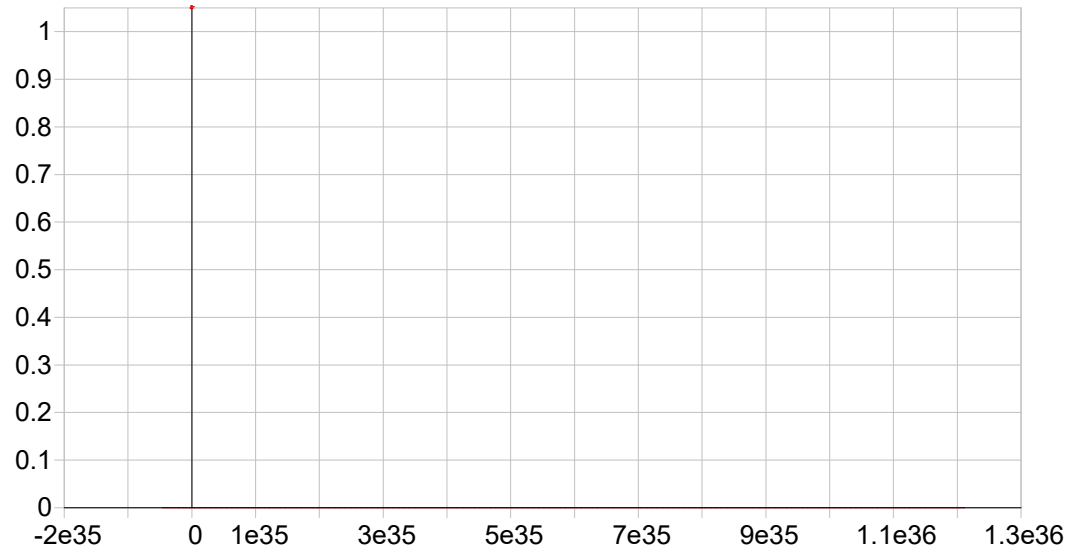
Y 360.073 { 94}*

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

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

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

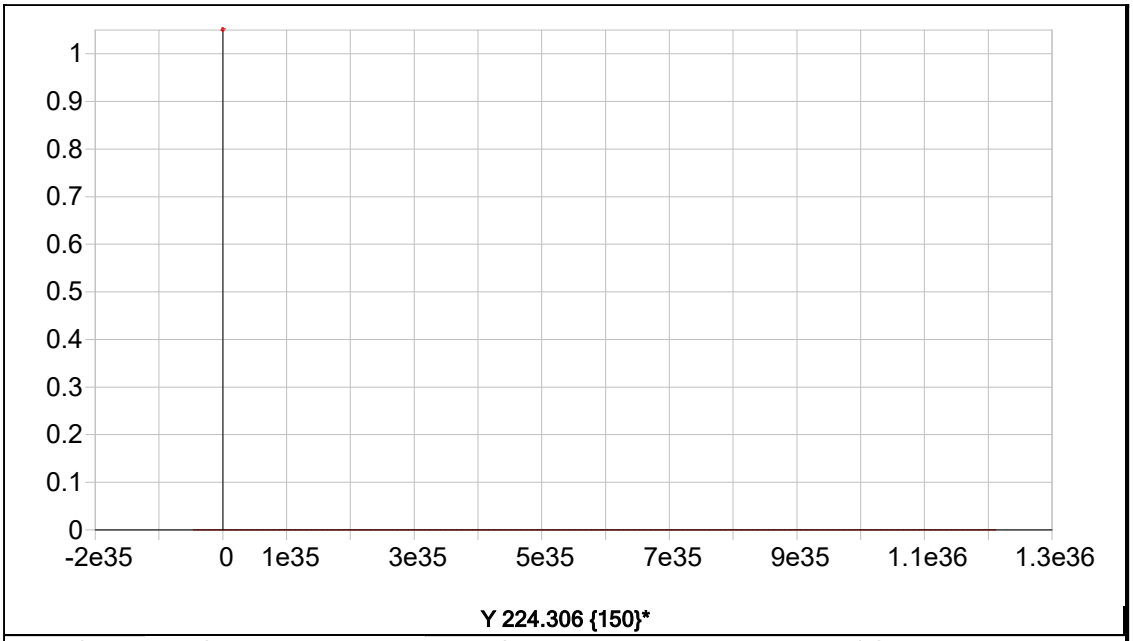
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 371.030 { 91}*

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

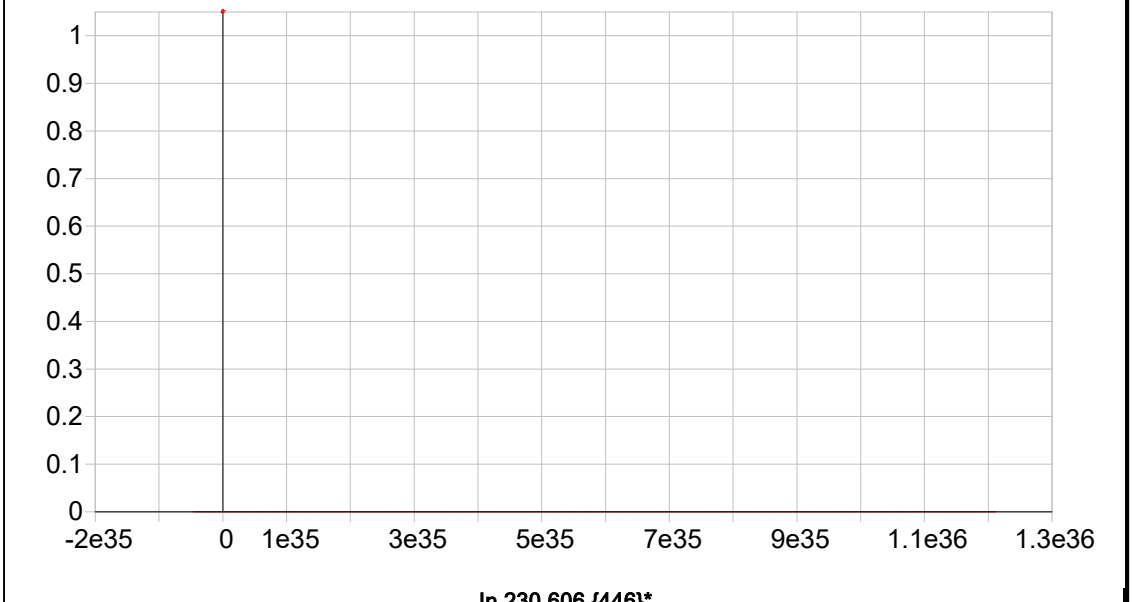
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 224.306 {150}*

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

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



In 230.606 {446}*

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

A2 (Curvature):		0.000000					
n (Exponent):		1.000000					
Correlation:		0.000000		Status:	Warning	Zero Gain	
Std Error of Est:		0.000000					
Predicted MDL:		n/a					
Predicted MQL:		n/a					
Std. Name	**Stated Conc.**	**Found Conc.**	**Difference**	**% Diff.**	**(S)IR**	**Std Dev**	**Emphasis**

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S0 Acquired: 10/17/2024 12:34:57 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	-.00020	-.00006	-.00022	.00037	.00007	-.00010	-.01089	-.00050
Stddev	.00011	.00001	.00012	.00002	.00011	.00050	.00119	.00003
%RSD	55.764	19.802	54.720	5.8069	148.28	482.16	10.966	5.0551
#1	-.00021	-.00006	-.00011	.00035	.00000	.00042	-.01164	-.00051
#2	-.00030	-.00008	-.00020	.00036	.00020	-.00058	-.01152	-.00052
#3	-.00008	-.00005	-.00035	.00039	.00002	-.00015	-.00951	-.00047

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	-.00013	.00120	.00009	-.00001	-.00040	-.00001	.00008	-.00006
Stddev	.00004	.00014	.00005	.00011	.00020	.00001	.00009	.00014
%RSD	30.510	11.494	62.761	777.63	48.765	85.666	123.24	214.15
#1	-.00012	.00134	.00009	-.00012	-.00043	-.00000	-.00003	-.00009
#2	-.00018	.00122	.00003	.00010	-.00019	-.00001	.00012	-.00019
#3	-.00010	.00106	.00014	-.00002	-.00058	-.00001	.00014	.00009

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00012	-.00023	.00017	-.00000	.00328	-.00061	.00417	.00001
Stddev	.00007	.00002	.00006	.00011	.00090	.00008	.00012	.00003
%RSD	56.932	7.3511	34.282	12628.	27.290	12.999	2.9186	283.46
#1	-.00004	-.00021	.00021	.00004	.00293	-.00052	.00424	.00004
#2	-.00017	-.00024	.00019	-.00012	.00430	-.00067	.00403	-.00002
#3	-.00014	-.00023	.00010	.00008	.00261	-.00064	.00423	.00001

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	.00035	.00198	.00020	-.00135	.00016	.00179	-.00099
Stddev	.00004	.00011	.00000	.00003	.00005	.00037	.00039
%RSD	11.083	5.5849	1.8873	2.4886	32.810	20.656	39.584
#1	.00031	.00185	.00021	-.00132	.00018	.00195	-.00137
#2	.00035	.00203	.00020	-.00137	.00021	.00137	-.00059
#3	.00039	.00205	.00020	-.00138	.00010	.00206	-.00099

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S0 Acquired: 10/17/2024 12:34:57 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	3462.5	73177.	16266.	2455.8	5900.0
Stddev	14.8	92.	57.	6.3	19.7
%RSD	.42820	.12513	.35006	.25779	.33433
#1	3452.5	73173.	16216.	2463.1	5883.9
#2	3455.4	73087.	16328.	2452.1	5894.1
#3	3479.5	73270.	16255.	2452.3	5922.0

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S1 Acquired: 10/17/2024 12:39:24 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	.00091	.00287	.00262	.00184	.00836	.00707	.27074	.02010
Stddev	.00011	.00013	.00005	.00006	.00012	.00029	.00123	.00016
%RSD	12.001	4.6021	1.8883	3.3473	1.3952	4.1241	.45572	.78708
#1	.00091	.00303	.00256	.00188	.00839	.00710	.27155	.02015
#2	.00080	.00280	.00265	.00177	.00845	.00734	.27135	.02023
#3	.00102	.00280	.00264	.00188	.00823	.00676	.26932	.01992

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	.01137	.09619	.00183	.02126	.01397	.00058	.01252	.02960
Stddev	.00012	.00048	.00001	.00005	.00006	.00002	.00023	.00022
%RSD	1.0580	.49999	.61093	.25486	.42583	2.8138	1.8498	.75550
#1	.01146	.09674	.00183	.02124	.01401	.00060	.01232	.02978
#2	.01124	.09588	.00183	.02122	.01399	.00056	.01277	.02967
#3	.01142	.09594	.00185	.02132	.01390	.00057	.01245	.02935

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	.02582	.00431	.02938	.00428	.10011	.01352	.05981	.14120
Stddev	.00009	.00005	.00016	.00015	.00130	.00008	.00057	.00006
%RSD	.36377	1.2476	.53053	3.3863	1.2983	.57541	.95961	.03901
#1	.02577	.00436	.02922	.00445	.10067	.01344	.06019	.14118
#2	.02592	.00430	.02939	.00424	.10105	.01356	.06009	.14127
#3	.02575	.00425	.02953	.00417	.09863	.01358	.05915	.14117

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	.00398	.01984	.00214	-.00086	.00803	.00144	.25054
Stddev	.00002	.00012	.00001	.00001	.00005	.00041	.00070
%RSD	.58670	.61424	.53588	1.6388	.62733	28.192	.28128
#1	.00400	.01981	.00215	-.00087	.00807	.00175	.25125
#2	.00396	.01997	.00213	-.00085	.00805	.00098	.25054
#3	.00399	.01974	.00214	-.00087	.00798	.00158	.24985

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S1 Acquired: 10/17/2024 12:39:24 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	3504.9	71174.	16168.	2489.6	5831.1
Stddev	5.3	46.	89.	2.7	3.2
%RSD	.15189	.06408	.55266	.10715	.05438
#1	3509.8	71226.	16093.	2486.5	5834.3
#2	3505.6	71140.	16145.	2490.6	5831.0
#3	3499.2	71157.	16267.	2491.5	5828.0

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S2 Acquired: 10/17/2024 12:43:48 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	.03820	.05506	.14851	.06129	.12598	.10068	4.3803	.13421
Stddev	.00009	.00014	.00025	.00036	.00042	.00025	.0110	.00087
%RSD	.23215	.26127	.16845	.58054	.33469	.24337	.25044	.64648
#1	.03812	.05505	.14837	.06099	.12584	.10055	4.3772	.13380
#2	.03820	.05492	.14880	.06120	.12564	.10053	4.3712	.13521
#3	.03830	.05521	.14836	.06169	.12645	.10096	4.3925	.13363

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	.70278	.18881	.02839	.28178	.13143	.00445	.24150	.05403
Stddev	.00101	.00022	.00012	.00039	.00059	.00003	.00046	.00013
%RSD	.14370	.11706	.41727	.13888	.44972	.56924	.19080	.24768
#1	.70212	.18871	.02852	.28134	.13074	.00443	.24202	.05407
#2	.70394	.18906	.02834	.28193	.13178	.00444	.24137	.05388
#3	.70229	.18865	.02830	.28208	.13176	.00448	.24112	.05414

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	.25851	.07543	.05691	.04419	.91874	.02673	.46138	.55392
Stddev	.00008	.00036	.00028	.00025	.00199	.00008	.00295	.00128
%RSD	.03146	.48165	.49869	.55567	.21692	.31550	.63880	.23089
#1	.25842	.07524	.05723	.04414	.91959	.02681	.45945	.55302
#2	.25858	.07585	.05669	.04398	.92016	.02665	.46477	.55337
#3	.25851	.07521	.05682	.04446	.91646	.02672	.45992	.55539

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	.07812	.36104	.00419	.01818	.01570	.00170	9.6277
Stddev	.00004	.00055	.00004	.00012	.00009	.00031	.0170
%RSD	.04602	.15160	.96639	.67515	.56512	18.363	.17629
#1	.07808	.36165	.00424	.01812	.01566	.00163	9.6355
#2	.07815	.36089	.00418	.01810	.01581	.00204	9.6082
#3	.07813	.36059	.00416	.01832	.01565	.00143	9.6393

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S2 Acquired: 10/17/2024 12:43:48 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	3507.3	72384.	16105.	2543.5	5752.9
Stddev	12.6	251.	12.	19.4	9.3
%RSD	.35904	.34718	.07349	.76270	.16153
#1	3511.1	72130.	16107.	2526.9	5755.6
#2	3517.6	72633.	16116.	2564.8	5760.5
#3	3493.3	72391.	16093.	2538.9	5742.6

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S3 Acquired: 10/17/2024 12:47:55 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	.11969	.17673	.46088	.19368	.39339	.31398	13.584	.41067
Stddev	.00041	.00151	.00056	.00019	.00068	.00026	.127	.00252
%RSD	.34657	.85514	.12200	.09889	.17272	.08190	.93300	.61462
#1	.12014	.17781	.46147	.19377	.39367	.31411	13.441	.40838
#2	.11933	.17500	.46080	.19346	.39261	.31369	13.628	.41338
#3	.11961	.17737	.46036	.19380	.39388	.31416	13.682	.41027

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.1849	.57578	.08590	.87042	.40074	.01325	.74001	.16584
Stddev	.0056	.00223	.00036	.00168	.00055	.00006	.00185	.00039
%RSD	.25519	.38695	.41612	.19348	.13806	.41690	.24962	.23541
#1	2.1913	.57642	.08552	.87235	.40091	.01325	.74086	.16594
#2	2.1810	.57330	.08596	.86929	.40119	.01319	.73789	.16541
#3	2.1824	.57762	.08623	.86962	.40012	.01330	.74128	.16617

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	.79713	.22494	.17488	.13752	2.7712	.08255	1.4193	1.7000
Stddev	.00172	.00097	.00056	.00015	.0138	.00049	.0045	.0035
%RSD	.21586	.43175	.31925	.10745	.49959	.59053	.31649	.20385
#1	.79912	.22385	.17473	.13749	2.7722	.08279	1.4164	1.7035
#2	.79617	.22527	.17442	.13768	2.7569	.08199	1.4244	1.6965
#3	.79611	.22571	.17550	.13739	2.7845	.08288	1.4170	1.7001

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	.24226	1.1181	.01247	.06051	.05024	.00159	29.640
Stddev	.00073	.0021	.00005	.00012	.00014	.00044	.231
%RSD	.30162	.18994	.43753	.20047	.27308	27.829	.77960
#1	.24305	1.1190	.01244	.06054	.05019	.00114	29.629
#2	.24160	1.1156	.01244	.06061	.05040	.00159	29.415
#3	.24213	1.1195	.01253	.06038	.05014	.00203	29.876

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S3 Acquired: 10/17/2024 12:47:55 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	3393.1	72916.	15928.	2493.2	5460.9
Stddev	.6	293.	32.	18.6	4.2
%RSD	.01674	.40201	.20113	.74661	.07706
#1	3393.8	73048.	15964.	2486.3	5456.1
#2	3392.9	73121.	15918.	2514.3	5463.2
#3	3392.7	72581.	15902.	2479.0	5463.5

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S4 Acquired: 10/17/2024 12:52:11 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	.24155	.34564	.91663	.39004	.79323	.63862	26.977	.81747
Stddev	.00199	.00188	.00529	.00267	.00477	.00078	.030	.00785
%RSD	.82527	.54419	.57680	.68477	.60114	.12157	.11239	.95976
#1	.23936	.34367	.91100	.38706	.78780	.63884	27.005	.82278
#2	.24200	.34584	.91742	.39083	.79511	.63926	26.945	.82117
#3	.24327	.34741	.92149	.39223	.79676	.63776	26.980	.80846

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	4.3888	1.1474	.17095	1.7412	.79190	.02661	1.4541	.33635
Stddev	.0212	.0035	.00106	.0093	.00526	.00008	.0061	.00126
%RSD	.48282	.30704	.61831	.53475	.66386	.31187	.41962	.37412
#1	4.3676	1.1491	.17182	1.7314	.78607	.02663	1.4597	.33639
#2	4.3887	1.1497	.17126	1.7422	.79332	.02652	1.4551	.33758
#3	4.4100	1.1433	.16977	1.7500	.79630	.02668	1.4476	.33507

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	1.5892	.44986	.35753	.27778	5.4962	.16848	2.8206	3.3801
Stddev	.0081	.00112	.00098	.00080	.0170	.00058	.0188	.0211
%RSD	.50775	.24830	.27502	.28750	.30848	.34348	.66622	.62573
#1	1.5814	.45064	.35852	.27864	5.5025	.16879	2.8339	3.3573
#2	1.5887	.45036	.35655	.27765	5.5091	.16781	2.8288	3.3840
#3	1.5975	.44858	.35753	.27706	5.4770	.16884	2.7991	3.3991

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	.48215	2.2378	.02596	.12326	.10243	.00240	58.435
Stddev	.00269	.0082	.00020	.00042	.00042	.00014	.477
%RSD	.55886	.36719	.78466	.34132	.40893	5.8165	.81706
#1	.47968	2.2469	.02581	.12286	.10211	.00225	58.970
#2	.48176	2.2356	.02587	.12323	.10228	.00243	58.283
#3	.48502	2.2309	.02619	.12370	.10291	.00253	58.052

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S4 Acquired: 10/17/2024 12:52:11 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	3295.7	70502.	15614.	2360.3	5240.4
Stddev	20.6	113.	63.	7.6	26.1
%RSD	.62400	.16065	.40240	.32201	.49783
#1	3318.9	70630.	15590.	2368.7	5267.7
#2	3288.4	70413.	15567.	2358.1	5238.0
#3	3279.8	70463.	15686.	2354.0	5215.6

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S5 Acquired: 10/17/2024 12:56:25 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	.48641	.70026	1.8479	.77868	1.5899	1.3384	56.605	1.7019
Stddev	.00118	.00179	.0050	.00292	.0046	.0041	.304	.0106
%RSD	.24240	.25552	.27088	.37443	.28632	.30495	.53783	.62096
#1	.48505	.69821	1.8426	.77556	1.5847	1.3423	56.954	1.6934
#2	.48711	.70104	1.8486	.77915	1.5932	1.3387	56.399	1.7137
#3	.48707	.70153	1.8525	.78133	1.5918	1.3341	56.461	1.6986

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	8.8723	2.4145	.33664	3.5419	1.5606	.05449	3.0628	.71605
Stddev	.0265	.0021	.00180	.0116	.0058	.00040	.0095	.00118
%RSD	.29869	.08491	.53591	.32679	.37420	.72743	.30839	.16472
#1	8.8433	2.4168	.33685	3.5294	1.5543	.05492	3.0684	.71601
#2	8.8787	2.4137	.33833	3.5441	1.5615	.05414	3.0519	.71725
#3	8.8951	2.4129	.33474	3.5522	1.5659	.05442	3.0681	.71489

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	3.2100	.90757	.74600	.58227	10.872	.34538	5.8821	6.7036
Stddev	.0102	.00133	.00625	.00137	.067	.00274	.0190	.0223
%RSD	.31715	.14604	.83719	.23502	.61211	.79211	.32284	.33300
#1	3.1994	.90910	.75147	.58382	10.948	.34847	5.8627	6.6797
#2	3.2109	.90674	.73919	.58122	10.826	.34326	5.9006	6.7073
#3	3.2198	.90687	.74732	.58178	10.841	.34442	5.8830	6.7238

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	.97719	4.7089	.05464	.26053	.21489	.00259	120.31
Stddev	.00269	.0116	.00025	.00113	.00032	.00073	.68
%RSD	.27548	.24628	.45977	.43524	.14732	28.377	.56510
#1	.97426	4.7171	.05456	.25932	.21462	.00306	120.66
#2	.97775	4.6957	.05444	.26071	.21483	.00295	120.74
#3	.97956	4.7140	.05492	.26157	.21524	.00174	119.53

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: S5 Acquired: 10/17/2024 12:56:25 Type: Cal
Method: NON EPA-6010-200.7(v2445) 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	3223.7	67784.	14646.	2296.9	4986.3
Stddev	9.3	224.	21.	13.7	13.3
%RSD	.28774	.33047	.14581	.59440	.26636
#1	3233.4	67527.	14661.	2281.7	4999.6
#2	3222.8	67882.	14622.	2308.2	4986.2
#3	3214.9	67941.	14655.	2300.6	4973.1

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICV01 Acquired: 10/17/2024 13:00:38 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	1.040379	1.048926	1.029479	1.029607	1.004226	2.467724
Stddev	.004063	.009627	.003113	.003913	.003240	.006914
%RSD	.3905777	.9178280	.3024222	.3799995	.3226670	.2801671
#1	1.045048	1.059626	1.027515	1.033909	1.006344	2.475706
#2	1.037639	1.046186	1.027852	1.028651	1.005838	2.463612
#3	1.038450	1.040966	1.033068	1.026261	1.000496	2.463853

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5350464	.5218743	.5159517	10.26553	.5332440	.5189589
Stddev	.0003887	.0025481	.0008991	.03826	.0000968	.0006288
%RSD	.0726399	.4882562	.1742647	.3727504	.0181472	.1211594
#1	.5354201	.5248074	.5153797	10.27926	.5331710	.5195426
#2	.5350746	.5202065	.5154873	10.22230	.5332072	.5182932
#3	.5346444	.5206091	.5169881	10.29504	.5333538	.5190410

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5263255	10.07467	.5358749	6.197884	.5560273	.2623454
Stddev	.0010515	.02401	.0031711	.047745	.0004954	.0007888
%RSD	.1997817	.2383200	.5917621	.7703390	.0890964	.3006846
#1	.5274385	10.05535	.5390919	6.248377	.5560287	.2631762
#2	.5261891	10.06711	.5327518	6.153469	.5555312	.2622536
#3	.5253488	10.10155	.5357808	6.191805	.5565220	.2616066

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.720974	.5118085	1.029476	9.978868	2.377931	2.559975
Stddev	.038780	.0025070	.002307	.054735	.013614	.006032
%RSD	.3989296	.4898395	.2240939	.5485140	.5724949	.2356467
#1	9.678887	.5136548	1.031644	9.916222	2.393211	2.566792
#2	9.755261	.5089544	1.027051	10.01745	2.367095	2.557807
#3	9.728774	.5128163	1.029732	10.00294	2.373487	2.555325

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICV01 Acquired: 10/17/2024 13:00:38 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	2.480446	2.404056	2.460843	F -.004084	F -.004389	F 5.634311
Stddev	.003214	.001949	.012555	.001428	.001532	12.54970
%RSD	.1295827	.0810514	.5101853	34.97495	34.89378	222.7371
#1	2.483621	2.404860	2.449042	-.003191	-.002622	6.43500
#2	2.477194	2.401834	2.459450	-.005732	-.005206	17.76450
#3	2.480521	2.405473	2.474036	-.003330	-.005339	-7.29657

Elem	Sr4077
Units	ppm
Avg	2.472085
Stddev	.004661
%RSD	.1885484
#1	2.475901
#2	2.473463
#3	2.466890

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3419.447	72288.02	16366.68	2503.267	5543.778
Stddev	14.107	46.51	89.16	5.439	11.379
%RSD	.4125447	.0643466	.5447352	.2172855	.2052574
#1	3410.325	72259.97	16266.61	2509.078	5537.038
#2	3412.320	72262.38	16437.64	2502.427	5537.381
#3	3435.695	72341.71	16395.80	2498.297	5556.916

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: LLICV01 Acquired: 10/17/2024 13:06:40 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0174830	.0385905	.0134375	.0181895	.0465971	.0967092
Stddev	.0028707	.0014756	.0003160	.0005277	.0014338	.0015807
%RSD	16.41989	3.823767	2.351424	2.900988	3.077013	1.634505
#1	.0153848	.0394490	.0132707	.0184986	.0466052	.0958238
#2	.0207545	.0394358	.0132399	.0184897	.0451593	.0957696
#3	.0163098	.0368866	.0138020	.0175802	.0480269	.0985342

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0911331	.0054991	.0057210	1.784388	.0090516	.0273034
Stddev	.0005601	.0000430	.0000262	.002013	.0005339	.0001179
%RSD	.6145671	.7814374	.4577266	.1127898	5.898016	.4316240
#1	.0914548	.0055339	.0056977	1.786059	.0094205	.0271824
#2	.0904864	.0055122	.0057160	1.784951	.0084394	.0273100
#3	.0914582	.0054510	.0057493	1.782154	.0092948	.0274178

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0205490	.0994398	.0184564	1.867429	.0362766	.0109054
Stddev	.0000190	.0020647	.0003593	.017444	.0002357	.0001529
%RSD	.0922245	2.076368	1.946739	.9341234	.6497030	1.402316
#1	.0205317	.0988823	.0188702	1.878578	.0360505	.0109376
#2	.0205692	.0977111	.0182236	1.847327	.0362586	.0110396
#3	.0205461	.1017261	.0182753	1.876384	.0365209	.0107389

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.801132	.0357981	.0399684	1.860510	.0967053	.1865958
Stddev	.003247	.0008078	.0003974	.007596	.0006245	.0005458
%RSD	.1802568	2.256537	.9941756	.4082841	.6457876	.2925193
#1	1.799894	.0361218	.0403734	1.857183	.0965966	.1860128
#2	1.798686	.0348787	.0395792	1.869202	.0961423	.1870946
#3	1.804815	.0363939	.0399528	1.855145	.0973770	.1866800

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: LLICV01 Acquired: 10/17/2024 13:06:40 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0324318	.0349202	.3305364	.0188173	F .3288776	F -10.6274
Stddev	.0005988	.0006680	.0102480	.0011944	.0012537	7.9520
%RSD	1.846231	1.912895	3.100418	6.347620	.3812153	74.82576
#1	.0324832	.0351139	.3376602	.0195003	.3303202	-19.5973
#2	.0330033	.0341768	.3351575	.0195136	.3282609	-7.8426
#3	.0318090	.0354700	.3187916	.0174381	.3280516	-4.4423

Elem	Sr4077
Units	ppm
Avg	.0190334
Stddev	.0000398
%RSD	.2091913
#1	.0190473
#2	.0190644
#3	.0189885

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3448.476	71319.33	16198.01	2484.478	5766.590
Stddev	10.642	160.90	51.34	5.524	13.695
%RSD	.3085860	.2255996	.3169685	.2223479	.2374968
#1	3460.408	71503.02	16139.68	2488.437	5782.038
#2	3439.969	71251.57	16236.35	2486.829	5755.936
#3	3445.050	71203.40	16218.01	2478.167	5761.796

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICB01 Acquired: 10/17/2024 13:14:36 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014767	.0000958	-.000231	-.001124	.0004538	.0033248
Stddev	.0008025	.0006267	.000781	.000915	.0009613	.0054965
%RSD	54.34873	654.0013	338.8420	81.36174	211.8371	165.3181
#1	.0006522	-.000432	.000229	-.002127	-.000275	.0095951
#2	.0015224	.000789	.000212	-.000912	.000093	-.000661
#3	.0022554	-.000069	-.001133	-.000335	.001543	.001040

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003090	-.000027	.0000459	-.003699	-.000324	-.000069
Stddev	.0004460	.000012	.0000602	.004651	.000276	.000075
%RSD	144.3091	45.20716	131.2709	125.7394	85.11961	109.1901
#1	.0007744	-.000017	.0000072	-.001446	-.000186	-.000057
#2	.0002673	-.000041	.0001153	-.009047	-.000145	-.000000
#3	-.000115	-.000024	.0000151	-.000603	-.000641	-.000150

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003646	-.000804	-.000115	-.002421	-.000105	-.000144
Stddev	.0002076	.000823	.000069	.004893	.000286	.000184
%RSD	56.93134	102.3525	60.45176	202.0795	273.0329	127.6791
#1	.0001414	-.000866	-.000061	-.000854	-.000256	-.000079
#2	.0004004	.000048	-.000193	.001496	.000225	-.000352
#3	.0005519	-.001595	-.000090	-.007906	-.000283	-.000002

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003022	-.000253	.0001694	-.011440	.0002198	.0001448
Stddev	.007757	.000644	.0001341	.011006	.0001077	.0000842
%RSD	256.6694	254.3006	79.19065	96.20622	48.97745	58.13636
#1	-.009220	.000079	.0003054	-.002282	.0001054	.0002336
#2	-.005523	-.000996	.0000372	-.008388	.0002349	.0000661
#3	.005677	.000157	.0001656	-.023650	.0003191	.0001348

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICB01 Acquired: 10/17/2024 13:14:36 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002337	-.000303	-.001259	.0027936	-.000789	F -15.0866
Stddev	.000218	.000352	.002550	.0017475	.001588	8.2302
%RSD	9.311082	116.4563	202.4461	62.55382	201.3231	54.55300
#1	-.002548	-.000003	.000849	.0047403	-.001614	-7.0307
#2	-.002350	-.000214	-.000535	.0022805	.001042	-14.7484
#3	-.002113	-.000691	-.004093	.0013601	-.001794	-23.4806

Elem	Sr4077
Units	ppm
Avg	-.000011
Stddev	.000012
%RSD	109.3604
#1	-.000016
#2	.000003
#3	-.000020

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3491.979	71312.35	16311.52	2462.104	5927.670
Stddev	5.221	85.06	15.26	10.848	11.495
%RSD	.1495209	.1192818	.0935367	.4405945	.1939149
#1	3486.303	71334.10	16295.56	2457.401	5914.450
#2	3493.056	71384.42	16325.96	2474.510	5933.256
#3	3496.577	71218.52	16313.04	2454.402	5935.304

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CRI01 Acquired: 10/17/2024 13:21:32 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0185376	.0376141	.0133088	.0177984	.0448793	.0914088
Stddev	.0029092	.0015165	.0006305	.0004847	.0001257	.0039843
%RSD	15.69337	4.031795	4.737249	2.723175	.2800920	4.358756
#1	.0181638	.0368488	.0131711	.0172868	.0448119	.0874305
#2	.0158334	.0366328	.0139967	.0178577	.0450243	.0953990
#3	.0216157	.0393608	.0127585	.0182508	.0448017	.0913968

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0898189	.0054186	.0056669	1.763675	.0088083	.0267050
Stddev	.0002521	.0000515	.0000472	.018437	.0003070	.0001093
%RSD	.2807051	.9511033	.8330123	1.045396	3.485569	.4093387
#1	.0895811	.0054088	.0056170	1.743303	.0084547	.0268011
#2	.0897923	.0053728	.0057109	1.768506	.0089633	.0267279
#3	.0900833	.0054744	.0056729	1.779217	.0090069	.0265861

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0202422	.0946803	.0181332	1.858101	.0356155	.0111897
Stddev	.0001110	.0005048	.0004446	.017289	.0001051	.0001886
%RSD	.5485432	.5332096	2.451914	.9304850	.2950135	1.685483
#1	.0201765	.0950145	.0177801	1.851617	.0357364	.0109731
#2	.0201797	.0949268	.0186325	1.844990	.0355639	.0113172
#3	.0203704	.0940995	.0179870	1.877695	.0355462	.0112789

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.719948	.0343625	.0391114	1.787624	.0842459	.1826136
Stddev	.007544	.0005860	.0002385	.013937	.0010343	.0005906
%RSD	.4386258	1.705434	.6096865	.7796128	1.227669	.3234131
#1	1.719884	.0340831	.0390714	1.800000	.0831870	.1824610
#2	1.712437	.0339685	.0388955	1.772528	.0842971	.1821143
#3	1.727524	.0350360	.0393674	1.790345	.0852536	.1832656

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CRI01 Acquired: 10/17/2024 13:21:32 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0321246	.0339539	.3206414	.0173420	F .3286567	F -5.48203
Stddev	.0008740	.0003109	.0049793	.0012121	.0042387	8.75768
%RSD	2.720622	.9157315	1.552929	6.989659	1.289716	159.7526
#1	.0331337	.0340922	.3210358	.0164666	.3333259	4.58656
#2	.0316112	.0341717	.3154765	.0168339	.3275933	-11.3316
#3	.0316287	.0335978	.3254117	.0187255	.3250510	-9.7011

Elem	Sr4077
Units	ppm
Avg	.0186415
Stddev	.0000155
%RSD	.0833937
#1	.0186244
#2	.0186547
#3	.0186455

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3529.075	74132.19	16337.77	2572.809	5863.501
Stddev	9.849	262.10	12.08	7.118	16.284
%RSD	.2790779	.3535585	.0739551	.2766643	.2777140
#1	3540.198	73900.36	16346.40	2564.866	5881.968
#2	3525.568	74079.62	16323.96	2574.950	5857.332
#3	3521.460	74416.59	16342.93	2578.611	5851.204

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSA01 Acquired: 10/17/2024 13:25:50 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.000863	.0175769	.0071222	-.011113	.0000633	245.5087
Stddev	.003104	.0032130	.0006372	.001397	.0015155	2.4520
%RSD	359.5857	18.27957	8.946722	12.56734	2392.947	.9987369
#1	-.000642	.0200423	.0069996	-.012540	.0006450	247.4076
#2	.002124	.0187453	.0078118	-.011049	.0012018	242.7405
#3	-.004072	.0139432	.0065552	-.009749	-.001657	246.3780

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049873	.0011366	.0008805	232.3910	.0569344	.0020467
Stddev	.0003618	.0000370	.0001624	.4010	.0005449	.0003251
%RSD	7.255522	3.258162	18.44536	.1725336	.9570426	15.88388
#1	.0053270	.0010977	.0008728	232.5924	.0564802	.0022567
#2	.0050281	.0011714	.0007221	232.6513	.0575385	.0022111
#3	.0046068	.0011407	.0010467	231.9292	.0567845	.0016722

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001134	100.9013	.0055840	253.0670	.0027255	-.008008
Stddev	.001439	.5894	.0000614	.6715	.0004019	.000553
%RSD	126.9201	.5841593	1.100004	.2653263	14.74613	6.908607
#1	-.000514	100.5087	.0055569	253.3515	.0025440	-.008219
#2	-.002779	101.5791	.0055407	253.5493	.0031862	-.007381
#3	-.000109	100.6161	.0056543	252.3001	.0024463	-.008425

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0202627	.0068008	.0052536	-.024661	.0687290	.0006728
Stddev	.0032998	.0002878	.0004778	.023761	.0011805	.0002978
%RSD	16.28501	4.232586	9.095270	96.34736	1.717543	44.25626
#1	.0164814	.0069394	.0054152	-.036435	.0677562	.0004050
#2	.0225595	.0069932	.0056296	-.040236	.0700423	.0006199
#3	.0217472	.0064699	.0047159	.002687	.0683885	.0009935

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSA01 Acquired: 10/17/2024 13:25:50 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.004211	-.002259	.0128870	.0014878	-.015354	F 69.28909
Stddev	.000760	.000023	.0055314	.0018690	.000968	15.84660
%RSD	18.05233	1.031451	42.92231	125.6268	6.305957	22.87026
#1	-.005083	-.002251	.0067690	-.000299	-.014906	80.15476
#2	-.003868	-.002241	.0143572	.001333	-.016465	76.60646
#3	-.003683	-.002286	.0175348	.003429	-.014691	51.10606

Elem	Sr4077
Units	ppm
Avg	-.000396
Stddev	.000682
%RSD	172.1519
#1	.000055
#2	-.001180
#3	-.000063

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3040.591	64759.94	15688.42	2212.379	4606.110
Stddev	11.213	160.41	45.04	7.902	12.938
%RSD	.3687743	.2476940	.2871130	.3571671	.2808815
#1	3049.031	64761.22	15636.48	2217.340	4619.254
#2	3044.873	64598.89	15712.06	2203.267	4605.688
#3	3027.868	64919.70	15716.73	2216.530	4593.389

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSAB01 Acquired: 10/17/2024 14:01:17 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.1130413	.1114926	.0586952	.0334993	.6287789	250.1905
Stddev	.0011966	.0019538	.0008502	.0016051	.0019072	1.5637
%RSD	1.058518	1.752371	1.448593	4.791414	.3033181	.6250121
#1	.1120021	.1112723	.0577410	.0320718	.6306438	251.5127
#2	.1127725	.1135472	.0589722	.0352367	.6268320	250.5942
#3	.1143495	.1096584	.0593724	.0331892	.6288609	248.4645

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5123081	.5036463	1.037701	235.9218	.5684475	.5190082
Stddev	.0012796	.0077894	.001466	.3699	.0054896	.0003957
%RSD	.2497772	1.546601	.1412276	.1567883	.9657130	.0762363
#1	.5131046	.4998206	1.038812	235.8301	.5637998	.5190934
#2	.5108321	.5126089	1.036040	236.3290	.5745042	.5185768
#3	.5129877	.4985095	1.038250	235.6064	.5670385	.5193543

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4902306	99.64358	.4943433	254.6359	1.021345	.2061058
Stddev	.0011174	.98878	.0004777	.5746	.001687	.0003991
%RSD	.2279247	.9923124	.0966331	.2256530	.1652167	.1936368
#1	.4899639	99.82791	.4944601	254.2337	1.022337	.2062508
#2	.4914572	98.57561	.4947517	255.2940	1.019396	.2056544
#3	.4892707	100.5272	.4938180	254.3799	1.022301	.2064121

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0387257	.4824128	1.083394	-.049292	.9590080	1.013697
Stddev	.0088954	.0035243	.005569	.007931	.0105846	.001121
%RSD	22.97036	.7305507	.5140576	16.09059	1.103706	.1105911
#1	.0408600	.4859825	1.089654	-.056845	.9542947	1.014582
#2	.0463599	.4823200	1.078990	-.041030	.9711306	1.012437
#3	.0289573	.4789358	1.081538	-.050000	.9515988	1.014074

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSAB01 Acquired: 10/17/2024 14:01:17 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	1.007421	.9704236	.9301985	F .0066834	F -.010917	F 74.50686
Stddev	.002081	.0024585	.0033580	.0007935	.005755	4.65826
%RSD	.2065780	.2533429	.3609938	11.87337	52.71348	6.252125
#1	1.009800	.9712615	.9336713	.0067067	-.005718	79.82625
#2	1.005939	.9676557	.9269686	.0058784	-.009933	72.53812
#3	1.006524	.9723536	.9299556	.0074650	-.017100	71.15619

Elem	Sr4077
Units	ppm
Avg	.9985072
Stddev	.0116030
%RSD	1.162035
#1	1.002366
#2	1.007689
#3	.985466

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3067.945	65316.23	15389.68	2265.885	4625.927
Stddev	9.853	506.49	63.77	44.214	13.081
%RSD	.3211700	.7754481	.4143911	1.951286	.2827734
#1	3079.277	65021.74	15351.78	2229.678	4640.924
#2	3061.399	65901.07	15353.95	2315.160	4616.871
#3	3063.158	65025.87	15463.31	2252.817	4619.986

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSADLX20 Acquired: 10/17/2024 14:05:42 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002360	.0021970	.0001449	-.001034	-.000054	12.27944	-.000210
Stddev	.002377	.0014216	.0001701	.001221	.001087	.01122	.000655
%RSD	100.7190	64.70531	117.3535	118.0626	2029.153	.0913883	311.7969
#1	.000129	.0022978	.0002948	.000063	.000719	12.29074	.000017
#2	-.002603	.0035655	-.000040	-.002349	.000417	12.26829	.000301
#3	-.004607	.0007277	.000180	-.000817	-.001296	12.27929	-.000948

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001244	.0008385	12.08558	.0025520	.0004624	.0030808	5.089616
Stddev	.0000517	.0003286	.04326	.0000889	.0000212	.0004838	.019677
%RSD	41.56616	39.19640	.3579444	3.482033	4.583514	15.70401	.3866090
#1	.0000977	.0005221	12.03885	.0024629	.0004488	.0025259	5.068089
#2	.0001840	.0008151	12.12423	.0026406	.0004868	.0033024	5.094084
#3	.0000915	.0011782	12.09367	.0025525	.0004515	.0034141	5.106674

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002509	12.29281	.0015490	.0000881	.0147699	.0001862	.0015174
Stddev	.0001095	.06397	.0004470	.0002725	.0061378	.0000534	.0001984
%RSD	43.63559	.5204129	28.85441	309.3708	41.55615	28.67766	13.07295
#1	.0001920	12.23542	.0010726	-.000224	.0100644	.0001933	.0017382
#2	.0001835	12.36178	.0016154	.000208	.0125329	.0001296	.0013541
#3	.0003773	12.28124	.0019591	.000280	.0217125	.0002357	.0014600

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.019828	-.001946	.0005072	-.002731	-.000226	-.006844	-.000597
Stddev	.007304	.000404	.0002206	.000403	.000511	.005952	.001708
%RSD	36.83901	20.75493	43.49634	14.76341	226.1725	86.96230	286.2321
#1	-.021381	-.002172	.0002527	-.003195	-.000158	-.004309	.001182
#2	-.011872	-.001480	.0006242	-.002462	-.000768	-.013644	-.000750
#3	-.026231	-.002187	.0006446	-.002537	.000248	-.002580	-.002223

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSADLX20 Acquired: 10/17/2024 14:05:42 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.001480	10.71877	.0002075
Stddev	.002066	14.25390	.0000391
%RSD	139.6533	132.9808	18.86516
#1	.000181	1.75828	.0002520
#2	-.000826	27.15542	.0001783
#3	-.003793	3.24259	.0001921

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3415.889	71249.42	16075.01	2478.700	5598.320
Stddev	6.190	207.07	33.43	7.118	11.766
%RSD	.1811981	.2906224	.2079501	.2871527	.2101668
#1	3421.616	71013.02	16048.27	2482.850	5605.506
#2	3416.730	71398.64	16064.28	2470.482	5604.714
#3	3409.322	71336.60	16112.49	2482.770	5584.742

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSABDLX20 Acquired: 10/17/2024 14:10:04 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057909	.0060717	.0036687	.0034306	.0319634	12.30541	.0248772
Stddev	.0004909	.0003099	.0003717	.0008399	.0001115	.00634	.0006952
%RSD	8.478003	5.104273	10.13131	24.48215	.3488651	.0515372	2.794361
#1	.0061423	.0062700	.0040013	.0024905	.0320870	12.30602	.0247619
#2	.0060005	.0062304	.0037374	.0041069	.0319329	12.29878	.0242470
#3	.0052299	.0057145	.0032675	.0036943	.0318704	12.31143	.0256228

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0253579	.0524393	12.08716	.0296040	.0258580	.0272462	5.124353
Stddev	.0000772	.0000563	.04438	.0005087	.0000316	.0004670	.016824
%RSD	.3045622	.1074095	.3671470	1.718468	.1222302	1.714119	.3283170
#1	.0254450	.0524977	12.06050	.0296572	.0258232	.0274511	5.112490
#2	.0253311	.0524347	12.06259	.0290707	.0258851	.0275757	5.116962
#3	.0252976	.0523854	12.13839	.0300840	.0258655	.0267117	5.143608

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0253313	12.30651	.0520766	.0100349	.0119581	.0257985	.0549199
Stddev	.0003324	.08929	.0002299	.0003829	.0061273	.0005283	.0004326
%RSD	1.312228	.7255815	.4415494	3.816022	51.24007	2.047749	.7877570
#1	.0250190	12.21791	.0522458	.0096154	.0189887	.0262034	.0553131
#2	.0252941	12.30515	.0518148	.0103658	.0077558	.0252009	.0549901
#3	.0256807	12.39648	.0521692	.0101234	.0091297	.0259911	.0544564

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033238	.0450740	.0528722	.0471581	.0483633	.0413036	-.003619
Stddev	.0336435	.0002275	.0002379	.0005180	.0001058	.0041896	.002876
%RSD	1012.213	.5047036	.4499631	1.098509	.2187583	10.14336	79.47317
#1	.0359932	.0448591	.0531085	.0465645	.0482865	.0406913	-.006730
#2	-.031216	.0453123	.0528754	.0473904	.0484840	.0374539	-.001057
#3	.005194	.0450506	.0526327	.0475192	.0483195	.0457657	-.003069

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: ICSABDLX20 Acquired: 10/17/2024 14:10:04 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01DLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000880	-2.67131	.0500438
Stddev	.000741	6.44814	.0000962
%RSD	84.26675	241.3846	.1922984
#1	-.000134	-3.66368	.0500750
#2	-.000888	4.21548	.0501205
#3	-.001617	-8.56574	.0499358

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3354.276	70659.95	16238.64	2416.780	5500.684
Stddev	11.536	189.84	21.00	17.959	14.694
%RSD	.3439127	.2686723	.1293152	.7431121	.2671253
#1	3349.920	70472.69	16217.10	2405.796	5498.238
#2	3345.552	70654.88	16259.06	2407.037	5487.367
#3	3367.355	70852.28	16239.77	2437.505	5516.447

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCV01 Acquired: 10/17/2024 14:14:25 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	5.011125	5.073211	4.990865	5.009822	4.999069	9.718623
Stddev	.026891	.056749	.031399	.040512	.034612	.043308
%RSD	.5366161	1.118598	.6291274	.8086423	.6923651	.4456159
#1	5.003606	5.096411	4.959152	4.997984	4.985753	9.752849
#2	4.988793	5.008538	4.991505	4.976548	4.973092	9.733085
#3	5.040974	5.114684	5.021940	5.054934	5.038361	9.669935

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.837611	.2445593	2.495050	24.30997	.9876265	2.487865
Stddev	.040947	.0002969	.017494	.08555	.0035640	.016464
%RSD	.4162305	.1213914	.7011320	.3519093	.3608668	.6617669
#1	9.875721	.2448995	2.476909	24.38728	.9842339	2.471739
#2	9.842793	.2444256	2.496426	24.32458	.9873054	2.487209
#3	9.794320	.2443528	2.511814	24.21806	.9913402	2.504647

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.257881	4.902197	2.428270	24.11954	2.496971	1.233548
Stddev	.008349	.039287	.005437	.09746	.016126	.002943
%RSD	.6637122	.8014221	.2239119	.4040756	.6458244	.2385876
#1	1.253845	4.861881	2.431449	24.21949	2.481484	1.230268
#2	1.252316	4.904343	2.421992	24.11436	2.495760	1.234419
#3	1.267480	4.940367	2.431370	24.02477	2.513668	1.235958

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.50380	2.437561	2.489615	24.58309	4.898725	5.018929
Stddev	.15198	.007163	.005795	.08312	.006971	.038310
%RSD	.6202360	.2938510	.2327700	.3381319	.1423124	.7633072
#1	24.36801	2.445020	2.482926	24.50463	4.902918	5.006335
#2	24.47543	2.436926	2.492784	24.57444	4.890677	4.988501
#3	24.66797	2.430737	2.493133	24.67020	4.902579	5.061951

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCV01 Acquired: 10/17/2024 14:14:25 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	5.029510	4.877556	4.724715	5.264741	4.905987	F 19.55196
Stddev	.038780	.006470	.055630	.028475	.034757	10.33357
%RSD	.7710487	.1326537	1.177427	.5408647	.7084599	52.85186
#1	4.990548	4.884803	4.660569	5.238661	4.869909	18.42863
#2	5.029879	4.872360	4.753838	5.260440	4.908800	9.82594
#3	5.068105	4.875506	4.759737	5.295122	4.939252	30.40130

Elem	Sr4077
Units	ppm
Avg	4.986434
Stddev	.016014
%RSD	.3211446
#1	5.002391
#2	4.970365
#3	4.986547

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3335.307	71390.79	15639.34	2441.426	5270.169
Stddev	27.538	153.13	27.23	6.644	31.612
%RSD	.8256442	.2144903	.1741049	.2721245	.5998299
#1	3332.769	71561.38	15609.96	2439.484	5277.001
#2	3364.026	71345.77	15644.34	2435.970	5297.807
#3	3309.126	71265.22	15663.72	2448.825	5235.700

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCB01 Acquired: 10/17/2024 14:29:07 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000206	-.000695	.0004563	-.001186	.0013704	.0041928
Stddev	.002319	.000225	.0002413	.002169	.0007157	.0031107
%RSD	1123.771	32.34748	52.87986	182.8614	52.22637	74.18967
#1	-.002675	-.000540	.0004046	-.001855	.0019947	.0076166
#2	.000131	-.000953	.0007192	-.002942	.0005893	.0015405
#3	.001925	-.000593	.0002451	.001239	.0015272	.0034214

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000159	.0000237	.0000244	-.005400	-.000313	-.000084
Stddev	.000255	.0000190	.0000819	.002687	.000162	.000134
%RSD	160.5383	80.02413	336.0372	49.76718	51.65727	160.3829
#1	.000006	.0000090	-.000034	-.003767	-.000417	-.000087
#2	-.000453	.0000451	-.000011	-.008502	-.000127	-.000216
#3	-.000029	.0000170	.000118	-.003931	-.000395	.000052

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001669	.0033600	.0001106	-.010838	.0001398	-.000066
Stddev	.0000911	.0016759	.0001155	.002553	.0002172	.000062
%RSD	54.54947	49.87824	104.5042	23.55579	155.3501	94.65160
#1	.0000853	.0016262	.0002393	-.009614	.0003894	-.000005
#2	.0002651	.0034826	.0000763	-.009128	.0000370	-.000062
#3	.0001503	.0049713	.0000160	-.013773	-.000007	-.000129

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021562	.0005739	.0002271	-.016460	.0001921	.0000771
Stddev	.0031392	.0007095	.0001744	.026230	.0004341	.0001437
%RSD	145.5865	123.6254	76.76707	159.3544	226.0607	186.4542
#1	.0012917	.0011520	.0000673	-.006571	.0006178	.0002363
#2	.0056371	.0007875	.0002010	.003388	-.000250	.0000379
#3	-.000460	-.000218	.0004131	-.046197	.000208	-.000043

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCB01 Acquired: 10/17/2024 14:29:07 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002660	-.000018	-.002999	-.000323	-.001234	F 11.23309
Stddev	.000658	.000101	.002618	.001379	.000453	13.04614
%RSD	24.73641	561.7910	87.27590	426.8412	36.68974	116.1403
#1	-.002040	-.000124	-.002646	-.000179	-.001070	.90429
#2	-.002590	-.000007	-.005775	.000978	-.000886	25.89426
#3	-.003350	.000077	-.000576	-.001768	-.001746	6.90072

Elem	Sr4077
Units	ppm
Avg	.0001560
Stddev	.0000934
%RSD	59.86927
#1	.0002581
#2	.0001352
#3	.0000748

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3426.514	71052.61	16107.67	2451.282	5839.498
Stddev	3.455	551.06	31.36	32.600	10.434
%RSD	.1008235	.7755621	.1946661	1.329915	.1786791
#1	3424.238	71092.10	16072.29	2457.366	5831.214
#2	3430.489	70482.87	16132.01	2416.068	5851.216
#3	3424.813	71582.86	16118.71	2480.411	5836.065

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-01 Acquired: 10/17/2024 14:33:29 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.5451917	.4112337	.9329857	.4506651	.7431711	2.437525	.5967674
Stddev	.0019873	.0016176	.0011852	.0010628	.0008483	.006416	.0010792
%RSD	.3645201	.3933483	.1270376	.2358256	.1141446	.2632285	.1808465
#1	.5438338	.4093905	.9336350	.4506111	.7432819	2.436125	.5974062
#2	.5442687	.4118937	.9316177	.4496303	.7422728	2.444525	.5973746
#3	.5474727	.4124171	.9337044	.4517538	.7439585	2.431923	.5955213

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2796529	.3600467	.0157960	.5688676	.1748934	.7070832	1.311682
Stddev	.0009249	.0007380	.0043740	.0016615	.0001433	.0008331	.006793
%RSD	.3307402	.2049639	27.69078	.2920653	.0819060	.1178182	.5178706
#1	.2800036	.3597164	.0114815	.5683468	.1747600	.7073682	1.306007
#2	.2786038	.3595316	.0202272	.5675288	.1750448	.7077364	1.319208
#3	.2803511	.3608921	.0156791	.5707270	.1748753	.7061451	1.309830

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6156462	-.011076	1.540021	.5557249	.0462469	1.036685	.6186799
Stddev	.0030153	.004935	.001419	.0006105	.0015979	.002464	.0003982
%RSD	.4897813	44.55054	.0921209	.1098476	3.455155	.2377201	.0643695
#1	.6124353	-.006333	1.540021	.5553059	.0479796	1.033942	.6183500
#2	.6160855	-.016182	1.538603	.5554435	.0448313	1.037397	.6185673
#3	.6184177	-.010715	1.541440	.5564253	.0459299	1.038714	.6191222

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011535	1.186076	.5360223	-.002579	-.001510	.2517952	.0042201
Stddev	.0070536	.001485	.0005074	.000256	.000282	.0020333	.0017435
%RSD	611.4889	.1252091	.0946655	9.940250	18.66042	.8075203	41.31525
#1	.0063976	1.187378	.5364795	-.002875	-.001186	.2525892	.0035038
#2	.0039286	1.184459	.5361110	-.002424	-.001694	.2533118	.0029488
#3	-.006866	1.186391	.5354763	-.002438	-.001650	.2494847	.0062076

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-01 Acquired: 10/17/2024 14:33:29 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.004105	14.10032	.4432629
Stddev	.003293	7.33376	.0005134
%RSD	80.20756	52.01130	.1158160
#1	-.000349	21.17514	.4436309
#2	-.005475	6.53250	.4434813
#3	-.006492	14.59332	.4426764

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3512.482	74809.07	16247.72	2557.500	5889.451
Stddev	13.714	154.04	27.09	17.520	16.281
%RSD	.3904413	.2059113	.1667473	.6850490	.2764366
#1	3500.822	74873.63	16231.58	2559.622	5873.462
#2	3509.032	74633.26	16232.59	2539.015	5888.882
#3	3527.592	74920.34	16279.00	2573.862	5906.009

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-03 Acquired: 10/17/2024 14:37:34 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0001135	-.000160	.0005116	.0002858	-.010762	.0757264	.0007833
Stddev	.0012782	.000281	.0006094	.0025792	.001422	.0003750	.0003877
%RSD	1126.490	175.3940	119.1269	902.3359	13.21426	.4952615	49.49619
#1	-.000728	.000101	.0006228	.0016120	-.011796	.0757516	.0010858
#2	-.000516	-.000458	.0010578	-.002687	-.009140	.0760883	.0009179
#3	.001584	-.000125	-.000146	.001932	-.011350	.0753395	.0003462

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000179	.0001993	-.006018	-.000303	.0001204	.0002385	.0038083
Stddev	.0000180	.0000679	.004705	.000352	.0001859	.0001840	.0020042
%RSD	100.6439	34.07485	78.17294	115.9563	154.4304	77.15541	52.62573
#1	.0000350	.0001570	-.006957	-.000425	.0003203	.0000342	.0018421
#2	-.000001	.0002777	-.010184	-.000578	-.000047	.0003914	.0058484
#3	.000020	.0001634	-.000915	.000093	.000088	.0002900	.0037344

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002061	-.005162	.0001949	.0000864	.1765060	-.000569	.0002452
Stddev	.0003620	.009104	.0002806	.0002852	.0071303	.000500	.0000659
%RSD	175.6882	176.3418	143.9332	329.9289	4.039716	87.92611	26.87621
#1	.0006241	.000276	-.000101	-.000226	.1772124	-.000512	.0002105
#2	-.000005	-.000091	.000228	.000333	.1832568	-.000099	.0002038
#3	-.000001	-.015672	.000457	.000152	.1690487	-.001095	.0003211

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.021329	.1930867	.0000706	1.186989	.0866934	1.561025	-.002235
Stddev	.006286	.0008207	.0002257	.003925	.0007281	.007880	.000854
%RSD	29.46943	.4250300	319.7476	.3306561	.8398937	.5048208	38.21463
#1	-.023258	.1924864	-.000134	1.189063	.0874928	1.569113	-.001304
#2	-.026425	.1940218	.000033	1.182462	.0865195	1.560593	-.002418
#3	-.014305	.1927518	.000313	1.189441	.0860680	1.553370	-.002982

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-03 Acquired: 10/17/2024 14:37:34 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.003949	5.522292	.0002034
Stddev	.000717	11.52668	.0001448
%RSD	18.16583	208.7300	71.19298
#1	-.003364	-6.60727	.0003635
#2	-.004749	6.84160	.0001651
#3	-.003733	16.33255	.0000816

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3563.430	74956.41	16239.48	2587.797	5990.033
Stddev	6.919	108.04	21.89	14.585	10.070
%RSD	.1941790	.1441417	.1347841	.5635951	.1681143
#1	3555.825	74876.07	16252.84	2575.972	5978.444
#2	3565.109	74913.92	16251.37	2583.327	5995.012
#3	3569.355	75079.24	16214.21	2604.094	5996.644

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-07 Acquired: 10/17/2024 14:41:54 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0012241	.0026954	.0012571	-.002434	-.001208	.0029291
Stddev	.0019643	.0004595	.0002154	.000751	.000304	.0076166
%RSD	160.4719	17.04729	17.13435	30.87390	25.20371	260.0292
#1	-.000085	.0031754	.0014829	-.002231	-.001465	.0103843
#2	.003483	.0022597	.0010539	-.003266	-.001288	-.004839
#3	.000274	.0026510	.0012345	-.001805	-.000872	.003242

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019843	.0001148	.0005021	-.016359	-.000313	-.000359
Stddev	.0003507	.0000266	.0000592	.005914	.000433	.000004
%RSD	17.67220	23.18260	11.78684	36.15023	138.3932	1.190397
#1	.0021490	.0001223	.0004594	-.012257	-.000660	-.000354
#2	.0022222	.0000852	.0005697	-.013682	.000172	-.000362
#3	.0015816	.0001368	.0004773	-.023137	-.000451	-.000361

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000874	.0015081	-.000003	-.005839	-.000755	-.000043
Stddev	.000173	.0016608	.000140	.010158	.000086	.000164
%RSD	19.76625	110.1265	4981.787	173.9601	11.44371	383.1627
#1	-.000735	.0001662	-.000165	-.014218	-.000659	.000066
#2	-.001067	.0033655	.000078	.005459	-.000826	-.000232
#3	-.000819	.0009925	.000078	-.008758	-.000780	.000037

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 131.2614	-.000114	-.000003	-.021074	-.000406	.0198769
Stddev	2.9997	.000770	.000177	.003128	.000249	.0023012
%RSD	2.285290	673.5256	7053.567	14.84510	61.33113	11.57704
#1	134.7128	-.000971	.000150	-.021636	-.000570	.0173198
#2	129.7890	.000111	-.000196	-.023883	-.000120	.0205302
#3	129.2824	.000518	.000038	-.017702	-.000529	.0217808

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-07 Acquired: 10/17/2024 14:41:54 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.002739	.0023900	F 71.02448	-.000946	.1086327	F -10.6213
Stddev	.000753	.0000327	.14752	.001563	.0026611	1.7388
%RSD	27.50053	1.368707	.2077073	165.1529	2.449665	16.37111
#1	-.003140	.0024009	70.95278	-.000127	.1090715	-11.3843
#2	-.001870	.0024160	71.19415	-.002749	.1057794	-11.8481
#3	-.003206	.0023533	70.92652	.000037	.1110471	-8.6314

Elem	Sr4077
Units	ppm
Avg	-.000013
Stddev	.000032
%RSD	244.5214
#1	-.000049
#2	-.000001
#3	.000011

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3442.427	70766.41	16280.21	2529.274	5458.037
Stddev	19.031	186.50	51.10	16.611	23.097
%RSD	.5528260	.2635467	.3139026	.6567518	.4231766
#1	3462.661	70561.59	16329.88	2513.360	5481.623
#2	3439.732	70926.44	16282.98	2546.504	5457.025
#3	3424.887	70811.19	16227.78	2527.958	5435.462

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-05 Acquired: 10/17/2024 14:46:23 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0018986	.0022489	-.000219	-.001167	-.000763	-.019322
Stddev	.0017495	.0010180	.000901	.001040	.000912	.007958
%RSD	92.14506	45.26479	410.9917	89.17840	119.6244	41.18745
#1	.0023996	.0026355	.000694	-.001853	-.001661	-.012008
#2	.0033430	.0010943	-.000245	-.001677	.000163	-.018161
#3	-.000047	.0030170	-.001107	.000030	-.000790	-.027797

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018693	.0000231	-.000028	F 67.31287	-.000449	-.000034
Stddev	.0007837	.0000302	.000056	1.71830	.000132	.000076
%RSD	41.92492	131.0839	198.6502	2.552714	29.34916	226.3975
#1	.0026924	.0000551	-.000084	69.21648	-.000536	.000005
#2	.0017833	-.000005	.000028	66.84561	-.000298	.000015
#3	.0011321	.000019	-.000028	65.87652	-.000514	-.000121

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001274	.0054693	.0000360	28.23561	.0000926	-.000087
Stddev	.0002075	.0023555	.0001483	.65038	.0002312	.000107
%RSD	162.8919	43.06761	411.5624	2.303401	249.7187	123.3357
#1	-.000074	.0081162	.0001354	28.96989	.0001106	-.000121
#2	.000116	.0036035	-.000134	28.00492	-.000147	-.000174
#3	.000340	.0046884	.000107	27.73202	.000314	.000033

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 90.45056	.0000490	.0001263	22.78688	-.004189	.0011142
Stddev	1.25609	.0010996	.0002350	.38865	.000474	.0002227
%RSD	1.388698	2242.809	186.1561	1.705576	11.30373	19.98623
#1	91.87822	.0008981	-.000102	23.23102	-.004693	.0012211
#2	89.51515	-.001193	.000114	22.50916	-.004120	.0012633
#3	89.95832	.000442	.000367	22.62044	-.003754	.0008582

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-05 Acquired: 10/17/2024 14:46:23 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.006367	-.001891	.1266962	-.003275	.0166654	8.974430
Stddev	.000337	.000332	.0934420	.001706	.0033622	7.512941
%RSD	5.289678	17.56821	73.75284	52.10486	20.17487	83.71496
#1	-.006004	-.001544	.2322688	-.003912	.0159034	.317806
#2	-.006669	-.002206	.0932030	-.001342	.0137496	12.81138
#3	-.006430	-.001925	.0546167	-.004571	.0203432	13.79410

Elem	Sr4077
Units	ppm
Avg	.0070715
Stddev	.0003524
%RSD	4.983641
#1	.0074753
#2	.0069131
#3	.0068260

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3220.109	69242.45	16224.67	2382.597	5111.228
Stddev	19.113	169.98	41.85	6.281	21.128
%RSD	.5935362	.2454869	.2579171	.2636330	.4133556
#1	3239.979	69403.80	16225.16	2382.805	5134.474
#2	3218.492	69258.57	16182.58	2388.772	5106.016
#3	3201.856	69064.99	16266.27	2376.214	5093.194

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3847-01 Acquired: 10/17/2024 14:50:41 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.5313570	.3522258	.9157772	.4382522	.7361902	2.394678
Stddev	.0035710	.0081541	.0024789	.0036181	.0046320	.000442
%RSD	.6720588	2.315012	.2706889	.8255815	.6291912	.0184628
#1	.5354651	.3571796	.9181594	.4421515	.7409937	2.394201
#2	.5296115	.3566831	.9159606	.4376016	.7358258	2.394760
#3	.5289945	.3428146	.9132117	.4350036	.7317512	2.395074

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5817562	.2686317	.3528673	.0268212	.5604653	.1718959
Stddev	.0023204	.0009252	.0002333	.0056059	.0009740	.0001341
%RSD	.3988538	.3444305	.0661083	20.90113	.1737844	.0780121
#1	.5815308	.2692728	.3526020	.0332941	.5614680	.1718075
#2	.5841810	.2675710	.3530402	.0235314	.5595227	.1720502
#3	.5795567	.2690513	.3529597	.0236381	.5604052	.1718299

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6995459	1.291946	.5938048	-.006891	1.516467	.5448962
Stddev	.0013059	.007844	.0023505	.004564	.000519	.0008946
%RSD	.1866803	.6071434	.3958354	66.22938	.0342036	.1641774
#1	.7007493	1.284862	.5945304	-.003555	1.516096	.5438914
#2	.6997313	1.290600	.5957069	-.005025	1.516245	.5451912
#3	.6981572	1.300376	.5911770	-.012091	1.517060	.5456060

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0647427	1.006688	.6134466	.0111382	1.135262	.5241109
Stddev	.0143775	.001135	.0010230	.0283823	.002047	.0013578
%RSD	22.20711	.1127245	.1667594	254.8192	.1802688	.2590729
#1	.0769880	1.006289	.6122717	.0392856	1.136342	.5255515
#2	.0683282	1.005807	.6141401	.0116024	1.132902	.5239267
#3	.0489117	1.007969	.6139279	-.017473	1.136542	.5228546

Sample Name: P3847-01 Acquired: 10/17/2024 14:50:41 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.001608	-.000593	.2492924	.0033708	-.003589	F -17.6760
Stddev	.000534	.000474	.0044899	.0004311	.003702	10.5237
%RSD	33.18811	79.91398	1.801037	12.79036	103.1453	59.53667
#1	-.001928	-.000501	.2537622	.0038624	-.004868	-25.7910
#2	-.001904	-.000172	.2493323	.0031933	-.006481	-21.4516
#3	-.000992	-.001106	.2447827	.0030568	.000583	-5.7853

Elem	Sr4077
Units	ppm
Avg	.4310269
Stddev	.0016848
%RSD	.3908846
#1	.4305307
#2	.4329041
#3	.4296459

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3484.735	74928.33	16662.29	2506.397	5887.119
Stddev	9.653	196.22	49.03	5.871	15.035
%RSD	.2770026	.2618836	.2942619	.2342589	.2553824
#1	3473.717	74829.77	16605.90	2501.646	5872.877
#2	3488.788	74800.93	16686.15	2504.585	5885.642
#3	3491.702	75154.30	16694.82	2512.961	5902.837

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3847-03 Acquired: 10/17/2024 14:54:47 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0009829	.0000163	.0006777	-.000324	-.011079	.0753690	.0004964
Stddev	.0008121	.0008308	.0007169	.001462	.001655	.0020343	.0005367
%RSD	82.62741	5107.206	105.7826	451.1301	14.94058	2.699158	108.1145
#1	.0000618	-.000582	-.000141	-.000713	-.010840	.0775630	.0010171
#2	.0012909	.000965	.001192	-.001553	-.012841	.0749988	.0005273
#3	.0015959	-.000334	.000983	.001293	-.009557	.0735452	-.000055

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000407	.0001165	.0007408	-.000177	-.000006	.0005020	.0032666
Stddev	.0000755	.0000750	.0048271	.000216	.000084	.0004267	.0026785
%RSD	185.4824	64.33712	651.5729	121.9154	1418.270	85.00440	81.99626
#1	.0001153	.0001976	.0008609	-.000208	.000087	.0004174	.0037032
#2	.0000426	.0000497	-.004145	-.000375	-.000078	.0009646	.0057000
#3	-.000036	.0001023	.005507	.000053	-.000027	.0001239	.0003967

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001109	-.004942	.0001940	.0000395	.1751854	-.000537	.0002165
Stddev	.0002640	.009699	.0001230	.0001817	.0057914	.000554	.0002595
%RSD	238.1252	196.2518	63.40015	460.0212	3.305881	103.1833	119.8731
#1	.0004154	-.015111	.0002782	.0000582	.1796122	-.000932	.0001481
#2	-.000054	.004205	.0000528	.0002111	.1773128	.000096	-.000002
#3	-.000029	-.003920	.0002509	-.000151	.1686311	-.000775	.000503

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048987	.1868520	.0000116	1.173512	.0851947	1.542191	-.001528
Stddev	.0099545	.0000693	.0001502	.002608	.0004861	.008642	.002414
%RSD	203.2084	.0370700	1298.607	.2222300	.5706182	.5603874	157.9145
#1	-.006448	.1868676	.0000644	1.175404	.0856730	1.532380	.000148
#2	.012164	.1867763	-.000158	1.174595	.0852102	1.548677	-.000439
#3	.008979	.1869122	.000128	1.170538	.0847011	1.545515	-.004295

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3847-03 Acquired: 10/17/2024 14:54:47 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.001585	-.081405	.0001585
Stddev	.000679	4.336100	.0001296
%RSD	42.83161	5326.600	81.75522
#1	-.002123	-4.35561	.0002917
#2	-.000822	-.20266	.0001508
#3	-.001810	4.31405	.0000329

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3566.598	76270.92	16586.17	2595.394	5994.317
Stddev	1.036	167.42	40.35	8.102	4.231
%RSD	.0290587	.2195129	.2433021	.3121715	.0705791
#1	3565.948	76117.35	16562.30	2586.146	5990.484
#2	3567.793	76246.00	16632.76	2598.796	5993.612
#3	3566.054	76449.40	16563.44	2601.241	5998.857

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3847-05 Acquired: 10/17/2024 15:06:34 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0013893	.0006641	.0003948	-.001987	-.001933	-.032036
Stddev	.0008613	.0013425	.0003620	.001458	.000885	.004690
%RSD	61.99003	202.1484	91.70352	73.35988	45.75918	14.64007
#1	.0023835	.0009443	.0007681	-.003445	-.002156	-.035685
#2	.0008724	-.000796	.0003711	-.001987	-.000958	-.033678
#3	.0009120	.001844	.0000452	-.000530	-.002685	-.026746

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009498	.0000896	.0000054	65.30290	-.000524	-.000101
Stddev	.0005412	.0000492	.0000434	1.13811	.000448	.000217
%RSD	56.97780	54.89837	798.1060	1.742810	85.53138	214.9355
#1	.0015347	.0000411	.0000110	66.59187	-.000761	.000135
#2	.0004667	.0000882	.0000458	64.88021	-.000007	-.000292
#3	.0008480	.0001395	-.000040	64.43661	-.000804	-.000146

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000298	-.000919	-.000040	27.48538	.0001826	-.000123
Stddev	.000273	.004275	.000161	.49724	.0000380	.000113
%RSD	91.59438	465.0379	406.7136	1.809123	20.83301	91.20778
#1	-.000486	-.000077	-.000080	28.03180	.0002153	.000006
#2	-.000424	-.005553	-.000176	27.36488	.0001916	-.000183
#3	.000015	.002872	.000138	27.05946	.0001409	-.000194

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	88.80201	-.000562	-.000132	22.17210	-.005082	.0009150
Stddev	.82353	.001034	.000227	.24154	.000504	.0003568
%RSD	.9273732	183.9128	172.4835	1.089381	9.911084	38.99382
#1	89.17343	.000630	.000004	22.29870	-.004574	.0005345
#2	87.85819	-.001217	-.000005	21.89358	-.005091	.0012421
#3	89.37440	-.001099	-.000394	22.32402	-.005581	.0009683

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3847-05 Acquired: 10/17/2024 15:06:34 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.005828	-.002115	.0158352	-.006313	.0161247	F 23.86548
Stddev	.000442	.000150	.0040691	.001431	.0016892	7.26738
%RSD	7.585521	7.081962	25.69660	22.67024	10.47584	30.45141
#1	-.006325	-.001961	.0116044	-.006185	.0142578	15.81132
#2	-.005478	-.002125	.0197206	-.007803	.0165689	29.93281
#3	-.005680	-.002260	.0161806	-.004950	.0175475	25.85232

Elem	Sr4077
Units	ppm
Avg	.0067832
Stddev	.0000844
%RSD	1.243901
#1	.0068796
#2	.0067472
#3	.0067228

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3207.149	69106.88	16181.91	2382.224	5085.506
Stddev	28.988	304.53	38.70	5.782	38.334
%RSD	.9038560	.4406713	.2391260	.2427015	.7537826
#1	3236.329	69223.37	16138.99	2386.979	5125.127
#2	3206.759	69335.97	16192.63	2383.905	5082.787
#3	3178.357	68761.30	16214.12	2375.788	5048.605

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-07DLX10 Acquired: 10/17/2024 15:16:49 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0000885	.0000034	-.000087	-.001016	.0010341	.0052287	.0004162
Stddev	.0014399	.0010044	.000618	.001786	.0012482	.0030083	.0002544
%RSD	1626.370	29996.80	711.6246	175.7551	120.7075	57.53468	61.12474
#1	.0012957	.0009965	-.000454	.000333	-.000406	.0021452	.0002232
#2	-.001505	.0000254	-.000434	-.003041	.001705	.0081557	.0007044
#3	.000475	-.001012	.000627	-.000340	.001803	.0053852	.0003208

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000377	.0000627	-.003567	-.000243	.0000471	-.000119	.0005024
Stddev	.0000656	.0000893	.002982	.000056	.0000959	.000145	.0020112
%RSD	174.1940	142.3777	83.61370	22.99002	203.3600	122.2107	400.3028
#1	.0000820	-.000040	-.003298	-.000291	-.000052	-.000183	.0023539
#2	.0000688	.000119	-.000728	-.000256	.000054	-.000220	.0007907
#3	-.000038	.000110	-.006675	-.000181	.000140	.000047	-.001637

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000208	-.006468	-.000088	.0001413	11.91638	-.000612	-.000098
Stddev	.000317	.002367	.000283	.0001432	.07936	.000921	.000168
%RSD	151.8400	36.58993	322.0650	101.3172	.6659738	150.5979	172.0237
#1	-.000302	-.006706	.000139	.0000112	11.98977	-.001655	.000066
#2	.000144	-.003991	.000002	.0002947	11.83217	.000091	-.000269
#3	-.000468	-.008707	-.000405	.0001181	11.92721	-.000271	-.000089

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001644	-.004340	-.000069	-.002076	-.000223	7.585692	-.000429
Stddev	.007023	.000244	.000062	.000709	.000153	.005191	.000770
%RSD	427.0939	5.621409	90.65564	34.14893	68.77581	.0684330	179.5564
#1	.006060	-.004059	-.000094	-.002679	-.000072	7.587246	-.001055
#2	-.003305	-.004469	-.000114	-.002255	-.000217	7.579901	-.000664
#3	-.007688	-.004493	.000002	-.001295	-.000379	7.589928	.000432

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: P3846-07DLX10 Acquired: 10/17/2024 15:16:49 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.000094	6.023802	.0000069
Stddev	.002698	8.322509	.0000249
%RSD	2859.534	138.1604	362.8471
#1	-.000422	2.647292	-.000013
#2	-.002614	15.50395	.000035
#3	.002753	-.07983	-.000001

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3514.190	73704.63	16074.24	2544.773	5821.296
Stddev	3.755	84.08	29.67	7.914	5.068
%RSD	.1068658	.1140785	.1845661	.3109970	.0870526
#1	3511.868	73632.33	16058.17	2543.188	5826.742
#2	3518.523	73796.90	16056.08	2553.360	5820.427
#3	3512.180	73684.67	16108.48	2537.772	5816.720

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164214BL Acquired: 10/17/2024 15:32:04 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0007670	-.000221	-.000097	.0002197	.0008058	.0063954
Stddev	.0012568	.000650	.000967	.0004964	.0004741	.0051367
%RSD	163.8568	294.0236	995.1053	225.9937	58.83647	80.31959
#1	-.000150	-.000294	-.001153	-.000319	.0013532	.0088845
#2	.000251	.000462	.000747	.000320	.0005286	.0098134
#3	.002200	-.000832	.000115	.000658	.0005354	.0004883

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002178	-.000009	.0000689	.0002895	-.000097	.0000229
Stddev	.0004485	.000021	.0000325	.0063535	.000350	.0001913
%RSD	205.9968	221.4546	47.25821	2194.793	358.7912	835.0106
#1	.0002465	-.000022	.0000979	.0037889	-.000030	.0000211
#2	-.000244	-.000021	.0000750	.0041240	.000213	.0002151
#3	.000651	.000015	.0000337	-.007044	-.000476	-.000167

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003291	.0004251	-.000104	.0056956	.0000091	-.000114
Stddev	.0001472	.0015998	.000136	.0057015	.0000192	.000319
%RSD	44.73846	376.3662	131.0780	100.1041	211.2666	279.3396
#1	.0003297	-.001379	-.000259	.0044806	-.000012	-.000409
#2	.0001816	.000981	-.000045	.0006995	.000015	-.000157
#3	.0004761	.001673	-.000007	.0119067	.000025	.000224

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0109452	.0003931	.0001293	-.003385	-.005732	-.000048
Stddev	.0029699	.0007054	.0002894	.009969	.000362	.000097
%RSD	27.13402	179.4694	223.8317	294.4795	6.319784	201.2987
#1	.0077833	.0010543	-.000116	-.000076	-.005459	.000063
#2	.0113766	-.000350	.000055	.004508	-.005594	-.000094
#3	.0136759	.000474	.000449	-.014588	-.006143	-.000113

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164214BL Acquired: 10/17/2024 15:32:04 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.002250	-.000102	-.002020	.0006611	-.002455	F 9.332341
Stddev	.000496	.000205	.001702	.0015273	.002071	14.34509
%RSD	22.02886	201.4520	84.23911	231.0252	84.34685	153.7137
#1	-.002633	-.000200	-.001977	.0015344	-.000330	-7.04228
#2	-.002427	-.000238	-.000340	.0015513	-.002569	15.35511
#3	-.001690	.000134	-.003743	-.001102	-.004467	19.68420

Elem	Sr4077
Units	ppm
Avg	.0000042
Stddev	.0000207
%RSD	494.0424
#1	.0000217
#2	-.000019
#3	.000009

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3480.974	72614.36	16189.59	2484.830	5909.436
Stddev	3.747	61.10	45.91	12.555	7.604
%RSD	.1076298	.0841367	.2835552	.5052808	.1286694
#1	3477.401	72679.12	16158.16	2496.067	5900.697
#2	3484.873	72606.23	16168.33	2487.145	5913.067
#3	3480.649	72557.74	16242.27	2471.279	5914.543

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164214BS Acquired: 10/17/2024 15:36:25 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.8231036	2.048390	1.018517	1.998979	.8040713	1.962251
Stddev	.0045696	.010926	.001947	.009186	.0026719	.008183
%RSD	.5551635	.5333904	.1911747	.4595217	.3322987	.4170057
#1	.8283566	2.051667	1.016681	2.007718	.8070800	1.955535
#2	.8200466	2.036200	1.020559	1.989404	.8019753	1.971365
#3	.8209077	2.057301	1.018311	1.999816	.8031587	1.959854

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1966706	.2010384	.2024158	1.021654	.4174794	.2035750
Stddev	.0008182	.0002013	.0002676	.005140	.0005377	.0004305
%RSD	.4160391	.1001231	.1322256	.5030627	.1287964	.2114605
#1	.1975823	.2012589	.2025261	1.019229	.4175127	.2038895
#2	.1964294	.2009918	.2026107	1.027558	.4169258	.2037512
#3	.1960001	.2008645	.2021107	1.018176	.4179997	.2030844

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3140775	2.985438	.2000778	1.939170	.5114363	.0763510
Stddev	.0011181	.020564	.0005074	.017628	.0006573	.0002927
%RSD	.3560028	.6888062	.2535988	.9090360	.1285176	.3833451
#1	.3152790	2.975201	.1997460	1.932682	.5112302	.0760394
#2	.3138863	2.972002	.1998255	1.925706	.5121720	.0763933
#3	.3130674	3.009112	.2006619	1.959123	.5109069	.0766202

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.841974	.2940182	.2108543	9.812224	.2878553	.4109644
Stddev	.022720	.0007627	.0006024	.025500	.0009722	.0013448
%RSD	.7994596	.2593967	.2856888	.2598843	.3377322	.3272196
#1	2.865222	.2940953	.2115327	9.829475	.2883256	.4124385
#2	2.819820	.2932199	.2106484	9.782932	.2885028	.4098046
#3	2.840881	.2947394	.2103819	9.824263	.2867374	.4106502

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164214BS Acquired: 10/17/2024 15:36:25 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.6939140	.1940211	.8084674	6.055073	F -.012957	F 4115.132
Stddev	.0018981	.0006723	.0057912	.012304	.001998	8.807
%RSD	.2735404	.3464857	.7163190	.2032048	15.42125	.2140042
#1	.6934455	.1943299	.8077676	6.069191	-.010659	4125.166
#2	.6960025	.1932499	.8030578	6.046633	-.013926	4111.547
#3	.6922939	.1944835	.8145766	6.049395	-.014285	4108.683

Elem	Sr4077
Units	ppm
Avg	.2030962
Stddev	.0013442
%RSD	.6618742
#1	.2046462
#2	.2022489
#3	.2023937

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3512.666	74475.60	16174.28	2533.722	5777.738
Stddev	14.471	59.82	37.03	5.081	12.448
%RSD	.4119632	.0803265	.2289691	.2005502	.2154523
#1	3496.176	74510.55	16145.36	2528.127	5763.367
#2	3523.246	74509.72	16161.45	2534.986	5785.190
#3	3518.578	74406.52	16216.02	2538.051	5784.656

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCV02 Acquired: 10/17/2024 15:40:25 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.907167	4.969150	4.961818	4.893586	4.893684	9.724327
Stddev	.007815	.068781	.006608	.031690	.020714	.025218
%RSD	.1592638	1.384158	.1331762	.6475750	.4232706	.2593292
#1	4.916061	5.037390	4.954820	4.926119	4.914559	9.737012
#2	4.904042	4.970219	4.962684	4.891827	4.893357	9.740683
#3	4.901397	4.899841	4.967950	4.862813	4.873136	9.695285

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.721582	.2498706	2.484669	24.55092	1.002706	2.472204
Stddev	.026051	.0002673	.004366	.05038	.001513	.001710
%RSD	.2679712	.1069756	.1757291	.2051989	.1508802	.0691712
#1	9.750316	.2499205	2.479653	24.49276	1.001200	2.470235
#2	9.714925	.2495819	2.486739	24.57864	1.002691	2.473064
#3	9.699506	.2501095	2.487615	24.58134	1.004226	2.473313

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.236415	4.873777	2.448084	24.41771	2.477565	1.236247
Stddev	.003936	.022191	.001886	.07556	.002870	.001206
%RSD	.3183289	.4553179	.0770415	.3094606	.1158391	.0975630
#1	1.239994	4.852346	2.449844	24.33682	2.474251	1.235203
#2	1.237053	4.896657	2.448315	24.42984	2.479241	1.237567
#3	1.232200	4.872327	2.446093	24.48648	2.479203	1.235969

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.10844	2.449612	2.501592	24.15611	4.975277	4.948532
Stddev	.11510	.005589	.006037	.05960	.004728	.017912
%RSD	.4774067	.2281458	.2413226	.2467278	.0950285	.3619722
#1	24.23352	2.451263	2.506444	24.18535	4.976572	4.967384
#2	24.08479	2.454189	2.494832	24.19544	4.970037	4.946475
#3	24.00701	2.443384	2.503501	24.08754	4.979223	4.931737

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCV02 Acquired: 10/17/2024 15:40:25 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.991022	4.901810	4.716257	5.237036	4.853073	F 25.88939
Stddev	.004414	.008402	.024705	.012301	.018875	7.51715
%RSD	.0884384	.1714070	.5238185	.2348832	.3889194	29.03565
#1	4.987575	4.904848	4.689196	5.250365	4.859515	34.56945
#2	4.995997	4.908272	4.721971	5.234620	4.867883	21.54957
#3	4.989495	4.892312	4.737604	5.226122	4.831821	21.54915

Elem	Sr4077
Units	ppm
Avg	5.002016
Stddev	.011365
%RSD	.2272155
#1	4.989286
#2	5.011144
#3	5.005618

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3412.450	71642.75	15468.99	2456.550	5359.547
Stddev	12.747	137.53	31.34	11.312	6.219
%RSD	.3735552	.1919612	.2026158	.4604757	.1160271
#1	3399.487	71491.84	15434.61	2443.488	5353.863
#2	3412.893	71761.01	15495.98	2463.125	5358.589
#3	3424.970	71675.41	15476.39	2463.036	5366.189

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCB02 Acquired: 10/17/2024 15:45:04 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017434	.0024868	.0022012	.0020604	.0024474	.0121987
Stddev	.0011576	.0008848	.0004718	.0021479	.0002831	.0052078
%RSD	66.39437	35.58099	21.43312	104.2478	11.56807	42.69153
#1	.0010358	.0019603	.0018980	-.000165	.0023600	.0127745
#2	.0011153	.0019918	.0027448	.002226	.0022182	.0170946
#3	.0030793	.0035083	.0019609	.004121	.0027639	.0067269

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0092094	.0001839	.0008532	.0109210	.0002986	.0006507
Stddev	.0027153	.0000538	.0001683	.0063353	.0003269	.0000595
%RSD	29.48430	29.26884	19.72754	58.00972	109.4696	9.146465
#1	.0122109	.0002443	.0006739	.0178467	-.000016	.0005841
#2	.0084936	.0001661	.0008777	.0094983	.000275	.0006985
#3	.0069237	.0001411	.0010078	.0054181	.000637	.0006696

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006667	.0057868	.0021151	.0188570	.0010837	.0001845
Stddev	.0003140	.0051004	.0006712	.0053524	.0002031	.0003500
%RSD	47.09465	88.13893	31.73270	28.38406	18.73762	189.6681
#1	.0003072	.0094719	.0028797	.0239009	.0008552	.0004846
#2	.0008869	.0079228	.0018423	.0132420	.0012434	-.000200
#3	.0008059	-.000034	.0016232	.0194283	.0011526	.000269

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0165400	.0013842	.0011231	.0187234	.0058207	.0018084
Stddev	.0080388	.0004566	.0001874	.0231408	.0002487	.0005285
%RSD	48.60254	32.98490	16.68877	123.5926	4.272115	29.22254
#1	.0213260	.0018046	.0012563	.0364465	.0060330	.0012261
#2	.0210349	.0008985	.0012042	.0271800	.0058818	.0019415
#3	.0072590	.0014495	.0009088	-.007456	.0055471	.0022575

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCB02 Acquired: 10/17/2024 15:45:04 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000480	.0038270	.0060811	-.000630	-.003198	F -1.07256
Stddev	.000933	.0010524	.0061225	.001749	.000957	9.57689
%RSD	194.1775	27.49809	100.6804	277.7381	29.92861	892.9009
#1	-.001412	.0049774	.0129239	-.002055	-.004201	2.66298
#2	-.000481	.0035909	.0041984	.001322	-.002294	6.07361
#3	.000453	.0029128	.0011211	-.001156	-.003100	-11.9543

Elem	Sr4077
Units	ppm
Avg	.0040559
Stddev	.0013013
%RSD	32.08522
#1	.0054086
#2	.0039464
#3	.0028128

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3612.673	72649.43	16271.39	2560.950	6074.698
Stddev	11.019	114.21	36.02	7.766	23.471
%RSD	.3050156	.1572014	.2213586	.3032513	.3863740
#1	3624.982	72734.62	16287.95	2566.459	6101.217
#2	3609.312	72694.02	16296.15	2564.325	6066.282
#3	3603.726	72519.66	16230.07	2552.068	6056.596

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164232BL Acquired: 10/17/2024 15:49:24 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.0005232	.0004152	-.000377	-.001737	-.000256	.0027844
Stddev	.0007854	.0001327	.001248	.000909	.000341	.0018542
%RSD	150.1320	31.96142	331.3842	52.32466	133.3807	66.59221
#1	-.000139	.0005684	.001063	-.002424	-.000067	.0006973
#2	.000317	.0003365	-.001038	-.000706	-.000649	.0042415
#3	.001391	.0003407	-.001155	-.002081	-.000050	.0034144

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008045	-.000039	.0000838	-.000592	-.000385	-.000043
Stddev	.0001708	.000036	.0000937	.001599	.000200	.000094
%RSD	21.23286	91.90303	111.7541	270.2819	51.91401	219.7737
#1	.0008126	-.000040	-.000024	-.000634	-.000278	-.000056
#2	.0006298	-.000075	.000146	-.002169	-.000615	.000057
#3	.0009712	-.000003	.000130	.001028	-.000261	-.000129

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001551	.0065955	-.000263	-.009284	-.000017	-.000115
Stddev	.0000401	.0029704	.000200	.003083	.000258	.000115
%RSD	25.86132	45.03637	75.89838	33.20306	1549.987	99.51670
#1	.0001948	.0078738	-.000057	-.012104	.000262	-.000017
#2	.0001558	.0032000	-.000276	-.005993	-.000246	-.000087
#3	.0001146	.0087127	-.000456	-.009755	-.000066	-.000241

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086429	-.000443	-.000073	.0042354	-.000358	-.000000
Stddev	.0024983	.000907	.000074	.0186323	.000364	.000043
%RSD	28.90555	204.7936	102.0140	439.9204	101.6504	94856.52
#1	.0097489	-.000386	-.000151	.0020794	.000021	.000027
#2	.0057825	.000435	-.000065	.0238519	-.000705	.000022
#3	.0103972	-.001377	-.000003	-.013225	-.000389	-.000049

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164232BL Acquired: 10/17/2024 15:49:24 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	-.002627	-.000339	-.006064	-.001228	-.002451	F 10.28001
Stddev	.000547	.000170	.002198	.000819	.002066	5.80637
%RSD	20.83798	50.21169	36.24587	66.68080	84.26174	56.48211
#1	-.002324	-.000491	-.004981	-.000810	-.002762	3.93106
#2	-.002299	-.000370	-.004617	-.002171	-.004344	11.58849
#3	-.003259	-.000155	-.008593	-.000702	-.000248	15.32049

Elem	Sr4077
Units	ppm
Avg	.0000337
Stddev	.0000102
%RSD	30.11409
#1	.0000229
#2	.0000431
#3	.0000351

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3506.851	73932.60	16270.23	2561.963	5893.091
Stddev	3.882	251.93	50.68	10.939	4.984
%RSD	.1107036	.3407582	.3114996	.4269938	.0845761
#1	3510.261	73674.35	16277.49	2549.761	5894.976
#2	3502.626	73945.77	16316.89	2565.235	5887.440
#3	3507.666	74177.69	16216.31	2570.892	5896.858

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164232BS Acquired: 10/17/2024 15:53:44 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.8300964	2.095552	1.026293	2.020995	.8131907	1.979542
Stddev	.0061734	.019740	.002284	.011204	.0015567	.005645
%RSD	.7436951	.9419863	.2225857	.5543703	.1914327	.2851512
#1	.8365185	2.108487	1.027232	2.032141	.8141060	1.976470
#2	.8295644	2.105338	1.023689	2.021108	.8140729	1.986056
#3	.8242062	2.072831	1.027958	2.009734	.8113933	1.976100

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1972819	.2036901	.2035205	1.036854	.4247749	.2043343
Stddev	.0005527	.0005131	.0001383	.001497	.0003491	.0000566
%RSD	.2801570	.2519103	.0679457	.1443482	.0821718	.0276827
#1	.1972604	.2031147	.2036314	1.036264	.4246816	.2042897
#2	.1978451	.2038553	.2033656	1.038555	.4244820	.2043979
#3	.1967403	.2041002	.2035645	1.035741	.4251611	.2043151

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3171271	3.059034	.2015051	1.970398	.5138091	.0779948
Stddev	.0002018	.005263	.0011515	.005337	.0007023	.0003796
%RSD	.0636464	.1720401	.5714468	.2708367	.1366908	.4867325
#1	.3170811	3.053984	.2005256	1.971902	.5144038	.0780830
#2	.3173480	3.058631	.2027736	1.964470	.5139892	.0775788
#3	.3169523	3.064487	.2012162	1.974821	.5130342	.0783226

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.931506	.2975333	.2152575	10.08025	.2933762	.4147404
Stddev	.009778	.0020148	.0000865	.02837	.0002602	.0012822
%RSD	.3335560	.6771829	.0401920	.2814377	.0886914	.3091586
#1	2.920843	.2961373	.2151692	10.07802	.2936684	.4162133
#2	2.940053	.2998431	.2152614	10.10967	.2932906	.4141338
#3	2.933624	.2966195	.2153421	10.05306	.2931696	.4138740

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: PB164232BS Acquired: 10/17/2024 15:53:44 Type: Unk
Method: NON EPA-6010-200.7(v2445) 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	.6985890	.1949916	.8372458	6.121553	F -.007698	F 4143.919
Stddev	.0004095	.0003709	.0093649	.017032	.000203	12.781
%RSD	.0586214	.1902308	1.118540	.2782242	2.640627	.3084199
#1	.6981451	.1946356	.8475750	6.127226	-.007613	4157.493
#2	.6986698	.1949634	.8293094	6.135024	-.007551	4132.117
#3	.6989521	.1953758	.8348531	6.102408	-.007930	4142.147

Elem	Sr4077
Units	ppm
Avg	.2045688
Stddev	.0003423
%RSD	.1673225
#1	.2041812
#2	.2048296
#3	.2046955

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3478.014	72271.59	16020.48	2480.007	5725.114
Stddev	5.180	82.32	13.25	9.465	2.016
%RSD	.1489462	.1138971	.0826792	.3816525	.0352167
#1	3472.032	72231.63	16030.02	2478.146	5723.985
#2	3480.999	72216.89	16005.36	2471.611	5727.442
#3	3481.011	72366.26	16026.07	2490.265	5723.916

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCV03 Acquired: 10/17/2024 15:57:45 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.171236	5.133043	5.126977	5.089843	4.974335	9.803250
Stddev	.012734	.073294	.011596	.007553	.005504	.003391
%RSD	.2462392	1.427881	.2261855	.1483912	.1106471	.0345874
#1	5.156575	5.114705	5.116729	5.081274	4.971681	9.804499
#2	5.179531	5.213765	5.124637	5.095534	4.970661	9.805840
#3	5.177603	5.070660	5.139565	5.092720	4.980663	9.799412

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.825393	.2509463	2.572688	24.70894	1.019797	2.494042
Stddev	.078072	.0003710	.004579	.05199	.000679	.004666
%RSD	.7945895	.1478307	.1780018	.2104115	.0666253	.1870835
#1	9.875207	.2510525	2.567669	24.65682	1.020125	2.489923
#2	9.865555	.2512527	2.573757	24.76080	1.019016	2.493094
#3	9.735416	.2505339	2.576639	24.70920	1.020251	2.499109

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.249282	5.004932	2.451115	24.56808	2.499549	1.261801
Stddev	.002552	.011224	.009610	.09180	.004831	.001496
%RSD	.2042398	.2242555	.3920820	.3736508	.1932840	.1185853
#1	1.248987	4.993512	2.440077	24.47000	2.497535	1.262891
#2	1.246891	5.005334	2.455643	24.58233	2.496050	1.262416
#3	1.251968	5.015949	2.457624	24.65193	2.505061	1.260095

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.65116	2.455675	2.549629	24.77910	5.037925	5.034382
Stddev	.02495	.007976	.003129	.03225	.010310	.005179
%RSD	.1011940	.3247905	.1227265	.1301581	.2046470	.1028780
#1	24.66174	2.453962	2.548815	24.80860	5.047125	5.029265
#2	24.66908	2.448696	2.546987	24.78403	5.039868	5.034260
#3	24.62267	2.464369	2.553084	24.74466	5.026781	5.039622

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCV03 Acquired: 10/17/2024 15:57:45 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.066465	4.955148	5.293328	5.265685	4.889865	F 9227.582
Stddev	.013569	.007833	.040996	.017296	.005816	31.122
%RSD	.2678148	.1580696	.7744821	.3284623	.1189390	.3372709
#1	5.051712	4.946127	5.247124	5.275686	4.884138	9260.383
#2	5.078409	4.960218	5.307507	5.275656	4.889692	9223.896
#3	5.069275	4.959099	5.325351	5.245713	4.895766	9198.467

Elem	Sr4077
Units	ppm
Avg	5.029994
Stddev	.016925
%RSD	.3364726
#1	5.028941
#2	5.013620
#3	5.047420

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3397.030	70510.27	15560.89	2440.119	5341.973
Stddev	6.019	68.96	3.87	10.316	5.281
%RSD	.1771779	.0978025	.0248567	.4227760	.0988515
#1	3391.856	70586.00	15565.11	2443.262	5337.147
#2	3403.636	70493.71	15560.04	2448.498	5347.613
#3	3395.598	70451.09	15557.52	2428.596	5341.159

Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCB03 Acquired: 10/17/2024 16:01:56 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022414	.0021930	.0022414	.0024549	.0028850	.0077631
Stddev	.0004811	.0008845	.0008996	.0009481	.0001733	.0045091
%RSD	21.46408	40.33173	40.13579	38.62206	6.005745	58.08340
#1	.0023461	.0029294	.0012510	.0027522	.0026850	.0100707
#2	.0017166	.0012120	.0024652	.0013937	.0029859	.0106512
#3	.0026616	.0024377	.0030079	.0032187	.0029842	.0025673

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043266	.0000673	.0009967	.0064800	-.000251	.0009169
Stddev	.0008819	.0000494	.0001874	.0073185	.000028	.0001470
%RSD	20.38321	73.42429	18.80052	112.9389	11.16502	16.03751
#1	.0053406	.0000555	.0008112	.0131843	-.000280	.0007674
#2	.0039017	.0000249	.0009930	.0075831	-.000247	.0009218
#3	.0037377	.0001216	.0011860	-.001327	-.000225	.0010614

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007049	.0043450	.0007831	.0044026	.0009461	.0000708
Stddev	.0001848	.0016152	.0001395	.0080427	.0001446	.0001692
%RSD	26.21626	37.17318	17.80825	182.6786	15.28628	238.8338
#1	.0007636	.0050143	.0008367	-.004825	.0008480	-.000092
#2	.0004979	.0055178	.0006248	.009927	.0008780	.000059
#3	.0008532	.0025027	.0008878	.008106	.0011122	.000245

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0099039	.0011703	.0006855	.0028784	.0080124	.0019133
Stddev	.0039856	.0000939	.0003119	.0105178	.0006506	.0003212
%RSD	40.24237	8.020819	45.50418	365.3997	8.119478	16.78627
#1	.0103745	.0010879	.0006894	.0148166	.0084037	.0016468
#2	.0136332	.0011504	.0009954	-.005023	.0083722	.0018231
#3	.0057039	.0012725	.0003716	-.001158	.0072614	.0022699

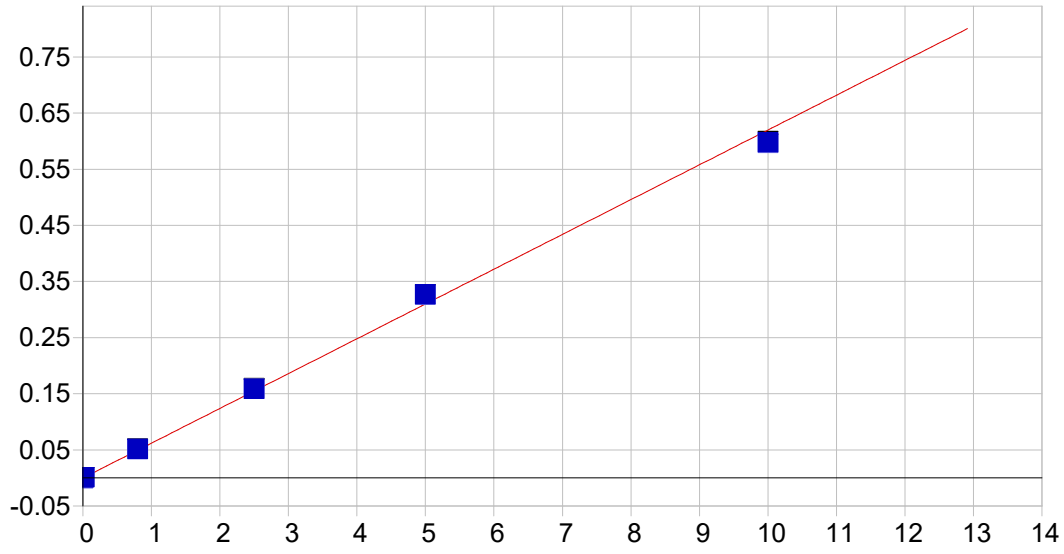
Reviewed By:jaswal
On:10/26/2024 8:06:43 AM
Inst Id :P4
LB :LB132991

Sample Name: CCB03 Acquired: 10/17/2024 16:01:56 Type: Unk
Method: NON EPA-6010-200.7(v2445) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000771	.0016099	.0018793	-.002037	.0008034	F 9.191825
Stddev	.000846	.0003776	.0033484	.001238	.0027589	18.52956
%RSD	109.7990	23.45575	178.1753	60.78192	343.3899	201.5874
#1	-.000081	.0019919	.0024282	-.000786	-.002034	9.16995
#2	-.001715	.0016010	.0049193	-.003262	.003477	-9.32679
#3	-.000517	.0012368	-.001710	-.002063	.000967	27.73232

Elem	Sr4077
Units	ppm
Avg	.0016978
Stddev	.0003145
%RSD	18.52434
#1	.0020388
#2	.0016353
#3	.0014192

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3575.574	74919.49	16274.83	2616.859	5945.260
Stddev	8.420	135.92	42.36	6.506	10.608
%RSD	.2355005	.1814209	.2602698	.2486125	.1784280
#1	3567.595	74862.06	16226.09	2623.586	5935.262
#2	3574.752	74821.71	16302.75	2616.389	5944.131
#3	3584.375	75074.70	16295.65	2610.600	5956.387

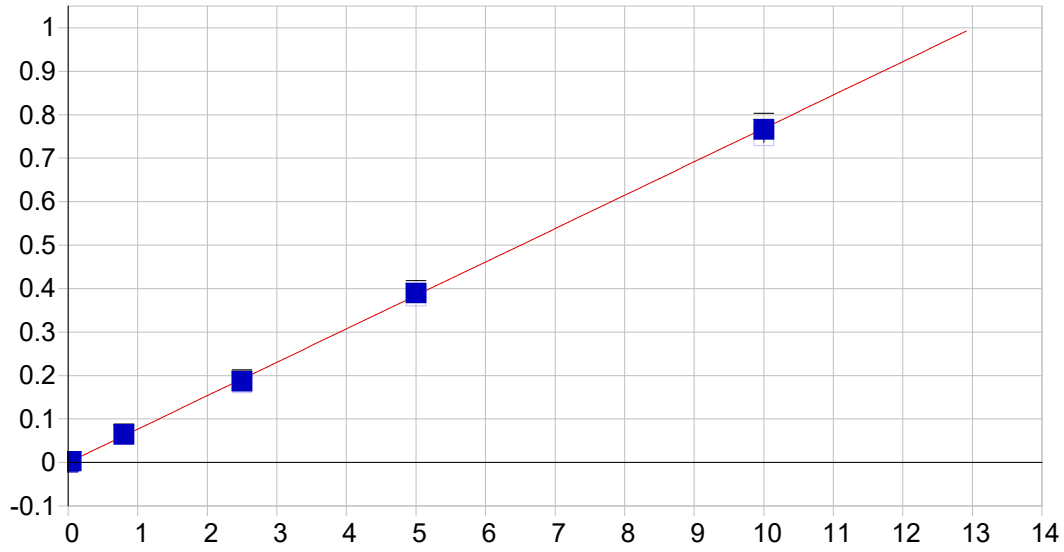


As 189.042 {479}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000145	Re-Slope:	1.000000
A1 (Gain):	0.062010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999174	Status:	OK.
Std Error of Est:	0.000059		
Predicted MDL:	0.002241		
Predicted MQL:	0.007470		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00015	.000	1
S1	.02000	.02005	.000	.266	.00109	.000	1
S3	2.5000	2.5630	.063	2.52	.15862	.001	1
S4	5.0000	5.2701	.270	5.40	.32632	.000	1
S5	10.000	9.6385	-.361	-3.61	.59687	.003	1
S2	.80000	.82839	.028	3.55	.05117	.000	1

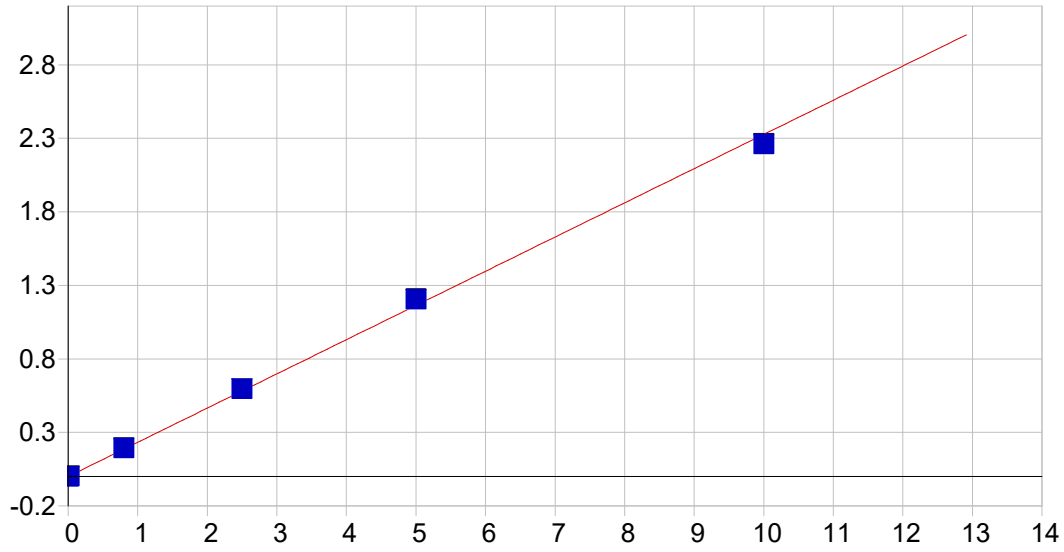


Tl 190.856 {477}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000170	Re-Slope:	1.000000
A1 (Gain):	0.076867	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999854	Status:	OK.
Std Error of Est:	0.000043		
Predicted MDL:	0.001529		
Predicted MQL:	0.005097		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00017	.000	1
S1	.04000	.04033	.000	.813	.00273	.000	1
S3	2.5000	2.4293	-.071	-2.83	.18302	.004	1
S4	5.0000	5.0690	.069	1.38	.38239	.006	1
S5	10.000	9.9609	-.039	-.391	.75134	.015	1
S2	.80000	.84049	.040	5.06	.06330	.001	1

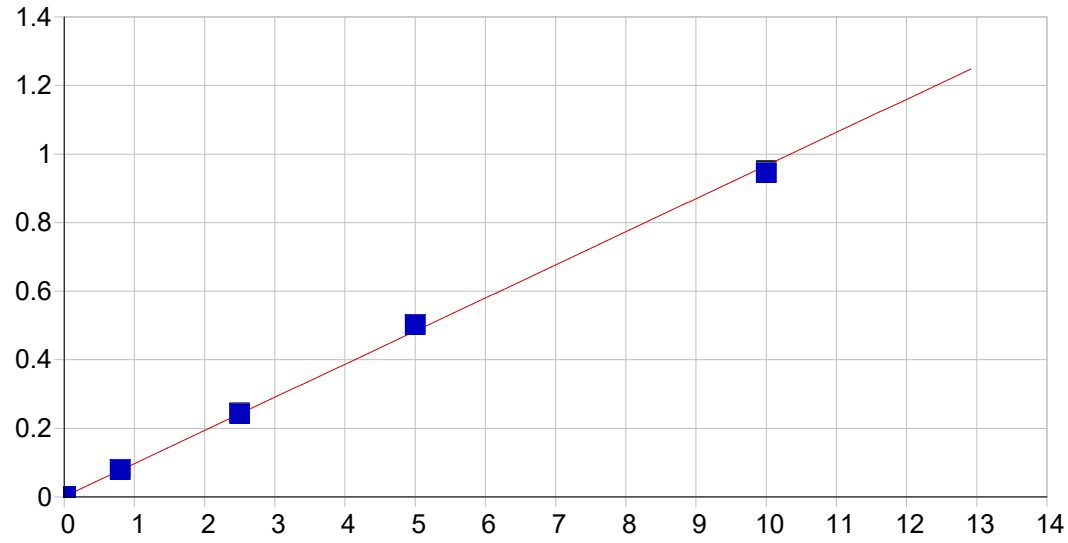


Pb 220.353 {453}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000066	Re-Slope:	1.000000
A1 (Gain):	0.232679	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999520	Status:	OK.
Std Error of Est:	0.000131		
Predicted MDL:	0.001029		
Predicted MQL:	0.003430		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00007	.000	1
S1	.01200	.01413	.002	17.8	.00330	.000	1
S3	2.5000	2.5658	.066	2.63	.59642	.001	1
S4	5.0000	5.1821	.182	3.64	1.2045	.002	1
S5	10.000	9.7211	-.279	-2.79	2.2594	.005	1
S2	.80000	.82898	.029	3.62	.19275	.001	1

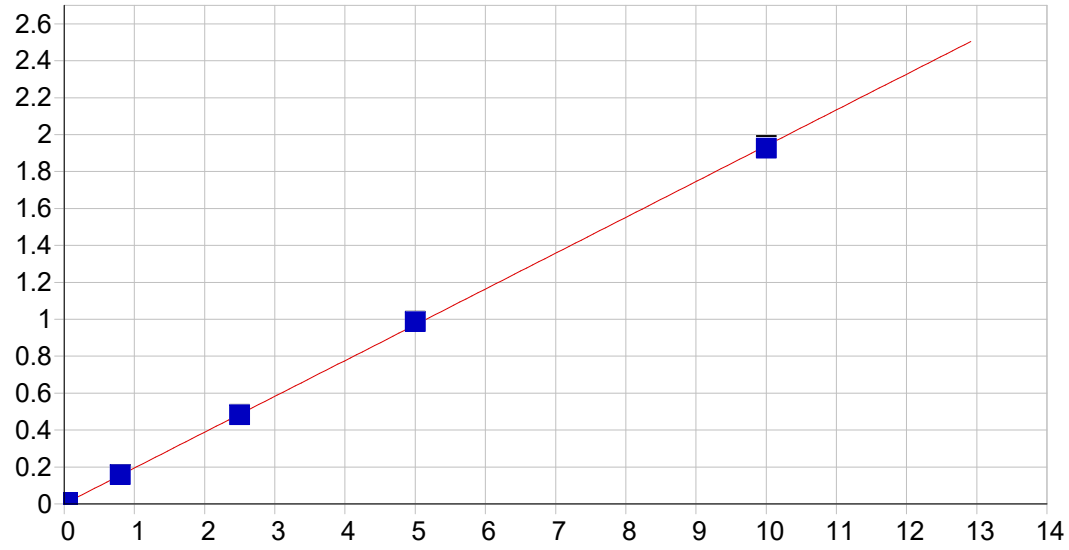


Se 196.090 {472}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000673	Re-Slope:	1.000000
A1 (Gain):	0.096584	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999643	Status:	OK.
Std Error of Est:	0.000060		
Predicted MDL:	0.001943		
Predicted MQL:	0.006476		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00067	.000	1
S1	.02000	.01747	-.003	-12.6	.00236	.000	1
S3	2.5000	2.5090	.009	.362	.24295	.002	1
S4	5.0000	5.1950	.195	3.90	.50231	.001	1
S5	10.000	9.7816	-.218	-2.18	.94518	.005	1
S2	.80000	.81684	.017	2.11	.07955	.000	1

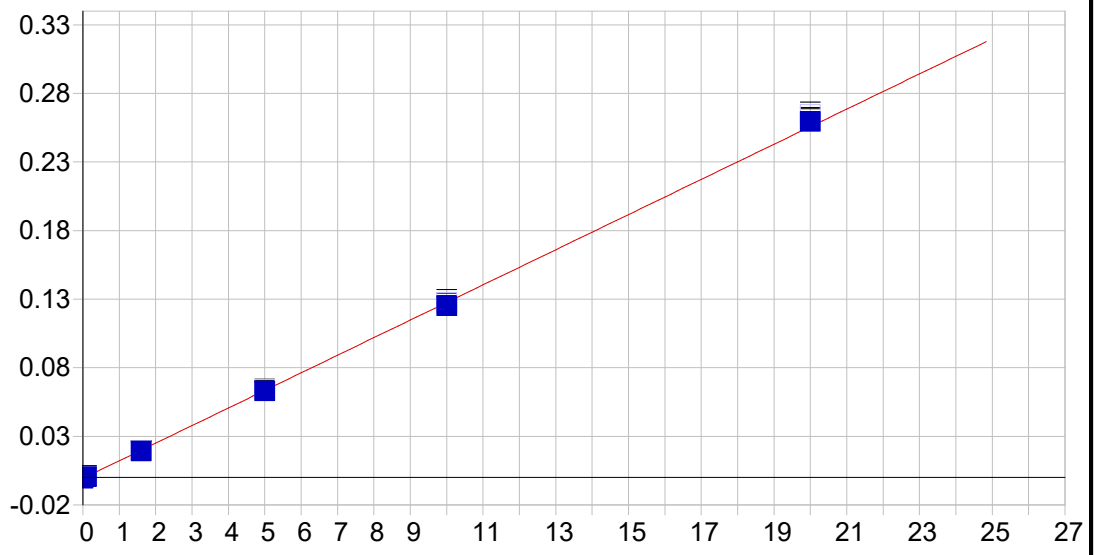


Sb 206.833 {463}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000453	Re-Slope:	1.000000
A1 (Gain):	0.193899	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999946	Status:	OK.
Std Error of Est:	0.000075		
Predicted MDL:	0.001169		
Predicted MQL:	0.003898		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00045	.000	1
S1	.05000	.04848	-.002	-3.05	.00987	.000	1
S3	2.5000	2.4859	-.014	-.565	.48378	.002	1
S4	5.0000	5.0803	.080	1.61	.98816	.002	1
S5	10.000	9.9278	-.072	-.722	1.9307	.010	1
S2	.80000	.80751	.008	.939	.15745	.001	1

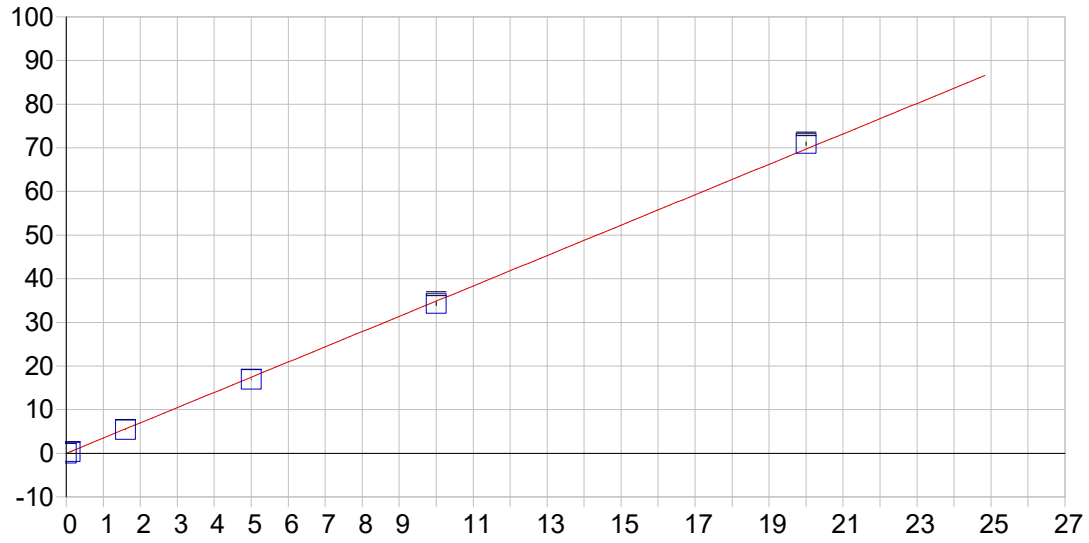


Al 396.152 { 85}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000609	Re-Slope:	1.000000
A1 (Gain):	0.012819	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999837	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.049998		
Predicted MQL:	0.166659		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	-.00061	.000	1
S1	.10000	.08433	-.016	-15.7	.00057	.001	1
S3	5.0000	4.9660	-.034	-.680	.06430	.000	1
S4	10.000	9.8081	-.192	-1.92	.12761	.002	1
S5	20.000	20.295	.295	1.48	.26453	.002	1
S2	1.6000	1.5473	-.053	-3.30	.01962	.000	1

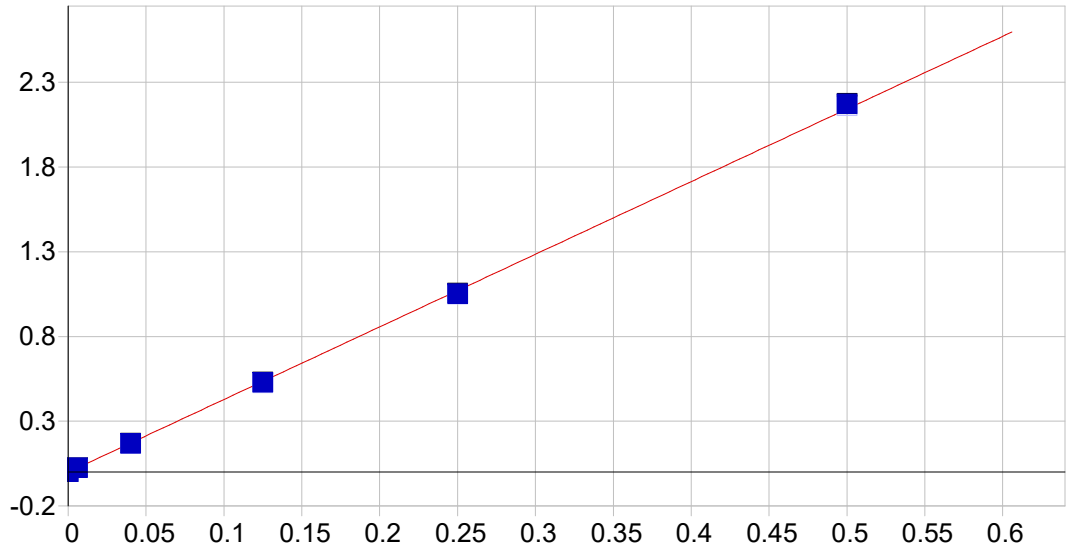


Ba 493.409 { 68}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000686	Re-Slope:	1.000000
A1 (Gain):	3.485150	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999798	Status:	OK.
Std Error of Est:	0.005194		
Predicted MDL:	0.000407		
Predicted MQL:	0.001356		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00074	.009	1
S1	.10000	.09111	-.009	-8.89	.31823	.003	1
S3	5.0000	4.8606	-.139	-2.79	16.941	.062	1
S4	10.000	9.8370	-.163	-1.63	34.284	.422	1
S5	20.000	20.355	.355	1.77	70.941	.409	1
S2	1.6000	1.5563	-.044	-2.73	5.4248	.016	1

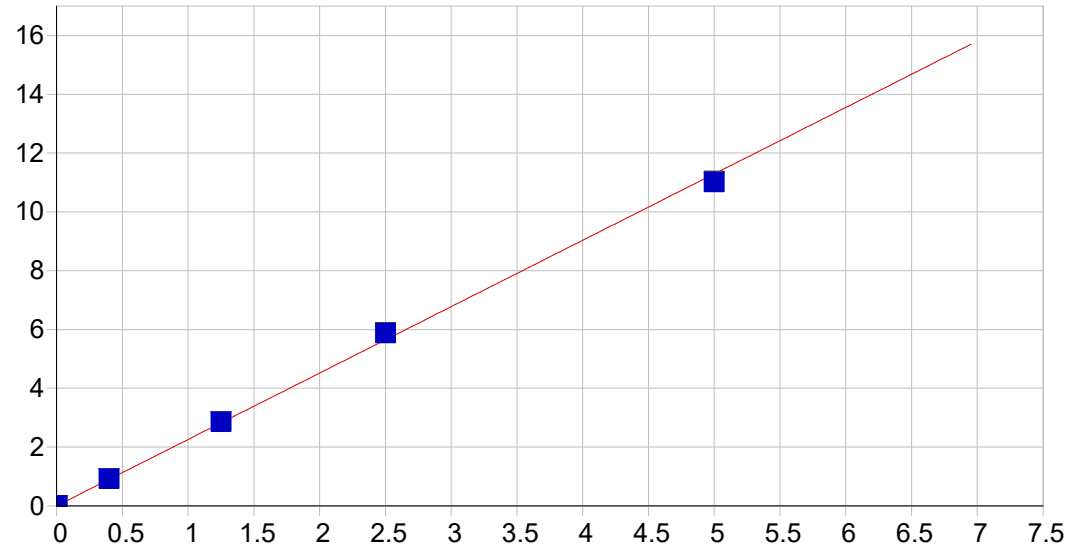


Be 234.861 {144}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000678	Re-Slope:	1.000000
A1 (Gain):	4.286388	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000181		
Predicted MDL:	0.000050		
Predicted MQL:	0.000165		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00068	.000	1
S1	.00600	.00586	-.000	-2.26	.02427	.000	1
S3	.12500	.12345	-.002	-1.24	.52607	.003	1
S4	.25000	.24565	-.004	-1.74	1.0475	.003	1
S5	.50000	.50670	.007	1.34	2.1616	.005	1
S2	.04000	.03934	-.001	-1.65	.16717	.001	1

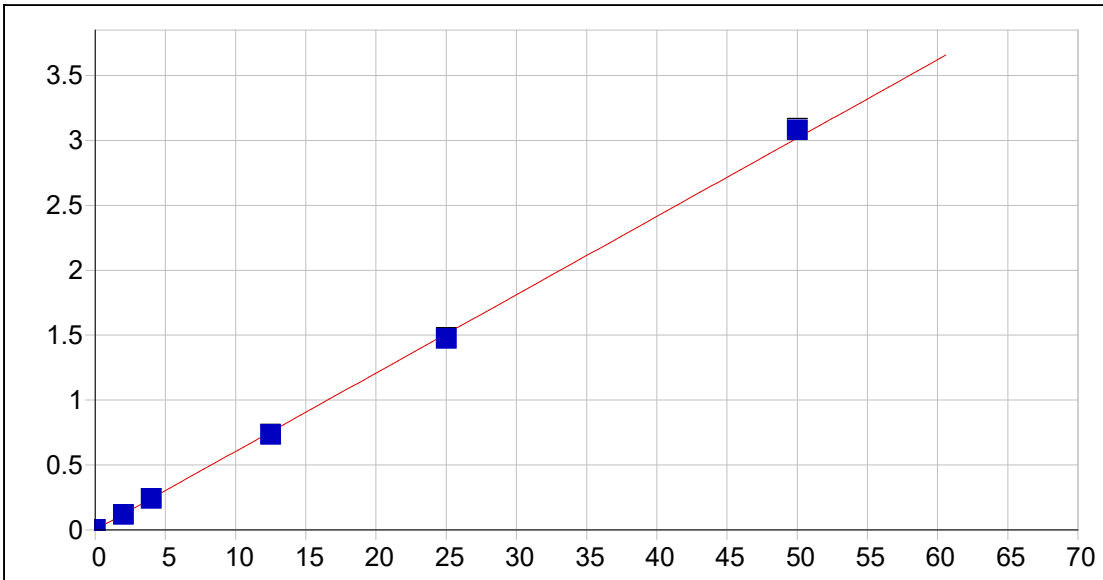


Cd 226.502 {449}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001429	Re-Slope:	1.000000
A1 (Gain):	2.258419	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999578	Status:	OK.
Std Error of Est:	0.000596		
Predicted MDL:	0.000081		
Predicted MQL:	0.000270		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00143	.001	1
S1	.00600	.00555	-.000	-7.46	.01402	.000	1
S3	1.2500	1.2669	.017	1.35	2.8645	.003	1
S4	2.5000	2.6020	.102	4.08	5.8818	.008	1
S5	5.0000	4.8741	-.126	-2.52	11.017	.025	1
S2	.40000	.40744	.007	1.86	.92221	.001	1

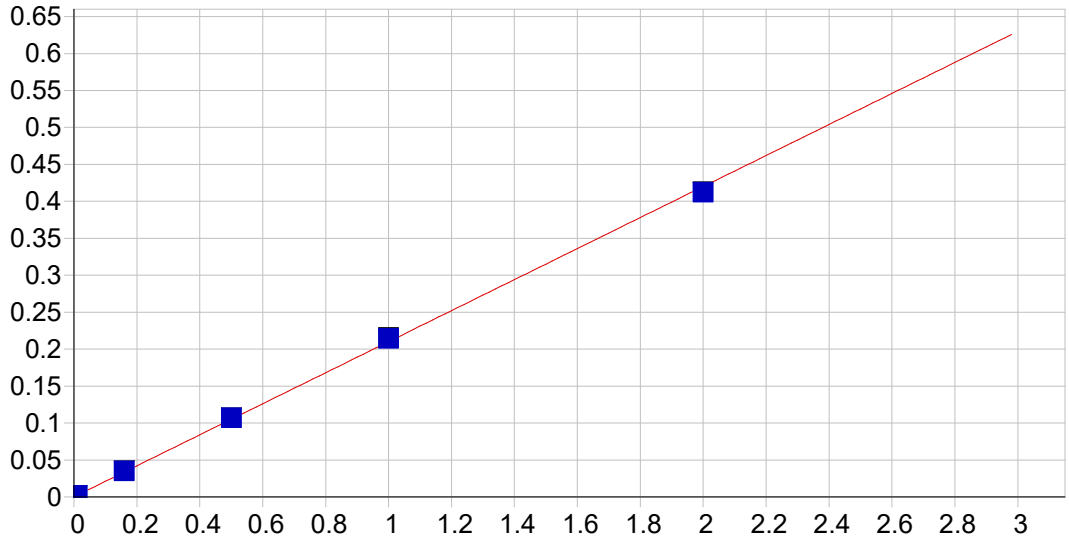


Ca 373.690 { 90}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001548	Re-Slope:	1.000000
A1 (Gain):	0.060324	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999734	Status:	OK.
Std Error of Est:	0.000736		
Predicted MDL:	0.006491		
Predicted MQL:	0.021638		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00016	.000	.000	.00156	.001	1
S2	4.0000	3.9612	-.039	-.969	.24050	.000	1
S3	12.500	12.141	-.359	-2.88	.73391	.003	1
S4	25.000	24.421	-.579	-2.31	1.4747	.008	1
S5	50.000	51.057	1.06	2.11	3.0815	.011	1
S1	2.0000	1.9197	-.080	-4.02	.11735	.001	1

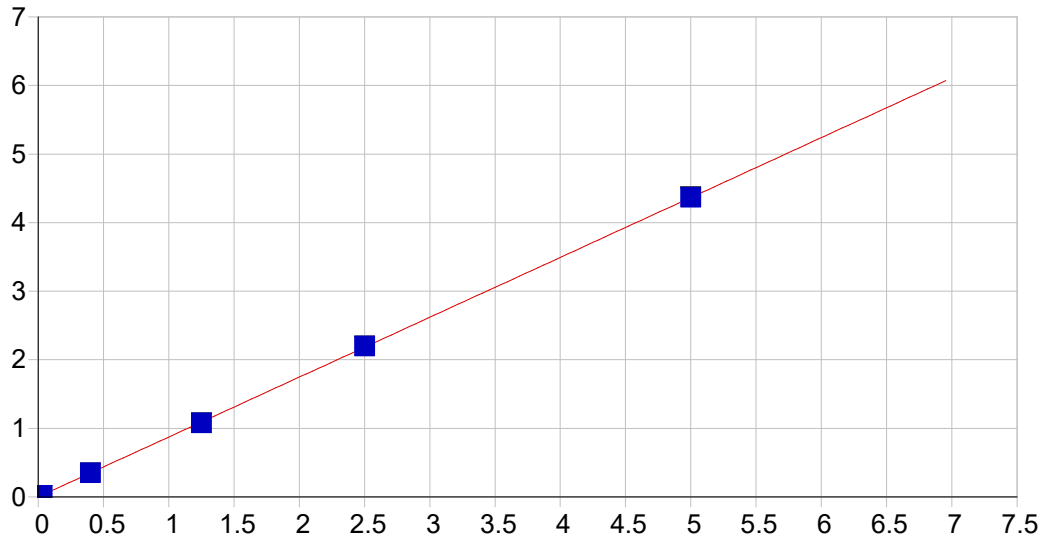


Cr 267.716 {126}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000082	Re-Slope:	1.000000
A1 (Gain):	0.209981	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999776	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.000368		
Predicted MQL:	0.001225		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00008	.000	1
S1	.01000	.00994	-.000	-.596	.00217	.000	1
S3	.50000	.50867	.009	1.73	.10692	.000	1
S4	1.0000	1.0212	.021	2.12	.21457	.001	1
S5	2.0000	1.9627	-.037	-1.86	.41234	.000	1
S2	.16000	.16751	.008	4.69	.03527	.000	1

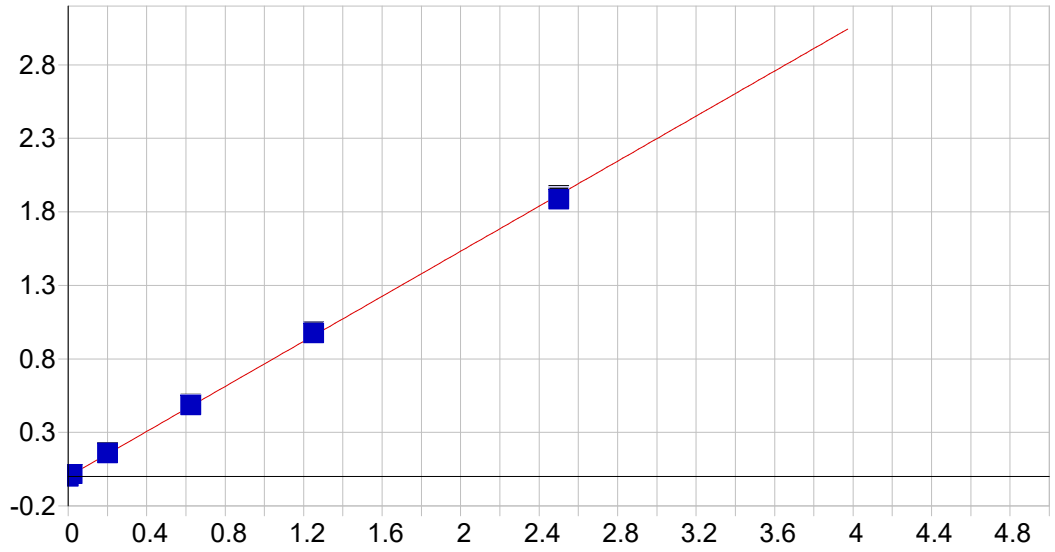


Co 228.616 {448}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000531	Re-Slope:	1.000000
A1 (Gain):	0.873040	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	OK.
Std Error of Est:	0.000110		
Predicted MDL:	0.000187		
Predicted MQL:	0.000624		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00053	.000	1
S1	.03000	.02914	-.001	-2.88	.02586	.000	1
S3	1.2500	1.2340	-.016	-1.28	1.0797	.001	1
S4	2.5000	2.5169	.017	.678	2.2016	.003	1
S5	5.0000	5.0016	.002	.032	4.3745	.010	1
S2	.40000	.39833	-.002	-.418	.34888	.001	1

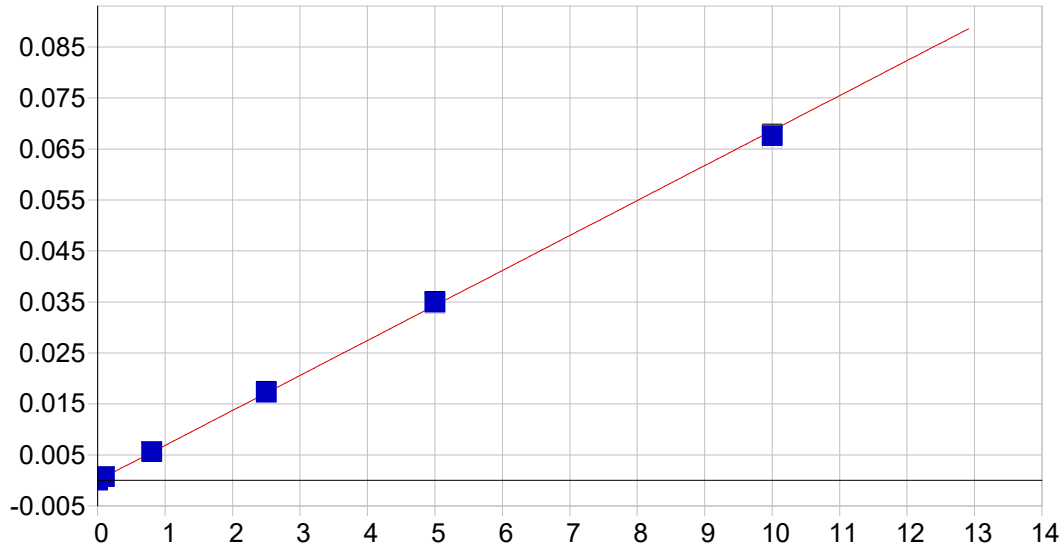


Cu 224.700 {450}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000134	Re-Slope:	1.000000
A1 (Gain):	0.766132	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999827	Status:	OK.
Std Error of Est:	0.000169		
Predicted MDL:	0.000378		
Predicted MQL:	0.001260		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00014	.000	1
S1	.02000	.02197	.002	9.84	.01689	.000	1
S3	.62500	.63348	.008	1.36	.48976	.002	1
S4	1.2500	1.2723	.022	1.79	.98378	.002	1
S5	2.5000	2.4599	-.040	-1.61	1.9027	.010	1
S2	.20000	.20733	.007	3.66	.16017	.000	1

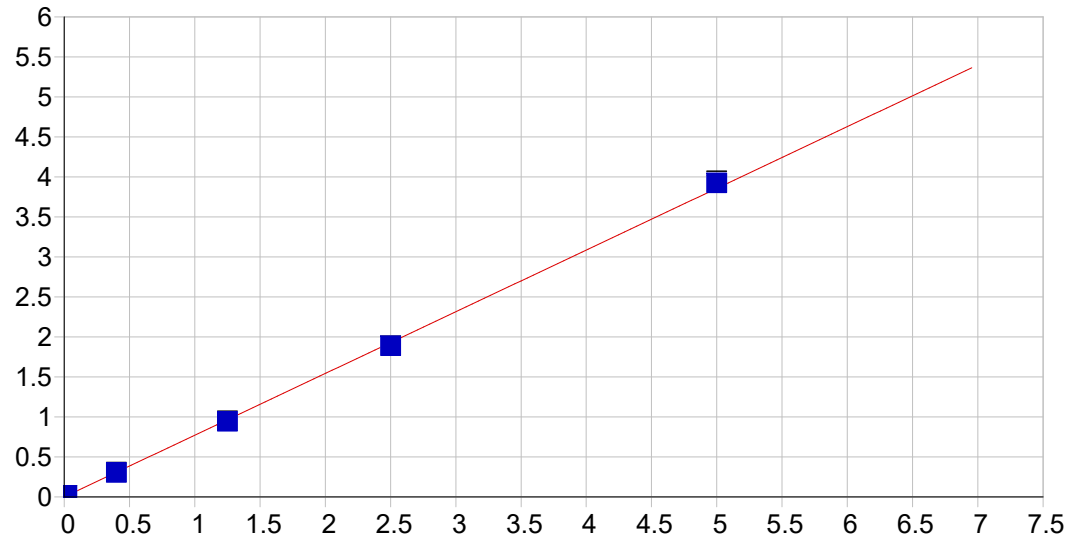


Fe 240.488 {140}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.006862	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999863	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.003637		
Predicted MQL:	0.012123		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.00000	.000	1
S1	.10000	.10748	.007	7.48	.00073	.000	1
S3	2.5000	2.5202	.020	.806	.01715	.000	1
S4	5.0000	5.0925	.093	1.85	.03465	.000	1
S5	10.000	9.8592	-.141	-1.41	.06707	.000	1
S2	.80000	.82072	.021	2.59	.00558	.000	1

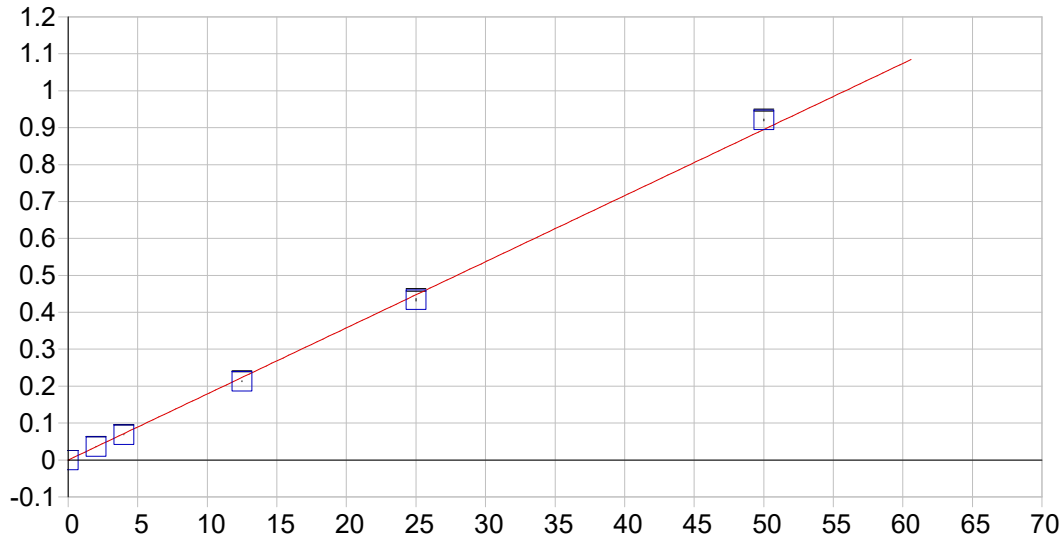


Mn 257.610 {131}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000609	Re-Slope:	1.000000
A1 (Gain):	0.771129	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999820	Status:	OK.
Std Error of Est:	0.000242		
Predicted MDL:	0.000223		
Predicted MQL:	0.000742		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00061	.000	1
S1	.02000	.01902	-.001	-4.92	.01528	.000	1
S3	1.2500	1.2246	-.025	-2.03	.94512	.002	1
S4	2.5000	2.4451	-.055	-2.19	1.8865	.007	1
S5	5.0000	5.0859	.086	1.72	3.9232	.026	1
S2	.40000	.39539	-.005	-1.15	.30557	.001	1

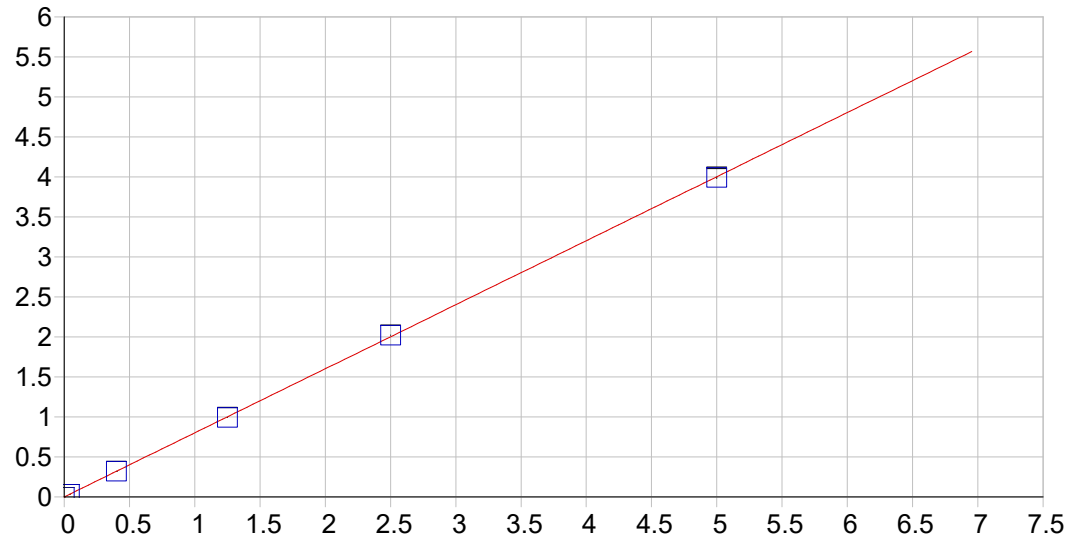


Mg 279.079 {121}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000115	Re-Slope:	1.000000
A1 (Gain):	0.017900	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999465	Status:	OK.
Std Error of Est:	0.000310		
Predicted MDL:	0.010194		
Predicted MQL:	0.033980		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00014	.000	.000	-.00011	.000	1
S2	4.0000	3.8321	-.168	-4.20	.06848	.000	1
S3	12.500	11.922	-.578	-4.62	.21329	.001	1
S4	25.000	24.247	-.753	-3.01	.43390	.003	1
S5	50.000	51.465	1.46	2.93	.92111	.002	1
S1	2.0000	2.0342	.034	1.71	.03630	.000	1

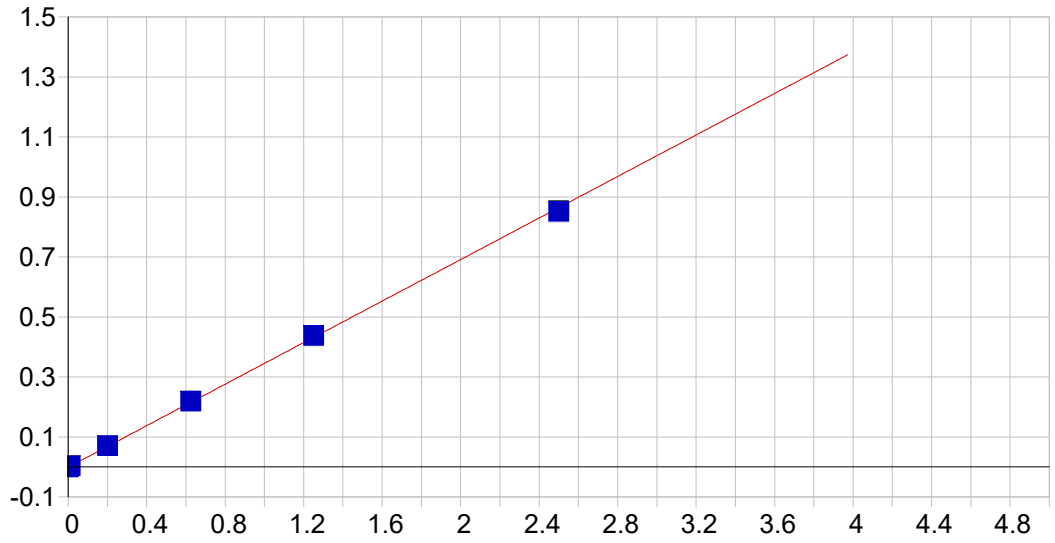


Ni 231.604 {446}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000360	Re-Slope:	1.000000
A1 (Gain):	0.800574	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000123		
Predicted MDL:	0.000247		
Predicted MQL:	0.000825		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00036	.000	1
S1	.04000	.03888	-.001	-2.80	.03149	.000	1
S3	1.2500	1.2404	-.010	-.771	.99336	.001	1
S4	2.5000	2.5243	.024	.971	2.0212	.003	1
S5	5.0000	4.9851	-.015	-.299	3.9913	.010	1
S2	.40000	.40142	.001	.354	.32172	.000	1

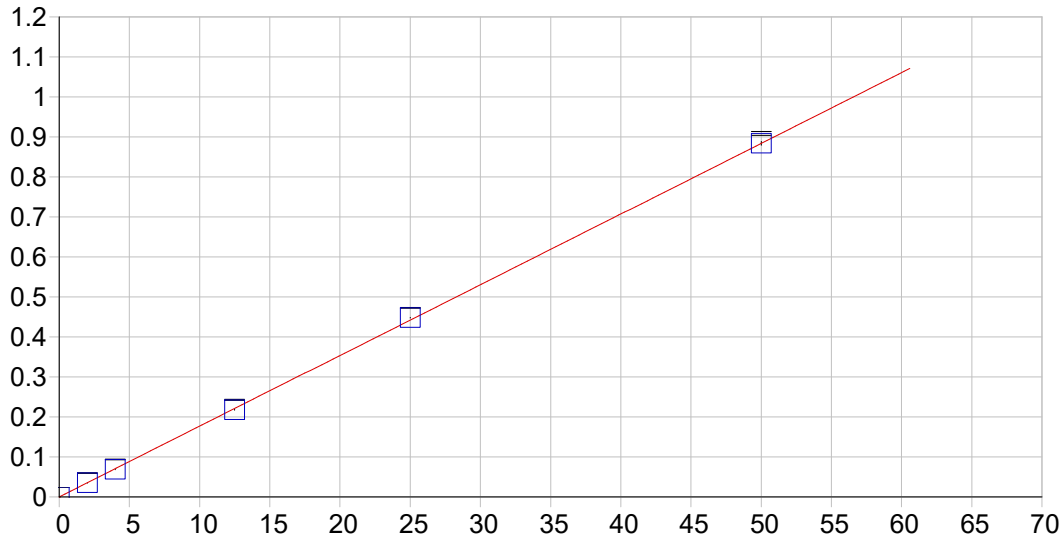


Ag 328.068 {103}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000963	Re-Slope:	1.000000
A1 (Gain):	0.346083	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999808	Status:	OK.
Std Error of Est:	0.000056		
Predicted MDL:	0.000305		
Predicted MQL:	0.001017		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00096	.000	1
S1	.01000	.01246	.002	24.6	.00333	.000	1
S3	.62500	.63429	.009	1.49	.21770	.000	1
S4	1.2500	1.2666	.017	1.33	.43566	.000	1
S5	2.5000	2.4643	-.036	-1.43	.84845	.002	1
S2	.20000	.20737	.007	3.68	.07053	.000	1

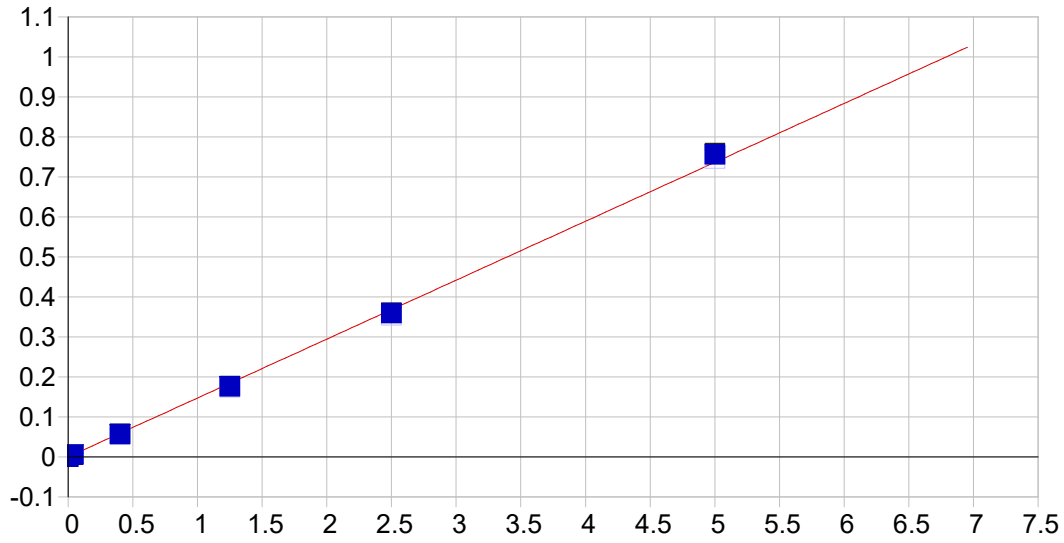


Na 589.592 { 57}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000233	Re-Slope:	1.000000
A1 (Gain):	0.017670	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000102		
Predicted MDL:	0.008530		
Predicted MQL:	0.028435		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00009	.000	.000	.00024	.000	1
S2	4.0000	3.8741	-.126	-3.15	.06869	.001	1
S3	12.500	12.323	-.177	-1.41	.21798	.001	1
S4	25.000	25.326	.326	1.31	.44774	.001	1
S5	50.000	50.001	.001	.003	.88373	.005	1
S1	2.0000	1.9748	-.025	-1.26	.03513	.000	1

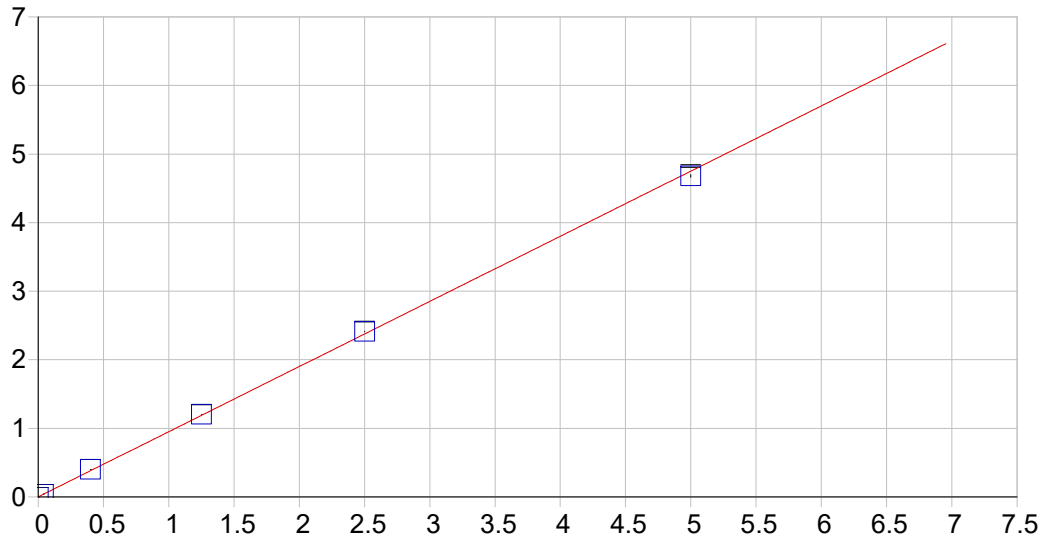


V 292.402 {115}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.147278	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999545	Status:	OK.
Std Error of Est:	0.000103		
Predicted MDL:	0.001264		
Predicted MQL:	0.004212		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00000	.000	1
S1	.04000	.03796	-.002	-5.09	.00537	.000	1
S3	1.2500	1.1966	-.053	-4.27	.17355	.001	1
S4	2.5000	2.4378	-.062	-2.49	.35367	.001	1
S5	5.0000	5.1334	.133	2.67	.74531	.003	1
S2	.40000	.38414	-.016	-3.96	.05572	.000	1

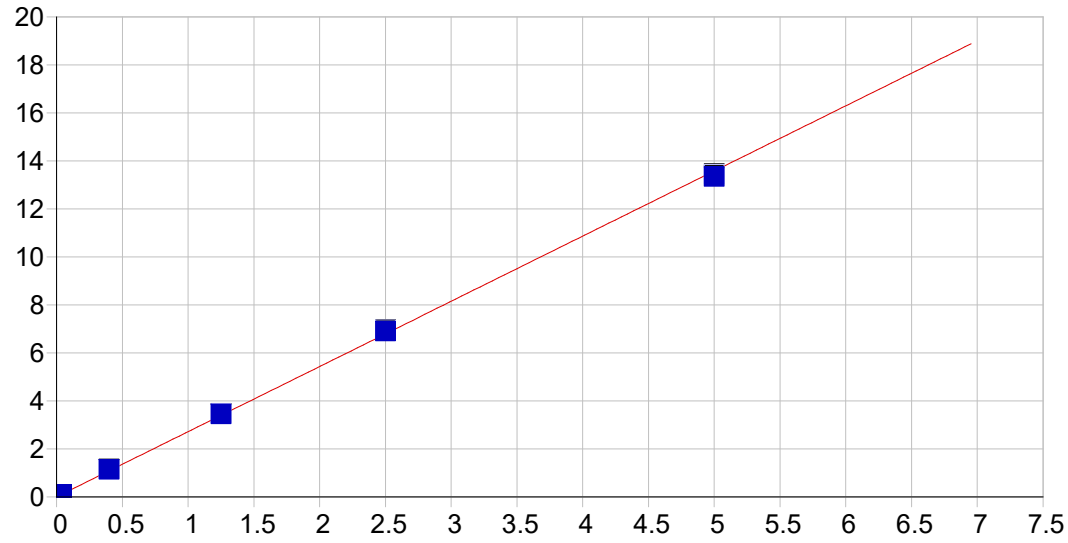


Zn 206.200 {464}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001477	Re-Slope:	1.000000
A1 (Gain):	0.950129	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000408		
Predicted MDL:	0.000193		
Predicted MQL:	0.000645		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00147	.000	1
S1	.04000	.04203	.002	5.06	.04141	.000	1
S3	1.2500	1.2653	.015	1.23	1.2037	.003	1
S4	2.5000	2.5387	.039	1.55	2.4135	.004	1
S5	5.0000	4.9238	-.076	-1.52	4.6797	.019	1
S2	.40000	.42022	.020	5.06	.40074	.002	1

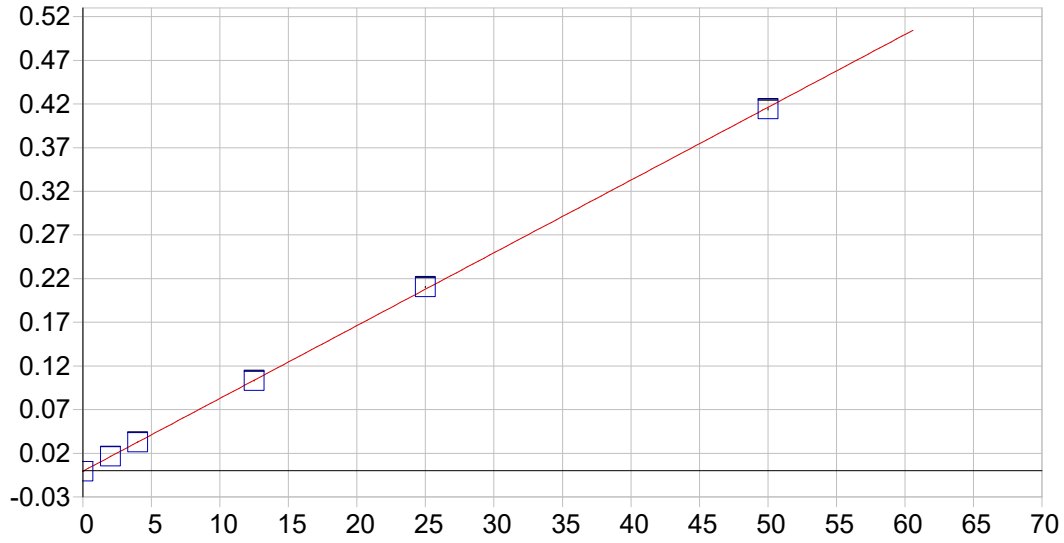


Zn 213.856 {158}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005175	Re-Slope:	1.000000
A1 (Gain):	2.714835	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999792	Status:	OK.
Std Error of Est:	0.001308		
Predicted MDL:	0.000274		
Predicted MQL:	0.000914		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00516	.000	1
S1	.04000	.04314	.003	7.86	.12306	.001	1
S3	1.2500	1.2703	.020	1.62	3.4774	.005	1
S4	2.5000	2.5445	.044	1.78	6.9601	.007	1
S5	5.0000	4.9124	-.088	-1.75	13.436	.031	1
S2	.40000	.41969	.020	4.92	1.1521	.006	1

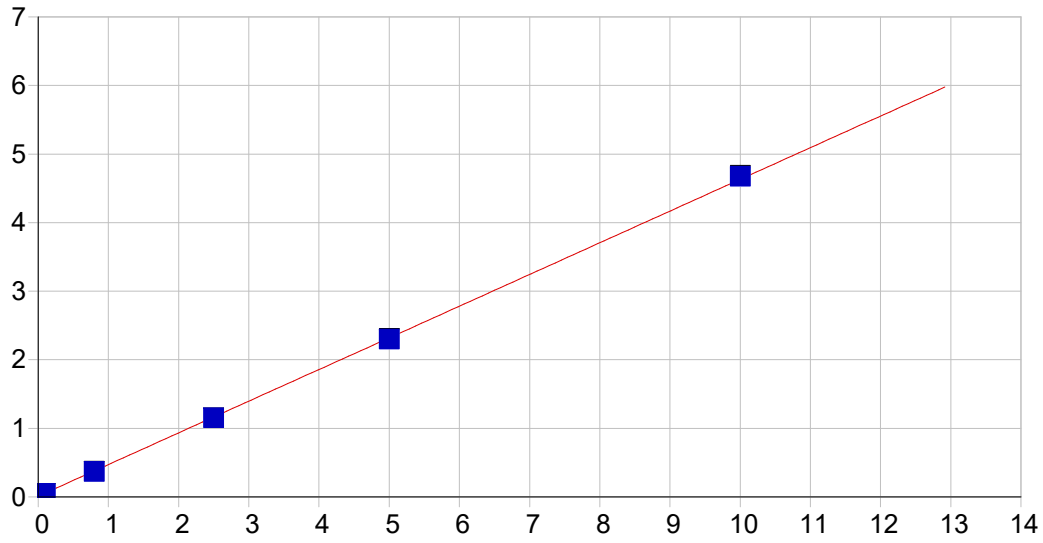


K 766.490 { 44}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000524	Re-Slope:	1.000000
A1 (Gain):	0.008334	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	0.021412		
Predicted MQL:	0.071372		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	-.00052	.000	1
S2	4.0000	3.9711	-.029	-.722	.03257	.000	1
S3	12.500	12.447	-.053	-.422	.10321	.000	1
S4	25.000	25.310	.310	1.24	.21042	.001	1
S5	50.000	49.741	-.259	-.519	.41403	.001	1
S1	2.0000	2.0307	.031	1.54	.01640	.000	1

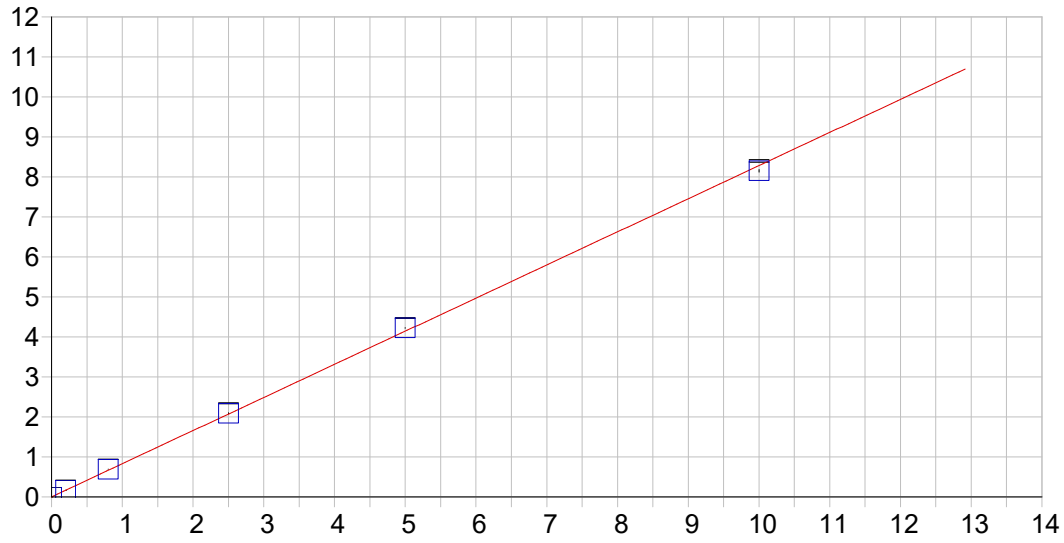


B 249.678 {135}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.009472	Re-Slope:	1.000000
A1 (Gain):	0.462071	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	0.000360		
Predicted MDL:	0.000554		
Predicted MQL:	0.001848		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00948	.001	1
S1	.10000	.08558	-.014	-14.4	.04882	.001	1
S3	2.5000	2.4764	-.024	-.943	1.1515	.004	1
S4	5.0000	4.9595	-.040	-.810	2.2966	.007	1
S5	10.000	10.098	.098	.979	4.6664	.016	1
S2	.80000	.78057	-.019	-2.43	.36943	.002	1

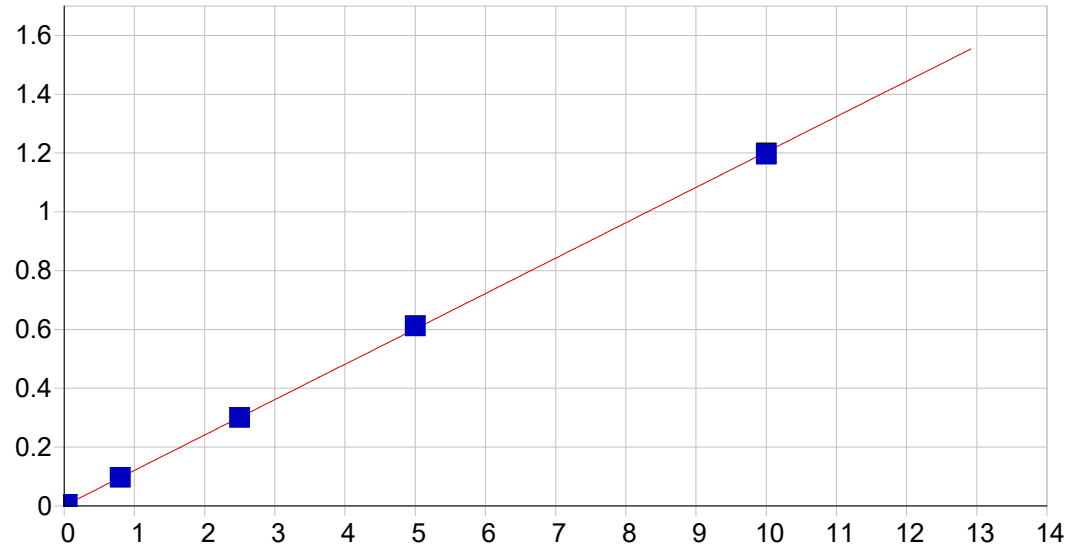


Mo 202.030 {467}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001664	Re-Slope:	1.000000
A1 (Gain):	0.828099	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999837	Status:	OK.
Std Error of Est:	0.001115		
Predicted MDL:	0.000236		
Predicted MQL:	0.000787		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00165	.001	1
S1	.20000	.20162	.002	.810	.16863	.000	1
S3	2.5000	2.5213	.021	.851	2.0895	.011	1
S4	5.0000	5.1004	.100	2.01	4.2253	.006	1
S5	10.000	9.8434	-.157	-1.57	8.1530	.034	1
S2	.80000	.83327	.033	4.16	.69169	.002	1

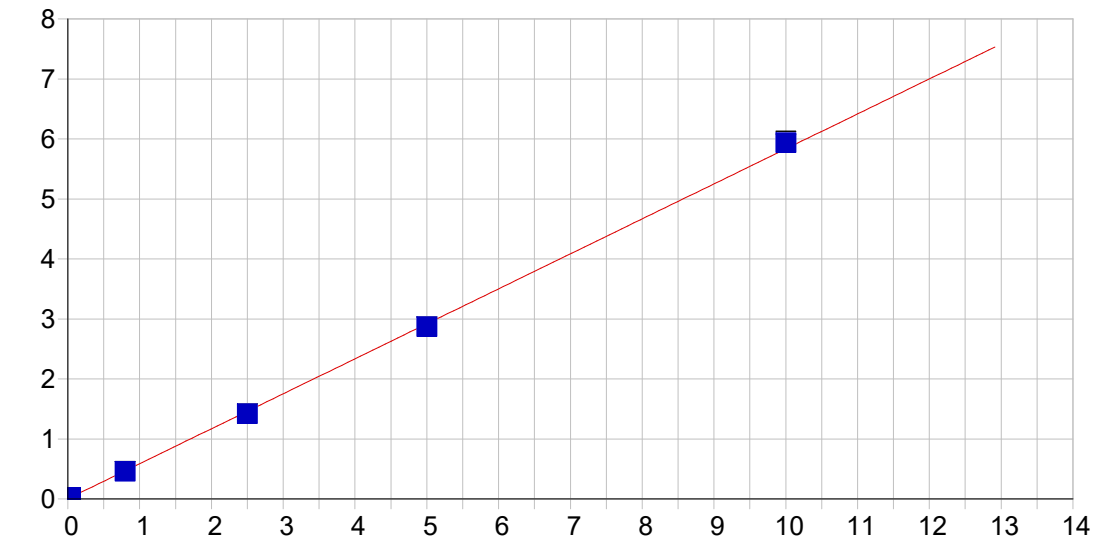


Sn 189.989 {478}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000504	Re-Slope:	1.000000
A1 (Gain):	0.120298	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999933	Status:	OK.
Std Error of Est:	0.000046		
Predicted MDL:	0.000712		
Predicted MQL:	0.002375		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00051	.000	1
S1	.04000	.03485	-.005	-12.9	.00469	.000	1
S3	2.5000	2.4883	-.012	-.468	.29953	.001	1
S4	5.0000	5.0814	.081	1.63	.61117	.001	1
S5	10.000	9.9352	-.065	-.648	1.1945	.004	1
S2	.80000	.80025	.000	.031	.09667	.000	1

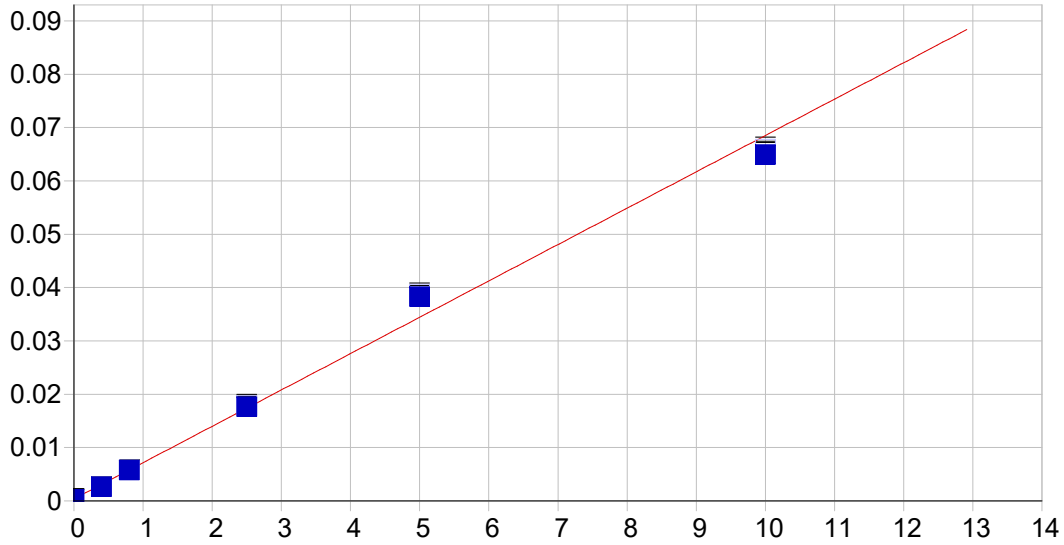


Ti 336.121 {100}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002945	Re-Slope:	1.000000
A1 (Gain):	0.583058	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999794	Status:	OK.
Std Error of Est:	0.000393		
Predicted MDL:	0.000465		
Predicted MQL:	0.001549		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00295	.001	1
S1	.04000	.03544	-.005	-11.4	.02359	.000	1
S3	2.5000	2.4289	-.071	-2.84	1.4186	.001	1
S4	5.0000	4.9135	-.087	-1.73	2.8667	.004	1
S5	10.000	10.179	.179	1.79	5.9355	.025	1
S2	.80000	.78358	-.016	-2.05	.45965	.001	1

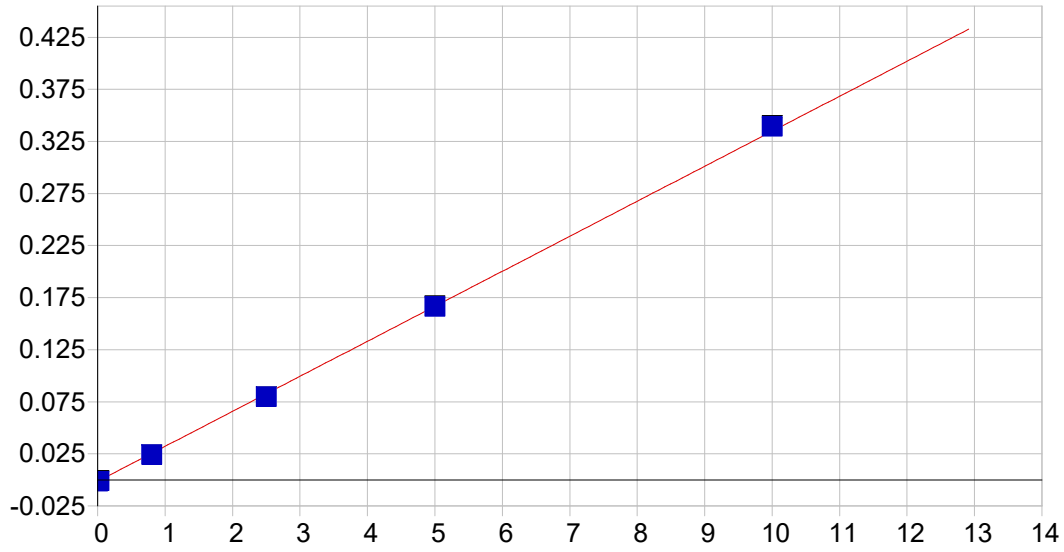


Si 288.158 {117}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000356	Re-Slope:	1.000000
A1 (Gain):	0.006816	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997340	Status:	OK.
Std Error of Est:	0.000053		
Predicted MDL:	0.006212		
Predicted MQL:	0.020706		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00004	.000	.000	.00036	.000	1
S1	.40000	.33303	-.067	-16.7	.00263	.000	1
S3	2.5000	2.5367	.037	1.47	.01790	.000	1
S4	5.0000	5.5627	.563	11.3	.03878	.000	1
S5	10.000	9.4743	-.526	-5.26	.06596	.000	1
S2	.80000	.79243	-.008	-.947	.00584	.000	1

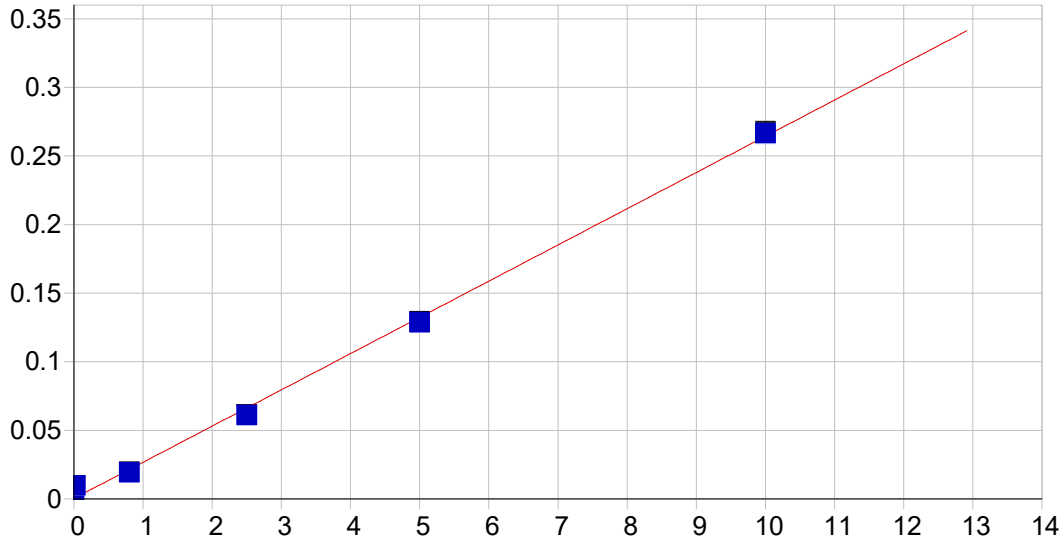


P 177.495 {490}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001421	Re-Slope:	1.000000
A1 (Gain):	0.033622	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999791	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.002423		
Predicted MQL:	0.008075		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00142	.000	1
S1	.02000	.01607	-.004	-19.6	-.00088	.000	1
S3	2.5000	2.4180	-.082	-3.28	.07986	.000	1
S4	5.0000	4.9914	-.009	-.172	.16637	.001	1
S5	10.000	10.137	.137	1.37	.33936	.001	1
S2	.80000	.75706	-.043	-5.37	.02403	.000	1

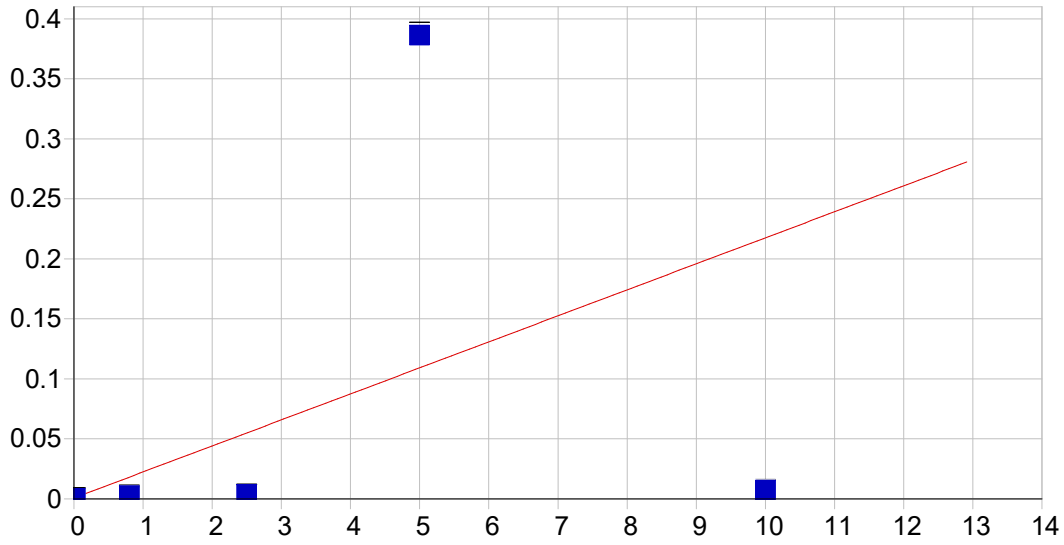


S 182.034 {485}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000305	Re-Slope:	1.000000
A1 (Gain):	0.026407	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.868869	Status:	OK.
Std Error of Est:	0.000352		
Predicted MDL:	0.003005		
Predicted MQL:	0.010017		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00034	-.000	.000	.00030	.000	1
S1	.02000	.36299	.343	1710.	.00987	.000	1
S3	2.5000	2.2991	-.201	-8.04	.06084	.000	1
S4	5.0000	4.8628	-.137	-2.74	.12837	.001	1
S5	10.000	10.085	.085	.846	.26592	.001	1
S2	.80000	.72433	-.076	-9.46	.01938	.000	1

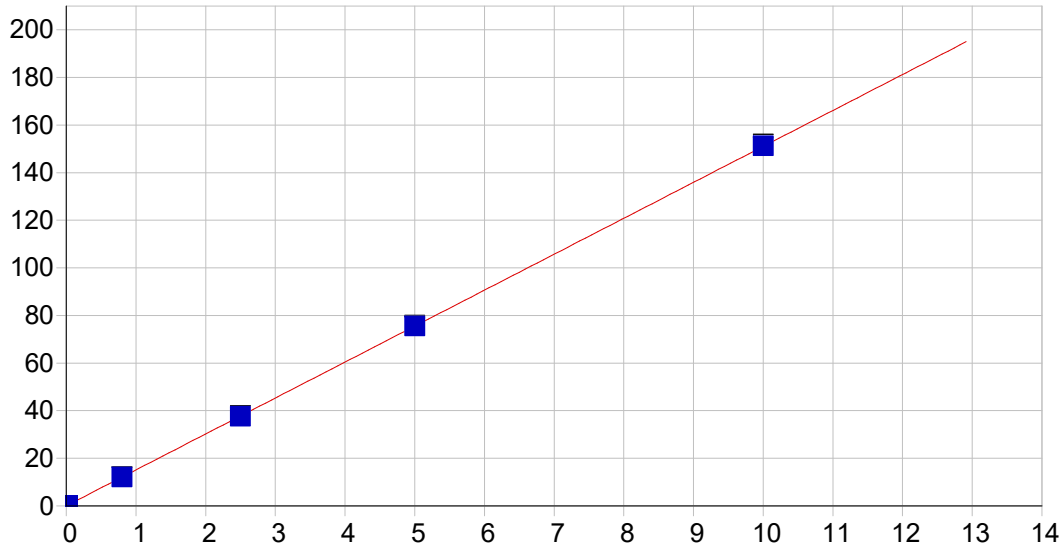


Li 670.784 { 50}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000812	Re-Slope:	1.000000
A1 (Gain):	0.021669	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.538235	Status:	OK.
Std Error of Est:	0.000796		
Predicted MDL:	0.034764		
Predicted MQL:	0.115879		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00081	.001	1
S5	10.000	.31017	-9.69	-96.9	.00773	.000	1
S4	5.0000	17.790	12.8	256.	.38639	.002	1
S3	2.5000	.13306	-2.37	-94.7	.00374	.000	1
S1	.02000	.00376	-.016	-81.2	.00090	.001	1
S2	.80000	.08363	-.716	-89.5	.00264	.001	1

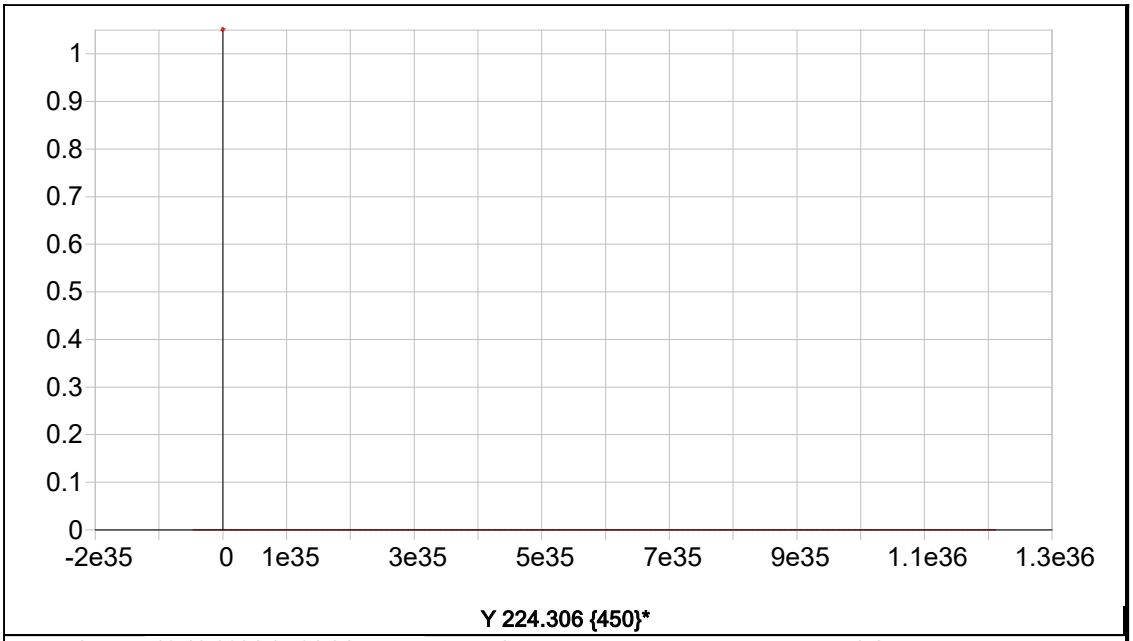


Sr 407.771 { 83}

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.024726	Re-Slope:	1.000000
A1 (Gain):	15.100679	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.001214		
Predicted MDL:	0.000030		
Predicted MQL:	0.000100		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.02475	.016	1
S1	.02000	.01835	-.002	-8.23	.30341	.002	1
S3	2.5000	2.4879	-.012	-.484	37.632	.280	1
S4	5.0000	4.9987	-.001	-.026	75.584	.382	1
S5	10.000	10.013	.013	.134	151.39	.616	1
S2	.80000	.80162	.002	.202	12.142	.064	1

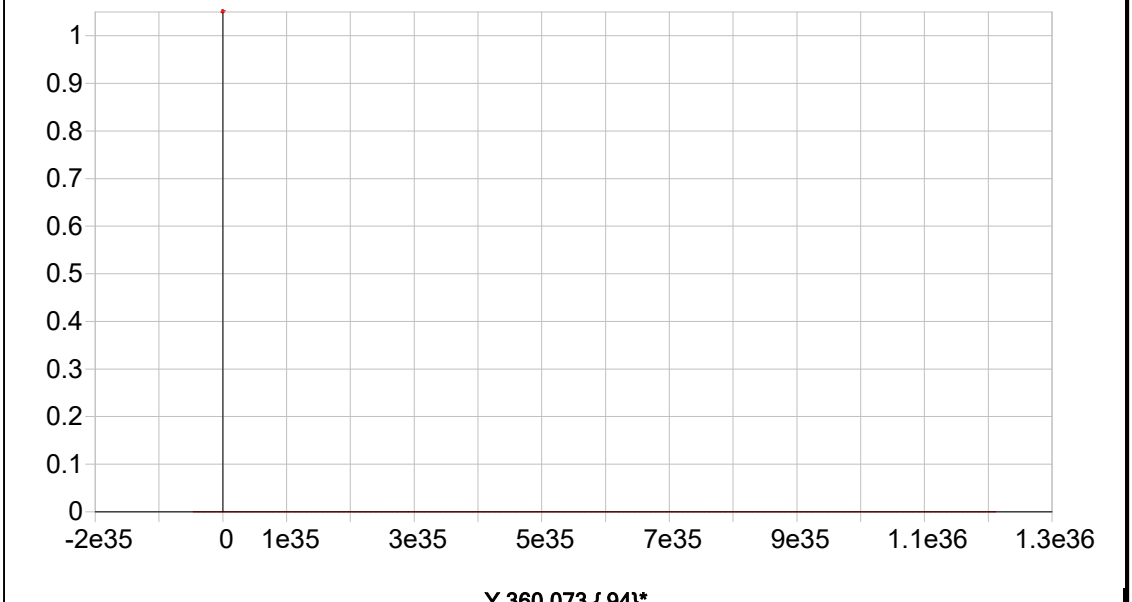


Y 224.306 {450}*

Date of Fit:	10/18/2024 15:01:34	Type of Fit:	Linear	Weighting:	1/Conc

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

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



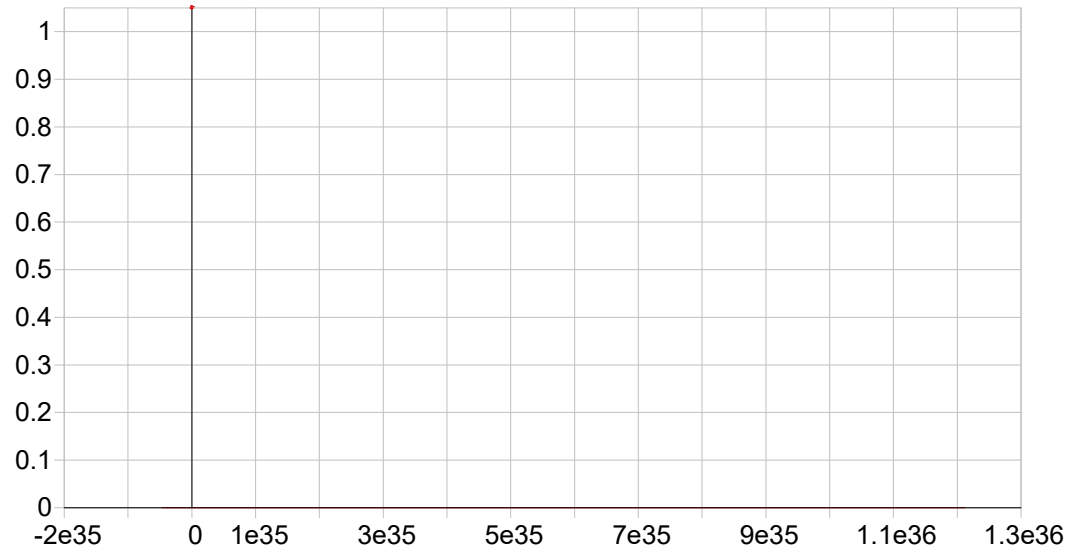
Y 360.073 { 94}*

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

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

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

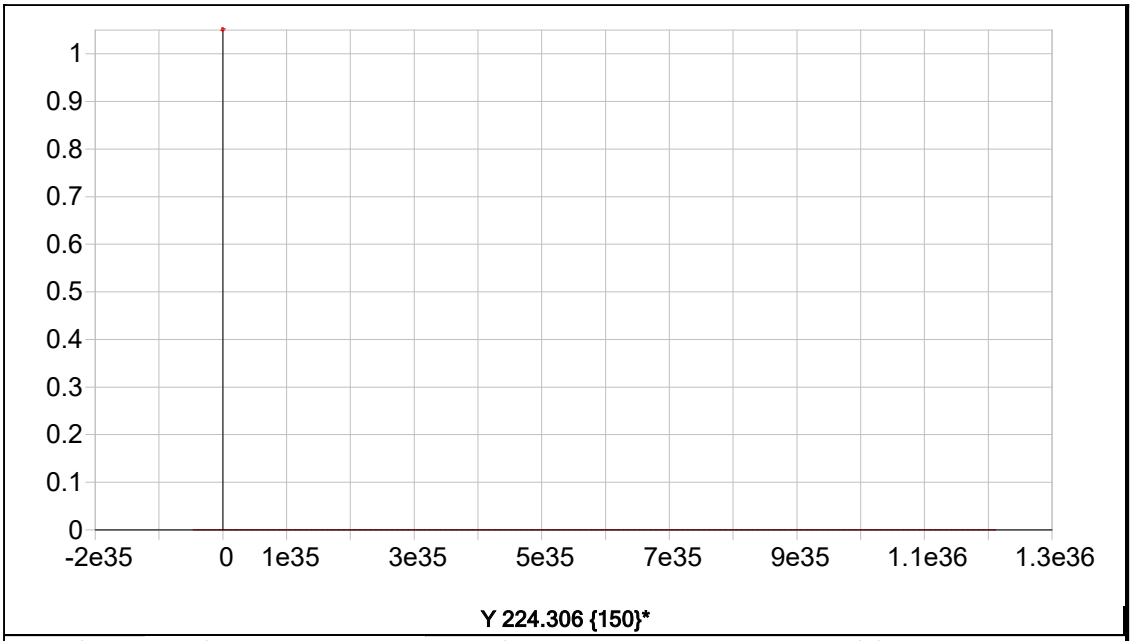
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 371.030 { 91}*

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

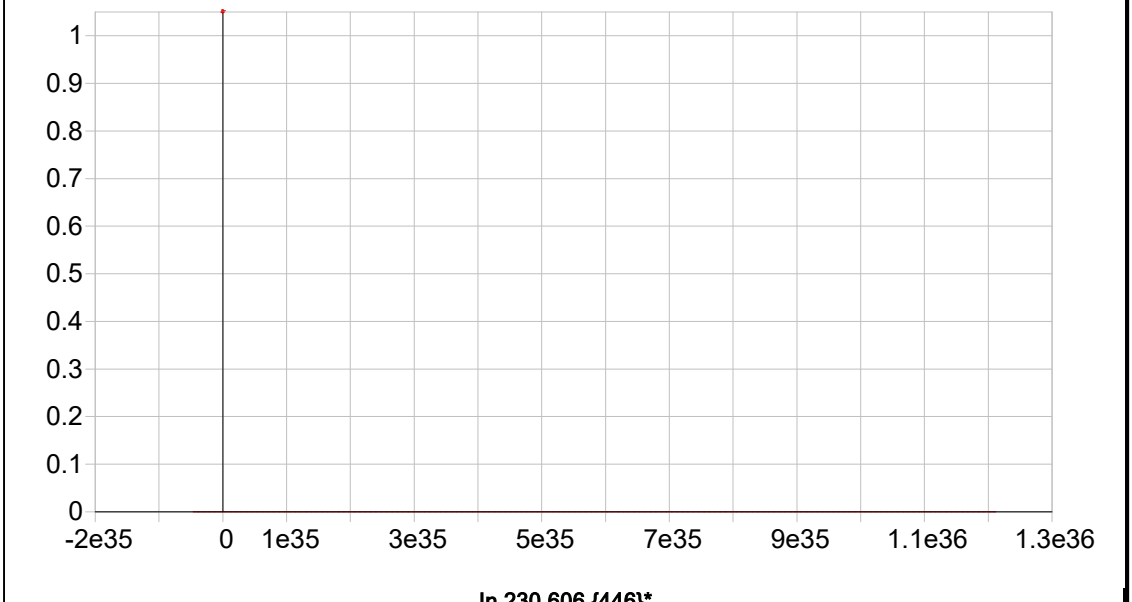
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



Y 224.306 {150}*

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

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



In 230.606 {446}*

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

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:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: S0 Acquired: 10/18/2024 12:03:22 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	-.00015	-.00017	.00007	.00067	.00045	-.00061	.00074	-.00068
Stddev	.00018	.00014	.00009	.00014	.00018	.00029	.00870	.00007
%RSD	122.38	80.869	140.22	20.238	39.925	46.923	1182.6	10.097
#1	-.00025	-.00032	-.00002	.00052	.00030	-.00093	.01014	-.00075
#2	-.00025	-.00012	.00005	.00075	.00041	-.00038	-.00091	-.00067
#3	.00006	-.00006	.00016	.00075	.00065	-.00051	-.00703	-.00061

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	.00143	.00156	.00008	.00053	-.00014	-.00000	.00061	-.00011
Stddev	.00084	.00076	.00005	.00022	.00026	.00003	.00037	.00017
%RSD	58.672	48.544	62.788	41.336	193.54	954.30	60.892	152.74
#1	.00067	.00243	.00005	.00044	-.00020	.00002	.00104	-.00008
#2	.00128	.00119	.00005	.00037	-.00036	.00001	.00045	.00004
#3	.00233	.00105	.00014	.00078	.00015	-.00004	.00034	-.00030

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	.00036	-.00096	.00024	.00000	.00516	-.00052	.00948	.00165
Stddev	.00033	.00009	.00013	.00015	.00040	.00005	.00064	.00060
%RSD	90.075	9.7568	56.221	15772.	7.6952	10.037	6.7920	36.259
#1	.00016	-.00107	.00038	.00008	.00510	-.00048	.01021	.00121
#2	.00018	-.00088	.00020	.00009	.00480	-.00058	.00922	.00141
#3	.00074	-.00094	.00012	-.00017	.00558	-.00051	.00901	.00234

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	.00051	.00295	.00036	-.00142	.00030	.00081	.02475
Stddev	.00009	.00074	.00007	.00005	.00004	.00056	.01595
%RSD	17.826	24.979	18.376	3.5932	12.649	68.803	64.455
#1	.00042	.00375	.00043	-.00142	.00025	.00017	.04216
#2	.00050	.00280	.00031	-.00147	.00031	.00109	.02126
#3	.00060	.00230	.00033	-.00137	.00032	.00118	.01083

Sample Name: S0 Acquired: 10/18/2024 12:03:22 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	2955.6	62603.	13677.	2149.6	4950.7
Stddev	11.2	77.	59.	5.4	12.4
%RSD	.37777	.12275	.43435	.24917	.25140
#1	2966.5	62518.	13614.	2143.5	4958.8
#2	2956.2	62624.	13687.	2152.3	4957.0
#3	2944.2	62667.	13732.	2153.1	4936.4

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: S1 Acquired: 10/18/2024 12:07:44 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	.00109	.00273	.00330	.00236	.00987	.00057	.31823	.02427
Stddev	.00004	.00007	.00020	.00017	.00018	.00073	.00281	.00014
%RSD	3.2301	2.4481	6.0969	7.2998	1.8480	128.46	.88221	.56165
#1	.00108	.00270	.00309	.00250	.00976	.00098	.31998	.02438
#2	.00107	.00281	.00350	.00241	.00977	.00101	.31499	.02412
#3	.00113	.00268	.00331	.00217	.01008	-.00028	.31971	.02430

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	.01402	.11735	.00217	.02586	.01689	.00073	.01528	.03630
Stddev	.00024	.00092	.00002	.00013	.00039	.00003	.00019	.00049
%RSD	1.7216	.78154	1.0155	.51170	2.3376	3.5606	1.2319	1.3480
#1	.01427	.11715	.00215	.02598	.01677	.00072	.01533	.03623
#2	.01399	.11655	.00219	.02588	.01658	.00070	.01507	.03584
#3	.01379	.11835	.00218	.02572	.01733	.00075	.01544	.03681

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	.03149	.00333	.03513	.00537	.12306	.01640	.04882	.16863
Stddev	.00031	.00005	.00035	.00006	.00103	.00017	.00058	.00027
%RSD	.98656	1.5153	1.0095	1.0556	.83359	1.0163	1.1967	.15878
#1	.03184	.00330	.03538	.00544	.12404	.01625	.04903	.16851
#2	.03129	.00338	.03527	.00533	.12316	.01658	.04816	.16893
#3	.03133	.00330	.03472	.00535	.12199	.01637	.04927	.16843

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	.00469	.02359	.00263	-.00088	.00987	.00090	.30341
Stddev	.00004	.00032	.00005	.00007	.00003	.00069	.00194
%RSD	.92480	1.3656	1.8831	7.6665	.32034	76.860	.63881
#1	.00472	.02380	.00265	-.00089	.00984	.00013	.30565
#2	.00464	.02375	.00266	-.00081	.00986	.00148	.30229
#3	.00472	.02322	.00257	-.00094	.00990	.00109	.30228

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: S1 Acquired: 10/18/2024 12:07:44 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	2992.8	60983.	13828.	2104.5	4977.1
Stddev	11.7	343.	52.	26.6	8.3
%RSD	.39215	.56231	.37598	1.2619	.16756
#1	2990.0	60777.	13777.	2098.0	4970.4
#2	2982.7	60793.	13881.	2081.8	4974.5
#3	3005.6	61379.	13825.	2133.7	4986.4

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: S2 Acquired: 10/18/2024 12:12:08 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	.05117	.06330	.19275	.07955	.15745	.01962	5.4248	.16717
Stddev	.00023	.00087	.00089	.00034	.00054	.00015	.0162	.00129
%RSD	.44634	1.3754	.46427	.43294	.34251	.74054	.29943	.77125
#1	.05107	.06412	.19361	.07955	.15795	.01968	5.4193	.16594
#2	.05143	.06340	.19281	.07989	.15752	.01946	5.4430	.16852
#3	.05101	.06239	.19182	.07920	.15688	.01973	5.4120	.16706

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	.92221	.24050	.03527	.34888	.16017	.00558	.30557	.06848
Stddev	.00110	.00007	.00013	.00066	.00045	.00003	.00109	.00010
%RSD	.11947	.03102	.35859	.18982	.27788	.54708	.35752	.15161
#1	.92317	.24056	.03514	.34950	.15996	.00562	.30435	.06844
#2	.92245	.24042	.03539	.34895	.16068	.00557	.30591	.06840
#3	.92101	.24054	.03527	.34819	.15987	.00556	.30645	.06860

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	.32172	.07053	.06869	.05572	1.1521	.03257	.36943	.69169
Stddev	.00025	.00023	.00060	.00012	.0063	.00042	.00250	.00226
%RSD	.07793	.32659	.87224	.20697	.54496	1.2755	.67612	.32691
#1	.32185	.07056	.06938	.05565	1.1571	.03299	.36680	.69288
#2	.32189	.07074	.06839	.05585	1.1542	.03257	.37177	.69312
#3	.32143	.07028	.06829	.05565	1.1451	.03216	.36971	.68909

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	.09667	.45965	.00584	.02403	.01938	.00264	12.142
Stddev	.00033	.00128	.00002	.00020	.00014	.00064	.064
%RSD	.34394	.27906	.35792	.81776	.73985	24.302	.52995
#1	.09673	.45907	.00585	.02424	.01952	.00313	12.194
#2	.09697	.46112	.00585	.02399	.01937	.00191	12.070
#3	.09632	.45876	.00582	.02386	.01924	.00288	12.161

Sample Name: S2 Acquired: 10/18/2024 12:12:08 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	3015.3	62944.	13729.	2186.7	4937.3
Stddev	4.1	392.	35.	20.0	4.1
%RSD	.13672	.62302	.25396	.91546	.08234
#1	3011.0	62491.	13748.	2163.9	4932.6
#2	3015.5	63174.	13688.	2194.8	4940.0
#3	3019.2	63166.	13750.	2201.4	4939.3

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: S3 Acquired: 10/18/2024 12:16:20 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	.15862	.18302	.59642	.24295	.48378	.06430	16.941	.52607
Stddev	.00083	.00380	.00058	.00153	.00161	.00021	.062	.00292
%RSD	.52634	2.0735	.09642	.62957	.33371	.31989	.36667	.55424
#1	.15765	.17874	.59705	.24123	.48192	.06407	16.934	.52904
#2	.15909	.18435	.59591	.24346	.48476	.06434	16.882	.52321
#3	.15911	.18597	.59631	.24415	.48467	.06448	17.006	.52594

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.8645	.73391	.10692	1.0797	.48976	.01715	.94512	.21329
Stddev	.0025	.00268	.00046	.0011	.00185	.00016	.00190	.00112
%RSD	.08841	.36541	.43044	.10176	.37800	.95853	.20108	.52302
#1	2.8637	.73318	.10743	1.0785	.48763	.01697	.94309	.21347
#2	2.8625	.73688	.10654	1.0801	.49065	.01730	.94541	.21430
#3	2.8674	.73167	.10680	1.0806	.49100	.01717	.94686	.21209

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	.99336	.21770	.21798	.17355	3.4774	.10321	1.1515	2.0895
Stddev	.00072	.00027	.00099	.00061	.0048	.00043	.0035	.0112
%RSD	.07273	.12537	.45253	.35081	.13912	.42072	.30424	.53798
#1	.99305	.21801	.21685	.17392	3.4783	.10273	1.1541	2.0769
#2	.99285	.21757	.21843	.17389	3.4722	.10357	1.1475	2.0933
#3	.99419	.21751	.21867	.17285	3.4817	.10335	1.1528	2.0984

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	.29953	1.4186	.01790	.07986	.06084	.00374	37.632
Stddev	.00101	.0014	.00019	.00007	.00044	.00021	.280
%RSD	.33720	.10251	1.0773	.08347	.72983	5.6195	.74396
#1	.29837	1.4203	.01783	.07987	.06034	.00360	37.400
#2	.30015	1.4175	.01812	.07980	.06115	.00399	37.553
#3	.30008	1.4181	.01775	.07993	.06104	.00365	37.943

Sample Name: S3 Acquired: 10/18/2024 12:16:20 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	2975.0	61523.	13409.	2170.4	4756.3
Stddev	18.3	215.	22.	12.1	17.8
%RSD	.61360	.34952	.16304	.55727	.37366
#1	2996.0	61559.	13391.	2178.5	4776.6
#2	2966.0	61292.	13402.	2156.5	4748.9
#3	2963.0	61718.	13433.	2176.1	4743.5

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: S4 Acquired: 10/18/2024 12:20:40 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	.32632	.38239	1.2045	.50231	.98816	.12761	34.284	1.0475
Stddev	.00029	.00638	.0020	.00100	.00189	.00221	.422	.0029
%RSD	.08945	1.6676	.16836	.19825	.19091	1.7302	1.2306	.27703
#1	.32665	.38392	1.2067	.50301	.99033	.12942	34.305	1.0498
#2	.32611	.38785	1.2028	.50275	.98724	.12826	34.695	1.0484
#3	.32618	.37538	1.2041	.50117	.98692	.12515	33.852	1.0442

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.8818	1.4747	.21457	2.2016	.98378	.03465	1.8865	.43390
Stddev	.0078	.0076	.00071	.0032	.00181	.00017	.0069	.00335
%RSD	.13275	.51665	.32907	.14389	.18380	.49285	.36768	.77273
#1	5.8907	1.4719	.21383	2.2043	.98573	.03460	1.8870	.43258
#2	5.8781	1.4834	.21524	2.1981	.98216	.03484	1.8932	.43771
#3	5.8765	1.4689	.21464	2.2025	.98345	.03451	1.8793	.43141

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.0212	.43566	.44774	.35367	6.9601	.21042	2.2966	4.2253
Stddev	.0029	.00035	.00091	.00115	.0068	.00081	.0068	.0058
%RSD	.14298	.08001	.20376	.32607	.09796	.38391	.29671	.13752
#1	2.0246	.43530	.44690	.35411	6.9541	.20950	2.3042	4.2315
#2	2.0197	.43599	.44760	.35453	6.9587	.21071	2.2945	4.2244
#3	2.0195	.43570	.44871	.35236	6.9676	.21104	2.2911	4.2200

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	.61117	2.8667	.03878	.16637	.12837	.38639	75.584
Stddev	.00104	.0041	.00024	.00076	.00071	.00245	.382
%RSD	.17086	.14272	.61851	.45924	.55093	.63479	.50489
#1	.61197	2.8714	.03851	.16723	.12903	.38824	75.143
#2	.61156	2.8653	.03888	.16575	.12847	.38361	75.818
#3	.60999	2.8635	.03896	.16613	.12762	.38731	75.790

Sample Name: S4 Acquired: 10/18/2024 12:20:40 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	2825.0	59786.	13097.	2047.6	4441.7
Stddev	2.7	107.	28.	14.4	5.8
%RSD	.09448	.17856	.21582	.70233	.13137
#1	2823.4	59909.	13068.	2063.8	4436.2
#2	2828.1	59717.	13099.	2042.8	4447.8
#3	2823.5	59733.	13124.	2036.3	4441.0

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: S5 Acquired: 10/18/2024 12:24:58 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	.59687	.75134	2.2594	.94518	1.9307	.26453	70.941	2.1616
Stddev	.00264	.01505	.0049	.00520	.0096	.00195	.409	.0051
%RSD	.44297	2.0037	.21823	.54991	.49654	.73884	.57689	.23480
#1	.59944	.75379	2.2651	.95056	1.9417	.26282	71.398	2.1641
#2	.59701	.76501	2.2570	.94477	1.9264	.26666	70.814	2.1650
#3	.59416	.73520	2.2561	.94019	1.9241	.26411	70.610	2.1558

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	11.017	3.0815	.41234	4.3745	1.9027	.06707	3.9232	.92111
Stddev	.025	.0111	.00037	.0097	.0096	.00030	.0259	.00244
%RSD	.22932	.36061	.09088	.22269	.50421	.44329	.65903	.26480
#1	11.044	3.0907	.41268	4.3847	1.9136	.06741	3.9470	.92310
#2	11.012	3.0847	.41239	4.3737	1.8957	.06693	3.9271	.92184
#3	10.994	3.0691	.41194	4.3652	1.8987	.06687	3.8957	.91839

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	3.9913	.84845	.88373	.74531	13.436	.41403	4.6664	8.1530
Stddev	.0104	.00169	.00475	.00317	.031	.00094	.0158	.0336
%RSD	.26021	.19962	.53716	.42522	.22717	.22745	.33929	.41156
#1	4.0021	.85038	.88921	.74788	13.464	.41510	4.6778	8.1905
#2	3.9903	.84719	.88089	.74628	13.404	.41335	4.6730	8.1426
#3	3.9814	.84779	.88109	.74177	13.440	.41362	4.6483	8.1258

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	1.1945	5.9355	.06596	.33936	.26592	.00773	151.39
Stddev	.0042	.0247	.00039	.00107	.00150	.00029	.62
%RSD	.35344	.41598	.59165	.31666	.56300	3.7602	.40683
#1	1.1977	5.9600	.06551	.34012	.26674	.00806	150.68
#2	1.1960	5.9359	.06611	.33984	.26682	.00757	151.83
#3	1.1897	5.9107	.06625	.33813	.26419	.00755	151.64

Sample Name: S5 Acquired: 10/18/2024 12:24:58 Type: Cal
Method: NON EPA-6010-200.7(v2446) 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	2757.1	59399.	12169.	1964.3	4243.4
Stddev	10.9	130.	47.	10.6	7.1
%RSD	.39703	.21866	.38303	.53774	.16705
#1	2745.1	59260.	12118.	1956.6	4235.3
#2	2766.5	59517.	12178.	1976.4	4246.8
#3	2759.8	59419.	12209.	1960.0	4248.2

Sample Name: ICV01 Acquired: 10/18/2024 13:08:54 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	1.029492	1.077561	1.032509	1.030675	1.023183	2.328532
Stddev	.002254	.021640	.003231	.005379	.001300	.022391
%RSD	.2189591	2.008265	.3128848	.5218866	.1270055	.9616131
#1	1.032093	1.085769	1.029745	1.034274	1.022032	2.306638
#2	1.028279	1.093897	1.031721	1.033261	1.022924	2.327567
#3	1.028105	1.053017	1.036061	1.024492	1.024593	2.351390

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4983502	.5039007	.5167705	9.994040	.5513485	.5333401
Stddev	.0023554	.0044204	.0009473	.034103	.0020631	.0014438
%RSD	.4726431	.8772424	.1833184	.3412312	.3741982	.2707016
#1	.5009111	.5003090	.5164451	9.955185	.5502942	.5321823
#2	.4978632	.5088374	.5160287	10.01901	.5537257	.5328803
#3	.4962764	.5025557	.5178376	10.00793	.5500256	.5349578

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5441875	10.45335	.5119832	5.786586	.5356615	.2688180
Stddev	.0017195	.05391	.0013782	.009513	.0013885	.0001999
%RSD	.3159755	.5157183	.2691951	.1643887	.2592116	.0743756
#1	.5436346	10.51156	.5124482	5.778066	.5342884	.2688570
#2	.5428125	10.40514	.5130689	5.796850	.5356312	.2686014
#3	.5461154	10.44335	.5104327	5.784842	.5370649	.2689956

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.12163	.4861200	1.070360	10.32581	F 2.224400	2.455664
Stddev	.11267	.0019689	.002068	.08024	.015176	.003068
%RSD	1.113161	.4050205	.1931710	.7770910	.6822489	.1249215
#1	10.25120	.4838926	1.068825	10.41490	2.212864	2.453396
#2	10.04674	.4868394	1.069544	10.25922	2.241592	2.454441
#3	10.06694	.4876281	1.072712	10.30330	2.218743	2.459154

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: ICV01 Acquired: 10/18/2024 13:08:54 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	2.374660	2.276890	F 2.027378	F -.004230	F -.012277	F .1161616
Stddev	.002794	.006106	.007688	.000624	.001817	.0136620
%RSD	.1176715	.2681723	.3792044	14.73984	14.80292	11.76122
#1	2.377191	2.283694	2.035852	-.003510	-.014353	.1227004
#2	2.375127	2.275088	2.025432	-.004576	-.010971	.1253253
#3	2.371661	2.271887	2.020851	-.004604	-.011508	.1004590

Elem	Sr4077
Units	ppm
Avg	F -.010813
Stddev	.000067
%RSD	.6161875
#1	-.010865
#2	-.010738
#3	-.010835

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2844.053	59264.16	13225.47	2056.474	4604.971
Stddev	9.305	186.00	38.42	17.504	12.480
%RSD	.3271757	.3138496	.2905161	.8511560	.2710181
#1	2846.727	59068.05	13255.44	2046.088	4610.211
#2	2851.729	59438.05	13182.15	2076.683	4613.977
#3	2833.704	59286.38	13238.81	2046.651	4590.725

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: LLICV01 Acquired: 10/18/2024 13:13:02 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0193180	.0391830	.0141778	.0173675	.0476789	.0958417
Stddev	.0005208	.0003706	.0004793	.0022930	.0003452	.0039386
%RSD	2.695791	.9458638	3.380397	13.20289	.7241015	4.109476
#1	.0189104	.0388523	.0137575	.0154669	.0473871	.0913080
#2	.0199047	.0395836	.0140761	.0167213	.0475896	.0984193
#3	.0191390	.0391131	.0146997	.0199143	.0480600	.0977978

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0921437	.0058712	.0056105	1.897497	.0098396	.0289487
Stddev	.0006646	.0000510	.0002050	.012706	.0002870	.0002050
%RSD	.7212591	.8690978	3.653360	.6696316	2.916327	.7082568
#1	.0927560	.0059230	.0054403	1.911024	.0098627	.0287693
#2	.0914369	.0058210	.0055532	1.885813	.0095418	.0289046
#3	.0922383	.0058696	.0058380	1.895654	.0101143	.0291722

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0216809	.1053987	.0190259	2.009163	.0386962	.0118371
Stddev	.0004196	.0026114	.0001703	.005251	.0002700	.0001886
%RSD	1.935179	2.477671	.8951923	.2613701	.6977735	1.593632
#1	.0214253	.1070090	.0192082	2.011479	.0385175	.0118915
#2	.0214522	.1023856	.0188708	2.003152	.0385643	.0116273
#3	.0221651	.1068013	.0189987	2.012858	.0390068	.0119926

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.883790	.0378110	.0411324	1.923236	.0807156	.1974117
Stddev	.020051	.0004460	.0001699	.014263	.0005489	.0017159
%RSD	1.064415	1.179629	.4130176	.7416304	.6800753	.8692212
#1	1.906802	.0382775	.0409378	1.936301	.0813435	.1959611
#2	1.870071	.0377669	.0412515	1.925389	.0803265	.1969681
#3	1.874497	.0373887	.0412078	1.908019	.0804769	.1993059

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: LLICV01 Acquired: 10/18/2024 13:13:02 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0352439	.0352433	F .3188624	F .0144374	F .3534709	F .0328514
Stddev	.0010786	.0009001	.0033413	.0002434	.0022021	.0413766
%RSD	3.060409	2.553868	1.047886	1.685541	.6229853	125.9510
#1	.0346491	.0361260	.3225333	.0147180	.3515597	.0013676
#2	.0345937	.0343268	.3180555	.0143098	.3529741	.0174708
#3	.0364890	.0352770	.3159984	.0142844	.3558789	.0797156

Elem	Sr4077
Units	ppm
Avg	.0181654
Stddev	.0001435
%RSD	.7897892
#1	.0183017
#2	.0180157
#3	.0181787

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3031.393	63656.92	13846.97	2215.564	4990.539
Stddev	8.504	60.79	51.77	8.078	15.222
%RSD	.2805411	.0954986	.3738755	.3646071	.3050257
#1	3040.878	63586.72	13790.67	2210.079	5007.359
#2	3028.853	63692.28	13892.52	2224.840	4986.550
#3	3024.449	63691.76	13857.71	2211.773	4977.709

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: ICB01 Acquired: 10/18/2024 13:23:09 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001171	-.001361	-.001090	-.002672	-.001254	-.010358
Stddev	.002071	.000308	.000373	.000194	.000340	.004363
%RSD	176.8778	22.59725	34.23503	7.260294	27.07394	42.11828
#1	-.003337	-.001216	-.001516	-.002453	-.001178	-.005321
#2	-.000964	-.001714	-.000936	-.002741	-.000959	-.012818
#3	.000789	-.001153	-.000818	-.002822	-.001626	-.012935

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003482	.0000140	-.000622	-.006168	-.000244	-.000469
Stddev	.000725	.0000068	.000032	.003866	.000081	.000109
%RSD	20.81112	48.27538	5.103326	62.68004	33.16265	23.32796
#1	-.004254	.0000161	-.000629	-.007125	-.000167	-.000579
#2	-.003375	.0000196	-.000588	-.001913	-.000237	-.000361
#3	-.002817	.0000065	-.000651	-.009465	-.000328	-.000468

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000278	.0006044	-.000682	-.003424	-.000657	.0001096
Stddev	.000238	.0017473	.000242	.004750	.000185	.0002085
%RSD	85.62005	289.1057	35.56169	138.7347	28.09883	190.2950
#1	-.000172	-.001410	-.000950	-.006392	-.000860	-.000056
#2	-.000552	.001714	-.000480	.002054	-.000499	.000040
#3	-.000112	.001509	-.000614	-.005933	-.000612	.000344

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004976	.0001091	-.000185	-.049418	-.013835	-.001783
Stddev	.000670	.0012411	.000122	.025597	.000115	.000086
%RSD	13.47195	1137.522	66.27578	51.79743	.8276270	4.823217
#1	-.004999	-.001273	-.000252	-.059757	-.013704	-.001697
#2	-.005634	.000473	-.000043	-.020269	-.013913	-.001782
#3	-.004294	.001128	-.000258	-.068230	-.013888	-.001869

Sample Name: ICB01 Acquired: 10/18/2024 13:23:09 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001321	-.001866	-.021469	-.003928	-.005804	F .0378117
Stddev	.000384	.000348	.002395	.000421	.002348	.0257707
%RSD	29.05841	18.65709	11.15712	10.72237	40.45074	68.15551
#1	-.001704	-.001770	-.022338	-.004393	-.008492	.0093088
#2	-.001322	-.002252	-.018761	-.003817	-.004765	.0446590
#3	-.000936	-.001576	-.023309	-.003573	-.004155	.0594672

Elem	Sr4077
Units	ppm
Avg	-.001664
Stddev	.000023
%RSD	1.364110
#1	-.001689
#2	-.001644
#3	-.001661

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2980.949	63100.81	13638.53	2141.832	5007.142
Stddev	20.463	127.53	49.93	6.048	28.831
%RSD	.6864470	.2021092	.3661212	.2823747	.5757881
#1	2966.677	63039.18	13686.16	2138.892	4982.391
#2	2971.778	63015.81	13586.57	2137.817	5000.236
#3	3004.393	63247.46	13642.87	2148.788	5038.798

Sample Name: CRI01 Acquired: 10/18/2024 13:27:29 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0200168	.0386407	.0128120	.0178733	.0482382	.0929931
Stddev	.0004942	.0014953	.0006047	.0010702	.0009148	.0056530
%RSD	2.468840	3.869697	4.719842	5.987598	1.896441	6.078948
#1	.0203713	.0375827	.0121163	.0190859	.0481493	.0892660
#2	.0202269	.0403514	.0132117	.0174734	.0473711	.0902156
#3	.0194523	.0379881	.0131080	.0170607	.0491942	.0994975

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0920676	.0059839	.0054401	1.912361	.0098799	.0288180
Stddev	.0002063	.0000285	.0000399	.015029	.0001069	.0000771
%RSD	.2240804	.4766641	.7339118	.7858831	1.081463	.2674822
#1	.0920309	.0059804	.0054844	1.913341	.0097968	.0287505
#2	.0918821	.0059573	.0054070	1.926876	.0098423	.0288015
#3	.0922898	.0060141	.0054287	1.896866	.0100004	.0289020

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0216729	.1053076	.0192788	2.032590	.0384721	.0124124
Stddev	.0000804	.0030290	.0002148	.005305	.0001087	.0001544
%RSD	.3709928	2.876299	1.114233	.2609761	.2824020	1.244332
#1	.0215891	.1048493	.0194888	2.026465	.0384998	.0122843
#2	.0216803	.1085396	.0192879	2.035710	.0385642	.0125839
#3	.0217494	.1025339	.0190595	2.035595	.0383523	.0123691

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.943738	.0375251	.0424512	1.978312	.0786036	.1983141
Stddev	.003994	.0003918	.0002740	.019757	.0000772	.0001171
%RSD	.2055024	1.044110	.6454342	.9986662	.0982597	.0590364
#1	1.939200	.0370755	.0427593	1.961353	.0786423	.1983566
#2	1.946722	.0377930	.0423592	1.973577	.0785147	.1984039
#3	1.945291	.0377069	.0422350	2.000006	.0786539	.1981817

Sample Name: CRI01 Acquired: 10/18/2024 13:27:29 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0347668	.0354124	.3194625	.0152161	F .3536491	F .0035260
Stddev	.0010941	.0002937	.0061446	.0013336	.0025239	.0086543
%RSD	3.146895	.8294300	1.923429	8.764503	.7136845	245.4422
#1	.0343840	.0357512	.3216800	.0141451	.3511955	-.002439
#2	.0339155	.0352282	.3241906	.0147934	.3562379	-.000435
#3	.0360008	.0352580	.3125170	.0167099	.3535140	.013452

Elem	Sr4077
Units	ppm
Avg	.0184850
Stddev	.0001248
%RSD	.6753689
#1	.0186249
#2	.0184448
#3	.0183851

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3048.023	62121.47	13778.21	2197.238	5044.870
Stddev	13.206	309.23	56.10	23.020	14.715
%RSD	.4332500	.4977828	.4071296	1.047669	.2916881
#1	3032.844	62138.12	13729.69	2189.961	5027.948
#2	3056.868	61804.26	13765.30	2178.735	5054.666
#3	3054.358	62422.05	13839.63	2223.016	5051.996

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: ICSA01 Acquired: 10/18/2024 13:32:32 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	-.004503	.0055128	.0063742	-.014022	-.001315	236.5467
Stddev	.003020	.0021729	.0023600	.000673	.001645	1.7382
%RSD	67.07530	39.41538	37.02491	4.797230	125.1563	.7348361
#1	-.003710	.0068404	.0054500	-.013676	-.000319	237.8872
#2	-.001958	.0066929	.0046162	-.014797	-.003214	237.1701
#3	-.007841	.0030052	.0090565	-.013593	-.000411	234.5827

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024879	.0011082	.0068914	225.7159	.0556386	.0012495
Stddev	.0001755	.0000415	.0002238	.8002	.0003596	.0003132
%RSD	7.055611	3.748207	3.247369	.3545154	.6462908	25.06897
#1	.0026388	.0011548	.0067006	224.9419	.0558997	.0010037
#2	.0022953	.0010752	.0071377	225.6660	.0557877	.0016022
#3	.0025296	.0010945	.0068359	226.5399	.0552285	.0011426

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008460	98.66266	.0057818	246.0126	.0022680	.0039158
Stddev	.000281	.68031	.0002855	1.6056	.0001424	.0003460
%RSD	3.322202	.6895306	4.937742	.6526327	6.280440	8.835499
#1	-.008621	98.07099	.0061022	244.5798	.0021094	.0036206
#2	-.008135	98.51098	.0056888	245.7101	.0023096	.0038303
#3	-.008624	99.40601	.0055544	247.7479	.0023850	.0042965

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0209139	.0057753	.0038040	-.034932	.0006438	-.001141
Stddev	.0109339	.0006513	.0000455	.008361	.0020014	.000210
%RSD	52.28075	11.27706	1.195816	23.93614	310.8668	18.44221
#1	.0310967	.0063783	.0038215	-.043775	-.000843	-.000939
#2	.0222864	.0058631	.0037524	-.027155	-.000145	-.001124
#3	.0093585	.0050846	.0038381	-.033866	.002919	-.001359

Sample Name: ICSA01 Acquired: 10/18/2024 13:32:32 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	-.003255	-.003760	-.008919	-.005325	-.017859	F 1.669143
Stddev	.000584	.000245	.004069	.004184	.002988	.031427
%RSD	17.94033	6.516632	45.61819	78.56774	16.73398	1.882841
#1	-.003815	-.003499	-.009322	-.006288	-.021212	1.697669
#2	-.003299	-.003985	-.004664	-.008943	-.015476	1.674307
#3	-.002650	-.003796	-.012771	-.000744	-.016889	1.635454

Elem	Sr4077
Units	ppm
Avg	-.004760
Stddev	.000989
%RSD	20.77117
#1	-.004324
#2	-.004065
#3	-.005892

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2651.457	55375.70	13116.79	1945.260	3978.472
Stddev	8.394	183.35	55.95	12.517	8.556
%RSD	.3165767	.3310966	.4265765	.6434795	.2150663
#1	2660.455	55231.89	13064.22	1943.059	3988.313
#2	2643.839	55582.16	13110.53	1958.732	3974.310
#3	2650.077	55313.06	13175.61	1933.990	3972.793

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: ICSAB01 Acquired: 10/18/2024 13:56:47 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.1074311	.0970003	.0551067	.0372213	.6215551	240.2709
Stddev	.0019262	.0008967	.0014972	.0050944	.0011235	.9261
%RSD	1.792932	.9244186	2.716948	13.68690	.1807571	.3854567
#1	.1069919	.0976154	.0535236	.0342171	.6226107	241.1300
#2	.1057626	.0959715	.0565000	.0431034	.6203741	240.3928
#3	.1095390	.0974141	.0552964	.0343434	.6216804	239.2898

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4818922	.4904074	1.009410	229.4847	.5734434	.5159227
Stddev	.0025655	.0036104	.002194	.7291	.0043614	.0012580
%RSD	.5323851	.7361950	.2173297	.3177147	.7605690	.2438349
#1	.4840748	.4894941	1.008548	230.0018	.5684204	.5152391
#2	.4825355	.4943867	1.007777	229.8017	.5762705	.5151545
#3	.4790662	.4873414	1.011903	228.6508	.5756392	.5173745

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4838699	100.8819	.4809567	249.9904	1.016181	.2292602
Stddev	.0008655	.2923	.0022155	.7088	.002823	.0006349
%RSD	.1788705	.2897144	.4606380	.2835225	.2777652	.2769317
#1	.4829807	100.7327	.4828965	250.1331	1.014140	.2285374
#2	.4839193	100.6943	.4814313	250.6170	1.015001	.2295159
#3	.4847096	101.2186	.4785424	249.2211	1.019402	.2297274

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0295072	.4716365	1.083212	-.021913	F .7924571	.8815402
Stddev	.0083806	.0002913	.002390	.028263	.0056037	.0015030
%RSD	28.40191	.0617673	.2206176	128.9774	.7071346	.1704954
#1	.0212594	.4714711	1.081210	.003911	.7927698	.8812240
#2	.0380146	.4719729	1.085857	-.017544	.7978979	.8802205
#3	.0292477	.4714656	1.082568	-.052106	.7867035	.8831761

Sample Name: ICSAB01 Acquired: 10/18/2024 13:56:47 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.8706310	F .8113631	F .7676824	F .0016433	F -.016653	F 1.672051
Stddev	.0039104	.0036724	.0086350	.0043520	.004230	.045586
%RSD	.4491479	.4526223	1.124810	264.8357	25.39987	2.726346
#1	.8694419	.8144972	.7633054	-.002616	-.020769	1.631034
#2	.8674531	.8122699	.7621125	.001464	-.016872	1.663989
#3	.8749979	.8073223	.7776294	.006082	-.012318	1.721130

Elem	Sr4077
Units	ppm
Avg	F -.004577
Stddev	.000562
%RSD	12.28045
#1	-.004070
#2	-.004480
#3	-.005181

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2620.304	54941.80	13076.76	1903.762	3952.984
Stddev	5.915	161.20	92.97	5.028	7.469
%RSD	.2257562	.2934080	.7109672	.2641033	.1889388
#1	2626.541	54841.40	12993.24	1904.033	3961.596
#2	2614.773	55127.74	13060.12	1908.649	3948.280
#3	2619.597	54856.26	13176.93	1898.604	3949.075

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCV01 Acquired: 10/18/2024 14:00:58 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	5.306330	5.121901	5.223620	5.248680	5.106629	9.901561
Stddev	.001212	.069272	.009877	.004340	.011415	.019395
%RSD	.0228469	1.352466	.1890867	.0826823	.2235411	.1958757
#1	5.307177	5.081380	5.224911	5.248408	5.119176	9.923296
#2	5.306871	5.201887	5.213161	5.253150	5.103851	9.895366
#3	5.304941	5.082436	5.232788	5.244483	5.096858	9.886020

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.921273	.2512573	2.618996	24.98178	1.032903	2.526034
Stddev	.177614	.0012178	.005528	.09265	.002148	.006316
%RSD	1.790232	.4846995	.2110658	.3708676	.2079644	.2500297
#1	10.11946	.2525377	2.619069	25.04610	1.030422	2.528401
#2	9.77648	.2501136	2.613432	24.87559	1.034156	2.518876
#3	9.86788	.2511205	2.624487	25.02367	1.034130	2.530824

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.277219	5.119369	2.480433	24.98598	2.533774	1.282163
Stddev	.000428	.012266	.013716	.09085	.004460	.001152
%RSD	.0335431	.2396009	.5529832	.3636042	.1760376	.0898285
#1	1.276990	5.106753	2.496008	25.01522	2.536351	1.281944
#2	1.277713	5.131253	2.470156	24.88411	2.528623	1.283409
#3	1.276953	5.120100	2.475134	25.05861	2.536347	1.281137

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.19973	2.492559	2.561929	25.39081	5.061768	5.141525
Stddev	.12289	.007908	.006735	.09166	.028364	.005633
%RSD	.4876711	.3172713	.2628980	.3609773	.5603657	.1095570
#1	25.26508	2.498442	2.555478	25.30675	5.093190	5.136669
#2	25.27612	2.483569	2.568916	25.48853	5.038056	5.147700
#3	25.05796	2.495665	2.561392	25.37717	5.054059	5.140204

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCV01 Acquired: 10/18/2024 14:00:58 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	5.099096	5.005509	5.357066	5.125134	4.921575	F .2708077
Stddev	.001950	.020597	.062399	.016770	.014760	.0035359
%RSD	.0382461	.4114849	1.164806	.3272086	.2999070	1.305680
#1	5.100796	5.029176	5.285592	5.142524	4.926335	.2726693
#2	5.096967	4.995705	5.384912	5.109062	4.933368	.2667299
#3	5.099524	4.991645	5.400694	5.123815	4.905022	.2730238

Elem	Sr4077
Units	ppm
Avg	5.079035
Stddev	.048125
%RSD	.9475252
#1	5.118583
#2	5.093069
#3	5.025453

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2797.522	58673.51	12723.90	2009.241	4404.959
Stddev	6.075	196.02	76.97	10.399	7.662
%RSD	.2171456	.3340852	.6049402	.5175594	.1739491
#1	2795.071	58726.95	12639.03	2011.264	4398.291
#2	2793.055	58456.31	12743.50	1997.979	4403.257
#3	2804.439	58837.27	12789.19	2018.480	4413.329

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCB01 Acquired: 10/18/2024 14:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004214	.0024699	.0010504	.0006676	.0013939	.0004891
Stddev	.0010806	.0007752	.0002571	.0013371	.0013568	.0046565
%RSD	256.4371	31.38645	24.47281	200.2782	97.33830	952.0456
#1	.0013326	.0015749	.0007537	-.000258	-.000132	.0042244
#2	.0007039	.0029297	.0011912	.000060	.001848	.0019710
#3	-.000772	.0029052	.0012063	.002201	.002465	-.004728

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019030	.0001238	.0004779	.0082367	.0002861	.0005620
Stddev	.0000985	.0000638	.0000390	.0038091	.0004537	.0000491
%RSD	5.177232	51.49431	8.165026	46.24527	158.6007	8.731273
#1	.0018479	.0000513	.0004337	.0038519	.0000273	.0005811
#2	.0018443	.0001712	.0005077	.0107284	.0008100	.0005062
#3	.0020167	.0001488	.0004922	.0101298	.0000210	.0005987

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003300	.0040532	.0003901	.0203710	.0005108	.0003784
Stddev	.0002173	.0030647	.0002699	.0037994	.0001211	.0001508
%RSD	65.84654	75.61205	69.19039	18.65119	23.70781	39.84844
#1	.0000832	.0008885	.0006966	.0172491	.0004333	.0005516
#2	.0004925	.0042641	.0002857	.0246014	.0006504	.0003073
#3	.0004142	.0070071	.0001879	.0192625	.0004488	.0002763

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0124012	.0022405	.0009555	.0153174	-.005747	.0009463
Stddev	.0005998	.0003697	.0000801	.0128151	.000599	.0000869
%RSD	4.836711	16.50131	8.386964	83.66380	10.42001	9.183545
#1	.0127076	.0018406	.0008634	.0032761	-.005169	.0008463
#2	.0127858	.0023111	.0009938	.0138893	-.005707	.0010036
#3	.0117100	.0025698	.0010093	.0287868	-.006365	.0009890

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCB01 Acquired: 10/18/2024 14:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013660	.0007682	-.017014	-.002584	-.002502	F .0243340
Stddev	.0006142	.0004443	.004667	.001106	.001924	.0355757
%RSD	44.96443	57.83186	27.43010	42.77572	76.89682	146.1974
#1	.0011547	.0012142	-.020332	-.003653	-.000476	-.009705
#2	.0008853	.0007646	-.011678	-.001445	-.004303	.061270
#3	.0020579	.0003257	-.019034	-.002655	-.002726	.021437

Elem	Sr4077
Units	ppm
Avg	.0009171
Stddev	.0002696
%RSD	29.40203
#1	.0012072
#2	.0008699
#3	.0006741

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3052.610	61427.30	13815.86	2158.013	5093.035
Stddev	26.221	144.09	67.50	25.841	31.315
%RSD	.8589594	.2345770	.4885658	1.197452	.6148498
#1	3022.336	61592.29	13847.04	2186.839	5057.157
#2	3068.071	61363.43	13738.41	2150.275	5107.075
#3	3067.424	61326.18	13862.14	2136.925	5114.872

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P3846-05DLX2 Acquired: 10/18/2024 14:19:41 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	-.001270	-.000372	-.001100	-.001394	-.001621	-.024948	-.001225
Stddev	.000734	.000212	.000769	.000823	.000044	.005701	.000259
%RSD	57.81682	56.93794	69.86393	59.07779	2.730664	22.85202	21.13930
#1	-.000459	-.000599	-.000318	-.000533	-.001623	-.029210	-.001071
#2	-.001460	-.000337	-.001855	-.002174	-.001665	-.027163	-.001080
#3	-.001890	-.000180	-.001128	-.001474	-.001576	-.018472	-.001524

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000529	-.000596	31.36011	-.000382	-.000663	-.000283	.0006972
Stddev	.0000221	.000020	.15733	.000082	.000076	.000053	.0015450
%RSD	41.71801	3.340097	.5016943	21.54297	11.43660	18.84481	221.6089
#1	.0000419	-.000588	31.45383	-.000475	-.000577	-.000279	.0024742
#2	.0000783	-.000581	31.44804	-.000318	-.000721	-.000232	-.000055
#3	.0000385	-.000618	31.17847	-.000354	-.000690	-.000338	-.000328

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000581	13.17033	-.000521	-.000225	41.51089	-.000557	.0000383
Stddev	.000079	.07148	.000278	.000051	.08888	.001012	.0001728
%RSD	13.53323	.5427111	53.34126	22.56745	.2141012	181.7947	450.4656
#1	-.000602	13.21071	-.000472	-.000170	41.41598	-.001561	.0002314
#2	-.000494	13.21248	-.000271	-.000271	41.59215	.000463	-.000102
#3	-.000648	13.08780	-.000821	-.000234	41.52456	-.000573	-.000015

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.51625	-.015764	-.001365	-.003523	-.002621	-.026141	-.003354
Stddev	.01875	.000458	.000057	.000342	.000377	.003565	.000848
%RSD	.1782835	2.907755	4.185916	9.716116	14.39747	13.63879	25.28925
#1	10.50151	-.016059	-.001375	-.003651	-.002789	-.024702	-.004297
#2	10.53735	-.015236	-.001304	-.003135	-.002189	-.030201	-.003114
#3	10.50990	-.015997	-.001417	-.003782	-.002885	-.023521	-.002653

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P3846-05DLX2 Acquired: 10/18/2024 14:19:41 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0062512	.2666871	.0014771
Stddev	.0005197	.0113065	.0000281
%RSD	8.312980	4.239613	1.901128
#1	.0057651	.2554798	.0014456
#2	.0061895	.2780902	.0014996
#3	.0067989	.2664913	.0014859

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2895.451	59473.74	13588.22	2098.448	4619.967
Stddev	11.960	67.55	16.34	15.678	10.125
%RSD	.4130714	.1135801	.1202826	.7471020	.2191546
#1	2907.129	59431.03	13579.36	2089.318	4628.815
#2	2895.997	59438.58	13607.09	2089.475	4622.162
#3	2883.227	59551.62	13578.23	2116.550	4608.925

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P3847-05DLX2 Acquired: 10/18/2024 14:49:09 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	-.002892	-.002086	-.001488	-.002789	-.001950	-.020536	-.001830
Stddev	.000828	.000893	.000434	.001541	.000229	.001283	.000515
%RSD	28.63036	42.83230	29.16374	55.23465	11.72301	6.245464	28.15097
#1	-.002371	-.002324	-.001689	-.004553	-.001993	-.020973	-.001278
#2	-.003847	-.001098	-.000990	-.001707	-.001703	-.019092	-.001913
#3	-.002459	-.002837	-.001785	-.002107	-.002153	-.021543	-.002298

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000994	-.000569	30.54094	-.000453	-.000632	-.000548	.0002071
Stddev	.0000203	.000016	.23616	.000232	.000089	.000223	.0024078
%RSD	20.39287	2.750189	.7732670	51.09252	14.01399	40.74397	1162.795
#1	.0000805	-.000560	30.76784	-.000309	-.000589	-.000649	-.001272
#2	.0000970	-.000587	30.55850	-.000331	-.000734	-.000292	.002985
#3	.0001208	-.000560	30.29649	-.000721	-.000573	-.000703	-.001092

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000716	12.87669	-.000412	-.000207	40.32682	.0003900	-.000325
Stddev	.000104	.08497	.000268	.000330	.36139	.0006309	.000213
%RSD	14.56534	.6599004	64.99701	159.5106	.8961406	161.7805	65.44104
#1	-.000767	12.96713	-.000255	-.000587	39.99345	.0000501	-.000409
#2	-.000785	12.86441	-.000721	-.000040	40.71087	.0011180	-.000083
#3	-.000596	12.79852	-.000260	.000006	40.27614	.0000019	-.000484

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.27881	-.012634	-.001371	-.004172	-.002552	-.024429	-.004588
Stddev	.07734	.000201	.000141	.000201	.000125	.003217	.003458
%RSD	.7523768	1.594759	10.27730	4.828948	4.918456	13.16733	75.37947
#1	10.22659	-.012560	-.001465	-.004381	-.002689	-.028138	-.008552
#2	10.36765	-.012862	-.001438	-.004154	-.002444	-.022753	-.003022
#3	10.24217	-.012479	-.001209	-.003980	-.002522	-.022397	-.002189

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P3847-05DLX2 Acquired: 10/18/2024 14:49:09 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0063140	.2789254	.0014010
Stddev	.0025020	.0033923	.0000219
%RSD	39.62616	1.216204	1.564136
#1	.0087387	.2808388	.0014164
#2	.0064620	.2809287	.0013759
#3	.0037413	.2750086	.0014107

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2914.191	60681.42	13902.90	2128.153	4623.538
Stddev	9.624	235.13	52.67	17.420	6.641
%RSD	.3302606	.3874897	.3788312	.8185325	.1436398
#1	2924.138	60917.28	13843.44	2141.915	4630.016
#2	2913.508	60447.01	13943.70	2108.568	4623.854
#3	2904.926	60679.98	13921.55	2133.977	4616.745

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCV02 Acquired: 10/18/2024 14:53:29 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.042909	5.352768	5.012741	4.994913	4.848288	9.565704
Stddev	.020736	.113703	.021359	.033740	.037337	.007937
%RSD	.4111892	2.124195	.4260993	.6754911	.7701017	.0829767
#1	5.063525	5.454805	5.030850	5.032460	4.883943	9.556777
#2	5.043146	5.230197	5.018187	4.985144	4.851449	9.568372
#3	5.022055	5.373303	4.989186	4.967136	4.809471	9.571964

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.491278	.2455543	2.499112	23.98509	1.000936	2.411902
Stddev	.100671	.0010322	.010417	.06977	.001451	.011079
%RSD	1.060673	.4203594	.4168117	.2908715	.1449321	.4593337
#1	9.461077	.2450671	2.508868	23.90541	.999986	2.422008
#2	9.409164	.2467400	2.500325	24.01463	1.002606	2.413642
#3	9.603593	.2448559	2.488141	24.03522	1.000216	2.400057

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.205423	5.026894	2.393026	24.04629	2.411075	1.259116
Stddev	.007450	.027143	.007619	.07949	.011130	.002417
%RSD	.6180815	.5399487	.3183751	.3305577	.4616195	.1919424
#1	1.211030	5.002812	2.384259	23.95641	2.421549	1.261889
#2	1.208270	5.021563	2.396775	24.07511	2.412290	1.257461
#3	1.196968	5.056306	2.398045	24.10735	2.399388	1.257997

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.80519	2.393332	2.497332	24.94646	4.939609	4.921605
Stddev	.06112	.004561	.003186	.10347	.012793	.027257
%RSD	.2464175	.1905662	.1275912	.4147776	.2589979	.5538178
#1	24.79798	2.389848	2.500987	24.92921	4.938518	4.950275
#2	24.74799	2.398494	2.495143	24.85270	4.952913	4.918517
#3	24.86960	2.391654	2.495865	25.05747	4.927396	4.896024

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCV02 Acquired: 10/18/2024 14:53:29 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.928148	4.839237	5.204636	4.767463	4.702013	F .2967407
Stddev	.025544	.008733	.033962	.020553	.024375	.0287580
%RSD	.5183386	.1804552	.6525406	.4311073	.5184014	9.691302
#1	4.956229	4.829886	5.169888	4.791007	4.730159	.2966685
#2	4.921924	4.847181	5.206264	4.758279	4.687981	.2680189
#3	4.906291	4.840643	5.237754	4.753105	4.687898	.3255349

Elem	Sr4077
Units	ppm
Avg	4.896231
Stddev	.034942
%RSD	.7136414
#1	4.932157
#2	4.894171
#3	4.862365

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2967.507	58934.11	12989.26	2076.405	4643.968
Stddev	21.530	251.00	42.13	16.270	31.675
%RSD	.7255384	.4258962	.3243085	.7835444	.6820685
#1	2950.077	58650.10	12949.40	2058.239	4617.700
#2	2960.870	59126.15	12985.05	2089.634	4635.060
#3	2991.574	59026.08	13033.33	2081.341	4679.142

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCB02 Acquired: 10/18/2024 14:57:43 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001733	-.001670	-.001540	-.003440	-.001748	-.005980
Stddev	.001268	.000472	.000230	.000816	.000289	.003472
%RSD	73.13231	28.25591	14.94270	23.71005	16.55430	58.05776
#1	-.003197	-.002009	-.001771	-.003507	-.001868	-.009939
#2	-.000998	-.001131	-.001537	-.004220	-.001959	-.003454
#3	-.001005	-.001869	-.001311	-.002593	-.001418	-.004546

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002260	.0000081	-.000614	-.007606	-.000169	-.000512
Stddev	.000176	.0000438	.000113	.002727	.000150	.000111
%RSD	7.793681	537.2424	18.40276	35.85467	88.76005	21.65873
#1	-.002290	-.000031	-.000689	-.009621	-.000232	-.000501
#2	-.002419	.000000	-.000484	-.004503	-.000277	-.000407
#3	-.002071	.000055	-.000670	-.008695	.000002	-.000628

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000616	-.000842	-.000830	.0000201	-.000747	-.000191
Stddev	.000135	.001782	.000108	.0071853	.000191	.000251
%RSD	21.90307	211.6640	13.01200	35682.31	25.60064	130.9472
#1	-.000769	-.000304	-.000708	.0062491	-.000664	-.000467
#2	-.000562	-.002832	-.000915	-.007841	-.000612	-.000129
#3	-.000516	.000609	-.000867	.001652	-.000966	.000022

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059243	-.000132	-.000559	-.010004	-.009091	-.001710
Stddev	.0025383	.000346	.000124	.017316	.000375	.000228
%RSD	42.84537	261.4759	22.16346	173.0882	4.123038	13.32724
#1	.0032785	-.000532	-.000429	.009493	-.008810	-.001823
#2	.0061551	.000050	-.000573	-.015914	-.008946	-.001448
#3	.0083393	.000084	-.000676	-.023591	-.009516	-.001860

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCB02 Acquired: 10/18/2024 14:57:43 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001633	-.001906	-.017965	-.002107	-.005852	F .1005772
Stddev	.000470	.000210	.004094	.001393	.000973	.0356900
%RSD	28.75973	11.03532	22.78852	66.10450	16.63080	35.48520
#1	-.001564	-.001847	-.021263	-.001334	-.005496	.1400620
#2	-.002134	-.001731	-.013383	-.001272	-.006953	.0706128
#3	-.001202	-.002139	-.019251	-.003714	-.005107	.0910568

Elem	Sr4077
Units	ppm
Avg	-.001703
Stddev	.000003
%RSD	.1730582
#1	-.001704
#2	-.001706
#3	-.001700

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3116.942	62694.62	13743.17	2225.402	5221.301
Stddev	6.279	318.41	67.05	27.311	6.412
%RSD	.2014576	.5078771	.4878471	1.227257	.1228061
#1	3121.801	62773.51	13727.99	2236.759	5218.399
#2	3119.174	62344.18	13685.02	2194.245	5228.651
#3	3109.852	62966.17	13816.51	2245.203	5216.853

Sample Name: LR1 Acquired: 10/18/2024 15:02:10 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	-.006347	.0151071	.0581512	-.185135	.0012271	1910.017
Stddev	.001347	.0050472	.0040633	.019437	.0025606	9.037
%RSD	21.22171	33.40952	6.987443	10.49909	208.6750	.4731233
#1	-.006870	.0174895	.0575411	-.172955	.0036704	1919.692
#2	-.004817	.0093096	.0624851	-.174898	.0014476	1908.566
#3	-.007355	.0185221	.0544275	-.207551	-.001437	1901.794

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0158713	.0086964	.1473781	1446.475	.0047017	.0379701
Stddev	.0001545	.0003334	.0011024	13.334	.0005403	.0004816
%RSD	.9732067	3.833960	.7480031	.9217950	11.49169	1.268287
#1	.0157018	.0087373	.1466008	1459.008	.0044376	.0385247
#2	.0160041	.0090075	.1468938	1447.953	.0053233	.0377280
#3	.0159078	.0083444	.1486397	1432.464	.0043443	.0376577

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3028377	754.4045	-.074785	1518.132	.0200191	-.017302
Stddev	.0094908	8.5467	.000344	11.112	.0012175	.001412
%RSD	3.133960	1.132904	.4595873	.7319755	6.081534	8.163080
#1	.2936135	762.6936	-.075053	1530.925	.0211746	-.016084
#2	.3023253	754.8983	-.074398	1512.601	.0201349	-.016970
#3	.3125743	745.6216	-.074906	1510.871	.0187479	-.018850

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1730.809	.0386305	.1110727	904.5066	-.193992	-.006086
Stddev	9.220	.0013895	.0008815	.5508	.010893	.000717
%RSD	.5326807	3.596817	.7936641	.0608966	5.615273	11.78068
#1	1741.453	.0371101	.1105829	904.6345	-.183193	-.005660
#2	1725.687	.0389469	.1105449	904.9823	-.193805	-.006914
#3	1725.287	.0398344	.1120904	903.9031	-.204977	-.005685

Sample Name: LR1 Acquired: 10/18/2024 15:02:10 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0110089	-.041109	.0840722	.0832690	-.148436	F 14.74732
Stddev	.0002852	.000505	.0097458	.0045068	.012084	.05381
%RSD	2.590540	1.227365	11.59213	5.412297	8.141018	.3648608
#1	.0106801	-.041199	.0915179	.0824377	-.137457	14.78570
#2	.0111897	-.040566	.0876569	.0792358	-.146466	14.77044
#3	.0111568	-.041563	.0730418	.0881336	-.161383	14.68581

Elem	Sr4077
Units	ppm
Avg	-.746120
Stddev	.008633
%RSD	1.157053
#1	-.754482
#2	-.746637
#3	-.737239

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1929.739	41678.96	11107.95	1397.432	2662.090
Stddev	5.425	38.10	7.73	5.036	7.635
%RSD	.2811467	.0914130	.0696293	.3603753	.2867968
#1	1935.855	41690.40	11116.17	1396.142	2667.366
#2	1927.853	41636.45	11100.82	1393.167	2665.569
#3	1925.508	41710.04	11106.87	1402.988	2653.336

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: LR2 Acquired: 10/18/2024 15:07:09 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0159389	-.020553	179.6405	-.000343	-.005674	.0431873	^ *****
Stddev	.0018331	.002917	1.4848	.001952	.000830	.0023950	-----
%RSD	11.50110	14.19349	.8265534	569.2816	14.62127	5.545649	-----
#1	.0146590	-.021557	179.5868	-.002597	-.004923	.0435679	^ -----
#2	.0151187	-.017267	178.1832	.000796	-.005536	.0453693	^ -----
#3	.0180389	-.022837	181.1514	.000772	-.006564	.0406248	^ -----

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002335	-.008869	.2257905	.0166436	-.038403	213.5756	-.009838
Stddev	.000053	.000143	.0013653	.0004294	.000263	.6221	.001916
%RSD	2.270000	1.610291	.6046798	2.579924	.6854796	.2912734	19.47819
#1	-.002282	-.008704	.2270508	.0161497	-.038315	213.7806	-.007625
#2	-.002388	-.008953	.2243401	.0169286	-.038699	212.8769	-.010969
#3	-.002335	-.008949	.2259807	.0168524	-.038195	214.0694	-.010919

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.54639	-.038901	34.81192	.0023780	.1579037	-.014408	23.29902
Stddev	.58213	.010776	.09305	.0001903	.0252766	.001583	.17543
%RSD	1.472024	27.70150	.2672804	8.003290	16.00757	10.98440	.7529519
#1	40.04630	-.036622	34.70530	.0024391	.1807196	-.016086	23.48838
#2	38.90728	-.050634	34.85379	.0021647	.1622592	-.012942	23.14202
#3	39.68560	-.029446	34.87667	.0025303	.1307325	-.014195	23.26667

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1882568	-.014457	-.006070	-.006284	-.041827	-.029791	1.265128
Stddev	.0300181	.000323	.000147	.000609	.000444	.001994	.012554
%RSD	15.94528	2.232318	2.422825	9.683713	1.061453	6.694525	.9923219
#1	.2028198	-.014649	-.006213	-.005949	-.041535	-.031785	1.255344
#2	.2082154	-.014637	-.006077	-.005918	-.041608	-.029792	1.260757
#3	.1537352	-.014084	-.005919	-.006987	-.042338	-.027796	1.279284

Sample Name: LR2 Acquired: 10/18/2024 15:07:09 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0256667	.1026029	.0002803
Stddev	.0023738	.0295317	.0000103
%RSD	9.248647	28.78258	3.655656
#1	.0240455	.0825904	.0002833
#2	.0283914	.1365204	.0002689
#3	.0245631	.0886978	.0002887

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2789.909	61554.89	13548.06	2068.808	4859.518
Stddev	3.291	130.06	127.46	1.140	7.758
%RSD	.1179718	.2112940	.9408298	.0551263	.1596541
#1	2790.692	61495.61	13503.66	2067.740	4867.631
#2	2792.738	61704.03	13691.79	2068.676	4858.753
#3	2786.297	61465.03	13448.73	2070.009	4852.171

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20 Acquired: 10/18/2024 15:11:50 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0931899	-.019178	.2372503	-.048217	-.001208	228.0318
Stddev	.0027078	.001449	.0034042	.001605	.000906	1.0554
%RSD	2.905625	7.554162	1.434843	3.329037	75.02040	.4628480
#1	.0940108	-.018038	.2386962	-.048656	-.000687	229.0361
#2	.0953921	-.020808	.2396928	-.046438	-.000683	226.9318
#3	.0901666	-.018687	.2333618	-.049557	-.002255	228.1274

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.079590	.0124211	.0402760	25.84041	.4010865	.1797902
Stddev	.004765	.0001179	.0000907	.07252	.0010593	.0002956
%RSD	.4413499	.9487602	.2251797	.2806581	.2641062	.1644348
#1	1.084858	.0123801	.0403778	25.91582	.4006423	.1798832
#2	1.078331	.0125540	.0402039	25.77116	.4022956	.1800282
#3	1.075582	.0123292	.0402462	25.83424	.4003217	.1794592

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2905297	238.4983	3.150448	21.17349	.1472862	.0007331
Stddev	.0011945	1.1744	.012066	.07932	.0001645	.0004217
%RSD	.4111426	.4923969	.3829837	.3746419	.1117125	57.52674
#1	.2897401	239.4089	3.161399	21.09295	.1474170	.0012018
#2	.2919039	237.1728	3.137513	21.17599	.1471014	.0006131
#3	.2899451	238.9134	3.152432	21.25154	.1473401	.0003843

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.025956	.4952842	.3928159	8.488069	-.025577	.0017989
Stddev	.005136	.0017494	.0014513	.028044	.002281	.0003412
%RSD	.5005642	.3532023	.3694607	.3303899	8.919752	18.96575
#1	1.030928	.4971629	.3915292	8.520419	-.025413	.0021929
#2	1.020671	.4937022	.3925295	8.470650	-.027937	.0015966
#3	1.026270	.4949875	.3943891	8.473138	-.023383	.0016073

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20 Acquired: 10/18/2024 15:11:50 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0130480	5.304717	F 19.53058	7.455764	2.215499	1.867445
Stddev	.0005456	.014453	.06260	.014276	.003309	.009942
%RSD	4.181862	.2724513	.3205273	.1914788	.1493763	.5323746
#1	.0135444	5.320543	19.49753	7.442100	2.216131	1.878923
#2	.0124637	5.301391	19.49143	7.454609	2.211920	1.861902
#3	.0131360	5.292217	19.60278	7.470583	2.218447	1.861511

Elem	Sr4077
Units	ppm
Avg	-.127141
Stddev	.001060
%RSD	.8335984
#1	-.127356
#2	-.125990
#3	-.128076

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3726.895	72247.90	16763.07	2569.553	4452.021
Stddev	13.930	91.55	59.27	10.273	14.211
%RSD	.3737814	.1267201	.3536039	.3998144	.3191958
#1	3711.382	72211.35	16694.96	2569.436	4435.866
#2	3738.335	72352.08	16791.33	2579.884	4462.590
#3	3730.968	72180.26	16802.93	2559.338	4457.606

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20DUP Acquired: 10/18/2024 15:16:08 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0916644	-.018514	.2344289	-.047323	-.001247	228.7734
Stddev	.0011690	.001210	.0009517	.001329	.000364	1.9433
%RSD	1.275246	6.533553	.4059478	2.807891	29.19028	.8494647
#1	.0930141	-.019668	.2353341	-.046563	-.001667	226.7213
#2	.0909812	-.018619	.2345159	-.048858	-.001028	229.0130
#3	.0909977	-.017256	.2334367	-.046549	-.001046	230.5858

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.055257	.0124952	.0403631	25.50929	.3951146	.1780040
Stddev	.000669	.0000894	.0000168	.04314	.0001689	.0002119
%RSD	.0634216	.7152015	.0416930	.1691227	.0427549	.1190243
#1	1.055939	.0124391	.0403480	25.46398	.3952940	.1781285
#2	1.054602	.0125983	.0403600	25.54987	.3949585	.1777594
#3	1.055229	.0124483	.0403813	25.51404	.3950912	.1781242

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2958216	228.2743	3.093857	21.15103	.1478451	-.000037
Stddev	.0008059	.4780	.004123	.12600	.0003649	.000111
%RSD	.2724325	.2094112	.1332775	.5957044	.2468249	301.6133
#1	.2952179	228.7438	3.089658	21.03320	.1474250	-.000073
#2	.2955102	228.2909	3.094012	21.28385	.1480843	.000088
#3	.2967368	227.7882	3.097900	21.13605	.1480258	-.000126

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9897103	.4878361	.3843962	8.123280	-.042029	.0017575
Stddev	.0052805	.0021170	.0002666	.032809	.002999	.0000401
%RSD	.5335438	.4339525	.0693518	.4038831	7.135822	2.279232
#1	.9945772	.4870792	.3844272	8.160862	-.038659	.0017158
#2	.9840958	.4902275	.3841155	8.108628	-.044404	.0017957
#3	.9904577	.4862016	.3846460	8.100352	-.043024	.0017609

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20DUP Acquired: 10/18/2024 15:16:08 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0133888	5.279977	F 17.96527	7.435758	2.173022	1.864726
Stddev	.0012694	.002711	.02977	.009441	.010574	.017680
%RSD	9.480965	.0513412	.1656931	.1269671	.4865991	.9481293
#1	.0146388	5.279537	17.99918	7.440425	2.161012	1.879626
#2	.0121009	5.282881	17.95318	7.424893	2.177125	1.845190
#3	.0134268	5.277513	17.94345	7.441957	2.180930	1.869363

Elem	Sr4077
Units	ppm
Avg	-.118949
Stddev	.000371
%RSD	.3120233
#1	-.119273
#2	-.119031
#3	-.118544

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3732.975	74765.59	16694.99	2661.757	4460.395
Stddev	4.056	167.80	41.45	11.346	5.038
%RSD	.1086463	.2244380	.2482575	.4262664	.1129417
#1	3728.728	74578.89	16721.76	2657.735	4458.563
#2	3733.389	74814.04	16647.24	2652.969	4456.529
#3	3736.808	74903.84	16715.95	2674.566	4466.092

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20LX5 Acquired: 10/18/2024 15:20:27 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0184832	-.004074	.0495205	-.013300	-.001333	53.78673	.2555726
Stddev	.0011258	.001420	.0015882	.001916	.001394	.05908	.0015095
%RSD	6.090847	34.86368	3.207233	14.40752	104.5704	.1098426	.5906557
#1	.0173161	-.002492	.0492165	-.013706	-.000211	53.75488	.2564573
#2	.0185709	-.004490	.0481062	-.014981	-.000894	53.75040	.2538296
#3	.0195625	-.005239	.0512387	-.011213	-.002894	53.85490	.2564310

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031854	.0059298	6.280139	.0941671	.0352681	.0768445	54.49553
Stddev	.0000270	.0000367	.018355	.0001597	.0000621	.0003071	.32552
%RSD	.8479769	.6187931	.2922759	.1695620	.1759826	.3996320	.5973395
#1	.0031555	.0058880	6.270169	.0939832	.0353027	.0769084	54.32106
#2	.0031927	.0059446	6.268926	.0942464	.0353053	.0771146	54.29443
#3	.0032081	.0059567	6.301322	.0942715	.0351965	.0765105	54.87110

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7782256	5.133597	.0291570	-.000290	.2472511	.1176820	.0901093
Stddev	.0046382	.024509	.0001663	.000301	.0013271	.0009133	.0002148
%RSD	.5959966	.4774251	.5703506	103.8308	.5367397	.7760928	.2383896
#1	.7780786	5.140373	.0291211	-.000103	.2487282	.1176858	.0898884
#2	.7736627	5.106413	.0290115	-.000637	.2468660	.1167668	.0901222
#3	.7829356	5.154006	.0293383	-.000129	.2461592	.1185934	.0903174

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.886905	-.025958	-.001270	.0016508	1.273672	4.173694	1.468524
Stddev	.023880	.000714	.000261	.0009309	.005184	.003531	.004606
%RSD	1.265555	2.751807	20.54097	56.39273	.4069801	.0846128	.3136340
#1	1.869525	-.025258	-.001287	.0021710	1.272608	4.170552	1.473658
#2	1.877056	-.026686	-.001001	.0022054	1.269103	4.173013	1.467159
#3	1.914134	-.025930	-.001522	.0005760	1.279305	4.177516	1.464755

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20LX5 Acquired: 10/18/2024 15:20:27 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.4259929	.5110981	-.028984
Stddev	.0026652	.0147237	.000245
%RSD	.6256545	2.880794	.8460749
#1	.4257723	.5057487	-.028822
#2	.4287616	.4997969	-.028863
#3	.4234448	.5277487	-.029266

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3288.821	66395.62	13885.24	2389.415	4889.278
Stddev	10.486	152.71	33.13	5.963	13.425
%RSD	.3188287	.2300026	.2386291	.2495686	.2745812
#1	3280.812	66460.36	13876.20	2388.797	4876.977
#2	3300.690	66505.30	13921.96	2395.663	4903.599
#3	3284.963	66221.20	13857.57	2383.784	4887.259

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20MS Acquired: 10/18/2024 15:24:39 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.6872378	1.846373	.9761133	1.357291	.5806510	230.9444
Stddev	.0022969	.020938	.0043923	.001157	.0020111	1.4103
%RSD	.3342190	1.133989	.4499770	.0852512	.3463451	.6106491
#1	.6849587	1.864999	.9801931	1.357062	.5783376	231.3648
#2	.6872027	1.823711	.9714641	1.356265	.5816330	232.0966
#3	.6895521	1.850408	.9766828	1.358545	.5819824	229.3717

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.244027	.1689617	.2331633	26.82170	.7092684	.3788038
Stddev	.008642	.0006712	.0003686	.09505	.0023242	.0009455
%RSD	.6946474	.3972307	.1580722	.3543662	.3276842	.2495877
#1	1.234588	.1683621	.2330970	26.71709	.7093911	.3789079
#2	1.245943	.1696867	.2328324	26.90274	.7115288	.3778106
#3	1.251550	.1688363	.2335605	26.84528	.7068853	.3796929

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4809270	230.8659	3.351444	22.84807	.5277498	.0606993
Stddev	.0012741	.7711	.023387	.16819	.0010333	.0001377
%RSD	.2649148	.3339926	.6978296	.7361151	.1957860	.2268877
#1	.4794916	230.4168	3.324468	22.67257	.5274649	.0605463
#2	.4813654	230.4246	3.363843	23.00785	.5268889	.0607383
#3	.4819238	231.7562	3.366021	22.86378	.5288956	.0608133

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.193413	.7150047	.5408242	13.28192	.1676105	.3068804
Stddev	.027021	.0034332	.0010683	.04955	.0030380	.0007782
%RSD	.8461462	.4801615	.1975318	.3730921	1.812530	.2535764
#1	3.165631	.7110950	.5417863	13.24197	.1648663	.3066094
#2	3.195004	.7175276	.5410118	13.26642	.1670901	.3062739
#3	3.219603	.7163913	.5396745	13.33738	.1708751	.3077578

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20MS Acquired: 10/18/2024 15:24:39 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.6794191	5.494614	F 18.96963	F 13.49759	2.212414	4.767297
Stddev	.0021259	.028730	.02125	.01863	.013018	.063612
%RSD	.3128957	.5228747	.1119996	.1380336	.5884153	1.334349
#1	.6811048	5.461538	18.94648	13.48467	2.210276	4.723420
#2	.6770309	5.508939	18.98824	13.51895	2.200597	4.738220
#3	.6801216	5.513364	18.97416	13.48914	2.226369	4.840252

Elem	Sr4077
Units	ppm
Avg	.0342132
Stddev	.0013140
%RSD	3.840678
#1	.0327018
#2	.0350850
#3	.0348528

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3658.661	73821.59	16082.66	2656.728	4358.966
Stddev	3.520	122.05	34.11	15.496	1.618
%RSD	.0962048	.1653274	.2120639	.5832895	.0371245
#1	3662.514	73694.04	16104.45	2642.546	4358.546
#2	3657.854	73833.46	16043.35	2654.369	4360.753
#3	3655.615	73937.26	16100.16	2673.269	4357.599

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20MSD Acquired: 10/18/2024 15:28:48 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.7011216	1.880619	.9939625	1.401288	.6037258	232.1336
Stddev	.0038455	.021224	.0006192	.001867	.0014774	1.3758
%RSD	.5484739	1.128571	.0622931	.1332379	.2447089	.5926668
#1	.6998575	1.859667	.9941858	1.401090	.6039753	230.5496
#2	.6980673	1.880084	.9944390	1.399528	.6021395	232.8211
#3	.7054400	1.902105	.9932626	1.403246	.6050625	233.0302

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.253191	.1702719	.2389749	27.06213	.7217925	.3857194
Stddev	.005514	.0011245	.0007316	.20418	.0017330	.0011215
%RSD	.4400020	.6604053	.3061526	.7544940	.2400900	.2907663
#1	1.251821	.1689740	.2384191	26.84552	.7207638	.3850598
#2	1.248491	.1708860	.2387019	27.08984	.7208205	.3850841
#3	1.259261	.1709556	.2398038	27.25105	.7237933	.3870144

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4888824	232.2572	3.359221	23.04849	.5380754	.0611545
Stddev	.0008840	.5041	.020654	.26846	.0005052	.0001599
%RSD	.1808212	.2170263	.6148401	1.164761	.0938949	.2614038
#1	.4883774	232.2924	3.339568	22.74057	.5381660	.0610697
#2	.4883666	232.7428	3.357349	23.17146	.5375311	.0613389
#3	.4899031	231.7365	3.380748	23.23344	.5385292	.0610549

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.234817	.7253315	.5455809	13.53684	.1653108	.3179319
Stddev	.012167	.0042346	.0006888	.03290	.0009841	.0008198
%RSD	.3761267	.5838123	.1262572	.2430667	.5952987	.2578425
#1	3.248686	.7216575	.5448656	13.57226	.1662648	.3170000
#2	3.229825	.7243743	.5462399	13.50723	.1653682	.3182542
#3	3.225940	.7299628	.5456372	13.53104	.1642992	.3185415

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20MSD Acquired: 10/18/2024 15:28:48 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.6969578	5.542560	F 19.32097	F 13.47684	2.235693	4.724723
Stddev	.0015956	.024103	.02565	.03720	.002507	.031676
%RSD	.2289424	.4348775	.1327606	.2760210	.1121311	.6704383
#1	.6965641	5.519761	19.29153	13.43881	2.238370	4.690288
#2	.6955959	5.540135	19.33291	13.47857	2.235307	4.731260
#3	.6987134	5.567785	19.33848	13.51314	2.233401	4.752621

Elem	Sr4077
Units	ppm
Avg	.0362411
Stddev	.0017352
%RSD	4.788036
#1	.0357226
#2	.0348243
#3	.0381765

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3603.291	73619.54	16113.29	2607.169	4298.630
Stddev	6.615	137.58	74.30	4.540	9.602
%RSD	.1835724	.1868840	.4611105	.1741360	.2233675
#1	3603.409	73573.24	16199.07	2607.179	4301.729
#2	3609.845	73511.08	16069.47	2602.624	4306.300
#3	3596.617	73774.30	16071.32	2611.704	4287.862

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20A Acquired: 10/18/2024 15:32:58 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.6903507	1.889180	.9801394	1.385636	.5949006	231.0891
Stddev	.0023556	.019962	.0032681	.003887	.0022890	.5640
%RSD	.3412168	1.056627	.3334293	.2805306	.3847763	.2440807
#1	.6912198	1.909037	.9835546	1.387163	.5975317	231.7220
#2	.6921483	1.889388	.9770417	1.388527	.5933666	230.6395
#3	.6876841	1.869116	.9798218	1.381217	.5938035	230.9059

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.231623	.1691836	.2351951	26.92624	.7222519	.3785907
Stddev	.005946	.0001545	.0005592	.05053	.0009801	.0009797
%RSD	.4827597	.0913333	.2377593	.1876442	.1357030	.2587610
#1	1.225163	.1692901	.2356212	26.86809	.7222652	.3790592
#2	1.236866	.1692544	.2345619	26.95935	.7212652	.3774648
#3	1.232840	.1690064	.2354023	26.95129	.7232253	.3792481

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4773654	230.3105	3.296083	22.72982	.5295279	.0615110
Stddev	.0028674	1.4033	.015577	.04174	.0014246	.0003033
%RSD	.6006732	.6093177	.4725873	.1836317	.2690288	.4930163
#1	.4803342	228.7105	3.278509	22.68322	.5311729	.0611616
#2	.4746114	231.3323	3.308186	22.74249	.5287174	.0617063
#3	.4771506	230.8888	3.301556	22.76376	.5286936	.0616651

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.201514	.7166668	.5462626	13.45929	.1558567	.3147127
Stddev	.016557	.0006424	.0019171	.06807	.0017578	.0012747
%RSD	.5171592	.0896317	.3509446	.5057373	1.127837	.4050410
#1	3.184467	.7165917	.5464695	13.38878	.1539259	.3161357
#2	3.217533	.7173434	.5442504	13.52462	.1573642	.3143273
#3	3.202542	.7160653	.5480677	13.46449	.1562799	.3136752

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4385-20A Acquired: 10/18/2024 15:32:58 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.6876562	5.464091	F 19.30718	F 13.15956	2.191177	4.634489
Stddev	.0011815	.017909	.04265	.02698	.009232	.066904
%RSD	.1718216	.3277497	.2208879	.2050332	.4213240	1.443603
#1	.6862968	5.445811	19.26780	13.16531	2.201832	4.562939
#2	.6882357	5.481604	19.35248	13.13016	2.186135	4.695493
#3	.6884362	5.464858	19.30126	13.18320	2.185564	4.645035

Elem	Sr4077
Units	ppm
Avg	.0344663
Stddev	.0003910
%RSD	1.134463
#1	.0348957
#2	.0343725
#3	.0341307

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3657.885	73554.88	16208.45	2576.098	4377.113
Stddev	12.594	85.30	37.54	7.890	11.768
%RSD	.3443015	.1159684	.2316345	.3062675	.2688639
#1	3643.349	73488.77	16166.18	2572.590	4364.426
#2	3665.512	73524.69	16221.25	2585.133	4387.673
#3	3664.796	73651.17	16237.92	2570.570	4379.241

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCV03 Acquired: 10/18/2024 16:05:17 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.915117	5.193863	4.992790	4.841683	4.694858	9.334670
Stddev	.002263	.021327	.006744	.005476	.002209	.019185
%RSD	.0460495	.4106275	.1350760	.1130986	.0470527	.2055215
#1	4.917465	5.174106	4.987795	4.843848	4.692844	9.340856
#2	4.914938	5.216474	5.000461	4.835455	4.694509	9.349999
#3	4.912949	5.191010	4.990114	4.845745	4.697220	9.313156

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.220947	.2553779	2.499291	23.87645	.9837707	2.394466
Stddev	.016909	.0009030	.001206	.05548	.0039179	.000949
%RSD	.1833725	.3535928	.0482431	.2323623	.3982506	.0396440
#1	9.210407	.2556837	2.498160	23.85483	.9797306	2.394994
#2	9.240450	.2560883	2.500560	23.93948	.9840279	2.393370
#3	9.211983	.2543617	2.499153	23.83504	.9875536	2.395034

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.177472	4.600037	2.289928	23.61846	2.399043	1.202107
Stddev	.002188	.024352	.006592	.05587	.001192	.000587
%RSD	.1857844	.5293889	.2878637	.2365479	.0496973	.0488478
#1	1.179988	4.571963	2.291996	23.57813	2.399196	1.202521
#2	1.176417	4.612697	2.295238	23.68223	2.400152	1.201435
#3	1.176013	4.615452	2.282550	23.59501	2.397782	1.202365

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.48054	2.311599	2.364187	22.50946	5.084866	4.827545
Stddev	.02050	.002590	.002641	.03443	.024702	.006268
%RSD	.0837252	.1120290	.1117279	.1529751	.4858004	.1298295
#1	24.48958	2.312703	2.367066	22.47565	5.106661	4.830000
#2	24.45708	2.313453	2.361875	22.50824	5.089904	4.820422
#3	24.49496	2.308640	2.363620	22.54449	5.058033	4.832214

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCV03 Acquired: 10/18/2024 16:05:17 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.913464	4.675962	4.596029	4.779148	4.642484	F .3084933
Stddev	.002741	.013225	.059351	.006146	.002948	.0337485
%RSD	.0557935	.2828339	1.291349	.1285941	.0635010	10.93977
#1	4.912760	4.685263	4.541808	4.780092	4.641619	.3322651
#2	4.916488	4.681800	4.586841	4.772586	4.645767	.3233495
#3	4.911143	4.660822	4.659438	4.784768	4.640065	.2698654

Elem	Sr4077
Units	ppm
Avg	4.740779
Stddev	.022800
%RSD	.4809247
#1	4.764409
#2	4.718912
#3	4.739016

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3036.248	62501.81	12563.03	2204.577	4701.102
Stddev	6.876	151.97	33.80	5.938	6.571
%RSD	.2264604	.2431519	.2690662	.2693300	.1397862
#1	3028.757	62614.68	12535.65	2205.966	4693.742
#2	3042.272	62561.74	12552.64	2209.697	4703.184
#3	3037.715	62329.01	12600.81	2198.068	4706.381

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCB03 Acquired: 10/18/2024 16:39:11 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001410	-.001705	-.001846	-.000901	-.001323	-.004615
Stddev	.000824	.001375	.000534	.000479	.000526	.002656
%RSD	58.47357	80.64713	28.95816	53.19128	39.75673	57.54414
#1	-.001897	-.000183	-.001363	-.000353	-.001649	-.006841
#2	-.001875	-.002074	-.002420	-.001108	-.000716	-.001675
#3	-.000458	-.002857	-.001753	-.001242	-.001605	-.005329

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000594	.0000386	-.000689	-.009460	-.000185	-.000651
Stddev	.000623	.0000340	.000048	.003038	.000338	.000107
%RSD	104.9235	87.93235	6.961734	32.11373	182.9684	16.49494
#1	-.000281	.0000124	-.000670	-.012332	-.000196	-.000617
#2	-.000189	.0000265	-.000653	-.006280	.000159	-.000771
#3	-.001312	.0000770	-.000743	-.009768	-.000518	-.000565

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000330	.0005048	-.000814	-.003559	-.000617	-.000172
Stddev	.000258	.0010643	.000136	.009408	.000215	.000130
%RSD	78.29202	210.8138	16.71898	264.3677	34.86929	75.51566
#1	-.000034	.0001206	-.000739	.005642	-.000756	-.000138
#2	-.000445	.0017078	-.000972	-.013161	-.000369	-.000062
#3	-.000510	-.000314	-.000733	-.003157	-.000725	-.000316

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1510740	-.000269	-.000355	-.030127	-.016323	-.001878
Stddev	.0144001	.000955	.000045	.018373	.000335	.000289
%RSD	9.531809	355.1011	12.73355	60.98694	2.054833	15.38828
#1	.1675824	.000777	-.000407	-.026106	-.016696	-.002108
#2	.1410978	-.000488	-.000327	-.014097	-.016047	-.001554
#3	.1445417	-.001096	-.000331	-.050178	-.016227	-.001972

Sample Name: CCB03 Acquired: 10/18/2024 16:39:11 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001170	-.001934	-.022789	-.004705	.0066510	F .1008272
Stddev	.000231	.000097	.001327	.001142	.0021689	.0270113
%RSD	19.78042	5.036426	5.824394	24.27560	32.61082	26.78967
#1	-.000998	-.002027	-.022425	-.005467	.0065386	.0820548
#2	-.001078	-.001833	-.021682	-.005258	.0088739	.0886424
#3	-.001433	-.001941	-.024261	-.003392	.0045404	.1317843

Elem	Sr4077
Units	ppm
Avg	-.001690
Stddev	.000020
%RSD	1.178916
#1	-.001711
#2	-.001671
#3	-.001688

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3080.644	60672.22	12820.67	2180.456	5121.254
Stddev	5.751	262.20	56.89	5.463	7.218
%RSD	.1866961	.4321623	.4437163	.2505642	.1409435
#1	3080.551	60789.45	12801.25	2180.256	5112.927
#2	3086.442	60371.85	12776.03	2175.095	5125.100
#3	3074.940	60855.35	12884.72	2186.016	5125.734

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4405-01DLX5 Acquired: 10/18/2024 16:43:32 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0151319	-.002940	.3109824	-.007112	.0000373	14.22536
Stddev	.0019757	.001971	.0014080	.001419	.0010959	.09678
%RSD	13.05648	67.04858	.4527455	19.95232	2935.427	.6803543
#1	.0140691	-.005096	.3125295	-.005483	.0005965	14.32288
#2	.0174115	-.002495	.3106417	-.008080	-.001225	14.22387
#3	.0139151	-.001230	.3097761	-.007773	.000741	14.12933

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1036398	.0013146	.0030307	95.03188	.0855182	.0097317
Stddev	.0002913	.0000179	.0001893	.28489	.0017434	.0003000
%RSD	.2810243	1.363197	6.247415	.2997836	2.038662	3.082329
#1	.1039719	.0012946	.0028409	95.17817	.0875313	.0093870
#2	.1034276	.0013294	.0030317	95.21392	.0845311	.0099341
#3	.1035201	.0013197	.0032196	94.70357	.0844923	.0098739

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0803166	32.46072	.7318165	260.9605	.0345662	.0021012
Stddev	.0011140	.72417	.0053830	.6165	.0001375	.0001169
%RSD	1.386978	2.230909	.7355673	.2362421	.3977298	5.564965
#1	.0793773	33.08093	.7367989	260.5135	.0347172	.0020021
#2	.0800251	32.63633	.7325438	261.6638	.0345332	.0022302
#3	.0815473	31.66489	.7261069	260.7042	.0344482	.0020714

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1608.295	.0419759	.2860357	90.01330	.8660343	.0012104
Stddev	56.295	.0007387	.0068967	2.35603	.0114766	.0001601
%RSD	3.500291	1.759870	2.411117	2.617421	1.325184	13.23096
#1	1661.369	.0427519	.2929188	92.16660	.8769320	.0013453
#2	1614.262	.0412812	.2860628	90.37656	.8540554	.0010334
#3	1549.255	.0418946	.2791256	87.49674	.8671154	.0012524

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4405-01DLX5 Acquired: 10/18/2024 16:43:32 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0217945	.5146946	F 13.77047	2.648524	F 208.5811	1.877687
Stddev	.0010204	.0050443	.26986	.014651	.5724	.017155
%RSD	4.682033	.9800541	1.959693	.5531862	.2744353	.9136306
#1	.0229011	.5179348	14.03045	2.640737	208.2950	1.861736
#2	.0215914	.5172663	13.78924	2.639411	208.2081	1.895835
#3	.0208908	.5088828	13.49171	2.665425	209.2401	1.875489

Elem	Sr4077
Units	ppm
Avg	1.516256
Stddev	.011839
%RSD	.7808246
#1	1.527994
#2	1.516457
#3	1.504318

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2437.095	49623.95	11769.71	1741.708	3374.454
Stddev	20.638	1057.67	23.64	41.275	18.758
%RSD	.8468290	2.131368	.2008298	2.369816	.5558899
#1	2454.086	48745.44	11754.86	1730.936	3389.767
#2	2443.069	49328.47	11757.30	1706.886	3380.065
#3	2414.128	50797.93	11796.97	1787.301	3353.531

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4421-01 Acquired: 10/18/2024 17:15:48 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0155515	-.002826	.3936435	-.024495	.0008657	112.6295
Stddev	.0007315	.001266	.0003564	.003497	.0015518	1.0749
%RSD	4.703533	44.80472	.0905347	14.27707	179.2533	.9543237
#1	.0147945	-.002106	.3935605	-.024609	-.000862	113.2361
#2	.0162544	-.004288	.3940340	-.027934	.001319	113.2641
#3	.0156058	-.002084	.3933359	-.020943	.002140	111.3885

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5378203	.0067936	.0143551	37.33716	.1401506	.0699833
Stddev	.0050030	.0001020	.0001079	.31328	.0005163	.0003411
%RSD	.9302433	1.500759	.7519634	.8390695	.3683977	.4873979
#1	.5400112	.0068855	.0144721	37.51462	.1401216	.0703759
#2	.5413542	.0068115	.0142595	37.52143	.1396493	.0697598
#3	.5320956	.0066839	.0143337	36.97543	.1406807	.0698141

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1626683	158.8628	2.789709	22.48331	.1318015	.0074149
Stddev	.0001687	.1145	.018476	.12933	.0007064	.0003042
%RSD	.1036921	.0720734	.6623058	.5752249	.5359879	4.102226
#1	.1625632	158.9325	2.797406	22.53409	.1321342	.0077564
#2	.1628629	158.9251	2.803093	22.57954	.1309902	.0073152
#3	.1625789	158.7306	2.768629	22.33629	.1322802	.0071730

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.939936	.2617432	.4186495	7.087593	.0095944	.0015080
Stddev	.013333	.0008967	.0024822	.016153	.0019638	.0002207
%RSD	.1921206	.3425885	.5929064	.2279047	20.46802	14.63493
#1	6.932645	.2614972	.4164408	7.099610	.0075896	.0013378
#2	6.955324	.2627372	.4213358	7.093939	.0096792	.0017573
#3	6.931839	.2609952	.4181720	7.069231	.0115144	.0014289

Sample Name: P4421-01 Acquired: 10/18/2024 17:15:48 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0213474	2.932863	F 11.91857	4.932587	2.569917	1.808639
Stddev	.0005356	.027928	.04298	.007729	.003756	.029327
%RSD	2.508841	.9522553	.3606536	.1566842	.1461356	1.621507
#1	.0208245	2.949451	11.94096	4.929287	2.566401	1.797339
#2	.0218948	2.948519	11.94575	4.927057	2.569477	1.841935
#3	.0213228	2.900618	11.86902	4.941418	2.573873	1.786642

Elem	Sr4077
Units	ppm
Avg	.0291592
Stddev	.0015247
%RSD	5.228738
#1	.0299951
#2	.0300831
#3	.0273994

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3334.924	68872.94	14719.59	2339.536	4651.577
Stddev	13.303	123.82	105.52	10.004	13.800
%RSD	.3988854	.1797786	.7168479	.4275902	.2966833
#1	3321.684	68744.94	14656.23	2344.523	4637.421
#2	3334.798	68881.76	14661.15	2328.019	4652.319
#3	3348.288	68992.11	14841.40	2346.066	4664.992

Sample Name: P4422-01 Acquired: 10/18/2024 17:19:50 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0235516	-.009203	.4367139	-.034449	.0023211	111.5096	.5350459
Stddev	.0021174	.000052	.0014215	.000070	.0022845	.0635	.0014889
%RSD	8.990676	.5691167	.3254991	.2037937	98.42318	.0569165	.2782764
#1	.0218262	-.009182	.4350753	-.034432	-.000317	111.4938	.5348061
#2	.0229139	-.009165	.4376165	-.034526	.003654	111.5794	.5366402
#3	.0259146	-.009263	.4374499	-.034389	.003626	111.4555	.5336914

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069003	.0246166	44.79193	.2187022	.1205045	.2849848	209.3876
Stddev	.0000498	.0001192	.13203	.0006278	.0005860	.0004773	.7658
%RSD	.7220158	.4842216	.2947578	.2870617	.4862917	.1674666	.3657496
#1	.0069203	.0246322	44.67092	.2184375	.1211217	.2853855	208.8498
#2	.0068436	.0244904	44.93274	.2194190	.1199557	.2851120	209.0485
#3	.0069371	.0247272	44.77214	.2182500	.1204359	.2844568	210.2644

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.781676	35.44635	.1913396	.0092870	11.18854	.3599977	.5514785
Stddev	.013485	.06900	.0003935	.0004166	.03577	.0014875	.0004311
%RSD	.3565965	.1946597	.2056590	4.486107	.3197264	.4131842	.0781745
#1	3.766106	35.36671	.1908957	.0089947	11.18294	.3586709	.5514805
#2	3.789266	35.48815	.1916455	.0091022	11.15589	.3616057	.5510464
#3	3.789656	35.48419	.1914777	.0097641	11.22678	.3597165	.5519086

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.871631	.0244686	.0034763	.0143661	4.903042	7.695204	6.581691
Stddev	.037183	.0023390	.0001112	.0008510	.006665	.014651	.023810
%RSD	.4191234	9.559343	3.199716	5.923473	.1359318	.1903870	.3617555
#1	8.906685	.0235913	.0033522	.0150872	4.898727	7.706546	6.582189
#2	8.832634	.0226950	.0035098	.0134275	4.910718	7.678663	6.557637
#3	8.875575	.0271194	.0035670	.0145837	4.899681	7.700404	6.605248

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4422-01 Acquired: 10/18/2024 17:19:50 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	2.417955	2.202276	-.058266
Stddev	.005414	.032092	.000891
%RSD	.2238952	1.457223	1.528841
#1	2.413996	2.199940	-.057776
#2	2.415746	2.171416	-.057728
#3	2.424124	2.235472	-.059294

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3474.994	73358.79	16547.09	2501.382	4535.838
Stddev	2.064	60.89	47.51	13.866	1.790
%RSD	.0593973	.0830095	.2870997	.5543293	.0394579
#1	3472.673	73363.02	16574.20	2499.128	4537.295
#2	3476.621	73417.47	16492.23	2516.237	4536.379
#3	3475.689	73295.90	16574.83	2488.781	4533.840

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4431-01 Acquired: 10/18/2024 17:23:55 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0178310	-.005009	.4442459	-.015225	.0000501	68.01399
Stddev	.0016598	.001524	.0021082	.000302	.0002975	.17174
%RSD	9.308506	30.41987	.4745615	1.986662	593.9650	.2525140
#1	.0180726	-.003960	.4459912	-.015260	-.000013	67.85054
#2	.0160636	-.006757	.4448430	-.015509	.000374	67.99845
#3	.0193568	-.004311	.4419035	-.014907	-.000211	68.19297

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2337252	.0039230	.0081318	6.143895	.0927206	.0447043
Stddev	.0006579	.0000880	.0000041	.020930	.0003248	.0003175
%RSD	.2814719	2.243502	.0498407	.3406586	.3503207	.7102542
#1	.2329718	.0038857	.0081310	6.119894	.0930924	.0443752
#2	.2340181	.0038597	.0081361	6.153450	.0925782	.0447290
#3	.2341858	.0040235	.0081281	6.158343	.0924914	.0450088

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1346663	99.51014	1.388061	12.48354	.0896439	.0038162
Stddev	.0013532	.47766	.005583	.07364	.0002304	.0001011
%RSD	1.004819	.4800156	.4022464	.5898857	.2570245	2.650200
#1	.1356113	99.03073	1.381702	12.40804	.0897461	.0037631
#2	.1331162	99.98604	1.390321	12.48742	.0898055	.0037527
#3	.1352714	99.51364	1.392160	12.55517	.0893801	.0039328

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7875920	.1408078	.4989139	3.879571	-.000972	.0007886
Stddev	.0050783	.0005299	.0004751	.033104	.001506	.0002532
%RSD	.6447928	.3763258	.0952251	.8532984	154.9800	32.11140
#1	.7817725	.1402930	.4991737	3.863739	-.002356	.0004967
#2	.7898775	.1407787	.4992023	3.917618	.000632	.0009498
#3	.7911259	.1413516	.4983655	3.857354	-.001190	.0009193

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: P4431-01 Acquired: 10/18/2024 17:23:55 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	.0081536	1.725911	F 15.95060	4.050973	.6413204	1.271418
Stddev	.0007994	.002219	.05235	.007581	.0031997	.013185
%RSD	9.804247	.1285557	.3282104	.1871333	.4989168	1.037022
#1	.0072560	1.725410	15.90301	4.052245	.6420868	1.280596
#2	.0084156	1.728337	16.00668	4.042837	.6378072	1.256309
#3	.0087891	1.723986	15.94212	4.057838	.6440673	1.277350

Elem	Sr4077
Units	ppm
Avg	-.066298
Stddev	.000406
%RSD	.6130438
#1	-.065873
#2	-.066683
#3	-.066337

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3237.348	68415.73	14999.73	2363.709	4839.298
Stddev	1.505	41.60	52.84	9.926	4.917
%RSD	.0465033	.0608062	.3522702	.4199364	.1016047
#1	3235.637	68452.96	14996.66	2371.434	4844.767
#2	3237.941	68423.40	15054.03	2352.514	4837.882
#3	3238.467	68370.83	14948.49	2367.180	4835.244

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCV04 Acquired: 10/18/2024 17:28:02 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	4.889570	5.111446	4.849684	4.854157	4.729446	9.212347
Stddev	.010317	.066090	.005478	.001502	.005473	.025108
%RSD	.2109902	1.292982	.1129492	.0309472	.1157177	.2725423
#1	4.900922	5.185256	4.849923	4.853304	4.735684	9.241338
#2	4.887019	5.091334	4.855039	4.855892	4.727198	9.198066
#3	4.880768	5.057749	4.844091	4.853277	4.725454	9.197638

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.277923	.2423066	2.418050	23.07300	.9544647	2.334644
Stddev	.126377	.0006748	.003751	.04410	.0016568	.003639
%RSD	1.362128	.2785019	.1551069	.1911269	.1735884	.1558811
#1	9.388126	.2426213	2.417814	23.11934	.9527669	2.335175
#2	9.305663	.2427666	2.421912	23.06812	.9560773	2.337989
#3	9.139980	.2415319	2.414423	23.03155	.9545500	2.330769

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.169583	F 4.419445	F 2.228095	F 22.44960	2.332634	1.195732
Stddev	.001781	.009906	.002251	.05275	.003212	.001408
%RSD	.1522990	.2241412	.1010410	.2349678	.1377141	.1177484
#1	1.170823	4.411255	2.229603	22.49214	2.332172	1.195404
#2	1.170384	4.430455	2.229175	22.46607	2.336052	1.197275
#3	1.167542	4.416623	2.225507	22.39058	2.329677	1.194517

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.26694	2.252453	2.372570	23.45484	4.891191	4.788778
Stddev	.08159	.005206	.004830	.03612	.010023	.010847
%RSD	.3506552	.2311194	.2035567	.1540105	.2049162	.2265109
#1	23.17674	2.258216	2.377728	23.41534	4.902388	4.797641
#2	23.33557	2.248092	2.371827	23.48620	4.888125	4.792010
#3	23.28853	2.251049	2.368155	23.46296	4.883059	4.776682

Sample Name: CCV04 Acquired: 10/18/2024 17:28:02 Type: Unk
Method: NON EPA-6010-200.7(v2446) 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	4.765120	4.614383	4.702726	4.610150	4.541786	F .2917921
Stddev	.016961	.008127	.026616	.012557	.015665	.0190813
%RSD	.3559460	.1761293	.5659678	.2723871	.3448981	6.539342
#1	4.775082	4.623524	4.679211	4.623737	4.557318	.3092257
#2	4.774743	4.611654	4.697345	4.607743	4.525992	.2947437
#3	4.745536	4.607971	4.731621	4.598970	4.542048	.2714070

Elem	Sr4077
Units	ppm
Avg	4.740469
Stddev	.031233
%RSD	.6588505
#1	4.772782
#2	4.710442
#3	4.738182

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3089.038	63476.14	13306.53	2217.997	4839.878
Stddev	5.380	76.51	39.95	14.351	7.425
%RSD	.1741659	.1205286	.3001928	.6470164	.1534069
#1	3083.378	63498.38	13263.45	2201.954	4831.982
#2	3089.649	63390.97	13313.77	2222.425	4840.933
#3	3094.086	63539.06	13342.35	2229.612	4846.718

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCB04 Acquired: 10/18/2024 17:32:13 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008161	-.001752	-.001072	-.001084	-.000463	-.005687
Stddev	.0006199	.000768	.000374	.000480	.000039	.003876
%RSD	75.96145	43.81013	34.85285	44.30281	8.514062	68.14754
#1	.0001056	-.000893	-.001294	-.000535	-.000460	-.010163
#2	.0012467	-.002370	-.000641	-.001428	-.000426	-.003470
#3	.0010959	-.001993	-.001282	-.001289	-.000505	-.003429

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003651	.0000439	-.000704	-.012340	-.000063	-.000558
Stddev	.000373	.0000100	.000047	.002498	.000084	.000042
%RSD	10.22045	22.78889	6.633606	20.24285	131.9271	7.502001
#1	-.003671	.0000553	-.000751	-.014821	-.000155	-.000558
#2	-.004014	.0000371	-.000657	-.009826	-.000044	-.000600
#3	-.003268	.0000392	-.000703	-.012372	.000009	-.000516

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000251	.0012926	-.000764	-.003646	-.000727	-.000034
Stddev	.000299	.0010885	.000063	.003605	.000259	.000277
%RSD	119.4015	84.20610	8.198985	98.87780	35.63464	811.7091
#1	-.000549	.0002289	-.000691	-.007325	-.000933	.000255
#2	-.000253	.0024043	-.000798	-.000119	-.000813	-.000298
#3	.000050	.0012447	-.000801	-.003494	-.000436	-.000059

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0326276	.0002227	-.000782	-.030932	-.012987	-.001845
Stddev	.0016308	.0005151	.000252	.013293	.000318	.000167
%RSD	4.998128	231.3417	32.24135	42.97393	2.449475	9.033614
#1	.0329300	.0008148	-.001043	-.027403	-.012681	-.001935
#2	.0340860	-.000025	-.000766	-.045633	-.012964	-.001653
#3	.0308668	-.000122	-.000539	-.019760	-.013316	-.001948

Reviewed By:kareem
On:10/25/2024 2:34:44 PM
Inst Id :P4
LB :LB133014

Sample Name: CCB04 Acquired: 10/18/2024 17:32:13 Type: Unk
Method: NON EPA-6010-200.7(v2446) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001439	-.001713	-.018475	.0002661	-.004168	F .0602497
Stddev	.000072	.000111	.004113	.0015400	.001323	.0098782
%RSD	5.020229	6.469897	22.26383	578.7567	31.74400	16.39542
#1	-.001395	-.001730	-.021016	-.001437	-.005614	.0587777
#2	-.001523	-.001814	-.013729	.001561	-.003018	.0511902
#3	-.001400	-.001595	-.020680	.000674	-.003872	.0707813

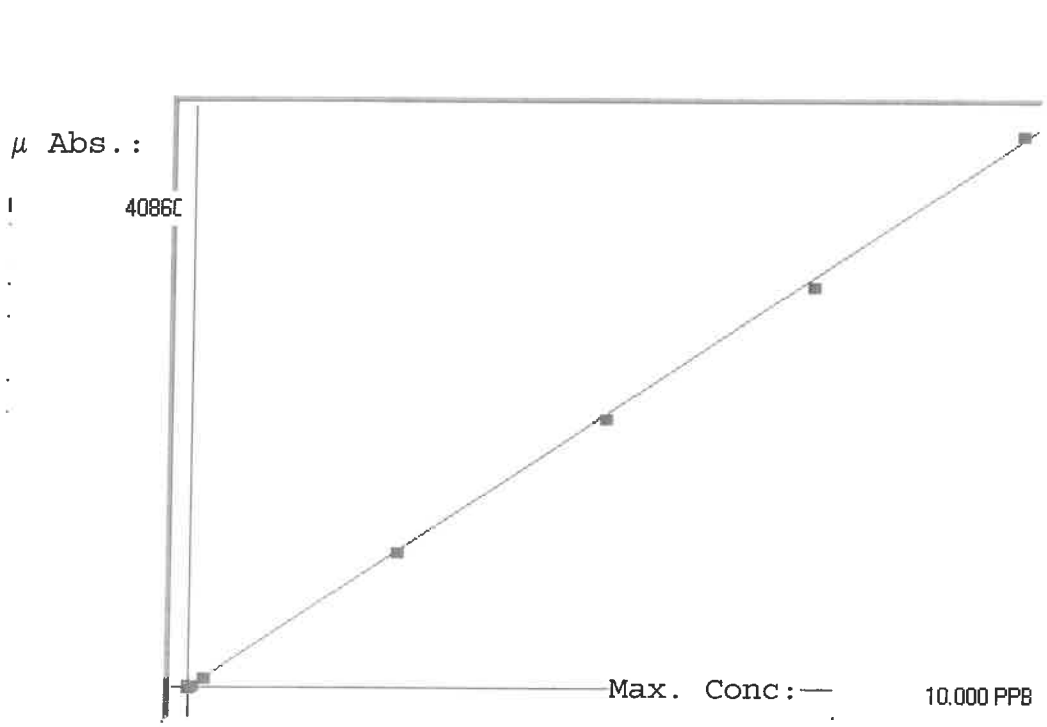
Elem	Sr4077
Units	ppm
Avg	-.001682
Stddev	.000008
%RSD	.4984746
#1	-.001686
#2	-.001673
#3	-.001688

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3167.038	67493.02	14140.55	2299.873	5394.122
Stddev	9.297	181.56	34.76	22.542	9.486
%RSD	.2935508	.2690106	.2458251	.9801592	.1758654
#1	3173.450	67372.98	14101.30	2290.851	5398.290
#2	3171.289	67404.20	14152.92	2283.239	5400.811
#3	3156.376	67701.90	14167.44	2325.529	5383.265

Reviewed By:jaswal
On:10/10/2024
10:47:01 PM
Inst Id :CV1
LB :LB132826

LB132826

245.1 INSTRUMENT ID: CV1



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	% D
0.0	0.000	0.020	0.020	31	0.000	31					-
0.05	0.050	0.055	0.005	173	0.0 %	173	0				10
0.2	0.200	0.219	0.019	834	0.0 %	834					9
2.5	2.500	2.512	0.012	10115	0.0 %	10115					0
5.0	5.000	4.970	-0.030	20056	0.0 %	20056					-1
7.5	7.500	7.363	-0.137	29738	0.0 %	29738					-2
10.0	10.000	10.111	0.111	40860	0.0 %	40860					1

Reviewed By:jaswal
On:10/10/2024
10:47:01 PM
Inst Id :CV1
LB :LB132826

LB132826 INSTRUMENT ID : CV1

Method: 245.1 Operator: Admin Date of Analysis: 08 Oct 2024 15:37:38

Sample ID	Extended ID	µ Abs.	Conc.	Stnd Conc	Method	Units	Date	Type	Type
0.0 - 1	50	31	-	0.0000	245.1	PPB	08 Oct 2024 15:48:22	S	Std
0.05 - 1	50.05	173	-	0.0500	245.1	PPB	08 Oct 2024 15:52:53	S	Std
0.2 - 1	50.2	834	-	0.2000	245.1	PPB	08 Oct 2024 15:55:10	S	Std
2.5 - 1	52.5	10115	-	2.5000	245.1	PPB	08 Oct 2024 15:57:26	S	Std
5.0 - 1	55	20056	-	5.0000	245.1	PPB	08 Oct 2024 15:59:42	S	Std
7.5 - 1	57.5	29738	-	7.5000	245.1	PPB	08 Oct 2024 16:01:59	S	Std
10.0 - 1	510	40860	-	10.0000	245.1	PPB	08 Oct 2024 16:04:16	S	Std
ICV29 - 1	ICV29	16034	3.9754		245.1	PPB	08 Oct 2024 16:09:49	U	SMPL
ICB29 - 1	ICB29	-163	-0.0278		245.1	PPB	08 Oct 2024 16:12:03	U	SMPL
CCV89 - 1	CCV89	19915	4.9347		245.1	PPB	08 Oct 2024 16:14:20	U	SMPL
CCB89 - 1	CCB89	-196	-0.0360		245.1	PPB	08 Oct 2024 16:16:35	U	SMPL
CRA - 1	CRA	159	0.0518		245.1	PPB	08 Oct 2024 16:18:51	U	SMPL
HighStd - 1	HighStd	42894	10.6142		245.1	PPB	08 Oct 2024 16:23:56	U	SMPL
ChkStd - 1	ChkStd	27013	6.6890		245.1	PPB	08 Oct 2024 16:26:11	U	SMPL
PB163988BL - 1	PBW	-320	-0.0666		245.1	PPB	08 Oct 2024 16:28:29	U	SMPL
PB163988BS - 1	LCSW	14934	3.7036		245.1	PPB	08 Oct 2024 16:33:26	U	SMPL
P4262-07 - 1	14B-(1-4)-COMP	4537	1.1338		245.1	PPB	08 Oct 2024 16:37:59	U	SMPL
P4271-07 - 1	14B-(1-4)-COMP	1488	0.3802		245.1	PPB	08 Oct 2024 16:40:25	U	SMPL
P4289-02 - 1	EFF-Waste Water	85	0.0335		245.1	PPB	08 Oct 2024 16:42:45	U	SMPL
P4289-02DUP - 1	EFF-Waste WaterDUP	281	0.0819		245.1	PPB	08 Oct 2024 16:45:02	U	SMPL
CCV90 - 1	CCV90	21520	5.3314		245.1	PPB	08 Oct 2024 16:51:53	U	SMPL
CCB90 - 1	CCB90	-151	-0.0249		245.1	PPB	08 Oct 2024 16:54:08	U	SMPL
P4289-02MS - 1	EFF-Waste WaterMS	14844	3.6813		245.1	PPB	08 Oct 2024 16:56:26	U	SMPL
P4289-02MSD - 1	EFF-Waste WaterMSD	15315	3.7977		245.1	PPB	08 Oct 2024 16:58:45	U	SMPL
P3846-08 - 1	PT-HG-WP	110521	27.3290		245.1	PPB	08 Oct 2024 17:01:03	U	SMPL
P4289-02LX5 - 1		-905	-0.2112		245.1	PPB	08 Oct 2024 17:08:02	U	SMPL
P4289-02A - 1		17367	4.3049		245.1	PPB	08 Oct 2024 17:15:42	U	SMPL
P3846-08DLX5 - 1		21585	5.3474		245.1	PPB	08 Oct 2024 17:17:59	U	SMPL
CCV91 - 1	CCV91	21876	5.4194		245.1	PPB	08 Oct 2024 17:24:50	U	SMPL
CCB91 - 1	CCB91	-298	-0.0612		245.1	PPB	08 Oct 2024 17:27:08	U	SMPL

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB164232

SOP ID : M200.7-Trace Elements-22

SDG No : N/A

Start Digest Date: 10/17/2024 **Time :** ~~21:30~~ 12:30 **Temp :** 96 °C

Matrix : WATER

End Digest Date: 10/17/2024 **Time :** ~~23:40~~ 13:40 **Temp :** 96 °C

Pippete ID: ICP A

Digestion tube ID: M5595

Balance ID : N/A

Block thermometer ID: MET-DIG. #1

Filter paper ID : N/A

Dig Technician Signature: JGP

pH Strip ID : M6069

Supervisor Signature:

Hood ID : #3

Temp : 1. 96°C 2. N/A

Block ID: 1. HOT BLOCK #1 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6000
LFS-2	0.25	M6009
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
1:1 HNO3	1.00	MP81119
1:1 HCL	0.50	MP82127
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 Cell #35: 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
10/17/24 ~~13:45~~ 13:45	JGP MET DIG.	metals lab
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB164232

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
~~P3645-01DUP~~	~~914-J-WS-081524DUP~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~ JKP 10/17/24	N/A
~~P3645-01MS~~	~~914-J-WS-081524MS~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~ JKP 10/17/24	N/A
~~P3645-01MSD~~	~~914-J-WS-081524MSD~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~ JKP 10/17/24	N/A
P3846-01	PT-TM1-WP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	1
P3846-03	PT-SNTI-WP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	2
P3846-05	PT-MIN2-WP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	3
P3846-07	PT-SIO2-WP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	4
PB164232BL	PBW232	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	5
PB164232BS	LCS232	<2	50	50	Colorless	Colorless	Clear	Clear	M6000,M6009	6

WORKLIST(Hardcopy Internal Chain)

WorkList Name : PB164232 **WorkList ID :** 184560 **Department :** Digestion **Date :** 10-17-2024 20:11:25

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P3846-01	PT-TM1-WP	Water	Metals Group3	Cool 4 deg C	CHEM02	QA Of	09/03/2024	200.7
P3846-03	PT-SNTI-WP	Water	Metals Group4	Cool 4 deg C	CHEM02	QA Of	09/03/2024	200.7
P3846-05	PT-MIN2-WP	Water	Metals Group5	Cool 4 deg C	CHEM02	QA Of	09/03/2024	200.7
P3846-07	PT-SIO2-WP	Water	Silica	Cool 4 deg C	CHEM02	QA Of	09/03/2024	200.7

Date/Time 10/17/24 ~~12:00~~ 11:00

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]

Date/Time 10/17/24 ~~02:30~~ 02:30

Raw Sample Received by: [illegible]

Raw Sample Relinquished by: [illegible]

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB163988

SOP ID : M245.1-Mercury-19

SDG No : NA

Matrix : WATER

Pippete ID: HG A

Balance ID : N/A

Filter paper ID : NA

pH Strip ID : M4909

Hood ID : #1

Block ID: 1. HG HOT BLOCK#3 2. N/A

MB
12/02/2024

Start Digest Date: 10/08/2024 ~~08/08/2024~~ **Time :** 10:15 **Temp :** 93 °C

End Digest Date: 10/08/2024 ~~08/08/2024~~ **Time :** 12:15 **Temp :** 94 °C

Digestion tube ID: M5586

Block thermometer ID: HG-DIG#3

Dig Technician Signature:

Supervisor Signature:

Temp : 1. 93°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
ICV	30mL	MP82721
CCV	30mL	MP82723
CRA	30mL	MP82725
Blank Spike	0.48mL	MP82713
Matrix Spike	0.48mL	MP82713

Chemical Used	ML/SAMPLE USED	Lot Number
HNO3/H2SO4(1:2)	2.5mL	MP81818
KMnO4 (5%)	4.5mL	MP81819
K2S2O8 (5%)	2.5mL	MP81820
Hydroxylamine HCL (12%)	2.0mL	MP81821
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	MP82714
0.05 ppb	S0.05	30mL	MP82715
0.2 ppb	S0.2	30mL	MP82716
2.5 ppb	S2.5	30mL	MP82717
5.0 ppb	S5.0	30mL	MP82718
7.5 ppb	S7.5	30mL	MP82719
10.0 ppb	S10.0	30mL	MP82720
ICV	ICV	30mL	MP82721
ICB	ICB	30mL	MP82722
CCV	CCV	30mL	MP82723
CCB	CCB	30mL	MP82724
CRI	CRI	30mL	MP82725
CHK STD	CHK STD	30mL	MP82726

Extraction Conformance/Non-Conformance Comments:

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
~~10/08/24~~ 10/8/24 @12:40	MB - Dig. Lab	MB - Room Temp Lab
10/08/2024	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Mercury Preparation Sheet

PB163988

Lab Sample ID	Client Sample ID	Initial Vol (ml)	Final Vol (ml)	pH	Comment	Prep Pos
P3846-08	PT-HG-WP	30	30	<2	N/A	3-1
P4262-07	14B-(1-4)-COMP	30	30	<2	N/A	2
P4271-07	14B-(1-4)-COMP	30	30	<2	N/A	3
P4289-02	EFF-WASTE WATER	30	30	<2	N/A	4
P4289-02DUP	EFF-WASTE WATERDUP	30	30	<2	N/A	5
P4289-02MS	EFF-WASTE WATERMS	30	30	<2	MP82713	6
P4289-02MSD	EFF-WASTE WATERMSD	30	30	<2	MP82713	7
PB163988BL	PBW988	30	30	<2	N/A	8
PB163988BS	LCS988	30	30	<2	MP82713	9

WORKLIST(Hardcopy Internal Chain)

WorkList Name : 080824_245.1 **WorkList ID :** 182452 **Department :** Digestion **Date :** 08-08-2024 09:07:27

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P3846-08	PT-HG-WP	Water	Mercury	Cool 4 deg C	CHEM02	QA Of	09/03/2024	245.1
P4262-07	14B-(1-4)-COMP	Water	Mercury	1:1 HNO3 to pH < 2	NEWY17	J51	10/01/2024	245.1
P4271-07	14B-(1-4)-COMP	Water	Mercury	1:1 HNO3 to pH < 2	NEWY17	J53	10/02/2024	245.1
P4289-02	EFF-Waste Water	Water	Mercury	1:1 HNO3 to pH < 2	ARDM01	H11	10/03/2024	245.1

10/08/2024

Date/Time ~~10/08/2024~~ 08/08/2024 @ 9:50

Raw Sample Received by: MB - SDG Lab

Raw Sample Relinquished by: MB - SDG Lab

MB
12/02/2024

Date/Time ~~10/08/24~~ 08/08/24 @ 10:40

Raw Sample Received by: MB SDG Lab

Raw Sample Relinquished by: MB - Drivers

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 # LB132826

Review By	mohan	Review On	10/10/2024 10:44:56 PM
Supervise By	jaswal	Supervise On	10/10/2024 10:47:01 PM

STD. NAME	STD REF.#
ICAL Standard	MP82714,MP82715,MP82716,MP82717,MP82718,MP82719,MP82720
ICV Standard	MP82721
CCV Standard	MP82723
ICSA Standard	
CRI Standard	MP82725
LCS Standard	
Chk Standard	MP82722,MP82724,MP82726,MP82728

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/08/24 15:48		Mohan	OK
2	S0.05	S0.05	CAL2	10/08/24 15:52		Mohan	OK
3	S0.2	S0.2	CAL3	10/08/24 15:55		Mohan	OK
4	S2.5	S2.5	CAL4	10/08/24 15:57		Mohan	OK
5	S5	S5	CAL5	10/08/24 15:59		Mohan	OK
6	S7.5	S7.5	CAL6	10/08/24 16:01		Mohan	OK
7	S10	S10	CAL7	10/08/24 16:04		Mohan	OK
8	ICV29	ICV29	ICV	10/08/24 16:09		Mohan	OK
9	ICB29	ICB29	ICB	10/08/24 16:12		Mohan	OK
10	CCV89	CCV89	CCV	10/08/24 16:14		Mohan	OK
11	CCB89	CCB89	CCB	10/08/24 16:16		Mohan	OK
12	CRA	CRA	CRDL	10/08/24 16:18		Mohan	OK
13	HighStd	HighStd	HIGH STD	10/08/24 16:23		Mohan	OK
14	ChkStd	ChkStd	SAM	10/08/24 16:26		Mohan	OK
15	PB163988BL	PB163988BL	MB	10/08/24 16:28		Mohan	OK
16	PB163988BS	PB163988BS	LCS	10/08/24 16:33		Mohan	OK
17	P4262-07	14B-(1-4)-COMP	SAM	10/08/24 16:37		Mohan	OK
18	P4271-07	14B-(1-4)-COMP	SAM	10/08/24 16:40		Mohan	OK

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Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB132826

Review By	mohan	Review On	10/10/2024 10:44:56 PM
Supervise By	jaswal	Supervise On	10/10/2024 10:47:01 PM

STD. NAME	STD REF.#
ICAL Standard	MP82714,MP82715,MP82716,MP82717,MP82718,MP82719,MP82720
ICV Standard	MP82721
CCV Standard	MP82723
ICSA Standard	
CRI Standard	MP82725
LCS Standard	
Chk Standard	MP82722,MP82724,MP82726,MP82728

19	P4289-02	EFF-Waste Water	SAM	10/08/24 16:42		Mohan	OK
20	P4289-02DUP	EFF-Waste WaterDUP	DUP	10/08/24 16:45		Mohan	OK
21	CCV90	CCV90	CCV	10/08/24 16:51		Mohan	OK
22	CCB90	CCB90	CCB	10/08/24 16:54		Mohan	OK
23	P4289-02MS	EFF-Waste WaterMS	MS	10/08/24 16:56		Mohan	OK
24	P4289-02MSD	EFF-Waste WaterMSD	MSD	10/08/24 16:58		Mohan	OK
25	P3846-08	PT-HG-WP	SAM	10/08/24 17:01	High	Mohan	Dilution
26	P4289-02L	EFF-Waste WaterL	SD	10/08/24 17:08		Mohan	OK
27	P4289-02A	EFF-Waste WaterA	PS	10/08/24 17:15		Mohan	OK
28	P3846-08DL	PT-HG-WPDL	SAM	10/08/24 17:17	Report 5X	Mohan	Confirms
29	CCV91	CCV91	CCV	10/08/24 17:24		Mohan	OK
30	CCB91	CCB91	CCB	10/08/24 17:27		Mohan	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB132991

Review By	kareem	Review On	10/25/2024 3:05:54 PM
Supervise By	jaswal	Supervise On	10/26/2024 8:06:43 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82476,MP82477,MP82478,MP82479,MP82712
ICV Standard	mp82485
CCV Standard	MP82488
ICSA Standard	MP82486,MP82487
CRI Standard	MP82712
LCS Standard	
Chk Standard	MP82491,MP82492

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/17/24 12:34		Kareem	OK
2	S1	S1	CAL2	10/17/24 12:39		Kareem	OK
3	S2	S2	CAL3	10/17/24 12:43		Kareem	OK
4	S3	S3	CAL4	10/17/24 12:47		Kareem	OK
5	S4	S4	CAL5	10/17/24 12:52		Kareem	OK
6	S5	S5	CAL6	10/17/24 12:56		Kareem	OK
7	ICV01	ICV01	ICV	10/17/24 13:00		Kareem	OK
8	LLICV01	LLICV01	LLICV	10/17/24 13:06		Kareem	OK
9	ICB01	ICB01	ICB	10/17/24 13:14		Kareem	OK
10	CRI01	CRI01	CRDL	10/17/24 13:21		Kareem	OK
11	ICSA01	ICSA01	ICSA	10/17/24 13:25		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	10/17/24 14:01		Kareem	OK
13	ICSADL	ICSADL	ICSA	10/17/24 14:05		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	10/17/24 14:10		Kareem	OK
15	CCV01	CCV01	CCV	10/17/24 14:14		Kareem	OK
16	CCB01	CCB01	CCB	10/17/24 14:29		Kareem	OK
17	P3846-01	PT-TM1-WP	SAM	10/17/24 14:33		Kareem	OK
18	P3846-03	PT-SNTI-WP	SAM	10/17/24 14:37		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB132991

Review By	kareem	Review On	10/25/2024 3:05:54 PM
Supervise By	jaswal	Supervise On	10/26/2024 8:06:43 AM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82476,MP82477,MP82478,MP82479,MP82712
ICV Standard	mp82485
CCV Standard	MP82488
ICSA Standard	MP82486,MP82487
CRI Standard	MP82712
LCS Standard	
Chk Standard	MP82491,MP82492

19	P3846-07	PT-SIO2-WP	SAM	10/17/24 14:41	Si high	Kareem	Dilution
20	P3846-05	PT-MIN2-WP	SAM	10/17/24 14:46	Ca,Na high	Kareem	Dilution
21	P3847-01	PT-TM1-WP	SAM	10/17/24 14:50		Kareem	OK
22	P3847-03	PT-SNTI-WP	SAM	10/17/24 14:54		Kareem	OK
23	P3847-05	PT-MIN2-WP	SAM	10/17/24 15:06	Ca,Na high	Kareem	Dilution
24	P3846-07DL	PT-SIO2-WPDL	SAM	10/17/24 15:16	10x for Si	Kareem	Confirms
25	PB164214BL	PB164214BL	MB	10/17/24 15:32		Kareem	OK
26	PB164214BS	PB164214BS	LCS	10/17/24 15:36	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
27	CCV02	CCV02	CCV	10/17/24 15:40		Kareem	OK
28	CCB02	CCB02	CCB	10/17/24 15:45		Kareem	OK
29	PB164232BL	PB164232BL	MB	10/17/24 15:49		Kareem	OK
30	PB164232BS	PB164232BS	LCS	10/17/24 15:53	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
31	CCV03	CCV03	CCV	10/17/24 15:57		Kareem	OK
32	CCB03	CCB03	CCB	10/17/24 16:01		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133014

Review By	jaswal	Review On	10/21/2024 1:53:28 AM
Supervise By	kareem	Supervise On	10/25/2024 2:34:44 PM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82476,MP82477,MP82478,MP82479,MP82712
ICV Standard	MP82485
CCV Standard	MP82488
ICSA Standard	MP82486,MP82487
CRI Standard	MP82712
LCS Standard	
Chk Standard	MP82491,MP82492

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	10/18/24 12:03		Kareem	OK
2	S1	S1	CAL2	10/18/24 12:07		Kareem	OK
3	S2	S2	CAL3	10/18/24 12:12		Kareem	OK
4	S3	S3	CAL4	10/18/24 12:16		Kareem	OK
5	S4	S4	CAL5	10/18/24 12:20		Kareem	OK
6	S5	S5	CAL6	10/18/24 12:24		Kareem	OK
7	ICV01	ICV01	ICV	10/18/24 13:08	Fail for Al,Cr,Cu,Ag,Tl,Zn(95-105) %	Kareem	OK
8	LLICV01	LLICV01	LLICV	10/18/24 13:13		Kareem	OK
9	ICB01	ICB01	ICB	10/18/24 13:23		Kareem	OK
10	CRI01	CRI01	CRDL	10/18/24 13:27		Kareem	OK
11	ICSA01	ICSA01	ICSA	10/18/24 13:32		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	10/18/24 13:56		Kareem	OK
13	CCV01	CCV01	CCV	10/18/24 14:00		Kareem	OK
14	CCB01	CCB01	CCB	10/18/24 14:05		Kareem	OK
15	P3846-05DL	PT-MIN2-WPDL	SAM	10/18/24 14:19	2X for Ca,Na	Kareem	Confirms
16	P3847-05DL	PT-MIN2-WPDL	SAM	10/18/24 14:49	2X for Ca,Na	Kareem	Confirms
17	CCV02	CCV02	CCV	10/18/24 14:53		Kareem	OK
18	CCB02	CCB02	CCB	10/18/24 14:57		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133014

Review By	jaswal	Review On	10/21/2024 1:53:28 AM
Supervise By	kareem	Supervise On	10/25/2024 2:34:44 PM

STD. NAME	STD REF.#
ICAL Standard	MP82441,MP82476,MP82477,MP82478,MP82479,MP82712
ICV Standard	MP82485
CCV Standard	MP82488
ICSA Standard	MP82486,MP82487
CRI Standard	MP82712
LCS Standard	
Chk Standard	MP82491,MP82492

19	LR1	LR1	HIGH STD	10/18/24 15:02		Kareem	OK
20	LR2	LR2	HIGH STD	10/18/24 15:07		Kareem	OK
21	P4385-20	SP-10	SAM	10/18/24 15:11		Kareem	OK
22	P4385-20DUP	SP-10DUP	DUP	10/18/24 15:16		Kareem	OK
23	P4385-20L	SP-10L	SD	10/18/24 15:20		Kareem	OK
24	P4385-20MS	SP-10MS	MS	10/18/24 15:24		Kareem	OK
25	P4385-20MSD	SP-10MSD	MSD	10/18/24 15:28		Kareem	OK
26	P4385-20A	SP-10A	PS	10/18/24 15:32		Kareem	OK
27	CCV03	CCV03	CCV	10/18/24 16:05		Kareem	OK
28	CCB03	CCB03	CCB	10/18/24 16:39		Kareem	OK
29	P4405-01DL	MH-121DL	SAM	10/18/24 16:43	5X for Na	Kareem	Confirms
30	P4421-01	EO-02-101624	SAM	10/18/24 17:15		Kareem	OK
31	P4422-01	EO-01-101624	SAM	10/18/24 17:19		Kareem	OK
32	P4431-01	72-11934	SAM	10/18/24 17:23		Kareem	OK
33	CCV04	CCV04	CCV	10/18/24 17:28		Kareem	OK
34	CCB04	CCB04	CCB	10/18/24 17:32		Kareem	OK

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Prep Standard - Chemical Standard Summary

Order ID : P3846

Test : Hardness, Calcium,Hardness, Total,Mercury,Metals Group3,Metals Group4,Metals Group5,Silica

Prepbatch ID : PB163988,PB164232,

Sequence ID/Qc Batch ID: LB132826,LB132991,LB132991,LB132991,LB132991,LB133014,

Standard ID :
MP81119,MP82127,MP82441,MP82476,MP82477,MP82478,MP82479,MP82485,MP82486,MP82487,MP82488,MP824
91,MP82492,MP82711,MP82712,MP82713,MP82714,MP82715,MP82716,MP82717,MP82718,MP82719,MP82720,MP
82721,MP82722,MP82723,MP82724,MP82725,MP82726,MP82728,

Chemical ID :
M4960,M5062,M5130,M5192,M5218,M5223,M5288,M5295,M5296,M5390,M5394,M5429,M5467,M5498,M5515,M5658
,M5697,M5698,M5747,M5748,M5769,M5798,M5799,M5800,M5801,M5802,M5806,M5814,M5815,M5816,M5817,M581
8,M5819,M5820,M5875,M5882,M5935,M5953,M5962,M5963,M5970,M5978,M5982,M5984,M6000,M6009,M6021,M60
23,M6028,M6030,M6033,M6034,M6037,M6040,M6083,mp82485,W2606,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
169	1:1HNO3	MP81119	06/21/2024	04/24/2025	Al-Terek Isaac	METALS_SCALE_2 (M SC-2)	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal 06/21/2024

FROM 1250.00000ml of M5935 + 1250.00000ml of W2606 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP82127	09/03/2024	02/08/2025	Janvi Patel	None	None	Sarabjit Jaswal 09/03/2024

FROM 1250.00000ml of M6040 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP82441	09/23/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 125.00000ml of M6040 + 2350.00000ml of W3112 + 25.00000ml of M6037 = 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)	MP82476	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 5.00000ml of M5296 + 5.00000ml of M5394 + 5.00000ml of M5802 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M5982 + 460.00000ml of MP82441 = 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	MP82477	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 50.00000ml of MP82441 + 50.00000ml of MP82476 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP82478	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of MP82476 + 75.00000ml of MP82441 = 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	MP82479	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 16.00000ml of MP82476 + 184.00000ml of MP82441 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
912	ICP AES ICV SOLN	MP82485	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.02500ml of M5982 + 0.25000ml of M5218 + 10.00000ml of M5295 + 89.77500ml of MP82441 = 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	MP82486	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 25.00000ml of M5130 + 225.00000ml of MP82441 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP82487	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5296 + 0.10000ml of M5970 + 0.10000ml of M5982 + 10.00000ml of M5130 + 10.00000ml of M5223 + 79.50000ml of MP82441 = 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
911	ICP AES CCV SOLN	MP82488	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 50.00000ml of MP82441 + 50.00000ml of MP82476 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP82491	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 1.00000ml of M5984 + 10.00000ml of M4960 + 1969.00000ml of W3112 + 20.00000ml of M5963 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP82492	09/24/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 09/24/2024

FROM 200.00000ml of M6034 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP82711	10/07/2024	10/31/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/07/2024

FROM 0.00300ml of M6028 + 0.03000ml of M5798 + 0.05000ml of M5515 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6033 + 0.06000ml of M5747 + 0.10000ml of M5697 + 0.10000ml of M5698 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M5982 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5819 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M5802 + 0.50000ml of M5390 + 0.50000ml of M5814 + 1.00000ml of M5192 + 1.00000ml of M5288 + 1.00000ml of M5498 + 1.00000ml of M5769 + 1.00000ml of M5806 + 1.00000ml of M5978 + 2.00000ml of M5816 + 2.00000ml of M5818 + 77.68000ml of MP82441 = 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	MP82712	10/07/2024	10/30/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 10/07/2024

FROM 2.00000ml of MP82711 + 98.00000ml of MP82441 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP82713	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 1.00000ml of M6083 + 2.50000ml of M5062 + 96.50000ml of W3112 = 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
1340	Hg 0.00 PPB STD	MP82714	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2750	Hg 0.05ppb	MP82715	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 247.45000ml of W3112 + 0.05000ml of MP82713 = 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	MP82716	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 247.30000ml of W3112 + 0.20000ml of MP82713 = 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	MP82717	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 245.00000ml of W3112 + 2.50000ml of MP82713 = 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	MP82718	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 242.50000ml of W3112 + 5.00000ml of MP82713 = 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	MP82719	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 240.00000ml of W3112 + 7.50000ml of MP82713 = 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	MP82720	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 237.50000ml of W3112 + 10.00000ml of MP82713 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP82721	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M5953 + 2.50000ml of M6083 + 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)	MP82722	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 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)	MP82723	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 485.00000ml of W3112 + 10.00000ml of MP82713 = 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)	MP82724	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 495.00000ml of W3112 + 5.00000ml of M6083 = 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)	MP82725	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 247.30000ml of W3112 + 0.20000ml of MP82713 = 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)	MP82726	10/08/2024	10/09/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 10/08/2024

FROM 2.50000ml of M6083 + 240.50000ml of W3112 + 7.00000ml of MP82713 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP82728	10/08/2024	10/09/2024	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 10/08/2024

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6040 = 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 #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	100721	10/07/2024	10/09/2021 / jaswal	10/08/2021 / jaswal	M4960

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	11/19/2024	05/20/2024 / bin	04/20/2021 / bin	M5130

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	11/19/2024	05/20/2024 / bin	04/20/2021 / bin	M5223

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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.	58119 / K, 10000 PPM, 500 ml	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	02/05/2025	08/07/2024 / jaswal	02/20/2020 / bin	M5295

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 #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

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	11/28/2022 / bin	09/19/2022 / bin	M5394

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

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

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	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

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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.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	05/24/2024 / Jaswal	01/03/2024 / bin	M5769

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

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

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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.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

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.	57014 / Si, 1000 PPM, 125 ml	122023	12/20/2026	03/06/2024 / jaswal	02/09/2024 / jaswal	M5818

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

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CHEMICAL RECEIPT LOG BOOK

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	12/08/2024	06/21/2024 / Al-Terek	06/07/2024 / Al-Terek	M5935

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	01/01/2025	07/01/2024 / mohan	03/30/2023 / mohan	M5953

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 #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	01/04/2025	07/09/2024 / Al-Terek	07/03/2024 / Al-Terek	M5963

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

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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.	57038 / Sr, 1000 PPM, 125 ml	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	08/05/2024 / kareem	06/14/2024 / Jaswal	M5984

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/30/2026	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6000

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	03/17/2028	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6009

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

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

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CHEMICAL RECEIPT LOG BOOK

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	01/25/2019 / 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.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

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	02/01/2025	08/06/2024 / Janvi	08/01/2024 / Janvi	M6034

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	02/02/2025	08/24/2024 / Janvi	08/01/2024 / Janvi	M6037

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)	24D1562005	02/08/2025	08/09/2024 / Janvi	08/01/2024 / Janvi	M6040

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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-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	10/06/2024 / Janvi	09/02/2024 / Janvi	M6083

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

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.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6028

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

R 8/15/24

CERTIFIED WEIGHT REPORT:

Part Number: 57048
Lot Number: 070124
Description: Cadmium (Cd)

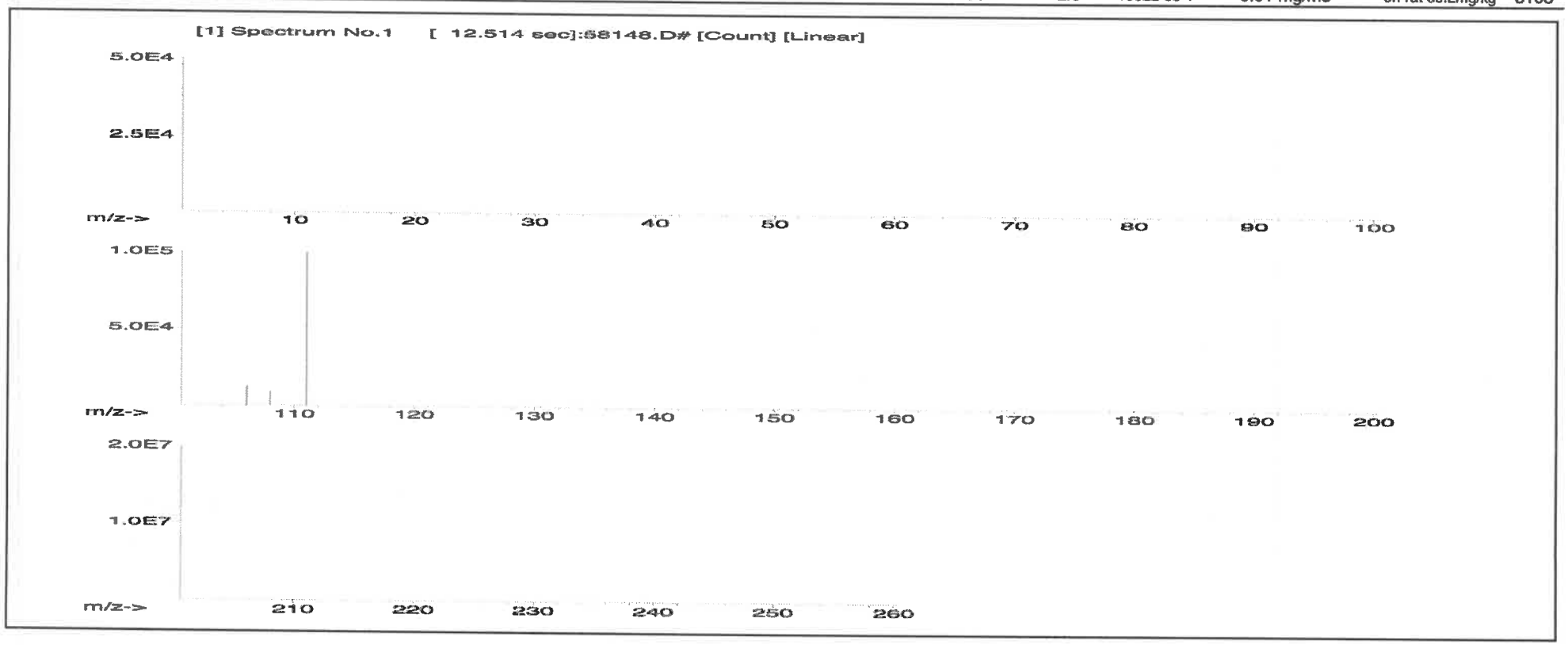
Expiration Date: 070127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.07

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.100	Flask Uncertainty	

Aleah O'Brady
Formulated By: Aleah O'Brady 070124

Pedro Rentas
Reviewed By: Pedro L. Rentas 070124

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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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	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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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	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



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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 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

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- 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

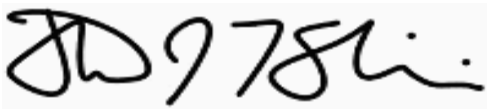
- Sealed TCT Bag Open Date: _____

- 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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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 (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 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

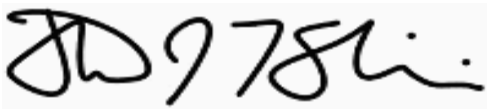
- Sealed TCT Bag Open Date: _____

- 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



INORGANIC VENTURES

Refine your results. Redefine your industry.

Certificate of Analysis

RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

Value / Analyte(s):	1 000 µg/mL ea: Potassium,	
	600 µg/mL ea: Phosphorus,	
	300 µg/mL ea: Sodium,	Iron,
	200 µg/mL ea: Magnesium, Cerium, Thallium,	Aluminum, Selenium,
	100 µg/mL ea: Lead,	Calcium,
	80 µg/mL ea: Arsenic,	
	70 µg/mL ea: Mercury,	
	50 µg/mL ea: Nickel,	
	40 µg/mL ea: Chromium,	
	30 µg/mL ea: Copper, Vanadium,	Boron,
	20 µg/mL ea: Zinc, Barium, Cadmium, Manganese,	Strontium, Beryllium, Cobalt, Lithium,
	7.5 µg/mL ea: Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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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



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RD:05/14/2024

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Christiansburg, VA 24073 USA
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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	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

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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



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M4960 R: 10/08/21 BH

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58149
Lot Number: 100721
Description: Indium (In)

Expiration Date: 100724
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 500.06 0.058 Flask Uncertainty

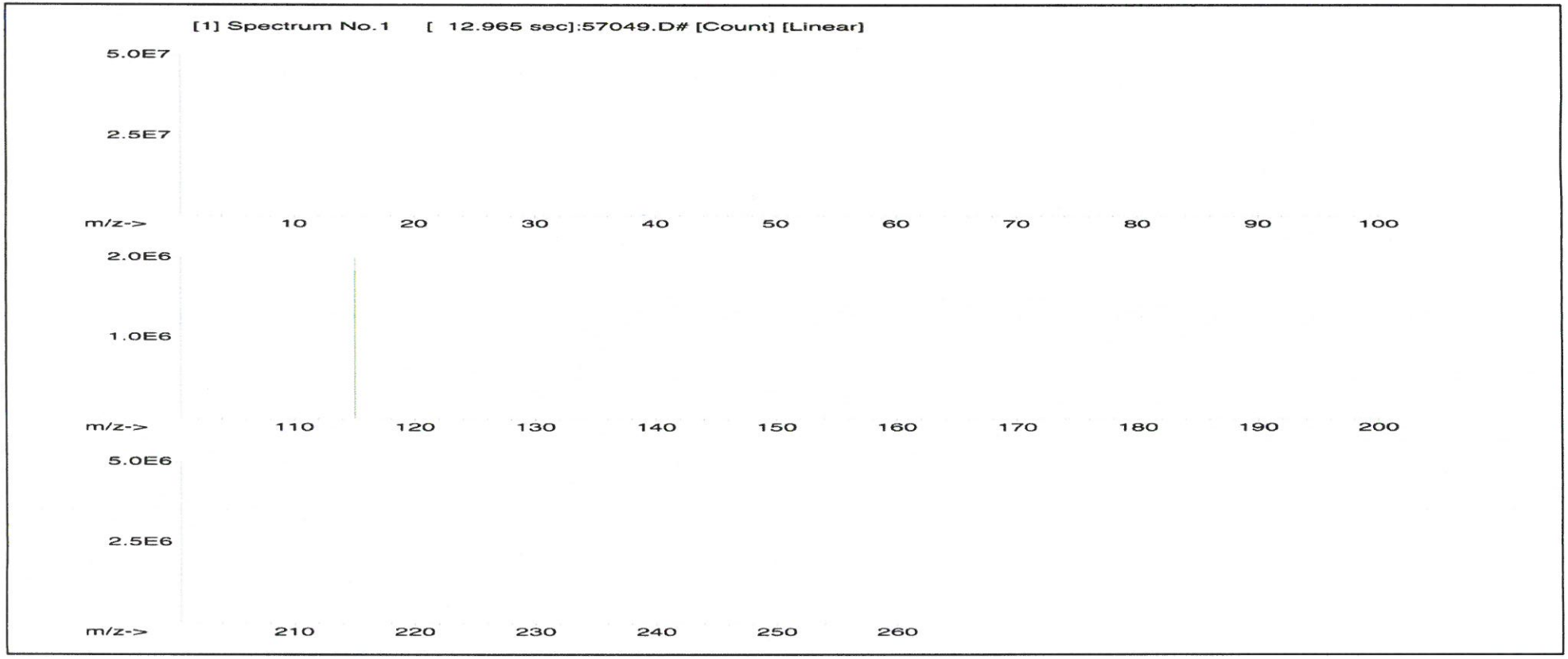
	Lot #	
Solvent:	20370011	Nitric Acid
5%	25.0 (mL)	Nitric Acid

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	100721
Reviewed By:	Pedro L. Rentas	100721

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. Indium Oxide (In)	IN086	W1096A	10000	99.999	0.10	82.6	6.05408	6.05441	**10000.6**	**20.1**	1312-43-2	NA	NA	3124a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	T	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).

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.

$$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

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

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/4}$$

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

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 22, 2026

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5192 R: 06/17/22

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

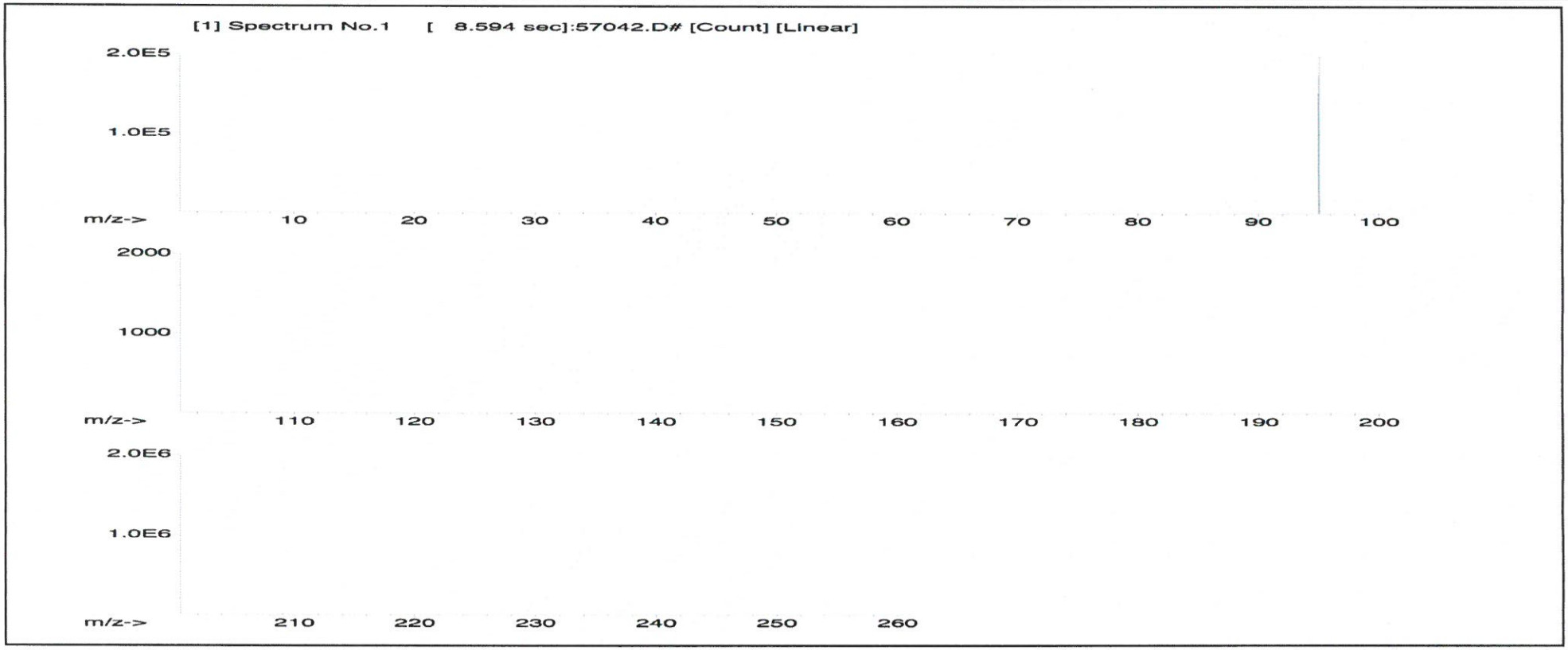
Part Number: 57042
Lot Number: 051722
Description: Molybdenum (Mo)
Expiration Date: 051725
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 3000.41

Lot #	Solvent:		
MKBQ8597V	Ammonium hydroxide		
0.5%	15.0 (mL)	Ammonium hydroxide	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By: Lawrence Barry 051722

Reviewed By: Pedro L. Rentas 051722

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium molybdate (Mo)	58142	022222	0.1000	300.0	0.084	1000	10001.0	**1000.0**	**2.1**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	T	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-QC-4
Lot Number:	S2-MEB711674
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 7 µg/mL**	**Molybdenum, Mo**	**1 000 ± 5 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 5 µg/mL**
Titanium, Ti	**1 001 ± 6 µg/mL**		

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 02, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

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www.absolutestandards.com

Certified Reference Material CRM

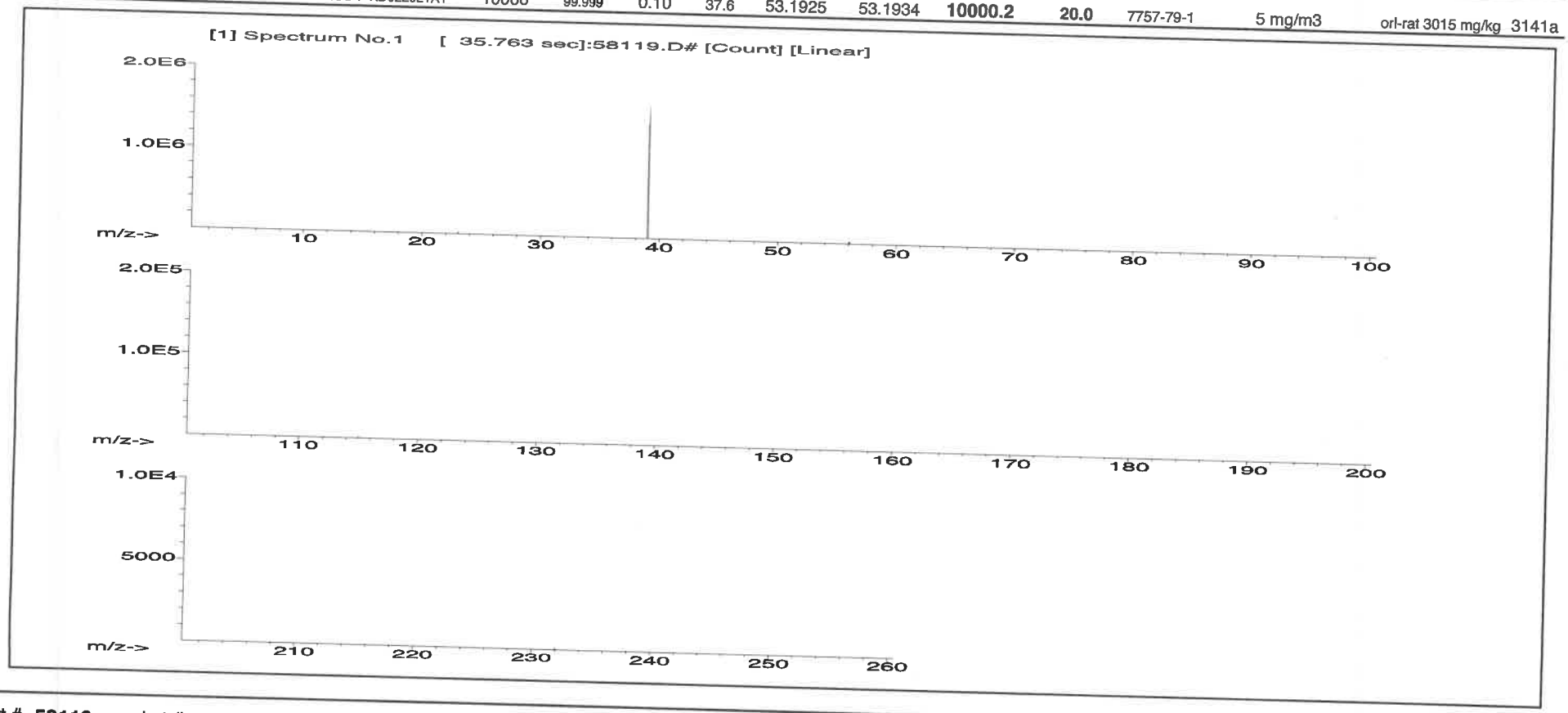
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**58119**		**Lot #**		
Lot Number:	**071122**	**Solvent:**	20510011	Nitric Acid	
Description:	**Potassium (K)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	071125				
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		

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



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).

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

M5291
M5292
M5293
M5294
M5295

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

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

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R:09/08/22 (BA)

Certified Reference Material CRM

M5387 . M5389 . M5390 . M5391 . M5392

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

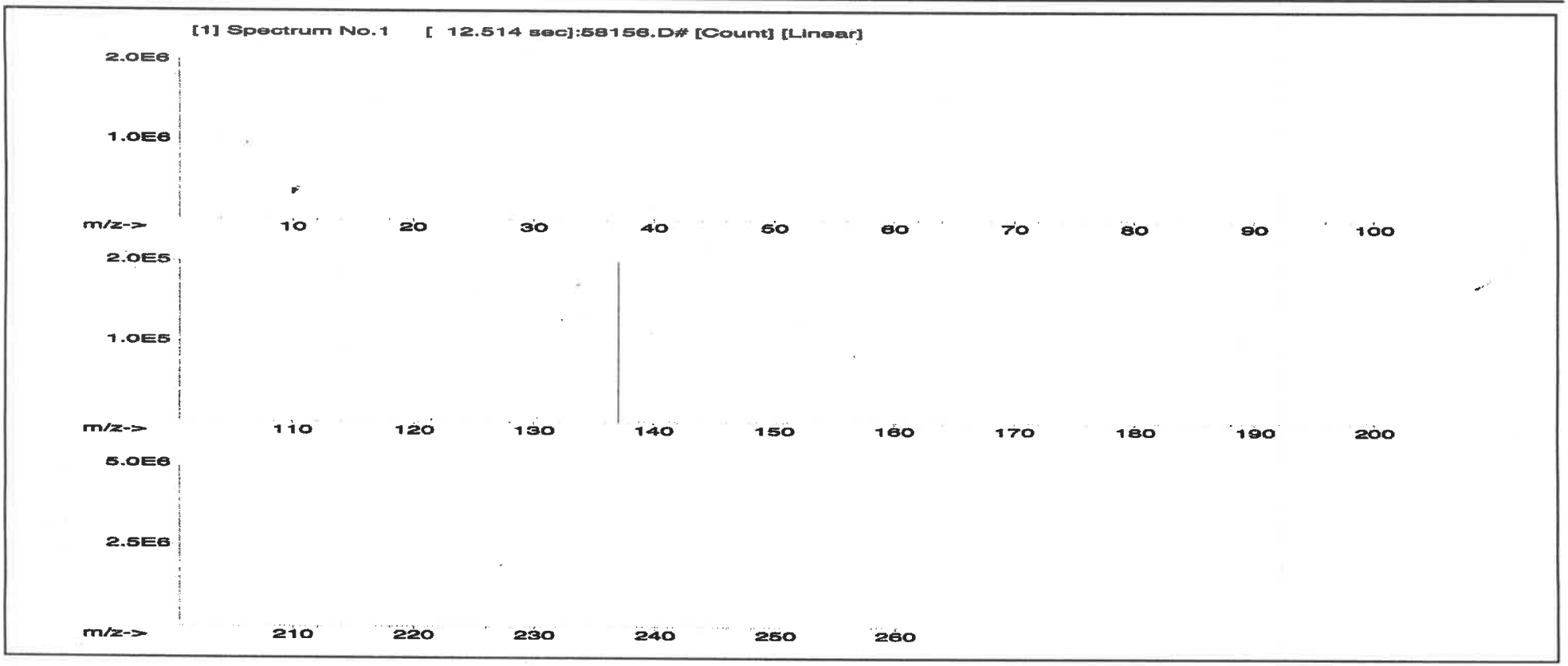
CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**072122**	**Solvent:**	20510011	Nitric Acid	
Description:	**Barium (Ba)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	072125				
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	072122
Reviewed By:	Pedro L. Rentas	072122

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	3.82426	**1000.0**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

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

M5429 R1 01/26/23 BH

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AR-1539 Certificate Number
https://Absolutestandards.com

P3846-METALS

CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

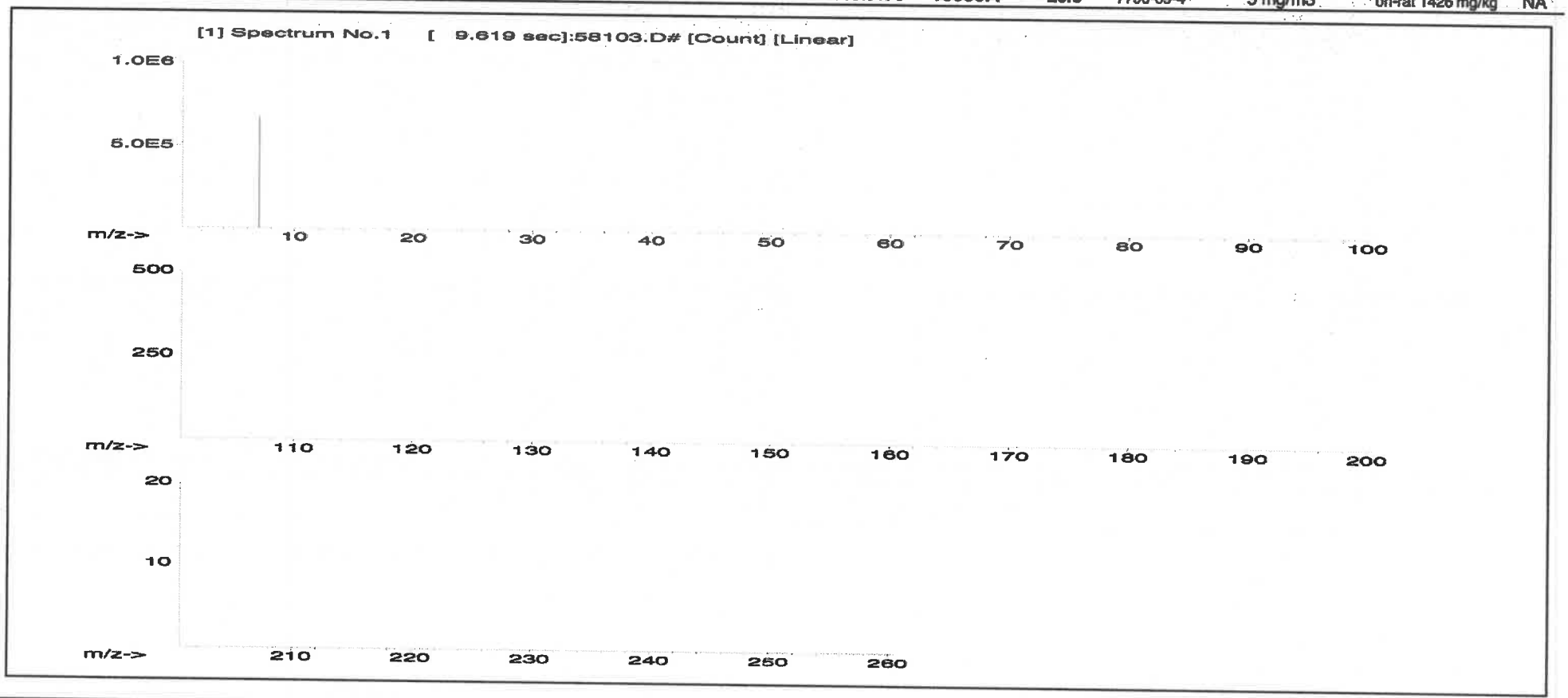
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	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



8315-METALS

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* 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

M5467 R: 03/01/23 (LA)

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

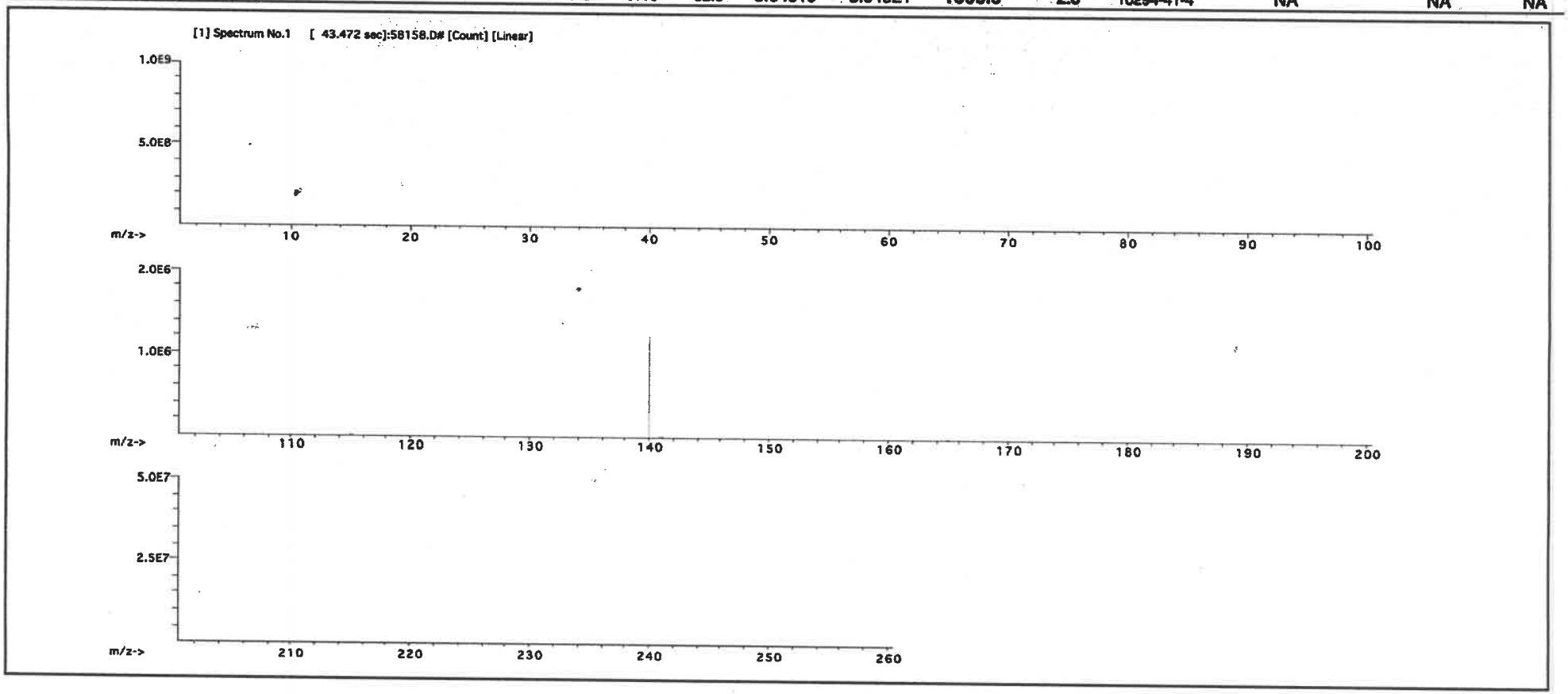
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	**1000.0**	**2.0**	10294-41-4	NA	NA	NA



ICP-METALS

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<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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M5497 - M5498 R: 03/17/23 BH

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P3846-METALS

CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

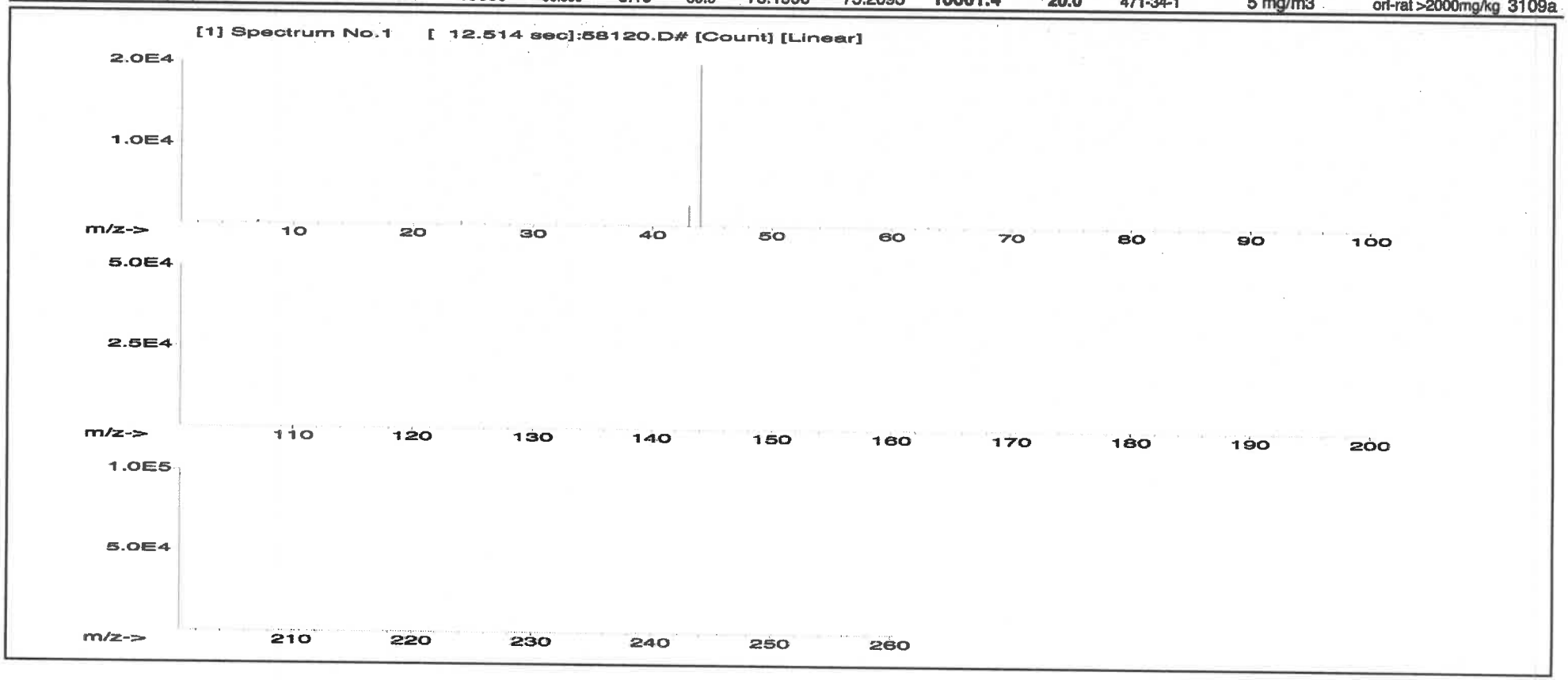
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	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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* 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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MS514 - MS515 R: 03/17/22

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CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 092122
Description: Iron (Fe)

Expiration Date: 092125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1 ± 0.12 Flask Uncertainty

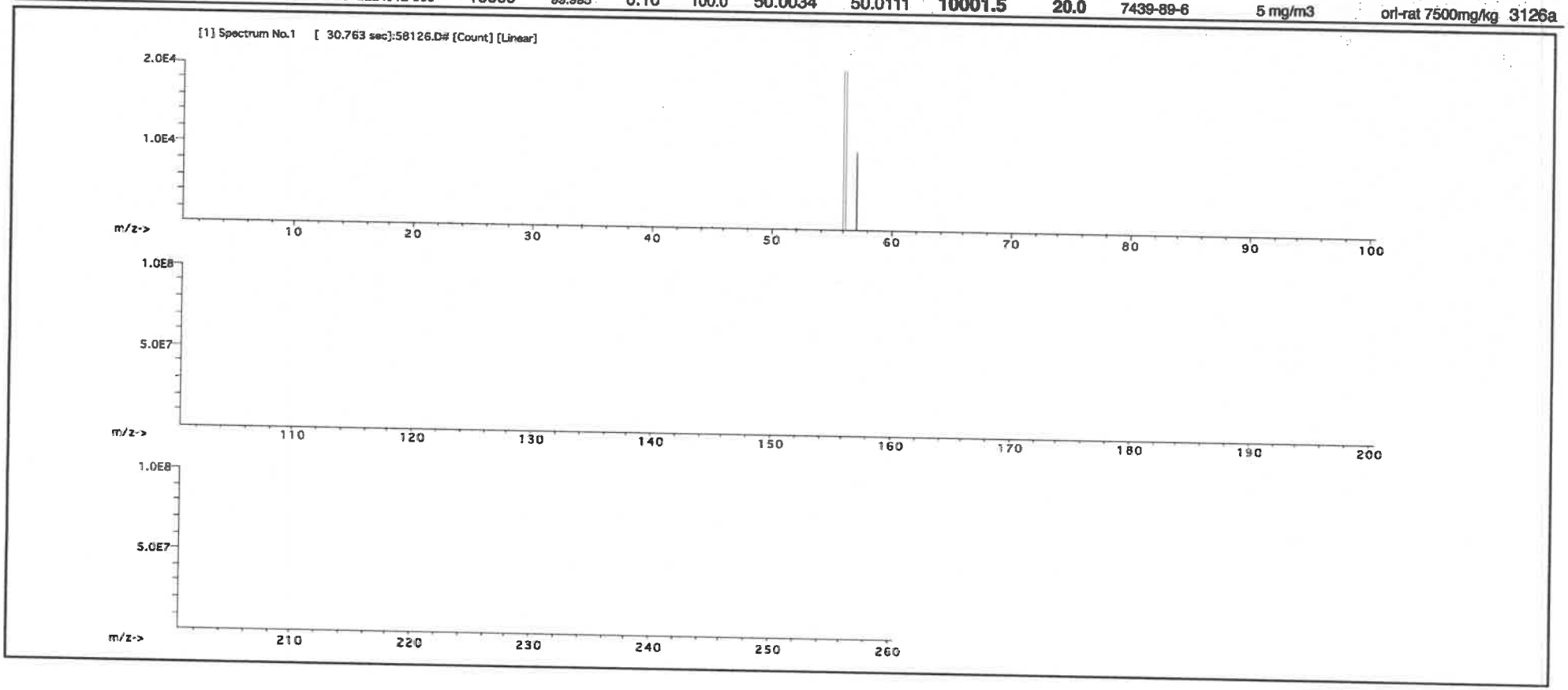
	Lot #		
Solvent:	20510011	Nitric Acid	
7.0%	350.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	092122
Reviewed By:	Pedro L. Rentas	092122

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	2224912-500	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



PASS METALS

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																			
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	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	<0.05
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:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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M5658 R ! 8/25/23

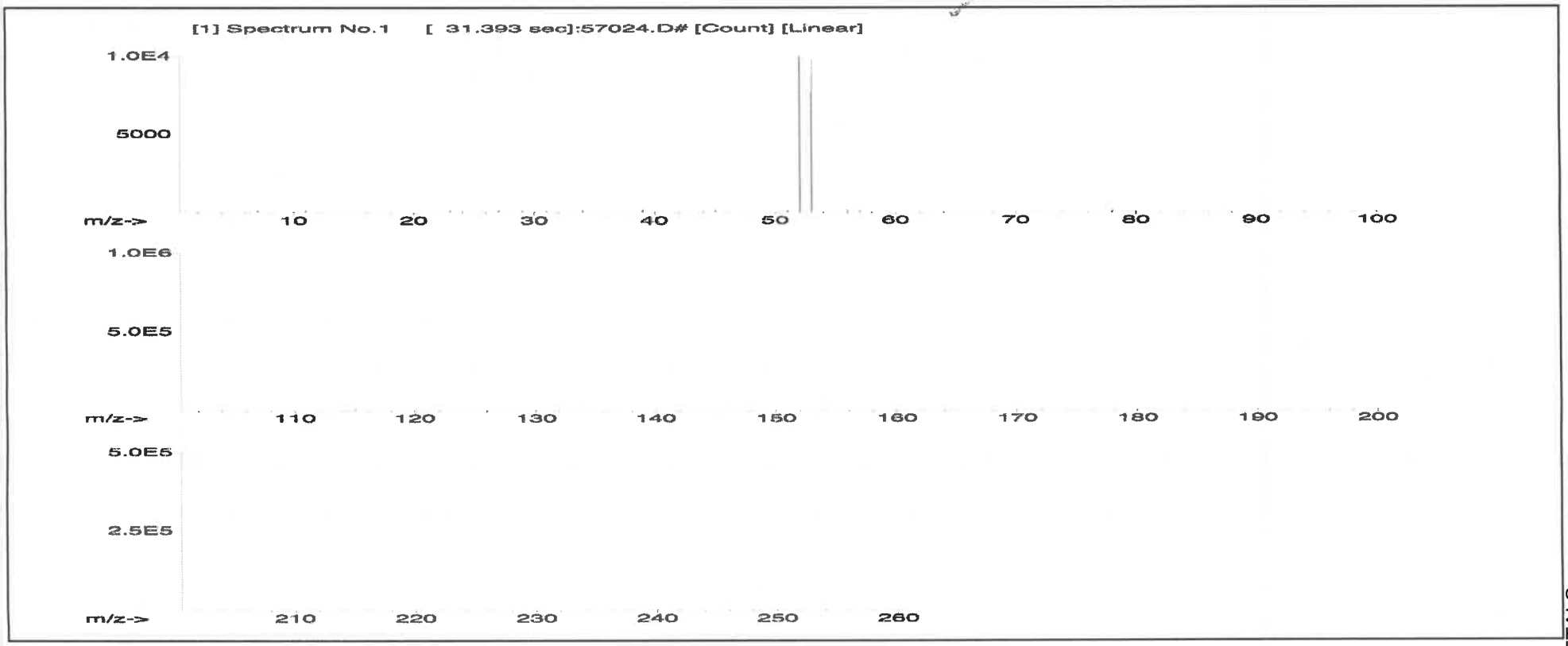
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Rentas	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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M5697 R: 10/27/23

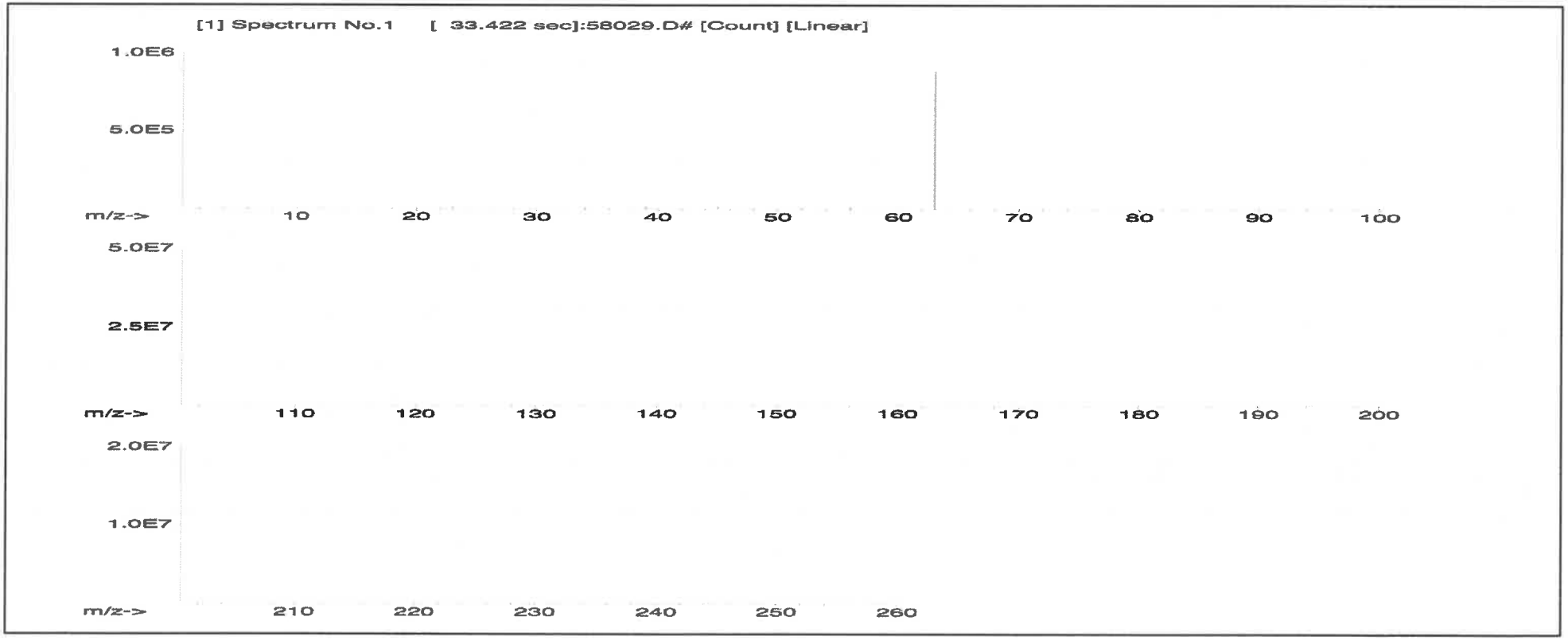
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	**58029**	24002546	Nitric Acid
Lot Number:	**102523**		
Description:	**Copper (Cu)**		
		2.0%	40.0 (mL) Nitric Acid
Expiration Date:	102526		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05	Balance Uncertainty
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																			
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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M5648 R: 10/27/23

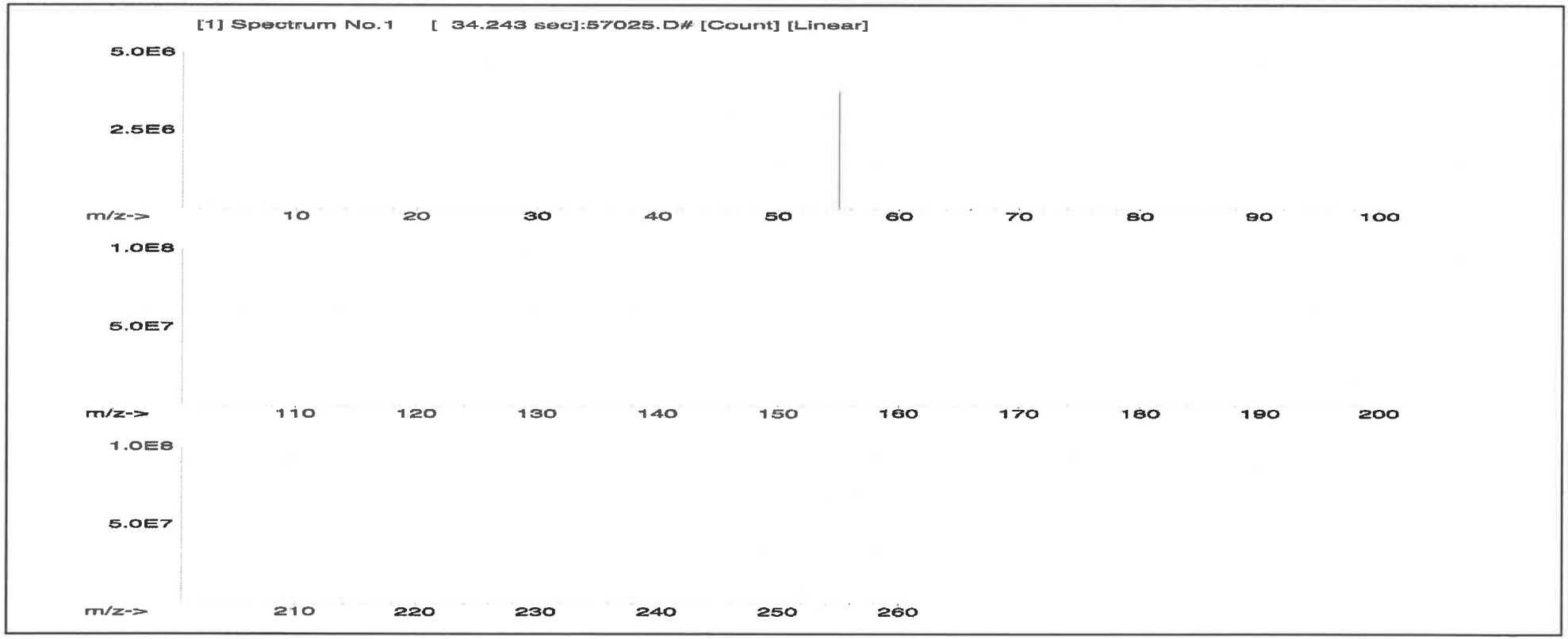
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58025**	24002546	Nitric Acid	
Lot Number:	**102623**			
Description:	**Manganese (Mn)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	102626			
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:	Benson Chan	102623
Reviewed By:	Pedro L. Rentas	102623

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. Manganese(II) nitrate tetrahydrate (Mn)	58125	071123	0.1000	300.0	0.084	1000	10000.1	**1000.0**	**2.1**	20694-39-7	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:

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 balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 12/20/23 M5747

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

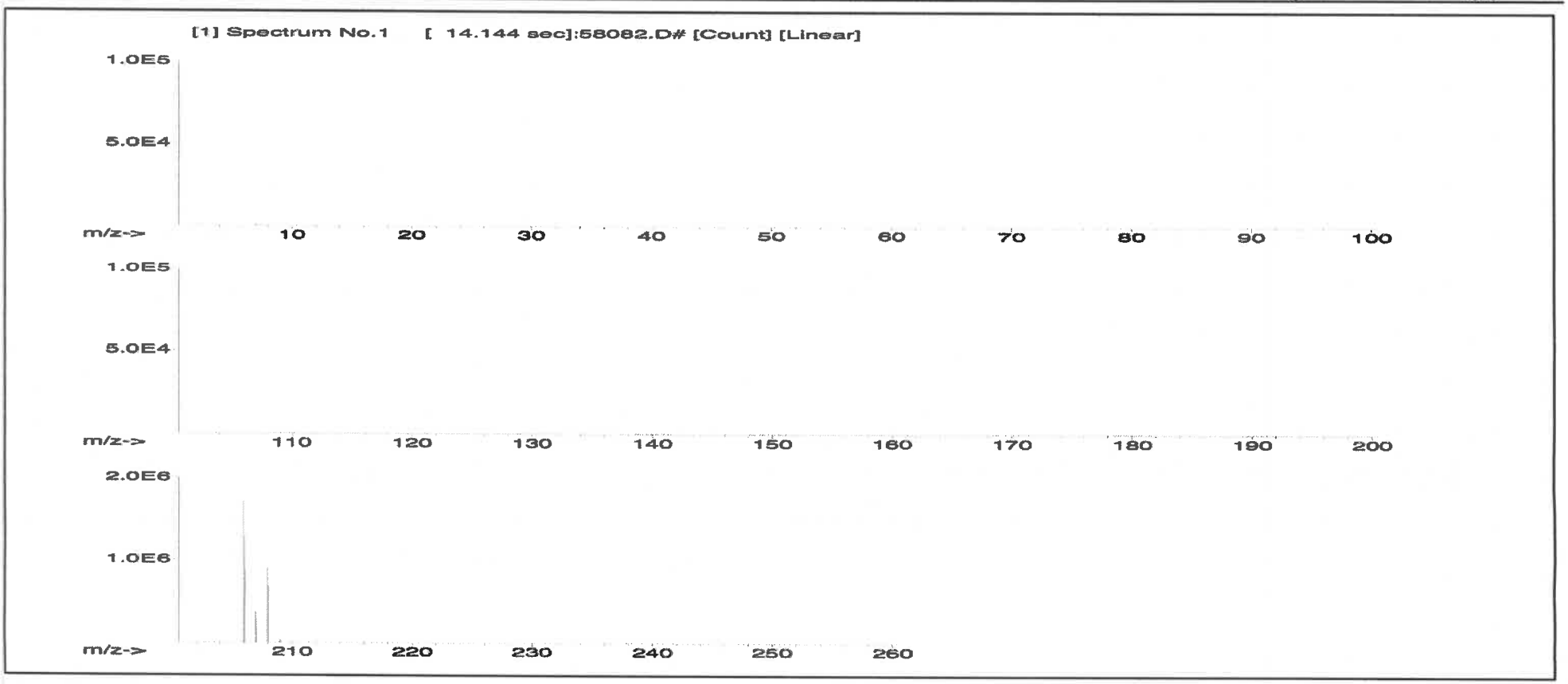
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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R: 12/20/23 M5748

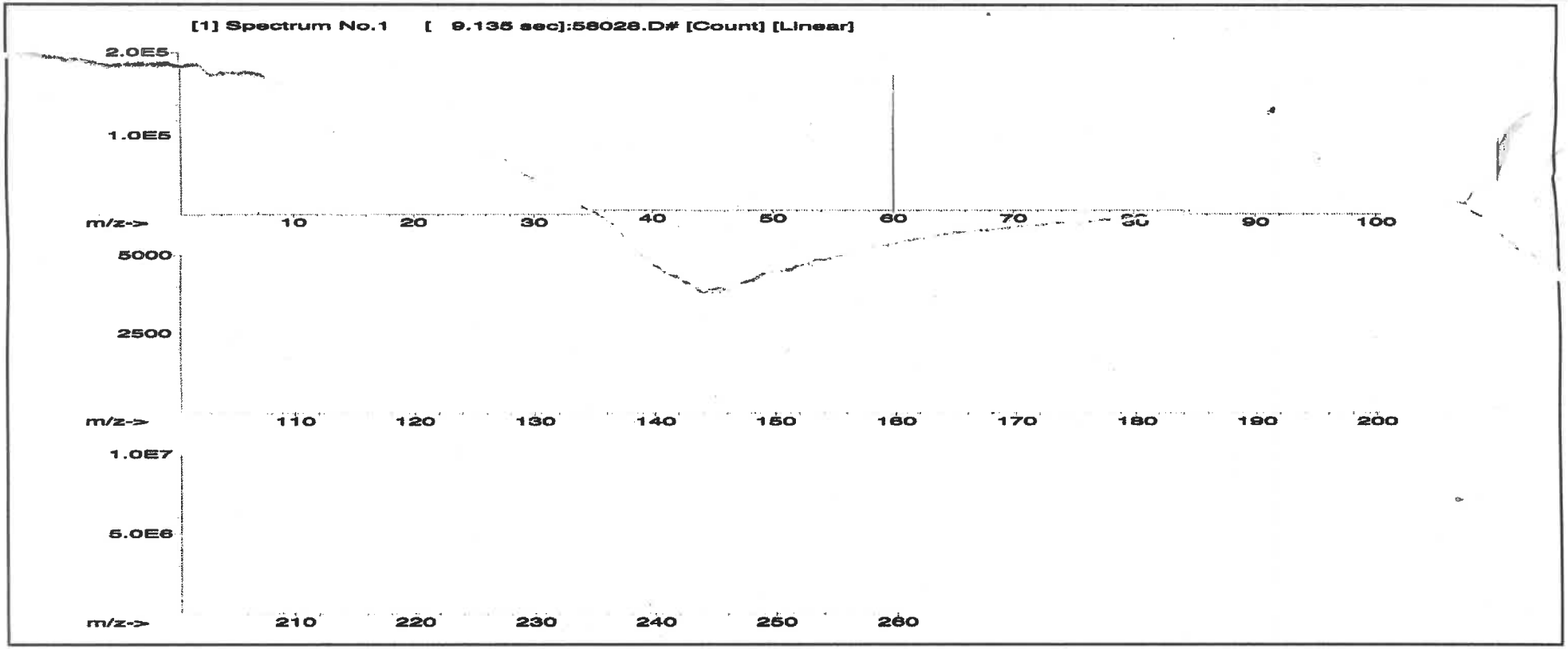
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CERTIFIED WEIGHT REPORT:

		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.

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M5768 M5769 BP R:1/3/24

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CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Expiration Date: 091826
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

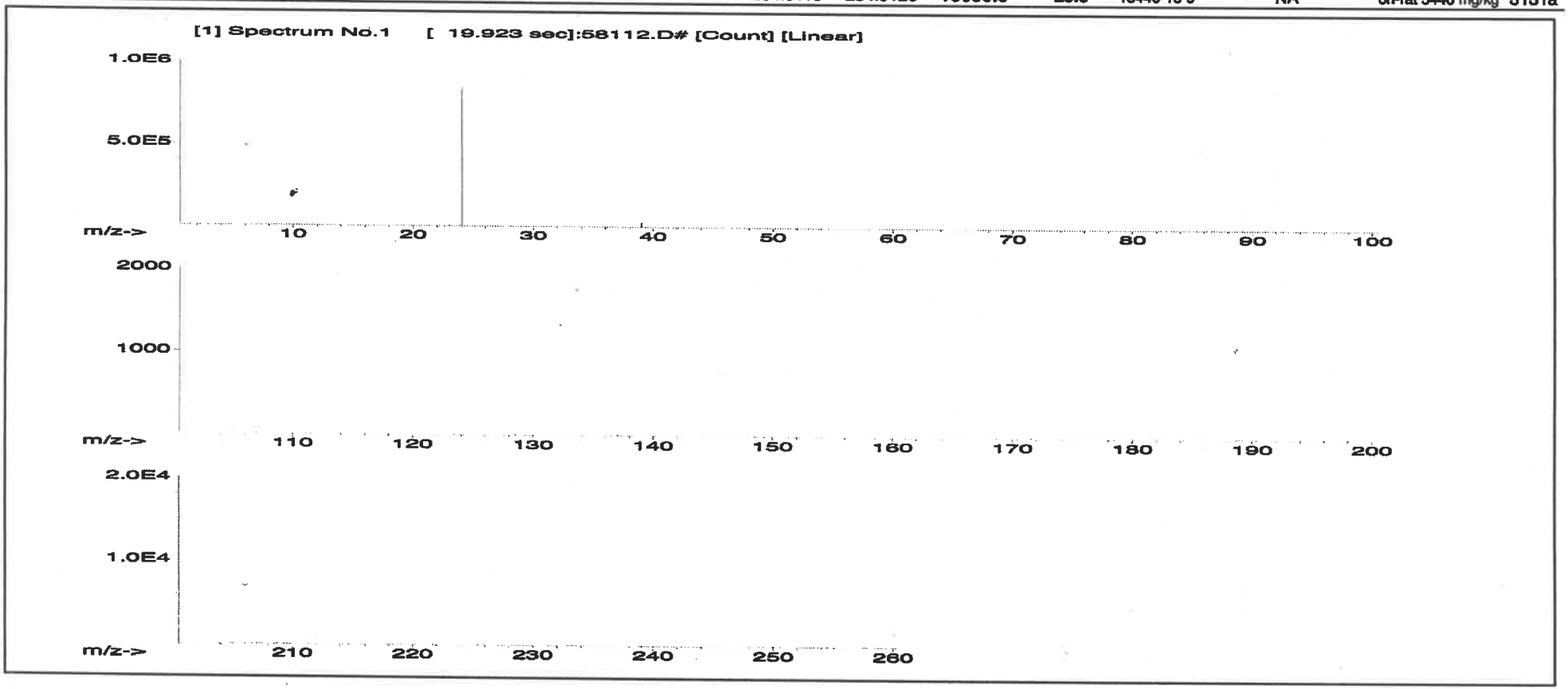
		Lot #	
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

M5768, M5769 BP R: 1/3/24

Formulated By: Lawrence Barry 091823
Reviewed By: Pedro L. Rentas 091823

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	234.9118	234.9126	**10000.0**	**20.0**	13446-18-9	NA	ori-rat 5440 mg/kg	3131a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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R: 02/09/24 M5798

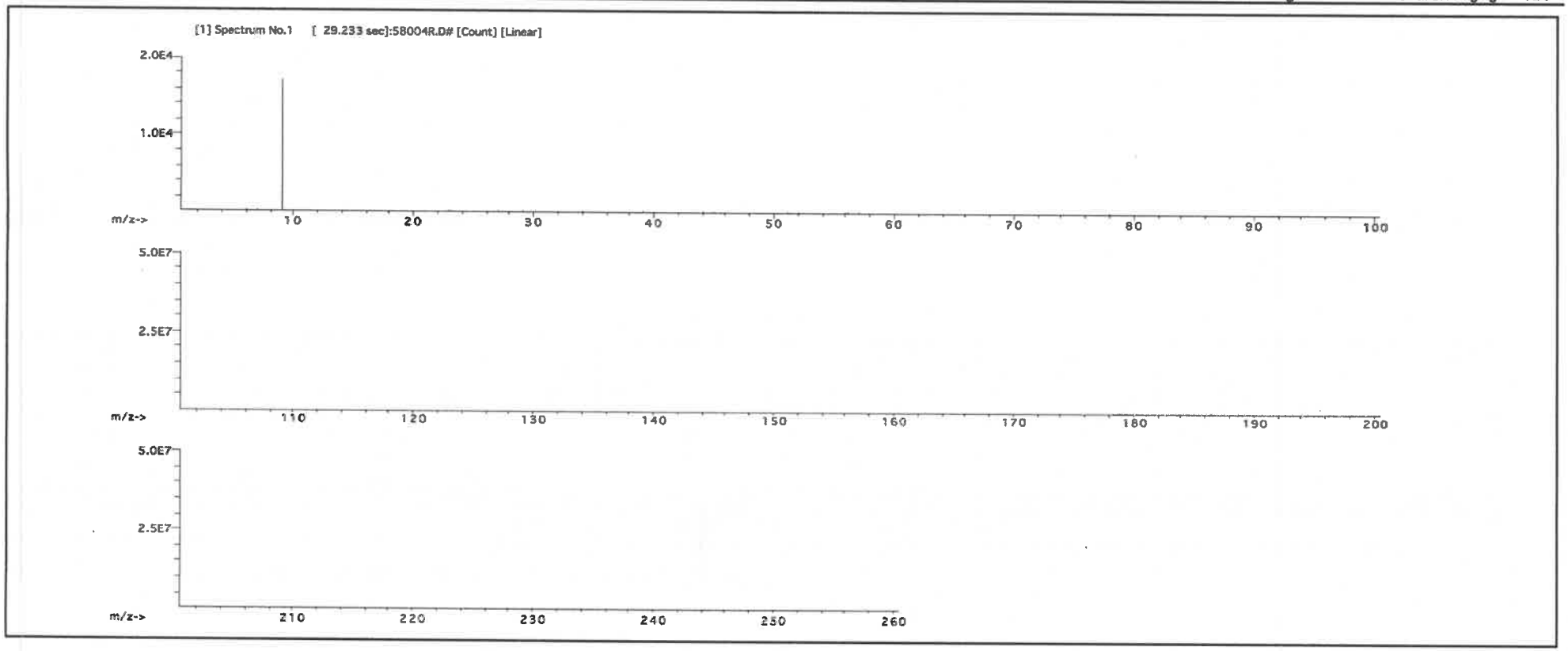
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57004**	24002546	Nitric Acid		
Lot Number:	**102523**				
Description:	**Beryllium (Be)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	102526				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	**1000.0**	**2.2**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA



A3646-METALS

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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R? 02/09/24 IV15799 BA

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

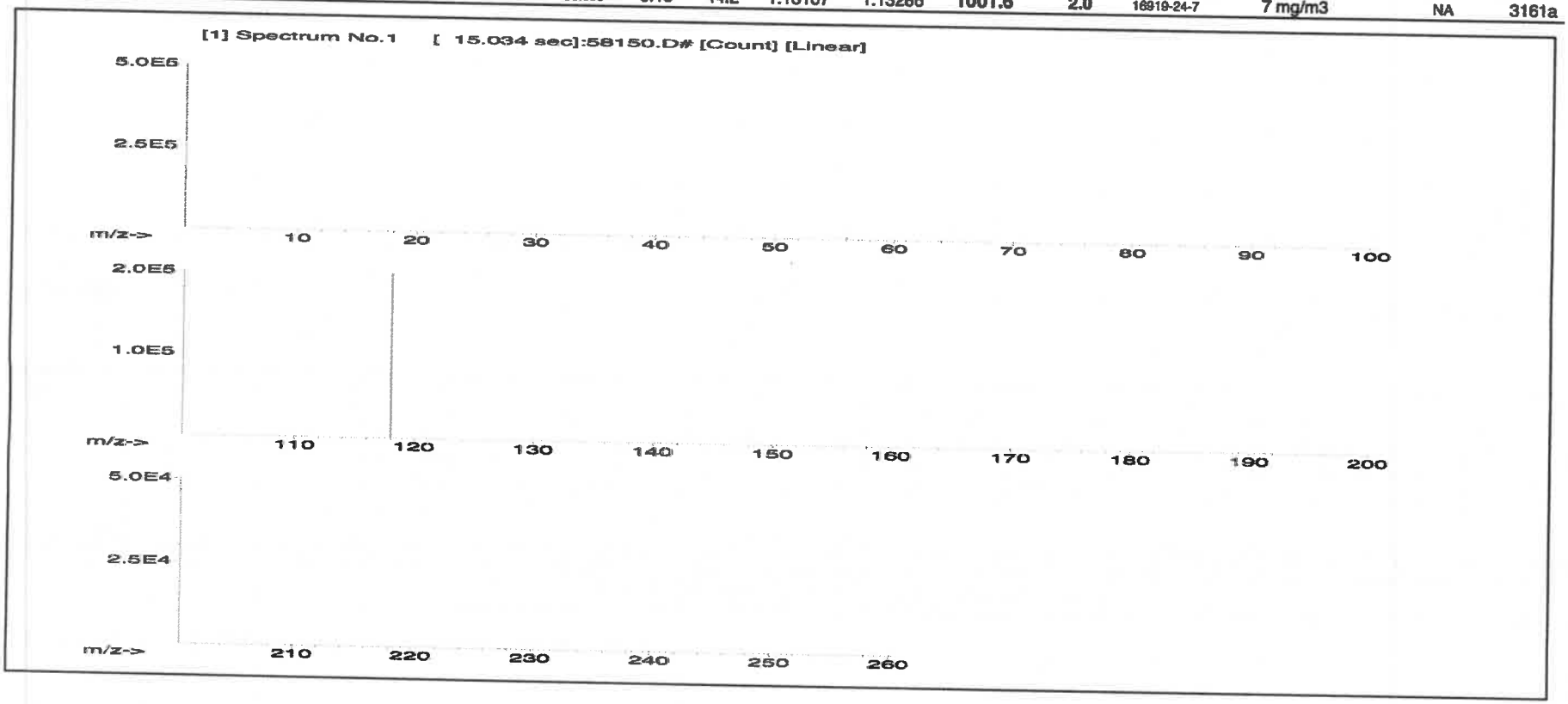
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 02/09/24 IM5800 BH

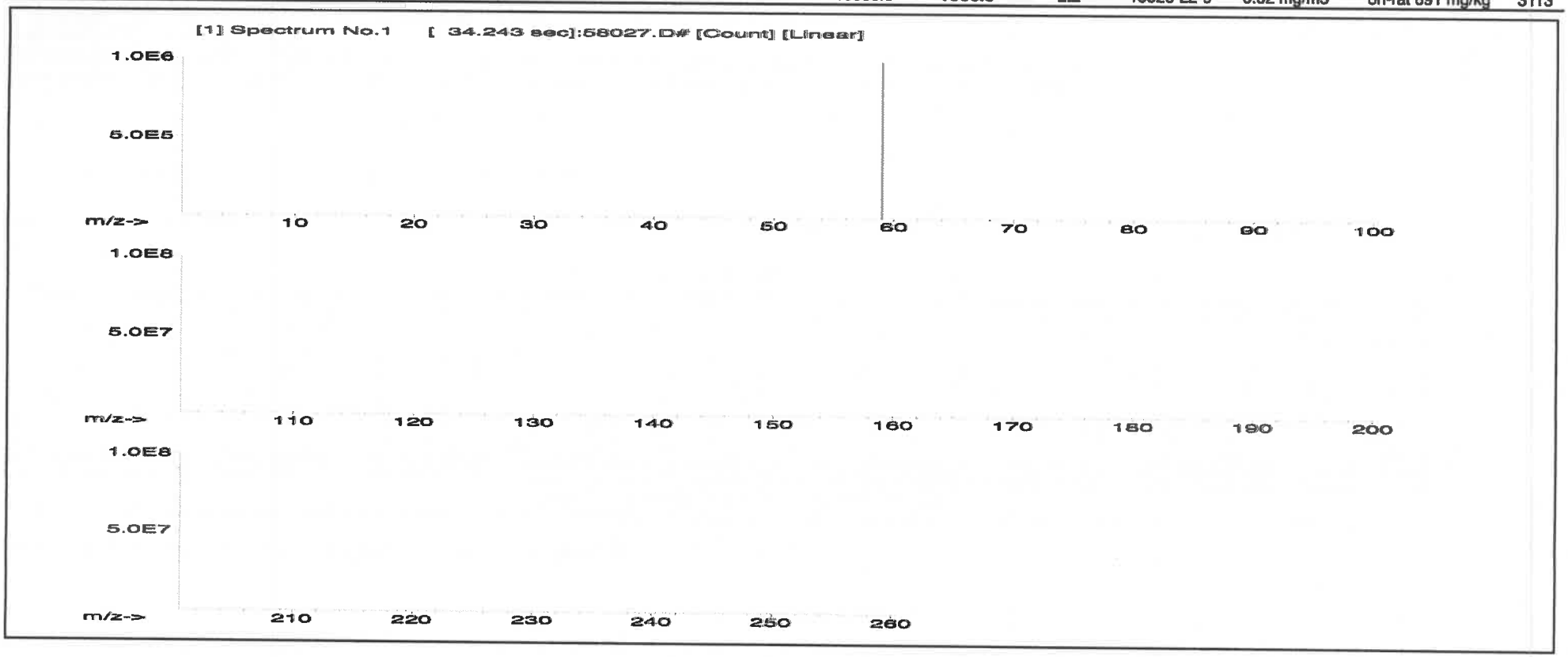
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**				
		2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

	Formulated By:	Lawrence Barry	091923
	Reviewed By:	Pedro L. Rentas	091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	**2.2**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Gé	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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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R: 02/09/24 M5801 BH

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CERTIFIED **WEIGHT** REPORT:

Part Number: 57033
Lot Number: 111323
Description: Arsenic (As)

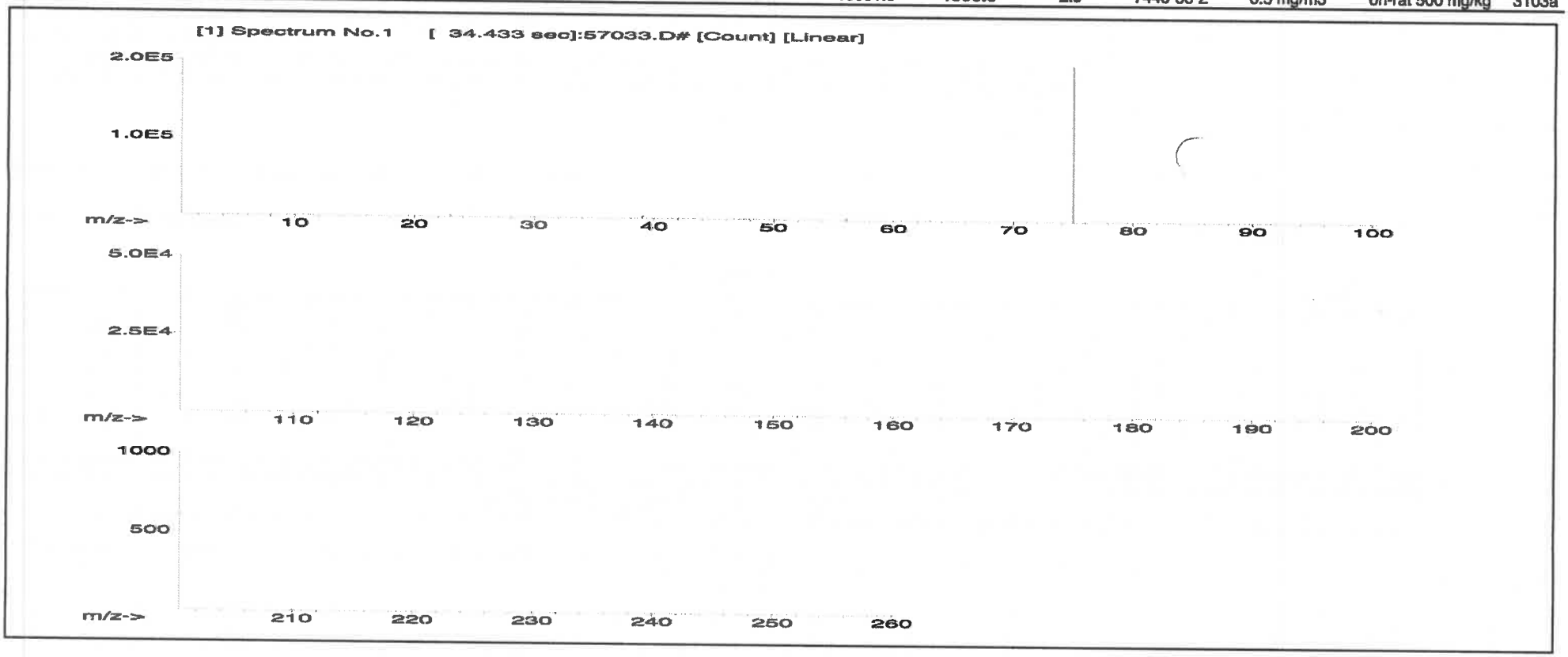
Expiration Date: 111326
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 4000.0

Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
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.
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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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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

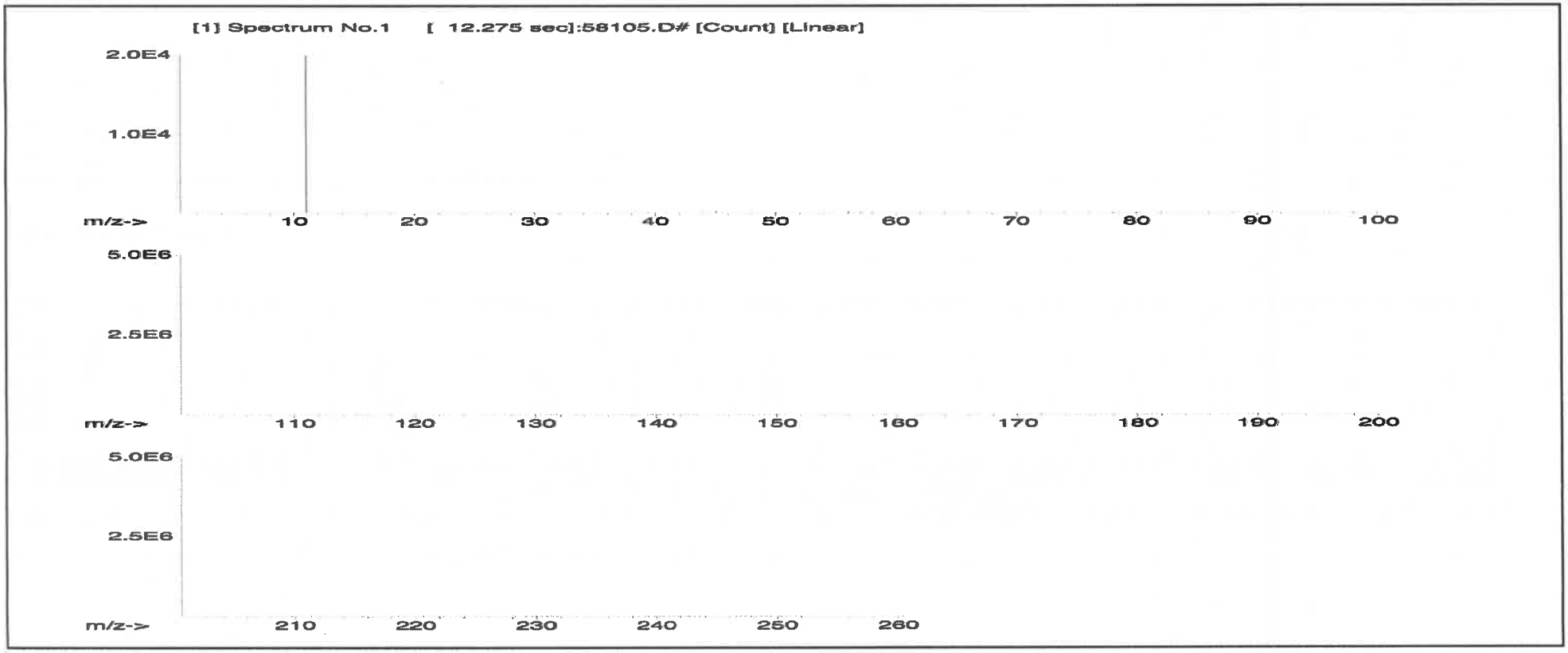
	Lot #			
Solvent:	MKBQ8597V	Ammonium hydroxide		
	2.0%	40.0 (mL)	Ammonium hydroxide	

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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* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

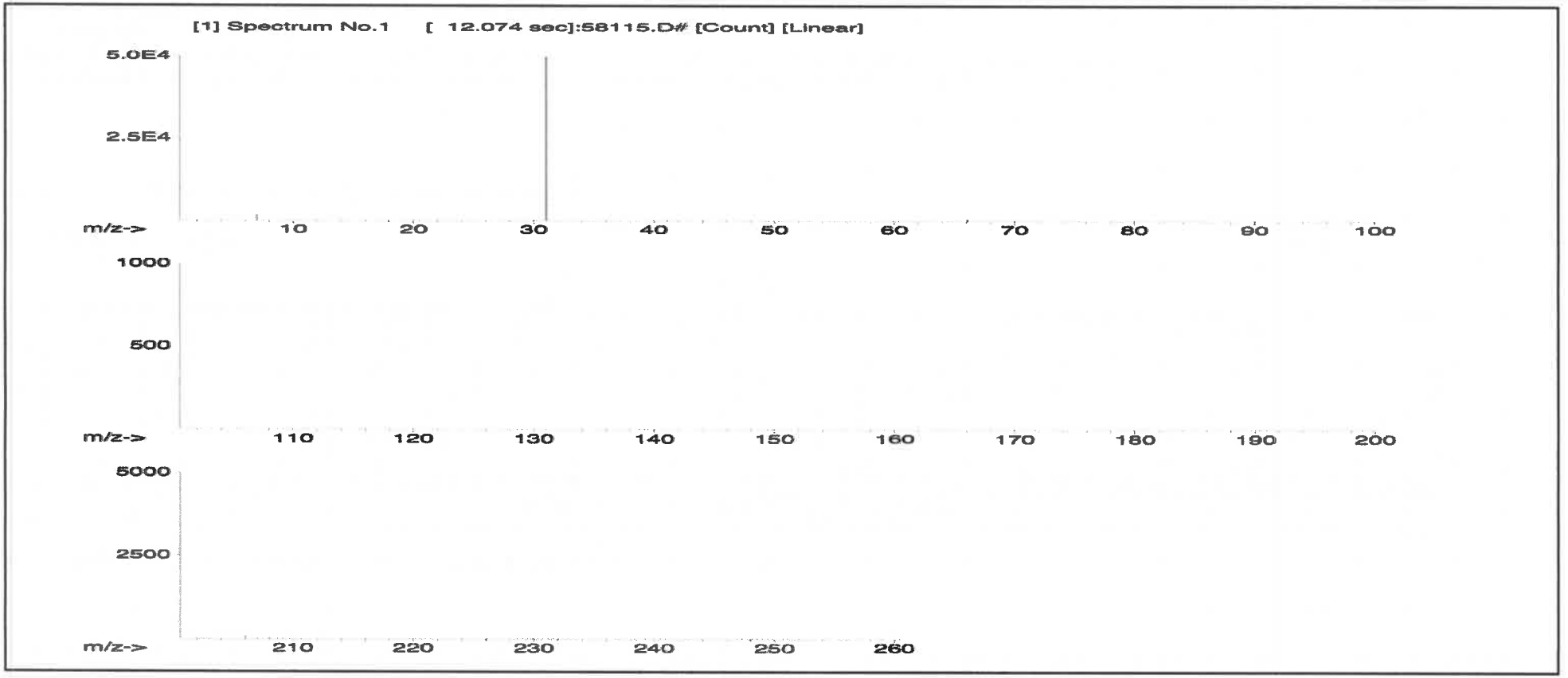
Part Number: 57115
Lot Number: 041723
Description: Phosphorous (P)

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

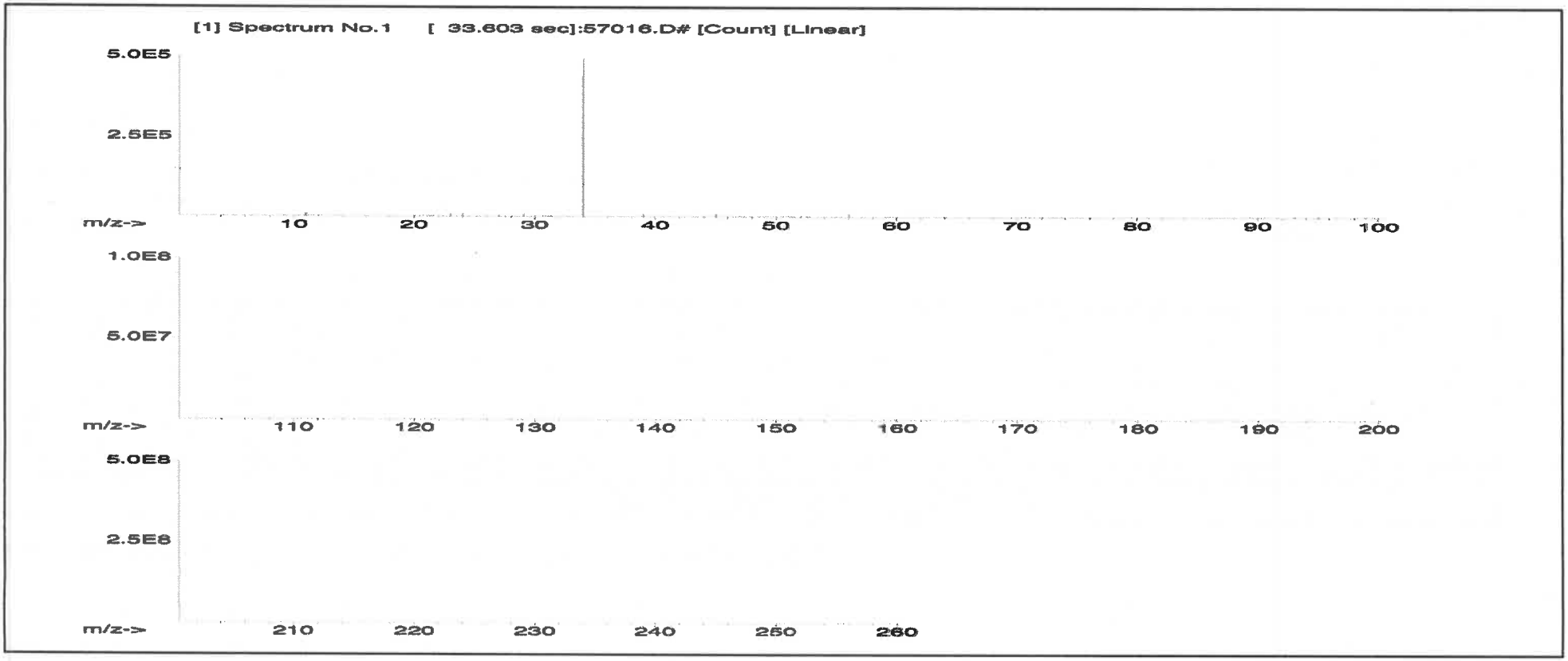
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CERTIFIED WEIGHT REPORT:

Part Number:	**57016**		**Solvent:**	**Lot #** 122923 ASTM Type 1 Water
Lot Number:	**122923**			
Description:	**Sulfur (S)**			
Expiration Date:	122926			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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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:

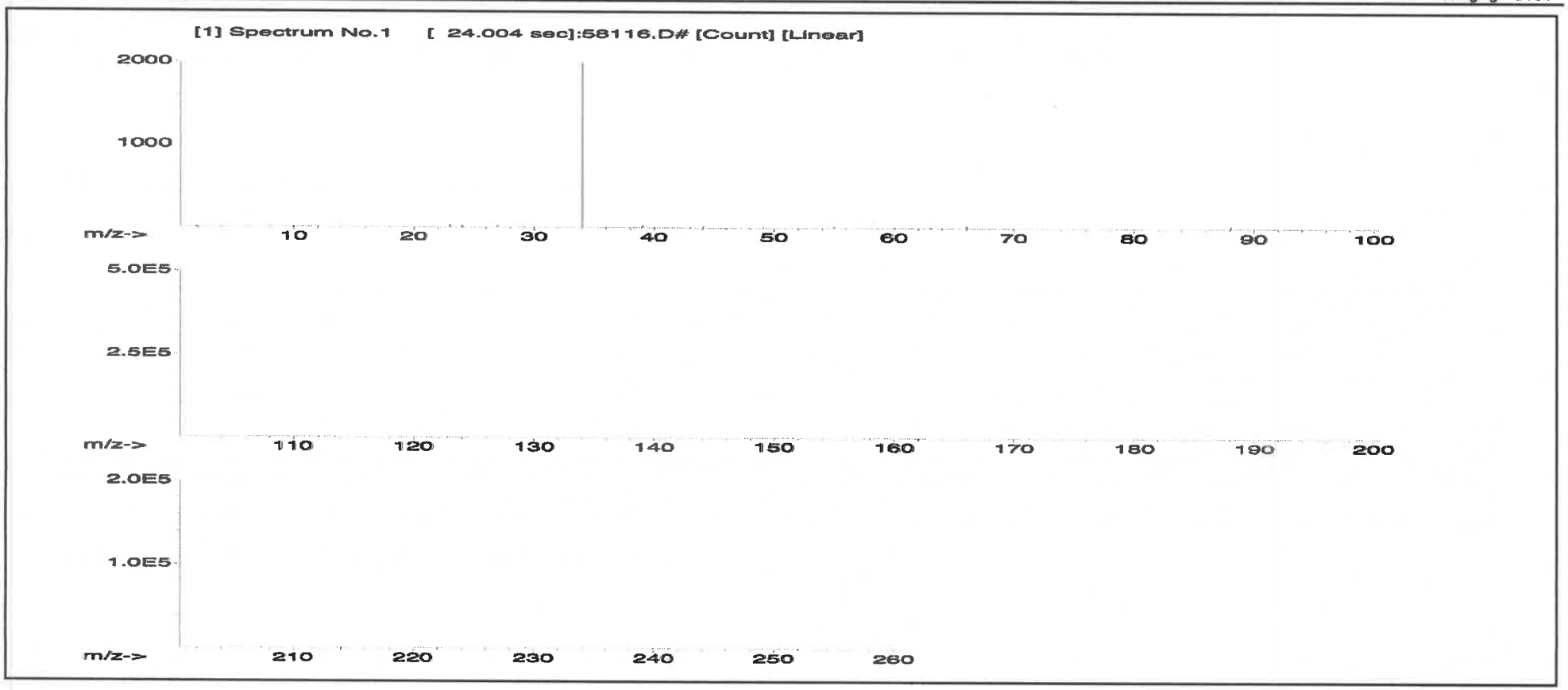
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

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	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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* 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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R: 02/09/24 M.5818

Lot #

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CERTIFIED WEIGHT REPORT:

Part Number: 57014
Lot Number: 122023
Description: Silicon (Si)

Expiration Date: 122026
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

Solvent: 24002546 Nitric Acid

2% 40.0 (mL) Nitric Acid

5E-05 Balance Uncertainty

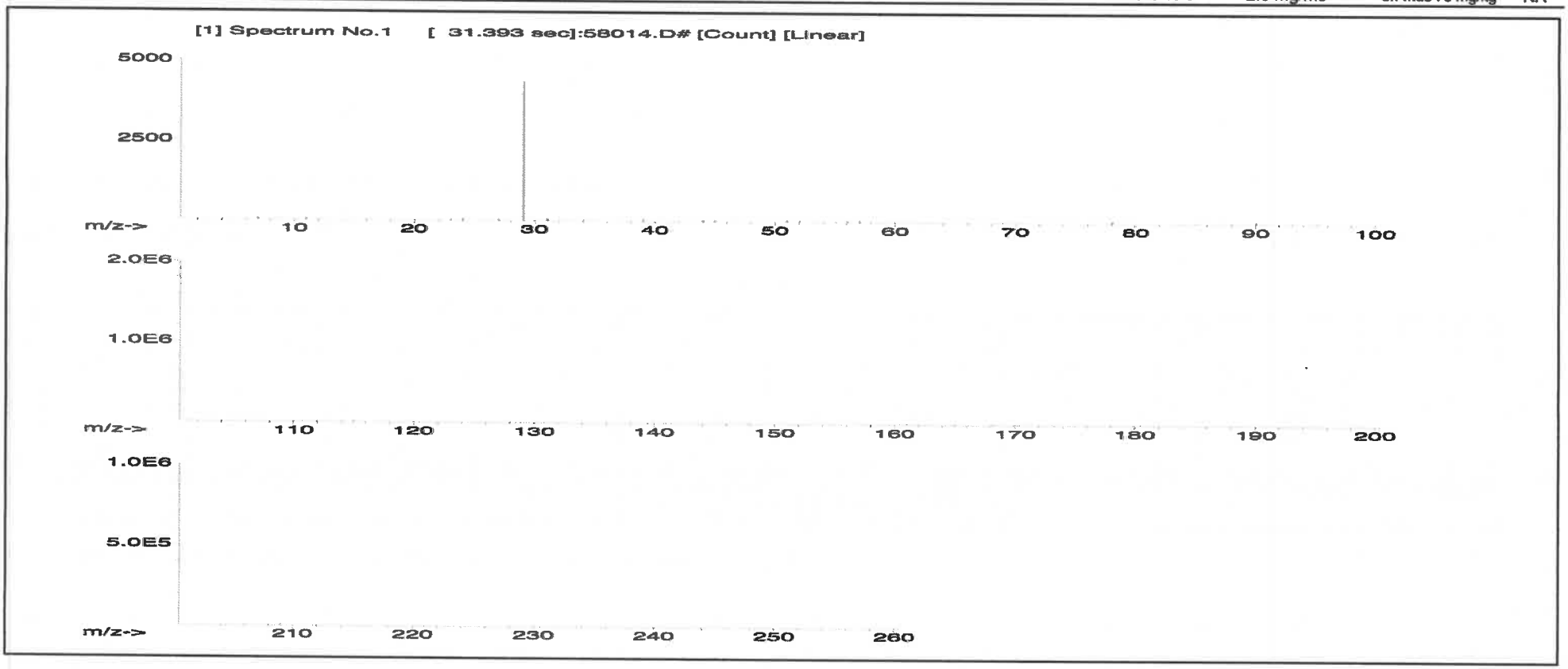
Aleah O'Brady

Formulated By:	Aleah O'Brady	122023

Pedro Rentas

Reviewed By:	Pedro L. Rentas	122023

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 hexafluorosilicate (Si)	IN009	SID082022A1	1000	99.999	0.10	14.4	13.8854	13.8855	**1000.0**	**2.0**	16919-19-0	2.5 mg/m3	orl-mus 70 mg/kg	NA



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<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:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 02/09/24 M5819

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CERTIFIED WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

Expiration Date: 111626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

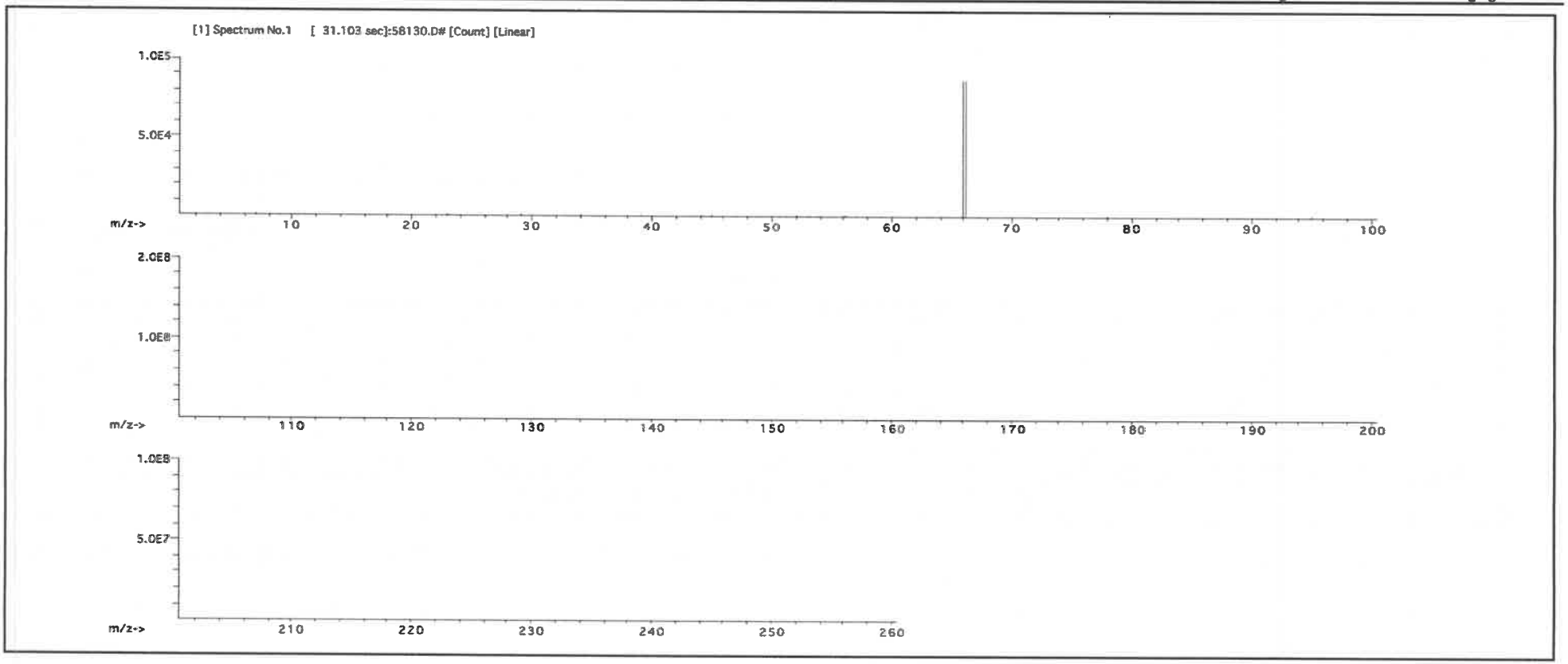
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	111623
Reviewed By:	Pedro L. Rentas	111623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	12.3475	12.3502	**1000.2**	**2.0**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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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* 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: 02/09/24 M5820

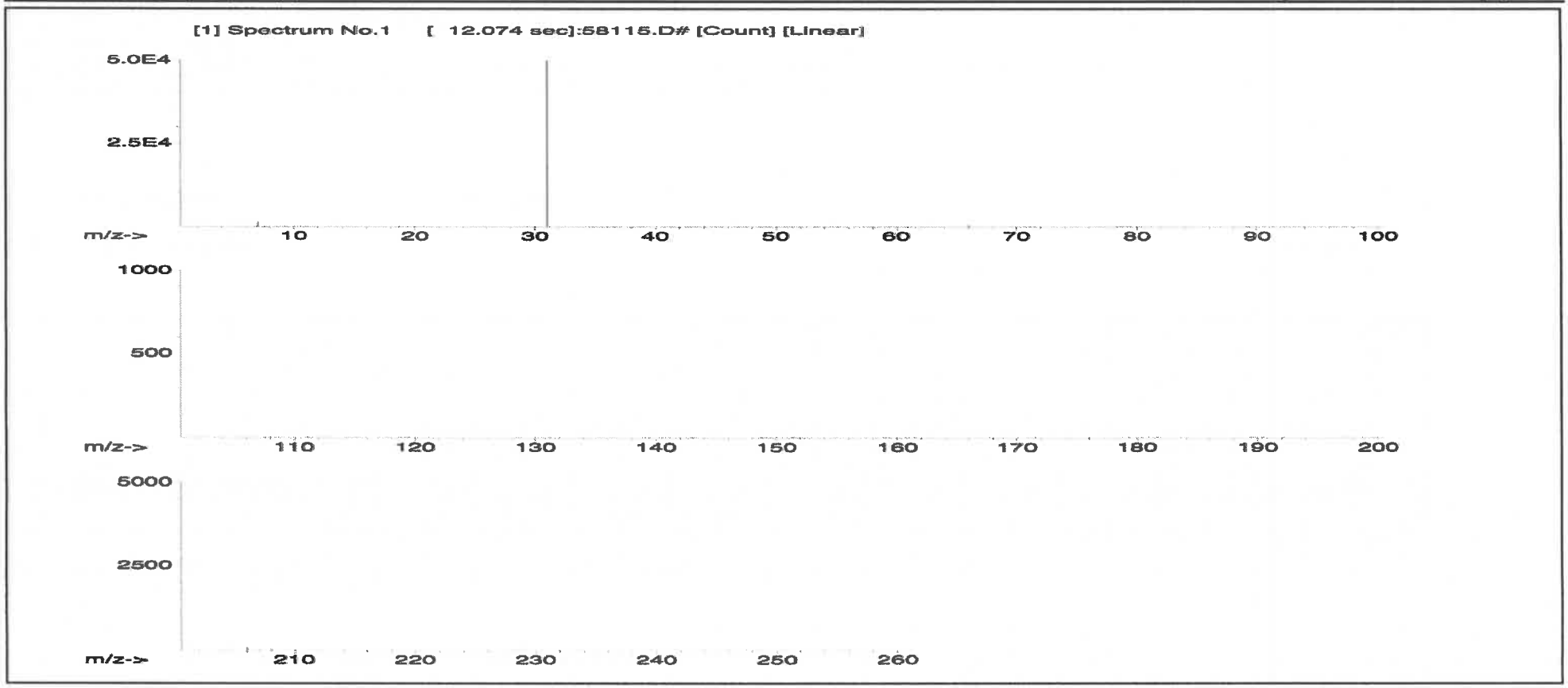
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CERTIFIED WEIGHT REPORT:

		Lot #		
Part Number:	**57015**	**Solvent:**	24002546	Nitric Acid
Lot Number:	**091123**			
Description:	**Phosphorous (P)**			
		2%	40.0 (mL)	Nitric Acid
Expiration Date:	091126			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	091123
Reviewed By:	Pedro L. Rentas	091123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	rl-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:

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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
MSS53
3/30/23

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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M5962 R! 06/14/24.

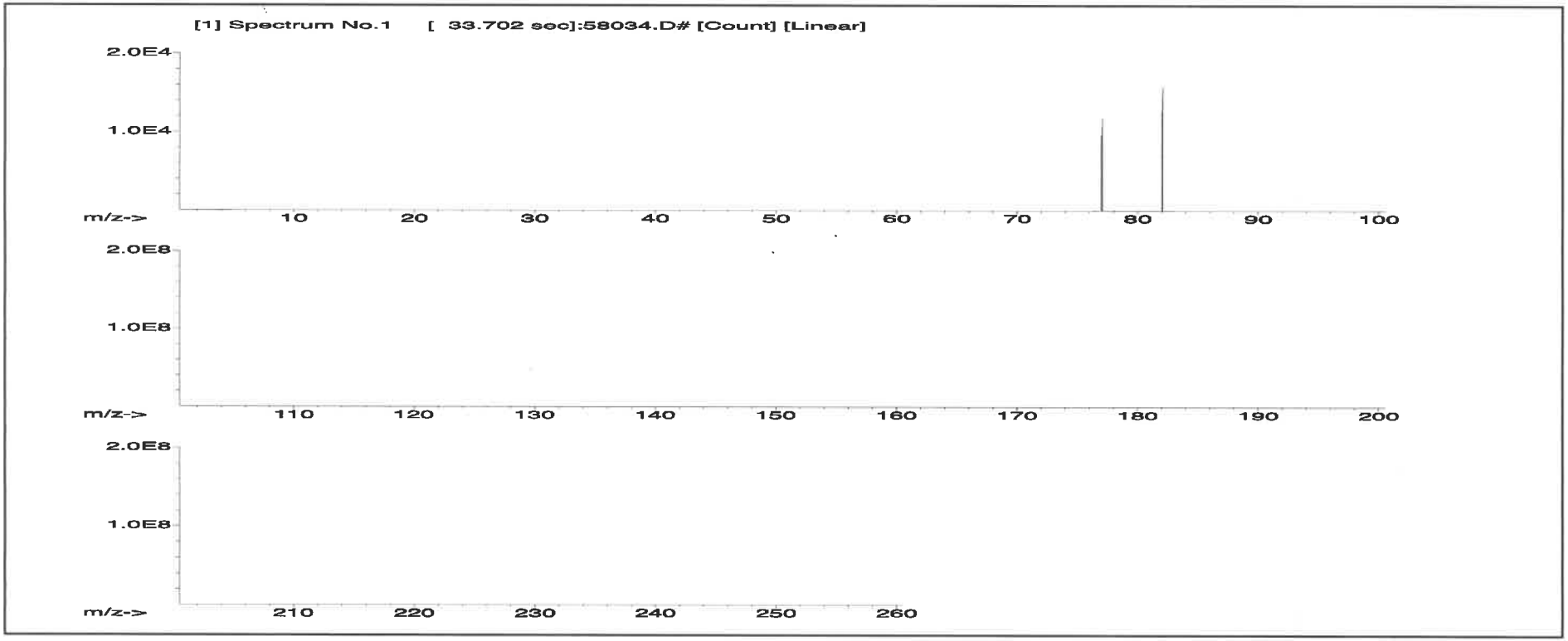
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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rentas	060624

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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Certified by:

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Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

MS963 MS964 MS965
MS966 MS967 MS968

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.6 %
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	< 0.2 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	< 50 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

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Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Ken Koehnlein
Sr. Manager, Quality Assurance

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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:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 062127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11

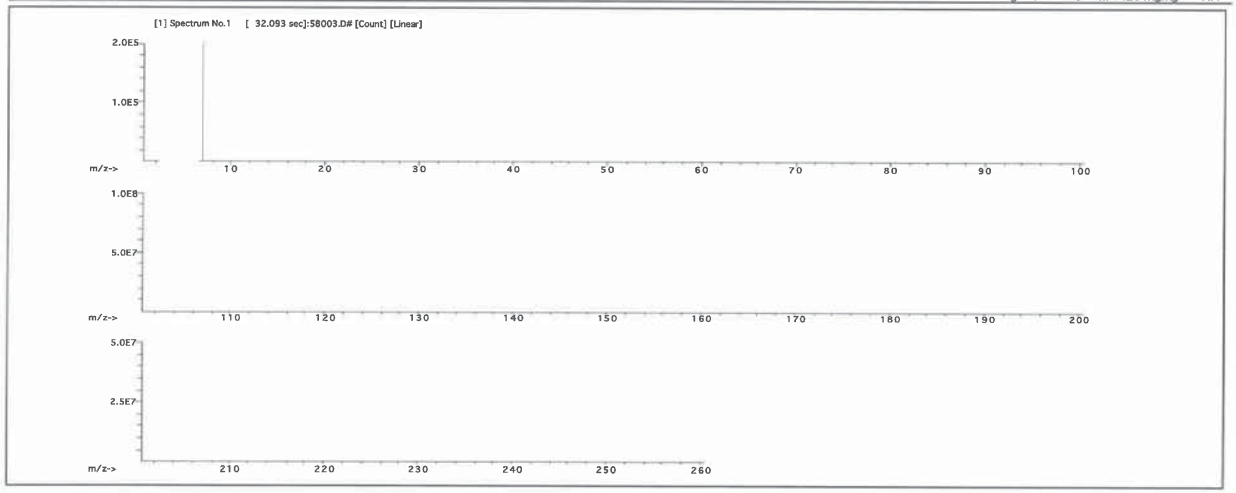
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	5.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.016 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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Certified Reference Material CRM

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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).

MS978, MS979

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R: 2/22/24

Certificate of Analysis

INORGANIC VENTURES™

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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 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 ($\pm$) = $u_{CRM/RM} = k\,(u^2_{Char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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:

$$X_{CRM/RM} = (\Sigma x_a)\,(u_{char\ a})$$

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)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form In Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 for months in 1% 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=Zr, Mo, (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

45982 R: 6/11/24

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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57038
Lot Number: 031524
Description: Strontium (Sr)

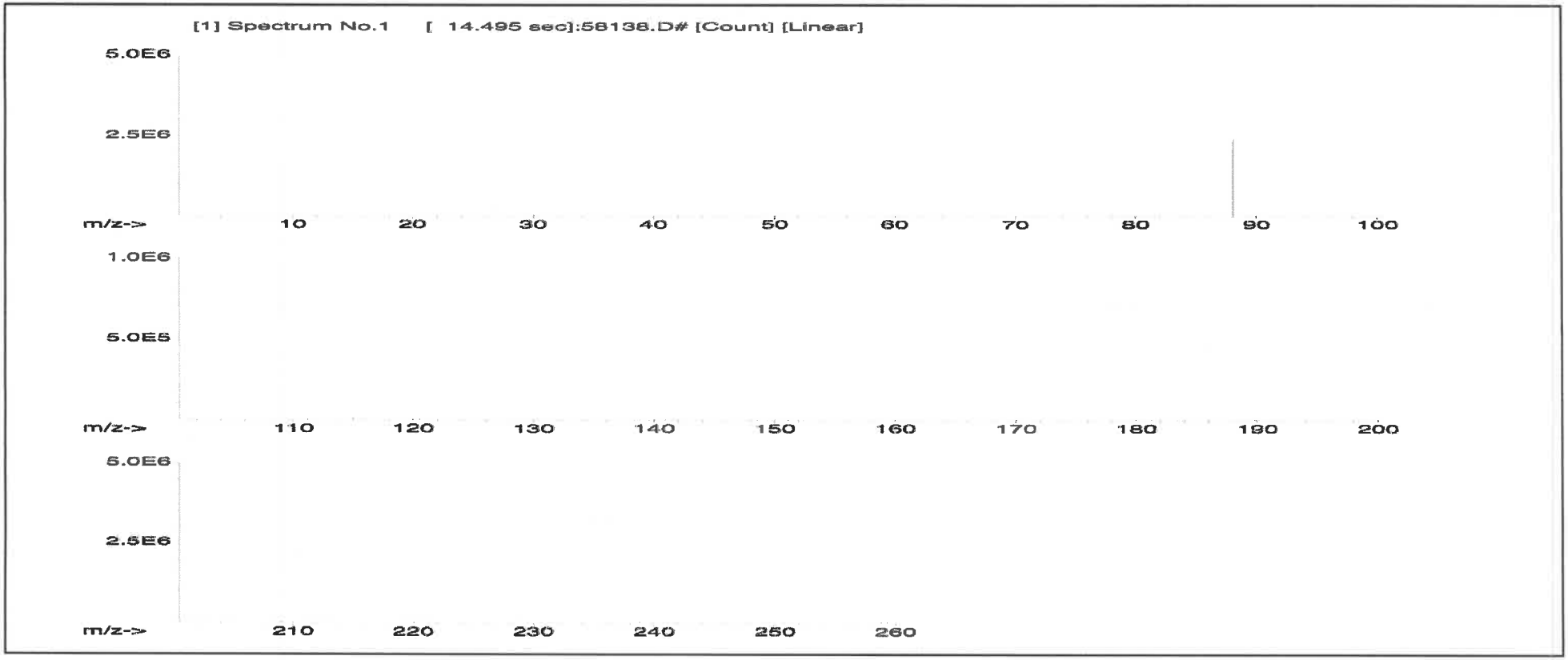
Expiration Date: 031527
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.07

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
5E-05	Balance Uncertainty		
0.100	Flask Uncertainty		

Formulated By: Benson Chan 031524

Reviewed By: Pedro L. Rentas 031524

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Strontium nitrate (Sr)	IN017	SRZ022018A1	1000	99.997	0.10	41.2	4.85470	4.85502	**1000.1**	**2.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	T	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGY10
Lot Number:	V2-Y740548
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Yttrium
Starting Material:	Yttrium Oxide
Starting Material Lot#:	2661 and 06230520YL
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10000 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10011 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	**9997 ± 50 µg/mL** ICP Assay NIST SRM 3167a Lot Number: 190730
Assay Method #3	**9984 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.004600	M	Eu		0.009037	M	Na		0.086360	M	Se	<	0.005200	M	Zn		0.030125
M	Al		0.014862	O	Fe		0.002410	M	Nb	<	0.000570	O	Si		0.024100	O	Zr	<	0.002600
M	As	<	0.003500	M	Ga	<	0.000570	M	Nd		0.000923	M	Sm		0.000461				
M	Au	<	0.001700	M	Gd	<	0.003500	M	Ni	<	0.005700	M	Sn	<	0.002300				
O	B		0.002209	M	Ge	<	0.005200	M	Os	<	0.001200	M	Sr	<	0.004600				
O	Ba	<	0.002500	M	Hf	<	0.000570	n	P	<		M	Ta	<	0.000570				
O	Be	<	0.001400	M	Hg	<	0.000570	M	Pb		0.005020	M	Tb		0.001044				
M	Bi	<	0.003500	M	Ho		0.009037	M	Pd	<	0.005100	M	Te	<	0.002300				
O	Ca		0.009841	M	In	<	0.002300	M	Pr	<	0.002300	M	Th	<	0.000570				
M	Cd	<	0.000570	M	Ir	<	0.000570	M	Pt	<	0.000570	M	Ti	<	0.003500				
M	Ce	<	0.002300	O	K		0.018677	M	Rb	<	0.000570	M	Tl	<	0.000570				
M	Co	<	0.000570	M	La		0.000461	M	Re	<	0.000570	M	Tm	<	0.003500				
M	Cr	<	0.004000	O	Li	<	0.009300	M	Rh	<	0.008000	M	U	<	0.000570				
M	Cs	<	0.000570	M	Lu		0.000582	M	Ru	<	0.000570	M	V		0.001265				
M	Cu		0.002610	O	Mg		0.001486	n	S	<		M	W	<	0.002300				
M	Dy		0.003815	M	Mn		0.000582	M	Sb		0.005422	s	Y	<					
M	Er		0.003615	M	Mo	<	0.005700	M	Sc	<	0.001200	M	Yb		0.001827				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H2O)x+2

Chemical Compatibility -Soluble in HCl, H2SO4 and HNO3. Avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H2O/ HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H2O / HCl or HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 20, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M6033

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:	**58113**		**Solvent:**	Lot # 20510011	Nitric Acid
Lot Number:	**011623**				
Description:	**Aluminum (Al)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	011626				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

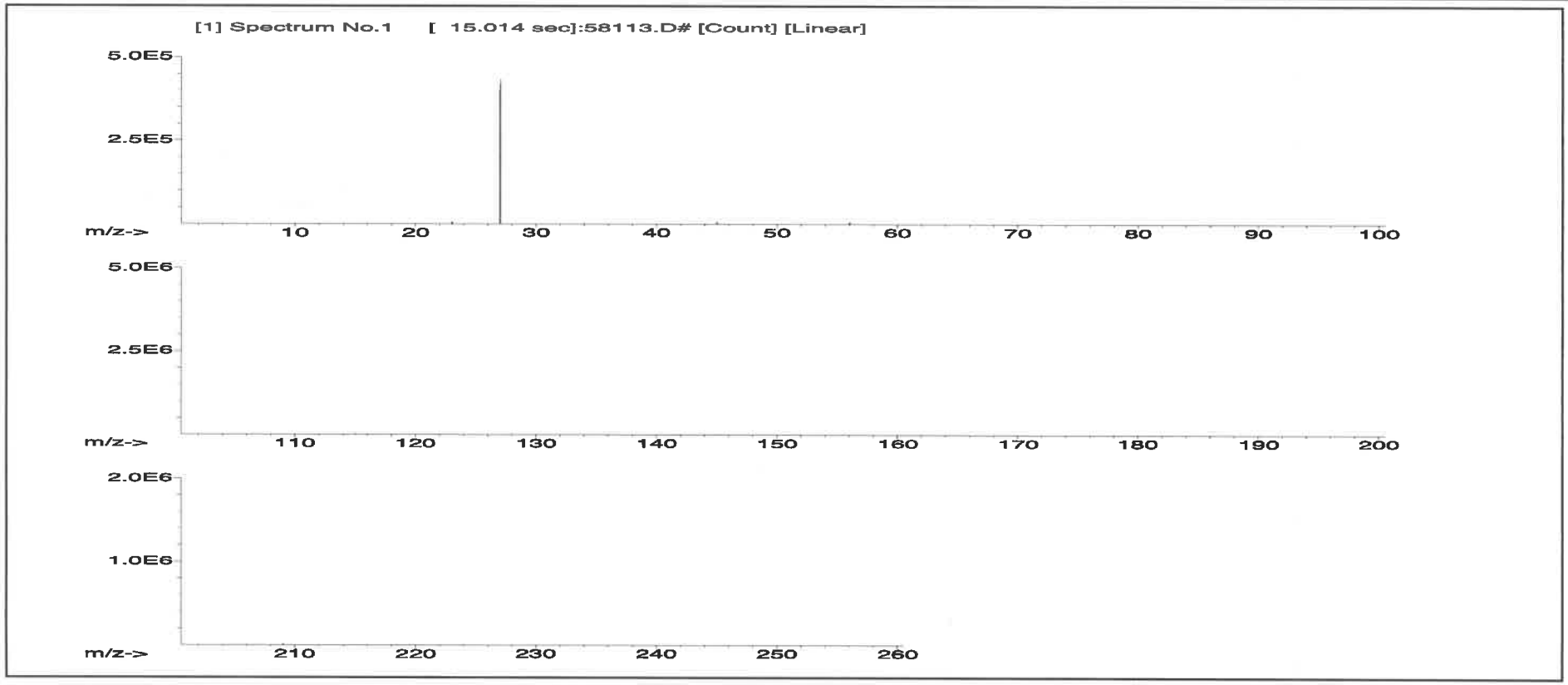
Giovanni Esposito

Formulated By:	Giovanni Esposito	011623

Pedro Rentas

Reviewed By:	Pedro L. Rentas	011623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	**10001.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



Nitric Acid 69%
CMOS

Recv date: 1.1.—08/01/2023

M6034, M6037
M6035, M6038,
M6036,

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

Recv date: 1.1.—08/01/2023

M6034, M6037
M6035, M6038,
M6036,

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Received — 08/01/2024
paper
M6039
M6040

Material No.: 9530-33
Batch No.: 24D1562005
Manufactured Date: 2024-03-18
Retest Date: 2029-03-17
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.6 %
ACS - Color (APHA)	≤ 10	5
ACS - Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.192
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	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities - Barium (Ba)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 20.0 ppb	2.2 ppb
Trace Impurities - Cadmium (Cd)	≤ 1.0 ppb	< 1.0 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	31.0 ppb
Trace Impurities - Chromium (Cr)	≤ 1.0 ppb	0.5 ppb
Trace Impurities - Cobalt (Co)	≤ 1.0 ppb	0.2 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	< 0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities - Iron (Fe)	≤ 15 ppb	3 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.: 24D1562005

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.2 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	0.2 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 1.0 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	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.0 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.4 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	< 0.1 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.: 24D1562005

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

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

R: 9/2/24.

Certificate of Analysis

M6080, M6081, M6082, M6083, M6084

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Croak
Director Quality Operations, Bioscience Production

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M5806, M5807

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Expiration Date: 122226
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

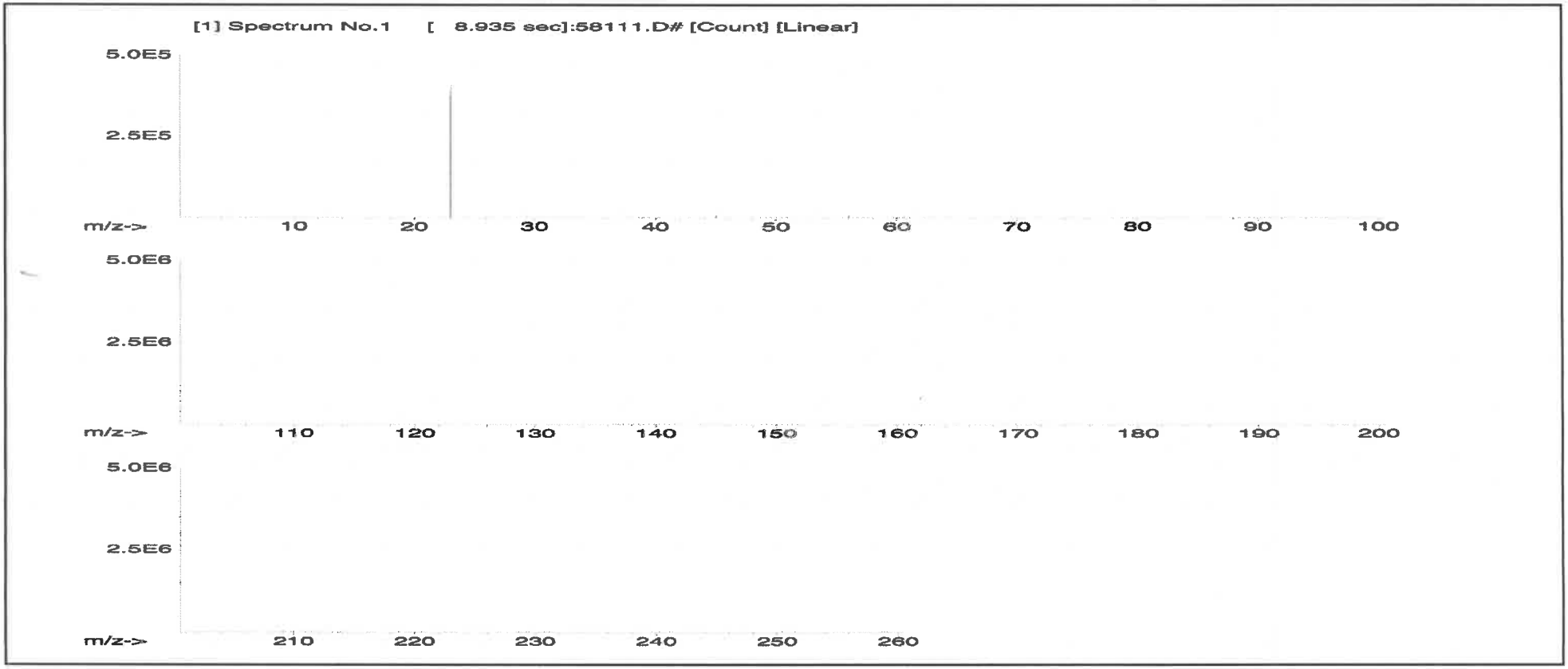
Weight shown below was diluted to (mL): 3000.4 | 0.06 Flask Uncertainty

	Lot #	
Solvent:	24002546	Nitric Acid
2%	60.0 (mL)	Nitric Acid
	5E-05	Balance Uncertainty

Aleah O'Brady
Formulated By: Aleah O'Brady 122223

Reviewed By: Pedro L. Rentas 122223

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	111.5406	111.5479	**10000.7**	**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	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	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:

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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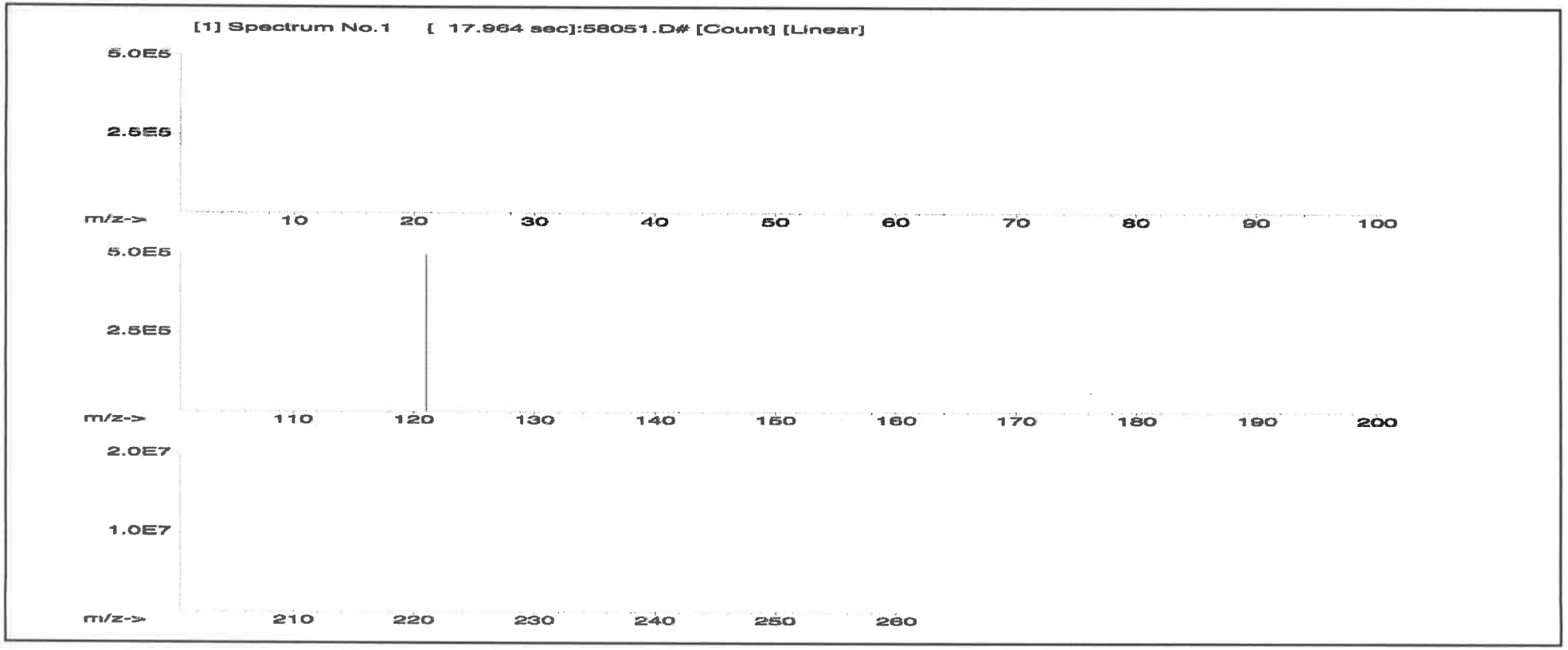
R: 01/03/24 M5802, M5803

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57051**	24002546	Nitric Acid	
Lot Number:	**120523**			
Description:	**Antimony (Sb)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	120526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rentas	120523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	100923	0.1000	300.0	0.084	1000	10001.4	**1000.0**	2.1	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	T	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 8/5/24

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CERTIFIED WEIGHT REPORT:

Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

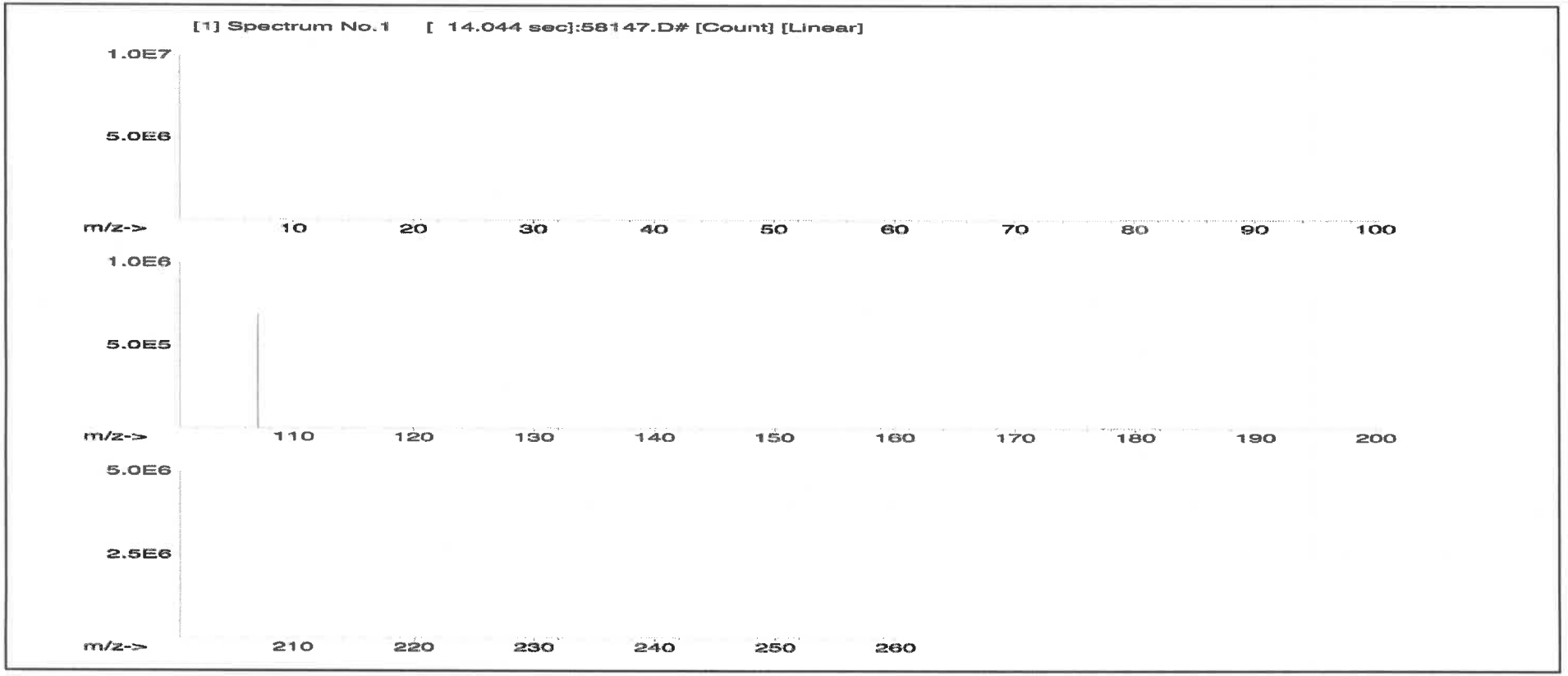
Weight shown below was diluted to (mL): 4000.30 0.058 Flask Uncertainty

		Lot #	
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	T	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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B ! 8/5/24

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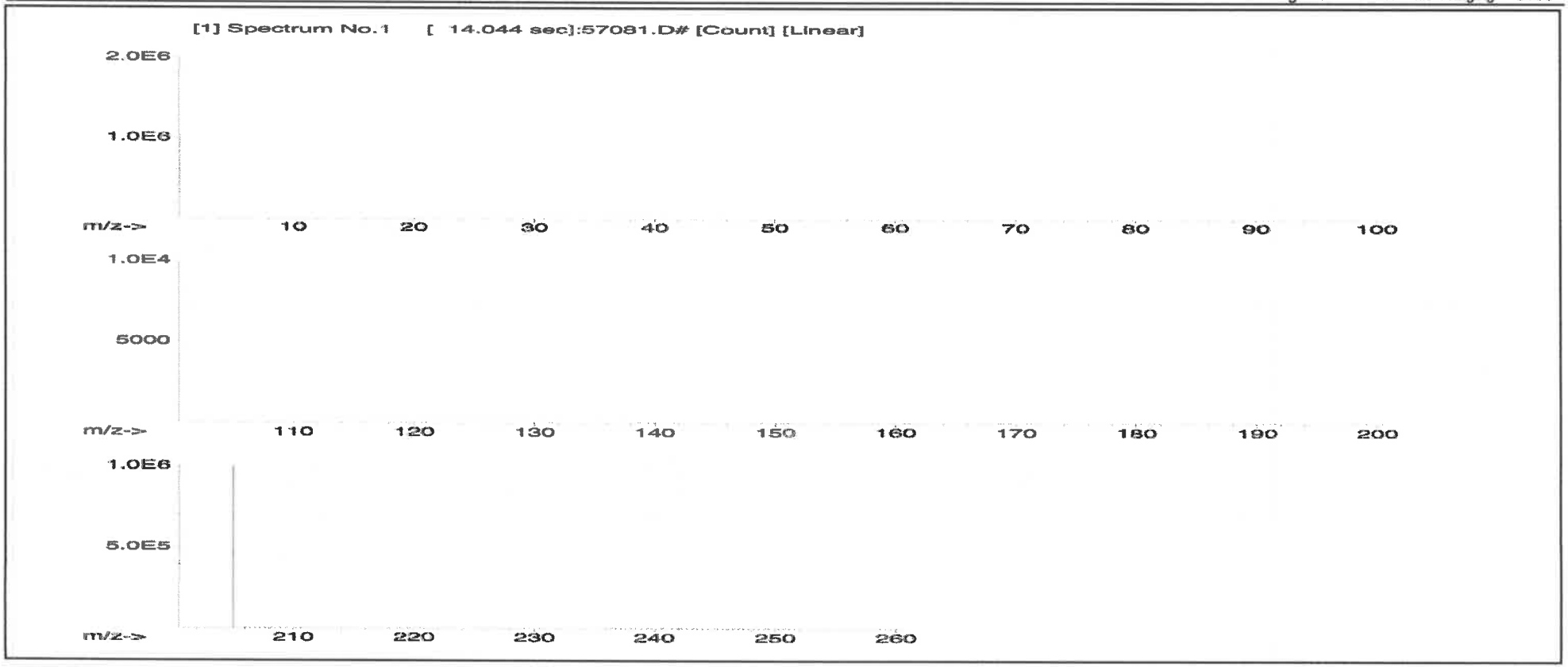
CERTIFIED WEIGHT REPORT:

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:

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Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**	24002546	Nitric Acid	
Lot Number:	**062424**			
Description:	**Vanadium (V)**	2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

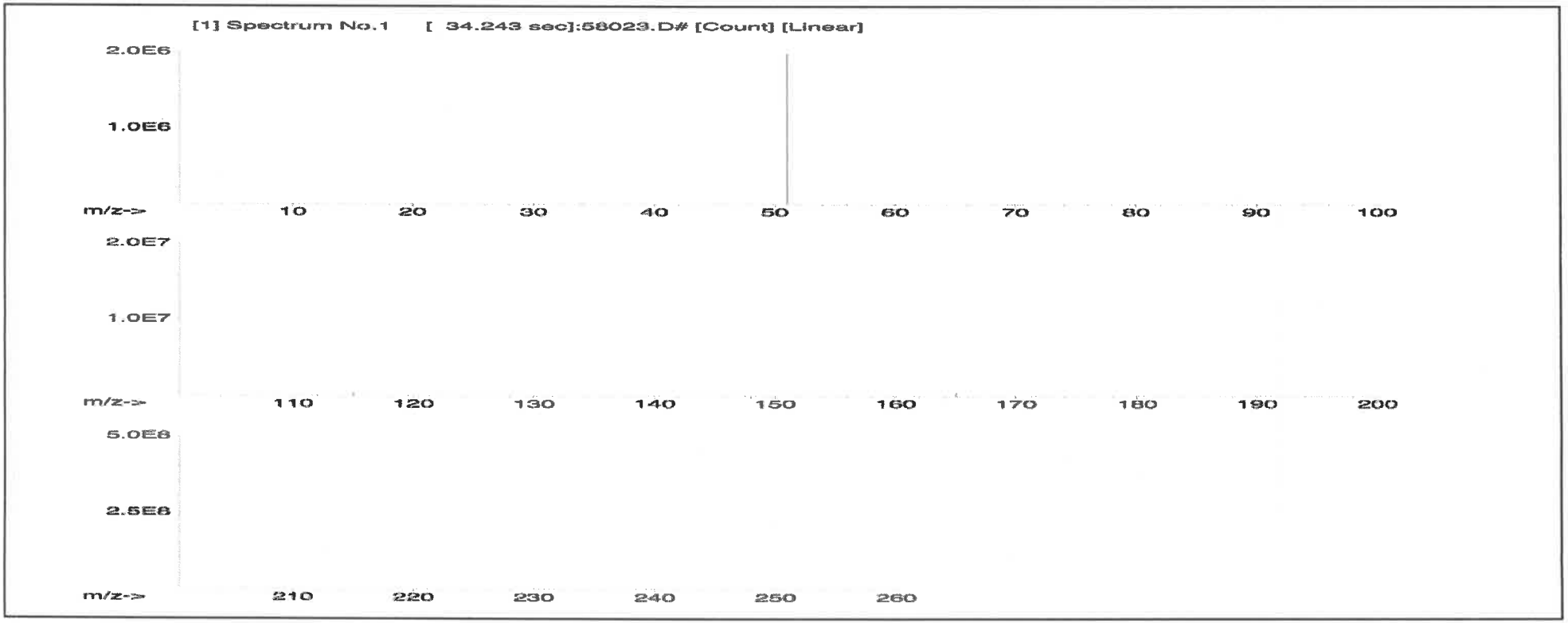
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	T
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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Chemtech - NJ
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284 Sheffield St., #1
Mountainside, NJ 07092
USA

Received by: SJ
9/5/2024
9:50

Customer PO #	Terms	PT Acct #	Customer #	Ship Via	F.O.B.
240802-01	Net 30	ZCM-100	1500470	FedEx 2nd Day	Golden, CO

Qty Ordered	Qty Shipped	Qty Backorder	Part Number	Part Description	Study Number	Lot Number
			PT-TMSET-WP	WP Trace Metals Set : (TM1, HG and SNTI)		
1	1	0	PT-TM1-WP	WP Trace Metals 1	WP0924	8259-04
1	1	0	PT-HG-WP	WP Mercury	WP0924	8259-05
1	1	0	PT-SNTI-WP	WP Tin & Titanium	WP0924	8259-38
1	1	0	PT-CR6-WP	WP Hexavalent Chromium	WP0924	8259-06
1	1	0	PT-DEM-WP	WP Demand	WP0924	8259-07
			PT-MINSET-WP	WP Minerals Set : (MIN1, MIN2 and COND)		
1	1	0	PT-MIN1-WP	WP Minerals 1 Only	WP0924	8259-08
1	1	0	PT-MIN2-WP	WP Minerals 2 Only	WP0924	8259-102
1	1	0	PT-COND-WP	WP Conductivity Only	WP0924	8259-72
1	1	0	PT-SOL-WP	WP Solids	WP0924	8259-09
			PT-NUTSET-WP	WP Nutrients Set : (NUT1, NUT2 and NUT3)		
1	1	0	PT-NUT1-WP	WP NUT1 Simple Nutrients Only	WP0924	8259-10
1	1	0	PT-NUT2-WP	WP NUT2 - Complex Nutrients	WP0924	8259-11
1	1	0	PT-NUT3-WP	WP NUT3 - Nitrite Only	WP0924	8259-69
1	1	0	PT-OGR1L-WP	WP Oil and Grease 1L	WP0924	8259-103
1	1	0	PT-CL-WP	WP Residual Chlorine	WP0924	8259-13
1	1	0	PT-PH-WP	WP pH	WP0924	8259-15
1	1	0	PT-CN-WP	WP Cyanide	WP0924	8259-14
1	1	0	PT-PHEN-WP	WP Phenolics	WP0924	8259-16

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www.phenova.com/home/termsofsale

Ship To

Received by: SJ
9/5/2024
9:50

Chemtech - NJ
ATTN: Sohil Jodhani
284 Sheffield St., #1
Mountainside, NJ 07092
USA

Customer PO #	Terms	PT Acct #	Customer #	Ship Via	F.O.B.
240802-01	Net 30	ZCM-100	1500470	FedEx 2nd Day	Golden, CO

Qty Ordered	Qty Shipped	Qty Backorder	Part Number	Part Description	Study Number	Lot Number
1	1	0	PT-S2-WP	WP Sulfide	WP0924	8259-22
1	1	0	PT-SSOL-WP	WP Settleable Solids	WP0924	8259-17
1	1	0	PT-VSOL-WP	WP Volatile Solids	WP0924	8259-18
1	1	0	PT-TURB-WP	WP Turbidity	WP0924	8259-20
1	1	0	PT-SIO2-WP	WP Silica	WP0924	8259-21
1	1	0	PT-COL-WP	WP Color	WP0924	8259-51
1	1	0	PT-VOA-WP	WP Volatiles	WP0924	8259-26
1	1	0	PT-BN-WP	WP Base Neutrals	WP0924	8259-27
1	1	0	PT-ACIDS-WP	WP Acids	WP0924	8259-28
1	1	0	PT-PEST-WP	WP Pesticides	WP0924	8259-29
1	1	0	PT-CHLR-WP	WP Chlordane	WP0924	8259-30
1	1	0	PT-TXP-WP	WP Toxaphene	WP0924	8259-31
1	1	0	PT-PCBW-WP	WP PCBs in Water	WP0924	8259-32
1	1	0	PT-HERB-WP	WP Herbicides	WP0924	8259-36
1	1	0	RR-TPH1L-WP	WP TPH 1L	R39151	R39151-104
1	1	0	RR-PAH-WP	WP PAH-Low Level	R39151	R39151-37
1	1	0	RR-GAS-WP	WP Gasoline Range Organics	R39151	R39151-62
1	1	0	RR-DIES-WP	WP Diesel Range Organics	R39151	R39151-63
1	1	0	RR-8011-WP	WP EDB/DBCP/TCP	R39151	R39151-98
1	1	0	RR-TRIAZINE-WP	WP Triazine Pesticides	R39151	R39151-108

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