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DATA PACKAGE

METALS

PROJECT NAME : RAYMARK SUPERFUND SITE CT 19-NH-95700-001

NOBIS GROUP

585 Middlesex Street

Lowell, MA - 01851

Phone No: 978-683-0891

ORDER ID : Q1540

ATTENTION : Adam Roy

Laboratory Certification ID # 20012

Alliance TECHNICAL GROUP

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Cover Page

Order ID : Q1540

Project ID : Raymark Superfund Site CT 19-NH-95700-001

Client : Nobis Group

Lab Sample Number	Client Sample Number
Q1540-01	OU4-CF-15R-031025

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

Signature : APPROVED
By Nimisha Pandya, QA/QC Supervisor at 10:32 am, Mar 21, 2025

Date: 3/20/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Nobis Group
Project Name: Raymark Superfund Site CT 19-NH-95700-001
Project # N/A
Chemtech Project # Q1540
Test Name: SPLP MetalGroup6

A. Number of Samples and Date of Receipt:
1 Solid sample was received on 03/11/2025.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: SPLP Extraction, SPLP Mercury, SPLP MetalGroup6, SPLP MetalGroup7 and SPLP ZHE Ext. This data package contains results for SPLP MetalGroup6.

C. Analytical Techniques:
The analysis of SPLP MetalGroup6 was based on method 6010D and digestion based on method 3050 (soils).

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike (OU4-CF-15R-031025MS) analysis met criteria for all samples except for Copper due to matrix interference.
The Matrix Spike Duplicate(OU4-CF-15R-031025MSD) analysis met criteria for all samples except for Copper due to matrix interference.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Serial Dilution met the acceptable requirements.

E. Additional Comments:

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

Signature_____ APPROVED
By Nimisha Pandya, QA/QC Supervisor at 10:33 am, Mar 21, 2025

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Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- INORGANIC

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

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

ALLIANCE 284 Sheffield Street, Mountainside New Jersey 07092

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

METALS CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: Q1540 MATRIX: Water

METHOD: 6010D

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

ADDITIONAL COMMENTS:

APPROVED

By Nimisha Pandya, QA/QC Supervisor at 10:33 am, Mar 21, 2025

QA REVIEW Date

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1540

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

QA Review Signature: SOHIL JODHANI **Date:** 03/20/2025

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LAB CHRONICLE

OrderID:	Q1540	**OrderDate:**	3/11/2025 10:38:00 AM
Client:	Nobis Group	**Project:**	Raymark Superfund Site CT 19-NH-95700-001
Contact:	Adam Roy	**Location:**	I31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1540-01	**OU4-CF-15R-031025**	**Water**			**03/10/25**			**03/11/25**
			SPLP MetalGroup6	6010D		03/12/25	03/12/25	

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Hit Summary Sheet
SW-846

SDG No.:	Q1540	**Order ID:**	Q1540
Client:	Nobis Group	**Project ID:**	Raymark Superfund Site CT 19-NH-95700-

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	LOD	RDL	Units
Client ID : OU4-CF-15R-031025									
Q1540-01	OU4-CF-15R-031025	Water	Copper	306		14.1	16.0	20.0	ug/L

SAMPLE DATA

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Report of Analysis

Client:	Nobis Group	Date Collected:	03/10/25
Project:	Raymark Superfund Site CT 19-NH-95700-001	Date Received:	03/11/25
Client Sample ID:	OU4-CF-15R-031025	SDG No.:	Q1540
Lab Sample ID:	Q1540-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-50-8	Copper	306	N	1	14.1	16.0	20.0	ug/L	03/12/25 12:05	03/12/25 14:32	SW6010	SW3010

Color Before:	Colorless	Clarity Before:	Clear	Texture:	
Color After:	Colorless	Clarity After:	Clear	Artifacts:	
Comments:	SPLP MetalGroup6				

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

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

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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	Copper	532	510	104	95 - 105	P	03/12/2025	10:52	LB135011

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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	Copper	22.9	20.0	114	80 - 120	P	03/12/2025	10:56	LB135011

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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	Copper	1260	1250	101	90 - 110	P	03/12/2025	11:29	LB135011
CCV02	Copper	1280	1250	102	90 - 110	P	03/12/2025	12:20	LB135011
CCV03	Copper	1280	1250	102	90 - 110	P	03/12/2025	13:10	LB135011
CCV04	Copper	1290	1250	103	90 - 110	P	03/12/2025	14:24	LB135011
CCV05	Copper	1260	1250	101	90 - 110	P	03/12/2025	15:25	LB135011
CCV06	Copper	1260	1250	100	90 - 110	P	03/12/2025	16:25	LB135011
CCV07	Copper	1280	1250	102	90 - 110	P	03/12/2025	17:25	LB135011
CCV08	Copper	1270	1250	102	90 - 110	P	03/12/2025	18:23	LB135011
CCV09	Copper	1280	1250	102	90 - 110	P	03/12/2025	18:49	LB135011

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Metals

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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	Copper	22.6	20.0	113	40 - 160	P	03/12/2025	11:05	LB135011

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	11:01	LB135011

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Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	LOD	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	11:34	LB135011
CCB02	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	12:24	LB135011
CCB03	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	13:14	LB135011
CCB04	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	14:28	LB135011
CCB05	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	15:29	LB135011
CCB06	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	16:30	LB135011
CCB07	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	17:30	LB135011
CCB08	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	18:27	LB135011
CCB09	Copper	20.0	+/-20.0	U	16.0	20.0	P	03/12/2025	18:53	LB135011

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Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Nobis Group **SDG No.:** Q1540

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	LOD ug/L	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167099BL		**WATER**		**Batch Number:**		**PB167099**		**Prep Date:**	**03/12/2025**	
	Copper	20.0	<20.0	U	16.0	20.0	P	03/12/2025	14:07	LB135011

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Metals
- 4 -
INTERFERENCE CHECK SAMPLE

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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	Copper	7.26	2.0	363	-18	22	03/12/2025	11:09	LB135011
ICSAB01	Copper	509	511	100	434	588	03/12/2025	11:14	LB135011

METAL QC DATA

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metals
- 5a -
MATRIX SPIKE SUMMARY

client: Nobis Group **level:** low **sdg no.:** Q1540

contract: NOBI03 **lab code:** CHEM **case no.:** Q1540 **sas no.:** Q1540

matrix: Water **sample id:** Q1540-01 **client id:** OU4-CF-15R-031025MS

Percent Solids for Sample: NA **Spiked ID:** Q1540-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/L	86 - 114	560		306		300	85	N	P

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metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Nobis Group **level:** low **sdg no.:** Q1540

contract: NOBI03 **lab code:** CHEM **case no.:** Q1540 **sas no.:** Q1540

matrix: Water **sample id:** Q1540-01 **client id:** OU4-CF-15R-031025MSD

Percent Solids for Sample: NA **Spiked ID:** Q1540-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/L	86 - 114	559		306		300	85	N	P

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Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

Matrix: Water **Level:** LOW **Client ID:** OU4-CF-15R-031025A

Sample ID: Q1540-01 **Spiked ID:** Q1540-01A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/L	86 - 114	564		306		300	86		P

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Nobis Group **Level:** LOW **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

Matrix: Water **Sample ID:** Q1540-01 **Client ID:** OU4-CF-15R-031025DUP

Percent Solids for Sample: NA **Duplicate ID** Q1540-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Copper	ug/L	20	306		308		1		P

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

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Metals

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DUPLICATE SAMPLE SUMMARY

Client: Nobis Group **Level:** LOW **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

Matrix: Water **Sample ID:** Q1540-01MS **Client ID:** OU4-CF-15R-031025MSD

Percent Solids for Sample: NA **Duplicate ID** Q1540-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Copper	ug/L	20	560		559		0		P

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

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LABORATORY CONTROL SAMPLE SUMMARY

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167099BS							
Copper	ug/L	300	305		102	86 - 114	P

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Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

OU4-CF-15R-031025L

Lab Name: Chemtech Consulting Group **Contract:** NOBI03

Lab Code: CHEM **Lb No.:** lb135011 **Lab Sample ID :** Q1540-01L **SDG No.:** Q1540

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
Copper	306		352		15		P

METAL PREPARATION & INSTRUMENT DATA

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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
Copper	224.700	0.0000000	0.0000000	0.0007850	0.0000000	0.0000000

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Metals
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ICP INTERELEMENT CORRECTION FACTORS

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0009530

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0006510	0.0020500

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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
Copper	224.700	0.0000000	-0.0047000	0.0036100	0.0000000	0.0000000

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Metals
- 11 -
ICP INTERELEMENT CORRECTION FACTORS

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Case No.:** Q1540 **SAS No.:** Q1540

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
Copper	224.700	0.0000000	0.0003840	0.0000000	0.0000000	0.0000000

METAL PREPARATION & ANALYICAL SUMMARY

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Metals
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SAMPLE PREPARATION SUMMARY

Client: Nobis Group **SDG No.:** Q1540

Contract: NOBI03 **Lab Code:** CHEM **Method:**

Case No.: Q1540 **SAS No.:** Q1540

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB167099**						
PB167099BL	PB167099BL	MB	WATER	03/12/2025	50.0	50.0	
PB167099BS	PB167099BS	LCS	WATER	03/12/2025	50.0	50.0	
Q1540-01	OU4-CF-15R-031025	SAM	WATER	03/12/2025	50.0	50.0	
Q1540-01DUP	OU4-CF-15R-031025DUP	DUP	WATER	03/12/2025	50.0	50.0	
Q1540-01MS	OU4-CF-15R-031025MS	MS	WATER	03/12/2025	50.0	50.0	
Q1540-01MSD	OU4-CF-15R-031025MSD	MSD	WATER	03/12/2025	50.0	50.0	

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

metals
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ANALYSIS RUN LOG

Client: Nobis Group **Contract:** NOBI03

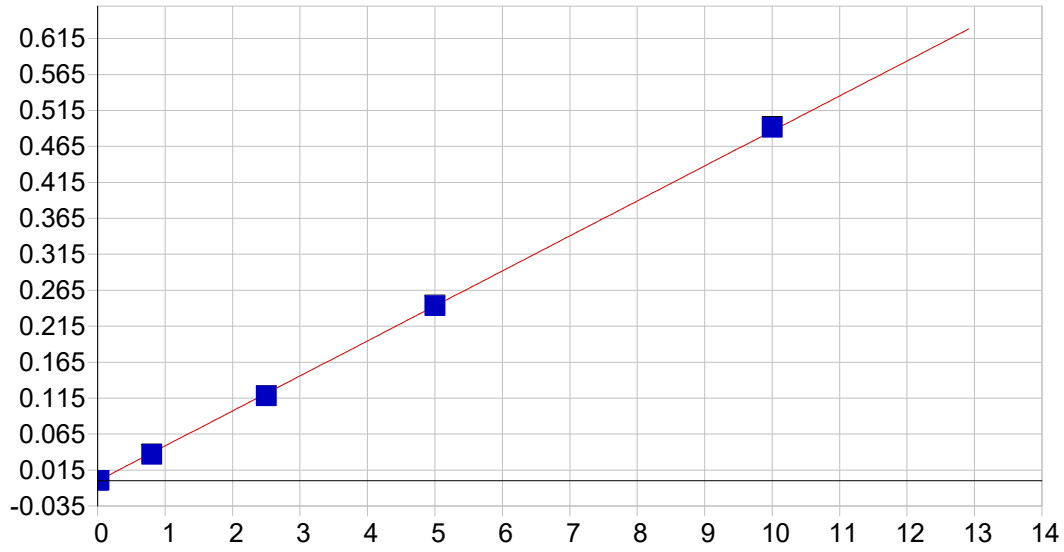
Lab code: CHEM **Case no.:** Q1540 **Sas no.:** Q1540 **Sdg no.:** Q1540

Instrument id number: **Method:** **Run number:** LB135011

Start date: 03/12/2025 **End date:** 03/12/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1027	Cu
S1	S1	1	1031	Cu
S2	S2	1	1035	Cu
S3	S3	1	1039	Cu
S4	S4	1	1044	Cu
S5	S5	1	1048	Cu
ICV01	ICV01	1	1052	Cu
LLICV01	LLICV01	1	1056	Cu
ICB01	ICB01	1	1101	Cu
CRI01	CRI01	1	1105	Cu
ICSA01	ICSA01	1	1109	Cu
ICSAB01	ICSAB01	1	1114	Cu
CCV01	CCV01	1	1129	Cu
CCB01	CCB01	1	1134	Cu
CCV02	CCV02	1	1220	Cu
CCB02	CCB02	1	1224	Cu
CCV03	CCV03	1	1310	Cu
CCB03	CCB03	1	1314	Cu
PB167099BL	PB167099BL	1	1407	Cu
PB167099BS	PB167099BS	1	1412	Cu
CCV04	CCV04	1	1424	Cu
CCB04	CCB04	1	1428	Cu
Q1540-01	OU4-CF-15R-031025	1	1432	Cu
Q1540-01DUP	OU4-CF-15R-031025DUP	1	1437	Cu
Q1540-01L	OU4-CF-15R-031025L	5	1441	Cu
Q1540-01A	OU4-CF-15R-031025A	1	1458	Cu
CCV05	CCV05	1	1525	Cu
CCB05	CCB05	1	1529	Cu
CCV06	CCV06	1	1625	Cu
CCB06	CCB06	1	1630	Cu
Q1540-01MS	OU4-CF-15R-031025MS	1	1634	Cu
Q1540-01MSD	OU4-CF-15R-031025MSD	1	1638	Cu
CCV07	CCV07	1	1725	Cu
CCB07	CCB07	1	1730	Cu
CCV08	CCV08	1	1823	Cu
CCB08	CCB08	1	1827	Cu
CCV09	CCV09	1	1849	Cu
CCB09	CCB09	1	1853	Cu

METAL
RAW DATA

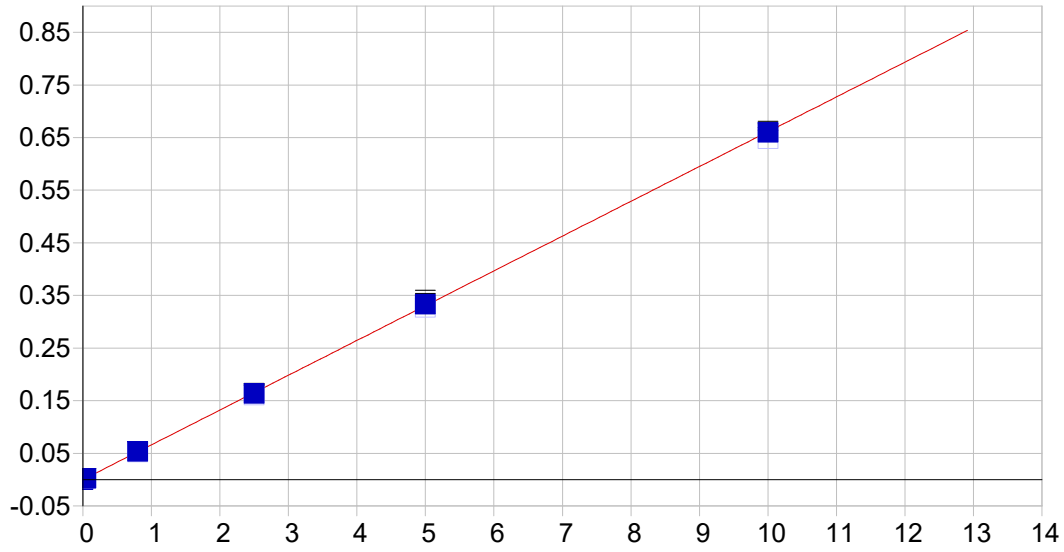


As 189.042 {479}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000140	Re-Slope:	1.000000
A1 (Gain):	0.048662	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999851	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	0.002458		
Predicted MQL:	0.008194		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00014	.000	1
S1	.02000	.01956	-.000	-2.18	.00081	.000	1
S3	2.5000	2.4264	-.074	-2.94	.11780	.000	1
S4	5.0000	5.0119	.012	.238	.24349	.000	1
S5	10.000	10.104	.104	1.04	.49101	.001	1
S2	.80000	.75822	-.042	-5.22	.03671	.000	1

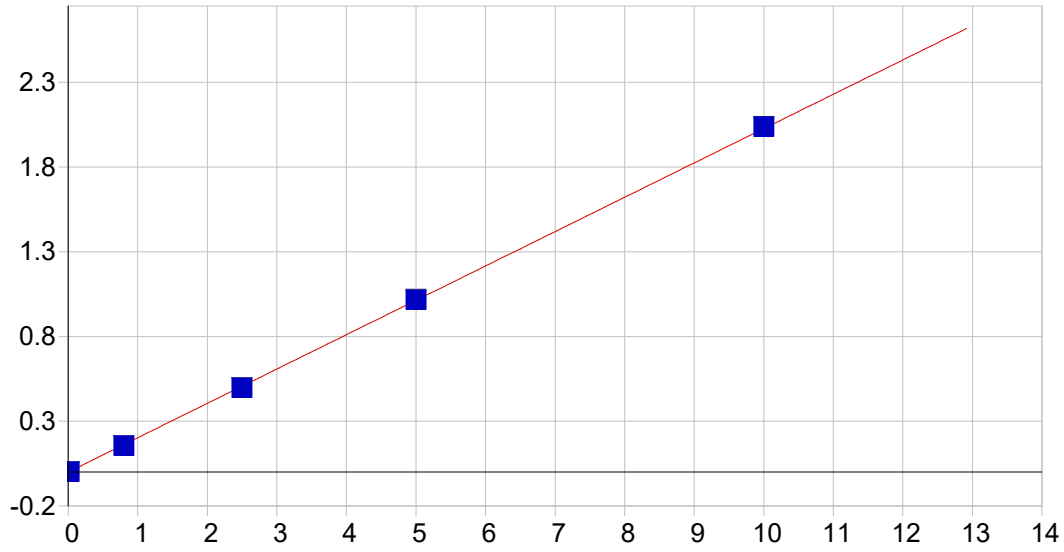


Tl 190.856 {477}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000030	Re-Slope:	1.000000
A1 (Gain):	0.066119	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.001709		
Predicted MQL:	0.005697		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00003	.000	1
S1	.04000	.03935	-.001	-1.62	.00240	.000	1
S3	2.5000	2.4710	-.029	-1.16	.16031	.000	1
S4	5.0000	5.0418	.042	.837	.32724	.008	1
S5	10.000	9.9811	-.019	-.189	.64773	.003	1
S2	.80000	.80665	.007	.831	.05233	.000	1

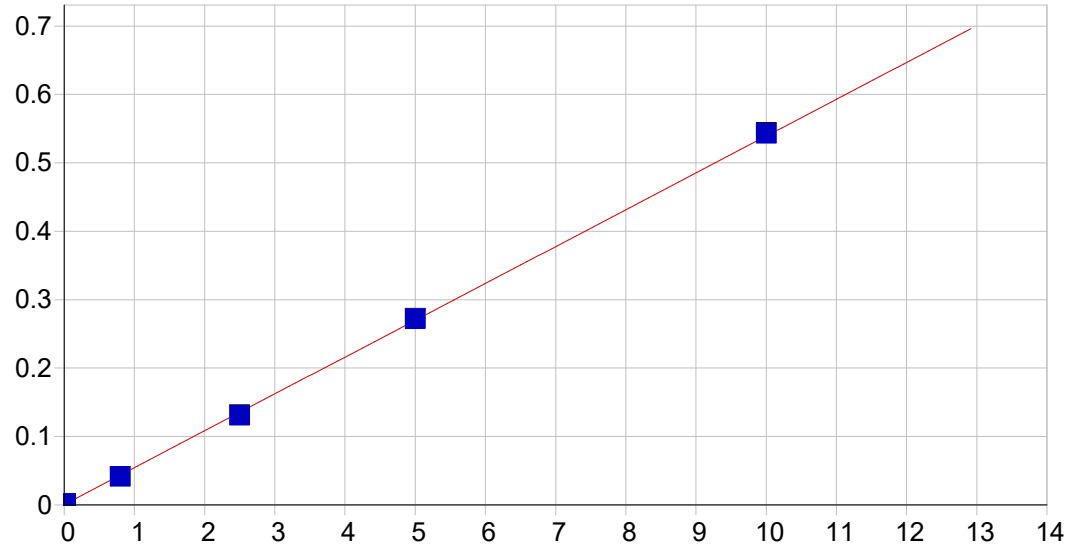


Pb 220.353 {453}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000181	Re-Slope:	1.000000
A1 (Gain):	0.202692	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999931	Status:	OK.
Std Error of Est:	0.000043		
Predicted MDL:	0.001374		
Predicted MQL:	0.004580		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00018	.000	1
S1	.01200	.01184	-.000	-1.35	.00217	.000	1
S3	2.5000	2.4541	-.046	-1.84	.49669	.001	1
S4	5.0000	5.0183	.018	.366	1.0159	.002	1
S5	10.000	10.060	.060	.595	2.0366	.000	1
S2	.80000	.76823	-.032	-3.97	.15535	.000	1

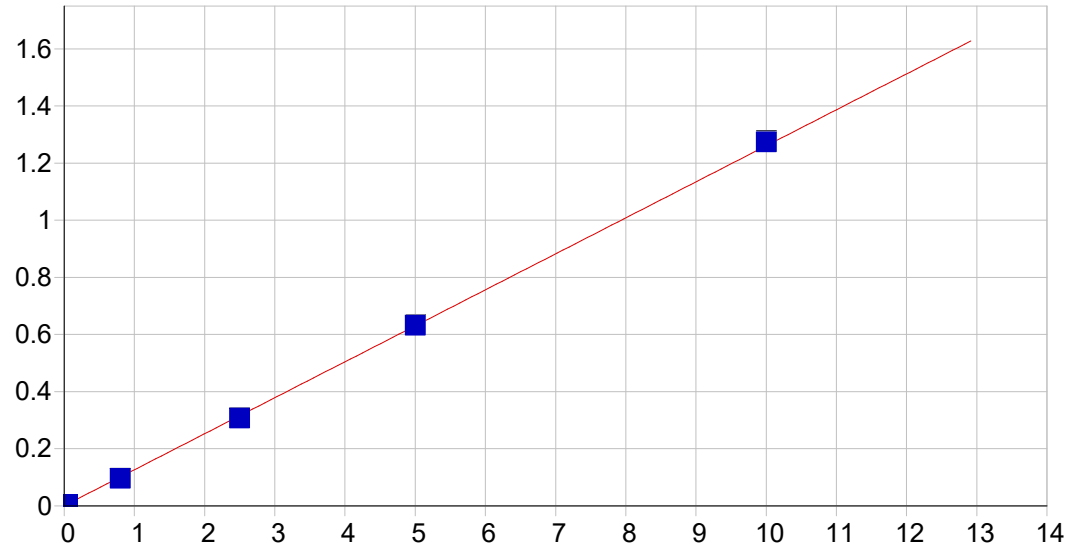


Se 196.090 {472}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000720	Re-Slope:	1.000000
A1 (Gain):	0.053836	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999844	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	0.002723		
Predicted MQL:	0.009077		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00072	.000	1
S1	.02000	.02130	.001	6.51	.00187	.000	1
S3	2.5000	2.4227	-.077	-3.09	.13110	.000	1
S4	5.0000	5.0398	.040	.797	.27195	.001	1
S5	10.000	10.079	.079	.790	.54315	.001	1
S2	.80000	.75714	-.043	-5.36	.04147	.000	1

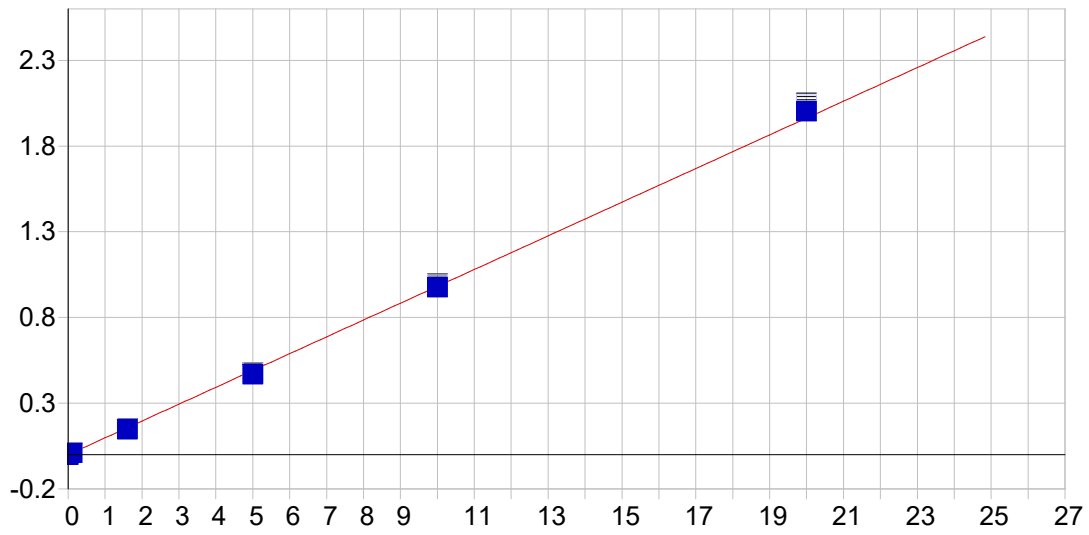


Sb 206.833 {463}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000589	Re-Slope:	1.000000
A1 (Gain):	0.125995	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999857	Status:	OK.
Std Error of Est:	0.000079		
Predicted MDL:	0.001737		
Predicted MQL:	0.005790		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00059	.000	1
S1	.05000	.04738	-.003	-5.25	.00657	.000	1
S3	2.5000	2.4304	-.070	-2.78	.30766	.001	1
S4	5.0000	5.0105	.011	.210	.63360	.002	1
S5	10.000	10.103	.103	1.03	1.2769	.002	1
S2	.80000	.75867	-.041	-5.17	.09645	.000	1

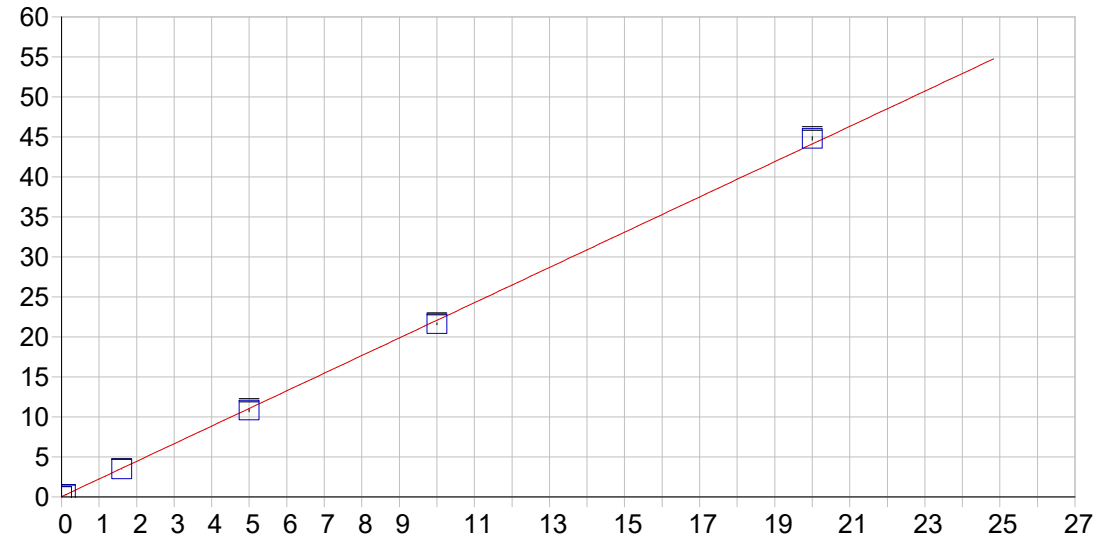


Al 396.152 { 85}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000136	Re-Slope:	1.000000
A1 (Gain):	0.098175	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999668	Status:	OK.
Std Error of Est:	0.000191		
Predicted MDL:	0.005464		
Predicted MQL:	0.018213		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00013	.000	1
S1	.10000	.09763	-.002	-2.37	.01021	.000	1
S3	5.0000	4.7624	-.238	-4.75	.47694	.001	1
S4	10.000	9.9367	-.063	-.633	.99444	.003	1
S5	20.000	20.398	.398	1.99	2.0406	.010	1
S2	1.6000	1.5050	-.095	-5.93	.15067	.001	1

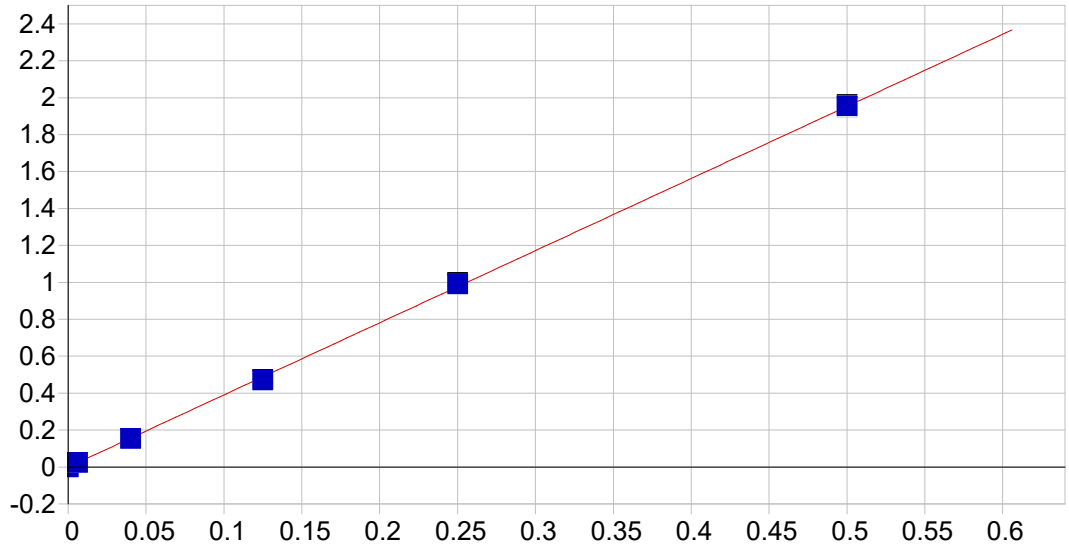


Ba 493.409 { 68}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.040661	Re-Slope:	1.000000
A1 (Gain):	2.203401	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999843	Status:	OK.
Std Error of Est:	0.002894		
Predicted MDL:	0.000792		
Predicted MQL:	0.002639		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.04067	.002	1
S1	.10000	.10037	.000	.373	.26182	.001	1
S3	5.0000	4.8998	-.100	-2.00	10.837	.187	1
S4	10.000	9.8111	-.189	-1.89	21.659	.119	1
S5	20.000	20.323	.323	1.61	44.820	.213	1
S2	1.6000	1.5659	-.034	-2.13	3.4909	.017	1

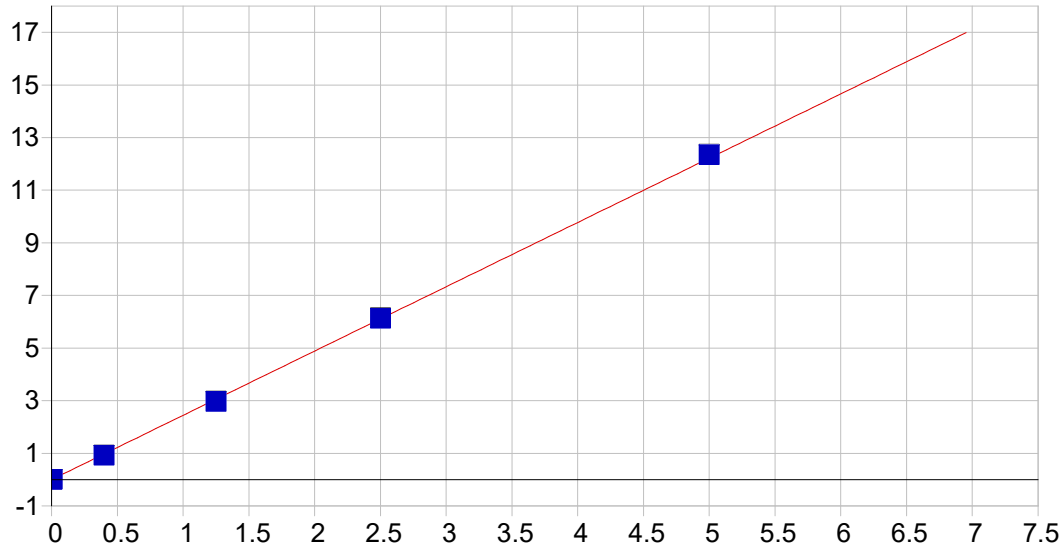


Be 234.861 {144}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000164	Re-Slope:	1.000000
A1 (Gain):	3.905745	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999874	Status:	OK.
Std Error of Est:	0.000177		
Predicted MDL:	0.000053		
Predicted MQL:	0.000176		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00016	.000	1
S1	.00600	.00617	.000	2.86	.02377	.000	1
S3	.12500	.12068	-.004	-3.45	.46900	.002	1
S4	.25000	.25404	.004	1.62	.98767	.008	1
S5	.50000	.50071	.001	.142	1.9467	.007	1
S2	.04000	.03940	-.001	-1.50	.15302	.000	1

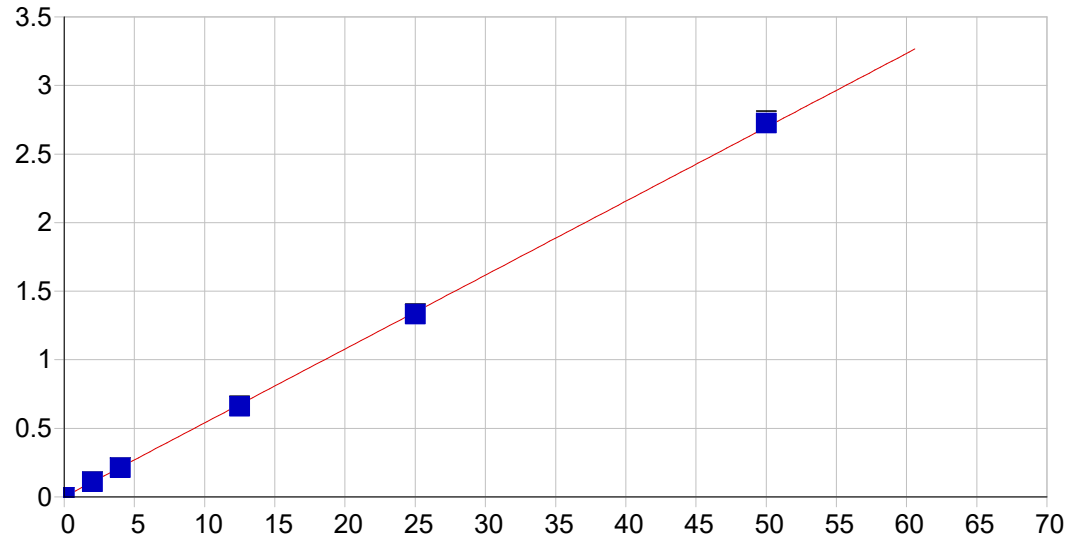


Cd 226.502 {449}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000128	Re-Slope:	1.000000
A1 (Gain):	2.443679	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999843	Status:	OK.
Std Error of Est:	0.000393		
Predicted MDL:	0.000079		
Predicted MQL:	0.000263		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00013	.000	1
S1	.00600	.00572	-.000	-4.71	.01392	.000	1
S3	1.2500	1.2134	-.037	-2.93	2.9677	.007	1
S4	2.5000	2.5063	.006	.251	6.1298	.013	1
S5	5.0000	5.0527	.053	1.05	12.358	.011	1
S2	.40000	.37792	-.022	-5.52	.92424	.002	1

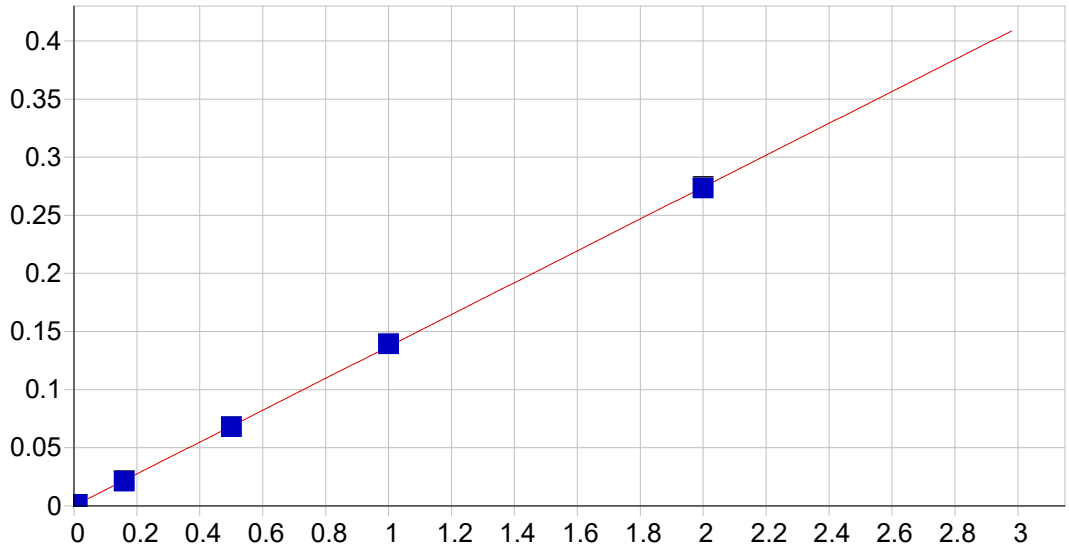


Ca 373.690 { 90}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000842	Re-Slope:	1.000000
A1 (Gain):	0.053880	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999912	Status:	OK.
Std Error of Est:	0.000379		
Predicted MDL:	0.008130		
Predicted MQL:	0.027099		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00004	.000	.000	.00084	.000	1
S2	4.0000	3.9361	-.064	-1.60	.21292	.001	1
S3	12.500	12.254	-.246	-1.97	.66110	.002	1
S4	25.000	24.703	-.297	-1.19	1.3318	.002	1
S5	50.000	50.575	.575	1.15	2.7258	.015	1
S1	2.0000	2.0320	.032	1.60	.11033	.000	1

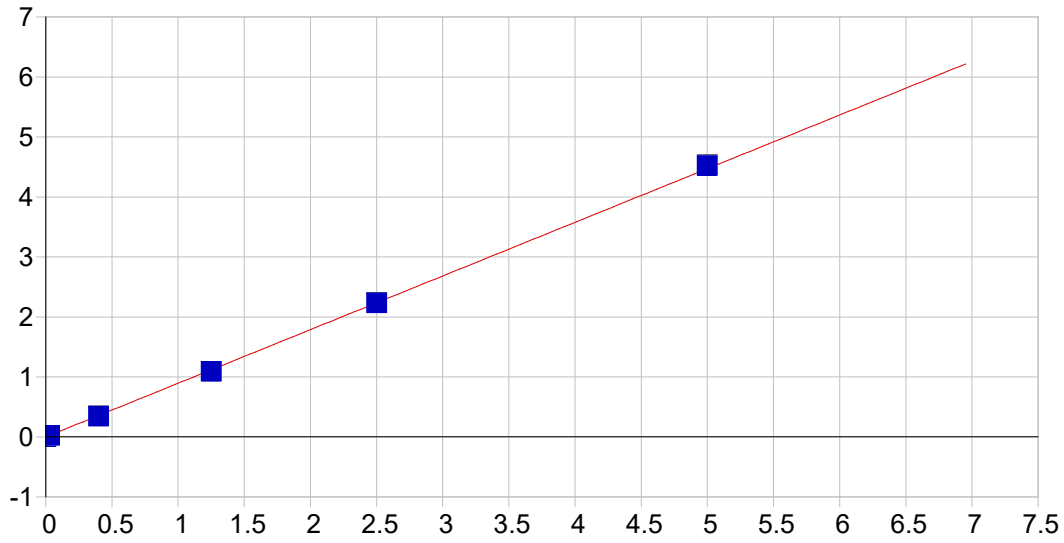


Cr 267.716 {126}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000066	Re-Slope:	1.000000
A1 (Gain):	0.137105	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999921	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.000440		
Predicted MQL:	0.001466		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00007	.000	1
S1	.01000	.00900	-.001	-10.0	.00130	.000	1
S3	.50000	.49580	-.004	-.840	.06806	.000	1
S4	1.0000	1.0165	.016	1.65	.13947	.000	1
S5	2.0000	1.9937	-.006	-.314	.27350	.001	1
S2	.16000	.15501	-.005	-3.12	.02132	.000	1

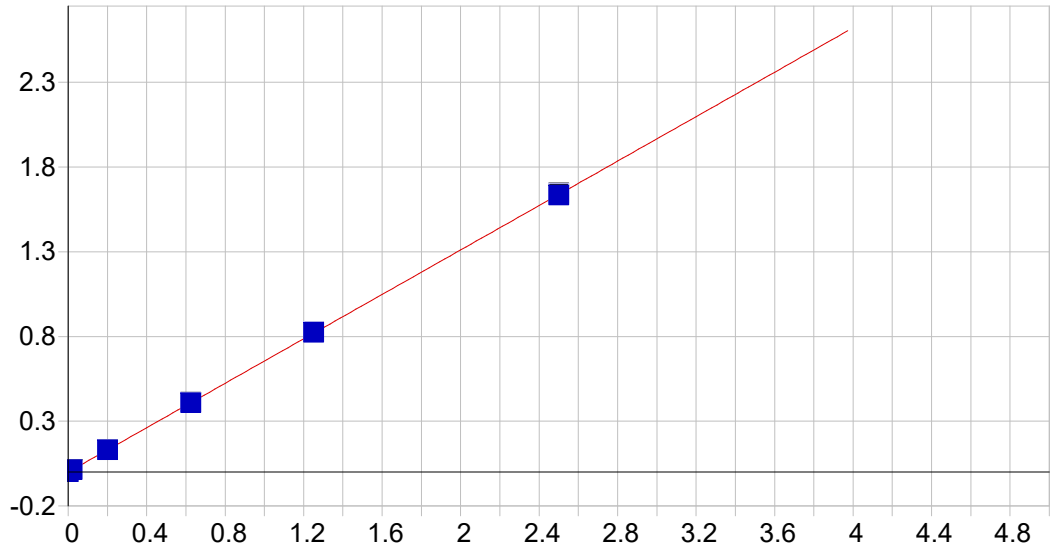


Co 228.616 {448}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000038	Re-Slope:	1.000000
A1 (Gain):	0.894081	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999877	Status:	OK.
Std Error of Est:	0.000286		
Predicted MDL:	0.000228		
Predicted MQL:	0.000762		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00004	.000	1
S1	.03000	.02895	-.001	-3.50	.02573	.000	1
S3	1.2500	1.2178	-.032	-2.58	1.0906	.001	1
S4	2.5000	2.4936	-.006	-.257	2.2332	.004	1
S5	5.0000	5.0569	.057	1.14	4.5288	.006	1
S2	.40000	.38281	-.017	-4.30	.34283	.001	1

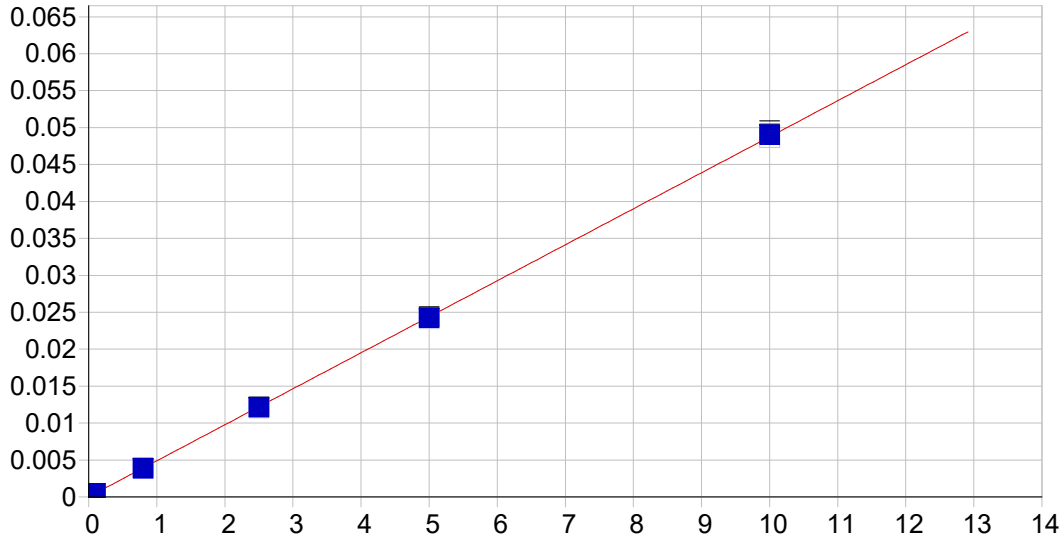


Cu 224.700 {450}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000677	Re-Slope:	1.000000
A1 (Gain):	0.655603	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999972	Status:	OK.
Std Error of Est:	0.000058		
Predicted MDL:	0.000395		
Predicted MQL:	0.001317		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00068	.000	1
S1	.02000	.02195	.002	9.75	.01384	.000	1
S3	.62500	.62360	-.001	-.224	.41106	.001	1
S4	1.2500	1.2575	.007	.598	.82953	.001	1
S5	2.5000	2.4918	-.008	-.329	1.6446	.003	1
S2	.20000	.20019	.000	.095	.13150	.000	1

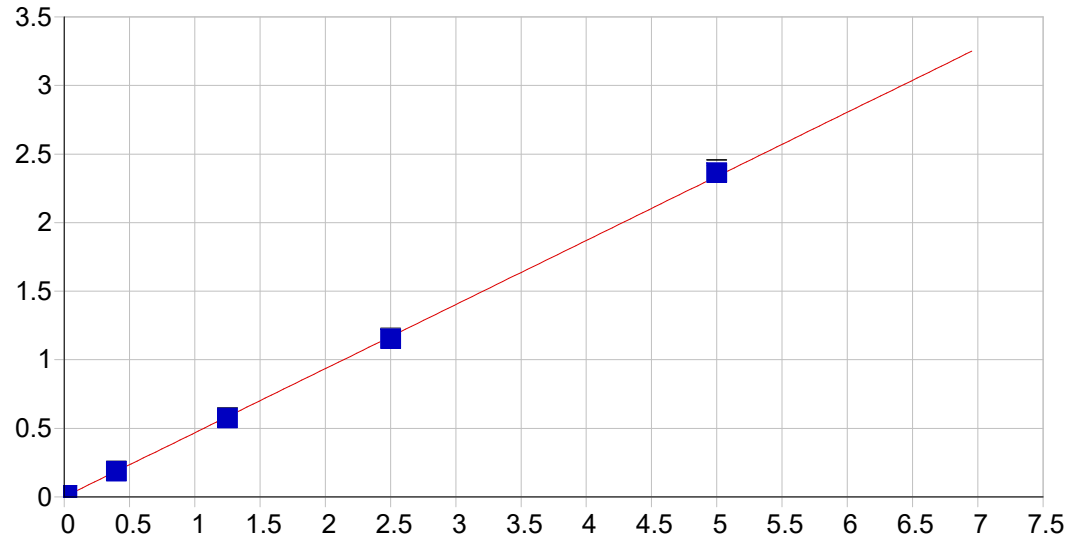


Fe 240.488 {140}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.004874	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.004209		
Predicted MQL:	0.014028		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00002	.000	1
S1	.10000	.10099	.001	.986	.00050	.000	1
S3	2.5000	2.4836	-.016	-.658	.01202	.000	1
S4	5.0000	4.9773	-.023	-.454	.02407	.000	1
S5	10.000	10.055	.055	.547	.04861	.001	1
S2	.80000	.78348	-.017	-2.07	.00380	.000	1

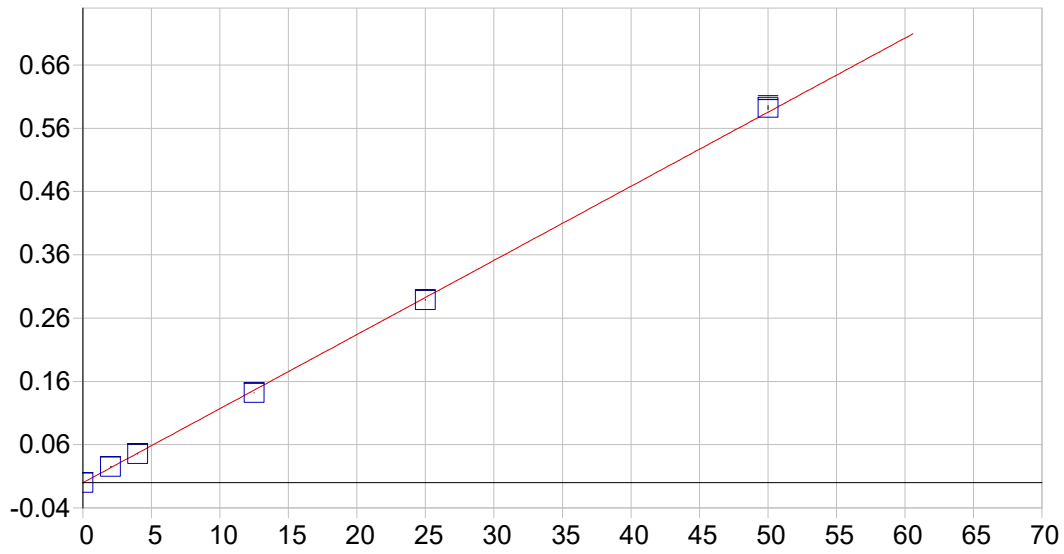


Mn 257.610 {131}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000432	Re-Slope:	1.000000
A1 (Gain):	0.467349	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.000101		
Predicted MDL:	0.000354		
Predicted MQL:	0.001180		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00043	.000	1
S1	.02000	.02087	.001	4.33	.01019	.000	1
S3	1.2500	1.2276	-.022	-1.79	.57427	.002	1
S4	2.5000	2.4661	-.034	-1.35	1.1532	.003	1
S5	5.0000	5.0568	.057	1.14	2.3642	.021	1
S2	.40000	.39857	-.001	-.358	.18674	.001	1

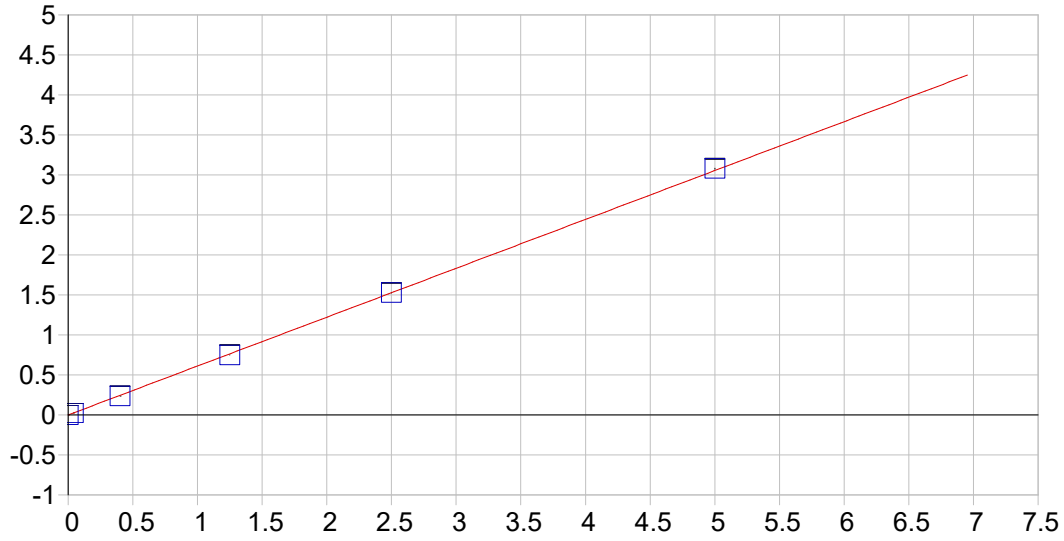


Mg 279.079 {121}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000212	Re-Slope:	1.000000
A1 (Gain):	0.011713	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999785	Status:	OK.
Std Error of Est:	0.000129		
Predicted MDL:	0.015444		
Predicted MQL:	0.051480		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00007	-.000	.000	-.00021	.000	1
S2	4.0000	3.9150	-.085	-2.12	.04564	.000	1
S3	12.500	12.130	-.370	-2.96	.14186	.000	1
S4	25.000	24.660	-.340	-1.36	.28862	.000	1
S5	50.000	50.620	.620	1.24	.59268	.003	1
S1	2.0000	2.1744	.174	8.72	.02526	.000	1

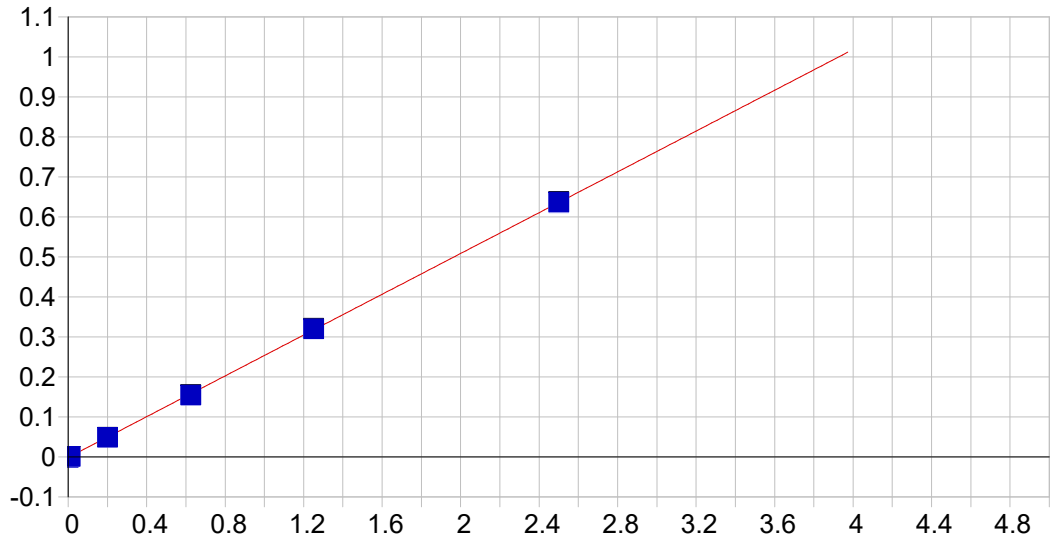


Ni 231.604 {446}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000132	Re-Slope:	1.000000
A1 (Gain):	0.610929	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999935	Status:	OK.
Std Error of Est:	0.000164		
Predicted MDL:	0.000314		
Predicted MQL:	0.001046		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00013	.000	1
S1	.04000	.03906	-.001	-2.35	.02373	.000	1
S3	1.2500	1.2271	-.023	-1.83	.74953	.001	1
S4	2.5000	2.4987	-.001	-.051	1.5264	.003	1
S5	5.0000	5.0386	.039	.772	3.0781	.005	1
S2	.40000	.38649	-.014	-3.38	.23599	.000	1

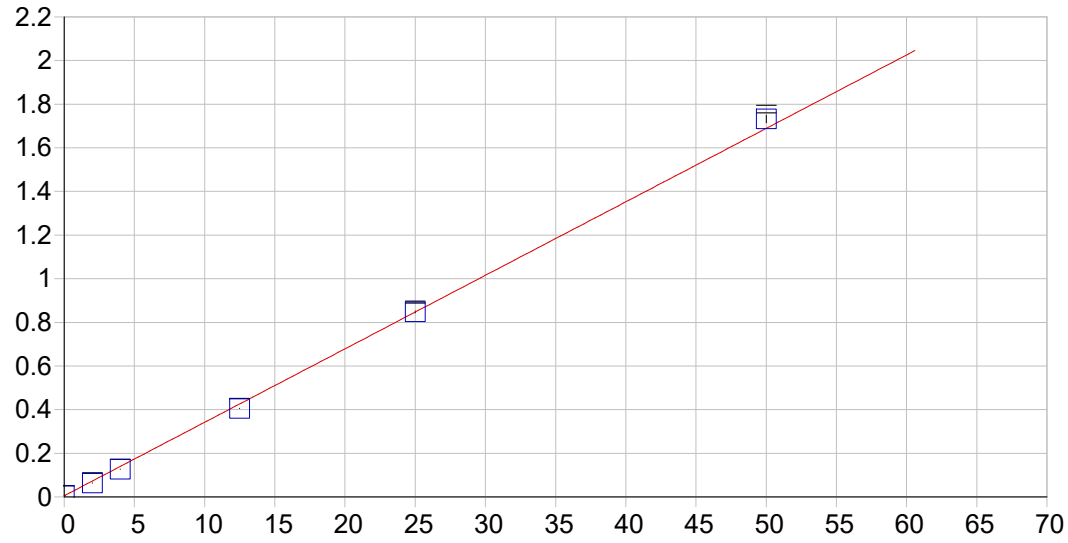


Ag 328.068 {103}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001462	Re-Slope:	1.000000
A1 (Gain):	0.254995	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.000344		
Predicted MQL:	0.001145		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00146	.000	1
S1	.01000	.01022	.000	2.20	.00113	.000	1
S3	.62500	.61214	-.013	-2.06	.15400	.000	1
S4	1.2500	1.2619	.012	.953	.31905	.001	1
S5	2.5000	2.5037	.004	.149	.63445	.002	1
S2	.20000	.19698	-.003	-1.51	.04857	.000	1

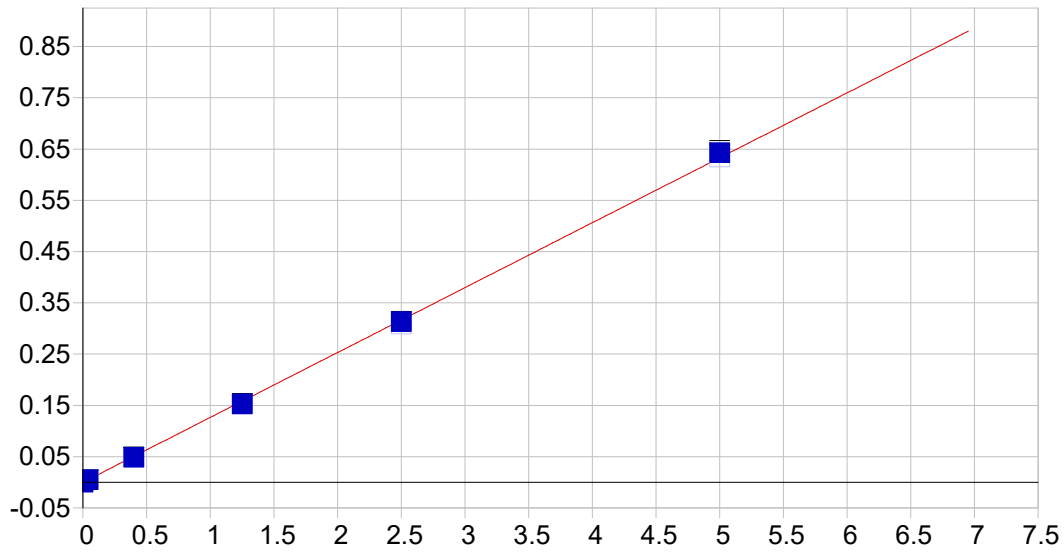


Na 589.592 { 57}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005462	Re-Slope:	1.000000
A1 (Gain):	0.033668	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999244	Status:	OK.
Std Error of Est:	0.000693		
Predicted MDL:	0.008410		
Predicted MQL:	0.028032		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00052	.001	.000	.00548	.000	1
S2	4.0000	3.6033	-.397	-9.92	.12678	.001	1
S3	12.500	11.865	-.635	-5.08	.40495	.001	1
S4	25.000	25.025	.025	.102	.84802	.004	1
S5	50.000	51.278	1.28	2.56	1.7319	.017	1
S1	2.0000	1.7278	-.272	-13.6	.06363	.000	1

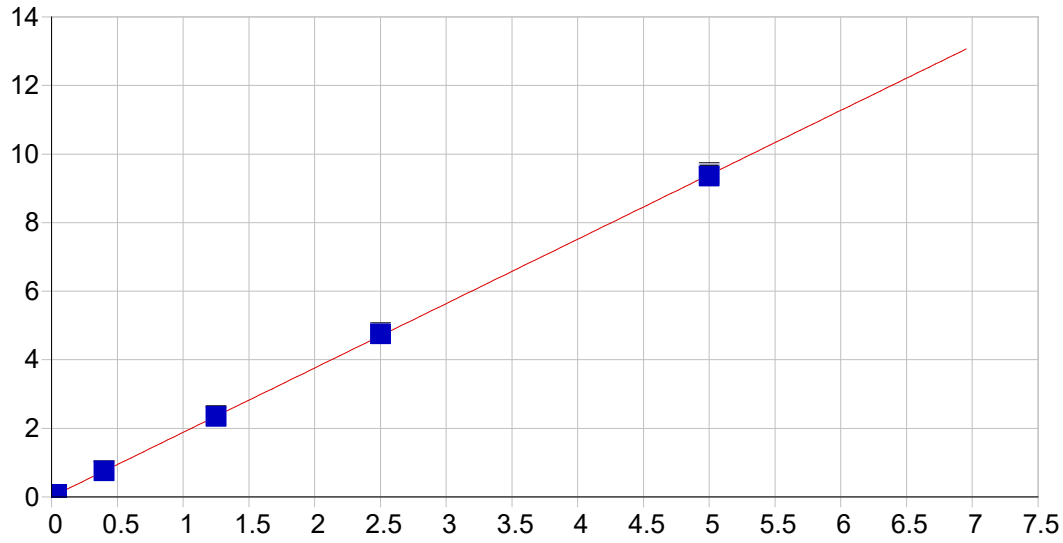


V 292.402 {115}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000078	Re-Slope:	1.000000
A1 (Gain):	0.126602	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999811	Status:	OK.
Std Error of Est:	0.000057		
Predicted MDL:	0.001584		
Predicted MQL:	0.005280		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00008	.000	1
S1	.04000	.03985	-.000	-.376	.00478	.000	1
S3	1.2500	1.2098	-.040	-3.22	.15077	.000	1
S4	2.5000	2.4741	-.026	-1.04	.30853	.000	1
S5	5.0000	5.0805	.081	1.61	.63389	.004	1
S2	.40000	.38576	-.014	-3.56	.04802	.000	1

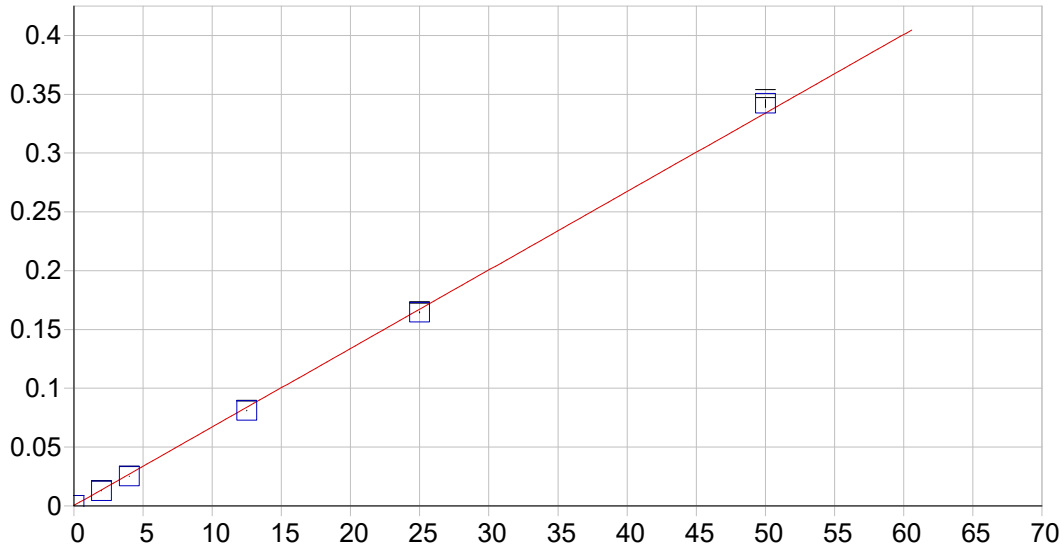


Zn 213.856 {158}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003476	Re-Slope:	1.000000
A1 (Gain):	1.878350	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000341		
Predicted MDL:	0.000366		
Predicted MQL:	0.001221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00347	.000	1
S1	.04000	.04242	.002	6.05	.08368	.000	1
S3	1.2500	1.2434	-.007	-.524	2.3554	.013	1
S4	2.5000	2.5261	.026	1.04	4.7810	.018	1
S5	5.0000	4.9779	-.022	-.441	9.4191	.034	1
S2	.40000	.40013	.000	.033	.76029	.003	1

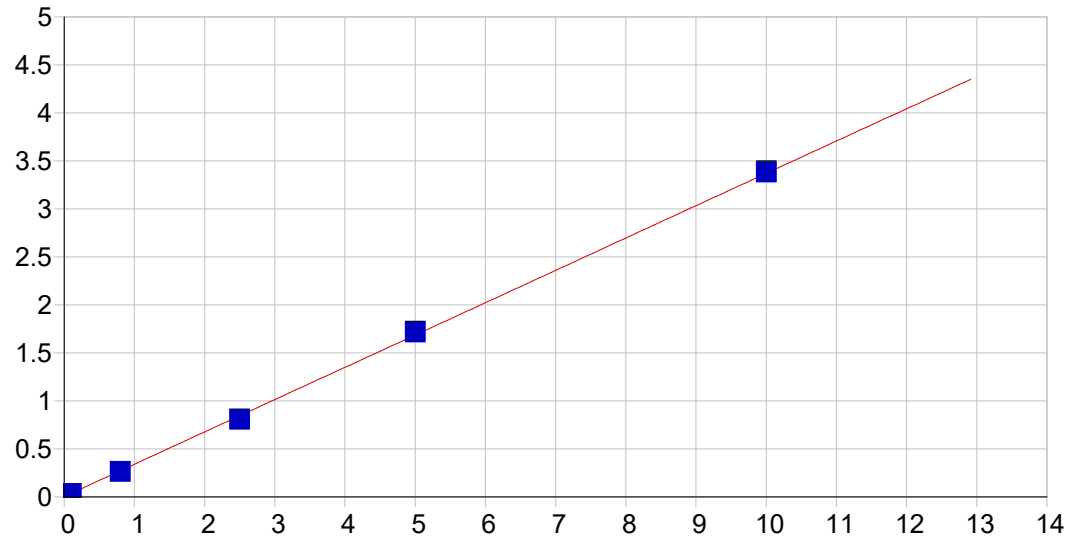


K 766.490 { 44}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000416	Re-Slope:	1.000000
A1 (Gain):	0.006672	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999585	Status:	OK.
Std Error of Est:	0.000102		
Predicted MDL:	0.027093		
Predicted MQL:	0.090311		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00032	.000	.000	.00042	.000	1
S2	4.0000	3.7169	-.283	-7.08	.02522	.000	1
S3	12.500	12.094	-.406	-3.25	.08111	.000	1
S4	25.000	24.602	-.398	-1.59	.16457	.000	1
S5	50.000	51.217	1.22	2.43	.34216	.003	1
S1	2.0000	1.8708	-.129	-6.46	.01290	.000	1

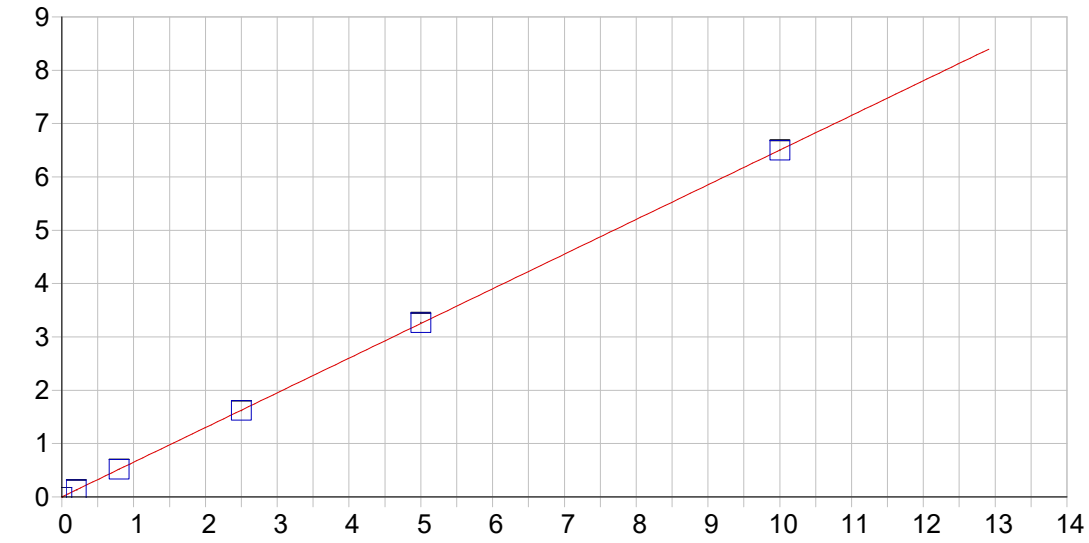


B 249.678 {135}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003386	Re-Slope:	1.000000
A1 (Gain):	0.336642	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999801	Status:	OK.
Std Error of Est:	0.000352		
Predicted MDL:	0.000736		
Predicted MQL:	0.002453		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00339	.000	1
S1	.10000	.10264	.003	2.64	.03776	.000	1
S3	2.5000	2.3904	-.110	-4.38	.80562	.003	1
S4	5.0000	5.0864	.086	1.73	1.7107	.013	1
S5	10.000	10.045	.045	.447	3.3749	.013	1
S2	.80000	.77581	-.024	-3.02	.26376	.001	1

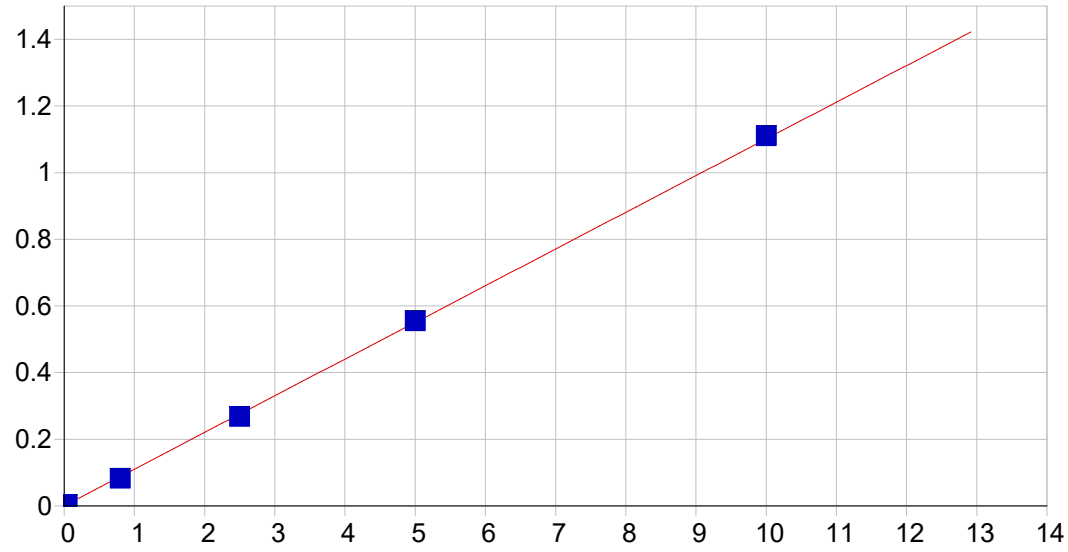


Mo 202.030 {467}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000276	Re-Slope:	1.000000
A1 (Gain):	0.650230	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000139		
Predicted MDL:	0.000252		
Predicted MQL:	0.000841		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00028	.000	1
S1	.20000	.19921	-.001	-.394	.12981	.001	1
S3	2.5000	2.4887	-.011	-.453	1.6185	.003	1
S4	5.0000	5.0208	.021	.415	3.2649	.008	1
S5	10.000	9.9938	-.006	-.062	6.4986	.009	1
S2	.80000	.79750	-.003	-.313	.51883	.001	1

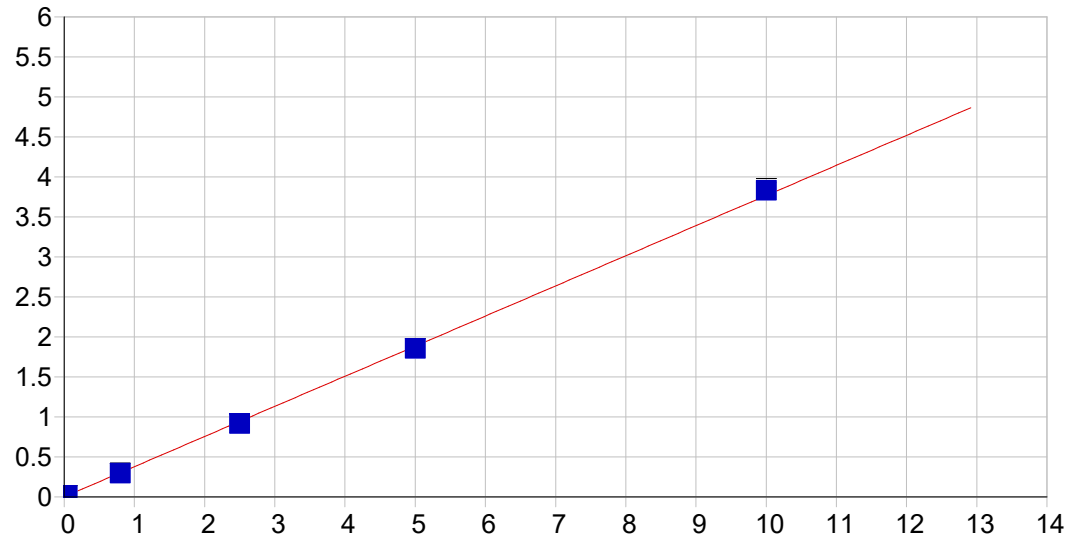


Sn 189.989 {478}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000158	Re-Slope:	1.000000
A1 (Gain):	0.110111	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999831	Status:	OK.
Std Error of Est:	0.000067		
Predicted MDL:	0.000794		
Predicted MQL:	0.002648		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00016	.000	1
S1	.04000	.03709	-.003	-7.28	.00424	.000	1
S3	2.5000	2.4324	-.068	-2.70	.26771	.000	1
S4	5.0000	5.0358	.036	.717	.55410	.001	1
S5	10.000	10.085	.085	.849	1.1095	.001	1
S2	.80000	.74978	-.050	-6.28	.08263	.000	1

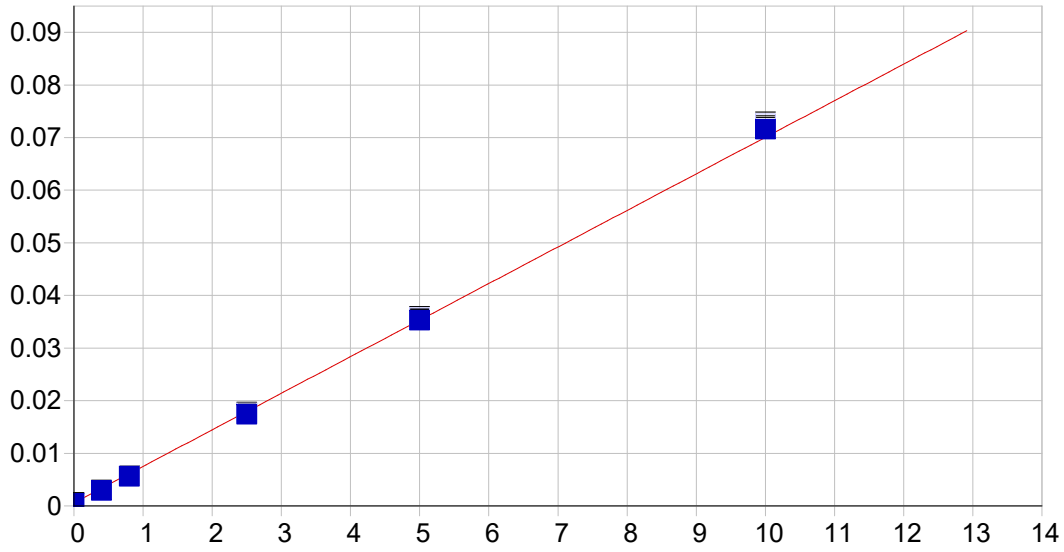


Ti 336.121 {100}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001758	Re-Slope:	1.000000
A1 (Gain):	0.376539	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999813	Status:	OK.
Std Error of Est:	0.000241		
Predicted MDL:	0.000733		
Predicted MQL:	0.002444		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00176	.000	1
S1	.04000	.03912	-.001	-2.20	.01648	.000	1
S3	2.5000	2.4285	-.072	-2.86	.91583	.002	1
S4	5.0000	4.9203	-.080	-1.59	1.8537	.001	1
S5	10.000	10.173	.173	1.73	3.8308	.026	1
S2	.80000	.77943	-.021	-2.57	.29513	.001	1

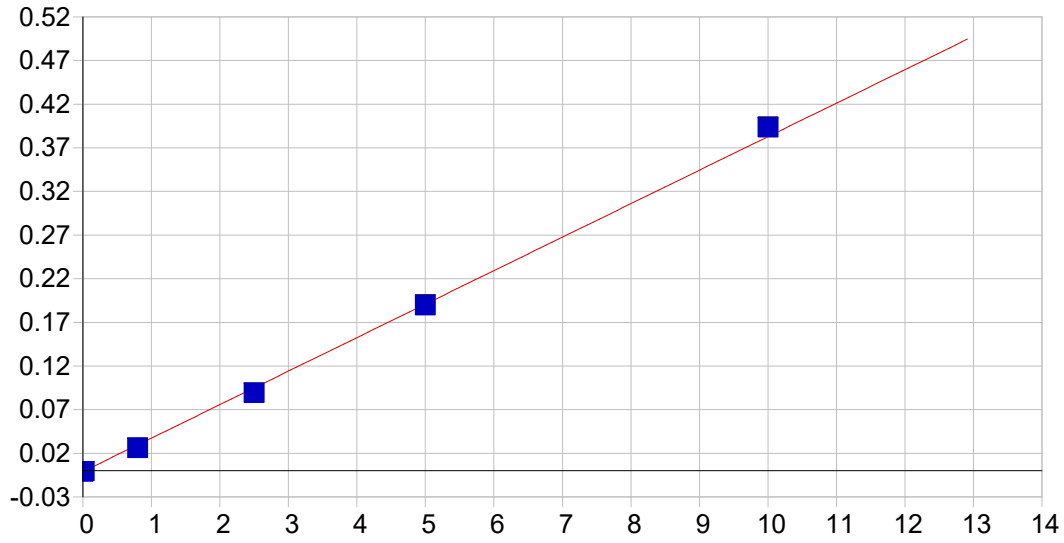


Si 288.158 {117}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000565	Re-Slope:	1.000000
A1 (Gain):	0.006950	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999405	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	0.005963		
Predicted MQL:	0.019876		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00010	.000	.000	.00057	.000	1
S1	.40000	.34129	-.059	-14.7	.00294	.000	1
S3	2.5000	2.4217	-.078	-3.13	.01766	.000	1
S4	5.0000	4.9923	-.008	-.154	.03578	.000	1
S5	10.000	10.219	.219	2.19	.07263	.000	1
S2	.80000	.72514	-.075	-9.36	.00569	.000	1

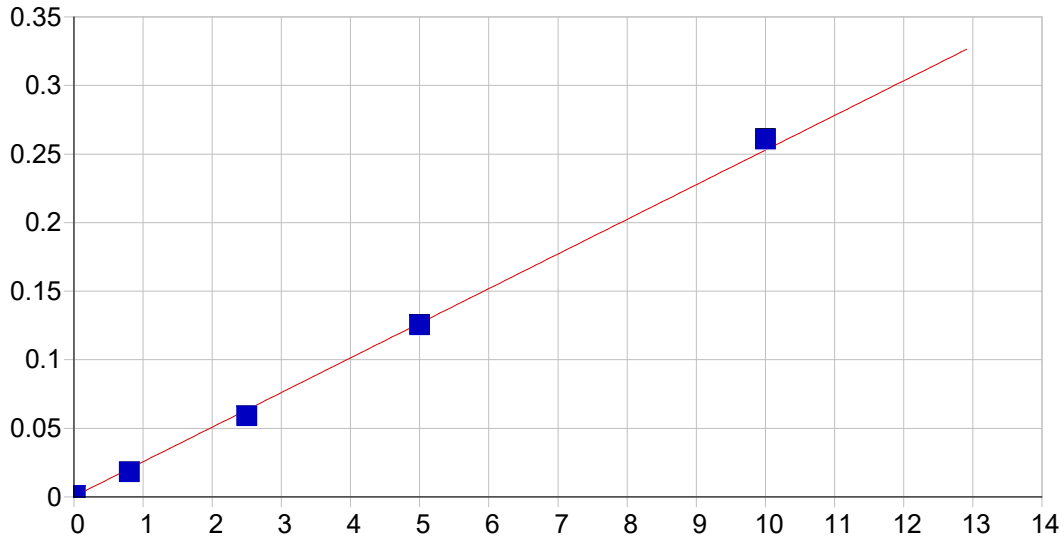


P 177.495 {490}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000975	Re-Slope:	1.000000
A1 (Gain):	0.038374	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999223	Status:	OK.
Std Error of Est:	0.000035		
Predicted MDL:	0.002412		
Predicted MQL:	0.008040		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00097	.000	1
S1	.02000	.01704	-.003	-14.8	-.00032	.000	1
S3	2.5000	2.3488	-.151	-6.05	.08914	.000	1
S4	5.0000	4.9707	-.029	-.587	.18974	.000	1
S5	10.000	10.278	.278	2.78	.39336	.001	1
S2	.80000	.70599	-.094	-11.8	.02611	.000	1

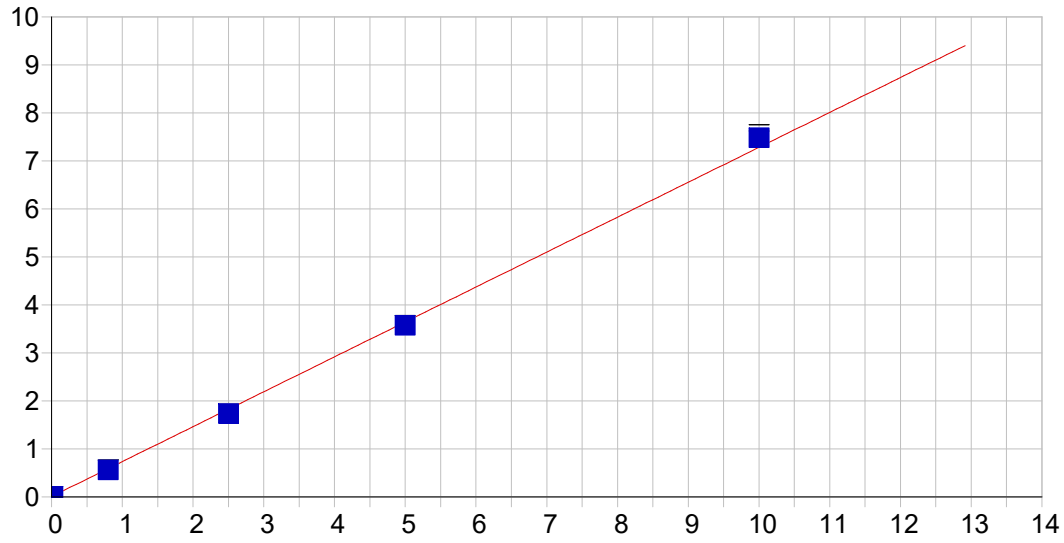


S 182.034 {485}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000373	Re-Slope:	1.000000
A1 (Gain):	0.025251	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999080	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	0.003223		
Predicted MQL:	0.010745		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	.00037	.000	1
S1	.02000	.01810	-.002	-9.51	.00081	.000	1
S3	2.5000	2.3275	-.173	-6.90	.05898	.000	1
S4	5.0000	4.9532	-.047	-.936	.12512	.000	1
S5	10.000	10.315	.315	3.15	.26019	.000	1
S2	.80000	.70581	-.094	-11.8	.01814	.000	1

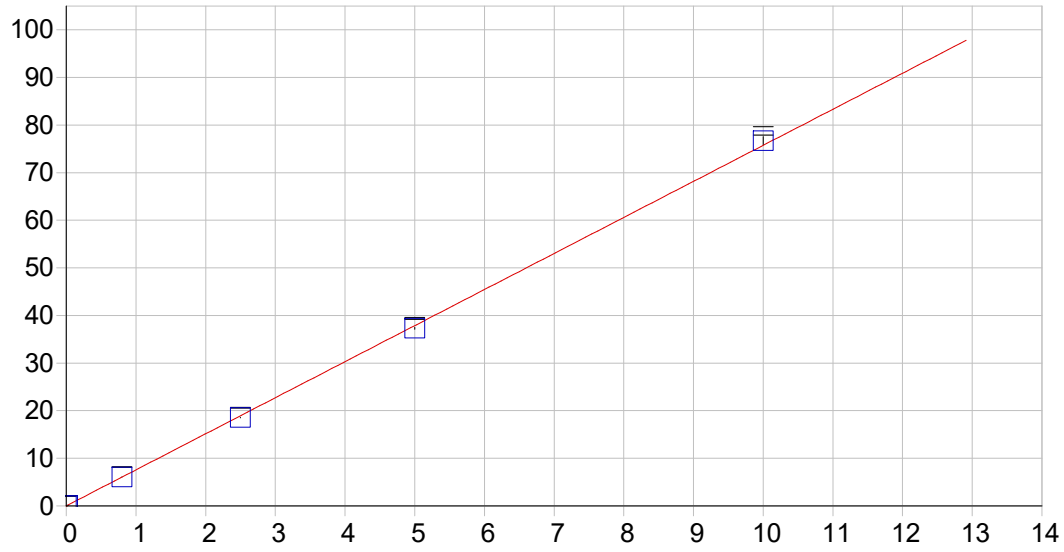


Li 670.784 { 50}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.008048	Re-Slope:	1.000000
A1 (Gain):	0.727464	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999516	Status:	OK.
Std Error of Est:	0.000531		
Predicted MDL:	0.001143		
Predicted MQL:	0.003810		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00805	.001	1
S5	10.000	10.270	.270	2.70	7.4825	.065	1
S4	5.0000	4.8972	-.103	-2.06	3.5724	.001	1
S3	2.5000	2.3747	-.125	-5.01	1.7364	.002	1
S1	.02000	.01874	-.001	-6.30	.02191	.000	1
S2	.80000	.75975	-.040	-5.03	.56103	.003	1

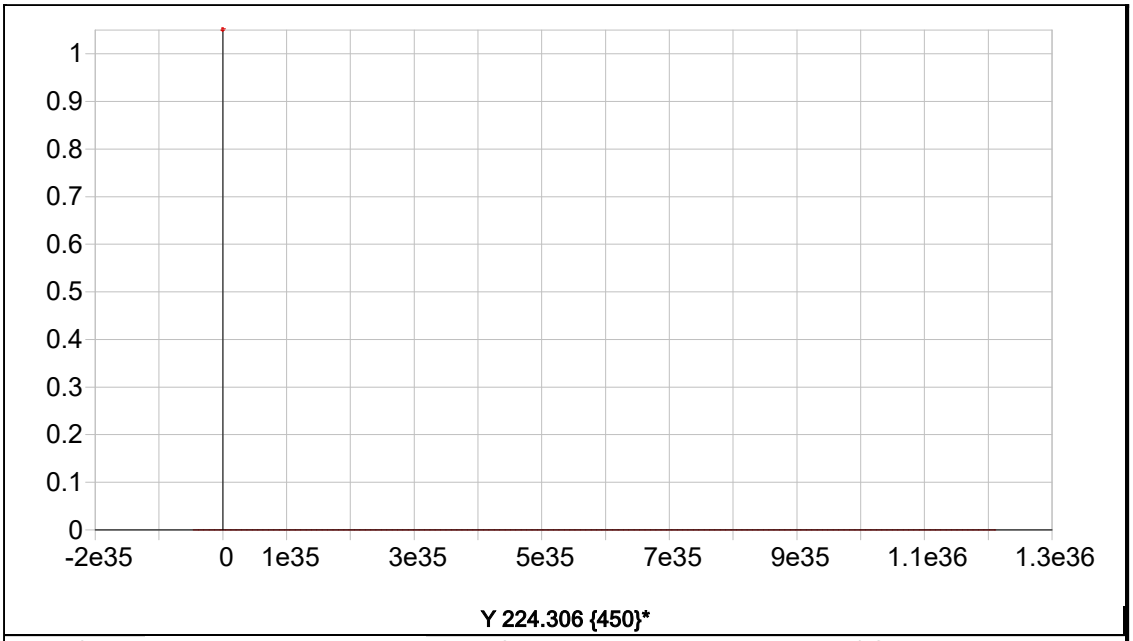


Sr 407.771 { 83}

Date of Fit:	3/12/2025 10:50:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000343	Re-Slope:	1.000000
A1 (Gain):	7.574531	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999901	Status:	OK.
Std Error of Est:	0.002502		
Predicted MDL:	0.000073		
Predicted MQL:	0.000242		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00035	.000	1
S1	.02000	.02013	.000	.674	.15286	.001	1
S3	2.5000	2.4495	-.050	-2.02	18.554	.088	1
S4	5.0000	4.9267	-.073	-1.47	37.318	.206	1
S5	10.000	10.124	.124	1.24	76.687	.892	1
S2	.80000	.79940	-.001	-.076	6.0554	.033	1

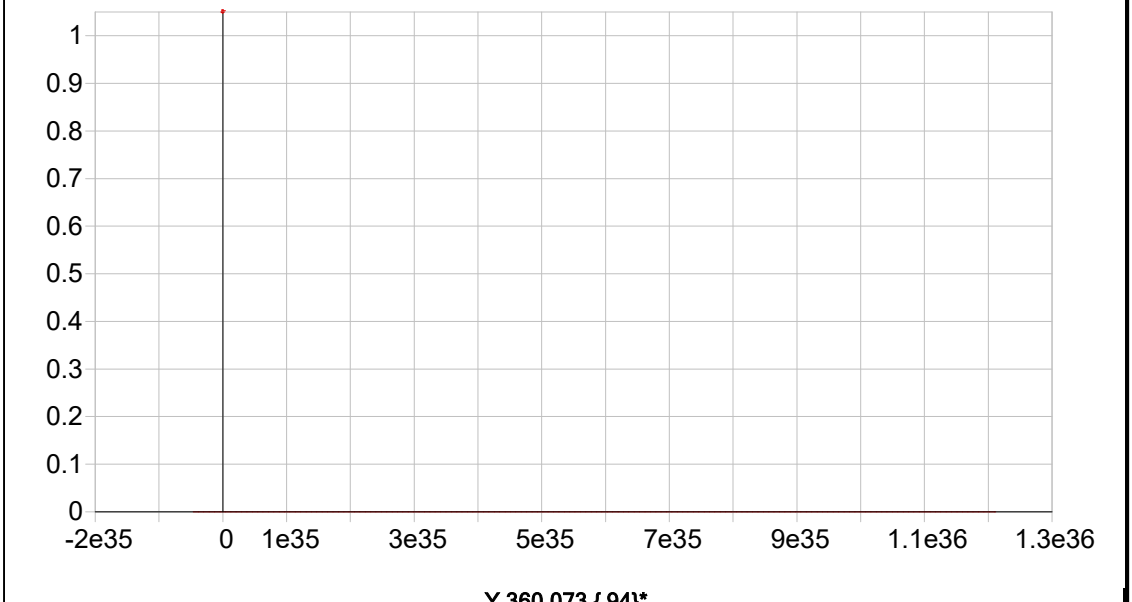


Y 224.306 {450}*

Date of Fit:	3/12/2025 10:50:38	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



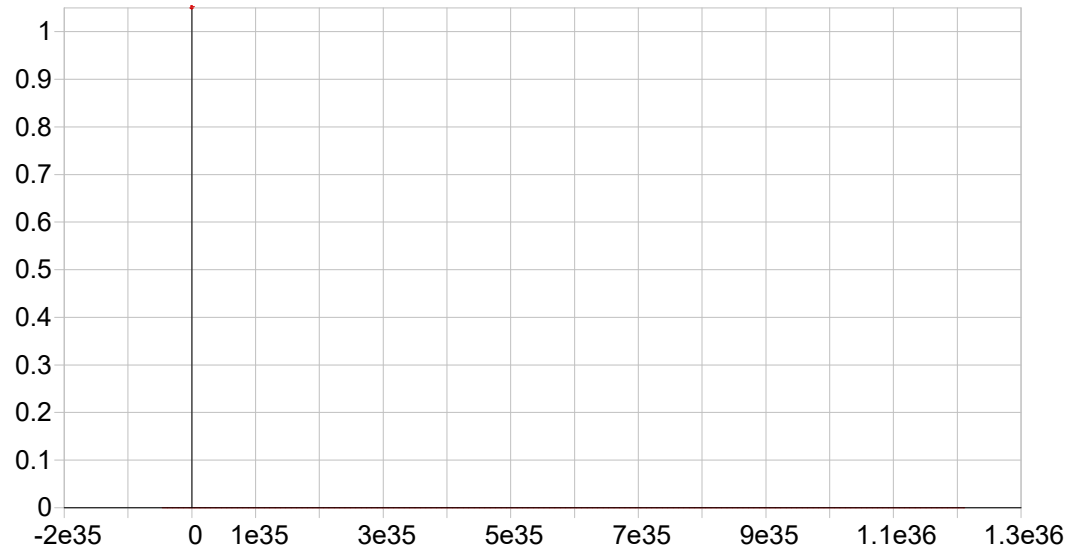
Y 360.073 { 94}*

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					

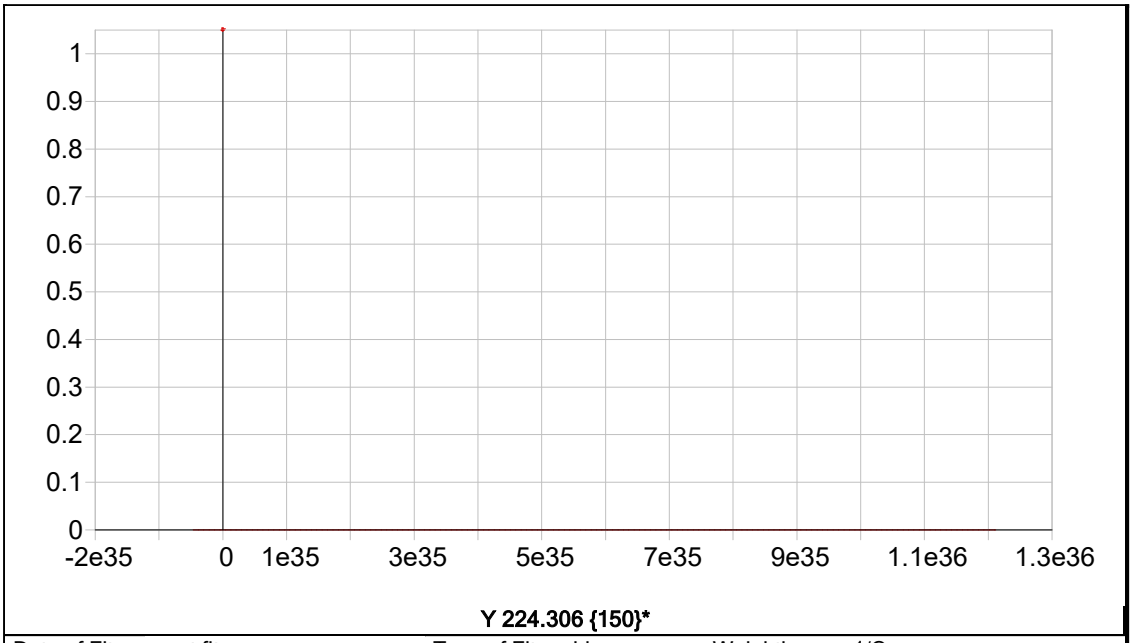
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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				

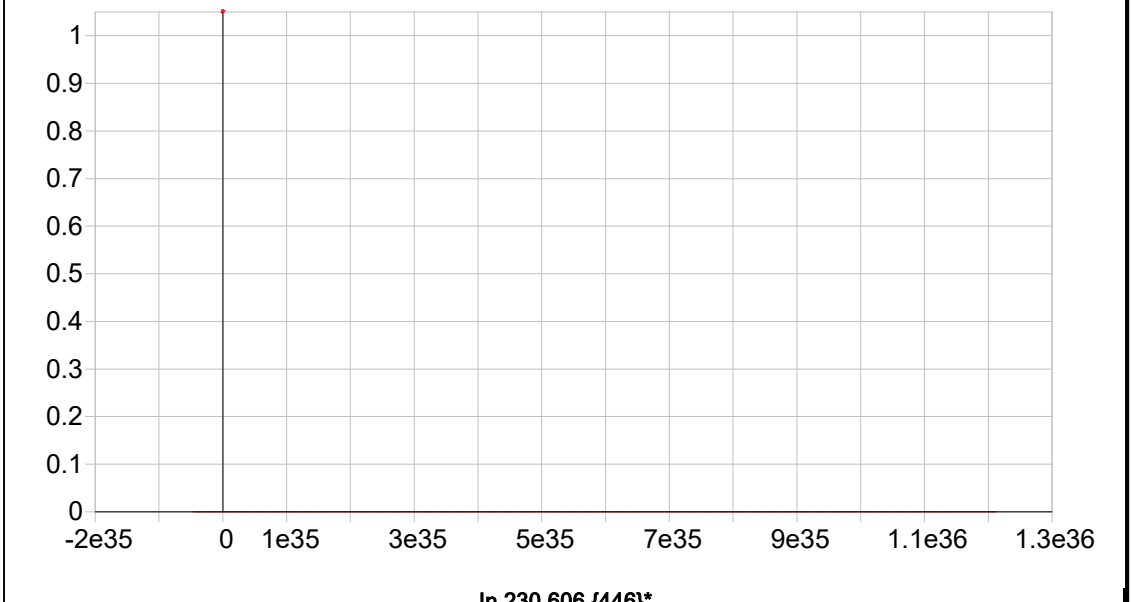
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis



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:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S0 Acquired: 3/12/2025 10:27:06 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	-.00014	-.00003	-.00018	.00072	.00059	-.00013	.04067	-.00016
Stddev	.00007	.00003	.00021	.00006	.00003	.00049	.00189	.00026
%RSD	49.677	95.212	117.59	8.7942	5.9175	362.29	4.6588	156.87
#1	-.00011	.00000	.00002	.00071	.00059	.00023	.04236	-.00046
#2	-.00022	-.00005	-.00016	.00066	.00062	.00006	.03862	.00003
#3	-.00009	-.00004	-.00040	.00079	.00055	-.00069	.04102	-.00007

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	.00084	.00007	-.00004	-.00068	.00002	.00043	-.00021
Stddev	.00013	.00030	.00004	.00010	.00014	.00001	.00019	.00008
%RSD	100.41	36.079	60.371	268.47	20.672	78.110	44.673	38.908
#1	-.00019	.00064	.00006	.00003	-.00070	.00003	.00050	-.00013
#2	.00002	.00070	.00003	.00001	-.00053	.00001	.00022	-.00030
#3	-.00021	.00119	.00011	-.00015	-.00081	.00001	.00058	-.00021

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	-.00013	-.00146	.00548	-.00008	.00347	.00042	.00339	.00028
Stddev	.00008	.00008	.00017	.00017	.00018	.00009	.00015	.00012
%RSD	59.269	5.4601	3.0682	218.47	5.2947	21.132	4.4848	42.364
#1	-.00013	-.00138	.00555	.00007	.00353	.00048	.00324	.00036
#2	-.00005	-.00154	.00560	-.00005	.00362	.00046	.00337	.00032
#3	-.00021	-.00147	.00529	-.00026	.00327	.00032	.00355	.00014

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	.00016	.00176	.00057	-.00097	.00037	.00805	.00035
Stddev	.00007	.00025	.00003	.00002	.00002	.00058	.00014
%RSD	42.946	14.181	4.9221	2.5455	4.7808	7.2454	41.444
#1	.00015	.00156	.00056	-.00095	.00037	.00788	.00046
#2	.00023	.00167	.00054	-.00100	.00039	.00870	.00039
#3	.00010	.00204	.00059	-.00097	.00036	.00757	.00019

Sample Name: S0 Acquired: 3/12/2025 10:27:06 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	3656.9	82611.	14330.	2687.9	5126.3
Stddev	.7	290.	80.	3.8	7.5
%RSD	.01865	.35094	.55842	.14152	.14608
#1	3656.3	82935.	14259.	2688.2	5118.1
#2	3657.6	82377.	14417.	2691.6	5132.9
#3	3656.8	82519.	14316.	2684.0	5127.8

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S1 Acquired: 3/12/2025 10:31:31 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	.00081	.00240	.00217	.00187	.00657	.01021	.26182	.02377
Stddev	.00016	.00007	.00005	.00006	.00013	.00014	.00081	.00007
%RSD	19.599	2.7288	2.3232	3.4593	1.9078	1.3568	.31096	.28175
#1	.00075	.00246	.00220	.00194	.00672	.01016	.26218	.02369
#2	.00069	.00242	.00220	.00184	.00650	.01010	.26240	.02381
#3	.00099	.00233	.00211	.00182	.00650	.01037	.26089	.02379

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	.01392	.11033	.00130	.02573	.01384	.00050	.01019	.02526
Stddev	.00015	.00037	.00006	.00017	.00020	.00002	.00010	.00021
%RSD	1.0511	.33982	4.3907	.64854	1.4542	4.0412	.94435	.84879
#1	.01376	.10989	.00134	.02590	.01407	.00050	.01023	.02506
#2	.01403	.11054	.00124	.02557	.01370	.00049	.01025	.02522
#3	.01397	.11055	.00132	.02572	.01375	.00053	.01008	.02548

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	.02373	.00113	.06363	.00478	.08368	.01290	.03776	.12981
Stddev	.00028	.00002	.00037	.00014	.00045	.00023	.00042	.00068
%RSD	1.1625	1.4215	.57655	2.9847	.53437	1.8068	1.1118	.52659
#1	.02405	.00112	.06406	.00494	.08324	.01276	.03747	.13043
#2	.02355	.00111	.06342	.00468	.08413	.01276	.03824	.12992
#3	.02359	.00114	.06343	.00471	.08368	.01317	.03756	.12908

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	.00424	.01648	.00294	-.00032	.00081	.02191	.15286
Stddev	.00002	.00002	.00004	.00008	.00010	.00025	.00060
%RSD	.40168	.11026	1.2371	25.152	12.194	1.1243	.39395
#1	.00425	.01648	.00298	-.00023	.00091	.02163	.15240
#2	.00422	.01646	.00294	-.00037	.00071	.02210	.15263
#3	.00424	.01649	.00290	-.00036	.00081	.02200	.15354

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S1 Acquired: 3/12/2025 10:31:31 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	3613.4	79630.	14258.	2604.8	5038.1
Stddev	8.7	246.	72.	11.2	16.7
%RSD	.24191	.30949	.50305	.43031	.33221
#1	3603.8	79631.	14328.	2605.6	5021.7
#2	3615.2	79877.	14263.	2615.6	5037.5
#3	3621.0	79384.	14185.	2593.2	5055.1

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S2 Acquired: 3/12/2025 10:35:52 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	.03671	.05233	.15535	.04147	.09645	.15067	3.4909	.15302
Stddev	.00037	.00020	.00043	.00037	.00025	.00141	.0166	.00015
%RSD	1.0183	.37977	.27432	.90289	.25558	.93408	.47628	.09504
#1	.03628	.05211	.15508	.04120	.09617	.14969	3.4761	.15317
#2	.03693	.05239	.15585	.04189	.09659	.15003	3.4877	.15300
#3	.03693	.05249	.15514	.04130	.09660	.15228	3.5089	.15289

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	.92424	.21292	.02132	.34283	.13150	.00380	.18674	.04564
Stddev	.00221	.00057	.00005	.00061	.00006	.00004	.00108	.00043
%RSD	.23893	.26693	.22640	.17747	.04386	1.1383	.57820	.94740
#1	.92406	.21234	.02131	.34290	.13156	.00377	.18561	.04520
#2	.92653	.21295	.02128	.34340	.13148	.00379	.18685	.04606
#3	.92213	.21347	.02138	.34219	.13145	.00385	.18776	.04567

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	.23599	.04857	.12678	.04802	.76029	.02522	.26376	.51883
Stddev	.00048	.00014	.00057	.00024	.00283	.00015	.00111	.00128
%RSD	.20533	.29512	.45246	.50638	.37214	.57878	.42183	.24753
#1	.23621	.04846	.12655	.04786	.75760	.02509	.26255	.51768
#2	.23632	.04850	.12635	.04790	.76002	.02518	.26474	.52021
#3	.23543	.04873	.12743	.04830	.76324	.02538	.26399	.51861

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	.08263	.29513	.00569	.02611	.01814	.56103	6.0554
Stddev	.00012	.00107	.00003	.00016	.00011	.00315	.0326
%RSD	.13922	.36096	.58973	.60426	.58911	.56095	.53906
#1	.08252	.29403	.00569	.02602	.01812	.55841	6.0306
#2	.08262	.29522	.00572	.02629	.01805	.56016	6.0432
#3	.08275	.29615	.00566	.02602	.01826	.56452	6.0924

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S2 Acquired: 3/12/2025 10:35:52 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	3522.4	79517.	14549.	2502.5	4884.0
Stddev	13.8	122.	39.	6.3	12.7
%RSD	.39090	.15384	.26671	.25037	.26100
#1	3537.9	79657.	14590.	2504.1	4898.5
#2	3511.5	79433.	14514.	2507.9	4874.4
#3	3517.9	79460.	14543.	2495.7	4879.2

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S3 Acquired: 3/12/2025 10:39:57 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	.11780	.16031	.49669	.13110	.30766	.47694	10.837	.46900
Stddev	.00029	.00047	.00129	.00028	.00056	.00145	.187	.00227
%RSD	.24725	.29536	.25963	.21343	.18126	.30354	1.7286	.48465
#1	.11765	.16083	.49522	.13078	.30766	.47527	11.053	.47079
#2	.11814	.15990	.49722	.13130	.30822	.47782	10.738	.46978
#3	.11762	.16019	.49763	.13122	.30711	.47773	10.719	.46644

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	2.9677	.66110	.06806	1.0906	.41106	.01202	.57427	.14186
Stddev	.0066	.00198	.00031	.0014	.00117	.00003	.00215	.00028
%RSD	.22320	.30007	.45058	.13317	.28348	.26579	.37422	.19859
#1	2.9600	.66053	.06842	1.0890	.41014	.01200	.57501	.14185
#2	2.9710	.66331	.06790	1.0918	.41237	.01206	.57595	.14215
#3	2.9719	.65947	.06788	1.0911	.41067	.01200	.57185	.14159

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	.74953	.15400	.40495	.15077	2.3554	.08111	.80562	1.6185
Stddev	.00109	.00042	.00080	.00032	.0129	.00026	.00319	.0031
%RSD	.14487	.26970	.19691	.21436	.54797	.32464	.39630	.19129
#1	.74856	.15447	.40570	.15074	2.3679	.08111	.80780	1.6166
#2	.75070	.15368	.40503	.15111	2.3421	.08085	.80709	1.6221
#3	.74934	.15385	.40411	.15047	2.3563	.08138	.80195	1.6168

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	.26771	.91583	.01766	.08914	.05898	1.7364	18.554
Stddev	.00022	.00173	.00015	.00014	.00005	.0021	.088
%RSD	.08117	.18880	.83085	.15510	.08601	.12088	.47495
#1	.26746	.91732	.01755	.08909	.05892	1.7389	18.502
#2	.26782	.91623	.01759	.08904	.05899	1.7352	18.656
#3	.26785	.91393	.01782	.08930	.05902	1.7352	18.505

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S3 Acquired: 3/12/2025 10:39:57 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	3409.4	77550.	14690.	2378.8	4607.1
Stddev	9.4	103.	54.	8.9	7.8
%RSD	.27531	.13230	.36597	.37567	.16985
#1	3413.5	77432.	14648.	2375.1	4614.4
#2	3398.6	77603.	14671.	2389.0	4598.8
#3	3416.0	77615.	14750.	2372.3	4608.0

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S4 Acquired: 3/12/2025 10:44:12 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	.24349	.32724	1.0159	.27195	.63360	.99444	21.659	.98767
Stddev	.00046	.00787	.0023	.00071	.00209	.00271	.119	.00794
%RSD	.18806	2.4052	.22430	.25925	.33000	.27208	.54729	.80426
#1	.24311	.31834	1.0161	.27124	.63300	.99732	21.791	.98207
#2	.24335	.33012	1.0135	.27197	.63188	.99405	21.622	.99677
#3	.24400	.33327	1.0180	.27265	.63593	.99196	21.562	.98419

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6.1298	1.3318	.13947	2.2332	.82953	.02407	1.1532	.28862
Stddev	.0125	.0019	.00040	.0040	.00067	.00012	.0035	.00041
%RSD	.20462	.14592	.28944	.17830	.08135	.48939	.30102	.14337
#1	6.1325	1.3319	.13909	2.2357	.83009	.02395	1.1493	.28831
#2	6.1161	1.3337	.13990	2.2286	.82878	.02407	1.1545	.28909
#3	6.1407	1.3298	.13942	2.2352	.82972	.02419	1.1559	.28847

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	1.5264	.31905	.84802	.30853	4.7810	.16457	1.7107	3.2649
Stddev	.0026	.00139	.00448	.00049	.0177	.00049	.0126	.0082
%RSD	.17123	.43649	.52873	.16018	.36990	.29575	.73661	.25167
#1	1.5280	.31753	.85009	.30910	4.7660	.16465	1.7003	3.2604
#2	1.5234	.32025	.84288	.30828	4.8005	.16404	1.7247	3.2600
#3	1.5279	.31939	.85110	.30821	4.7765	.16501	1.7071	3.2744

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	.55410	1.8537	.03578	.18974	.12512	3.5724	37.318
Stddev	.00101	.0007	.00021	.00044	.00031	.0013	.206
%RSD	.18242	.03944	.58489	.22978	.25062	.03714	.55198
#1	.55323	1.8530	.03570	.18935	.12479	3.5715	37.095
#2	.55384	1.8544	.03563	.18966	.12514	3.5718	37.502
#3	.55521	1.8539	.03602	.19021	.12542	3.5739	37.356

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S4 Acquired: 3/12/2025 10:44:12 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	3317.9	74069.	13931.	2270.0	4383.3
Stddev	7.0	93.	58.	1.9	9.3
%RSD	.21242	.12545	.41398	.08428	.21330
#1	3316.7	74159.	13974.	2272.2	4381.1
#2	3325.5	73973.	13865.	2268.7	4393.6
#3	3311.5	74076.	13952.	2269.0	4375.3

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: S5 Acquired: 3/12/2025 10:48:23 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	.49101	.64773	2.0366	.54315	1.2769	2.0406	44.820	1.9467
Stddev	.00126	.00251	.0004	.00070	.0020	.0097	.213	.0071
%RSD	.25656	.38741	.01837	.12851	.15943	.47720	.47589	.36406
#1	.48972	.64901	2.0367	.54253	1.2746	2.0412	44.954	1.9399
#2	.49109	.64484	2.0369	.54301	1.2784	2.0500	44.932	1.9540
#3	.49224	.64935	2.0362	.54391	1.2778	2.0305	44.574	1.9462

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	12.358	2.7258	.27350	4.5288	1.6446	.04861	2.3642	.59268
Stddev	.011	.0150	.00097	.0056	.0030	.00052	.0212	.00286
%RSD	.09108	.55155	.35637	.12442	.18466	1.0673	.89813	.48295
#1	12.352	2.7252	.27450	4.5242	1.6418	.04907	2.3749	.59159
#2	12.371	2.7412	.27344	4.5351	1.6478	.04872	2.3779	.59592
#3	12.350	2.7111	.27256	4.5272	1.6441	.04805	2.3397	.59052

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	3.0781	.63445	1.7319	.63389	9.4191	.34216	3.3749	6.4986
Stddev	.0047	.00164	.0173	.00385	.0336	.00334	.0132	.0086
%RSD	.15314	.25804	.99998	.60728	.35615	.97587	.39100	.13157
#1	3.0758	.63551	1.7463	.63415	9.4578	.34525	3.3597	6.4899
#2	3.0835	.63526	1.7367	.63761	9.3996	.34261	3.3822	6.5070
#3	3.0750	.63256	1.7127	.62992	9.3998	.33862	3.3829	6.4988

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	1.1095	3.8308	.07263	.39336	.26019	7.4825	76.687
Stddev	.0009	.0257	.00035	.00054	.00049	.0647	.892
%RSD	.08439	.66976	.48039	.13801	.19014	.86418	1.1626
#1	1.1092	3.8458	.07269	.39273	.25968	7.5213	76.619
#2	1.1087	3.8454	.07294	.39362	.26021	7.5184	77.610
#3	1.1105	3.8012	.07225	.39372	.26067	7.4079	75.831

Sample Name: S5 Acquired: 3/12/2025 10:48:23 Type: Cal
Method: NON EPA-6010-200.7(v2798) 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	3227.1	73657.	13727.	2219.6	4167.6
Stddev	5.8	382.	74.	12.1	3.6
%RSD	.17920	.51895	.54237	.54549	.08683
#1	3232.2	73484.	13772.	2212.4	4170.6
#2	3220.8	73393.	13641.	2212.9	4163.5
#3	3228.3	74095.	13768.	2233.6	4168.5

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICV01 Acquired: 3/12/2025 10:52:41 Type: Unk
Method: NON EPA-6010-200.7(v2798) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.050717	1.086847	1.021092	1.047570	1.017833	2.549211	.5372257
Stddev	.008258	.004072	.005068	.004883	.006094	.004529	.0013904
%RSD	.7859653	.3747036	.4963462	.4660909	.5986771	.1776738	.2588046
#1	1.053653	1.085276	1.018407	1.050492	1.016842	2.547288	.5379388
#2	1.041392	1.083795	1.017931	1.041934	1.012296	2.545961	.5356234
#3	1.057106	1.091471	1.026938	1.050286	1.024361	2.554385	.5381147

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5368993	.5058636	10.00277	.5412939	.5139749	.5321012	10.37472
Stddev	.0041049	.0020765	.02507	.0026080	.0019146	.0031397	.09194
%RSD	.7645546	.4104820	.2505990	.4818103	.3725058	.5900621	.8862068
#1	.5359653	.5055386	10.00683	.5393438	.5138621	.5321577	10.36912
#2	.5333419	.5039687	9.97592	.5442563	.5121192	.5289335	10.46933
#3	.5413908	.5080834	10.02556	.5402817	.5159434	.5352122	10.28570

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5081810	5.903405	.5169687	.2623008	10.29813	.5185340	1.050992
Stddev	.0020023	.048197	.0021024	.0010087	.07517	.0014833	.005547
%RSD	.3940197	.8164221	.4066840	.3845486	.7299064	.2860513	.5277434
#1	.5078952	5.866629	.5170116	.2620277	10.27271	.5184813	1.052454
#2	.5063369	5.885619	.5148451	.2634179	10.38271	.5170778	1.055662
#3	.5103109	5.957967	.5190494	.2614568	10.23897	.5200430	1.044861

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.19338	2.517320	2.484198	2.515332	2.543406	2.427134	2.376847
Stddev	.08701	.017874	.011528	.014275	.007721	.014829	.009267
%RSD	.8535826	.7100225	.4640430	.5675178	.3035523	.6109850	.3898709
#1	10.20488	2.521211	2.483343	2.513196	2.543470	2.417276	2.376805
#2	10.27407	2.497822	2.473122	2.502245	2.535654	2.444188	2.367601
#3	10.10119	2.532928	2.496130	2.530554	2.551095	2.419938	2.386134

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICV01 Acquired: 3/12/2025 10:52:41 Type: Unk
Method: NON EPA-6010-200.7(v2798) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.397953	2.572529	2.683548
Stddev	.014968	.009061	.044283
%RSD	.6241880	.3522158	1.650163
#1	2.396155	2.575492	2.646621
#2	2.383965	2.562357	2.671379
#3	2.413738	2.579737	2.732643

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3423.347	75754.29	15040.05	2301.813	4699.829
Stddev	16.614	354.24	119.31	10.842	20.118
%RSD	.4853111	.4676139	.7932626	.4710094	.4280555
#1	3426.537	75951.16	15053.73	2305.420	4703.833
#2	3438.136	75345.35	15151.93	2289.628	4717.644
#3	3405.370	75966.37	14914.50	2310.392	4678.011

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: LLICV01 Acquired: 3/12/2025 10:56:50 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	.0221884	.0416108	.0116638	.0174763	.0506743	.1097194
Stddev	.0014384	.0013138	.0010988	.0020094	.0021405	.0004329
%RSD	6.482676	3.157287	9.420543	11.49796	4.224030	.3945721
#1	.0209858	.0418437	.0119371	.0172435	.0494458	.1092202
#2	.0237818	.0427925	.0126001	.0155935	.0531459	.1099468
#3	.0217976	.0401961	.0104541	.0195920	.0494312	.1099913

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0891569	.0057984	.0058286	1.960534	.0106088	.0292835
Stddev	.0005123	.0000602	.0000508	.001127	.0001667	.0002034
%RSD	.5745622	1.038561	.8716006	.0574683	1.571528	.6944095
#1	.0895090	.0058644	.0058846	1.959549	.0107055	.0293790
#2	.0893925	.0057465	.0058155	1.961763	.0107046	.0294216
#3	.0885692	.0057843	.0057856	1.960292	.0104163	.0290500

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0228666	.1136299	.0195068	2.063991	.0386873	.0109869
Stddev	.0005707	.0014030	.0001309	.006839	.0001085	.0003985
%RSD	2.495623	1.234669	.6708753	.3313643	.2803408	3.627257
#1	.0223921	.1120386	.0196055	2.063851	.0388123	.0107126
#2	.0234998	.1141628	.0193584	2.070899	.0386313	.0108040
#3	.0227080	.1146884	.0195566	2.057223	.0386183	.0114440

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.048697	.0400044	.0425837	1.929463	.1112076	.2105049
Stddev	.011173	.0006172	.0007254	.032178	.0011091	.0010273
%RSD	.5453756	1.542735	1.703554	1.667694	.9973586	.4880096
#1	2.049056	.0394662	.0417470	1.900991	.1124453	.2093579
#2	2.037348	.0406780	.0429681	1.964373	.1108736	.2108166
#3	2.059686	.0398689	.0430361	1.923026	.1103038	.2113402

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: LLICV01 Acquired: 3/12/2025 10:56:50 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	.0399947	.0393072	.3563862	F .0148717	F .0139653	.0165698
Stddev	.0001666	.0009563	.0057968	.0011651	.0014519	.0002883
%RSD	.4166649	2.432846	1.626562	7.834516	10.39656	1.739943
#1	.0398179	.0400934	.3535160	.0136747	.0140694	.0168957
#2	.0401488	.0395857	.3525845	.0149385	.0124641	.0164658
#3	.0400173	.0382426	.3630582	.0160021	.0153623	.0163479

Elem	Sr4077
Units	ppm
Avg	.0194086
Stddev	.0001163
%RSD	.5993408
#1	.0195267
#2	.0194049
#3	.0192942

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3419.685	76509.48	15027.34	2283.828	4887.924
Stddev	4.101	211.29	6.20	1.233	7.891
%RSD	.1199228	.2761650	.0412663	.0539770	.1614307
#1	3422.682	76577.39	15034.00	2282.505	4885.744
#2	3415.011	76678.46	15026.30	2284.033	4881.353
#3	3421.362	76272.58	15021.73	2284.945	4896.676

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICB01 Acquired: 3/12/2025 11:01:08 Type: Unk
Method: NON EPA-6010-200.7(v2798) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013099	-.001491	.0002479	-.001787	-.001663	.0075258	-.005002
Stddev	.0006524	.000877	.0005180	.001016	.000216	.0047694	.000552
%RSD	49.80345	58.82666	208.9466	56.85254	12.98751	63.37346	11.03215
#1	.0015721	-.002472	-.000161	-.000627	-.001449	.0024687	-.005534
#2	.0005672	-.001216	.000074	-.002213	-.001881	.0081659	-.005041
#3	.0017904	-.000784	.000831	-.002520	-.001659	.0119429	-.004432

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000370	.0000577	.0038459	-.000177	.0001968	.0000317	-.001262
Stddev	.0000510	.0000450	.0039280	.000127	.0001398	.0004370	.001722
%RSD	138.0529	77.99120	102.1354	71.42467	71.01692	1378.233	136.4336
#1	.0000931	.0000673	.0077791	-.000303	.0003575	.0000845	-.003048
#2	-.000007	.0000972	-.000077	-.000050	.0001040	.0004400	.000389
#3	.000025	.0000087	.003835	-.000179	.0001289	-.000429	-.001129

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000643	.0081910	-.000049	.0005991	-.033913	.0004477	.0004602
Stddev	.000212	.0080649	.000126	.0001862	.001006	.0001899	.0001256
%RSD	32.93744	98.46072	260.3042	31.08448	2.965983	42.42225	27.29143
#1	-.000847	.0174170	.000059	.0007203	-.032790	.0003379	.0006046
#2	-.000655	.0046751	-.000017	.0003847	-.034217	.0006669	.0003760
#3	-.000425	.0024809	-.000188	.0006924	-.034731	.0003381	.0004002

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.068048	.0026263	-.000042	-.000555	.0007784	-.044698	-.002907
Stddev	.003458	.0005634	.000062	.000347	.0002360	.004582	.000944
%RSD	5.081161	21.45051	148.2478	62.61474	30.31933	10.25205	32.45743
#1	-.065245	.0027422	-.000039	-.000837	.0007591	-.049304	-.002037
#2	-.066987	.0020140	-.000105	-.000167	.0010234	-.040139	-.002775
#3	-.071912	.0031228	.000019	-.000660	.0005526	-.044650	-.003910

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICB01 Acquired: 3/12/2025 11:01:08 Type: Unk
Method: NON EPA-6010-200.7(v2798) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005042	-.003628	-.000023
Stddev	.001649	.000654	.000072
%RSD	32.71469	18.02868	308.4517
#1	-.004623	-.003914	-.000083
#2	-.003642	-.004091	-.000044
#3	-.006861	-.002880	.000057

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3413.036	78581.61	14877.70	2278.089	4946.488
Stddev	7.047	181.97	43.57	12.099	6.018
%RSD	.2064651	.2315728	.2928638	.5311177	.1216698
#1	3405.635	78778.87	14828.08	2290.412	4939.560
#2	3413.809	78545.67	14909.74	2266.226	4950.420
#3	3419.665	78420.28	14895.27	2277.630	4949.485

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CRI01 Acquired: 3/12/2025 11:05:28 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	.0200801	.0421270	.0108879	.0183255	.0518728	.1065205
Stddev	.0017712	.0005735	.0015416	.0008933	.0009290	.0012875
%RSD	8.820895	1.361326	14.15845	4.874653	1.790835	1.208645
#1	.0184090	.0425740	.0125630	.0173014	.0510133	.1074694
#2	.0198945	.0414804	.0105721	.0189438	.0517468	.1050550
#3	.0219368	.0423266	.0095288	.0187315	.0528583	.1070370

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0888259	.0055338	.0058487	1.938138	.0103366	.0292939
Stddev	.0003788	.0000159	.0000515	.005662	.0001874	.0001287
%RSD	.4264144	.2880465	.8798664	.2921153	1.812676	.4391748
#1	.0891979	.0055188	.0058770	1.937618	.0101324	.0294259
#2	.0888390	.0055321	.0058798	1.944042	.0105006	.0292869
#3	.0884407	.0055506	.0057893	1.932755	.0103769	.0291689

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0226358	.0986921	.0191818	2.032646	.0388859	.0110873
Stddev	.0001899	.0009373	.0002886	.003515	.0002732	.0002919
%RSD	.8391098	.9496786	1.504527	.1729491	.7025463	2.632658
#1	.0224968	.0995077	.0190182	2.032279	.0385761	.0113196
#2	.0225583	.0976682	.0195150	2.036330	.0390923	.0111825
#3	.0228522	.0989003	.0190122	2.029328	.0389894	.0107597

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.099453	.0393630	.0423058	1.966018	.0932869	.2093583
Stddev	.017198	.0006705	.0002964	.029198	.0001408	.0003537
%RSD	.8191434	1.703361	.7005198	1.485146	.1509214	.1689269
#1	2.119311	.0398067	.0419724	1.996742	.0931254	.2097618
#2	2.089588	.0396906	.0424057	1.938633	.0933521	.2092110
#3	2.089459	.0385917	.0425393	1.962680	.0933833	.2091021

Sample Name: CRI01 Acquired: 3/12/2025 11:05:28 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	.0396780	.0385341	.3572147	F .0140194	F .0156726	F .0144498
Stddev	.0005452	.0005144	.0033334	.0018703	.0016777	.0011116
%RSD	1.374137	1.335003	.9331540	13.34053	10.70458	7.692831
#1	.0403073	.0379449	.3563145	.0140103	.0152027	.0140940
#2	.0393478	.0388942	.3609058	.0121537	.0175351	.0156958
#3	.0393789	.0387632	.3544239	.0158942	.0142799	.0135597

Elem	Sr4077
Units	ppm
Avg	.0191457
Stddev	.0000117
%RSD	.0608881
#1	.0191398
#2	.0191591
#3	.0191382

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3360.614	75985.13	15395.09	2238.678	4778.125
Stddev	10.688	388.67	101.61	4.308	9.213
%RSD	.3180318	.5115093	.6599865	.1924211	.1928066
#1	3348.566	75548.96	15496.54	2233.817	4767.926
#2	3364.323	76111.68	15293.33	2240.192	4780.607
#3	3368.953	76294.76	15395.39	2242.023	4785.843

Sample Name: ICSA01 Acquired: 3/12/2025 11:09:46 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	.0057795	.0075553	.0059908	-.015801	-.005276	249.0658
Stddev	.0028562	.0025486	.0007074	.004289	.003402	1.5879
%RSD	49.41993	33.73254	11.80877	27.14313	64.47987	.6375466
#1	.0090732	.0102924	.0065072	-.011188	-.001591	250.2063
#2	.0039867	.0071232	.0062808	-.019667	-.008297	247.2522
#3	.0042784	.0052505	.0051845	-.016549	-.005938	249.7389

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014253	.0012199	-.003496	231.6802	.0600039	.0017853
Stddev	.0003061	.0000465	.000074	.9358	.0005390	.0001855
%RSD	21.47563	3.808933	2.128183	.4039272	.8983232	10.39073
#1	.0015603	.0012734	-.003549	232.4506	.0602487	.0018298
#2	.0016408	.0011961	-.003529	230.6388	.0593859	.0015816
#3	.0010750	.0011901	-.003411	231.9512	.0603771	.0019445

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0072552	104.2142	.0027988	248.7386	.0016202	.0005751
Stddev	.0003115	.6907	.0005714	.8985	.0004300	.0003715
%RSD	4.293946	.6627787	20.41497	.3612362	26.53852	64.59829
#1	.0069328	104.9739	.0021802	248.6600	.0019631	.0006386
#2	.0075546	103.6240	.0029097	247.8819	.0017597	.0009107
#3	.0072781	104.0449	.0033067	249.6738	.0011378	.0001759

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0413736	.0040468	.0069513	-.008244	F -.112072	.0001234
Stddev	.0147870	.0003979	.0002312	.011951	.002961	.0002979
%RSD	35.74017	9.831458	3.326321	144.9627	2.641947	241.3176
#1	.0397745	.0037566	.0067825	-.020886	-.108816	-.000090
#2	.0274511	.0038835	.0072148	-.006717	-.112795	-.000004
#3	.0568951	.0045003	.0068565	.002870	-.114604	.000464

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICSA01 Acquired: 3/12/2025 11:09:46 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	-.002340	-.001218	-.023635	-.002748	F -.021775	.0013627
Stddev	.001524	.000149	.000449	.002516	.002578	.0009252
%RSD	65.14064	12.22588	1.901696	91.54040	11.83876	67.89789
#1	-.003165	-.001364	-.023286	-.001624	-.024403	.0020550
#2	-.003272	-.001066	-.023477	-.000991	-.021673	.0003118
#3	-.000581	-.001225	-.024142	-.005630	-.019250	.0017211

Elem	Sr4077
Units	ppm
Avg	F .0962691
Stddev	.0006149
%RSD	.6386766
#1	.0969030
#2	.0956752
#3	.0962291

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3016.275	66635.65	14617.59	2010.268	3857.253
Stddev	4.357	144.48	57.87	3.650	7.803
%RSD	.1444558	.2168212	.3958872	.1815833	.2022891
#1	3011.641	66548.49	14592.18	2012.926	3851.484
#2	3020.290	66802.42	14683.81	2006.106	3866.131
#3	3016.894	66556.03	14576.77	2011.773	3854.144

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICSAB01 Acquired: 3/12/2025 11:14:11 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	.1162459	.1076940	.0523380	.0341979	.6300756	239.2544
Stddev	.0052503	.0029950	.0019501	.0010796	.0043504	14.1175
%RSD	4.516536	2.781008	3.725956	3.156983	.6904512	5.900622
#1	.1199751	.1079458	.0543874	.0353992	.6252382	249.6676
#2	.1185208	.1045810	.0505053	.0333087	.6336672	223.1860
#3	.1102418	.1105551	.0521214	.0338857	.6313214	244.9094

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4543256	.4669305	1.004118	220.2602	.5945447	.5109850
Stddev	.0297941	.0253370	.001596	13.9551	.0039085	.0009383
%RSD	6.557867	5.426292	.1589679	6.335728	.6573889	.1836233
#1	.4761375	.4866314	1.002306	230.4127	.5908130	.5111445
#2	.4203791	.4383485	1.004730	204.3470	.5986087	.5099772
#3	.4664602	.4758115	1.005317	226.0209	.5942125	.5118333

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5092420	101.5188	.4508260	236.5746	1.002963	.2257953
Stddev	.0010840	.8489	.0299778	14.8679	.000523	.0019329
%RSD	.2128741	.8361690	6.649531	6.284668	.0521119	.8560429
#1	.5083430	101.2454	.4723234	247.5490	1.003307	.2235736
#2	.5089372	100.8403	.4165812	219.6538	1.003220	.2270914
#3	.5104458	102.4707	.4635733	242.5210	1.002361	.2267209

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0436195	.4565547	1.077794	-.044719	F .8347094	1.111830
Stddev	.0085472	.0263889	.010424	.032805	.0353070	.003008
%RSD	19.59500	5.780006	.9671620	73.35883	4.229859	.2705706
#1	.0380322	.4773375	1.066156	-.080624	.8588161	1.108357
#2	.0393674	.4268649	1.080951	-.037221	.7941826	1.113493
#3	.0534588	.4654619	1.086275	-.016312	.8511294	1.113640

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICSAB01 Acquired: 3/12/2025 11:14:11 Type: Unk
Method: NON EPA-6010-200.7(v2798) 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	1.101800	.9789385	1.021118	F .0001176	F -.024810	F .0026799
Stddev	.002545	.0622752	.002091	.0017427	.001466	.0019086
%RSD	.2309699	6.361503	.2047376	1481.856	5.909820	71.21707
#1	1.102112	1.023609	1.019590	.0011515	-.025855	.0004765
#2	1.104174	.907802	1.020264	-.001894	-.023134	.0038159
#3	1.099113	1.005405	1.023501	.001096	-.025441	.0037475

Elem	Sr4077
Units	ppm
Avg	F .0914073
Stddev	.0059081
%RSD	6.463465
#1	.0955711
#2	.0846454
#3	.0940054

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2995.150	66529.82	14995.93	1990.957	3851.091
Stddev	8.787	408.57	838.84	19.629	5.027
%RSD	.2933886	.6141096	5.593759	.9858950	.1305429
#1	3002.872	66989.47	14367.11	2012.430	3854.594
#2	2996.990	66207.98	15948.37	1986.500	3853.348
#3	2985.588	66392.00	14672.31	1973.939	3845.331

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICSADLX20 Acquired: 3/12/2025 11:21:21 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSADLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012719	-.001021	.0002573	-.005631	-.000721	12.66479	-.006144
Stddev	.0024672	.002206	.0012295	.001993	.000831	.02143	.000944
%RSD	193.9820	215.9496	477.8223	35.38573	115.3333	.1692131	15.36744
#1	.0040842	-.000641	.0010668	-.004162	-.001069	12.67195	-.005247
#2	-.000529	.000970	-.001157	-.004833	-.001321	12.64069	-.006057
#3	.000260	-.003392	.000863	-.007899	.000228	12.68171	-.007129

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001566	-.000154	11.90569	.0031714	.0002149	.0005272	4.979147
Stddev	.0000204	.000061	.02229	.0001842	.0001912	.0003435	.012860
%RSD	13.00388	39.72162	.1872577	5.809045	88.92941	65.14657	.2582849
#1	.0001450	-.000205	11.88871	.0029882	.0000506	.0004598	4.976021
#2	.0001448	-.000086	11.89743	.0031695	.0001695	.0002225	4.968137
#3	.0001802	-.000171	11.93094	.0033567	.0004247	.0008994	4.993282

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000381	12.25489	.0000025	.0008363	-.021700	.0011640	.0008001
Stddev	.000256	.02732	.0001676	.0001777	.002078	.0012919	.0004084
%RSD	67.27655	.2229630	6738.150	21.24263	9.574475	110.9889	51.03891
#1	-.000376	12.26115	-.000170	.0006691	-.019319	.0026552	.0004414
#2	-.000127	12.22497	.000164	.0010228	-.022638	.0004533	.0012445
#3	-.000639	12.27853	.000013	.0008170	-.023144	.0003834	.0007144

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.117526	-.013428	.0000094	-.000693	.0009346	-.047788	-.005689
Stddev	.010420	.000374	.0001803	.000214	.0008720	.002694	.002254
%RSD	8.866429	2.782695	1907.225	30.88084	93.30557	5.637681	39.61241
#1	-.125089	-.013534	.0001822	-.000862	.0012555	-.047745	-.004924
#2	-.105640	-.013012	.0000236	-.000766	-.000052	-.050504	-.008226
#3	-.121849	-.013737	-.000177	-.000452	.001601	-.045116	-.003918

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICSADLX20 Acquired: 3/12/2025 11:21:21 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSADLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005519	-.004907	.0047947
Stddev	.001715	.001009	.0000776
%RSD	31.08080	20.55822	1.618870
#1	-.004472	-.004629	.0048687
#2	-.004586	-.006026	.0047139
#3	-.007499	-.004066	.0048015

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3316.113	73462.50	14663.63	2145.467	4684.828
Stddev	6.438	44.93	32.82	13.305	5.063
%RSD	.1941365	.0611664	.2238227	.6201614	.1080778
#1	3309.391	73413.87	14634.09	2134.311	4680.257
#2	3322.223	73502.48	14698.96	2160.193	4683.956
#3	3316.723	73471.15	14657.83	2141.897	4690.271

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICSABDLX20 Acquired: 3/12/2025 11:25:38 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSABDLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031210	.0050915	.0019708	-.003818	.0297654	12.73115	.0178418
Stddev	.0031434	.0005185	.0017116	.000630	.0006093	.02366	.0009651
%RSD	100.7156	10.18296	86.84758	16.51324	2.046920	.1858094	5.409282
#1	.0032770	.0050901	.0026563	-.004476	.0301885	12.73358	.0173005
#2	-.000097	.0045737	.0000227	-.003758	.0300406	12.70638	.0189560
#3	.006184	.0056106	.0032333	-.003219	.0290671	12.75350	.0172688

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0252962	.0514410	12.00660	.0309137	.0259038	.0276460	5.054236
Stddev	.0002144	.0001183	.04091	.0007443	.0000689	.0005984	.022857
%RSD	.8475227	.2300526	.3407488	2.407557	.2661343	2.164381	.4522278
#1	.0254310	.0513185	12.03842	.0315650	.0259307	.0275937	5.076452
#2	.0250490	.0515548	11.96045	.0310738	.0259552	.0270755	5.055466
#3	.0254087	.0514496	12.02093	.0301025	.0258254	.0282688	5.030788

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0242190	12.32777	.0515415	.0118074	-.030711	.0255350	.0562076
Stddev	.0001498	.04370	.0003544	.0002390	.006593	.0009507	.0006858
%RSD	.6184210	.3544999	.6876635	2.023745	21.46780	3.723293	1.220072
#1	.0243902	12.28373	.0513750	.0120819	-.025414	.0251547	.0568723
#2	.0241118	12.32846	.0513011	.0116945	-.038095	.0266170	.0555025
#3	.0241551	12.37112	.0519486	.0116458	-.028625	.0248333	.0562482

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.105756	.0389198	.0584498	.0564518	.0533356	.0039099	-.006234
Stddev	.010839	.0013606	.0004358	.0008619	.0001747	.0039217	.001101
%RSD	10.24890	3.496015	.7456581	1.526760	.3276331	100.3037	17.66038
#1	-.118154	.0399427	.0582791	.0559112	.0532209	.0083082	-.007228
#2	-.098077	.0373756	.0581251	.0574458	.0535367	.0026443	-.005051
#3	-.101036	.0394411	.0589451	.0559986	.0532492	.0007772	-.006424

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: ICSABDLX20 Acquired: 3/12/2025 11:25:38 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSABDLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003600	-.004129	.0047801
Stddev	.004852	.000553	.0000337
%RSD	134.7955	13.39272	.7055797
#1	-.000040	-.003547	.0047940
#2	-.001632	-.004647	.0047416
#3	-.009127	-.004191	.0048046

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3264.925	73964.14	14864.17	2159.656	4582.541
Stddev	7.340	299.22	24.91	7.022	9.119
%RSD	.2248149	.4045527	.1676171	.3251624	.1989932
#1	3273.143	73697.61	14852.22	2155.370	4593.070
#2	3259.021	73907.01	14892.81	2155.837	4577.368
#3	3262.611	74287.82	14847.48	2167.760	4577.186

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV01 Acquired: 3/12/2025 11:29:51 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.211991	5.015481	5.062300	4.997678	5.041986	10.03519	9.300786
Stddev	.005706	.057166	.008647	.017756	.014094	.01226	.088918
%RSD	.1094838	1.139796	.1708116	.3552817	.2795366	.1221873	.9560309
#1	5.206852	5.079118	5.060152	4.996120	5.036242	10.04791	9.344004
#2	5.210989	4.998851	5.054930	4.980752	5.031670	10.03420	9.198520
#3	5.218132	4.968473	5.071819	5.016161	5.058045	10.02345	9.359835

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2442363	2.465015	23.81095	1.052485	2.459061	1.259754	4.786042
Stddev	.0010176	.006725	.09101	.003939	.007950	.004174	.023243
%RSD	.4166252	.2728019	.3822230	.3742260	.3232819	.3313059	.4856385
#1	.2430762	2.464919	23.71233	1.054818	2.456151	1.257272	4.812879
#2	.2446551	2.458338	23.82880	1.054699	2.452977	1.257417	4.772880
#3	.2449776	2.471786	23.89171	1.047937	2.468056	1.264572	4.772367

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.350109	23.78453	2.449253	1.256965	26.20896	2.432009	2.534750
Stddev	.005528	.10881	.009531	.004910	.26527	.004869	.012296
%RSD	.2352430	.4574639	.3891426	.3905927	1.012142	.2001929	.4850902
#1	2.349847	23.67182	2.446393	1.260740	26.47815	2.426478	2.547765
#2	2.344717	23.79282	2.441479	1.258740	26.20095	2.433903	2.533158
#3	2.355764	23.88896	2.459886	1.251414	25.94778	2.435646	2.523328

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.12724	4.874880	5.064826	5.025773	4.751765	5.217918	4.895639
Stddev	.19660	.029196	.010226	.018792	.007995	.015325	.013298
%RSD	.8148578	.5989055	.2019038	.3739042	.1682479	.2936987	.2716198
#1	24.34029	4.841952	5.060145	5.034492	4.752720	5.235423	4.885398
#2	24.08859	4.885081	5.057778	5.004206	4.743336	5.211408	4.890851
#3	23.95282	4.897607	5.076555	5.038622	4.759240	5.206923	4.910667

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV01 Acquired: 3/12/2025 11:29:51 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.796329	4.743881	4.768053
Stddev	.020052	.012043	.007958
%RSD	.4180676	.2538612	.1668974
#1	4.801466	4.757787	4.761613
#2	4.774209	4.736946	4.776949
#3	4.813313	4.736911	4.765597

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3209.006	71967.68	13849.26	2119.839	4307.122
Stddev	3.458	262.44	58.61	11.554	6.230
%RSD	.1077464	.3646676	.4231900	.5450650	.1446417
#1	3211.911	71715.62	13912.61	2106.872	4308.211
#2	3209.925	71948.04	13838.19	2123.603	4312.735
#3	3205.182	72239.40	13796.97	2129.042	4300.419

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB01 Acquired: 3/12/2025 11:34:02 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017913	-.002097	-.001192	-.005564	.0002742	.0063387	-.004102
Stddev	.0010339	.001085	.001742	.001782	.0011055	.0025990	.000293
%RSD	57.71878	51.73825	146.1855	32.01859	403.1912	41.00242	7.149025
#1	.0016385	-.001051	-.000274	-.007585	-.000943	.0093370	-.003787
#2	.0008422	-.002022	-.000100	-.004221	.000550	.0049538	-.004149
#3	.0028930	-.003218	-.003201	-.004887	.001215	.0047255	-.004368

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000221	.0000509	.0023603	-.000141	.0000671	.0001342	.0104766
Stddev	.0000322	.0000769	.0052563	.000271	.0002061	.0003051	.0015795
%RSD	145.8598	151.1294	222.7015	191.5810	307.3416	227.3301	15.07673
#1	.0000573	.0001230	.0082463	.000169	.0002749	.0004142	.0123002
#2	-.000006	-.000030	-.001865	-.000266	-.000137	-.000191	.0095346
#3	.000015	.000060	.000700	-.000327	.000064	.000179	.0095950

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000472	-.000488	-.000048	.0002972	-.034534	-.000402	.0002547
Stddev	.000237	.002748	.000132	.0000721	.008518	.000525	.0004594
%RSD	50.21848	562.9727	274.7492	24.25217	24.66639	130.8143	180.3939
#1	-.000254	.000004	.000100	.0002314	-.040738	-.000073	-.000270
#2	-.000437	.001981	-.000089	.0003743	-.038042	-.001008	.000452
#3	-.000724	-.003448	-.000155	.0002861	-.024822	-.000124	.000583

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.122611	.0051111	.0001344	-.000137	.0015550	-.044021	-.004907
Stddev	.002465	.0006658	.0001944	.000218	.0005840	.002381	.001640
%RSD	2.010502	13.02607	144.6711	159.8905	37.55791	5.409846	33.42940
#1	-.122905	.0057825	.0003574	-.000384	.0011234	-.041284	-.003038
#2	-.120012	.0044511	.0000448	-.000057	.0022195	-.045618	-.006107
#3	-.124916	.0050996	.0000009	.000031	.0013220	-.045161	-.005576

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB01 Acquired: 3/12/2025 11:34:02 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.008308	-.003708	.0003751
Stddev	.001627	.000428	.0000132
%RSD	19.58748	11.54889	3.519802
#1	-.007459	-.003825	.0003895
#2	-.010184	-.004066	.0003635
#3	-.007281	-.003234	.0003724

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3351.531	76450.97	14850.95	2245.221	4829.815
Stddev	8.736	242.07	49.37	5.891	14.210
%RSD	.2606471	.3166322	.3324157	.2623901	.2942226
#1	3361.508	76632.99	14815.50	2251.877	4845.422
#2	3347.831	76543.67	14830.00	2243.111	4826.400
#3	3345.255	76176.25	14907.33	2240.676	4817.623

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167037BL Acquired: 3/12/2025 11:38:21 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.000595	-.001491	.0002883	-.008058	-.001139	.0056455	-.006957
Stddev	.001776	.001817	.0021736	.000478	.001382	.0029570	.000194
%RSD	298.6082	121.8572	753.8521	5.928059	121.3677	52.37769	2.782246
#1	-.001824	-.000425	.0022860	-.007794	-.001348	.0087413	-.006898
#2	-.001401	-.003590	.0006053	-.007771	-.002405	.0028503	-.007173
#3	.001441	-.000460	-.002026	-.008609	.000336	.0053449	-.006800

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000417	.0000071	.0015952	-.000347	.0000871	.0000718	-.001960
Stddev	.0000330	.0001155	.0059957	.000359	.0001061	.0002728	.003740
%RSD	79.16347	1626.808	375.8657	103.5221	121.7897	380.0759	190.8201
#1	.0000397	.0000435	-.003173	-.000296	.0002034	-.000068	-.004039
#2	.0000097	.0001000	.008326	-.000728	.0000625	-.000102	.002358
#3	.0000757	-.000122	-.000368	-.000016	-.000005	.000386	-.004198

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000484	.0151366	-.000374	.0006824	-.039767	.0003913	-.000043
Stddev	.000188	.0144686	.000071	.0002127	.003602	.0009464	.000342
%RSD	38.77291	95.58661	19.05179	31.16299	9.057665	241.8647	796.2171
#1	-.000534	.0040203	-.000307	.0005428	-.036536	.0010499	-.000315
#2	-.000276	.0314957	-.000449	.0005773	-.043651	-.000693	.000340
#3	-.000641	.0098939	-.000367	.0009272	-.039115	.000817	-.000154

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.168798	-.003796	.0000597	.0000257	.0005718	-.045200	-.004409
Stddev	.016654	.000611	.0000494	.0004359	.0006182	.004541	.002041
%RSD	9.866286	16.09152	82.79294	1696.328	108.1167	10.04666	46.27595
#1	-.185488	-.004417	.0001155	-.000475	.0012142	-.049941	-.005585
#2	-.152180	-.003195	.0000218	.000318	-.000019	-.044768	-.005590
#3	-.168727	-.003777	.0000417	.000235	.000520	-.040890	-.002053

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167037BL Acquired: 3/12/2025 11:38:21 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.006585	-.005201	-.000068
Stddev	.002669	.000813	.000032
%RSD	40.53721	15.63387	46.17196
#1	-.009424	-.004450	-.000032
#2	-.004127	-.005087	-.000081
#3	-.006203	-.006065	-.000091

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3324.453	75347.58	15117.56	2190.643	4810.936
Stddev	4.905	208.72	41.52	7.483	2.531
%RSD	.1475292	.2770084	.2746475	.3416066	.0526107
#1	3327.988	75109.59	15100.70	2186.292	4811.227
#2	3326.517	75433.65	15087.12	2186.353	4813.310
#3	3318.854	75499.50	15164.86	2199.284	4808.273

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167037BS Acquired: 3/12/2025 11:42:41 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8233577	2.008873	.9774475	1.990975	.8256929	1.963676
Stddev	.0041464	.011012	.0031780	.004244	.0031958	.006838
%RSD	.5035978	.5481502	.3251325	.2131706	.3870404	.3482125
#1	.8210239	1.996208	.9770997	1.990853	.8230480	1.967797
#2	.8209041	2.016178	.9744576	1.986794	.8247867	1.955783
#3	.8281451	2.014234	.9807851	1.995279	.8292439	1.967448

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1763484	.1843368	.1909032	.9677100	.4276409	.1939617
Stddev	.0005258	.0005425	.0008253	.0061926	.0019231	.0008668
%RSD	.2981448	.2943189	.4323212	.6399194	.4497088	.4469121
#1	.1769375	.1838516	.1905979	.9733024	.4298040	.1930628
#2	.1759268	.1849226	.1902740	.9610548	.4269947	.1940301
#3	.1761809	.1842363	.1918376	.9687727	.4261242	.1947924

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3138106	2.966757	.1853022	1.846428	.4834428	.0768172
Stddev	.0010278	.010048	.0001062	.014256	.0018181	.0002363
%RSD	.3275082	.3386769	.0572872	.7720637	.3760625	.3076477
#1	.3135632	2.978235	.1853469	1.842490	.4820476	.0770875
#2	.3129291	2.962480	.1853787	1.862238	.4827820	.0767144
#3	.3149394	2.959555	.1851810	1.834555	.4854988	.0766497

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.156191	.2864989	.2068381	9.637316	.2632788	.4138307
Stddev	.026879	.0025562	.0004972	.062605	.0013183	.0014967
%RSD	.8516298	.8922045	.2403861	.6496052	.5007102	.3616647
#1	3.180772	.2858589	.2065544	9.699466	.2627371	.4128323
#2	3.127489	.2843235	.2074122	9.638215	.2647815	.4131082
#3	3.160311	.2893142	.2065477	9.574267	.2623175	.4155515

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167037BS Acquired: 3/12/2025 11:42:41 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6985020	.1875626	.8049966	5.587026	F -.016263	.1876214
Stddev	.0029186	.0004749	.0107007	.025275	.000693	.0006078
%RSD	.4178351	.2532044	1.329289	.4523956	4.260674	.3239722
#1	.6989777	.1871207	.8161694	5.560277	-.016387	.1883194
#2	.6953747	.1875023	.8039800	5.590290	-.015517	.1873364
#3	.7011534	.1880648	.7948405	5.610510	-.016886	.1872084

Elem	Sr4077
Units	ppm
Avg	.1879061
Stddev	.0004404
%RSD	.2343655
#1	.1884135
#2	.1876236
#3	.1876811

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3260.084	73979.15	14943.11	2148.795	4628.885
Stddev	10.667	183.85	43.02	4.816	16.089
%RSD	.3272088	.2485106	.2878691	.2241168	.3475823
#1	3262.073	73773.37	14975.26	2150.477	4633.974
#2	3269.616	74127.21	14894.25	2143.364	4641.814
#3	3248.561	74036.86	14959.82	2152.544	4610.866

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166981BL Acquired: 3/12/2025 11:46:43 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0008618	-.002373	.0006679	-.007013	-.000757	.0043759	-.007596
Stddev	.0010451	.001390	.0014878	.003175	.000996	.0015829	.000485
%RSD	121.2654	58.60319	222.7476	45.26614	131.5944	36.17371	6.380190
#1	.0020681	-.003665	-.000698	-.003803	-.000434	.0045564	-.007044
#2	.0002295	-.000901	.000449	-.010151	-.001874	.0058609	-.007950
#3	.0002878	-.002552	.002253	-.007085	.000038	.0027105	-.007795

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000094	.0000032	.0011813	.0000622	.0000887	-.000043	-.002636
Stddev	.0000620	.0000373	.0080101	.0002910	.0000596	.000105	.003957
%RSD	656.2753	1180.549	678.0960	467.4179	67.19959	244.9048	150.1221
#1	.0000769	-.000037	-.006941	.0003658	.0000533	.000072	-.003269
#2	-.000045	.000011	.001411	-.000214	.0000553	-.000135	-.006238
#3	-.000003	.000036	.009074	.000035	.0001576	-.000066	.001600

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000691	.0029147	.0001398	.0010479	-.045049	.0005807	.0000512
Stddev	.000035	.0165513	.0002113	.0001142	.006204	.0007392	.0003150
%RSD	5.108276	567.8666	151.1431	10.89566	13.77193	127.2933	615.4939
#1	-.000675	.0185046	.0002704	.0009594	-.052114	.0000090	.0000798
#2	-.000667	.0046936	-.000104	.0011768	-.040490	.0003176	.0003510
#3	-.000732	-.014454	.000253	.0010076	-.042543	.0014154	-.000277

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.148899	-.005250	.0000072	-.000195	.0001477	-.051492	-.003339
Stddev	.015573	.000585	.0000606	.000272	.0002245	.000692	.000772
%RSD	10.45869	11.13467	847.3430	139.7763	151.9870	1.343236	23.10935
#1	-.158229	-.005752	-.000050	-.000049	.0001831	-.051299	-.002465
#2	-.130921	-.004608	.000001	-.000509	.0003525	-.050917	-.003626
#3	-.157546	-.005388	.000071	-.000027	-.000092	-.052259	-.003926

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166981BL Acquired: 3/12/2025 11:46:43 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.005029	-.004901	-.000040
Stddev	.002439	.000522	.000033
%RSD	48.49026	10.64665	81.70881
#1	-.003134	-.005391	-.000023
#2	-.007780	-.004352	-.000020
#3	-.004173	-.004959	-.000078

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3291.490	75134.05	14967.04	2172.840	4768.940
Stddev	8.076	288.78	42.65	6.214	12.362
%RSD	.2453674	.3843516	.2849358	.2859705	.2592144
#1	3284.238	75365.17	15011.86	2172.912	4756.520
#2	3290.040	75226.64	14926.96	2179.017	4769.057
#3	3300.194	74810.33	14962.32	2166.590	4781.243

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166981BS Acquired: 3/12/2025 11:51:03 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8155722	1.993249	.9738332	1.966081	.8167610	1.969288
Stddev	.0044193	.027853	.0019637	.004980	.0022709	.010484
%RSD	.5418625	1.397365	.2016418	.2532967	.2780377	.5323793
#1	.8205890	1.983036	.9722903	1.971832	.8161978	1.964616
#2	.8122553	1.971944	.9731657	1.963240	.8148246	1.981296
#3	.8138722	2.024767	.9760436	1.963172	.8192605	1.961952

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1716938	.1941025	.1900735	.9681129	.4197032	.1937184
Stddev	.0006618	.0010151	.0001205	.0098743	.0002910	.0001911
%RSD	.3854419	.5229524	.0633969	1.019950	.0693281	.0986485
#1	.1713692	.1937675	.1899932	.9774128	.4199229	.1936984
#2	.1724552	.1952427	.1900153	.9691758	.4193732	.1935380
#3	.1712570	.1932972	.1902121	.9577503	.4198134	.1939186

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3122311	2.826677	.1863327	1.854201	.4831998	.0761320
Stddev	.0005561	.010889	.0010355	.024320	.0002696	.0001148
%RSD	.1780929	.3852288	.5557267	1.311624	.0557895	.1507698
#1	.3120594	2.838064	.1869086	1.855839	.4829135	.0760000
#2	.3117811	2.825600	.1869522	1.877660	.4832370	.0762086
#3	.3128527	2.816366	.1851373	1.829102	.4834488	.0761873

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.995561	.2872074	.2059089	9.046157	.2745798	.4106299
Stddev	.016265	.0021736	.0010819	.019073	.0011125	.0018534
%RSD	.5429843	.7568167	.5254511	.2108426	.4051698	.4513530
#1	3.002099	.2847555	.2062906	9.041142	.2742918	.4113777
#2	2.977044	.2888980	.2067483	9.030092	.2758080	.4085194
#3	3.007540	.2879686	.2046878	9.067236	.2736396	.4119925

Sample Name: PB166981BS Acquired: 3/12/2025 11:51:03 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6939950	.1862557	F .7529862	5.597950	F -.015376	.1870878
Stddev	.0015932	.0009952	.0082169	.008513	.001013	.0006235
%RSD	.2295757	.5343046	1.091242	.1520718	6.586043	.3332765
#1	.6935284	.1873880	.7556644	5.593151	-.016403	.1875526
#2	.6926872	.1858592	.7437644	5.592921	-.014379	.1873316
#3	.6957695	.1855199	.7595299	5.607779	-.015345	.1863792

Elem	Sr4077
Units	ppm
Avg	.1854332
Stddev	.0009659
%RSD	.5208786
#1	.1858559
#2	.1861156
#3	.1843280

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3290.076	74930.79	14251.90	2192.186	4660.722
Stddev	4.976	96.15	84.80	12.471	4.658
%RSD	.1512426	.1283130	.5950167	.5688806	.0999456
#1	3286.995	74819.84	14274.48	2188.388	4665.101
#2	3295.817	74989.60	14158.10	2182.055	4661.237
#3	3287.417	74982.93	14323.13	2206.114	4655.827

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167038BL Acquired: 3/12/2025 11:55:05 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.001459	-.001622	.0001260	-.007175	-.001639	.0061712	-.006188
Stddev	.001283	.001663	.0014798	.000671	.000416	.0016124	.000608
%RSD	87.98145	102.5436	1174.273	9.354020	25.36178	26.12790	9.832310
#1	-.001139	.000295	-.000093	-.007924	-.001163	.0079226	-.005714
#2	-.002872	-.002473	.001703	-.006629	-.001929	.0058427	-.006874
#3	-.000365	-.002688	-.001232	-.006971	-.001826	.0047484	-.005976

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000304	-.000036	.0004664	.0001678	-.000005	.0001396	.0218663
Stddev	.0000093	.000022	.0010534	.0001603	.000022	.0003918	.0017419
%RSD	30.61216	61.71864	225.8247	95.53881	445.2493	280.7313	7.966088
#1	.0000208	-.000048	.0004941	.0003405	-.000013	-.000310	.0206453
#2	.0000393	-.000010	-.000600	.0001392	.000020	.000409	.0238610
#3	.0000311	-.000050	.001506	.0000237	-.000022	.000320	.0210926

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000292	-.005111	-.000169	.0007520	-.057417	.0008562	.0000708
Stddev	.000159	.008201	.000491	.0001024	.004332	.0006423	.0004525
%RSD	54.36314	160.4471	291.0070	13.62072	7.544877	75.01172	639.2789
#1	-.000127	-.012033	-.000428	.0008692	-.062400	.0015093	-.000444
#2	-.000445	-.007248	.000398	.0007071	-.054542	.0008340	.000407
#3	-.000305	.003946	-.000477	.0006797	-.055309	.0002254	.000249

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.163211	-.006410	-.000030	-.000306	.0007255	-.051690	-.006196
Stddev	.008231	.000564	.000062	.000490	.0004421	.004660	.000943
%RSD	5.043220	8.799810	207.9564	159.9034	60.94076	9.016283	15.21440
#1	-.172395	-.006292	-.000007	-.000691	.0002245	-.048285	-.005933
#2	-.156498	-.005915	.000018	.000245	.0008908	-.057001	-.005412
#3	-.160740	-.007025	-.000099	-.000473	.0010610	-.049783	-.007242

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167038BL Acquired: 3/12/2025 11:55:05 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.009127	-.004628	-.000048
Stddev	.002991	.000239	.000012
%RSD	32.77519	5.173747	24.95978
#1	-.008345	-.004390	-.000041
#2	-.012431	-.004627	-.000061
#3	-.006603	-.004869	-.000040

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3376.256	76615.47	14498.87	2225.130	4908.782
Stddev	6.120	304.22	52.10	12.656	7.239
%RSD	.1812675	.3970750	.3593134	.5687691	.1474729
#1	3380.611	76707.85	14445.33	2218.568	4916.079
#2	3369.259	76862.78	14501.88	2239.719	4901.602
#3	3378.898	76275.76	14549.40	2217.102	4908.665

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167038BS Acquired: 3/12/2025 11:59:25 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7930344	1.932349	.9505510	1.917055	.7972995	2.032594
Stddev	.0016833	.008295	.0020575	.011494	.0036545	.000831
%RSD	.2122579	.4292552	.2164573	.5995504	.4583577	.0408747
#1	.7935964	1.924386	.9501373	1.912882	.7939212	2.033195
#2	.7911421	1.931721	.9487317	1.908230	.7967990	2.032941
#3	.7943649	1.940940	.9527839	1.930052	.8011785	2.031646

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1721208	.1853853	.1847678	1.026402	.4171125	.1886750
Stddev	.0005955	.0005231	.0005551	.011337	.0021609	.0006256
%RSD	.3459577	.2821765	.3004356	1.104565	.5180661	.3315669
#1	.1720934	.1859806	.1844519	1.039396	.4167237	.1883245
#2	.1715396	.1851759	.1844428	1.018527	.4151724	.1883032
#3	.1727295	.1849992	.1854088	1.021282	.4194414	.1893972

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3046700	2.896225	.1847016	1.839498	.4696946	.0757565
Stddev	.0012689	.021705	.0006768	.014745	.0012968	.0000386
%RSD	.4164733	.7494093	.3664387	.8015998	.2760898	.0509558
#1	.3041196	2.892854	.1839646	1.838790	.4691320	.0757360
#2	.3037692	2.876404	.1848451	1.825120	.4687742	.0757324
#3	.3061211	2.919418	.1852952	1.854586	.4711777	.0758010

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.042405	.2825828	.2104607	9.261050	.2628815	.4054361
Stddev	.038628	.0014186	.0013422	.085859	.0013438	.0015278
%RSD	1.269664	.5020026	.6377688	.9270967	.5111684	.3768209
#1	3.002995	.2813374	.2094249	9.219285	.2643679	.4039071
#2	3.044019	.2841269	.2099801	9.204065	.2625236	.4054385
#3	3.080201	.2822840	.2119771	9.359801	.2617528	.4069626

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167038BS Acquired: 3/12/2025 11:59:25 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6746370	.1837968	.7801640	5.372749	F -.013812	.1843153
Stddev	.0029580	.0002709	.0014982	.021254	.001551	.0007547
%RSD	.4384658	.1473673	.1920411	.3955917	11.22852	.4094347
#1	.6721667	.1835017	.7809848	5.357164	-.013900	.1837774
#2	.6738294	.1838547	.7810724	5.364123	-.015317	.1851780
#3	.6779150	.1840340	.7784347	5.396960	-.012219	.1839907

Elem	Sr4077
Units	ppm
Avg	.1843976
Stddev	.0004031
%RSD	.2185930
#1	.1839433
#2	.1845371
#3	.1847124

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3320.270	74015.73	14653.70	2155.312	4743.232
Stddev	11.217	208.00	28.68	9.391	16.007
%RSD	.3378359	.2810160	.1957035	.4357025	.3374704
#1	3325.292	74130.64	14624.99	2163.248	4753.620
#2	3328.098	74140.91	14653.78	2157.744	4751.278
#3	3307.419	73775.63	14682.34	2144.945	4724.799

Sample Name: PB167024BL Acquired: 3/12/2025 12:03:27 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0007086	-.000970	-.000486	-.006202	-.001141	.0065622	-.007259
Stddev	.0005919	.000164	.001091	.001896	.001320	.0019330	.000632
%RSD	83.52941	16.86505	224.5492	30.57703	115.6518	29.45678	8.708553
#1	.0001742	-.001157	-.000716	-.007473	-.001313	.0053318	-.007659
#2	.0006067	-.000901	-.001442	-.004022	.000256	.0087902	-.006530
#3	.0013448	-.000853	.000702	-.007111	-.002367	.0055646	-.007588

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000313	-.000016	-.000835	.0000238	.0000455	.0002385	-.001246
Stddev	.0000378	.000060	.007350	.0002660	.0003982	.0000844	.003656
%RSD	120.5082	362.5546	880.6884	1118.252	874.6234	35.37318	293.5007
#1	.0000142	.000046	.001570	.0002511	.0002268	.0003309	.002954
#2	.0000052	-.000022	-.009085	-.000269	-.000411	.0001656	-.003725
#3	.0000746	-.000073	.005011	.000089	.000321	.0002189	-.002966

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000635	-.000647	-.000315	.0008736	-.057029	.0016966	-.000017
Stddev	.000222	.003583	.000247	.0001849	.009939	.0003656	.000084
%RSD	34.98439	553.5991	78.52166	21.16190	17.42742	21.54943	506.8854
#1	-.000453	.000783	-.000432	.0006707	-.057411	.0020800	-.000042
#2	-.000571	.001999	-.000482	.0010325	-.066772	.0016580	-.000085
#3	-.000883	-.004724	-.000031	.0009175	-.046905	.0013518	.000077

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.171959	-.006960	-.000046	-.000116	.0006043	-.053636	-.005644
Stddev	.030507	.000735	.000104	.000169	.0002610	.003951	.001015
%RSD	17.74096	10.56625	227.2674	145.9280	43.19182	7.366637	17.97929
#1	-.204091	-.007627	-.000100	.000074	.0006483	-.053225	-.006633
#2	-.143390	-.007083	.000074	-.000250	.0008406	-.049906	-.004605
#3	-.168395	-.006171	-.000111	-.000170	.0003241	-.057777	-.005694

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167024BL Acquired: 3/12/2025 12:03:27 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.008729	-.005405	-.000062
Stddev	.000928	.000796	.000021
%RSD	10.63039	14.73158	33.63237
#1	-.008150	-.005125	-.000038
#2	-.008238	-.004786	-.000069
#3	-.009799	-.006303	-.000078

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3392.810	74650.20	14649.88	2162.476	4943.815
Stddev	128.618	241.50	54.76	5.496	197.717
%RSD	3.790904	.3235138	.3737634	.2541338	3.999277
#1	3322.906	74419.86	14711.32	2156.131	4836.966
#2	3314.281	74901.50	14606.22	2165.711	4822.513
#3	3541.241	74629.24	14632.11	2165.586	5171.967

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167024BS Acquired: 3/12/2025 12:07:47 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8163786	1.987846	.9682583	1.971099	.8174182	2.019176
Stddev	.0044910	.026808	.0069968	.010788	.0022507	.005794
%RSD	.5501116	1.348592	.7226161	.5472892	.2753401	.2869620
#1	.8114299	1.976889	.9697586	1.972359	.8174292	2.019305
#2	.8175105	1.968252	.9606331	1.959737	.8151620	2.024904
#3	.8201953	2.018397	.9743833	1.981201	.8196634	2.013318

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1712682	.1879312	.1889368	.9668149	.4215878	.1922111
Stddev	.0013330	.0008220	.0007038	.0038326	.0014605	.0011085
%RSD	.7783378	.4374022	.3724853	.3964148	.3464266	.5767057
#1	.1722680	.1872641	.1886601	.9684042	.4200876	.1915786
#2	.1717818	.1888495	.1884134	.9624434	.4216706	.1915636
#3	.1697547	.1876800	.1897368	.9695972	.4230051	.1934910

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3116252	2.849663	.1842085	1.818969	.4782306	.0751718
Stddev	.0008009	.023376	.0003939	.024162	.0021602	.0001970
%RSD	.2570212	.8203073	.2138414	1.328312	.4517011	.2620455
#1	.3116903	2.859433	.1846620	1.839679	.4779232	.0753698
#2	.3107936	2.822986	.1839522	1.824803	.4762406	.0751698
#3	.3123916	2.866568	.1840111	1.792425	.4805280	.0749758

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.030907	.2842163	.2081305	9.114790	.2682407	.4111331
Stddev	.015169	.0030354	.0005338	.053025	.0020563	.0017935
%RSD	.5004834	1.067972	.2564938	.5817455	.7665864	.4362409
#1	3.045182	.2870538	.2081196	9.111514	.2661131	.4115000
#2	3.014979	.2845793	.2086697	9.063479	.2702173	.4091845
#3	3.032562	.2810157	.2076022	9.169377	.2683917	.4127148

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167024BS Acquired: 3/12/2025 12:07:47 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6915435	.1843091	.7609704	5.522597	F -.014091	.1854955
Stddev	.0019816	.0013923	.0052816	.031881	.002820	.0003850
%RSD	.2865464	.7553889	.6940593	.5772816	20.01347	.2075543
#1	.6924719	.1837872	.7665045	5.510517	-.011710	.1858377
#2	.6892682	.1858869	.7559840	5.498522	-.013358	.1850786
#3	.6928905	.1832533	.7604227	5.558753	-.017205	.1855701

Elem	Sr4077
Units	ppm
Avg	.1847422
Stddev	.0004137
%RSD	.2239184
#1	.1848959
#2	.1850570
#3	.1842737

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3277.217	75055.74	14590.97	2180.111	4661.728
Stddev	8.691	213.31	28.37	6.958	18.140
%RSD	.2652071	.2842011	.1944031	.3191357	.3891279
#1	3283.207	74954.03	14611.68	2174.380	4669.737
#2	3281.195	75300.87	14558.64	2178.100	4674.486
#3	3267.248	74912.32	14602.60	2187.852	4640.962

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167100BL Acquired: 3/12/2025 12:11:49 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0001089	-.002177	.0002770	-.006721	-.002114	.0081696	-.005900
Stddev	.0009644	.000311	.0005772	.002320	.000941	.0012440	.000554
%RSD	885.3719	14.29837	208.3236	34.52269	44.54044	15.22700	9.394642
#1	-.000810	-.001856	-.000074	-.004095	-.001722	.0082889	-.006012
#2	.001113	-.002197	.000943	-.008493	-.001432	.0093496	-.005298
#3	.000023	-.002477	-.000038	-.007576	-.003188	.0068702	-.006389

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000078	.0000649	-.001649	-.000088	-.000010	-.000271	.0058615
Stddev	.0000240	.0000393	.003363	.000246	.000149	.000197	.0021733
%RSD	306.5081	60.51191	203.9252	279.4599	1554.111	72.46908	37.07713
#1	-.000014	.0000330	-.001552	-.000077	.000162	-.000462	.0060252
#2	.000004	.0000528	-.005060	.000152	-.000081	-.000069	.0079483
#3	.000034	.0001088	.001664	-.000339	-.000110	-.000282	.0036110

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000639	.0189005	-.000121	.0008462	-.046615	.0011306	.0002336
Stddev	.000339	.0064720	.000209	.0003371	.003112	.0018082	.0001569
%RSD	53.05246	34.24224	172.5441	39.83745	6.675444	159.9287	67.18815
#1	-.000810	.0127320	.000014	.0009167	-.047979	.0020101	.0002859
#2	-.000859	.0256383	-.000362	.0004794	-.048811	-.000949	.0000572
#3	-.000249	.0183313	-.000015	.0011424	-.043054	.002331	.0003577

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.149983	-.007482	.0000222	-.000462	.0005208	-.050137	-.003963
Stddev	.016268	.000333	.0003122	.000727	.0006726	.000238	.001011
%RSD	10.84666	4.447022	1403.065	157.3396	129.1630	.4738515	25.51313
#1	-.155268	-.007706	.0003528	.000236	.0012022	-.050315	-.004601
#2	-.162952	-.007641	-.000267	-.001216	-.000143	-.050228	-.002797
#3	-.131730	-.007100	-.000019	-.000408	.000503	-.049867	-.004491

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167100BL Acquired: 3/12/2025 12:11:49 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.006086	-.005631	-.000049
Stddev	.003086	.000545	.000028
%RSD	50.70566	9.686152	57.60781
#1	-.009341	-.005117	-.000021
#2	-.003202	-.006204	-.000078
#3	-.005716	-.005573	-.000048

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3381.540	75469.00	14822.51	2231.045	4934.275
Stddev	.320	115.44	42.84	3.305	3.958
%RSD	.0094632	.1529624	.2890018	.1481418	.0802108
#1	3381.623	75337.31	14818.11	2227.229	4929.711
#2	3381.810	75516.95	14782.03	2232.876	4936.764
#3	3381.186	75552.74	14867.37	2233.029	4936.350

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167100BS Acquired: 3/12/2025 12:16:09 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8139288	2.041022	.9656800	1.959344	.8102365	1.933682
Stddev	.0037236	.012763	.0050319	.017166	.0079924	.001231
%RSD	.4574801	.6253236	.5210698	.8761274	.9864268	.0636507
#1	.8097520	2.026316	.9609892	1.940084	.8010077	1.932369
#2	.8169008	2.047539	.9650562	1.973034	.8148334	1.934810
#3	.8151337	2.049211	.9709948	1.964914	.8148683	1.933869

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1759747	.1856637	.1886728	.9699093	.4158661	.1920389
Stddev	.0010895	.0003637	.0008532	.0044865	.0014545	.0005855
%RSD	.6191226	.1959086	.4522093	.4625641	.3497449	.3048957
#1	.1753088	.1860115	.1879754	.9712022	.4142614	.1915620
#2	.1772320	.1852859	.1884189	.9736073	.4162395	.1918623
#3	.1753832	.1856938	.1896241	.9649184	.4170975	.1926924

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3117894	2.919648	.1854806	1.844615	.4788293	.0758773
Stddev	.0015521	.013342	.0008426	.014377	.0011808	.0002074
%RSD	.4978049	.4569851	.4543018	.7793980	.2466023	.2733531
#1	.3100004	2.920311	.1845102	1.860209	.4778570	.0760159
#2	.3125908	2.905986	.1860277	1.831888	.4784878	.0756388
#3	.3127769	2.932646	.1859038	1.841748	.4801433	.0759771

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.011748	.2833805	.2039260	9.401898	.2627073	.4092558
Stddev	.030345	.0017492	.0001893	.048983	.0014512	.0020092
%RSD	1.007567	.6172782	.0928080	.5209856	.5523862	.4909435
#1	2.978334	.2828896	.2038365	9.349829	.2643791	.4069372
#2	3.019319	.2853228	.2037980	9.447061	.2617738	.4104856
#3	3.037591	.2819292	.2041434	9.408805	.2619688	.4103446

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167100BS Acquired: 3/12/2025 12:16:09 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6862001	.1849005	F .7687722	5.534785	F -.013931	.1866749
Stddev	.0034984	.0005706	.0055466	.019299	.003464	.0003291
%RSD	.5098164	.3085935	.7214930	.3486804	24.86257	.1762961
#1	.6824995	.1847865	.7646396	5.513071	-.017313	.1864638
#2	.6866475	.1855195	.7750760	5.541305	-.010391	.1865069
#3	.6894532	.1843956	.7666009	5.549979	-.014089	.1870541

Elem	Sr4077
Units	ppm
Avg	.1865059
Stddev	.0004388
%RSD	.2352537
#1	.1861999
#2	.1870085
#3	.1863091

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3276.500	74677.65	14791.73	2194.860	4649.362
Stddev	15.424	184.68	22.93	9.609	19.574
%RSD	.4707396	.2473030	.1550456	.4378147	.4210070
#1	3293.620	74834.14	14767.22	2200.500	4664.170
#2	3272.194	74724.87	14812.66	2200.315	4656.745
#3	3263.687	74473.95	14795.31	2183.764	4627.170

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV02 Acquired: 3/12/2025 12:20:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.147470	5.229271	5.009847	5.183221	5.234664	10.14425	9.178384
Stddev	.019388	.025472	.012562	.012095	.019954	.01769	.083118
%RSD	.3766416	.4870987	.2507536	.2333544	.3811931	.1743418	.9055873
#1	5.130596	5.225052	5.002774	5.173286	5.221257	10.15602	9.094924
#2	5.143165	5.206172	5.002415	5.179687	5.225140	10.15281	9.261156
#3	5.168648	5.256589	5.024351	5.196689	5.257596	10.12391	9.179070

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2453522	2.479648	23.77916	1.070981	2.469946	1.276717	4.889016
Stddev	.0017367	.007996	.05943	.001143	.007441	.003659	.018172
%RSD	.7078552	.3224704	.2499354	.1066942	.3012433	.2865909	.3716818
#1	.2454472	2.476398	23.81199	1.069787	2.465676	1.273342	4.905215
#2	.2470396	2.473788	23.81494	1.072065	2.465625	1.276205	4.869367
#3	.2435700	2.488757	23.71055	1.071091	2.478538	1.280606	4.892465

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.323050	23.86934	2.458288	1.282168	26.85309	2.433731	2.603233
Stddev	.008876	.02318	.006338	.002907	.15973	.007010	.002513
%RSD	.3820906	.0971273	.2578305	.2267444	.5948381	.2880354	.0965276
#1	2.327382	23.87401	2.456052	1.279169	26.88369	2.436808	2.602758
#2	2.328929	23.88984	2.453371	1.282361	26.68028	2.438677	2.600992
#3	2.312840	23.84418	2.465441	1.284974	26.99532	2.425709	2.605950

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.67712	4.888971	5.167458	5.125917	4.771747	5.130513	4.970545
Stddev	.16270	.030251	.019650	.017479	.015540	.050065	.013274
%RSD	.6593000	.6187497	.3802555	.3409842	.3256732	.9758377	.2670557
#1	24.72237	4.883427	5.155189	5.116188	4.783486	5.089246	4.967680
#2	24.49659	4.921610	5.157062	5.115469	4.777631	5.116083	4.958937
#3	24.81241	4.861876	5.190121	5.146095	4.754124	5.186208	4.985018

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV02 Acquired: 3/12/2025 12:20:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.896776	4.759937	4.783456
Stddev	.014339	.015517	.008874
%RSD	.2928264	.3259981	.1855156
#1	4.884811	4.776030	4.791139
#2	4.892848	4.758712	4.785486
#3	4.912670	4.745068	4.773743

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3200.253	70919.11	14005.53	2062.144	4321.243
Stddev	10.666	165.52	66.36	5.629	11.305
%RSD	.3332752	.2333947	.4738417	.2729503	.2616068
#1	3207.618	70929.71	13989.31	2066.489	4329.288
#2	3205.120	71079.08	13948.77	2064.158	4326.124
#3	3188.022	70748.55	14078.50	2055.786	4308.318

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB02 Acquired: 3/12/2025 12:24:22 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003676	-.000587	.0002223	-.007239	-.001966	.0039951	-.006779
Stddev	.0020547	.000917	.0004934	.000885	.000479	.0015771	.001247
%RSD	558.9470	156.1728	221.9697	12.21982	24.33960	39.47659	18.39309
#1	-.000847	-.000736	-.000219	-.006228	-.001476	.0058148	-.008183
#2	-.000790	.000395	.000130	-.007623	-.001990	.0031477	-.005801
#3	.002740	-.001422	.000755	-.007867	-.002432	.0030228	-.006354

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000312	.0000112	.0057545	-.000159	.0000285	.0002112	-.004860
Stddev	.0000548	.0000436	.0015646	.000238	.0001602	.0002299	.001741
%RSD	175.7313	389.2623	27.18849	149.6689	562.5759	108.8641	35.82754
#1	.0000446	-.000014	.0067600	-.000122	.0001779	-.000047	-.002852
#2	-.000029	-.000013	.0065517	.000058	.0000483	.000286	-.005783
#3	.000078	.000062	.0039519	-.000413	-.000141	.000394	-.005946

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000465	-.000530	-.000043	.0006742	-.046376	.0004442	.0001435
Stddev	.000108	.009061	.000151	.0000823	.005136	.0011293	.0002988
%RSD	23.22549	1711.168	347.9497	12.20979	11.07503	254.2191	208.2334
#1	-.000345	.009913	-.000168	.0005934	-.052078	.0013773	-.000053
#2	-.000554	-.006311	-.000086	.0007579	-.044938	.0007665	.000487
#3	-.000496	-.005190	.000124	.0006713	-.042113	-.000811	-.000004

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.130265	.0036471	.0002093	-.000220	.0009159	-.044504	-.003428
Stddev	.011287	.0010222	.0000738	.000318	.0010622	.002351	.001054
%RSD	8.664762	28.02701	35.27404	144.5331	115.9655	5.282040	30.75426
#1	-.130019	.0047404	.0001443	-.000148	-.000307	-.046952	-.004584
#2	-.141674	.0034856	.0001940	.000056	.001610	-.044296	-.003181
#3	-.119104	.0027153	.0002896	-.000568	.001445	-.042264	-.002519

Sample Name: CCB02 Acquired: 3/12/2025 12:24:22 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.007591	-.003828	.0000680
Stddev	.000233	.000599	.0000124
%RSD	3.065980	15.65117	18.25388
#1	-.007515	-.004518	.0000577
#2	-.007405	-.003438	.0000646
#3	-.007852	-.003529	.0000818

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3327.320	74517.09	14735.01	2139.400	4855.765
Stddev	2.833	113.23	57.77	3.077	4.095
%RSD	.0851305	.1519493	.3920461	.1438202	.0843381
#1	3330.576	74640.51	14740.47	2138.653	4858.609
#2	3325.962	74418.01	14789.85	2136.765	4851.072
#3	3325.423	74492.76	14674.70	2142.782	4857.616

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166977BL Acquired: 3/12/2025 12:28:41 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0011590	-.001668	-.000124	-.008628	-.001475	.0118674	-.004121
Stddev	.0009156	.000226	.000257	.001639	.001069	.0008887	.000951
%RSD	79.00561	13.54238	206.9739	18.99069	72.50314	7.488343	23.07508
#1	.0009903	-.001878	.000071	-.009890	-.002631	.0109050	-.005213
#2	.0021472	-.001429	-.000028	-.009218	-.000520	.0120402	-.003473
#3	.0003394	-.001697	-.000415	-.006776	-.001274	.0126570	-.003677

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000809	.0000772	-.001201	.0000888	.0001280	.0003101	.0046459
Stddev	.0000015	.0000694	.004435	.0004884	.0001788	.0003472	.0014188
%RSD	1.799304	89.91012	369.2622	549.7265	139.6633	111.9554	30.53998
#1	.0000802	.0001015	-.002371	.0004109	.0001159	.0006254	.0042082
#2	.0000799	.0001312	.003702	-.000473	.0003125	.0003669	.0034974
#3	.0000826	-.000001	-.004934	.000329	-.000044	-.000062	.0062320

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000472	.0139921	.0000281	.0006389	-.058988	-.000235	.0003613
Stddev	.000160	.0089181	.0002119	.0002422	.001399	.001001	.0003669
%RSD	33.90515	63.73640	755.1851	37.91186	2.372444	426.1304	101.5305
#1	-.000583	.0107919	-.000035	.0007358	-.059100	-.000365	.0000758
#2	-.000543	.0240687	-.000145	.0008177	-.060328	-.001165	.0007751
#3	-.000289	.0071157	.000264	.0003633	-.057535	.000825	.0002331

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.143126	-.002100	-.000003	.0004539	.0009455	-.047011	-.002817
Stddev	.010718	.000563	.000287	.0005688	.0001863	.006311	.000509
%RSD	7.488782	26.80637	9046.768	125.3051	19.70390	13.42418	18.08552
#1	-.130831	-.001738	-.000335	.0005956	.0008302	-.051151	-.002677
#2	-.150505	-.001813	.000174	.0009385	.0008459	-.050135	-.002392
#3	-.148041	-.002749	.000151	-.000172	.0011604	-.039748	-.003382

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166977BL Acquired: 3/12/2025 12:28:41 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.007896	-.003881	-.000008
Stddev	.001877	.000759	.000033
%RSD	23.76864	19.54590	437.3379
#1	-.006193	-.003063	-.000032
#2	-.009908	-.004561	-.000021
#3	-.007587	-.004020	.000030

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3361.611	74908.51	14975.11	2186.335	4909.179
Stddev	8.134	434.82	53.85	9.986	12.608
%RSD	.2419618	.5804706	.3596104	.4567587	.2568233
#1	3355.509	75120.83	15035.02	2194.048	4896.979
#2	3370.845	74408.31	14959.60	2175.055	4922.159
#3	3358.478	75196.37	14930.72	2189.902	4908.399

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166977BS Acquired: 3/12/2025 12:33:00 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7887548	2.032166	.9445980	1.910604	.7895351	1.957822
Stddev	.0271560	.059380	.0337088	.059052	.0287141	.003457
%RSD	3.442900	2.922024	3.568587	3.090738	3.636835	.1765581
#1	.8072595	2.068075	.9667790	1.946090	.8055144	1.953886
#2	.7575792	1.963626	.9058076	1.842436	.7563860	1.959216
#3	.8014258	2.064799	.9612075	1.943286	.8067048	1.960365

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1754876	.1913484	.1842732	.9721801	.4213778	.1882717
Stddev	.0004646	.0004529	.0067355	.0056662	.0016322	.0070303
%RSD	.2647501	.2366829	3.655171	.5828329	.3873395	3.734136
#1	.1752663	.1910351	.1883984	.9727585	.4205028	.1925681
#2	.1760215	.1911425	.1765006	.9662469	.4203698	.1801585
#3	.1751750	.1918677	.1879206	.9775349	.4232609	.1920884

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3044442	2.933468	.1863606	1.886984	.4699095	.0773136
Stddev	.0109821	.016873	.0008904	.005151	.0171987	.0001296
%RSD	3.607249	.5751894	.4777784	.2729907	3.660002	.1675928
#1	.3105696	2.922730	.1860538	1.892406	.4803030	.0774478
#2	.2917656	2.952916	.1873638	1.886391	.4500575	.0771892
#3	.3109975	2.924758	.1856642	1.882155	.4793680	.0773039

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.057817	.2874931	.2093770	9.381013	.2725935	.4042851
Stddev	.008448	.0025215	.0004148	.045729	.0012944	.0142643
%RSD	.2762672	.8770558	.1980914	.4874657	.4748599	3.528268
#1	3.064897	.2848197	.2098288	9.418810	.2711273	.4129987
#2	3.060088	.2878310	.2092886	9.394047	.2730749	.3878236
#3	3.048466	.2898286	.2090135	9.330182	.2735782	.4120331

Sample Name: PB166977BS Acquired: 3/12/2025 12:33:00 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6661542	.1870326	.7813716	5.328256	F -.014771	.1885261
Stddev	.0258278	.0008737	.0081537	.196371	.002496	.0012769
%RSD	3.877158	.4671503	1.043512	3.685461	16.90010	.6773255
#1	.6832194	.1861305	.7816751	5.433568	-.012748	.1891715
#2	.6364400	.1870924	.7893693	5.101693	-.014005	.1893515
#3	.6788032	.1878749	.7730704	5.449507	-.017561	.1870553

Elem	Sr4077
Units	ppm
Avg	.1875561
Stddev	.0002804
%RSD	.1494845
#1	.1878388
#2	.1875516
#3	.1872781

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3413.811	74393.37	14665.96	2186.762	4874.351
Stddev	105.184	236.06	57.30	8.280	156.389
%RSD	3.081129	.3173177	.3907120	.3786262	3.208406
#1	3349.130	74329.41	14699.12	2185.837	4777.724
#2	3535.179	74654.82	14698.95	2195.466	5054.781
#3	3357.124	74195.87	14599.79	2178.985	4790.546

Sample Name: PB166963BL Acquired: 3/12/2025 12:37:02 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0022709	-.001821	-.000121	-.007547	-.001437	.0034332	-.005097
Stddev	.0021090	.001759	.000240	.001197	.000973	.0033459	.000900
%RSD	92.86965	96.59636	199.3313	15.86709	67.70127	97.45821	17.66571
#1	.0000408	-.003305	-.000377	-.006188	-.002553	.0072236	-.004298
#2	.0025389	.000122	.000100	-.008005	-.000770	.0021859	-.004920
#3	.0042332	-.002279	-.000084	-.008448	-.000987	.0008900	-.006073

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000198	.0000023	-.002455	-.000099	-.000116	.0001766	.0061132
Stddev	.0000212	.0001106	.002913	.000657	.000140	.0002080	.0019466
%RSD	106.7832	4885.874	118.6414	667.1632	120.6979	117.8095	31.84194
#1	-.000001	.0000373	-.005666	.000461	-.000196	-.000063	.0077066
#2	.000041	-.000122	.000019	.000065	-.000198	.000282	.0066894
#3	.000019	.000091	-.001720	-.000822	.000046	.000311	.0039436

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000337	.0106143	-.000169	.0006981	-.055377	.0007405	-.000003
Stddev	.000181	.0106798	.000335	.0000790	.002651	.0008544	.000377
%RSD	53.80246	100.6170	198.5737	11.32169	4.786676	115.3825	12786.08
#1	-.000163	.0149859	.000195	.0006151	-.057958	-.000114	-.000017
#2	-.000324	.0184146	-.000464	.0007725	-.052662	.001595	-.000373
#3	-.000524	-.001558	-.000237	.0007068	-.055512	.000740	.000381

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.137224	-.005813	-.000237	-.000358	.0009551	-.052820	-.005437
Stddev	.014959	.000374	.000139	.000360	.0005026	.006202	.001291
%RSD	10.90114	6.426755	58.42085	100.7336	52.61689	11.74223	23.74975
#1	-.134654	-.006223	-.000355	-.000265	.0012668	-.059655	-.003954
#2	-.123716	-.005721	-.000085	-.000756	.0003754	-.051255	-.006311
#3	-.153301	-.005493	-.000272	-.000053	.0012233	-.047550	-.006048

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166963BL Acquired: 3/12/2025 12:37:02 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.007386	-.003880	-.000047
Stddev	.001776	.000862	.000033
%RSD	24.05086	22.23048	70.35719
#1	-.007061	-.004669	-.000013
#2	-.005795	-.002959	-.000048
#3	-.009302	-.004011	-.000079

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3353.363	75420.37	14987.24	2200.296	4877.948
Stddev	10.924	133.58	34.63	14.601	15.492
%RSD	.3257723	.1771156	.2310913	.6635920	.3175850
#1	3365.958	75569.47	14948.95	2198.342	4895.615
#2	3347.671	75311.61	14996.40	2186.770	4871.540
#3	3346.461	75380.01	15016.38	2215.776	4866.688

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB166963BS Acquired: 3/12/2025 12:41:22 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8203145	2.071613	.9668928	1.980814	.8243271	1.963400
Stddev	.0027441	.010389	.0010519	.005436	.0034699	.005162
%RSD	.3345180	.5015097	.1087868	.2744211	.4209317	.2629240
#1	.8174111	2.069531	.9659734	1.976749	.8206200	1.969195
#2	.8228652	2.082886	.9666652	1.978704	.8248642	1.961715
#3	.8206671	2.062423	.9680398	1.986989	.8274971	1.959292

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1728208	.1853729	.1890412	.9614104	.4203306	.1921711
Stddev	.0014272	.0004701	.0005571	.0039950	.0008004	.0004773
%RSD	.8258025	.2535815	.2947200	.4155368	.1904189	.2483512
#1	.1715380	.1854159	.1884458	.9568580	.4203812	.1916737
#2	.1743581	.1848828	.1891278	.9643326	.4195061	.1922146
#3	.1725664	.1858200	.1895500	.9630405	.4211044	.1926252

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3117466	2.924196	.1825513	1.852551	.4803000	.0764679
Stddev	.0011793	.015038	.0009457	.039567	.0001667	.0004064
%RSD	.3782770	.5142596	.5180652	2.135796	.0346968	.5314539
#1	.3117462	2.912307	.1816140	1.852244	.4802709	.0760291
#2	.3105675	2.941101	.1835053	1.813139	.4804792	.0765432
#3	.3129261	2.919180	.1825344	1.892271	.4801498	.0768313

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.073309	.2842146	.2090374	9.373162	.2633121	.4160038
Stddev	.025520	.0007160	.0005483	.037089	.0001426	.0005765
%RSD	.8303626	.2519131	.2623146	.3956936	.0541661	.1385802
#1	3.045765	.2838381	.2092508	9.343506	.2633208	.4153485
#2	3.096150	.2837655	.2084145	9.414748	.2631653	.4162299
#3	3.078011	.2850403	.2094470	9.361232	.2634501	.4164329

Sample Name: PB166963BS Acquired: 3/12/2025 12:41:22 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6901050	.1850228	.7861539	5.459214	F -.015026	.1844648
Stddev	.0010674	.0002564	.0059790	.025568	.000599	.0005686
%RSD	.1546749	.1385932	.7605445	.4683374	3.989474	.3082445
#1	.6894580	.1848596	.7828353	5.430892	-.015105	.1840043
#2	.6895200	.1853184	.7930562	5.466158	-.015582	.1842898
#3	.6913370	.1848905	.7825703	5.480593	-.014391	.1851004

Elem	Sr4077
Units	ppm
Avg	.1849173
Stddev	.0006807
%RSD	.3681115
#1	.1844443
#2	.1856975
#3	.1846102

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3285.735	73942.74	14880.35	2153.964	4684.393
Stddev	3.707	31.96	35.38	8.107	9.047
%RSD	.1128147	.0432160	.2377305	.3763907	.1931309
#1	3289.788	73946.34	14851.11	2149.499	4694.797
#2	3282.517	73972.74	14919.67	2163.322	4680.003
#3	3284.899	73909.13	14870.28	2149.070	4678.379

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05 Acquired: 3/12/2025 12:49:41 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.000360	-.003084	.0005840	-.007220	-.002308	.0106582
Stddev	.002258	.001422	.0011857	.000854	.000710	.0016686
%RSD	626.7572	46.10692	203.0351	11.82618	30.77671	15.65579
#1	-.000229	-.003768	-.000781	-.008205	-.002906	.0105081
#2	-.002682	-.001450	.001359	-.006769	-.002495	.0123969
#3	.001829	-.004035	.001174	-.006686	-.001523	.0090698

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0141114	.0000746	.0001235	44.07170	.0003211	-.000244
Stddev	.0005010	.0000341	.0000131	.19279	.0002965	.000290
%RSD	3.550602	45.63723	10.60000	.4374564	92.35082	118.5005
#1	.0142697	.0000356	.0001362	44.28986	.0001876	-.000388
#2	.0135503	.0000983	.0001244	43.92424	.0006609	-.000434
#3	.0145141	.0000899	.0001100	44.00099	.0001148	.000089

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2016225	.0301582	.0030330	22.54207	.0023217	.0006544
Stddev	.0008064	.0019189	.0002073	.15742	.0002714	.0002024
%RSD	.3999332	6.362823	6.835733	.6983270	11.69050	30.92827
#1	.2007364	.0299570	.0028459	22.72203	.0022951	.0006264
#2	.2023131	.0283479	.0032559	22.42990	.0020646	.0004675
#3	.2018180	.0321698	.0029972	22.47429	.0026055	.0008694

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	19.50952	.0006087	.0180752	1.475249	-.001412	.0005083
Stddev	.06765	.0008633	.0001694	.033079	.000386	.0000279
%RSD	.3467598	141.8281	.9373338	2.242236	27.35359	5.483209
#1	19.47703	.0011537	.0181024	1.512348	-.000986	.0005405
#2	19.58728	-.000387	.0178939	1.464571	-.001511	.0004911
#3	19.46423	.001059	.0182294	1.448829	-.001738	.0004933

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05 Acquired: 3/12/2025 12:49:41 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.001735	-.000540	F 16.05657	.0272479	1.776651	-.011012
Stddev	.000412	.000320	.05029	.0007924	.002422	.000111
%RSD	23.74209	59.26168	.3132171	2.908314	.1363288	1.004867
#1	-.001992	-.000570	16.07542	.0276598	1.779315	-.010894
#2	-.001260	-.000843	16.09471	.0277496	1.774582	-.011113
#3	-.001955	-.000206	15.99957	.0263343	1.776057	-.011028

Elem	Sr4077
Units	ppm
Avg	.0785429
Stddev	.0001824
%RSD	.2322542
#1	.0787045
#2	.0783451
#3	.0785792

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3295.972	73617.16	15119.22	2151.826	4624.796
Stddev	9.581	223.21	56.87	11.612	6.422
%RSD	.2906852	.3032044	.3761562	.5396136	.1388548
#1	3306.855	73423.31	15057.70	2142.019	4626.677
#2	3292.253	73566.98	15169.88	2148.811	4630.068
#3	3288.808	73861.19	15130.08	2164.647	4617.644

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05DUP Acquired: 3/12/2025 12:53:55 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.000245	-.001562	.0002442	-.010078	-.003321	.0121815
Stddev	.001782	.001255	.0011279	.001219	.000428	.0011203
%RSD	728.7534	80.35303	461.8659	12.10061	12.89711	9.196995
#1	-.000198	-.000152	.0015346	-.008675	-.002853	.0131679
#2	-.002049	-.001976	-.000554	-.010887	-.003693	.0124133
#3	.001514	-.002558	-.000248	-.010670	-.003416	.0109635

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0133744	.0000579	.0000729	43.96576	.0004773	-.000307
Stddev	.0005251	.0000422	.0000305	.12474	.0002081	.000172
%RSD	3.925912	72.80581	41.80974	.2837258	43.59401	55.95264
#1	.0127757	.0000240	.0000927	43.88258	.0007150	-.000500
#2	.0137566	.0001052	.0000881	43.90552	.0003282	-.000172
#3	.0135910	.0000446	.0000378	44.10919	.0003887	-.000249

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2003073	.0299629	.0032801	22.59649	.0021182	.0009533
Stddev	.0004962	.0012585	.0001603	.08049	.0003912	.0001823
%RSD	.2477416	4.200315	4.886803	.3562009	18.46762	19.12436
#1	.2004759	.0304239	.0034638	22.51167	.0020625	.0007742
#2	.2006972	.0309260	.0031689	22.60600	.0025343	.0009471
#3	.1997487	.0285389	.0032076	22.67180	.0017579	.0011387

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.98652	.0011245	.0181363	1.422677	-.001276	.0003819
Stddev	.03791	.0012492	.0002557	.006569	.000450	.0001856
%RSD	.1996599	111.0864	1.409735	.4617317	35.24213	48.61115
#1	18.94740	.0000609	.0178573	1.415683	-.000757	.0005960
#2	18.98909	.0008125	.0183594	1.423631	-.001554	.0002671
#3	19.02308	.0025001	.0181924	1.428716	-.001517	.0002824

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05DUP Acquired: 3/12/2025 12:53:55 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.001451	-.000085	F 15.59900	.0261526	1.767195	-.010798
Stddev	.000799	.000282	.00532	.0023188	.005647	.001000
%RSD	55.07504	332.2956	.0341122	8.866382	.3195271	9.263585
#1	-.001438	-.000396	15.59973	.0234769	1.763169	-.009709
#2	-.002256	-.000013	15.59335	.0275754	1.764765	-.011675
#3	-.000658	.000155	15.60392	.0274056	1.773650	-.011011

Elem	Sr4077
Units	ppm
Avg	.0780071
Stddev	.0003597
%RSD	.4611548
#1	.0781293
#2	.0776022
#3	.0782899

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3299.575	74077.31	14778.43	2178.050	4630.556
Stddev	4.221	17.00	45.86	4.331	7.946
%RSD	.1279352	.0229472	.3103122	.1988323	.1715954
#1	3301.069	74064.62	14811.46	2176.242	4638.343
#2	3302.847	74096.62	14797.77	2174.917	4630.865
#3	3294.810	74070.68	14726.07	2182.992	4622.460

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05LX5 Acquired: 3/12/2025 12:58:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.000585	-.001206	-.000672	-.007849	-.002128	.0089024	-.001753
Stddev	.000778	.000662	.000357	.001976	.000987	.0043489	.000302
%RSD	133.0810	54.88432	53.20992	25.17074	46.36659	48.85107	17.21361
#1	.000290	-.000532	-.000290	-.007053	-.001330	.0074767	-.001408
#2	-.001201	-.001231	-.000998	-.010099	-.001824	.0054452	-.001969
#3	-.000844	-.001855	-.000727	-.006396	-.003232	.0137851	-.001882

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000953	.0000511	9.045013	-.000311	-.000221	.0412776	.0199898
Stddev	.0000190	.0000343	.026528	.000163	.000056	.0003877	.0022361
%RSD	19.94807	67.10736	.2932941	52.52599	25.26124	.9391474	11.18631
#1	.0000745	.0000771	9.056190	-.000498	-.000165	.0414690	.0179854
#2	.0001117	.0000639	9.014725	-.000196	-.000277	.0408314	.0224016
#3	.0000996	.0000122	9.064125	-.000239	-.000221	.0415322	.0195824

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001488	4.500082	.0004145	.0006423	3.884359	.0002582	.0036579
Stddev	.0001486	.028688	.0001889	.0001136	.017105	.0009443	.0002334
%RSD	99.90811	.6375069	45.57338	17.67935	.4403513	365.7446	6.379958
#1	.0000589	4.520988	.0002827	.0007251	3.865501	-.000493	.0038554
#2	.0003203	4.467375	.0006309	.0006888	3.898873	.001318	.0034004
#3	.0000671	4.511882	.0003299	.0005128	3.888703	-.000050	.0037179

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1359972	-.006725	-.000056	-.000253	.0009691	3.168945	.0020153
Stddev	.0156089	.000924	.000337	.000287	.0001985	.007154	.0017457
%RSD	11.47737	13.73425	603.8805	113.4252	20.47768	.2257413	86.62421
#1	.1206331	-.007246	-.000089	-.000497	.0010295	3.161635	.0035784
#2	.1518399	-.007271	-.000375	.000063	.0011304	3.169270	.0023360
#3	.1355186	-.005659	.000296	-.000325	.0007475	3.175931	.0001314

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05LX5 Acquired: 3/12/2025 12:58:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.3412155	-.005678	.0161796
Stddev	.0027337	.000403	.0000488
%RSD	.8011740	7.100181	.3013893
#1	.3384952	-.005444	.0161741
#2	.3411886	-.006143	.0162309
#3	.3439625	-.005446	.0161339

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3285.568	73909.22	15256.93	2144.277	4720.425
Stddev	10.693	97.13	64.59	6.060	10.606
%RSD	.3254607	.1314120	.4233743	.2826252	.2246735
#1	3285.954	73798.17	15213.88	2149.142	4726.486
#2	3296.063	73978.36	15331.20	2137.488	4726.611
#3	3274.687	73951.12	15225.71	2146.200	4708.179

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05MS Acquired: 3/12/2025 13:02:28 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8331447	2.023659	.9520777	1.989929	.8498134	1.947745
Stddev	.0058096	.011440	.0017219	.012218	.0059999	.001921
%RSD	.6973095	.5653016	.1808526	.6139767	.7060193	.0986121
#1	.8287480	2.036502	.9539258	1.991957	.8506720	1.949642
#2	.8309553	2.014560	.9505187	1.976824	.8434305	1.947792
#3	.8397309	2.019916	.9517888	2.001006	.8553377	1.945801

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1893113	.1854511	.1885129	45.07709	.4160950	.1894514
Stddev	.0003322	.0013028	.0005716	.14810	.0012759	.0007793
%RSD	.1754792	.7025069	.3032229	.3285443	.3066462	.4113282
#1	.1895085	.1839753	.1888409	45.00246	.4172445	.1897051
#2	.1894976	.1864417	.1878528	45.24766	.4147221	.1885769
#3	.1889277	.1859362	.1888449	44.98116	.4163184	.1900722

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5044931	2.920439	.1789957	24.27016	.4751581	.0762577
Stddev	.0021334	.012429	.0005380	.12109	.0015466	.0008722
%RSD	.4228762	.4255813	.3005549	.4989458	.3254818	1.143758
#1	.5036823	2.929938	.1784082	24.15885	.4758755	.0758262
#2	.5028840	2.925007	.1794642	24.39911	.4733831	.0772616
#3	.5069130	2.906373	.1791147	24.25253	.4762156	.0756854

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.71801	.2805778	.2262438	11.39768	.2595651	.4226416
Stddev	.13894	.0016219	.0011100	.05689	.0027617	.0026255
%RSD	.6115699	.5780632	.4906102	.4991556	1.063976	.6212086
#1	22.87816	.2788015	.2272097	11.45551	.2564465	.4225379
#2	22.64609	.2819799	.2250313	11.39575	.2617013	.4200696
#3	22.62977	.2809519	.2264904	11.34177	.2605475	.4253175

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05MS Acquired: 3/12/2025 13:02:28 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7054441	.1862184	F 16.85246	5.639713	1.768791	.1776116
Stddev	.0017484	.0015390	.07540	.018492	.005954	.0007796
%RSD	.2478408	.8264254	.4473964	.3278808	.3366290	.4389564
#1	.7074447	.1869407	16.93384	5.656376	1.772082	.1779244
#2	.7042094	.1872633	16.83854	5.619818	1.761918	.1781863
#3	.7046781	.1844511	16.78499	5.642944	1.772373	.1767242

Elem	Sr4077
Units	ppm
Avg	.2622325
Stddev	.0008506
%RSD	.3243713
#1	.2626169
#2	.2628231
#3	.2612576

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3218.229	73784.04	15030.26	2122.074	4497.615
Stddev	16.913	107.51	97.74	3.724	14.497
%RSD	.5255384	.1457134	.6502759	.1754908	.3223268
#1	3225.530	73855.20	15142.54	2117.910	4501.834
#2	3230.266	73836.57	14964.18	2125.085	4509.535
#3	3198.892	73660.37	14984.08	2123.227	4481.477

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05MSD Acquired: 3/12/2025 13:06:29 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8291369	1.988016	.9493105	1.975950	.8411123	1.923451
Stddev	.0038512	.023940	.0006156	.002294	.0003654	.003760
%RSD	.4644877	1.204208	.0648487	.1161004	.0434439	.1954874
#1	.8314382	2.009593	.9493495	1.973642	.8409803	1.919616
#2	.8312818	1.992192	.9499056	1.978230	.8415254	1.927132
#3	.8246908	1.962263	.9486763	1.975979	.8408312	1.923607

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1891658	.1823693	.1887644	44.80322	.4109363	.1885991
Stddev	.0012808	.0003997	.0004561	.10646	.0016892	.0004202
%RSD	.6771003	.2191978	.2416334	.2376181	.4110569	.2227905
#1	.1900866	.1821773	.1882626	44.92266	.4102141	.1881386
#2	.1877030	.1821018	.1888769	44.71830	.4097283	.1886970
#3	.1897076	.1828288	.1891538	44.76870	.4128665	.1889616

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5028196	2.928509	.1772850	24.11938	.4749778	.0760628
Stddev	.0008125	.020432	.0003288	.02567	.0011492	.0003233
%RSD	.1615849	.6976878	.1854700	.1064226	.2419531	.4250473
#1	.5019326	2.931205	.1775763	24.14691	.4738859	.0757222
#2	.5029985	2.906862	.1769284	24.09610	.4748706	.0763654
#3	.5035278	2.947458	.1773501	24.11513	.4761768	.0761008

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.66909	.2818446	.2237884	11.48236	.2557017	.4181063
Stddev	.06043	.0015902	.0012647	.04154	.0008855	.0007441
%RSD	.2665576	.5641952	.5651477	.3617581	.3462989	.1779728
#1	22.70066	.2834567	.2247166	11.50948	.2563378	.4172497
#2	22.59942	.2802773	.2243009	11.43454	.2560770	.4185926
#3	22.70720	.2817998	.2223479	11.50306	.2546904	.4184765

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05MSD Acquired: 3/12/2025 13:06:29 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7007907	.1845227	F 16.91016	5.684197	1.766757	.1762813
Stddev	.0026245	.0001419	.03973	.033464	.006471	.0003858
%RSD	.3745039	.0768992	.2349327	.5887263	.3662397	.2188441
#1	.7036703	.1846279	16.94037	5.647858	1.774124	.1764034
#2	.7001688	.1843613	16.86516	5.690987	1.761992	.1758493
#3	.6985330	.1845790	16.92494	5.713746	1.764156	.1765913

Elem	Sr4077
Units	ppm
Avg	.2614645
Stddev	.0004234
%RSD	.1619290
#1	.2617442
#2	.2609774
#3	.2616719

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3209.669	73546.30	15176.79	2122.973	4463.187
Stddev	5.264	89.96	26.77	3.439	9.321
%RSD	.1640160	.1223119	.1763706	.1620036	.2088322
#1	3214.951	73480.61	15156.14	2126.431	4473.356
#2	3209.635	73648.82	15167.21	2119.552	4461.154
#3	3204.422	73509.46	15207.04	2122.937	4455.050

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV03 Acquired: 3/12/2025 13:10:28 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.099729	5.214965	5.000505	5.092677	5.189863	10.22549	9.270958
Stddev	.006770	.073860	.003082	.017717	.009569	.00955	.034051
%RSD	.1327595	1.416318	.0616414	.3478913	.1843754	.0934325	.3672904
#1	5.093668	5.161388	4.997035	5.078429	5.186119	10.21483	9.249514
#2	5.107036	5.184285	5.001555	5.087086	5.182733	10.23329	9.310222
#3	5.098483	5.299221	5.002925	5.112515	5.200738	10.22836	9.253139

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2551485	2.481154	23.81536	1.058022	2.482544	1.279474	4.743802
Stddev	.0006227	.004790	.05608	.001734	.004105	.001565	.011042
%RSD	.2440434	.1930602	.2354748	.1639269	.1653686	.1223459	.2327642
#1	.2549975	2.479050	23.79182	1.059961	2.480329	1.277667	4.755862
#2	.2546151	2.477776	23.77489	1.057488	2.480023	1.280332	4.741358
#3	.2558327	2.486636	23.87937	1.056618	2.487281	1.280423	4.734187

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.336551	24.00798	2.475279	1.285482	26.24501	2.444636	2.601070
Stddev	.004114	.10464	.005906	.003423	.18592	.001643	.011839
%RSD	.1760567	.4358384	.2385997	.2663136	.7084013	.0672009	.4551447
#1	2.338409	23.97091	2.471740	1.286147	26.36628	2.443998	2.602064
#2	2.331836	23.92692	2.472001	1.288524	26.33779	2.443407	2.612381
#3	2.339407	24.12610	2.482097	1.281775	26.03095	2.446502	2.588766

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.93335	5.068481	5.183780	5.082004	4.788635	5.009236	5.007841
Stddev	.11075	.012560	.014286	.002197	.006827	.026358	.013579
%RSD	.4627489	.2477982	.2755940	.0432257	.1425598	.5261980	.2711637
#1	24.04219	5.060981	5.170029	5.080227	4.796326	4.991946	5.008663
#2	23.93710	5.061481	5.182764	5.081325	4.783292	5.039573	5.020990
#3	23.82078	5.082980	5.198547	5.084460	4.786288	4.996188	4.993869

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV03 Acquired: 3/12/2025 13:10:28 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.887935	4.803399	4.765801
Stddev	.013974	.005870	.017016
%RSD	.2858948	.1222006	.3570484
#1	4.871803	4.809477	4.746548
#2	4.895681	4.802958	4.772031
#3	4.896321	4.797762	4.778824

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3212.141	71376.12	13560.77	2084.767	4330.608
Stddev	2.243	309.77	21.41	15.640	3.289
%RSD	.0698275	.4339965	.1578752	.7501910	.0759409
#1	3209.564	71135.82	13541.51	2070.822	4328.023
#2	3213.653	71266.81	13583.82	2081.804	4334.309
#3	3213.206	71725.72	13556.99	2101.677	4329.490

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB03 Acquired: 3/12/2025 13:14:40 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005110	-.000910	.0001054	-.008598	-.001564	.0089370	-.005113
Stddev	.0007273	.001096	.0011219	.004938	.001256	.0033201	.000404
%RSD	142.3372	120.4550	1064.164	57.43017	80.32350	37.14984	7.895649
#1	-.000046	-.000141	.0012268	-.010033	-.002968	.0051033	-.004933
#2	.000244	-.002165	.0001065	-.003101	-.000548	.0108502	-.005575
#3	.001334	-.000423	-.001017	-.012659	-.001175	.0108574	-.004830

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000761	.0001590	.0062808	-.000118	.0001986	-.000099	.0010480
Stddev	.0000301	.0000363	.0076981	.000064	.0002018	.000164	.0029219
%RSD	39.54968	22.82034	122.5661	54.07147	101.6170	164.9115	278.8185
#1	.0001083	.0001579	.0120997	-.000106	.0000810	-.000056	.0042476
#2	.0000487	.0001958	-.002448	-.000061	.0004317	.000039	-.001479
#3	.0000712	.0001233	.009191	-.000188	.0000832	-.000280	.000375

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000188	.0051467	-.000139	.0008796	-.049304	.0006571	.0001582
Stddev	.000298	.0069119	.000351	.0000773	.007093	.0020221	.0006272
%RSD	158.4759	134.2962	252.5651	8.790960	14.38721	307.7272	396.4299
#1	-.000497	.0130631	-.000285	.0008807	-.056711	.0012931	-.000547
#2	-.000164	.0020677	.000261	.0008018	-.048627	-.001607	.000369
#3	.000097	.0003094	-.000394	.0009565	-.042573	.002285	.000653

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.136860	.0041907	.0004875	.0000464	.0017172	-.045094	-.002993
Stddev	.033806	.0006220	.0001186	.0001881	.0001649	.002828	.001286
%RSD	24.70128	14.84275	24.31991	405.3620	9.601134	6.270272	42.97750
#1	-.168546	.0046965	.0004466	.0002276	.0018747	-.043919	-.001911
#2	-.140763	.0043795	.0003948	.0000595	.0017309	-.043044	-.004415
#3	-.101272	.0034962	.0006211	-.000148	.0015459	-.048320	-.002653

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB03 Acquired: 3/12/2025 13:14:40 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005249	-.003284	.0004494
Stddev	.000503	.000807	.0000665
%RSD	9.588754	24.56189	14.79444
#1	-.005688	-.002356	.0003727
#2	-.005361	-.003815	.0004901
#3	-.004700	-.003682	.0004854

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3343.216	76383.85	14789.56	2199.019	4875.207
Stddev	6.320	344.82	27.96	5.114	9.941
%RSD	.1890436	.4514252	.1890540	.2325533	.2039149
#1	3340.059	76780.60	14817.30	2204.608	4870.288
#2	3350.492	76156.47	14761.39	2197.876	4886.649
#3	3339.095	76214.48	14789.99	2194.574	4868.685

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1466-05A Acquired: 3/12/2025 13:18:59 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8396012	2.064372	.9564386	1.997899	.8539153	1.927339
Stddev	.0043592	.001481	.0012748	.008522	.0042510	.005397
%RSD	.5191968	.0717461	.1332857	.4265605	.4978231	.2800021
#1	.8348519	2.064340	.9560303	1.988967	.8553526	1.926650
#2	.8434200	2.062907	.9554181	1.998787	.8491320	1.933048
#3	.8405317	2.065869	.9578676	2.005942	.8572614	1.922321

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1862040	.1872034	.1896716	44.72263	.4160926	.1895537
Stddev	.0006702	.0005242	.0005355	.04569	.0006728	.0004647
%RSD	.3599236	.2800401	.2823310	.1021543	.1616868	.2451662
#1	.1866178	.1866465	.1893889	44.74830	.4153256	.1897503
#2	.1854308	.1876874	.1893367	44.74972	.4163689	.1890230
#3	.1865635	.1872763	.1902892	44.66989	.4165832	.1898878

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5058029	2.876691	.1774623	24.28820	.4761767	.0765319
Stddev	.0016606	.029121	.0002002	.08927	.0017022	.0001904
%RSD	.3283134	1.012294	.1128278	.3675470	.3574688	.2488138
#1	.5052851	2.910286	.1774015	24.18859	.4759651	.0767433
#2	.5044628	2.861137	.1772995	24.36097	.4745902	.0764787
#3	.5076607	2.858650	.1776859	24.31504	.4779748	.0763738

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.48600	.2800125	.2242406	11.18825	.2658545	.4223875
Stddev	.09775	.0038482	.0005390	.04772	.0013169	.0005565
%RSD	.4347183	1.374289	.2403620	.4264884	.4953513	.1317594
#1	22.59508	.2790079	.2238768	11.24287	.2644540	.4220982
#2	22.45660	.2842633	.2239853	11.15465	.2670677	.4230292
#3	22.40632	.2767662	.2248599	11.16723	.2660419	.4220353

Sample Name: Q1466-05A Acquired: 3/12/2025 13:18:59 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7110905	.1832153	F 16.72674	5.703212	1.784676	.1759134
Stddev	.0041605	.0008141	.06875	.010939	.006194	.0020950
%RSD	.5850941	.4443412	.4110053	.1917957	.3470724	1.190914
#1	.7081851	.1824451	16.80603	5.692274	1.779520	.1773359
#2	.7092296	.1840671	16.68388	5.703210	1.791547	.1768966
#3	.7158566	.1831337	16.69029	5.714151	1.782961	.1735077

Elem	Sr4077
Units	ppm
Avg	.2590581
Stddev	.0010945
%RSD	.4224721
#1	.2599253
#2	.2594206
#3	.2578284

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3201.659	73665.71	14938.13	2126.209	4461.557
Stddev	11.331	112.04	57.13	.407	12.810
%RSD	.3539197	.1520910	.3824684	.0191403	.2871109
#1	3213.308	73729.03	15003.94	2126.579	4475.100
#2	3200.996	73731.75	14901.20	2126.273	4459.935
#3	3190.674	73536.35	14909.24	2125.773	4449.635

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1507-01 Acquired: 3/12/2025 13:22:59 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.3692046	.0120752	6.499597	-.064883	.1723842	140.6571
Stddev	.0052091	.0026141	.006007	.000145	.0019912	.3451
%RSD	1.410904	21.64803	.0924268	.2229070	1.155067	.2453825
#1	.3745000	.0091663	6.502175	-.064964	.1741954	141.0511
#2	.3640862	.0142275	6.503886	-.064716	.1727051	140.4081
#3	.3690277	.0128319	6.492731	-.064970	.1702521	140.5122

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.182334	.0354918	.0198127	98.64166	.8460684	.3838271
Stddev	.002300	.0002616	.0007296	.46417	.0029341	.0015095
%RSD	.1053734	.7369658	3.682635	.4705590	.3467889	.3932720
#1	2.184673	.0357565	.0202090	99.17724	.8444295	.3849417
#2	2.182254	.0354853	.0202584	98.39154	.8443199	.3844303
#3	2.180076	.0352335	.0189707	98.35619	.8494557	.3821093

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.248299	436.3522	6.779901	65.59542	1.403553	.0186277
Stddev	.010223	1.3175	.021398	.22237	.003472	.0002713
%RSD	.1410385	.3019364	.3156095	.3389969	.2474067	1.456380
#1	7.257634	435.0421	6.803241	65.85064	1.406418	.0187648
#2	7.249889	436.3375	6.775252	65.44342	1.404551	.0183152
#3	7.237375	437.6770	6.761209	65.49220	1.399691	.0188031

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.224205	.5383457	17.62314	20.51086	.1069734	.0704991
Stddev	.042277	.0038899	.03464	.10999	.0076570	.0004832
%RSD	.5140497	.7225643	.1965683	.5362630	7.157868	.6853353
#1	8.187142	.5427939	17.61581	20.38445	.1005011	.0710221
#2	8.215222	.5366611	17.59275	20.56337	.1049931	.0700694
#3	8.270251	.5355820	17.66086	20.58475	.1154261	.0704058

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1507-01 Acquired: 3/12/2025 13:22:59 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.075403	5.318804	F 11.54772	9.463100	8.546176	.3545607
Stddev	.001984	.011692	.03743	.038839	.035371	.0007232
%RSD	.1845231	.2198242	.3241578	.4104245	.4138802	.2039798
#1	1.074046	5.331986	11.52356	9.448935	8.556038	.3537381
#2	1.077680	5.314740	11.52876	9.507033	8.575568	.3550968
#3	1.074482	5.309686	11.59084	9.433331	8.506920	.3548473

Elem	Sr4077
Units	ppm
Avg	.3690060
Stddev	.0005379
%RSD	.1457769
#1	.3696120
#2	.3685847
#3	.3688215

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3385.245	76861.85	17068.67	2189.611	3975.557
Stddev	9.186	135.92	97.79	13.110	11.501
%RSD	.2713496	.1768419	.5728950	.5987387	.2892881
#1	3374.639	76893.62	16956.18	2196.501	3962.766
#2	3390.654	76979.07	17133.32	2197.839	3978.862
#3	3390.442	76712.85	17116.51	2174.492	3985.043

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1508-01 Acquired: 3/12/2025 13:27:08 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.1650892	.0030644	.9070598	-.058682	-.004943	134.0228
Stddev	.0019938	.0021046	.0037859	.003143	.000563	.2899
%RSD	1.207704	68.67815	.4173854	5.355846	11.39815	.2162915
#1	.1628269	.0043916	.9077021	-.060601	-.004884	134.3039
#2	.1665900	.0006378	.9029938	-.055055	-.005533	134.0395
#3	.1658507	.0041639	.9104835	-.060391	-.004411	133.7249

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.039580	.0121045	.0022068	32.76405	.3679740	.1649609
Stddev	.003617	.0000623	.0004135	.11713	.0006501	.0005902
%RSD	.3479203	.5143619	18.73908	.3574991	.1766786	.3577721
#1	1.043662	.0120935	.0022452	32.89845	.3686412	.1642794
#2	1.038303	.0120485	.0017753	32.70994	.3679384	.1653017
#3	1.036775	.0121716	.0025997	32.68375	.3673424	.1653015

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6383224	313.2428	6.018648	50.56637	.3109948	-.000588
Stddev	.0018804	1.4307	.032598	.21285	.0013151	.000480
%RSD	.2945765	.4567461	.5416204	.4209274	.4228729	81.64624
#1	.6369259	312.2794	6.055826	50.80539	.3108528	-.000125
#2	.6375808	314.8868	5.994960	50.49642	.3097565	-.000555
#3	.6404604	312.5622	6.005157	50.39730	.3123752	-.001083

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.539202	.4719024	2.146031	13.27559	-.257840	.0075625
Stddev	.038161	.0045910	.006649	.08364	.010777	.0003378
%RSD	.6889296	.9728787	.3098238	.6300566	4.179579	4.466721
#1	5.499068	.4746236	2.141870	13.20664	-.268533	.0072273
#2	5.575024	.4744818	2.153700	13.36863	-.246982	.0075573
#3	5.543514	.4666017	2.142524	13.25149	-.258006	.0079029

Sample Name: Q1508-01 Acquired: 3/12/2025 13:27:08 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0248675	4.230095	F 14.95688	9.327788	5.441281	.4004216
Stddev	.0002050	.011842	.11726	.033461	.011331	.0010122
%RSD	.8242705	.2799405	.7839548	.3587225	.2082421	.2527747
#1	.0250881	4.243287	14.85358	9.294103	5.440791	.4003001
#2	.0246829	4.226614	15.08433	9.328241	5.430204	.4014891
#3	.0248315	4.220384	14.93271	9.361020	5.452850	.3994757

Elem	Sr4077
Units	ppm
Avg	.1884435
Stddev	.0005556
%RSD	.2948166
#1	.1890842
#2	.1881509
#3	.1880953

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3649.131	83296.86	17489.24	2392.775	4169.596
Stddev	6.496	105.10	144.97	5.894	7.556
%RSD	.1780054	.1261744	.8289293	.2463426	.1812167
#1	3656.239	83404.27	17352.52	2399.354	4178.010
#2	3643.502	83292.07	17641.25	2387.974	4167.385
#3	3647.653	83194.24	17473.97	2390.997	4163.391

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1510-01 Acquired: 3/12/2025 13:31:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0145378	-.003543	.0002268	-.003660	-.001105	.0412435	.1170552
Stddev	.0026991	.002199	.0003537	.001156	.002139	.0080372	.0002943
%RSD	18.56599	62.07735	155.9586	31.57798	193.4727	19.48723	.2514542
#1	.0165528	-.002304	.0001220	-.004328	-.003265	.0385354	.1169689
#2	.0114712	-.002242	.0006210	-.004326	.001011	.0502850	.1168137
#3	.0155894	-.006082	-.000063	-.002325	-.001062	.0349102	.1173831

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000059	.0007842	26.32099	-.000064	.0016739	.0015474	.9966582
Stddev	.000031	.0000246	.08133	.000206	.0001836	.0001424	.0072873
%RSD	52.34188	3.142356	.3089812	319.7412	10.96643	9.204303	.7311694
#1	-.000043	.0007784	26.31411	-.000069	.0017972	.0017025	1.005046
#2	-.000039	.0007630	26.24332	.000144	.0014629	.0014225	.993052
#3	-.000094	.0008112	26.40554	-.000267	.0017614	.0015173	.991877

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0962208	3.314046	.0107845	.0004026	357.2041	.0008992	.9850660
Stddev	.0005018	.004047	.0003889	.0000620	.2457	.0006808	.0028756
%RSD	.5214580	.1221162	3.606454	15.40792	.0687844	75.72013	.2919238
#1	.0966049	3.313897	.0105353	.0003687	357.4876	.0003919	.9851045
#2	.0956531	3.318166	.0105856	.0004742	357.0709	.0016729	.9821713
#3	.0964044	3.310076	.0112327	.0003648	357.0537	.0006327	.9879222

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.24506	.2328455	.3196568	-.000557	.0013925	3.290867	.4537779
Stddev	.05849	.0010465	.0013390	.000821	.0004250	.021254	.0025122
%RSD	.4776848	.4494182	.4188928	147.3978	30.52044	.6458413	.5536239
#1	12.30901	.2320817	.3186243	-.001138	.0018820	3.314791	.4536521
#2	12.23189	.2324166	.3191764	.000383	.0011174	3.283645	.4563506
#3	12.19427	.2340383	.3211698	-.000917	.0011781	3.274166	.4513309

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1510-01 Acquired: 3/12/2025 13:31:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.911512	.0087548	.3380080
Stddev	.028284	.0003285	.0004640
%RSD	.2853651	3.752040	.1372864
#1	9.890509	.0083761	.3383703
#2	9.900355	.0089261	.3374849
#3	9.943673	.0089622	.3381686

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3032.756	68877.26	15134.19	2000.749	4110.681
Stddev	5.795	178.77	45.60	3.601	6.461
%RSD	.1910889	.2595543	.3012733	.1799762	.1571812
#1	3039.027	68728.45	15125.35	2000.303	4118.141
#2	3031.644	69075.57	15183.56	2004.552	4107.015
#3	3027.597	68827.76	15093.66	1997.392	4106.887

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167098BL Acquired: 3/12/2025 13:59:29 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0007095	-.001844	.0000973	-.010869	-.002384	.0054751	-.007887
Stddev	.0019733	.000402	.0004611	.001439	.000565	.0015596	.002650
%RSD	278.1027	21.79978	474.1083	13.23852	23.71651	28.48473	33.59491
#1	-.001404	-.002295	-.000397	-.012522	-.001819	.0046500	-.007093
#2	.002503	-.001714	.000517	-.010195	-.002384	.0045014	-.010842
#3	.001029	-.001524	.000172	-.009891	-.002950	.0072738	-.005724

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000465	.0000058	-.001971	.0001920	.0001721	.0002652	-.004372
Stddev	.0000633	.0000325	.005978	.0001765	.0000945	.0001536	.001602
%RSD	136.0138	555.8986	303.3099	91.93219	54.90645	57.93479	36.63897
#1	-.000019	.0000010	.004004	.0003949	.0002785	.0001671	-.005602
#2	.000107	-.000024	-.007952	.0001075	.0001394	.0001863	-.004954
#3	.000052	.000041	-.001965	.0000737	.0000983	.0004423	-.002561

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000930	-.000376	-.000222	.0008018	-.054123	.0000935	-.000470
Stddev	.000150	.011431	.000172	.0000774	.006493	.0005535	.000430
%RSD	16.12505	3041.066	77.71807	9.653352	11.99701	591.8189	91.44628
#1	-.000910	.004444	-.000420	.0007872	-.061492	.0002253	.000016
#2	-.001089	-.013428	-.000140	.0007327	-.051638	.0005693	-.000799
#3	-.000791	.007856	-.000106	.0008855	-.049240	-.000514	-.000628

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.147799	-.008174	-.000132	-.000442	.0007209	-.051723	-.002747
Stddev	.017630	.000537	.000126	.000647	.0002909	.006530	.001748
%RSD	11.92801	6.573428	95.44925	146.4544	40.35310	12.62560	63.61986
#1	-.145845	-.007839	-.000231	-.000243	.0010568	-.048049	-.000896
#2	-.166325	-.007889	-.000173	-.001165	.0005606	-.059263	-.002976
#3	-.131228	-.008794	.000010	.000083	.0005454	-.047858	-.004370

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167098BL Acquired: 3/12/2025 13:59:29 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.006892	-.003870	.0000016
Stddev	.000419	.000954	.0000642
%RSD	6.074187	24.64176	3929.237
#1	-.007374	-.004941	.0000740
#2	-.006686	-.003555	-.000049
#3	-.006616	-.003113	-.000020

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3282.579	73569.52	14474.24	2098.272	4811.534
Stddev	1.902	45.96	199.42	.687	2.399
%RSD	.0579573	.0624683	1.377771	.0327398	.0498498
#1	3284.680	73607.17	14612.51	2098.052	4811.747
#2	3280.973	73583.07	14245.63	2097.721	4813.819
#3	3282.084	73518.31	14564.57	2099.042	4809.036

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167098BS Acquired: 3/12/2025 14:03:48 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7880750	1.999070	.9395248	1.938894	.8000097	1.882178
Stddev	.0017538	.027527	.0007752	.007425	.0008840	.005832
%RSD	.2225384	1.376971	.0825133	.3829715	.1104998	.3098687
#1	.7862683	1.994221	.9404004	1.944092	.7989893	1.880092
#2	.7881862	1.974289	.9392481	1.930390	.8005416	1.877676
#3	.7897705	2.028698	.9389259	1.942200	.8004984	1.888767

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1674792	.1805687	.1842151	.9253365	.4104288	.1870729
Stddev	.0006352	.0006959	.0002414	.0031918	.0020205	.0005031
%RSD	.3792613	.3853956	.1310669	.3449325	.4922867	.2689305
#1	.1667830	.1805088	.1839417	.9240926	.4081007	.1865050
#2	.1676277	.1799046	.1843992	.9229539	.4114609	.1874625
#3	.1680271	.1812926	.1843045	.9289629	.4117247	.1872514

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3040994	2.819172	.1768201	1.791189	.4684428	.0747968
Stddev	.0008038	.013242	.0006325	.008549	.0003704	.0001576
%RSD	.2643194	.4696965	.3577313	.4772649	.0790652	.2107091
#1	.3031732	2.804197	.1764359	1.800938	.4684116	.0747840
#2	.3046145	2.823988	.1764744	1.784974	.4688278	.0746460
#3	.3045106	2.829332	.1775502	1.787655	.4680890	.0749604

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.014157	.2746786	.2023322	9.193211	.2540839	.4043357
Stddev	.003760	.0020492	.0003369	.003322	.0003873	.0007390
%RSD	.1247398	.7460478	.1665147	.0361408	.1524419	.1827701
#1	3.009866	.2763640	.2024929	9.196711	.2545236	.4039615
#2	3.016874	.2723975	.2025587	9.190101	.2539353	.4038586
#3	3.015730	.2752743	.2019450	9.192820	.2537930	.4051869

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167098BS Acquired: 3/12/2025 14:03:48 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6674293	.1811970	.7790501	5.145365	F -.016817	.1798806
Stddev	.0008875	.0006634	.0042763	.009513	.001431	.0007535
%RSD	.1329705	.3661136	.5489156	.1848909	8.506969	.4189036
#1	.6674438	.1818764	.7747226	5.156350	-.017740	.1806124
#2	.6683094	.1811637	.7832733	5.139839	-.017542	.1791071
#3	.6665347	.1805509	.7791543	5.139905	-.015169	.1799224

Elem	Sr4077
Units	ppm
Avg	.1794758
Stddev	.0002744
%RSD	.1529009
#1	.1797894
#2	.1792797
#3	.1793582

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3306.848	74027.92	14946.38	2120.090	4733.131
Stddev	3.269	279.21	55.60	6.124	4.116
%RSD	.0988691	.3771689	.3719788	.2888636	.0869532
#1	3303.075	74312.45	14980.15	2126.825	4728.763
#2	3308.848	74016.96	14976.77	2118.590	4733.694
#3	3308.622	73754.35	14882.21	2114.855	4736.936

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167099BL Acquired: 3/12/2025 14:07:50 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0009897	-.000699	-.001059	-.008771	-.001001	.0009279	-.004729
Stddev	.0026529	.000894	.000647	.001446	.000823	.0056900	.000430
%RSD	268.0422	127.8691	61.13911	16.48983	82.29118	613.2433	9.088619
#1	-.001213	-.001125	-.001313	-.009720	-.000341	-.003513	-.004945
#2	.000248	-.001300	-.000323	-.009487	-.001923	.007342	-.004234
#3	.003934	.000328	-.001540	-.007106	-.000737	-.001045	-.005008

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000670	.0000052	-.003382	.0001284	-.000151	.0001991	-.002562
Stddev	.0000413	.0000419	.004795	.0004332	.000027	.0000944	.002117
%RSD	61.57666	800.6974	141.7679	337.3849	18.00662	47.40096	82.66179
#1	.0001143	.0000437	-.004826	-.000349	-.000171	.0001115	-.004804
#2	.0000382	.0000114	-.007289	.000496	-.000120	.0001868	-.000597
#3	.0000486	-.000039	.001969	.000238	-.000162	.0002990	-.002284

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001033	.0134770	-.000122	.0009425	-.041181	.0008589	-.000215
Stddev	.000254	.0046921	.000250	.0001833	.000889	.0010821	.000086
%RSD	24.60112	34.81591	205.5494	19.45062	2.159606	125.9881	40.08320
#1	-.001031	.0114673	-.000196	.0009088	-.041924	-.000390	-.000138
#2	-.001288	.0101244	.000157	.0011403	-.040196	.001515	-.000199
#3	-.000780	.0188392	-.000327	.0007783	-.041425	.001452	-.000308

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.096471	-.007926	-.000234	-.000473	.0011148	-.044268	-.003136
Stddev	.011457	.000538	.000204	.000607	.0005120	.006967	.002225
%RSD	11.87609	6.793475	87.07763	128.1157	45.92460	15.73826	70.92669
#1	-.109700	-.008175	-.000428	-.001091	.0006024	-.040134	-.002991
#2	-.089897	-.007308	-.000252	.000121	.0016264	-.052311	-.000988
#3	-.089816	-.008295	-.000022	-.000450	.0011156	-.040358	-.005430

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167099BL Acquired: 3/12/2025 14:07:50 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.006898	-.004361	-.000043
Stddev	.002711	.000667	.000015
%RSD	39.30890	15.29757	34.47116
#1	-.005446	-.004894	-.000026
#2	-.010026	-.004577	-.000049
#3	-.005221	-.003613	-.000054

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3348.307	74614.42	14899.48	2149.959	4896.114
Stddev	4.395	161.88	48.38	4.475	9.852
%RSD	.1312511	.2169522	.3246766	.2081315	.2012178
#1	3347.639	74429.83	14895.50	2152.272	4894.597
#2	3344.284	74681.23	14949.71	2144.801	4887.109
#3	3352.997	74732.20	14853.21	2152.803	4906.637

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167099BS Acquired: 3/12/2025 14:12:09 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7924867	2.011958	.9396507	1.922712	.7857326	1.877987
Stddev	.0035646	.004627	.0033740	.009219	.0057554	.004459
%RSD	.4497959	.2299565	.3590704	.4794608	.7324936	.2374407
#1	.7883708	2.007511	.9373691	1.915250	.7818577	1.878311
#2	.7945153	2.016746	.9380565	1.919869	.7829942	1.873375
#3	.7945740	2.011617	.9435264	1.933017	.7923459	1.882275

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1601053	.1968399	.1844161	.9161496	.4088076	.1878015
Stddev	.0011439	.0013736	.0008111	.0033422	.0003683	.0008784
%RSD	.7144712	.6978338	.4398502	.3648059	.0901003	.4677297
#1	.1594584	.1975342	.1840233	.9164958	.4090279	.1870533
#2	.1594314	.1952577	.1838761	.9126478	.4083824	.1875824
#3	.1614261	.1977278	.1853489	.9193052	.4090126	.1887687

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3052309	2.647205	.1742986	1.802266	.4700441	.0751490
Stddev	.0013689	.011640	.0010117	.006289	.0016449	.0002708
%RSD	.4484761	.4396982	.5804495	.3489517	.3499439	.3603983
#1	.3045128	2.649697	.1751732	1.808191	.4696237	.0749086
#2	.3043704	2.657396	.1731906	1.795667	.4686503	.0754424
#3	.3068094	2.634520	.1745320	1.802941	.4718584	.0750961

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.820851	.2698868	.2024777	8.485920	.2743951	.3996524
Stddev	.010671	.0029291	.0010895	.050251	.0023901	.0023330
%RSD	.3782933	1.085292	.5380696	.5921726	.8710425	.5837681
#1	2.810328	.2711062	.2037321	8.465260	.2747930	.3979154
#2	2.831664	.2665450	.2017677	8.543208	.2718310	.3987376
#3	2.820561	.2720091	.2019334	8.449292	.2765612	.4023042

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167099BS Acquired: 3/12/2025 14:12:09 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6555380	.1753737	F .7102842	5.183466	F -.016367	.1764032
Stddev	.0008024	.0007467	.0117720	.028018	.002925	.0016315
%RSD	.1224083	.4257542	1.657366	.5405192	17.86943	.9248567
#1	.6552217	.1759924	.6971501	5.153588	-.018473	.1767635
#2	.6549420	.1755845	.7198847	5.187661	-.013028	.1746217
#3	.6564504	.1745444	.7138180	5.209150	-.017600	.1778244

Elem	Sr4077
Units	ppm
Avg	.1728040
Stddev	.0006328
%RSD	.3662112
#1	.1731911
#2	.1720738
#3	.1731473

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3345.327	74016.09	13987.19	2152.586	4788.963
Stddev	14.599	27.88	99.05	5.182	15.148
%RSD	.4363848	.0376660	.7081744	.2407179	.3163091
#1	3356.100	74029.32	13932.75	2148.297	4799.907
#2	3351.170	73984.06	14101.52	2151.119	4795.307
#3	3328.713	74034.90	13927.29	2158.343	4771.674

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01 Acquired: 3/12/2025 14:16:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.3059206	.0103205	.4467325	-.052494	-.011711	99.61750
Stddev	.0022791	.0016659	.0013788	.000662	.001131	.13695
%RSD	.7449929	16.14177	.3086505	1.260497	9.658263	.1374806
#1	.3069165	.0112421	.4460163	-.052313	-.011894	99.74005
#2	.3033131	.0083974	.4483220	-.053228	-.010499	99.46967
#3	.3075323	.0113220	.4458591	-.051943	-.012739	99.64280

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5655907	.0141303	-.000668	79.95263	.6861330	.0732074
Stddev	.0023301	.0001360	.000423	.06545	.0015078	.0002702
%RSD	.4119792	.9624048	63.29198	.0818624	.2197523	.3690312
#1	.5674463	.0140240	-.001155	80.01154	.6877119	.0731649
#2	.5629756	.0140832	-.000451	79.96419	.6847081	.0729610
#3	.5663501	.0142835	-.000397	79.88217	.6859790	.0734962

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1547664	310.1008	.9389353	22.94212	.1630588	-.001702
Stddev	.0014142	1.9143	.0019183	.07795	.0006041	.000319
%RSD	.9137368	.6173071	.2043057	.3397703	.3704624	18.76563
#1	.1531745	312.0168	.9409049	22.85624	.1634386	-.001363
#2	.1552473	308.1882	.9370728	23.00839	.1623623	-.001746
#3	.1558774	310.0973	.9388280	22.96174	.1633756	-.001997

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.079915	.4278909	.6613374	19.50687	-.294199	.0214957
Stddev	.022445	.0020188	.0050895	.18652	.004150	.0002571
%RSD	1.079110	.4717931	.7695705	.9561749	1.410679	1.195994
#1	2.090880	.4282738	.6592510	19.69497	-.290111	.0215702
#2	2.054095	.4296908	.6576227	19.32197	-.298409	.0212096
#3	2.094768	.4257081	.6671385	19.50368	-.294077	.0217073

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01 Acquired: 3/12/2025 14:16:11 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0150553	.9807245	F 17.83307	9.464099	F 17.04763	.1826265
Stddev	.0002999	.0013505	.11208	.022007	.03611	.0006904
%RSD	1.991802	.1377038	.6285153	.2325302	.2118375	.3780186
#1	.0151768	.9813034	17.93706	9.489083	17.06718	.1833035
#2	.0152754	.9791811	17.71435	9.447584	17.00596	.1819235
#3	.0147138	.9816891	17.84779	9.455631	17.06975	.1826525

Elem	Sr4077
Units	ppm
Avg	.4144868
Stddev	.0015559
%RSD	.3753885
#1	.4161137
#2	.4130131
#3	.4143336

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3760.086	84597.01	18161.66	2412.148	4133.477
Stddev	3.565	181.90	70.58	15.455	2.311
%RSD	.0948221	.2150197	.3886054	.6406975	.0559188
#1	3756.311	84396.82	18213.88	2421.275	4130.923
#2	3763.397	84752.15	18081.37	2420.864	4135.426
#3	3760.549	84642.05	18189.75	2394.304	4134.082

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01DUP Acquired: 3/12/2025 14:20:14 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.3081941	.0094888	.4521592	-.050696	-.010871	99.35451
Stddev	.0015279	.0034247	.0016076	.003705	.002020	.18780
%RSD	.4957428	36.09200	.3555402	7.309189	18.58477	.1890232
#1	.3097909	.0074781	.4525777	-.054926	-.010922	99.50217
#2	.3067462	.0134431	.4535161	-.049135	-.012866	99.41823
#3	.3080451	.0075452	.4503837	-.048026	-.008826	99.14314

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5761605	.0138317	-.000948	80.30127	.6755620	.0736606
Stddev	.0020291	.0000300	.000179	.26509	.0011366	.0003828
%RSD	.3521770	.2169675	18.93131	.3301227	.1682404	.5197255
#1	.5773603	.0137972	-.000919	80.59182	.6744279	.0739270
#2	.5773036	.0138459	-.001140	80.23942	.6767010	.0738329
#3	.5738178	.0138520	-.000785	80.07257	.6755572	.0732219

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1541714	312.1992	.9431970	22.89523	.1632662	-.001441
Stddev	.0006894	.6141	.0038883	.07922	.0009056	.000170
%RSD	.4471845	.1966961	.4122511	.3459946	.5546819	11.81249
#1	.1549671	311.6425	.9473019	22.98627	.1625974	-.001538
#2	.1537970	312.8579	.9427197	22.85740	.1629044	-.001244
#3	.1537503	312.0972	.9395693	22.84202	.1642967	-.001539

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.073026	.4299105	.6560133	19.76832	-.270863	.0217678
Stddev	.009431	.0013895	.0003247	.11177	.005712	.0002111
%RSD	.4549378	.3232069	.0494908	.5653752	2.108675	.9698854
#1	2.063388	.4314128	.6557302	19.64421	-.276764	.0215679
#2	2.082235	.4296474	.6559420	19.86102	-.265362	.0219886
#3	2.073453	.4286714	.6563677	19.79973	-.270463	.0217470

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01DUP Acquired: 3/12/2025 14:20:14 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0147325	.9896087	F 17.89929	9.451112	F 17.18180	.1833264
Stddev	.0002651	.0025192	.06786	.018071	.02995	.0003011
%RSD	1.799693	.2545667	.3791468	.1912089	.1743354	.1642132
#1	.0144319	.9914223	17.82352	9.432113	17.15145	.1836681
#2	.0149331	.9906716	17.95450	9.468085	17.21134	.1831000
#3	.0148324	.9867322	17.91986	9.453139	17.18263	.1832112

Elem	Sr4077
Units	ppm
Avg	.4199038
Stddev	.0013714
%RSD	.3265997
#1	.4210320
#2	.4203019
#3	.4183773

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3737.676	85997.76	18534.67	2435.941	4104.068
Stddev	5.385	109.97	118.51	7.726	2.193
%RSD	.1440723	.1278793	.6394098	.3171527	.0534339
#1	3732.983	85964.74	18400.55	2433.425	4106.582
#2	3743.555	85908.08	18578.19	2429.787	4102.549
#3	3736.489	86120.46	18625.27	2444.611	4103.074

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV04 Acquired: 3/12/2025 14:24:17 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.332463	5.305029	5.093486	5.136947	5.182722	9.983089
Stddev	.017141	.010789	.021149	.014888	.017499	.014192
%RSD	.3214488	.2033646	.4152140	.2898239	.3376357	.1421625
#1	5.318270	5.308929	5.082026	5.134507	5.165328	9.990343
#2	5.327611	5.292833	5.080539	5.123429	5.182515	9.966736
#3	5.351507	5.313325	5.117891	5.152904	5.200323	9.992188

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.273639	.2404612	2.495867	23.75246	1.058201	2.493751
Stddev	.053586	.0009633	.006925	.02696	.001337	.007181
%RSD	.5778362	.4005970	.2774728	.1135066	.1263243	.2879586
#1	9.221997	.2405938	2.491265	23.78356	1.058844	2.487729
#2	9.269940	.2394385	2.492504	23.73560	1.059094	2.491825
#3	9.328978	.2413513	2.503831	23.73822	1.056664	2.501698

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.286753	4.974084	2.306782	24.03709	2.491619	1.282527
Stddev	.004957	.009517	.005354	.03694	.004784	.001497
%RSD	.3852644	.1913223	.2321041	.1536984	.1919900	.1167600
#1	1.283424	4.968168	2.309904	24.05247	2.489219	1.281043
#2	1.284384	4.985061	2.300599	24.06387	2.488511	1.284038
#3	1.292450	4.969022	2.309842	23.99494	2.497128	1.282500

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.73764	2.431301	2.585421	25.19602	4.731709	5.199103
Stddev	.06618	.005552	.005894	.08619	.017350	.016042
%RSD	.2475060	.2283476	.2279570	.3420617	.3666698	.3085551
#1	26.67422	2.432206	2.578622	25.09785	4.738174	5.185704
#2	26.80627	2.425352	2.589067	25.25925	4.712055	5.194727
#3	26.73244	2.436344	2.588575	25.23097	4.744899	5.216880

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV04 Acquired: 3/12/2025 14:24:17 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	5.048723	4.739959	F 5.565412	4.775220	4.859101	4.689802
Stddev	.021104	.010771	.036117	.015637	.006843	.006489
%RSD	.4180061	.2272462	.6489559	.3274516	.1408295	.1383747
#1	5.035846	4.747333	5.527233	4.757200	4.860575	4.692661
#2	5.037244	4.727598	5.599035	4.783247	4.851641	4.682374
#3	5.073078	4.744946	5.569969	4.785214	4.865087	4.694371

Elem	Sr4077
Units	ppm
Avg	4.770995
Stddev	.025037
%RSD	.5247764
#1	4.790262
#2	4.742695
#3	4.780028

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3193.717	71163.73	14406.40	2059.360	4316.659
Stddev	8.389	172.41	26.45	9.415	10.206
%RSD	.2626693	.2422735	.1835971	.4572012	.2364328
#1	3202.475	71265.63	14379.40	2067.617	4325.922
#2	3192.920	70964.66	14432.26	2049.107	4318.338
#3	3185.754	71260.89	14407.54	2061.357	4305.718

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB04 Acquired: 3/12/2025 14:28:28 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000159	-.001132	.0008469	-.008791	-.000515	.0046863	-.003216
Stddev	.001313	.000920	.0009018	.001798	.000791	.0035046	.000749
%RSD	823.8605	81.24300	106.4778	20.45522	153.4393	74.78431	23.27776
#1	.001140	-.000071	.0018464	-.010851	-.001278	.0015342	-.003404
#2	-.001486	-.001703	.0006004	-.007987	-.000568	.0084603	-.002391
#3	-.000131	-.001623	.0000941	-.007535	.000301	.0040645	-.003853

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000160	.0000880	-.003564	-.000212	.0001083	.0001023	.0020865
Stddev	.0000096	.0000540	.004508	.000208	.0000117	.0001669	.0012305
%RSD	60.29407	61.34837	126.4788	97.93969	10.81017	163.2721	58.97339
#1	.0000191	.0000276	-.008292	-.000076	.0000949	.0002896	.0015424
#2	.0000052	.0001315	.000686	-.000451	.0001164	-.000031	.0034953
#3	.0000237	.0001051	-.003088	-.000109	.0001136	.000048	.0012219

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000136	-.001257	-.000096	.0004927	-.051884	.0008472	.0002866
Stddev	.000107	.007585	.000211	.0002020	.008114	.0004520	.0003075
%RSD	78.83737	603.2965	220.1575	41.00202	15.63790	53.34864	107.2782
#1	-.000256	.005453	-.000336	.0006820	-.061222	.0013442	.0005494
#2	-.000052	-.009486	.000057	.0002800	-.046556	.0007363	.0003620
#3	-.000099	.000262	-.000007	.0005159	-.047875	.0004610	-.000052

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.115302	.0025175	-.000013	.0002852	.0008981	-.044523	-.003153
Stddev	.020514	.0000871	.000211	.0000422	.0006361	.002148	.001340
%RSD	17.79132	3.461127	1638.233	14.78721	70.82795	4.823810	42.51113
#1	-.120053	.0025957	.000168	.0002585	.0015708	-.044962	-.001845
#2	-.133023	.0025331	.000037	.0003338	.0003063	-.046417	-.004523
#3	-.092829	.0024236	-.000244	.0002633	.0008173	-.042190	-.003091

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB04 Acquired: 3/12/2025 14:28:28 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.006553	-.003731	.0000821
Stddev	.001421	.000862	.0000494
%RSD	21.68460	23.10263	60.22677
#1	-.008170	-.004351	.0001384
#2	-.005991	-.002747	.0000459
#3	-.005500	-.004096	.0000619

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3337.594	76325.74	14911.51	2201.728	4838.970
Stddev	5.659	90.19	67.79	2.176	7.094
%RSD	.1695428	.1181709	.4546395	.0988210	.1465940
#1	3332.537	76399.79	14837.92	2202.531	4844.275
#2	3336.540	76225.29	14925.16	2199.265	4830.912
#3	3343.706	76352.15	14971.43	2203.389	4841.722

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01 Acquired: 3/12/2025 14:32:48 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0020037	.0084683	.0046330	-.034485	-.004138	23.56963
Stddev	.0014691	.0007693	.0011276	.002636	.002148	.06422
%RSD	73.31716	9.084775	24.33835	7.642743	51.90807	.2724837
#1	.0011960	.0086307	.0035238	-.032962	-.002443	23.51399
#2	.0011158	.0091436	.0057782	-.037529	-.006553	23.55499
#3	.0036994	.0076308	.0045972	-.032965	-.003417	23.63991

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1040480	.0013060	-.001419	398.5865	.0033464	.2202121
Stddev	.0005693	.0000216	.000127	2.2590	.0004074	.0002866
%RSD	.5471463	1.656823	8.923603	.5667600	12.17547	.1301419
#1	.1034476	.0012819	-.001283	400.9759	.0029131	.2198954
#2	.1045800	.0013120	-.001440	398.2983	.0034043	.2202874
#3	.1041166	.0013239	-.001533	396.4855	.0037218	.2204535

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3056875	103.7057	10.29917	32.48848	.0621263	-.001505
Stddev	.0005756	.5307	.02404	.04929	.0006351	.000334
%RSD	.1883089	.5117643	.2334287	.1517160	1.022288	22.19157
#1	.3056143	103.0944	10.27853	32.54267	.0627152	-.001121
#2	.3051519	103.9737	10.29341	32.44632	.0614533	-.001727
#3	.3062962	104.0490	10.32557	32.47645	.0622104	-.001667

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	84.74576	.0113953	.9953076	3.649968	3.963321	-.001794
Stddev	.83539	.0005123	.0018509	.016507	.013288	.000446
%RSD	.9857641	4.495744	.1859613	.4522461	.3352649	24.85839
#1	83.80111	.0109892	.9974354	3.632554	3.965097	-.001882
#2	85.04894	.0119709	.9944170	3.665387	3.949235	-.002188
#3	85.38723	.0112258	.9940703	3.651964	3.975631	-.001310

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01 Acquired: 3/12/2025 14:32:48 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.004035	-.006529	F 52.14693	.0251920	F 410.4737	.0236340
Stddev	.000617	.000247	.31852	.0039078	1.3386	.0010614
%RSD	15.28834	3.783317	.6108184	15.51207	.3261086	4.490825
#1	-.003429	-.006253	51.79019	.0297042	409.3243	.0226440
#2	-.004662	-.006604	52.24778	.0229687	410.1534	.0235033
#3	-.004015	-.006729	52.40281	.0229031	411.9434	.0247547

Elem	Sr4077
Units	ppm
Avg	.8681389
Stddev	.0023203
%RSD	.2672749
#1	.8665536
#2	.8670609
#3	.8708021

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3258.218	74144.13	15777.75	2132.993	3939.271
Stddev	7.685	401.68	25.29	3.626	11.914
%RSD	.2358672	.5417498	.1602773	.1699909	.3024400
#1	3265.582	74607.71	15801.57	2135.901	3951.492
#2	3258.825	73925.21	15780.47	2128.930	3938.629
#3	3250.247	73899.47	15751.21	2134.149	3927.690

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01DUP Acquired: 3/12/2025 14:37:06 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0016395	.0079743	.0056167	-.032648	-.006235	23.66077
Stddev	.0006053	.0021737	.0025473	.001195	.000966	.01965
%RSD	36.91815	27.25824	45.35230	3.661681	15.49159	.0830675
#1	.0012452	.0056938	.0029739	-.031278	-.007229	23.66441
#2	.0013369	.0100225	.0058199	-.033479	-.005300	23.63956
#3	.0023364	.0082066	.0080563	-.033187	-.006176	23.67836

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1083603	.0012420	-.002177	401.6482	.0031683	.2204295
Stddev	.0020333	.0000275	.000179	.9931	.0003337	.0007308
%RSD	1.876435	2.215503	8.226977	.2472474	10.53114	.3315270
#1	.1071518	.0012532	-.002115	401.6221	.0027847	.2210133
#2	.1072212	.0012622	-.002037	400.6685	.0033916	.2196099
#3	.1107078	.0012107	-.002379	402.6541	.0033284	.2206653

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3078065	108.9738	10.35783	32.29622	.0617828	-.000638
Stddev	.0002233	.6720	.03182	.13613	.0002847	.000078
%RSD	.0725538	.6166190	.3071775	.4214911	.4607511	12.30011
#1	.3077627	108.4428	10.37222	32.44242	.0616157	-.000640
#2	.3080485	108.7495	10.32135	32.27312	.0616212	-.000715
#3	.3076083	109.7293	10.37990	32.17313	.0621115	-.000558

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	89.63891	.0100901	1.003456	3.911613	3.809397	-.001895
Stddev	.76772	.0000906	.005571	.048545	.026489	.000427
%RSD	.8564638	.8980310	.5551425	1.241041	.6953578	22.52766
#1	88.89864	.0101438	1.009713	3.871156	3.839963	-.002151
#2	89.58669	.0101410	1.001619	3.898241	3.795089	-.001402
#3	90.43142	.0099855	.999035	3.965443	3.793140	-.002131

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01DUP Acquired: 3/12/2025 14:37:06 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.004557	-.006599	F 54.86903	.0252825	F 413.7104	.0259863
Stddev	.001630	.000075	.33217	.0009566	.9142	.0001755
%RSD	35.76490	1.141263	.6053849	3.783571	.2209783	.6754678
#1	-.005486	-.006671	54.51362	.0245398	413.9697	.0257991
#2	-.005510	-.006520	54.92183	.0249458	412.6946	.0260126
#3	-.002675	-.006605	55.17163	.0263619	414.4671	.0261472

Elem	Sr4077
Units	ppm
Avg	.8879428
Stddev	.0030149
%RSD	.3395383
#1	.8863922
#2	.8860188
#3	.8914175

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3205.857	73466.52	16439.86	2070.849	3898.617
Stddev	9.193	29.84	100.99	7.004	3.166
%RSD	.2867434	.0406137	.6142848	.3382003	.0812044
#1	3216.133	73487.70	16325.96	2066.471	3899.997
#2	3198.416	73479.46	16475.15	2067.149	3900.858
#3	3203.022	73432.39	16518.47	2078.926	3894.995

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01LX5 Acquired: 3/12/2025 14:41:23 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0015629	.0013045	.0006465	-.013060	-.004581	5.132588
Stddev	.0003661	.0014379	.0006104	.002000	.001911	.021556
%RSD	23.42214	110.2255	94.40810	15.31624	41.70520	.4199822
#1	.0016118	.0027957	.0009715	-.015255	-.004467	5.126945
#2	.0019020	.0011910	-.000058	-.012583	-.006546	5.156404
#3	.0011748	-.000073	.001026	-.011341	-.002730	5.114415

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0187784	.0003152	-.001069	88.46327	.0004477	.0448478
Stddev	.0005354	.0000473	.000062	.16670	.0000630	.0003838
%RSD	2.851305	14.99675	5.773386	.1884346	14.07473	.8557313
#1	.0181624	.0003578	-.001064	88.43993	.0003754	.0452513
#2	.0190404	.0002644	-.001133	88.64040	.0004769	.0444874
#3	.0191323	.0003235	-.001009	88.30947	.0004908	.0448048

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0703446	23.76805	2.278832	7.064651	.0125577	.0005255
Stddev	.0002993	.20462	.004780	.008607	.0000849	.0002274
%RSD	.4254839	.8609050	.2097773	.1218338	.6763036	43.26209
#1	.0706633	23.86407	2.277685	7.057222	.0124967	.0002908
#2	.0700694	23.90701	2.284081	7.074083	.0126547	.0007447
#3	.0703010	23.53308	2.274729	7.062647	.0125217	.0005410

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	18.43722	.0030649	.2167497	.6889190	.9006327	-.000223
Stddev	.07644	.0006959	.0003285	.0282215	.0037131	.000137
%RSD	.4146172	22.70690	.1515821	4.096495	.4122732	61.48062
#1	18.49323	.0038083	.2165602	.6600066	.8983705	-.000337
#2	18.46829	.0024289	.2165599	.6903557	.8986096	-.000260
#3	18.35013	.0029575	.2171291	.7163948	.9049179	-.000071

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01LX5 Acquired: 3/12/2025 14:41:23 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.002752	-.000423	F 11.56234	.0007395	F 83.58432	.0022124
Stddev	.000224	.000310	.06847	.0008658	.18692	.0012189
%RSD	8.131180	73.17915	.5922168	117.0780	.2236280	55.09434
#1	-.002906	-.000106	11.62367	.0014712	83.60416	.0008579
#2	-.002856	-.000725	11.57488	-.000216	83.38828	.0032209
#3	-.002496	-.000438	11.48846	.000964	83.76053	.0025584

Elem	Sr4077
Units	ppm
Avg	.1933703
Stddev	.0004803
%RSD	.2484023
#1	.1928312
#2	.1937527
#3	.1935269

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3217.274	72674.95	15879.77	2056.412	4361.840
Stddev	7.765	415.18	7.54	4.673	14.386
%RSD	.2413628	.5712881	.0474534	.2272351	.3298214
#1	3208.755	72279.82	15871.69	2051.395	4347.144
#2	3223.955	72637.41	15886.61	2060.640	4375.895
#3	3219.112	73107.63	15881.02	2057.200	4362.480

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01A Acquired: 3/12/2025 14:58:17 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.7791193	1.818745	.9037523	1.859242	.7699711	25.50077
Stddev	.0035252	.011991	.0029559	.003032	.0008293	.02488
%RSD	.4524582	.6592980	.3270710	.1630857	.1077082	.0975522
#1	.7763492	1.831854	.9057780	1.861325	.7700232	25.47257
#2	.7830873	1.808331	.9003604	1.860638	.7691169	25.51013
#3	.7779214	1.816049	.9051184	1.855764	.7707731	25.51961

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2522391	.1591104	.1827999	392.5554	.3571150	.4021164
Stddev	.0009479	.0005112	.0001581	3.2927	.0008350	.0011833
%RSD	.3757849	.3212700	.0865084	.8387950	.2338127	.2942639
#1	.2530658	.1587324	.1828687	389.7701	.3568457	.4019953
#2	.2524470	.1596920	.1826190	396.1894	.3564479	.4009984
#3	.2512046	.1589067	.1829120	391.7066	.3580514	.4033556

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5644962	106.1822	10.33231	32.97445	.5210467	.0683664
Stddev	.0015474	.1503	.02184	.15196	.0012439	.0001652
%RSD	.2741166	.1415695	.2113524	.4608478	.2387292	.2416196
#1	.5661129	106.2343	10.32381	32.80285	.5201229	.0681760
#2	.5630289	106.2996	10.35712	33.09197	.5205562	.0684523
#3	.5643467	106.0128	10.31600	33.02854	.5224611	.0684709

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	91.75824	.2510194	1.172056	13.48942	4.066243	.3660616
Stddev	.18310	.0011418	.002918	.04125	.007011	.0002222
%RSD	.1995462	.4548620	.2489393	.3057870	.1724149	.0606890
#1	91.82452	.2504654	1.173008	13.53643	4.063225	.3658687
#2	91.55123	.2523325	1.174379	13.45929	4.074258	.3663045
#3	91.89897	.2502604	1.168781	13.47254	4.061247	.3660116

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01A Acquired: 3/12/2025 14:58:17 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6702925	.1520599	F 53.39795	5.827450	F 405.9042	.2003322
Stddev	.0020576	.0006559	.03753	.012832	1.0007	.0011699
%RSD	.3069656	.4313624	.0702813	.2202033	.2465443	.5840011
#1	.6721995	.1517181	53.36604	5.818802	406.7247	.2016825
#2	.6681117	.1528161	53.38851	5.821354	404.7892	.1996935
#3	.6705662	.1516454	53.43929	5.842194	406.1986	.1996207

Elem	Sr4077
Units	ppm
Avg	1.024235
Stddev	.011156
%RSD	1.089206
#1	1.013076
#2	1.035388
#3	1.024240

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3173.649	73637.23	15948.99	2054.937	3872.504
Stddev	3.125	379.41	116.03	18.449	7.026
%RSD	.0984632	.5152484	.7275194	.8977668	.1814214
#1	3172.391	74018.72	16063.70	2067.054	3873.561
#2	3177.207	73259.93	15831.68	2033.705	3878.941
#3	3171.350	73633.05	15951.59	2064.053	3865.010

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167099TB Acquired: 3/12/2025 15:02:34 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.001589	-.003384	-.000029	-.008421	-.001798	.0106362
Stddev	.002063	.000508	.000733	.001805	.000855	.0047551
%RSD	129.8374	15.01510	2563.227	21.43098	47.56496	44.70722
#1	-.001732	-.002984	-.000118	-.007343	-.001525	.0120253
#2	-.003578	-.003213	.000745	-.010505	-.001113	.0053412
#3	.000542	-.003956	-.000713	-.007416	-.002756	.0145421

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.006554	-.000049	-.000011	.0562278	-.000465	-.000013
Stddev	.000352	.000034	.000059	.0066421	.000261	.000037
%RSD	5.368212	70.50403	563.2603	11.81278	56.02559	278.3273
#1	-.006157	-.000084	-.000062	.0638456	-.000693	.000017
#2	-.006826	-.000047	.000054	.0531901	-.000522	-.000002
#3	-.006680	-.000015	-.000023	.0516478	-.000181	-.000054

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005815	.0028961	-.000867	.0209391	.0000975	.0006789
Stddev	.0001720	.0003921	.000220	.0062148	.0001356	.0002169
%RSD	29.58191	13.53809	25.36942	29.68043	138.9790	31.94983
#1	.0003829	.0033213	-.000809	.0252405	.0001496	.0004499
#2	.0006856	.0025489	-.000683	.0237630	.0001993	.0007056
#3	.0006759	.0028180	-.001111	.0138137	-.000056	.0008813

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.097501	.0000845	.0051338	-.229612	.0107055	-.000312
Stddev	.005706	.0012008	.0002198	.022184	.0009751	.000163
%RSD	5.851994	1421.371	4.281416	9.661582	9.108272	52.29200
#1	-.098265	.0004125	.0049977	-.252819	.0110047	-.000154
#2	-.091451	.0010872	.0050162	-.208615	.0114960	-.000480
#3	-.102786	-.001246	.0053873	-.227403	.0096159	-.000304

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: PB167099TB Acquired: 3/12/2025 15:02:34 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	-.001439	.0015394	-.054526	-.000929	F 7.671642	-.005871
Stddev	.000518	.0005285	.007002	.001805	.075228	.000555
%RSD	36.01137	34.32899	12.84181	194.4007	.9806044	9.460497
#1	-.000920	.0011203	-.059600	-.000977	7.589963	-.006246
#2	-.001957	.0013649	-.057441	.000900	7.686874	-.005233
#3	-.001441	.0021331	-.046537	-.002710	7.738089	-.006135

Elem	Sr4077
Units	ppm
Avg	.0004908
Stddev	.0000508
%RSD	10.35983
#1	.0004800
#2	.0004462
#3	.0005462

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3367.278	77382.22	14787.14	2195.870	4983.929
Stddev	25.083	315.98	46.60	11.272	41.696
%RSD	.7449057	.4083348	.3151251	.5133130	.8366089
#1	3394.490	77653.00	14750.87	2203.897	5031.162
#2	3362.262	77458.61	14839.70	2200.728	4968.399
#3	3345.082	77035.05	14770.87	2182.983	4952.228

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01 Acquired: 3/12/2025 15:06:53 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0514464	.0021414	.2362896	-.025673	-.006390	40.23957	.1755579
Stddev	.0041969	.0003040	.0007257	.003557	.001708	.06401	.0018172
%RSD	8.157918	14.19843	.3071395	13.85421	26.73199	.1590813	1.035087
#1	.0544839	.0020826	.2370871	-.025635	-.004464	40.25335	.1749103
#2	.0466574	.0024705	.2361140	-.029248	-.006983	40.16980	.1741533
#3	.0531978	.0018710	.2356678	-.022135	-.007722	40.29558	.1776102

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040379	-.003714	69.51679	.1722153	.0314749	.1287709	119.9776
Stddev	.0000625	.000228	.17900	.0003791	.0003536	.0003748	.6666
%RSD	1.548691	6.143118	.2574922	.2201275	1.123539	.2910873	.5556021
#1	.0039658	-.003491	69.42137	.1720542	.0311416	.1285459	119.2429
#2	.0040778	-.003705	69.40571	.1719433	.0318458	.1292036	120.1462
#3	.0040701	-.003947	69.72328	.1726483	.0314372	.1285632	120.5437

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8726028	24.14765	.0581320	-.000221	4.120961	.1663083	.3226091
Stddev	.0038793	.03152	.0004083	.000405	.009234	.0016831	.0002624
%RSD	.4445698	.1305494	.7023189	183.1019	.2240836	1.012047	.0813391
#1	.8703442	24.11200	.0579045	-.000182	4.113791	.1679828	.3224122
#2	.8703819	24.17185	.0586034	-.000644	4.117711	.1646167	.3225081
#3	.8770822	24.15910	.0578883	.000163	4.131381	.1663253	.3229070

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.842196	-.122502	.0066705	.1485110	1.008722	6.005340	2.865757
Stddev	.065982	.001540	.0001156	.0011386	.006926	.133414	.002651
%RSD	1.129413	1.257076	1.732554	.7667003	.6866581	2.221598	.0925006
#1	5.790391	-.123214	.0065769	.1492084	1.001234	5.853191	2.864195
#2	5.819715	-.120735	.0067997	.1471971	1.014900	6.060498	2.868818
#3	5.916481	-.123557	.0066348	.1491276	1.010031	6.102330	2.864258

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01 Acquired: 3/12/2025 15:06:53 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.959061	.0691493	.2044712
Stddev	.002327	.0003870	.0010676
%RSD	.1188007	.5596639	.5221442
#1	1.956712	.0688631	.2038821
#2	1.959104	.0689952	.2038278
#3	1.961367	.0695897	.2057036

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3238.905	72866.13	15113.32	2104.622	4291.864
Stddev	7.025	160.54	21.30	7.429	10.655
%RSD	.2169020	.2203186	.1409367	.3529981	.2482711
#1	3232.435	72934.04	15089.69	2107.512	4279.567
#2	3237.903	72682.79	15119.22	2096.182	4297.669
#3	3246.378	72981.54	15131.05	2110.172	4298.357

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01DUP Acquired: 3/12/2025 15:11:03 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0508060	.0013359	.2348621	-.025698	-.006727	39.66966	.1803805
Stddev	.0035218	.0028592	.0017547	.001032	.002447	.22470	.0012533
%RSD	6.931758	214.0377	.7471073	4.016525	36.38214	.5664344	.6947890
#1	.0499863	.0025844	.2368570	-.024852	-.009534	39.42905	.1806296
#2	.0546653	-.001935	.2335576	-.026848	-.005607	39.70588	.1790214
#3	.0477664	.003358	.2341718	-.025394	-.005040	39.87406	.1814905

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037920	-.004278	69.68565	.1712340	.0312354	.1258726	122.6302
Stddev	.0000934	.000092	.25261	.0006933	.0001314	.0005758	.3769
%RSD	2.463389	2.142041	.3624929	.4048715	.4205501	.4574454	.3073350
#1	.0036855	-.004177	69.39709	.1710625	.0311173	.1265063	122.8311
#2	.0038300	-.004302	69.79310	.1719970	.0313768	.1253815	122.1955
#3	.0038603	-.004355	69.86677	.1706426	.0312121	.1257299	122.8641

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8761593	23.98676	.0573589	.0006946	4.096846	.1668075	.3085556
Stddev	.0034182	.04220	.0004434	.0000677	.026937	.0004488	.0019788
%RSD	.3901389	.1759272	.7729786	9.751114	.6574971	.2690429	.6413146
#1	.8726030	23.94802	.0571482	.0006222	4.101114	.1672293	.3066135
#2	.8764544	24.03173	.0578683	.0007565	4.068031	.1668571	.3084842
#3	.8794204	23.98053	.0570601	.0007052	4.121395	.1663359	.3105692

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.957448	-.113752	.0070337	.1478020	.9977959	5.654897	2.839090
Stddev	.064085	.002169	.0002345	.0005987	.0013484	.117182	.002971
%RSD	1.075704	1.906450	3.333310	.4050320	.1351372	2.072226	.1046624
#1	6.016684	-.111605	.0071453	.1475902	.9984379	5.789276	2.839081
#2	5.889423	-.115941	.0071915	.1473380	.9962465	5.573983	2.842066
#3	5.966238	-.113709	.0067643	.1484777	.9987034	5.601433	2.836124

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01DUP Acquired: 3/12/2025 15:11:03 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.908340	.0690177	.2071830
Stddev	.006820	.0002844	.0012498
%RSD	.3574043	.4120556	.6032450
#1	1.901572	.0693417	.2061635
#2	1.908237	.0688093	.2068081
#3	1.915211	.0689021	.2085773

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3254.743	74109.24	15697.55	2123.832	4326.508
Stddev	5.367	126.49	52.99	8.580	2.532
%RSD	.1649013	.1706813	.3375789	.4039753	.0585180
#1	3256.730	74053.11	15755.59	2133.003	4326.056
#2	3258.834	74254.08	15685.31	2122.492	4329.235
#3	3248.666	74020.52	15651.75	2116.001	4324.233

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01LX5 Acquired: 3/12/2025 15:15:13 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0105497	-.000270	.0482381	-.010986	-.003119	8.416669	.0333637
Stddev	.0017532	.001533	.0011662	.000888	.001845	.037776	.0009191
%RSD	16.61799	567.3452	2.417579	8.079997	59.16171	.4488241	2.754683
#1	.0102196	.000327	.0480945	-.009966	-.004994	8.408681	.0327259
#2	.0089851	-.002012	.0471504	-.011579	-.001304	8.383525	.0329480
#3	.0124445	.000874	.0494695	-.011414	-.003059	8.457800	.0344172

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009103	-.001064	14.79855	.0361861	.0065758	.0272921	25.17220
Stddev	.0000536	.000069	.01284	.0004141	.0002577	.0001680	.04799
%RSD	5.882221	6.456688	.0867576	1.144454	3.919214	.6156011	.1906577
#1	.0009722	-.001144	14.79358	.0357206	.0064830	.0274145	25.16157
#2	.0008793	-.001029	14.78894	.0363238	.0063774	.0271006	25.13042
#3	.0008796	-.001021	14.81313	.0365138	.0068671	.0273613	25.22463

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1858672	5.091910	.0112518	.0003327	.8198571	.0357917	.0654840
Stddev	.0000984	.029657	.0002187	.0001509	.0043170	.0012404	.0003093
%RSD	.0529660	.5824382	1.943424	45.35288	.5265501	3.465739	.4723766
#1	.1857992	5.061727	.0115010	.0004767	.8157259	.0370306	.0654785
#2	.1859800	5.092991	.0110920	.0001757	.8243385	.0345497	.0651774
#3	.1858222	5.121012	.0111623	.0003458	.8195068	.0357948	.0657960

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.092187	-.028246	.0012447	.0293676	.2160761	1.182642	.5580620
Stddev	.026322	.000177	.0002075	.0008077	.0067722	.043686	.0025617
%RSD	2.410071	.6249274	16.66670	2.750437	3.134197	3.693901	.4590352
#1	1.072885	-.028316	.0014027	.0300144	.2228178	1.135981	.5602611
#2	1.081505	-.028377	.0013215	.0296260	.2092737	1.189377	.5586756
#3	1.122172	-.028045	.0010098	.0284622	.2161369	1.222570	.5552492

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01LX5 Acquired: 3/12/2025 15:15:13 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.3939669	.0116117	.0431884
Stddev	.0038615	.0012394	.0002189
%RSD	.9801508	10.67374	.5067262
#1	.3984192	.0111773	.0434273
#2	.3915310	.0106480	.0429975
#3	.3919506	.0130099	.0431404

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3293.955	73826.21	15078.22	2124.245	4637.236
Stddev	7.753	64.54	31.87	6.096	8.575
%RSD	.2353590	.0874154	.2113589	.2869699	.1849266
#1	3293.770	73847.37	15107.26	2126.189	4638.958
#2	3301.798	73753.76	15044.13	2117.414	4644.819
#3	3286.296	73877.52	15083.28	2129.132	4627.930

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV05 Acquired: 3/12/2025 15:25:22 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.206946	5.175834	5.008472	5.001754	5.053719	9.843680	9.223626
Stddev	.023136	.053642	.013838	.025135	.025990	.017546	.135060
%RSD	.4443337	1.036389	.2762938	.5025251	.5142792	.1782469	1.464279
#1	5.207545	5.150347	5.013705	5.001183	5.060216	9.848432	9.229085
#2	5.183516	5.139687	4.992781	4.976909	5.025096	9.858361	9.355874
#3	5.229777	5.237467	5.018931	5.027169	5.075844	9.824248	9.085920

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2347067	2.455249	23.47341	1.045643	2.446097	1.259792	4.837550
Stddev	.0012448	.004321	.07790	.001720	.004626	.004248	.009785
%RSD	.5303801	.1759760	.3318464	.1644672	.1891177	.3372306	.2022765
#1	.2348553	2.450824	23.42432	1.045579	2.442318	1.260827	4.837824
#2	.2358706	2.455464	23.56323	1.047393	2.444717	1.255122	4.847196
#3	.2333943	2.459458	23.43269	1.043956	2.451256	1.263428	4.827631

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.267116	23.86960	2.442223	1.251825	25.97217	2.392454	2.528052
Stddev	.004365	.10781	.003994	.000513	.04229	.004913	.011526
%RSD	.1925279	.4516750	.1635325	.0409815	.1628186	.2053352	.4559069
#1	2.263429	23.81083	2.438349	1.252386	25.99269	2.389341	2.532078
#2	2.271935	23.99403	2.441992	1.251380	25.92353	2.398117	2.537025
#3	2.265982	23.80394	2.446327	1.251709	26.00028	2.389904	2.515054

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.61088	4.643503	5.080403	4.964313	4.663863	5.433275	4.798299
Stddev	.06401	.007313	.019432	.015579	.006559	.013660	.020481
%RSD	.2600732	.1574975	.3824896	.3138171	.1406367	.2514201	.4268451
#1	24.64913	4.639365	5.084281	4.954529	4.659819	5.421147	4.795888
#2	24.53699	4.651947	5.059325	4.956130	4.671431	5.430605	4.779129
#3	24.64653	4.639197	5.097604	4.982278	4.660340	5.448073	4.819879

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV05 Acquired: 3/12/2025 15:25:22 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.774583	4.607273	4.721007
Stddev	.017413	.002796	.018518
%RSD	.3647002	.0606810	.3922462
#1	4.787565	4.610022	4.709403
#2	4.754795	4.604433	4.742363
#3	4.781389	4.607365	4.711255

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3215.086	71487.85	14363.87	2068.084	4339.596
Stddev	10.038	279.20	87.11	12.209	6.701
%RSD	.3122099	.3905529	.6064363	.5903317	.1544103
#1	3211.647	71446.95	14384.74	2065.508	4342.530
#2	3226.391	71231.36	14268.22	2057.369	4344.328
#3	3207.219	71785.24	14438.65	2081.375	4331.928

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB05 Acquired: 3/12/2025 15:29:33 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012356	-.001157	-.000530	-.007875	-.001757	.0023952	-.004625
Stddev	.0019348	.001594	.001374	.001202	.000456	.0013704	.000472
%RSD	156.5943	137.7810	259.4321	15.25992	25.98118	57.21643	10.20469
#1	-.000763	.000451	.000803	-.007701	-.002069	.0025296	-.004952
#2	.001370	-.002737	-.001941	-.006770	-.001233	.0036935	-.004839
#3	.003100	-.001184	-.000451	-.009154	-.001969	.0009625	-.004084

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000128	.0001274	-.001392	.0001205	.0000732	-.000194	-.003231
Stddev	.0000531	.0000222	.005004	.0003901	.0002166	.000336	.001445
%RSD	413.8260	17.39574	359.5511	323.6596	295.9345	173.5663	44.73304
#1	-.000034	.0001037	-.005305	.0001011	-.000072	.000083	-.004666
#2	.000071	.0001309	.004247	-.000260	-.000030	-.000096	-.003253
#3	.000002	.0001476	-.003117	.000520	.000322	-.000568	-.001775

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000266	.0078996	-.000166	.0007763	-.014399	.0007120	-.000028
Stddev	.000058	.0063351	.000219	.0000835	.005589	.0015917	.000109
%RSD	21.90566	80.19562	132.1919	10.75949	38.81804	223.5547	392.8406
#1	-.000306	.0006212	-.000218	.0008724	-.018786	.0001622	-.000133
#2	-.000293	.0121732	.000075	.0007210	-.016306	-.000532	.000084
#3	-.000199	.0109044	-.000355	.0007354	-.008106	.002506	-.000034

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.078156	.0083241	-.000010	.0002346	.0017158	-.042547	-.003269
Stddev	.013555	.0001817	.000169	.0002152	.0003199	.001788	.000691
%RSD	17.34389	2.182557	1764.466	91.73526	18.64150	4.202894	21.14555
#1	-.093441	.0085127	.000155	.0001534	.0013581	-.043142	-.003794
#2	-.073434	.0081503	-.000002	.0000717	.0019741	-.043963	-.002486
#3	-.067594	.0083091	-.000182	.0004785	.0018154	-.040538	-.003529

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB05 Acquired: 3/12/2025 15:29:33 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.000545	-.003764	.0001443
Stddev	.000620	.001042	.0000286
%RSD	113.6934	27.67201	19.84258
#1	-.000468	-.003513	.0001732
#2	.000032	-.004908	.0001160
#3	-.001201	-.002871	.0001436

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3334.119	76147.69	14803.48	2184.633	4873.341
Stddev	4.349	289.14	58.02	10.212	4.473
%RSD	.1304385	.3797054	.3919579	.4674584	.0917779
#1	3338.061	75816.44	14801.36	2172.976	4878.152
#2	3329.453	76277.21	14862.53	2188.922	4872.561
#3	3334.842	76349.43	14746.55	2192.002	4869.309

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01MS Acquired: 3/12/2025 15:33:54 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8542774	1.953537	1.281771	1.764159	.5090215	46.68123	.3540530
Stddev	.0025661	.009634	.002308	.006263	.0019782	.06179	.0018039
%RSD	.3003865	.4931463	.1800911	.3550147	.3886366	.1323692	.5094938
#1	.8527547	1.944328	1.282680	1.761734	.5100118	46.62691	.3528352
#2	.8528374	1.952738	1.279146	1.759471	.5067437	46.74846	.3561254
#3	.8572401	1.963545	1.283485	1.771272	.5103090	46.66832	.3531984

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1860638	.1881483	55.23748	.5911956	.2226969	.4141542	124.0470
Stddev	.0008403	.0005431	.16934	.0017142	.0004187	.0008800	.5205
%RSD	.4516304	.2886413	.3065593	.2899603	.1879897	.2124705	.4196345
#1	.1861615	.1885696	55.23125	.5892639	.2231149	.4134222	123.4459
#2	.1868510	.1875354	55.40985	.5917872	.2222776	.4139101	124.3499
#3	.1851789	.1883398	55.07135	.5925356	.2226982	.4151305	124.3452

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9900174	21.59837	.5391095	.0741444	4.950255	.4246819	6.944867
Stddev	.0045465	.04507	.0017676	.0003281	.039093	.0010546	.012421
%RSD	.4592330	.2086620	.3278730	.4425444	.7897088	.2483238	.1788493
#1	.9905997	21.61589	.5409640	.0737739	4.909068	.4253757	6.958804
#2	.9942447	21.63204	.5374440	.0743982	4.954851	.4234683	6.934967
#3	.9852079	21.54717	.5389207	.0742612	4.986847	.4252016	6.940830

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.98638	.0857552	.3969996	.6953222	1.100650	7.150141	8.044865
Stddev	.06305	.0000462	.0001432	.0021183	.002380	.141391	.029376
%RSD	.3944294	.0538555	.0360663	.3046450	.2162276	1.977451	.3651545
#1	15.91864	.0857870	.3968710	.6963966	1.098876	6.987863	8.058725
#2	15.99713	.0857762	.3969741	.6928820	1.103354	7.215761	8.011123
#3	16.04337	.0857022	.3971539	.6966879	1.099718	7.246797	8.064747

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01MS Acquired: 3/12/2025 15:33:54 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.695941	.2640773	.3464542
Stddev	.007502	.0009863	.0007578
%RSD	.4423672	.3734836	.2187253
#1	1.697115	.2636781	.3456200
#2	1.687920	.2652007	.3471000
#3	1.702787	.2633533	.3466426

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3240.838	74508.35	14909.45	2102.427	4335.847
Stddev	6.470	290.08	26.19	6.161	8.720
%RSD	.1996385	.3893312	.1756596	.2930308	.2011147
#1	3246.741	74809.34	14913.97	2106.065	4332.656
#2	3241.852	74485.16	14881.29	2105.902	4345.713
#3	3233.921	74230.56	14933.08	2095.314	4329.171

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01MSD Acquired: 3/12/2025 15:37:54 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8596391	1.947793	1.291119	1.769756	.5132283	45.62528	.3646191
Stddev	.0049840	.014758	.002910	.010173	.0009370	.10628	.0016992
%RSD	.5797729	.7576625	.2253665	.5748148	.1825642	.2329495	.4660144
#1	.8631707	1.964258	1.292230	1.779784	.5138190	45.60708	.3642006
#2	.8539381	1.943365	1.287817	1.759444	.5121479	45.52928	.3631683
#3	.8618086	1.935756	1.293309	1.770040	.5137179	45.73950	.3664884

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1756873	.1865394	55.23618	.5970308	.2224078	.4113457	133.9018
Stddev	.0013020	.0006518	.13870	.0015947	.0007794	.0006707	.9036
%RSD	.7410918	.3494230	.2510981	.2671110	.3504429	.1630407	.6747970
#1	.1749362	.1861630	55.29230	.5984785	.2224477	.4113091	134.9266
#2	.1749349	.1861631	55.07822	.5972924	.2216092	.4106940	133.5591
#3	.1771907	.1872920	55.33803	.5953213	.2231665	.4120338	133.2198

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9812229	21.55979	.5395504	.0770378	5.102185	.4276277	7.031606
Stddev	.0043619	.03763	.0015569	.0004235	.026928	.0022577	.008260
%RSD	.4445367	.1745402	.2885463	.5496649	.5277744	.5279588	.1174699
#1	.9835229	21.58771	.5381264	.0768133	5.129904	.4285236	7.025152
#2	.9761923	21.51700	.5393121	.0767738	5.100526	.4250596	7.040915
#3	.9839533	21.57467	.5412126	.0775262	5.076125	.4292999	7.028750

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.47066	.1236854	.4064197	.6967445	1.065649	6.363088	8.015118
Stddev	.10518	.0032910	.0006782	.0015779	.017395	.043912	.026172
%RSD	.6020264	2.660810	.1668622	.2264610	1.632345	.6900979	.3265308
#1	17.56819	.1274589	.4062135	.6959688	1.068003	6.340703	7.998743
#2	17.48459	.1214094	.4058686	.6957046	1.047196	6.334881	8.001309
#3	17.35922	.1221880	.4071770	.6985600	1.081747	6.413682	8.045302

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01MSD Acquired: 3/12/2025 15:37:54 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.656523	.2687687	.3518501
Stddev	.001155	.0014862	.0017129
%RSD	.0697057	.5529833	.4868231
#1	1.655943	.2695745	.3527494
#2	1.655773	.2670535	.3498749
#3	1.657852	.2696779	.3529261

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3233.788	72450.17	15856.18	2058.666	4327.889
Stddev	1.924	187.54	75.27	3.403	6.246
%RSD	.0594859	.2588525	.4747131	.1652957	.1443160
#1	3234.125	72329.68	15916.02	2055.752	4333.395
#2	3231.718	72354.58	15880.83	2057.841	4329.170
#3	3235.521	72666.24	15771.67	2062.406	4321.102

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01A Acquired: 3/12/2025 15:41:53 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.8349959	1.926145	1.273097	1.725044	.4976534	45.31451	.3523065
Stddev	.0006877	.005869	.000348	.006538	.0010989	.05241	.0009683
%RSD	.0823547	.3046830	.0273129	.3789808	.2208229	.1156566	.2748523
#1	.8357659	1.932201	1.273221	1.732274	.4964887	45.33276	.3531933
#2	.8347788	1.925750	1.273366	1.719549	.4977994	45.35535	.3524528
#3	.8344429	1.920483	1.272704	1.723307	.4986720	45.25541	.3512733

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1856184	.1857023	54.90212	.5887420	.2208853	.4090253	126.3767
Stddev	.0008274	.0003086	.19188	.0012934	.0006536	.0004218	.5041
%RSD	.4457565	.1661790	.3495000	.2196843	.2958985	.1031288	.3989134
#1	.1865568	.1859094	55.03250	.5886047	.2216012	.4095124	126.2554
#2	.1853051	.1853476	54.99208	.5875227	.2207343	.4087867	126.9304
#3	.1849935	.1858500	54.68179	.5900985	.2203204	.4087769	125.9442

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9801398	21.62924	.5346288	.0750367	4.826877	.4246667	6.980090
Stddev	.0039331	.05272	.0007782	.0001395	.016909	.0008121	.009869
%RSD	.4012765	.2437243	.1455533	.1859405	.3503122	.1912391	.1413876
#1	.9826424	21.68492	.5354781	.0750023	4.807648	.4237308	6.978003
#2	.9821707	21.58009	.5344581	.0751903	4.833563	.4250824	6.990835
#3	.9756065	21.62273	.5339501	.0749177	4.839422	.4251868	6.971430

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.07054	.1001429	.4011158	.6858818	1.015325	5.102370	7.957741
Stddev	.04584	.0024649	.0017599	.0022024	.009203	.062793	.017334
%RSD	.2852464	2.461351	.4387491	.3211105	.9064473	1.230655	.2178318
#1	16.06823	.0994626	.4030886	.6884049	1.025557	5.031312	7.955779
#2	16.11750	.1028764	.3997073	.6848962	1.012695	5.125408	7.941471
#3	16.02590	.0980896	.4005514	.6843442	1.007723	5.150389	7.975973

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1545-01A Acquired: 3/12/2025 15:41:53 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.638892	.2614653	.3431297
Stddev	.003436	.0007075	.0015120
%RSD	.2096798	.2705848	.4406417
#1	1.642771	.2609512	.3435613
#2	1.636229	.2622721	.3443789
#3	1.637676	.2611725	.3414488

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3287.029	73174.95	15045.28	2085.365	4392.365
Stddev	7.720	111.34	43.60	7.204	2.565
%RSD	.2348719	.1521494	.2897951	.3454777	.0583953
#1	3278.578	73142.60	14997.51	2085.850	4389.544
#2	3293.711	73083.38	15055.38	2077.930	4392.994
#3	3288.797	73298.88	15082.94	2092.314	4394.556

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1547-01 Acquired: 3/12/2025 15:45:53 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0228730	-.010029	.1125416	-.031300	-.006165	83.87996
Stddev	.0030576	.003331	.0011047	.001792	.001062	.24182
%RSD	13.36756	33.21523	.9815551	5.726092	17.23492	.2882936
#1	.0248072	-.013795	.1112696	-.033352	-.005298	84.00423
#2	.0193480	-.007469	.1132600	-.030502	-.005846	84.03439
#3	.0244638	-.008822	.1130953	-.030044	-.007350	83.60128

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2519624	.0058263	-.000186	14.04848	.1713673	.0770643
Stddev	.0012063	.0000160	.000156	.02528	.0004796	.0000494
%RSD	.4787814	.2745376	84.09401	.1799456	.2798786	.0640623
#1	.2532517	.0058447	-.000364	14.06655	.1717835	.0770707
#2	.2517745	.0058191	-.000121	14.05931	.1714757	.0771101
#3	.2508610	.0058153	-.000073	14.01960	.1708428	.0770120

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1612461	135.4391	.9468118	22.30002	.1420978	-.000475
Stddev	.0003137	.2246	.0016839	.08896	.0011050	.000291
%RSD	.1945178	.1658606	.1778498	.3989212	.7776497	61.28688
#1	.1613164	135.5078	.9479131	22.32882	.1417862	-.000688
#2	.1609033	135.1881	.9448734	22.37101	.1411821	-.000596
#3	.1615186	135.6213	.9476490	22.20022	.1433252	-.000143

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.14029	.2741994	.3702348	5.544785	-.168195	.0006636
Stddev	.01298	.0019416	.0005343	.031735	.002649	.0003397
%RSD	.0644717	.7080844	.1443098	.5723417	1.574845	51.19441
#1	20.13372	.2758069	.3706241	5.551556	-.168847	.0008243
#2	20.15525	.2747490	.3696257	5.510211	-.170457	.0002733
#3	20.13190	.2720422	.3704547	5.572589	-.165281	.0008932

Sample Name: Q1547-01 Acquired: 3/12/2025 15:45:53 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0004539	3.539871	F 11.23713	5.512958	.1331306	.1369025
Stddev	.0018970	.004645	.14764	.016855	.0043322	.0005716
%RSD	417.9669	.1312066	1.313871	.3057395	3.254075	.4175097
#1	.0007034	3.536508	11.35727	5.502197	.1361967	.1374931
#2	.0022138	3.537935	11.28181	5.504294	.1350207	.1363521
#3	-.001556	3.545171	11.07231	5.532383	.1281746	.1368622

Elem	Sr4077
Units	ppm
Avg	.0639029
Stddev	.0002220
%RSD	.3473556
#1	.0641317
#2	.0636884
#3	.0638885

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3850.274	87417.97	17949.75	2507.238	4384.774
Stddev	14.830	141.17	16.48	10.534	20.823
%RSD	.3851612	.1614877	.0917865	.4201593	.4748923
#1	3860.237	87488.37	17931.50	2495.207	4397.066
#2	3857.354	87510.10	17954.24	2511.703	4396.524
#3	3833.231	87255.45	17963.52	2514.805	4360.732

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1547-06 Acquired: 3/12/2025 15:49:58 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0372238	-.003430	.5596222	-.035945	-.006161	95.21966	.3634478
Stddev	.0018031	.000457	.0020480	.004598	.001329	.40188	.0017094
%RSD	4.844082	13.31763	.3659581	12.79285	21.56773	.4220539	.4703316
#1	.0373701	-.003903	.5608422	-.039194	-.004748	94.78418	.3616136
#2	.0353520	-.002991	.5607665	-.030684	-.006351	95.57624	.3649964
#3	.0389493	-.003395	.5572578	-.037958	-.007385	95.29855	.3637336

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0073734	-.001483	21.66556	.2002918	.1070201	.2585054	187.9045
Stddev	.0001243	.000074	.08218	.0003994	.0001889	.0009708	.6852
%RSD	1.685796	4.965129	.3793073	.1994140	.1765504	.3755329	.3646549
#1	.0075169	-.001510	21.58868	.2004625	.1069339	.2580483	187.6497
#2	.0073032	-.001400	21.75217	.1998354	.1068897	.2578476	187.3832
#3	.0073001	-.001540	21.65581	.2005775	.1072368	.2596204	188.6806

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.157725	25.16509	.2189528	-.000090	5.899574	.2717109	.5762209
Stddev	.005841	.03453	.0001188	.000442	.043408	.0020832	.0028946
%RSD	.5045635	.1372263	.0542634	490.8494	.7357826	.7667088	.5023469
#1	1.152032	25.12521	.2188517	-.000592	5.857519	.2693309	.5736328
#2	1.163704	25.18509	.2190836	.000079	5.896983	.2732034	.5756832
#3	1.157438	25.18495	.2189231	.000242	5.944219	.2725985	.5793467

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.479928	-.202536	.0042107	.0101026	2.414558	8.864446	7.230190
Stddev	.026756	.004817	.0005037	.0011766	.003510	.157656	.001585
%RSD	.3577100	2.378190	11.96175	11.64665	.1453785	1.778518	.0219229
#1	7.475145	-.200301	.0039524	.0110361	2.414812	8.745520	7.231595
#2	7.455885	-.208064	.0038886	.0087810	2.417934	8.804544	7.230502
#3	7.508753	-.199242	.0047911	.0104909	2.410928	9.043273	7.228472

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1547-06 Acquired: 3/12/2025 15:49:58 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.297189	.1742412	.1312422
Stddev	.006300	.0007822	.0005465
%RSD	.4856352	.4489443	.4164334
#1	1.290435	.1736301	.1307556
#2	1.298225	.1751228	.1318335
#3	1.302906	.1739707	.1311374

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3887.920	86802.75	18723.14	2487.675	4309.182
Stddev	6.664	383.18	69.04	15.635	5.066
%RSD	.1714018	.4414388	.3687156	.6284973	.1175646
#1	3894.406	86899.07	18787.27	2488.669	4308.686
#2	3881.091	87128.58	18650.07	2502.789	4304.382
#3	3888.265	86380.60	18732.08	2471.567	4314.478

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1549-01 Acquired: 3/12/2025 15:54:04 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0531712	-.000589	.9064251	-.043749	-.004648	114.5210	.7348370
Stddev	.0016926	.001155	.0031302	.004658	.001418	.0142	.0004732
%RSD	3.183220	196.0314	.3453357	10.64666	30.51710	.0123850	.0643929
#1	.0522734	-.000041	.9094110	-.038747	-.005106	114.5084	.7353833
#2	.0551235	.000190	.9031682	-.047962	-.005781	114.5363	.7345666
#3	.0521167	-.001917	.9066962	-.044539	-.003057	114.5182	.7345609

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084659	-.003016	15.94284	.2384550	.1032779	.2756877	238.8032
Stddev	.0000285	.000266	.02551	.0011166	.0001096	.0010370	.6996
%RSD	.3361038	8.814589	.1599847	.4682829	.1060940	.3761312	.2929659
#1	.0084459	-.003135	15.95690	.2397004	.1034029	.2754720	239.6100
#2	.0084532	-.002711	15.91340	.2375432	.1031982	.2768156	238.3654
#3	.0084984	-.003200	15.95822	.2381213	.1032327	.2747756	238.4340

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.684297	31.18222	.2191107	.0002079	4.406527	.3282366	1.164039
Stddev	.014319	.08877	.0005146	.0001798	.016618	.0001118	.006650
%RSD	.3056912	.2846704	.2348344	86.46722	.3771187	.0340620	.5712448
#1	4.696417	31.26954	.2190421	.0002335	4.389604	.3281086	1.159331
#2	4.668497	31.09207	.2186339	.0000167	4.422822	.3282859	1.171645
#3	4.687977	31.18505	.2196561	.0003736	4.407154	.3283152	1.161139

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.55786	-.219039	.0013962	.0170696	4.003047	7.378661	6.902123
Stddev	.00739	.000443	.0003040	.0001711	.009971	.045892	.008081
%RSD	.0639575	.2020339	21.77097	1.002207	.2490822	.6219534	.1170755
#1	11.55561	-.218944	.0010588	.0171335	4.005280	7.325797	6.908218
#2	11.56611	-.218653	.0014811	.0168758	3.992149	7.408281	6.905193
#3	11.55185	-.219522	.0016488	.0171996	4.011712	7.401903	6.892957

Sample Name: Q1549-01 Acquired: 3/12/2025 15:54:04 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.136636	.2192913	.0954002
Stddev	.008143	.0010329	.0001319
%RSD	.7164027	.4710013	.1382253
#1	1.144989	.2200933	.0952481
#2	1.136198	.2196549	.0954711
#3	1.128721	.2181259	.0954815

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3610.569	80838.63	17832.74	2301.625	4248.510
Stddev	1.772	293.08	39.84	14.125	3.750
%RSD	.0490745	.3625497	.2234167	.6137050	.0882570
#1	3609.220	80613.37	17789.39	2310.018	4244.797
#2	3609.911	80732.55	17841.06	2285.317	4252.295
#3	3612.576	81169.99	17867.76	2309.540	4248.438

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01LX5 Acquired: 3/12/2025 15:58:08 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.0708533	.0021341	.0936829	-.018999	-.003244	21.95401	.1187296
Stddev	.0007646	.0009285	.0008280	.003282	.001252	1.72012	.0101114
%RSD	1.079069	43.50991	.8837793	17.27516	38.58400	7.835118	8.516307
#1	.0716967	.0018530	.0927861	-.015272	-.002636	20.09946	.1076210
#2	.0702057	.0013786	.0938444	-.021460	-.004684	22.26540	.1211712
#3	.0706575	.0031707	.0944182	-.020263	-.002413	23.49717	.1273966

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0033593	-.003047	18.05980	.1672119	.0147594	.0397268	73.22087
Stddev	.0003024	.000220	1.39485	.0004497	.0001956	.0005735	1.00620
%RSD	9.002404	7.222660	7.723490	.2689653	1.325222	1.443716	1.374200
#1	.0030714	-.002794	16.54560	.1667742	.0145790	.0403836	72.08321
#2	.0033321	-.003155	18.34148	.1671887	.0149673	.0393252	73.58541
#3	.0036744	-.003193	19.29230	.1676728	.0147320	.0394715	73.99399

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2127660	5.252258	.0336368	-.000441	.4127185	.0970050	.1580626
Stddev	.0163879	.409327	.0006178	.000371	.0090030	.0075078	.0005920
%RSD	7.702332	7.793345	1.836558	84.16283	2.181398	7.739606	.3745349
#1	.1950264	4.815561	.0337958	-.000859	.4025017	.0884459	.1587462
#2	.2159308	5.314018	.0329551	-.000148	.4161634	.1000920	.1577154
#3	.2273406	5.627196	.0341595	-.000317	.4194904	.1024773	.1577263

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.206986	-.064434	.0047657	.0018511	.2209627	4.006138	1.909906
Stddev	.076848	.011641	.0002953	.0008174	.0169078	.047923	.005344
%RSD	1.826666	18.06720	6.196164	44.15864	7.651866	1.196238	.2797845
#1	4.118663	-.051837	.0051047	.0027320	.2028480	3.953973	1.904275
#2	4.258555	-.066670	.0046278	.0011171	.2237140	4.016229	1.910539
#3	4.243740	-.074795	.0045646	.0017041	.2363261	4.048212	1.914906

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01LX5 Acquired: 3/12/2025 15:58:08 Type: Unk
Method: NON EPA-6010-200.7(v2799) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	3.382476	.0386462	.0902995
Stddev	.011612	.0027921	.0071005
%RSD	.3432914	7.224799	7.863250
#1	3.369108	.0356328	.0826444
#2	3.388263	.0391603	.0915843
#3	3.390056	.0411456	.0966699

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3430.840	75263.41	16613.63	2175.994	4568.447
Stddev	4.569	84.67	1070.27	8.641	6.007
%RSD	.1331798	.1125013	6.442131	.3971144	.1314892
#1	3429.287	75360.31	17771.55	2168.246	4568.923
#2	3435.983	75226.27	16408.72	2185.313	4574.202
#3	3427.249	75203.66	15660.64	2174.423	4562.216

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01MS Acquired: 3/12/2025 16:02:19 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	1.013192	1.838751	2.413440	1.463022	.2601970	115.5031
Stddev	.002492	.013106	.005724	.001839	.0019838	.4192
%RSD	.2459600	.7127429	.2371815	.1257206	.7624249	.3629236
#1	1.010978	1.834006	2.406909	1.463304	.2579396	115.8186
#2	1.012707	1.828679	2.417585	1.461058	.2609886	115.0275
#3	1.015891	1.853568	2.415826	1.464704	.2616627	115.6633

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6767563	.1586381	.1880458	118.2015	1.078952	.2731507
Stddev	.0015328	.0007256	.0002130	.5141	.002961	.0007234
%RSD	.2264898	.4573689	.1132729	.4349125	.2744450	.2648360
#1	.6778187	.1591630	.1880499	118.3678	1.075552	.2725492
#2	.6749992	.1578102	.1878308	117.6249	1.080960	.2729495
#3	.6774511	.1589412	.1882568	118.6119	1.080346	.2739534

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4739637	339.8640	.9925889	36.93559	.6461474	.0617039
Stddev	.0011684	.8759	.0032785	.08943	.0005621	.0005454
%RSD	.2465071	.2577307	.3303011	.2421227	.0869888	.8838403
#1	.4727714	338.8644	.9946543	36.94777	.6465640	.0610870
#2	.4740132	340.2298	.9888086	36.84070	.6455081	.0621219
#3	.4751066	340.4976	.9943038	37.01831	.6463700	.0619027

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.123809	.7370003	.8806885	33.83081	-.080514	.3228331
Stddev	.014821	.0033960	.0008685	.03106	.003866	.0005652
%RSD	.2892533	.4607921	.0986164	.0918146	4.801152	.1750739
#1	5.122141	.7406273	.8812501	33.80189	-.084971	.3224615
#2	5.139394	.7338958	.8811273	33.86364	-.078075	.3225542
#3	5.109893	.7364777	.8796881	33.82691	-.078495	.3234835

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01MS Acquired: 3/12/2025 16:02:19 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6695823	1.262244	F 17.20699	F 16.64189	F 17.25188	.3633458
Stddev	.0007721	.005173	.06317	.07370	.01344	.0006629
%RSD	.1153089	.4098641	.3671040	.4428830	.0778814	.1824492
#1	.6686911	1.264970	17.14199	16.55972	17.24262	.3637813
#2	.6700492	1.256277	17.21083	16.66375	17.24573	.3625828
#3	.6700066	1.265484	17.26815	16.70218	17.26729	.3636731

Elem	Sr4077
Units	ppm
Avg	.5062005
Stddev	.0021827
%RSD	.4312026
#1	.5075391
#2	.5036818
#3	.5073808

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3670.398	83487.35	18181.02	2386.258	4006.247
Stddev	2.549	201.16	55.72	6.503	3.044
%RSD	.0694380	.2409409	.3064987	.2725314	.0759750
#1	3672.900	83663.90	18145.03	2393.640	4009.349
#2	3670.488	83268.36	18245.21	2381.375	4006.127
#3	3667.805	83529.79	18152.82	2383.759	4003.265

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01MSD Acquired: 3/12/2025 16:06:17 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	1.013993	1.851382	2.404742	1.456875	.2635480	115.3828
Stddev	.006908	.011325	.003821	.009066	.0012353	.5067
%RSD	.6812520	.6117236	.1588747	.6222565	.4687310	.4391548
#1	1.009953	1.838784	2.407999	1.456649	.2649743	115.8560
#2	1.010056	1.860718	2.400537	1.447924	.2628506	114.8481
#3	1.021969	1.854645	2.405691	1.466051	.2628191	115.4442

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6604730	.1618653	.1882757	116.9752	1.080738	.2724778
Stddev	.0029277	.0013343	.0006573	.7369	.002285	.0008126
%RSD	.4432724	.8243396	.3491164	.6299254	.2114110	.2982214
#1	.6628149	.1633843	.1888920	117.7209	1.079299	.2724646
#2	.6571907	.1608823	.1875839	116.2475	1.079543	.2716719
#3	.6614136	.1613294	.1883511	116.9572	1.083373	.2732969

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4755146	331.7635	.9866885	36.82726	.6443273	.0600854
Stddev	.0018521	2.1676	.0058104	.31996	.0020325	.0000103
%RSD	.3894893	.6533641	.5888814	.8688146	.3154414	.0170597
#1	.4770083	329.6250	.9915814	37.16205	.6461318	.0600788
#2	.4734423	331.7064	.9802664	36.52454	.6421255	.0600801
#3	.4760933	333.9591	.9882178	36.79521	.6447247	.0600972

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.014252	.7350406	.8742443	32.64688	-.104552	.3221198
Stddev	.064101	.0055934	.0018269	.28832	.017956	.0010630
%RSD	1.278374	.7609668	.2089673	.8831435	17.17464	.3299968
#1	4.945075	.7401765	.8761848	32.31861	-.124980	.3220309
#2	5.026041	.7290810	.8739906	32.76295	-.097411	.3211041
#3	5.071640	.7358644	.8725575	32.85907	-.091265	.3232245

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01MSD Acquired: 3/12/2025 16:06:17 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6662771	1.250359	F 16.87143	F 16.69554	F 17.25841	.3577428
Stddev	.0004682	.005179	.13873	.02384	.01994	.0013742
%RSD	.0702755	.4142302	.8222901	.1428222	.1155465	.3841171
#1	.6658624	1.255681	16.72261	16.71039	17.25515	.3573097
#2	.6667848	1.245335	16.89449	16.66804	17.24030	.3566374
#3	.6661840	1.250062	16.99719	16.70819	17.27978	.3592814

Elem	Sr4077
Units	ppm
Avg	.4983627
Stddev	.0018077
%RSD	.3627303
#1	.4996465
#2	.4962954
#3	.4991461

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3672.534	83221.68	17766.15	2383.366	4008.643
Stddev	9.603	319.04	170.45	8.311	6.208
%RSD	.2614822	.3833667	.9593933	.3486960	.1548614
#1	3673.274	83481.24	17578.27	2391.120	4005.094
#2	3681.746	83318.32	17910.87	2384.386	4015.811
#3	3662.583	82865.49	17809.32	2374.593	4005.024

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01A Acquired: 3/12/2025 16:10:16 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	1.025100	1.853707	2.429045	1.484064	.2654483	116.1488
Stddev	.003360	.007553	.004991	.006116	.0018352	.3058
%RSD	.3277902	.4074424	.2054776	.4120790	.6913735	.2632758
#1	1.021222	1.856761	2.425958	1.477558	.2639838	116.0044
#2	1.027155	1.845106	2.426374	1.484939	.2648539	115.9420
#3	1.026923	1.859255	2.434803	1.489695	.2675070	116.5001

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6664012	.1588111	.1894242	117.4941	1.091910	.2747908
Stddev	.0034366	.0007924	.0005416	.3200	.005989	.0015564
%RSD	.5156988	.4989889	.2859276	.2723204	.5484842	.5664081
#1	.6639253	.1597241	.1898468	117.4298	1.088282	.2747246
#2	.6649536	.1584077	.1888137	117.2112	1.088626	.2732685
#3	.6703248	.1583015	.1896122	117.8414	1.098823	.2763792

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4763325	338.6302	.9874171	36.80708	.6487529	.0615124
Stddev	.0003442	2.9262	.0046242	.15409	.0024613	.0006733
%RSD	.0722607	.8641210	.4683106	.4186350	.3793897	1.094496
#1	.4764289	335.6521	.9826608	36.91981	.6477471	.0608342
#2	.4759504	338.7371	.9876938	36.63150	.6469537	.0615223
#3	.4766183	341.5015	.9918967	36.86993	.6515578	.0621806

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.155750	.7365092	.8855216	33.56923	-.091178	.3245713
Stddev	.059258	.0036911	.0017793	.35869	.007849	.0012191
%RSD	1.149365	.5011610	.2009330	1.068513	8.608194	.3755963
#1	5.099999	.7322511	.8861098	33.27877	-.098911	.3254104
#2	5.149267	.7387987	.8835227	33.45876	-.091404	.3231730
#3	5.217983	.7384777	.8869323	33.97017	-.083218	.3251306

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1515-01A Acquired: 3/12/2025 16:10:16 Type: Unk
Method: NON EPA-6010-200.7(v2799) 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	.6728293	1.257539	F 17.46716	F 16.66491	F 17.36253	.3611661
Stddev	.0031796	.004034	.14195	.06628	.09070	.0023278
%RSD	.4725646	.3207682	.8126891	.3977421	.5223838	.6445298
#1	.6708144	1.257235	17.33029	16.70218	17.32822	.3588379
#2	.6711789	1.253665	17.45747	16.58838	17.29399	.3611668
#3	.6764947	1.261716	17.61371	16.70417	17.46538	.3634935

Elem	Sr4077
Units	ppm
Avg	.5010410
Stddev	.0022367
%RSD	.4464158
#1	.4991977
#2	.5003959
#3	.5035294

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3635.859	82489.58	18017.14	2337.463	3975.671
Stddev	2.795	272.07	59.37	9.168	8.245
%RSD	.0768781	.3298220	.3295295	.3922128	.2073904
#1	3632.649	82696.40	17948.81	2343.249	3975.046
#2	3637.754	82590.97	18046.51	2342.247	3984.211
#3	3637.174	82181.38	18056.11	2326.892	3967.756

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV06 Acquired: 3/12/2025 16:25:34 Type: Unk
Method: NON EPA-6010-200.7(v2800) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.185094	5.065579	4.991299	4.961088	5.039754	9.795004	9.100819
Stddev	.019595	.031060	.011982	.016530	.019552	.004577	.112267
%RSD	.3779071	.6131557	.2400597	.3331945	.3879583	.0467249	1.233589
#1	5.185901	5.101430	4.991208	4.959143	5.044310	9.790586	9.230014
#2	5.165108	5.048514	4.979363	4.945618	5.018326	9.799724	9.026982
#3	5.204273	5.046793	5.003326	4.978505	5.056625	9.794701	9.045462

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2387536	2.447534	23.23651	1.050648	2.434288	1.256011	4.774423
Stddev	.0004881	.003748	.04794	.005957	.004442	.003762	.042771
%RSD	.2044432	.1531133	.2063226	.5669995	.1824951	.2995454	.8958308
#1	.2393168	2.448718	23.26723	1.050994	2.435827	1.255350	4.751101
#2	.2384916	2.443337	23.26103	1.056425	2.429280	1.252623	4.823786
#3	.2384524	2.450546	23.18127	1.044525	2.437756	1.260060	4.748383

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.361546	23.73729	2.432843	1.255745	25.68660	2.376205	2.534159
Stddev	.004520	.06843	.005252	.005404	.15135	.003019	.012613
%RSD	.1913818	.2882800	.2158693	.4303304	.5892271	.1270364	.4977230
#1	2.365026	23.69723	2.433155	1.253198	25.56080	2.379669	2.542167
#2	2.363174	23.69834	2.427443	1.261951	25.85456	2.374136	2.540690
#3	2.356438	23.81631	2.437932	1.252085	25.64443	2.374810	2.519619

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.10008	4.697813	5.060667	4.946340	4.602841	5.445803	4.805695
Stddev	.14160	.018867	.009301	.011538	.009801	.039378	.004830
%RSD	.5875371	.4016132	.1837915	.2332576	.2129262	.7230817	.1004962
#1	24.00207	4.718323	5.058917	4.954410	4.609423	5.420410	4.811164
#2	24.26242	4.681197	5.052365	4.933125	4.607523	5.491164	4.803905
#3	24.03574	4.693917	5.070719	4.951486	4.591577	5.425835	4.802015

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV06 Acquired: 3/12/2025 16:25:34 Type: Unk
Method: NON EPA-6010-200.7(v2800) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.737945	4.519914	4.672132
Stddev	.002762	.009902	.032712
%RSD	.0583052	.2190835	.7001620
#1	4.741023	4.518729	4.708863
#2	4.735680	4.530355	4.646137
#3	4.737134	4.510657	4.661396

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3229.278	70942.90	14190.14	2054.693	4363.440
Stddev	3.934	232.15	62.08	12.463	4.367
%RSD	.1218120	.3272328	.4374861	.6065383	.1000793
#1	3230.527	70919.72	14119.18	2045.131	4360.206
#2	3232.435	70723.21	14234.43	2050.160	4368.407
#3	3224.871	71185.77	14216.80	2068.787	4361.706

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB06 Acquired: 3/12/2025 16:30:02 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001246	-.001317	-.000260	-.008839	-.001917	.0021854	-.004898
Stddev	.000835	.000941	.000405	.001106	.000643	.0036796	.000192
%RSD	66.95609	71.45911	156.0924	12.51856	33.55192	168.3692	3.918001
#1	-.001830	-.002215	-.000296	-.007883	-.001861	.0001134	-.005033
#2	-.001619	-.001398	.000163	-.010051	-.001304	.0000091	-.004983
#3	-.000290	-.000338	-.000646	-.008582	-.002586	.0064339	-.004679

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000457	.0000286	.0049381	-.000057	.0000163	-.000067	-.003948
Stddev	.0000380	.0000199	.0033937	.000087	.0000262	.000296	.001740
%RSD	83.05784	69.60528	68.72407	153.9446	160.9108	442.0265	44.06390
#1	.0000428	.0000515	.0082336	.000017	.0000148	-.000296	-.005233
#2	.0000850	.0000193	.0051266	-.000153	.0000433	-.000172	-.004642
#3	.0000093	.0000151	.0014541	-.000034	-.000009	.000267	-.001968

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000597	.0081488	.0001547	.0007313	-.038668	.0009629	-.000044
Stddev	.000364	.0158711	.0001248	.0001201	.001231	.0006969	.000240
%RSD	60.98931	194.7673	80.67617	16.42577	3.184019	72.37007	549.5631
#1	-.001016	.0102134	.0000152	.0007405	-.039623	.0012475	-.000260
#2	-.000352	-.008654	.0002558	.0008465	-.037278	.0014724	-.000085
#3	-.000424	.022887	.0001930	.0006068	-.039102	.0001688	.000214

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.108543	.0039083	.0000901	.0001166	.0010756	-.037974	-.003863
Stddev	.025279	.0003018	.0001550	.0004044	.0005546	.006088	.001321
%RSD	23.28967	7.721029	172.0730	346.8597	51.55684	16.03132	34.19128
#1	-.115357	.0036772	.0000509	-.000239	.0004714	-.030976	-.003436
#2	-.080555	.0042497	-.000042	.000556	.0011940	-.040895	-.002808
#3	-.129716	.0037980	.000261	.000033	.0015614	-.042050	-.005344

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB06 Acquired: 3/12/2025 16:30:02 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.005459	-.003606	.0000279
Stddev	.003822	.000761	.0000476
%RSD	70.01806	21.10659	170.4999
#1	-.008198	-.004287	.0000496
#2	-.007086	-.003746	.0000609
#3	-.001092	-.002785	-.000027

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3353.925	74545.27	15409.94	2129.927	4898.182
Stddev	91.060	382.12	50.55	19.192	138.452
%RSD	2.715037	.5126060	.3280361	.9010518	2.826598
#1	3458.897	74581.29	15399.95	2131.757	5057.103
#2	3306.693	74146.42	15464.74	2109.885	4833.790
#3	3296.184	74908.11	15365.14	2148.137	4803.653

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01MS Acquired: 3/12/2025 16:34:22 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7665508	1.788378	.9001119	1.815059	.7520893	25.23953
Stddev	.0019691	.007741	.0044667	.004072	.0038511	.03198
%RSD	.2568739	.4328574	.4962431	.2243701	.5120532	.1266979
#1	.7681181	1.796659	.8981736	1.818568	.7476978	25.27536
#2	.7643406	1.787155	.8969417	1.810594	.7536792	25.22937
#3	.7671936	1.781322	.9052203	1.816015	.7548909	25.21387

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2493721	.1586648	.1823575	393.5811	.3579384	.4009828
Stddev	.0003445	.0004684	.0001599	1.3106	.0019940	.0002863
%RSD	.1381637	.2951998	.0877001	.3329959	.5570867	.0713914
#1	.2489890	.1585312	.1824224	394.5503	.3598715	.4009223
#2	.2494706	.1591855	.1824747	394.1030	.3558885	.4007316
#3	.2496567	.1582778	.1821753	392.0899	.3580551	.4012945

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5596125	105.9938	10.25588	33.39230	.5204657	.0677931
Stddev	.0002959	.3879	.01616	.04555	.0011703	.0004965
%RSD	.0528838	.3659610	.1576097	.1364037	.2248472	.7324044
#1	.5592719	106.3668	10.27264	33.34893	.5217608	.0682720
#2	.5598059	105.5925	10.24039	33.43975	.5201518	.0678267
#3	.5597599	106.0223	10.25461	33.38821	.5194843	.0672806

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	89.59961	.2483576	1.159903	13.23784	4.016774	.3626249
Stddev	.50791	.0022131	.004753	.09901	.004624	.0001452
%RSD	.5668678	.8910862	.4097397	.7479533	.1151252	.0400495
#1	90.03342	.2458591	1.158778	13.33352	4.015179	.3626741
#2	89.04090	.2491422	1.155813	13.13580	4.021985	.3624615
#3	89.72451	.2500714	1.165116	13.24419	4.013158	.3627392

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01MS Acquired: 3/12/2025 16:34:22 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6659061	.1491635	F 53.33812	5.794642	F 403.5255	.1931453
Stddev	.0018110	.0011096	.18276	.032309	.8346	.0007838
%RSD	.2719542	.7438810	.3426524	.5575652	.2068233	.4058208
#1	.6679972	.1502479	53.52247	5.827075	404.4867	.1933011
#2	.6648743	.1480303	53.15698	5.762458	403.1049	.1922952
#3	.6648468	.1492122	53.33492	5.794393	402.9849	.1938395

Elem	Sr4077
Units	ppm
Avg	1.007470
Stddev	.006009
%RSD	.5964329
#1	1.004908
#2	1.014335
#3	1.003166

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3225.537	73882.69	16038.56	2070.185	3918.006
Stddev	5.549	192.58	2.98	8.166	5.648
%RSD	.1720425	.2606577	.0185994	.3944608	.1441514
#1	3229.257	73744.77	16040.50	2065.006	3918.582
#2	3228.195	74102.71	16040.06	2079.599	3923.344
#3	3219.158	73800.59	16035.13	2065.950	3912.092

Sample Name: Q1540-01MSD Acquired: 3/12/2025 16:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7692723	1.830585	.9114894	1.812843	.7562269	25.06526
Stddev	.0253473	.075975	.0402350	.071653	.0306251	.03884
%RSD	3.294964	4.150310	4.414208	3.952503	4.049723	.1549712
#1	.7710433	1.816712	.9086872	1.811088	.7544223	25.09058
#2	.7430860	1.762502	.8727287	1.742084	.7265439	25.02054
#3	.7936876	1.912540	.9530523	1.885357	.7877143	25.08468

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2575880	.1633773	.1844709	397.1992	.3626867	.4029453
Stddev	.0019319	.0000493	.0089320	2.3217	.0015388	.0174635
%RSD	.7500048	.0301588	4.841971	.5845114	.4242679	4.333964
#1	.2583592	.1633966	.1839726	399.7301	.3626154	.4016717
#2	.2590152	.1633213	.1757985	396.6991	.3642599	.3861535
#3	.2553896	.1634140	.1936417	395.1683	.3611849	.4210108

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5594428	106.6191	10.35255	33.62224	.5268848	.0690516
Stddev	.0221603	.3518	.00379	.06294	.0229688	.0000493
%RSD	3.961140	.3299796	.0366101	.1872045	4.359358	.0714392
#1	.5594843	106.6110	10.35598	33.61922	.5258801	.0690794
#2	.5372617	106.9749	10.35320	33.56086	.5044348	.0690808
#3	.5815823	106.2715	10.34848	33.68663	.5503395	.0689947

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	88.19767	.2545450	1.161723	13.41659	4.051890	.3706237
Stddev	.31086	.0017575	.007066	.02639	.004417	.0140303
%RSD	.3524603	.6904625	.6082415	.1967119	.1090072	3.785597
#1	88.47741	.2528937	1.154447	13.39753	4.056416	.3699939
#2	88.25260	.2563923	1.168559	13.44671	4.047592	.3569189
#3	87.86301	.2543490	1.162164	13.40552	4.051663	.3849583

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1540-01MSD Acquired: 3/12/2025 16:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6785733	.1559697	F 53.16665	5.904917	F 400.1485	.1972069
Stddev	.0305213	.0005946	.02973	.259492	16.6279	.0004663
%RSD	4.497865	.3812108	.0559091	4.394515	4.155423	.2364745
#1	.6769890	.1557948	53.16843	5.881252	399.4038	.1966703
#2	.6488749	.1554822	53.19544	5.658067	383.9055	.1974357
#3	.7098558	.1566321	53.13607	6.175431	417.1362	.1975146

Elem	Sr4077
Units	ppm
Avg	1.028541
Stddev	.003381
%RSD	.3286889
#1	1.026862
#2	1.032432
#3	1.026328

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3277.658	73932.56	15965.55	2107.350	3969.424
Stddev	109.609	251.62	29.99	14.957	149.681
%RSD	3.344141	.3403339	.1878137	.7097588	3.770854
#1	3278.980	73875.52	15944.85	2112.125	3974.464
#2	3386.600	73714.35	15951.87	2090.588	4116.521
#3	3167.393	74207.80	15999.94	2119.336	3817.286

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1516-03 Acquired: 3/12/2025 16:42:52 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001207	-.004092	.0001252	-.009526	-.001405	.0789444
Stddev	.004879	.000993	.0005168	.001370	.001811	.0079726
%RSD	404.1492	24.26296	412.6926	14.38203	128.8904	10.09897
#1	.002562	-.003889	.0003262	-.010198	.000446	.0715776
#2	-.006719	-.003216	-.000462	-.007949	-.001487	.0874090
#3	.000535	-.005170	.000511	-.010429	-.003173	.0778465

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0919127	.0000490	-.000546	67.00027	-.000441	.0067440
Stddev	.0003278	.0000450	.000104	.12686	.000299	.0002152
%RSD	.3566266	91.67333	19.11100	.1893357	67.86498	3.190171
#1	.0915350	.0000968	-.000653	67.11160	-.000199	.0064967
#2	.0921220	.0000426	-.000444	67.02705	-.000348	.0068473
#3	.0920811	.0000076	-.000541	66.86216	-.000775	.0068881

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021204	11.38345	.4071878	21.73327	.0099771	.0004213
Stddev	.0004658	.10504	.0015130	.04304	.0000945	.0003439
%RSD	21.96663	.9227664	.3715771	.1980514	.9471798	81.62057
#1	.0017880	11.44660	.4088814	21.75012	.0100474	.0000864
#2	.0026527	11.26219	.4067127	21.76535	.0100142	.0007736
#3	.0019203	11.44156	.4059694	21.68436	.0098697	.0004040

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	41.58574	.0009284	.0523672	10.67237	.0514175	.0539518
Stddev	.30254	.0011968	.0001798	.11124	.0014347	.0004890
%RSD	.7275119	128.9081	.3433602	1.042303	2.790238	.9064206
#1	41.68552	-.000301	.0522682	10.68732	.0529169	.0536369
#2	41.24591	.000996	.0522586	10.55442	.0512776	.0537034
#3	41.82579	.002090	.0525747	10.77538	.0500579	.0545152

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1516-03 Acquired: 3/12/2025 16:42:52 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001578	.0007218	F 21.59732	.0095274	F 30.54931	.0034432
Stddev	.000533	.0004827	.17984	.0009877	.13968	.0007895
%RSD	33.74400	66.86931	.8326729	10.36724	.4572172	22.92798
#1	-.001003	.0002087	21.69126	.0083954	30.42050	.0025429
#2	-.001679	.0011667	21.38997	.0099730	30.52966	.0037693
#3	-.002053	.0007900	21.71073	.0102139	30.69777	.0040173

Elem	Sr4077
Units	ppm
Avg	.3421379
Stddev	.0002841
%RSD	.0830277
#1	.3423744
#2	.3418228
#3	.3422165

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3214.275	73294.33	15745.25	2065.401	4525.126
Stddev	4.719	379.81	69.23	9.229	1.957
%RSD	.1468130	.5182030	.4396883	.4468273	.0432392
#1	3208.955	73000.04	15723.97	2055.467	4525.640
#2	3217.957	73723.08	15689.16	2073.708	4526.773
#3	3215.913	73159.87	15822.62	2067.027	4522.963

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1519-01 Acquired: 3/12/2025 16:47:06 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001025	-.008096	-.001286	-.007797	-.004284	32.99321
Stddev	.001292	.001433	.000772	.000968	.001569	.12923
%RSD	126.1409	17.70345	60.05791	12.42090	36.62750	.3916822
#1	-.001722	-.009001	-.001179	-.007954	-.005996	32.95538
#2	-.001818	-.006444	-.000573	-.008678	-.002914	33.13714
#3	.000467	-.008844	-.002106	-.006760	-.003942	32.88713

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004232	-.000046	-.000068	12.10769	.5784449	.0050652
Stddev	.000415	.000024	.000031	.06511	.0140236	.0002125
%RSD	9.796262	53.31321	45.44079	.5377416	2.424366	4.196269
#1	-.004619	-.000064	-.000096	12.10031	.5687106	.0048201
#2	-.004281	-.000018	-.000035	12.17618	.5721051	.0051770
#3	-.003795	-.000054	-.000073	12.04659	.5945189	.0051985

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0274312	.3219764	.0079522	1.678431	.0136520	.0005275
Stddev	.0000769	.0020053	.0001315	.011580	.0002591	.0005569
%RSD	.2802607	.6228090	1.653013	.6899422	1.898022	105.5860
#1	.0275122	.3206088	.0078116	1.686740	.0136474	.0010548
#2	.0273593	.3210420	.0080720	1.683350	.0133952	.0005827
#3	.0274220	.3242783	.0079731	1.665203	.0139133	-.000055

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 2405.100	-.000499	.1206001	261.3576	5.725373	.0321451
Stddev	37.076	.001114	.0038276	4.9658	.027680	.0003198
%RSD	1.541554	223.2095	3.173832	1.900014	.4834558	.9949011
#1	2374.037	-.001784	.1178698	258.0010	5.726225	.0322830
#2	2395.117	.000189	.1189553	259.0099	5.752618	.0323728
#3	2446.145	.000098	.1249752	267.0620	5.697278	.0317795

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1519-01 Acquired: 3/12/2025 16:47:06 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046368	.0006044	.5326801	1.254745	F 1094.573	-.000598
Stddev	.0007766	.0004433	.0151340	.007430	2.319	.000109
%RSD	16.74824	73.35076	2.841111	.5921140	.2118279	18.24611
#1	.0050817	.0007244	.5152182	1.246772	1092.824	-.000538
#2	.0050886	.0001134	.5420025	1.261473	1093.691	-.000724
#3	.0037401	.0009753	.5408196	1.255991	1097.203	-.000532

Elem	Sr4077
Units	ppm
Avg	.0641670
Stddev	.0002845
%RSD	.4432892
#1	.0644047
#2	.0642445
#3	.0638519

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2731.460	59806.59	14609.65	1749.516	3376.648
Stddev	7.448	1180.11	91.06	37.444	6.803
%RSD	.2726901	1.973207	.6233146	2.140268	.2014607
#1	2738.607	60803.95	14613.17	1775.283	3384.139
#2	2723.742	60112.03	14516.88	1766.702	3374.948
#3	2732.030	58503.79	14698.91	1706.564	3370.856

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: LR1 Acquired: 3/12/2025 16:53:30 Type: Unk
Method: NON EPA-6010-200.7(v2801) 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	.0348417	.0682584	.0178592	-.211403	-.018876	2055.830	.0103593
Stddev	.0060309	.0090869	.0025856	.015171	.001148	21.585	.0013115
%RSD	17.30936	13.31251	14.47759	7.176297	6.083431	1.049949	12.66036
#1	.0281139	.0727713	.0189558	-.196971	-.017622	2077.573	.0094708
#2	.0366488	.0742055	.0197158	-.210020	-.019129	2055.511	.0118657
#3	.0397625	.0577985	.0149061	-.227218	-.019876	2034.406	.0097415

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0073368	.0113318	1977.744	.0276521	.0304430	.0405331	990.6531
Stddev	.0000781	.0025909	23.262	.0000717	.0006284	.0018156	8.3194
%RSD	1.064877	22.86428	1.176207	.2594584	2.064200	4.479366	.8397890
#1	.0072862	.0084481	1978.651	.0277206	.0298251	.0384489	999.9947
#2	.0074268	.0120835	2000.539	.0276583	.0304224	.0417719	987.9220
#3	.0072974	.0134637	1954.041	.0275775	.0310814	.0413784	984.0425

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.103111	1640.963	.0027411	-.028119	1927.345	.0157587	.0928913
Stddev	.000427	13.832	.0008908	.001251	21.573	.0008452	.0006245
%RSD	.4141498	.8429310	32.49693	4.447295	1.119289	5.363391	.6722621
#1	-.102635	1646.565	.0026734	-.026855	1952.193	.0159531	.0921713
#2	-.103460	1651.116	.0036637	-.028147	1916.443	.0164898	.0932173
#3	-.103238	1625.209	.0018861	-.029356	1913.399	.0148332	.0932853

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1377.791	^ *****	.0063418	.0080155	-.033814	.1216203	.1343710
Stddev	4.874	-----	.0004206	.0050792	.000610	.0083253	.0050910
%RSD	.3537729	-----	6.632575	63.36685	1.803683	6.845288	3.788758
#1	1380.972	^ -----	.0058927	.0126740	-.033958	.1153995	.1353319
#2	1372.179	^ -----	.0064062	.0087718	-.034340	.1183837	.1288681
#3	1380.221	^ -----	.0067265	.0026006	-.033146	.1310779	.1389131

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: LR1 Acquired: 3/12/2025 16:53:30 Type: Unk
Method: NON EPA-6010-200.7(v2801) 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	-.188521	.0845627	.0116801
Stddev	.011936	.0059409	.0000352
%RSD	6.331372	7.025438	.3010193
#1	-.182447	.0893046	.0116914
#2	-.180843	.0778987	.0116406
#3	-.202272	.0864848	.0117081

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2134.625	48857.16	12327.01	1361.942	2540.008
Stddev	4.363	55.62	74.97	4.920	5.974
%RSD	.2043813	.1138418	.6081605	.3612622	.2351920
#1	2139.656	48797.87	12317.20	1361.382	2545.821
#2	2132.326	48865.42	12257.42	1367.119	2540.318
#3	2131.892	48908.19	12406.39	1357.326	2533.885

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: LR2 Acquired: 3/12/2025 16:58:27 Type: Unk
Method: NON EPA-6010-200.7(v2801) 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	.0056517	-.003712	232.4450	-.002216	-.008304	.1944411	^F *****
Stddev	.0009431	.002345	.7042	.003242	.001506	.0082834	-----
%RSD	16.68696	63.16745	.3029684	146.2985	18.13570	4.260112	-----
#1	.0045734	-.001145	233.2582	-.003102	-.009856	.2024234	^ -----
#2	.0063223	-.004251	232.0330	.001377	-.006849	.1950134	^ -----
#3	.0060595	-.005740	232.0438	-.004924	-.008206	.1858863	^ -----

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002794	-.003405	.2714064	.0010657	.0047118	266.2421	.0150384
Stddev	.000031	.000094	.0065808	.0001240	.0000857	1.1138	.0023887
%RSD	1.115514	2.767952	2.424707	11.63508	1.818611	.4183254	15.88411
#1	-.002829	-.003487	.2774644	.0011039	.0046886	267.4708	.0174189
#2	-.002781	-.003302	.2723502	.0011660	.0048067	265.9568	.0150547
#3	-.002771	-.003425	.2644047	.0009271	.0046401	265.2988	.0126416

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	43.87088	-.102382	45.75656	.0024287	.2721698	-.011148	31.92909
Stddev	.18876	.018987	.12437	.0003297	.0219879	.001068	.27295
%RSD	.4302568	18.54474	.2718046	13.57470	8.078747	9.580616	.8548775
#1	44.08723	-.080954	45.89951	.0020756	.2904724	-.012356	32.09689
#2	43.73979	-.117110	45.67319	.0027285	.2782576	-.010331	32.07624
#3	43.78563	-.109083	45.69697	.0024820	.2477794	-.010755	31.61413

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2344610	.0006364	-.006857	-.005574	-.035571	-.058374	.1669933
Stddev	.0434649	.0003596	.000340	.000287	.000415	.003592	.0009446
%RSD	18.53824	56.50995	4.951258	5.145720	1.167306	6.152769	.5656484
#1	.2691350	.0006616	-.007147	-.005830	-.035167	-.058424	.1659084
#2	.2485483	.0002648	-.006940	-.005264	-.035549	-.054757	.1674386
#3	.1856997	.0009827	-.006484	-.005629	-.035997	-.061940	.1676329

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: LR2 Acquired: 3/12/2025 16:58:27 Type: Unk
Method: NON EPA-6010-200.7(v2801) 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	.0472308	.0001770	.0015068
Stddev	.0021450	.0002311	.0000383
%RSD	4.541522	130.5745	2.541273
#1	.0478021	.0004412	.0014844
#2	.0490323	.0000126	.0015510
#3	.0448580	.0000772	.0014850

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2949.005	74092.20	14755.71	2041.111	4568.434
Stddev	6.301	108.34	40.34	21.429	8.007
%RSD	.2136740	.1462281	.2734180	1.049876	.1752784
#1	2947.442	73973.04	14714.66	2019.275	4559.205
#2	2955.941	74118.75	14757.16	2041.948	4572.546
#3	2943.633	74184.79	14795.31	2062.109	4573.549

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1517-01DLX20 Acquired: 3/12/2025 17:02:46 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	.0332040	.2277400	.0239436	.1310164	.0432022	.2860790
Stddev	.0022887	.0011744	.0010703	.0040483	.0005258	.0057150
%RSD	6.892941	.5156828	4.469943	3.089949	1.217074	1.997715
#1	.0352877	.2278202	.0239466	.1356791	.0431042	.2926603
#2	.0335701	.2288722	.0250124	.1289747	.0427323	.2832085
#3	.0307543	.2265275	.0228718	.1283956	.0437701	.2823682

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0141883	-.002834	-.001244	.4800164	.0051293	-.020560
Stddev	.0004944	.000066	.000055	.0046580	.0003319	.000130
%RSD	3.484736	2.321331	4.459406	.9703909	6.469892	.6313564
#1	.0136982	-.002910	-.001264	.4770118	.0049845	-.020590
#2	.0141797	-.002795	-.001181	.4776552	.0048944	-.020417
#3	.0146870	-.002797	-.001287	.4853822	.0055089	-.020672

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0468783	.0522471	.2554368	.0761565	.0027458	-.001171
Stddev	.0017197	.0021879	.0008170	.0055100	.0003307	.000174
%RSD	3.668420	4.187577	.3198544	7.235126	12.04433	14.89228
#1	.0485586	.0499118	.2550708	.0789404	.0031196	-.001143
#2	.0469546	.0542494	.2548667	.0797190	.0026264	-.001012
#3	.0451218	.0525803	.2563728	.0698099	.0024914	-.001357

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	163.6781	-.042955	.0724109	485.0088	.3686775	F 26.26458
Stddev	.1079	.000602	.0004844	2.0428	.0020855	.09439
%RSD	.0659132	1.401247	.6689058	.4211968	.5656565	.3593784
#1	163.7140	-.043498	.0726491	486.3128	.3701909	26.18754
#2	163.5568	-.043059	.0718536	482.6545	.3695430	26.23634
#3	163.7634	-.042308	.0727301	486.0592	.3662987	26.36987

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1517-01DLX20 Acquired: 3/12/2025 17:02:46 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	.0289413	.0026475	4.272960	1.319757	1.099610	.0054400
Stddev	.0012748	.0004726	.021479	.005873	.002326	.0012663
%RSD	4.404958	17.85219	.5026625	.4449732	.2115482	23.27737
#1	.0275283	.0021637	4.294092	1.314647	1.096924	.0068709
#2	.0300054	.0031082	4.251151	1.318452	1.101006	.0044640
#3	.0292902	.0026707	4.273637	1.326172	1.100899	.0049852

Elem	Sr4077
Units	ppm
Avg	.0068822
Stddev	.0000537
%RSD	.7809675
#1	.0068988
#2	.0068221
#3	.0069257

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2849.613	66790.52	14793.91	1827.677	4168.284
Stddev	4.505	69.10	40.25	1.070	9.726
%RSD	.1580840	.1034596	.2720685	.0585554	.2333218
#1	2845.438	66869.52	14795.73	1826.678	4159.054
#2	2854.387	66741.34	14752.78	1827.546	4178.439
#3	2849.014	66760.70	14833.21	1828.806	4167.358

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02 Acquired: 3/12/2025 17:07:17 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	-.004096	-.008999	.0138440	-.009255	.0007502	.7725525
Stddev	.002088	.001897	.0012077	.003364	.0005539	.0154035
%RSD	50.96405	21.07703	8.723524	36.35024	73.83650	1.993848
#1	-.004890	-.011182	.0152100	-.013036	.0007545	.7821634
#2	-.005671	-.008061	.0134041	-.006592	.0013019	.7547859
#3	-.001728	-.007754	.0129180	-.008137	.0001941	.7807082

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0531662	.0000787	.0000282	206.1591	.0004534	.0049004
Stddev	.0007044	.0000263	.0000211	3.7970	.0001105	.0002503
%RSD	1.324938	33.39123	74.70955	1.841795	24.36263	5.107953
#1	.0536078	.0000505	.0000502	206.4578	.0005655	.0051635
#2	.0523538	.0000831	.0000264	202.2216	.0003446	.0046652
#3	.0535370	.0001025	.0000081	209.7980	.0004502	.0048724

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060495	.2401826	.1098153	15.03285	.0255460	.0004733
Stddev	.0006452	.0018261	.0025352	.30143	.0001039	.0002706
%RSD	10.66584	.7602948	2.308609	2.005146	.4065034	57.18339
#1	.0067404	.2421387	.1096848	15.05259	.0255419	.0004278
#2	.0059456	.2398864	.1073479	14.72203	.0256519	.0007638
#3	.0054625	.2385227	.1124133	15.32392	.0254443	.0002283

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	152.5671	.0010921	.0310806	77.92183	.0646326	.0070332
Stddev	.4596	.0007451	.0002021	.25776	.0012611	.0000298
%RSD	.3012654	68.22644	.6503319	.3307923	1.951104	.4242046
#1	153.0078	.0011346	.0310362	77.81876	.0641860	.0070062
#2	152.6028	.0018149	.0309044	78.21517	.0636556	.0070652
#3	152.0907	.0003266	.0313012	77.73155	.0660562	.0070283

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02 Acquired: 3/12/2025 17:07:17 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	-.004112	-.002419	F 17.46550	.0668389	F 180.6429	-.001455
Stddev	.001427	.000675	.02922	.0031609	.8660	.000260
%RSD	34.69634	27.91432	.1673287	4.729080	.4793906	17.88504
#1	-.005080	-.001946	17.44820	.0632556	181.5664	-.001754
#2	-.002474	-.002118	17.49924	.0692313	179.8490	-.001281
#3	-.004783	-.003192	17.44906	.0680299	180.5133	-.001331

Elem	Sr4077
Units	ppm
Avg	1.234043
Stddev	.013734
%RSD	1.112949
#1	1.248221
#2	1.220801
#3	1.233106

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3004.588	68915.14	14745.96	1931.286	4107.744
Stddev	16.407	168.88	242.18	2.707	16.507
%RSD	.5460659	.2450503	1.642332	.1401570	.4018584
#1	3003.405	69016.62	14714.08	1931.388	4102.823
#2	3021.554	68720.20	15002.50	1928.529	4126.153
#3	2988.804	69008.62	14521.30	1933.940	4094.257

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02DUP Acquired: 3/12/2025 17:11:48 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	-.001987	-.007880	.0255996	-.010112	.0001723	.7880698
Stddev	.000437	.000783	.0005013	.001589	.0006581	.0111928
%RSD	21.98875	9.942525	1.958133	15.71224	381.8322	1.420280
#1	-.002213	-.008762	.0260855	-.009295	.0008005	.7898727
#2	-.001483	-.007265	.0250843	-.009098	-.000512	.7760850
#3	-.002264	-.007613	.0256289	-.011943	.000229	.7982518

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0508934	.0000870	.0000103	201.5095	.0002680	.0051272
Stddev	.0003538	.0000349	.0000738	.1331	.0003009	.0000795
%RSD	.6950932	40.18090	714.5303	.0660735	112.2851	1.549771
#1	.0511878	.0001264	-.000074	201.6131	.0005692	.0050932
#2	.0509914	.0000748	.000044	201.5562	.0002674	.0050704
#3	.0505010	.0000597	.000061	201.3593	-.000033	.0052180

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0081307	.2697252	.1088565	14.72141	.0253980	.0005693
Stddev	.0001982	.0040449	.0007060	.02586	.0004289	.0004708
%RSD	2.437918	1.499619	.6485556	.1756822	1.688805	82.70570
#1	.0080706	.2725546	.1091644	14.73704	.0249721	.0000868
#2	.0083520	.2715286	.1093563	14.69155	.0253922	.0005936
#3	.0079695	.2650923	.1080489	14.73563	.0258299	.0010275

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	153.8983	.0007028	.0369651	77.41175	.0618527	.0067672
Stddev	2.8215	.0005809	.0005987	1.03884	.0005117	.0002261
%RSD	1.833341	82.65001	1.619681	1.341961	.8272420	3.341668
#1	157.0991	.0013062	.0376428	78.58388	.0614901	.0067157
#2	151.7719	.0006551	.0367447	77.04649	.0616302	.0070146
#3	152.8239	.0001473	.0365078	76.60488	.0624380	.0065712

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02DUP Acquired: 3/12/2025 17:11:48 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	-.003732	-.000995	F 17.44725	.0669609	F 180.0311	-.002367
Stddev	.000321	.000508	.22389	.0029311	.5637	.000252
%RSD	8.613417	51.07983	1.283265	4.377381	.3131093	10.65537
#1	-.004100	-.000455	17.70571	.0673007	180.6796	-.002457
#2	-.003509	-.001067	17.32311	.0638747	179.7554	-.002561
#3	-.003587	-.001463	17.31292	.0697074	179.6583	-.002082

Elem	Sr4077
Units	ppm
Avg	1.206126
Stddev	.006654
%RSD	.5517224
#1	1.212635
#2	1.199335
#3	1.206407

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3012.093	68930.77	14946.58	1891.105	4128.457
Stddev	11.377	1087.87	71.76	37.650	9.715
%RSD	.3777140	1.578208	.4800898	1.990893	.2353177
#1	2999.772	67699.48	14892.74	1847.644	4117.357
#2	3022.200	69761.84	15028.05	1913.756	4132.599
#3	3014.308	69331.00	14918.96	1911.915	4135.413

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02LX5 Acquired: 3/12/2025 17:16:20 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	-.001696	-.002362	.0015685	-.007382	-.002597	.2182369
Stddev	.002299	.000961	.0008649	.000944	.001090	.0059492
%RSD	135.5686	40.67831	55.13932	12.79145	41.97516	2.726014
#1	.000955	-.001532	.0009489	-.008443	-.002121	.2153583
#2	-.003146	-.002140	.0025567	-.006634	-.003844	.2250779
#3	-.002896	-.003414	.0012002	-.007070	-.001826	.2142746

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051156	.0000431	.0000450	41.30703	-.000102	.0010780
Stddev	.0003263	.0000410	.0000189	.07588	.000124	.0001625
%RSD	6.378921	95.18033	42.02266	.1836929	121.7518	15.07114
#1	.0048882	.0000882	.0000293	41.38389	-.000219	.0009064
#2	.0049691	.0000333	.0000396	41.23217	-.000116	.0012295
#3	.0054895	.0000079	.0000660	41.30504	.000029	.0010982

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010536	.0504137	.0231672	3.055482	.0051995	.0007473
Stddev	.0004349	.0020151	.0002966	.014445	.0002785	.0004055
%RSD	41.27931	3.997225	1.280482	.4727628	5.356891	54.25869
#1	.0007664	.0509827	.0229600	3.054458	.0052912	.0010970
#2	.0015539	.0481753	.0230346	3.070412	.0054206	.0008419
#3	.0008404	.0520832	.0235070	3.041576	.0048867	.0003029

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.29637	.0009389	.0068572	14.43808	.0108107	.0010541
Stddev	.04555	.0006477	.0002283	.05375	.0004589	.0003230
%RSD	.1609810	68.98749	3.329775	.3722515	4.244768	30.64327
#1	28.30704	.0006437	.0068011	14.49766	.0113282	.0009622
#2	28.24643	.0016816	.0071083	14.39324	.0104533	.0014131
#3	28.33564	.0004914	.0066621	14.42333	.0106506	.0007870

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02LX5 Acquired: 3/12/2025 17:16:20 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	-.001672	.0005183	3.281988	.0108571	F 36.33356	-.000331
Stddev	.000222	.0001326	.010036	.0028903	.13924	.000376
%RSD	13.28401	25.57786	.3057846	26.62170	.3832259	113.6679
#1	-.001508	.0004131	3.278541	.0117186	36.41529	-.000056
#2	-.001584	.0004746	3.274130	.0132187	36.41261	-.000177
#3	-.001925	.0006672	3.293293	.0076339	36.17279	-.000760

Elem	Sr4077
Units	ppm
Avg	.2458767
Stddev	.0004475
%RSD	.1819804
#1	.2462258
#2	.2453723
#3	.2460319

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3255.079	73617.31	15195.16	2097.042	4552.735
Stddev	9.562	159.07	26.95	12.497	8.582
%RSD	.2937426	.2160800	.1773284	.5959498	.1885032
#1	3248.833	73466.94	15183.64	2082.678	4545.339
#2	3250.318	73783.85	15225.95	2105.420	4550.721
#3	3266.087	73601.13	15175.89	2103.028	4562.145

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV07 Acquired: 3/12/2025 17:25:10 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	5.302138	5.091625	5.031287	5.119870	5.201972	9.920441
Stddev	.025914	.044996	.017896	.025709	.026120	.024974
%RSD	.4887459	.8837186	.3556974	.5021464	.5021204	.2517391
#1	5.282647	5.050879	5.012841	5.109293	5.191784	9.900856
#2	5.292222	5.084082	5.032440	5.101137	5.182481	9.911903
#3	5.331546	5.139916	5.048578	5.149181	5.231651	9.948564

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.239139	.2344770	2.456161	23.12395	1.049261	2.460305
Stddev	.119174	.0012779	.012917	.03728	.002324	.010569
%RSD	1.289886	.5450091	.5259019	.1612282	.2215159	.4295780
#1	9.221870	.2359172	2.442381	23.11430	1.046894	2.449381
#2	9.129541	.2334788	2.458109	23.09244	1.051541	2.461055
#3	9.366005	.2340350	2.467993	23.16511	1.049347	2.470479

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.279323	4.871902	2.250377	23.35141	2.449320	1.272539
Stddev	.007077	.042594	.011805	.08815	.011935	.002155
%RSD	.5531476	.8742691	.5245955	.3775004	.4872619	.1693083
#1	1.276479	4.830346	2.241842	23.45067	2.436618	1.271393
#2	1.274111	4.869898	2.245441	23.28225	2.451041	1.275024
#3	1.287379	4.915463	2.263850	23.32130	2.460300	1.271200

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.87252	2.394673	2.560148	25.10157	4.658252	5.171266
Stddev	.30562	.008257	.012937	.24710	.026814	.024214
%RSD	1.137288	.3447880	.5053412	.9843872	.5756259	.4682428
#1	26.54595	2.388738	2.548105	24.83540	4.688952	5.154209
#2	26.91997	2.391178	2.558516	25.14566	4.646380	5.160607
#3	27.15164	2.404102	2.573825	25.32365	4.639423	5.198981

Sample Name: CCV07 Acquired: 3/12/2025 17:25:10 Type: Unk
Method: NON EPA-6010-200.7(v2802) 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	4.982556	4.669991	F 5.540037	4.793143	4.807314	4.648240
Stddev	.022317	.017580	.065524	.021385	.016237	.024677
%RSD	.4478958	.3764387	1.182745	.4461623	.3377606	.5308953
#1	4.959295	4.656123	5.465030	4.786137	4.795995	4.624582
#2	4.984582	4.664087	5.568938	4.776140	4.800028	4.646313
#3	5.003790	4.689763	5.586141	4.817153	4.825918	4.673824

Elem	Sr4077
Units	ppm
Avg	4.676951
Stddev	.046091
%RSD	.9854836
#1	4.625126
#2	4.692377
#3	4.713349

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3211.739	72248.85	14762.36	2057.010	4371.059
Stddev	8.327	295.26	40.19	15.084	15.283
%RSD	.2592627	.4086669	.2722719	.7332790	.3496427
#1	3216.786	72585.24	14719.24	2072.610	4388.113
#2	3216.304	72128.66	14798.78	2055.919	4366.458
#3	3202.128	72032.64	14769.05	2042.502	4358.604

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB07 Acquired: 3/12/2025 17:30:50 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014389	-.000388	-.000052	-.008095	-.000208	.0006701	-.004898
Stddev	.0006145	.001060	.000677	.001853	.000541	.0020363	.000876
%RSD	42.70735	273.0484	1307.501	22.89354	260.1360	303.8807	17.88143
#1	.0021302	.000779	.000636	-.008093	-.000640	-.000215	-.005757
#2	.0012320	-.000653	-.000717	-.009949	.000399	-.000774	-.004006
#3	.0009545	-.001292	-.000074	-.006242	-.000382	.002999	-.004931

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000299	.0000193	-.003438	.0000067	.0001339	.0004113	-.004937
Stddev	.0000335	.0000862	.002437	.0003579	.0002599	.0001984	.001052
%RSD	111.8929	446.3999	70.89321	5366.088	194.1980	48.24788	21.31341
#1	-.000005	.0000316	-.006252	.0003592	.0000756	.0002513	-.003860
#2	.000061	-.000072	-.002020	-.000356	-.000092	.0006333	-.004989
#3	.000034	.000099	-.002041	.000017	.000418	.0003493	-.005963

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000566	.0031537	.0001611	.0007288	.0569828	.0001559	-.000041
Stddev	.000130	.0124910	.0002212	.0004390	.0035539	.0006909	.000124
%RSD	22.91600	396.0766	137.2940	60.23937	6.236849	443.1895	301.9435
#1	-.000446	.0139113	.0003859	.0002421	.0566020	.0001069	-.000183
#2	-.000548	-.010546	-.000056	.0008494	.0536346	-.000509	.000021
#3	-.000704	.006095	.000153	.0010948	.0607118	.000870	.000039

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.042318	.0024348	.0001331	-.000035	.0012287	-.041340	-.003426
Stddev	.013573	.0006194	.0002068	.000558	.0004449	.003905	.001124
%RSD	32.07278	25.43765	155.3997	1602.707	36.20558	9.447267	32.80060
#1	-.056717	.0031349	-.000036	-.000400	.0009697	-.045849	-.004715
#2	-.029759	.0019583	.000072	-.000312	.0017424	-.039113	-.002912
#3	-.040479	.0022112	.000364	.000607	.0009740	-.039057	-.002652

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB07 Acquired: 3/12/2025 17:30:50 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0013307	-.003399	-.000005
Stddev	.0024783	.001303	.000032
%RSD	186.2429	38.34492	645.5728
#1	.0041725	-.004717	-.000037
#2	.0002020	-.002110	.000027
#3	-.000382	-.003371	-.000004

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3376.738	74286.38	15141.67	2138.973	4939.036
Stddev	6.679	131.44	69.41	8.477	8.824
%RSD	.1977974	.1769355	.4584155	.3963220	.1786653
#1	3380.335	74207.24	15070.73	2129.668	4949.179
#2	3369.032	74213.79	15209.44	2146.257	4934.804
#3	3380.848	74438.10	15144.86	2140.993	4933.125

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02MS Acquired: 3/12/2025 17:35:08 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8352482	1.800482	.9148921	1.955647	.8429033	2.694518
Stddev	.0022987	.010514	.0074611	.015923	.0062950	.028622
%RSD	.2752106	.5839452	.8155145	.8142235	.7468186	1.062239
#1	.8376202	1.804272	.9207200	1.971259	.8491020	2.721500
#2	.8350939	1.808575	.9174732	1.956250	.8430916	2.697557
#3	.8330305	1.788598	.9064832	1.939430	.8365163	2.664498

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2245187	.1900459	.1874361	205.2978	.4142318	.1966746
Stddev	.0014317	.0008790	.0014216	.8245	.0012074	.0013111
%RSD	.6376648	.4624964	.7584566	.4016308	.2914767	.6666266
#1	.2258912	.1890587	.1886025	206.0299	.4146126	.1977610
#2	.2230344	.1907435	.1878531	205.4587	.4152028	.1970444
#3	.2246306	.1903355	.1858526	204.4046	.4128799	.1952183

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2972594	3.018604	.3196065	16.99909	.5012864	.0607276
Stddev	.0024151	.024923	.0008503	.03822	.0042978	.0003176
%RSD	.8124663	.8256339	.2660401	.2248552	.8573621	.5229307
#1	.2999127	3.042664	.3205329	16.95685	.5054341	.0609499
#2	.2966760	2.992900	.3194250	17.03128	.5015725	.0603639
#3	.2951893	3.020248	.3188617	17.00914	.4968527	.0608691

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	145.6115	.2856026	.2384419	83.49582	.3231507	.4986404
Stddev	1.4164	.0035592	.0014942	.95004	.0019265	.0034444
%RSD	.9727545	1.246223	.6266532	1.137830	.5961742	.6907649
#1	147.1645	.2891025	.2394528	84.56447	.3209988	.5015328
#2	144.3906	.2857184	.2367256	83.17612	.3247149	.4995585
#3	145.2795	.2819868	.2391473	82.74687	.3237385	.4948300

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02MS Acquired: 3/12/2025 17:35:08 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6721097	.1814503	F 17.30345	5.904244	F 175.8411	.1889766
Stddev	.0050126	.0005145	.14489	.052553	1.1803	.0027849
%RSD	.7458015	.2835655	.8373192	.8900833	.6712446	1.473676
#1	.6771281	.1820429	17.47052	5.946688	176.9668	.1915896
#2	.6720982	.1811903	17.22751	5.920581	175.9435	.1892933
#3	.6671029	.1811176	17.21233	5.845464	174.6128	.1860469

Elem	Sr4077
Units	ppm
Avg	1.393253
Stddev	.015283
%RSD	1.096934
#1	1.405579
#2	1.398028
#3	1.376153

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3094.870	69280.62	14020.94	1994.310	4206.195
Stddev	30.029	115.52	64.94	5.427	38.951
%RSD	.9702989	.1667429	.4631892	.2721417	.9260503
#1	3063.280	69409.05	14092.57	1993.456	4167.593
#2	3098.283	69247.65	13965.91	2000.114	4205.503
#3	3123.048	69185.18	14004.32	1989.360	4245.487

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02MSD Acquired: 3/12/2025 17:39:25 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8473684	1.802383	.9086939	1.975559	.8452488	2.693854
Stddev	.0043367	.019540	.0049456	.007869	.0016805	.007095
%RSD	.5117827	1.084101	.5442526	.3983350	.1988161	.2633778
#1	.8471404	1.795335	.9098089	1.978917	.8459632	2.689171
#2	.8431502	1.787345	.9032860	1.966567	.8433292	2.702017
#3	.8518145	1.824469	.9129868	1.981191	.8464542	2.690375

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2294588	.1751053	.1866834	202.0551	.4097381	.1965549
Stddev	.0015115	.0014673	.0006660	1.4526	.0038182	.0010961
%RSD	.6587331	.8379513	.3567532	.7189373	.9318521	.5576422
#1	.2312020	.1765578	.1867762	203.3309	.4102780	.1969900
#2	.2286628	.1736236	.1859758	200.4741	.4132576	.1953081
#3	.2285116	.1751346	.1872981	202.3603	.4056788	.1973666

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2979931	3.148171	.3153343	16.37372	.4990547	.0600746
Stddev	.0010625	.027945	.0018861	.09463	.0027725	.0010786
%RSD	.3565429	.8876534	.5981365	.5779657	.5555403	1.795444
#1	.2983116	3.146995	.3168333	16.38784	.5004838	.0604748
#2	.2968078	3.176685	.3132165	16.27282	.4958593	.0608958
#3	.2988599	3.120832	.3159531	16.46051	.5008210	.0588530

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	155.1810	.2829187	.2390474	90.07053	.2988130	.4937903
Stddev	.3437	.0007124	.0013357	.86243	.0034610	.0017018
%RSD	.2214537	.2517905	.5587597	.9574997	1.158238	.3446363
#1	155.3699	.2823042	.2398066	89.83661	.3022845	.4934555
#2	155.3887	.2836995	.2398306	91.02578	.2953627	.4922808
#3	154.7843	.2827525	.2375052	89.34919	.2987916	.4956346

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02MSD Acquired: 3/12/2025 17:39:25 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6726376	.1817207	F 18.19957	5.932313	F 176.5778	.1958293
Stddev	.0031122	.0012803	.17149	.031039	.7615	.0006359
%RSD	.4626825	.7045503	.9422688	.5232157	.4312671	.3246988
#1	.6726748	.1828434	18.15807	5.939711	176.6491	.1959070
#2	.6695070	.1803264	18.38801	5.898243	175.7831	.1951581
#3	.6757311	.1819923	18.05265	5.958983	177.3011	.1964227

Elem	Sr4077
Units	ppm
Avg	1.409894
Stddev	.016505
%RSD	1.170650
#1	1.425147
#2	1.392372
#3	1.412163

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3087.997	70808.82	15361.52	1986.120	4206.188
Stddev	4.851	354.85	112.29	11.620	8.595
%RSD	.1570986	.5011332	.7309682	.5850477	.2043306
#1	3090.098	71023.90	15316.63	1998.957	4208.585
#2	3091.444	70399.25	15489.30	1976.321	4213.329
#3	3082.450	71003.30	15278.61	1983.084	4196.649

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02A Acquired: 3/12/2025 17:43:41 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8648029	1.833291	.9220352	2.035886	.8717830	2.739461
Stddev	.0024358	.007019	.0065444	.004547	.0023116	.017096
%RSD	.2816552	.3828851	.7097753	.2233292	.2651622	.6240699
#1	.8659767	1.828850	.9172998	2.035614	.8691138	2.742912
#2	.8620025	1.841383	.9193028	2.031481	.8731336	2.754568
#3	.8664295	1.829639	.9295030	2.040562	.8731016	2.720903

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2334882	.1743336	.1892653	205.4996	.4234674	.1989446
Stddev	.0005260	.0001653	.0006786	.6447	.0054410	.0012777
%RSD	.2252834	.0948201	.3585479	.3137199	1.284864	.6422407
#1	.2337610	.1742960	.1891716	206.0068	.4214773	.1983862
#2	.2338217	.1741903	.1886384	205.7179	.4193016	.1980411
#3	.2328818	.1745145	.1899859	204.7741	.4296232	.2004064

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3030778	3.302252	.3190485	16.63338	.5047627	.0559938
Stddev	.0007931	.007517	.0006685	.06354	.0022328	.0006554
%RSD	.2617001	.2276324	.2095449	.3819966	.4423479	1.170562
#1	.3021620	3.296445	.3198171	16.70233	.5036262	.0555864
#2	.3035227	3.299568	.3186018	16.62060	.5033268	.0556450
#3	.3035486	3.310742	.3187266	16.57720	.5073351	.0567499

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	159.5987	.2869622	.2463236	94.48532	.2953542	.5062396
Stddev	2.5867	.0018878	.0030082	.81975	.0001121	.0011631
%RSD	1.620739	.6578410	1.221224	.8675907	.0379462	.2297447
#1	156.9665	.2891275	.2442618	94.10034	.2953772	.5054893
#2	159.6922	.2856624	.2449337	93.92892	.2954529	.5056501
#3	162.1374	.2860967	.2497754	95.42669	.2952324	.5075794

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1522-02A Acquired: 3/12/2025 17:43:41 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6838697	.1839447	F 19.11204	5.957680	F 178.3749	.1965571
Stddev	.0027800	.0008083	.20296	.012261	.4691	.0003621
%RSD	.4065057	.4394139	1.061945	.2057999	.2629852	.1842132
#1	.6827313	.1841495	19.04288	5.961367	178.2191	.1966735
#2	.6818396	.1846309	18.95271	5.943998	178.0035	.1968467
#3	.6870382	.1830537	19.34055	5.967674	178.9020	.1961511

Elem	Sr4077
Units	ppm
Avg	1.443006
Stddev	.021791
%RSD	1.510082
#1	1.418929
#2	1.461374
#3	1.448714

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3022.595	68812.89	15439.60	1910.555	4137.434
Stddev	14.911	513.43	83.86	9.999	23.315
%RSD	.4933104	.7461251	.5431585	.5233768	.5635249
#1	3029.467	68750.56	15358.76	1909.008	4148.679
#2	3032.831	69354.64	15433.84	1921.238	4152.995
#3	3005.488	68333.47	15526.19	1901.419	4110.627

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07 Acquired: 3/12/2025 17:47:58 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046669	-.008392	.0019072	-.007016	.0003658	4.007354
Stddev	.0043474	.000995	.0006987	.001524	.0001774	.006743
%RSD	93.15395	11.86097	36.63483	21.71492	48.50872	.1682610
#1	.0024141	-.008893	.0024012	-.008772	.0002617	4.002120
#2	.0019083	-.009037	.0011078	-.006037	.0005706	4.004979
#3	.0096783	-.007246	.0022124	-.006240	.0002649	4.014963

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2230118	.0001283	-.000208	140.6733	.0298300	.0073815
Stddev	.0009422	.0000269	.000097	.2389	.0002949	.0001228
%RSD	.4225045	20.97609	46.45424	.1698303	.9886460	1.663048
#1	.2219882	.0000983	-.000257	140.4319	.0296738	.0075231
#2	.2238430	.0001360	-.000097	140.9096	.0296460	.0073148
#3	.2232040	.0001504	-.000272	140.6785	.0301701	.0073065

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042665	7.634929	.4478216	8.392013	.0145591	.0007353
Stddev	.0003031	.040283	.0014339	.010645	.0001369	.0001025
%RSD	7.104467	.5276118	.3201940	.1268447	.9402487	13.94076
#1	.0044663	7.589673	.4465734	8.384319	.0145594	.0006223
#2	.0044156	7.648248	.4493878	8.387558	.0146958	.0008224
#3	.0039178	7.666865	.4475034	8.404161	.0144220	.0007614

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	147.2809	.1005256	.0278281	18.92269	.0503189	.1390831
Stddev	1.0530	.0013468	.0003927	.12120	.0010034	.0003596
%RSD	.7149865	1.339801	1.411331	.6404869	1.994167	.2585288
#1	146.3209	.0989893	.0274596	18.80294	.0505299	.1387215
#2	148.4072	.1015033	.0277835	19.04528	.0492267	.1390871
#3	147.1147	.1010842	.0282413	18.91986	.0512000	.1394406

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07 Acquired: 3/12/2025 17:47:58 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002402	.1995015	F 42.61734	.1208358	F 41.79106	-.012145
Stddev	.000713	.0010865	.16487	.0025473	.06740	.000820
%RSD	29.68615	.5446007	.3868659	2.108046	.1612719	6.755242
#1	-.002154	.1984570	42.42851	.1183770	41.86659	-.011241
#2	-.001847	.2006256	42.73274	.1234632	41.76954	-.012352
#3	-.003207	.1994221	42.69078	.1206673	41.73706	-.012843

Elem	Sr4077
Units	ppm
Avg	.5111396
Stddev	.0014620
%RSD	.2860176
#1	.5095801
#2	.5124790
#3	.5113599

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3063.448	70727.08	15364.75	1956.610	4207.308
Stddev	4.119	161.07	23.05	11.797	1.260
%RSD	.1344602	.2277387	.1500169	.6029429	.0299368
#1	3065.366	70884.25	15347.94	1962.750	4207.676
#2	3058.720	70734.60	15391.03	1964.070	4205.905
#3	3066.259	70562.37	15355.29	1943.009	4208.343

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07DUP Acquired: 3/12/2025 17:52:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044017	-.008233	.0011342	-.007126	-.000045	3.935496
Stddev	.0014273	.001486	.0012310	.001312	.002030	.003977
%RSD	32.42692	18.04970	108.5339	18.41706	4543.892	.1010497
#1	.0059028	-.008359	.0008447	-.007036	-.002057	3.931220
#2	.0042405	-.009652	.0024842	-.008482	-.000079	3.939084
#3	.0030618	-.006688	.0000738	-.005862	.002002	3.936185

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2311322	.0001109	-.000271	142.9751	.0291775	.0071118
Stddev	.0008982	.0000732	.000084	.7319	.0002967	.0001005
%RSD	.3886015	65.97699	30.78988	.5118816	1.016956	1.412537
#1	.2308844	.0001347	-.000181	142.7483	.0288484	.0070093
#2	.2303839	.0001692	-.000287	142.3834	.0292592	.0072101
#3	.2321282	.0000288	-.000346	143.7935	.0294247	.0071161

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042033	7.885876	.4534545	8.510186	.0144087	.0005044
Stddev	.0003726	.006927	.0029939	.065301	.0003125	.0003214
%RSD	8.865527	.0878395	.6602503	.7673300	2.168708	63.72827
#1	.0040042	7.892395	.4529585	8.465926	.0145014	.0001649
#2	.0039726	7.886629	.4507395	8.479448	.0140603	.0008040
#3	.0046333	7.878603	.4566654	8.585184	.0146643	.0005443

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	143.8188	.1010868	.0274854	19.37645	.0507528	.1363883
Stddev	1.2621	.0007558	.0001485	.07193	.0003490	.0006985
%RSD	.8775822	.7476713	.5402742	.3712372	.6875402	.5121297
#1	142.5885	.1016524	.0275872	19.41618	.0508412	.1358020
#2	145.1105	.1013796	.0273150	19.41976	.0503681	.1362018
#3	143.7572	.1002284	.0275539	19.29341	.0510490	.1371611

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07DUP Acquired: 3/12/2025 17:52:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003009	.2013015	F 43.08741	.1230705	F 41.53975	-.012526
Stddev	.000462	.0006993	.11224	.0003502	.20148	.000346
%RSD	15.34808	.3474129	.2604914	.2845372	.4850226	2.765353
#1	-.003500	.2012165	43.15012	.1230747	41.48723	-.012824
#2	-.002584	.2006485	43.15428	.1227183	41.36973	-.012146
#3	-.002942	.2020395	42.95783	.1234186	41.76228	-.012608

Elem	Sr4077
Units	ppm
Avg	.5164078
Stddev	.0007501
%RSD	.1452577
#1	.5163176
#2	.5157068
#3	.5171989

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3124.274	70238.95	15448.54	2006.296	4244.656
Stddev	13.992	149.94	92.00	13.443	22.666
%RSD	.4478547	.2134702	.5955502	.6700331	.5340007
#1	3129.599	70106.45	15459.97	2001.102	4252.548
#2	3134.822	70401.71	15534.29	2021.561	4262.321
#3	3108.401	70208.68	15351.35	1996.225	4219.098

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07LX5 Acquired: 3/12/2025 17:56:41 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015638	-.004377	-.000086	-.008856	-.001421	.8401960	.0413079
Stddev	.0017508	.001429	.001320	.002729	.000820	.0025345	.0008138
%RSD	111.9595	32.65029	1537.572	30.81134	57.70071	.3016511	1.970153
#1	.0017056	-.005566	-.000900	-.006475	-.002346	.8372919	.0422014
#2	.0032393	-.004773	.001438	-.008259	-.000784	.8413350	.0411131
#3	-.000254	-.002792	-.000795	-.011833	-.001132	.8419612	.0406091

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000477	-.000028	29.16610	.0060464	.0015946	.0009270	1.521583
Stddev	.0000302	.000022	.03917	.0001405	.0001260	.0001859	.002064
%RSD	63.28583	79.93933	.1343052	2.324181	7.903253	20.05975	.1356176
#1	.0000810	-.000048	29.15475	.0058938	.0015019	.0010811	1.519847
#2	.0000221	-.000004	29.20970	.0061706	.0017381	.0009794	1.521037
#3	.0000400	-.000032	29.13386	.0060748	.0015439	.0007204	1.523864

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0936829	1.789707	.0029320	.0002624	25.82947	.0208040	.0053365
Stddev	.0002220	.007917	.0002256	.0002220	.06456	.0004918	.0000666
%RSD	.2369681	.4423878	7.693576	84.63441	.2499306	2.363755	1.247621
#1	.0939356	1.782255	.0030442	.0000362	25.75592	.0211834	.0054120
#2	.0935937	1.788845	.0030795	.0002708	25.85573	.0202485	.0053109
#3	.0935193	1.798020	.0026723	.0004800	25.87675	.0209802	.0052865

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.345290	.0069010	.0269168	-.001742	.0426094	8.048492	.0204384
Stddev	.032113	.0004263	.0003104	.000451	.0005032	.008921	.0031288
%RSD	.9599325	6.177383	1.153352	25.91391	1.180964	.1108426	15.30846
#1	3.310129	.0073817	.0272478	-.002255	.0424599	8.049238	.0206258
#2	3.373069	.0065689	.0266320	-.001565	.0421979	8.057016	.0172201
#3	3.352671	.0067524	.0268707	-.001405	.0431704	8.039221	.0234693

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07LX5 Acquired: 3/12/2025 17:56:41 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	8.232184	-.002869	.1014471
Stddev	.009895	.000911	.0002407
%RSD	.1202033	31.76394	.2372596
#1	8.239809	-.003296	.1012746
#2	8.235741	-.003488	.1017221
#3	8.221002	-.001822	.1013446

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3325.407	74746.65	14865.93	2164.438	4662.595
Stddev	7.707	26.59	18.37	5.758	9.782
%RSD	.2317612	.0355674	.1235697	.2660452	.2098059
#1	3316.524	74776.99	14886.49	2170.397	4652.979
#2	3330.319	74727.42	14851.13	2164.014	4662.270
#3	3329.377	74735.54	14860.16	2158.904	4672.536

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07MS Acquired: 3/12/2025 18:00:56 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8293938	1.854866	.9215305	1.897958	.7961082	6.180856
Stddev	.0065502	.010997	.0045098	.021202	.0072126	.024974
%RSD	.7897513	.5928945	.4893831	1.117090	.9059828	.4040508
#1	.8243256	1.846389	.9163432	1.876500	.7880218	6.152242
#2	.8270659	1.850917	.9237276	1.898480	.7984256	6.192061
#3	.8367900	1.867293	.9245207	1.918895	.8018774	6.198265

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4041097	.1783909	.1890758	144.3514	.4498779	.1998719
Stddev	.0014216	.0009109	.0012369	.5142	.0006415	.0010135
%RSD	.3517797	.5106101	.6541741	.3562005	.1425933	.5070624
#1	.4025088	.1776125	.1876798	143.8301	.4491976	.1987276
#2	.4052245	.1781676	.1895124	144.3659	.4504718	.2002318
#3	.4045957	.1793927	.1900351	144.8582	.4499644	.2006563

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2984724	10.86331	.6238060	10.43293	.4904689	.0265761
Stddev	.0011813	.04593	.0015264	.02617	.0029450	.0002320
%RSD	.3957650	.4227741	.2446830	.2507956	.6004491	.8729962
#1	.2971333	10.82284	.6220913	10.40771	.4871237	.0266602
#2	.2989174	10.85388	.6243106	10.43114	.4916121	.0263138
#3	.2993665	10.91323	.6250163	10.45995	.4926709	.0267543

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	141.7380	.3813436	.2328832	29.25886	.2865256	.5561798
Stddev	.6720	.0028200	.0008345	.06541	.0013660	.0034252
%RSD	.4741048	.7394842	.3583322	.2235441	.4767429	.6158448
#1	141.6740	.3784170	.2319227	29.29068	.2857378	.5524033
#2	141.1002	.3815706	.2332964	29.30227	.2857361	.5570502
#3	142.4396	.3840433	.2334304	29.18363	.2881029	.5590858

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07MS Acquired: 3/12/2025 18:00:56 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6663879	.3822791	F 43.96503	5.878565	F 41.42712	.1743833
Stddev	.0038606	.0014221	.09121	.027550	.22640	.0002438
%RSD	.5793313	.3720099	.2074678	.4686487	.5464988	.1398182
#1	.6619789	.3807519	44.00493	5.849632	41.19403	.1741328
#2	.6680227	.3825199	44.02949	5.881581	41.44118	.1746199
#3	.6691621	.3835654	43.86066	5.904483	41.64617	.1743971

Elem	Sr4077
Units	ppm
Avg	.6929802
Stddev	.0030581
%RSD	.4413017
#1	.6894538
#2	.6945826
#3	.6949042

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3099.483	69660.30	14983.52	1999.290	4188.237
Stddev	22.331	160.06	32.04	2.606	27.460
%RSD	.7204807	.2297664	.2138546	.1303308	.6556522
#1	3124.266	69485.98	15016.11	1996.289	4219.326
#2	3093.261	69694.29	14982.40	2000.985	4178.091
#3	3080.923	69800.63	14952.06	2000.595	4167.293

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07MSD Acquired: 3/12/2025 18:05:05 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8448668	1.892550	.9336789	1.935151	.8069028	6.270687
Stddev	.0025322	.002457	.0030755	.009184	.0057579	.024754
%RSD	.2997147	.1298355	.3293996	.4745867	.7135805	.3947653
#1	.8450103	1.891254	.9301347	1.928154	.8037905	6.299251
#2	.8422659	1.891012	.9352566	1.931748	.8033707	6.255489
#3	.8473242	1.895384	.9356454	1.945551	.8135470	6.257320

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3871476	.1910450	.1919522	143.7568	.4583060	.2019939
Stddev	.0014294	.0018334	.0004300	.4762	.0011461	.0007758
%RSD	.3692195	.9596887	.2240311	.3312765	.2500648	.3840704
#1	.3879095	.1931458	.1914703	144.3048	.4576944	.2017120
#2	.3854987	.1902219	.1920894	143.4427	.4575953	.2013985
#3	.3880347	.1897675	.1922968	143.5231	.4596281	.2028712

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3024065	10.23664	.6237565	10.55212	.4962916	.0262457
Stddev	.0010874	.06076	.0014365	.08707	.0017488	.0001320
%RSD	.3595752	.5935312	.2302990	.8251740	.3523758	.5030259
#1	.3013506	10.17790	.6253921	10.65222	.4942772	.0263832
#2	.3023460	10.23280	.6226995	10.51021	.4974206	.0261199
#3	.3035228	10.29923	.6231780	10.49393	.4971771	.0262340

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	137.2828	.3831100	.2345066	27.00138	.3039906	.5617487
Stddev	1.2907	.0031983	.0016923	.16634	.0021627	.0023507
%RSD	.9401706	.8348313	.7216323	.6160563	.7114479	.4184580
#1	137.8778	.3866309	.2359881	26.82534	.3057494	.5597715
#2	135.8019	.3823149	.2348693	27.02285	.3046466	.5611267
#3	138.1686	.3803843	.2326624	27.15594	.3015758	.5643478

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07MSD Acquired: 3/12/2025 18:05:05 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6788452	.3783114	F 41.69319	5.954220	F 42.08252	.1714242
Stddev	.0009572	.0013078	.13794	.010933	.07776	.0012616
%RSD	.1410014	.3456980	.3308406	.1836243	.1847712	.7359343
#1	.6780839	.3795087	41.54080	5.942773	42.06482	.1703697
#2	.6785319	.3785098	41.72925	5.955332	42.01513	.1710811
#3	.6799197	.3769157	41.80951	5.964554	42.16760	.1728218

Elem	Sr4077
Units	ppm
Avg	.6769045
Stddev	.0015661
%RSD	.2313631
#1	.6782005
#2	.6751643
#3	.6773488

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3057.250	68923.94	13861.72	1961.039	4132.484
Stddev	6.030	80.95	101.78	5.427	4.559
%RSD	.1972367	.1174416	.7342868	.2767494	.1103279
#1	3060.666	68989.47	13744.22	1959.486	4136.458
#2	3060.798	68948.91	13918.13	1956.558	4133.487
#3	3050.288	68833.46	13922.81	1967.074	4127.506

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07A Acquired: 3/12/2025 18:09:13 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8505415	1.866291	.9369753	1.950925	.8117179	6.275777
Stddev	.0054238	.013034	.0027743	.003440	.0008189	.021358
%RSD	.6376829	.6983953	.2960930	.1763241	.1008799	.3403233
#1	.8478790	1.879358	.9344511	1.949371	.8112580	6.299277
#2	.8469636	1.853290	.9399456	1.954867	.8112324	6.270506
#3	.8567820	1.866224	.9365292	1.948536	.8126633	6.257549

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4091847	.1824814	.1923477	148.1408	.4548568	.2033506
Stddev	.0010236	.0008290	.0003941	.4594	.0005228	.0006046
%RSD	.2501618	.4542933	.2049075	.3101311	.1149343	.2972947
#1	.4103654	.1830490	.1926453	148.6466	.4551418	.2037917
#2	.4086422	.1828651	.1924972	148.0262	.4542534	.2026615
#3	.4085464	.1815301	.1919007	147.7495	.4551752	.2035988

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3027913	11.01638	.6437430	10.72186	.4985557	.0268263
Stddev	.0003563	.01305	.0030334	.00611	.0008300	.0001956
%RSD	.1176663	.1184210	.4712077	.0570288	.1664722	.7290361
#1	.3025104	11.02577	.6470417	10.71802	.4991667	.0270450
#2	.3026715	11.02189	.6431134	10.71866	.4976108	.0267660
#3	.3031921	11.00149	.6410738	10.72891	.4988895	.0266681

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	145.4865	.3884143	.2366642	29.44428	.2946790	.5661074
Stddev	1.5893	.0010930	.0010185	.10859	.0019422	.0011520
%RSD	1.092390	.2814127	.4303342	.3687905	.6590972	.2034959
#1	146.2458	.3882944	.2372721	29.56136	.2938831	.5660715
#2	146.5537	.3873861	.2372322	29.34688	.2968928	.5649738
#3	143.6600	.3895623	.2354884	29.42460	.2932612	.5672769

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-07A Acquired: 3/12/2025 18:09:13 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6796953	.3886719	F 44.58541	5.934827	F 43.08722	.1736129
Stddev	.0025340	.0015615	.10556	.002411	.06747	.0012814
%RSD	.3728195	.4017546	.2367550	.0406219	.1565976	.7380546
#1	.6795963	.3902687	44.66373	5.936102	43.15024	.1750884
#2	.6822774	.3885988	44.46537	5.936333	43.01604	.1727799
#3	.6772123	.3871482	44.62713	5.932047	43.09539	.1729703

Elem	Sr4077
Units	ppm
Avg	.7050348
Stddev	.0032273
%RSD	.4577575
#1	.7085520
#2	.7043427
#3	.7022096

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3073.655	69070.93	14698.66	1972.702	4145.990
Stddev	6.104	100.40	60.17	7.018	4.471
%RSD	.1985885	.1453632	.4093524	.3557775	.1078275
#1	3072.920	68955.93	14645.22	1965.024	4144.255
#2	3080.093	69141.20	14686.93	1978.787	4151.069
#3	3067.952	69115.65	14763.83	1974.295	4142.648

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-01 Acquired: 3/12/2025 18:13:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001155	-.005836	-.000313	-.005872	-.000405	1.046506
Stddev	.000765	.000293	.000681	.004127	.000573	.005264
%RSD	66.24875	5.019409	217.4740	70.27662	141.5826	.5030340
#1	-.001628	-.005641	-.001097	-.001182	-.000390	1.049666
#2	-.000272	-.006173	.000033	-.008948	-.000985	1.049423
#3	-.001565	-.005695	.000125	-.007486	.000161	1.040429

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5611396	-.000009	-.000264	88.86820	.0083438	.0204004
Stddev	.0010919	.000044	.000074	.25887	.0001001	.0001625
%RSD	.1945941	466.8877	28.10807	.2912997	1.199841	.7966840
#1	.5610951	-.000028	-.000201	88.76358	.0084333	.0205752
#2	.5622531	-.000041	-.000346	89.16301	.0083625	.0203719
#3	.5600706	.000041	-.000245	88.67801	.0082357	.0202539

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020435	5.029868	1.180547	19.41223	.0216432	.0005401
Stddev	.0000420	.016610	.006492	.06441	.0001308	.0000930
%RSD	2.056825	.3302340	.5499079	.3317968	.6042803	17.21713
#1	.0019988	5.030780	1.176648	19.37116	.0216489	.0006438
#2	.0020823	5.012820	1.188041	19.48647	.0215096	.0005125
#3	.0020495	5.046003	1.176952	19.37907	.0217710	.0004640

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	151.6565	.0274450	.0334254	18.29771	.0275052	.0528735
Stddev	1.3451	.0002627	.0005699	.06685	.0004009	.0002456
%RSD	.8869423	.9571154	1.704882	.3653259	1.457631	.4645399
#1	152.9870	.0277379	.0340779	18.32242	.0271739	.0530900
#2	150.2973	.0273666	.0331732	18.22202	.0273908	.0526066
#3	151.6853	.0272304	.0330252	18.34868	.0279509	.0529239

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-01 Acquired: 3/12/2025 18:13:20 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002253	.0417331	F 18.11317	.0601844	F 26.32740	-.001255
Stddev	.000526	.0005208	.06524	.0068696	.04960	.000926
%RSD	23.33241	1.248002	.3601944	11.41425	.1883799	73.76138
#1	-.002792	.0420002	18.12217	.0678394	26.36910	-.001156
#2	-.002224	.0420663	18.04390	.0581575	26.34055	-.002226
#3	-.001742	.0411330	18.17345	.0545563	26.27256	-.000383

Elem	Sr4077
Units	ppm
Avg	.6356049
Stddev	.0022498
%RSD	.3539592
#1	.6358722
#2	.6377092
#3	.6332335

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3166.930	69761.48	14714.07	2026.544	4295.971
Stddev	11.552	359.78	33.36	.819	14.697
%RSD	.3647777	.5157271	.2267282	.0403917	.3421116
#1	3153.770	69619.44	14692.12	2025.844	4279.471
#2	3175.396	70170.60	14697.62	2027.444	4307.657
#3	3171.625	69494.41	14752.46	2026.343	4300.786

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV08 Acquired: 3/12/2025 18:23:18 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.239061	5.154259	5.057576	5.014197	5.082330	9.932642	9.125380
Stddev	.019757	.036285	.005176	.012033	.019162	.026307	.050874
%RSD	.3771183	.7039808	.1023455	.2399690	.3770373	.2648535	.5575006
#1	5.222610	5.116936	5.052826	5.004521	5.067991	9.918874	9.167378
#2	5.233599	5.156431	5.063093	5.010399	5.074905	9.916076	9.068810
#3	5.260975	5.189409	5.056811	5.027670	5.104093	9.962975	9.139953

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2460623	2.486138	23.62190	1.068051	2.470241	1.268465	4.814449
Stddev	.0015108	.004054	.05225	.001745	.003703	.004395	.022834
%RSD	.6139917	.1630614	.2211746	.1633985	.1499078	.3464681	.4742725
#1	.2477709	2.482215	23.67919	1.066097	2.467333	1.264925	4.794962
#2	.2455133	2.485889	23.57688	1.069456	2.468981	1.267086	4.808811
#3	.2449028	2.490311	23.60964	1.068600	2.474410	1.273384	4.839573

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.274509	24.28213	2.468310	1.279181	25.57773	2.417780	2.583611
Stddev	.001470	.10785	.005844	.003017	.22798	.004390	.011638
%RSD	.0646306	.4441679	.2367696	.2358476	.8913407	.1815705	.4504433
#1	2.275517	24.40048	2.461678	1.282651	25.33504	2.412920	2.593983
#2	2.272822	24.18939	2.470547	1.277183	25.61076	2.418961	2.571025
#3	2.275189	24.25650	2.472706	1.277708	25.78741	2.421459	2.585824

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.16098	4.826301	5.120673	4.999442	4.667627	5.423079	4.887245
Stddev	.15836	.027400	.018449	.003515	.002630	.042321	.014743
%RSD	.6554352	.5677323	.3602802	.0703064	.0563432	.7803943	.3016663
#1	23.98174	4.857936	5.105310	4.997811	4.665552	5.374370	4.874784
#2	24.21924	4.810019	5.115573	5.003476	4.666744	5.444007	4.883432
#3	24.28195	4.810948	5.141135	4.997038	4.670585	5.450858	4.903521

Sample Name: CCV08 Acquired: 3/12/2025 18:23:18 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.807993	4.554858	4.647960
Stddev	.017818	.011079	.025608
%RSD	.3705841	.2432434	.5509505
#1	4.788417	4.542094	4.651300
#2	4.812298	4.560484	4.671735
#3	4.823263	4.561995	4.620847

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3252.636	70947.59	14014.66	2050.703	4385.651
Stddev	6.573	52.28	51.32	6.877	6.994
%RSD	.2020672	.0736827	.3661743	.3353679	.1594734
#1	3259.843	70975.74	13955.56	2046.341	4393.193
#2	3251.094	70979.76	14040.52	2058.631	4379.380
#3	3246.973	70887.27	14047.91	2047.137	4384.381

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB08 Acquired: 3/12/2025 18:27:30 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028828	-.001106	-.001045	-.006579	.0001406	.0062618	-.006644
Stddev	.0016437	.002210	.001040	.002306	.0004231	.0019985	.000116
%RSD	57.01667	199.7139	99.50565	35.04871	300.9707	31.91510	1.750938
#1	.0047707	.001296	-.002121	-.005162	-.000116	.0080714	-.006511
#2	.0021080	-.001562	-.000046	-.009240	-.000092	.0041169	-.006701
#3	.0017698	-.003052	-.000967	-.005336	.000629	.0065971	-.006722

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000447	.0000360	-.000868	-.000040	.0001289	.0002135	-.003685
Stddev	.0000255	.0000146	.004330	.000023	.0001035	.0000771	.003655
%RSD	57.05682	40.54189	499.0501	57.73847	80.23704	36.13156	99.18458
#1	.0000153	.0000523	.002480	-.000036	.0001914	.0001442	-.003493
#2	.0000579	.0000317	.000674	-.000065	.0001859	.0001997	-.007431
#3	.0000608	.0000241	-.005757	-.000019	.0000095	.0002966	-.000129

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000550	.0004349	-.000300	.0009802	.0494872	.0003878	-.000176
Stddev	.000273	.0186387	.000010	.0002167	.0143882	.0005108	.000304
%RSD	49.65227	4285.693	3.405965	22.10760	29.07459	131.7111	173.2670
#1	-.000864	-.020950	-.000295	.0007804	.0366545	.0007400	-.000008
#2	-.000413	.009028	-.000294	.0012106	.0467651	-.000198	.000008
#3	-.000372	.013227	-.000312	.0009497	.0650421	.000622	-.000527

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002761	.0021696	.0001631	-.000453	.0020583	-.045506	-.002047
Stddev	.022310	.0006986	.0001714	.000510	.0005916	.007300	.000922
%RSD	808.1006	32.19774	105.0762	112.5518	28.74117	16.04186	45.03153
#1	-.021865	.0015326	.0003198	-.000991	.0013794	-.049902	-.002681
#2	-.008176	.0020595	-.000020	-.000390	.0023323	-.049536	-.000990
#3	.021759	.0029167	.000190	.000022	.0024632	-.037079	-.002470

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB08 Acquired: 3/12/2025 18:27:30 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0033197	-.003644	.0000354
Stddev	.0037279	.000402	.0000101
%RSD	112.2961	11.01913	28.48961
#1	-.000870	-.003465	.0000271
#2	.004558	-.003363	.0000466
#3	.006271	-.004104	.0000325

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3374.979	75040.42	14687.98	2155.184	4925.436
Stddev	2.778	146.88	19.51	8.115	6.373
%RSD	.0823061	.1957390	.1328080	.3765220	.1293941
#1	3376.720	75206.38	14665.50	2163.912	4930.899
#2	3376.441	74927.17	14700.37	2147.868	4926.975
#3	3371.775	74987.70	14698.08	2153.772	4918.434

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-03 Acquired: 3/12/2025 18:31:51 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000855	-.003775	.0023890	.0019947	.0011746	3.259086
Stddev	.001663	.003416	.0011377	.0024370	.0012735	.009080
%RSD	194.4756	90.48729	47.62259	122.1726	108.4156	.2785924
#1	.000159	-.007580	.0017945	.0028029	-.000043	3.252918
#2	.000050	-.002774	.0016717	-.000744	.002498	3.254828
#3	-.002774	-.000972	.0037008	.003925	.001069	3.269512

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5892954	.0002382	-.000292	379.4585	.0417418	.0187114
Stddev	.0017549	.0000472	.000046	2.5469	.0007629	.0002825
%RSD	.2977911	19.80590	15.86727	.6711812	1.827538	1.509923
#1	.5877164	.0002884	-.000259	380.6701	.0413400	.0186425
#2	.5889851	.0002317	-.000345	376.5321	.0426216	.0190219
#3	.5911847	.0001947	-.000272	381.1734	.0412639	.0184696

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057029	7.628803	.8885585	13.47149	.0317653	.0004898
Stddev	.0005447	.054008	.0031280	.02476	.0001516	.0002238
%RSD	9.551827	.7079547	.3520284	.1838148	.4770976	45.69965
#1	.0051029	7.570642	.8886090	13.47964	.0319154	.0003774
#2	.0061664	7.638392	.8854056	13.44369	.0316123	.0003444
#3	.0058393	7.677374	.8916609	13.49116	.0317681	.0007476

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	172.1198	.0083067	.1793298	75.48020	.0152842	.6768496
Stddev	.5842	.0009778	.0018016	.62255	.0008812	.0014884
%RSD	.3394382	11.77153	1.004640	.8247811	5.765585	.2198991
#1	171.4683	.0080363	.1813012	74.76566	.0162994	.6775364
#2	172.5973	.0074925	.1789196	75.76937	.0147169	.6751419
#3	172.2937	.0093913	.1777687	75.90558	.0148361	.6778706

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-03 Acquired: 3/12/2025 18:31:51 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003340	.1418083	F 28.57917	.1824397	F 152.8318	-.039990
Stddev	.000563	.0009662	.13503	.0040472	.6077	.000883
%RSD	16.86865	.6813650	.4724659	2.218388	.3976121	2.207601
#1	-.003459	.1407880	28.42429	.1869461	153.5232	-.040992
#2	-.002727	.1427094	28.67212	.1791146	152.3826	-.039326
#3	-.003835	.1419273	28.64111	.1812583	152.5895	-.039652

Elem	Sr4077
Units	ppm
Avg	1.491034
Stddev	.010820
%RSD	.7256475
#1	1.478547
#2	1.497613
#3	1.496943

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2959.373	67754.30	14700.62	1890.023	3981.791
Stddev	1.262	169.47	53.37	.287	9.245
%RSD	.0426569	.2501176	.3630780	.0152049	.2321789
#1	2958.425	67925.96	14640.37	1890.251	3971.188
#2	2960.806	67587.12	14719.51	1889.700	3986.021
#3	2958.887	67749.81	14741.98	1890.118	3988.164

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-05 Acquired: 3/12/2025 18:36:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011359	-.004921	-.000384	-.011085	-.001525	3.195269
Stddev	.0013464	.000789	.000661	.001879	.001228	.008757
%RSD	118.5271	16.02213	171.8672	16.95238	80.54043	.2740594
#1	-.000336	-.005065	-.001135	-.013254	-.000703	3.191104
#2	.002306	-.004071	.000110	-.010052	-.000935	3.205331
#3	.001438	-.005628	-.000129	-.009948	-.002937	3.189372

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4435891	.0001141	-.000323	44.88011	.0153037	.0172718
Stddev	.0026361	.0000126	.000052	.18978	.0000253	.0002523
%RSD	.5942663	11.01928	16.16603	.4228558	.1650986	1.461043
#1	.4465649	.0001239	-.000359	44.95210	.0153299	.0174990
#2	.4415466	.0000999	-.000263	44.66487	.0152795	.0170002
#3	.4426557	.0001184	-.000348	45.02335	.0153016	.0173161

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0084044	8.190877	1.182630	19.68283	.0214374	.0002505
Stddev	.0003547	.082227	.005735	.07210	.0002847	.0001066
%RSD	4.220628	1.003882	.4849701	.3662924	1.328159	42.53611
#1	.0081557	8.285024	1.188238	19.72703	.0213048	.0003564
#2	.0082468	8.133150	1.176775	19.59963	.0212432	.0002519
#3	.0088106	8.154457	1.182878	19.72181	.0217642	.0001433

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	83.12884	.0139597	.0640280	16.37600	.0187945	.0036526
Stddev	.38115	.0009833	.0003684	.10185	.0002193	.0002247
%RSD	.4585109	7.043966	.5754415	.6219586	1.166907	6.151957
#1	83.38302	.0135608	.0637676	16.48634	.0190475	.0036853
#2	83.31292	.0132385	.0638667	16.28558	.0186579	.0034133
#3	82.69059	.0150798	.0644495	16.35607	.0186782	.0038592

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1478-05 Acquired: 3/12/2025 18:36:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002443	.2004282	F 35.47318	.1208386	F 11.77105	.0174565
Stddev	.001182	.0016693	.16281	.0008663	.03402	.0009730
%RSD	48.37731	.8328726	.4589569	.7169350	.2889905	5.573607
#1	-.003724	.2013728	35.64633	.1214764	11.74331	.0185741
#2	-.001395	.1985008	35.45001	.1198523	11.76083	.0169976
#3	-.002209	.2014109	35.32320	.1211873	11.80900	.0167979

Elem	Sr4077
Units	ppm
Avg	.4393736
Stddev	.0023129
%RSD	.5264137
#1	.4417210
#2	.4370968
#3	.4393031

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3239.343	71964.71	14548.10	2072.992	4464.791
Stddev	4.403	209.82	21.32	3.589	6.892
%RSD	.1359118	.2915537	.1465743	.1731308	.1543585
#1	3238.612	71887.36	14565.92	2077.127	4469.100
#2	3244.065	71804.55	14553.90	2070.682	4468.431
#3	3235.351	72202.22	14524.47	2071.167	4456.842

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1477-01 Acquired: 3/12/2025 18:40:41 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000761	-.004616	.0020107	-.008940	.0005395	.0313499	-.004207
Stddev	.003467	.000963	.0002344	.001393	.0012855	.0061790	.000878
%RSD	455.3477	20.86318	11.65927	15.58445	238.2868	19.70969	20.87035
#1	.001996	-.003524	.0021970	-.008505	-.000563	.0358297	-.005153
#2	-.004653	-.004979	.0020877	-.007816	.000230	.0243008	-.004049
#3	.000374	-.005344	.0017475	-.010499	.001951	.0339192	-.003418

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000098	.0000059	4.296009	.0000551	.0075717	.0083564	.4956831
Stddev	.000039	.0000751	.014318	.0003698	.0001588	.0003292	.0013167
%RSD	39.74737	1276.909	.3332880	670.7907	2.097242	3.939655	.2656342
#1	-.000068	-.000018	4.279490	-.000144	.0076889	.0079830	.4960975
#2	-.000083	.000090	4.304850	-.000172	.0073910	.0086049	.4967428
#3	-.000142	-.000054	4.303687	.000482	.0076353	.0084812	.4942091

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1279567	2.089471	.0095149	.0004284	13.49506	.0003670	.0189431
Stddev	.0011178	.005225	.0002412	.0002712	.08926	.0007757	.0003861
%RSD	.8735891	.2500840	2.535418	63.31121	.6614357	211.3477	2.038049
#1	.1266660	2.090348	.0092386	.0007373	13.39278	.0010087	.0193607
#2	.1286084	2.094202	.0096837	.0003182	13.55726	-.000495	.0185992
#3	.1285958	2.083862	.0096223	.0002296	13.53513	.000587	.0188694

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8402467	.0018366	.0003062	-.000258	.0016035	5.656805	.0035523
Stddev	.0202610	.0001920	.0002031	.000727	.0001280	.031941	.0012780
%RSD	2.411311	10.45269	66.30756	282.0022	7.984029	.5646438	35.97626
#1	.8473686	.0016355	.0001874	-.000270	.0016298	5.621214	.0021426
#2	.8559851	.0018564	.0005407	.000475	.0014644	5.682978	.0046349
#3	.8173864	.0020179	.0001906	-.000978	.0017164	5.666223	.0038795

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1477-01 Acquired: 3/12/2025 18:40:41 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.9674444	-.006840	.0272111
Stddev	.0035177	.000176	.0001880
%RSD	.3636044	2.568081	.6907555
#1	.9644694	-.006829	.0270088
#2	.9713269	-.007022	.0272439
#3	.9665369	-.006671	.0273804

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3422.466	76132.55	14668.72	2189.522	4987.186
Stddev	4.783	142.47	13.41	9.802	8.841
%RSD	.1397584	.1871395	.0914489	.4476939	.1772786
#1	3416.945	76277.69	14669.94	2192.730	4976.979
#2	3425.116	76127.07	14681.48	2197.319	4992.458
#3	3425.338	75992.90	14654.74	2178.518	4992.121

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1477-04 Acquired: 3/12/2025 18:44:59 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002521	-.004016	-.000523	-.006381	-.000835	.0270457	-.004503
Stddev	.001476	.000890	.000216	.001530	.001426	.0046860	.000377
%RSD	58.55181	22.17108	41.25663	23.97684	170.8310	17.32623	8.377924
#1	-.001315	-.005001	-.000313	-.007032	-.001174	.0221443	-.004410
#2	-.004167	-.003778	-.000512	-.007478	-.002061	.0275113	-.004918
#3	-.002081	-.003269	-.000744	-.004633	.000730	.0314815	-.004180

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000062	-.000013	4.366599	-.000006	.0081952	.0021219	.0643949
Stddev	.000016	.000041	.020941	.000054	.0000277	.0002198	.0020389
%RSD	26.18010	318.5332	.4795730	866.9171	.3381451	10.35761	3.166239
#1	-.000076	-.000009	4.388854	-.000034	.0081675	.0021133	.0621487
#2	-.000044	-.000056	4.363662	.000056	.0082229	.0023459	.0649070
#3	-.000066	.000026	4.347282	-.000040	.0081952	.0019066	.0661289

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138515	2.125924	.0098043	.0005199	12.83595	.0009972	.0136836
Stddev	.0001728	.007125	.0003870	.0003253	.02801	.0006711	.0003300
%RSD	1.247274	.3351536	3.946698	62.57364	.2182503	67.29574	2.411590
#1	.0136522	2.133254	.0099717	.0001810	12.83439	.0015405	.0133221
#2	.0139595	2.119023	.0100794	.0008297	12.80874	.0012041	.0139686
#3	.0139426	2.125496	.0093618	.0005490	12.86471	.0002470	.0137603

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7221880	.0012707	.0000624	-.000157	.0015322	5.748480	.0039151
Stddev	.0164769	.0005150	.0001001	.000674	.0004595	.006338	.0007805
%RSD	2.281527	40.52652	160.4379	429.4969	29.99098	.1102605	19.93622
#1	.7316817	.0011715	.0001758	-.000922	.0018892	5.746164	.0030140
#2	.7317203	.0008126	-.000014	.000103	.0010137	5.743625	.0043515
#3	.7031621	.0018281	.000025	.000349	.0016937	5.755650	.0043798

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: Q1477-04 Acquired: 3/12/2025 18:44:59 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.5339079	-.007291	.0279202
Stddev	.0089225	.001162	.0002454
%RSD	1.671166	15.94324	.8788013
#1	.5253127	-.006049	.0282033
#2	.5332861	-.008352	.0277678
#3	.5431251	-.007471	.0277897

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3392.880	76076.18	14785.42	2176.456	4932.322
Stddev	12.909	189.02	52.28	11.407	13.152
%RSD	.3804848	.2484673	.3535952	.5241134	.2666531
#1	3402.131	75999.02	14726.73	2166.025	4941.402
#2	3398.377	76291.58	14802.53	2188.637	4938.325
#3	3378.132	75937.94	14827.00	2174.706	4917.240

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV09 Acquired: 3/12/2025 18:49:17 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV09 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.285937	5.096076	5.062605	5.064291	5.128807	9.863717
Stddev	.014745	.042702	.008776	.016425	.016419	.013143
%RSD	.2789433	.8379399	.1733510	.3243235	.3201284	.1332481
#1	5.269013	5.058359	5.056588	5.047807	5.110500	9.851435
#2	5.296011	5.142440	5.058552	5.080656	5.142228	9.877578
#3	5.292787	5.087428	5.072675	5.064409	5.133693	9.862137

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.216085	.2354996	2.495207	23.63797	1.054316	2.482656
Stddev	.110895	.0007926	.006391	.02778	.002983	.005344
%RSD	1.203273	.3365557	.2561201	.1175119	.2829508	.2152687
#1	9.124698	.2345885	2.488487	23.61088	1.057034	2.477075
#2	9.184100	.2358802	2.495928	23.63663	1.054791	2.483167
#3	9.339457	.2360302	2.501207	23.66639	1.051124	2.487727

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.278754	4.959795	2.266593	24.08874	2.484315	1.272056
Stddev	.003454	.009483	.005720	.00772	.006019	.002707
%RSD	.2700840	.1911889	.2523571	.0320414	.2422623	.2128081
#1	1.274792	4.961583	2.264935	24.08119	2.477766	1.274787
#2	1.280335	4.968257	2.261885	24.09661	2.485575	1.272006
#3	1.281133	4.949546	2.272959	24.08842	2.489604	1.269373

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.29389	2.418684	2.563314	25.36744	4.609509	5.141204
Stddev	.06517	.005894	.007214	.10952	.018060	.015532
%RSD	.2478556	.2436951	.2814158	.4317536	.3918025	.3021070
#1	26.35648	2.423668	2.567991	25.49054	4.597740	5.123790
#2	26.22642	2.412178	2.566944	25.28078	4.600485	5.153626
#3	26.29877	2.420207	2.555007	25.33099	4.630303	5.146195

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCV09 Acquired: 3/12/2025 18:49:17 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV09 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.989546	4.692116	F 5.565752	4.898327	4.862927	4.606030
Stddev	.013101	.003367	.010312	.018762	.007887	.005661
%RSD	.2625738	.0717597	.1852674	.3830213	.1621838	.1228979
#1	4.975564	4.688700	5.553895	4.878736	4.853921	4.600762
#2	4.991535	4.692214	5.570740	4.916132	4.866257	4.605314
#3	5.001539	4.695432	5.572621	4.900112	4.868603	4.612015

Elem	Sr4077
Units	ppm
Avg	4.711992
Stddev	.021324
%RSD	.4525444
#1	4.688826
#2	4.730801
#3	4.716350

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3238.469	71747.98	14755.97	2067.100	4374.454
Stddev	4.383	231.77	15.48	11.407	6.998
%RSD	.1353290	.3230323	.1049095	.5518498	.1599722
#1	3243.129	71557.27	14771.82	2057.461	4377.486
#2	3237.848	71680.74	14740.88	2064.146	4379.425
#3	3234.430	72005.94	14755.23	2079.694	4366.452

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB09 Acquired: 3/12/2025 18:53:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB09 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010605	-.001631	-.000023	-.007805	-.001745	.0014504	-.005530
Stddev	.0031566	.000240	.000442	.000768	.000757	.0009557	.000107
%RSD	297.6611	14.68546	1884.710	9.840936	43.38588	65.89232	1.927780
#1	-.001046	-.001380	.000266	-.006924	-.002212	.0005700	-.005612
#2	-.000462	-.001656	-.000532	-.008154	-.000871	.0024668	-.005409
#3	.004690	-.001858	.000196	-.008336	-.002151	.0013144	-.005568

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000334	.0000482	-.000469	-.000401	.0001438	.0002409	-.000452
Stddev	.0000708	.0000072	.003217	.000373	.0000971	.0001834	.002779
%RSD	211.8863	14.99153	686.2066	93.00892	67.54075	76.15456	614.9289
#1	.0000650	.0000453	.000714	-.000211	.0001735	.0004055	-.002815
#2	-.000048	.0000564	-.004110	-.000830	.0002227	.0002740	-.001151
#3	.000083	.0000428	.001990	-.000161	.0000353	.0000431	.002609

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000908	.0153942	-.000315	.0004844	.0405518	.0003459	-.000566
Stddev	.000193	.0122148	.000134	.0001021	.0077054	.0008497	.000095
%RSD	21.20404	79.34700	42.69948	21.08058	19.00144	245.6362	16.71944
#1	-.001119	.0202668	-.000444	.0003784	.0322436	-.000569	-.000655
#2	-.000741	.0014951	-.000176	.0005821	.0419484	.001111	-.000466
#3	-.000866	.0244207	-.000325	.0004926	.0474634	.000495	-.000577

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.046447	-.000419	.0000588	-.000286	.0015831	-.046538	-.002782
Stddev	.024686	.000354	.0001584	.000334	.0005059	.001935	.001824
%RSD	53.14939	84.43399	269.4633	116.6230	31.95601	4.157585	65.54651
#1	-.074653	-.000501	-.000123	-.000669	.0014067	-.048187	-.002581
#2	-.035908	-.000032	.000168	-.000056	.0021536	-.044408	-.004698
#3	-.028779	-.000725	.000132	-.000133	.0011891	-.047019	-.001068

Reviewed By:jaswal
On:3/14/2025 1:32:25 PM
Inst Id :P4
LB :LB135011

Sample Name: CCB09 Acquired: 3/12/2025 18:53:27 Type: Unk
Method: NON EPA-6010-200.7(v2770) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB09 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0002751	-.003505	.0000058
Stddev	.0017059	.001317	.0001118
%RSD	620.1289	37.57010	1914.929
#1	-.000158	-.001990	.0001100
#2	-.001173	-.004151	-.000112
#3	.002156	-.004375	.000020

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3417.941	77142.42	15170.25	2197.411	5004.396
Stddev	2.709	29.36	50.07	7.273	.371
%RSD	.0792585	.0380611	.3300471	.3309619	.0074217
#1	3419.992	77126.78	15166.05	2205.687	5004.771
#2	3418.961	77124.19	15222.29	2192.040	5004.028
#3	3414.871	77176.29	15122.42	2194.505	5004.389

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB167099

SOP ID : M3010A-Digestion-17

SDG No : N/A

Matrix : WATER

Pippete ID: ICP A

Balance ID : N/A

Filter paper ID : N/A

pH Strip ID : M6069

Hood ID : #3

Block ID: 1. HOT BLOCK #1 2. N/A

Start Digest Date: 03/12/2025 **Time :** 12:05 **Temp :** 96 °C

End Digest Date: 03/12/2025 **Time :** 14:10 **Temp :** 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: SKD.

Supervisor Signature:

Temp : 1. 96°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6003
LFS-2	0.25	M6011
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6158
1:1 HCL	5.00	MP84720
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK # 1 CELL 50 Temp :96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/12/25 15:10	SKD. met_dig	
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB167099

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB167099BL	PBW099	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	1
PB167099BS	LCS099	<2	50	50	Colorless	Colorless	Clear	Clear	M6003,M6011	2
Q1540-01MS	OU4-CF-15R-031025MS	<2	50	50	Colorless	Colorless	Clear	Clear	M6003,M6011	5
Q1540-01MSD	OU4-CF-15R-031025MSD	<2	50	50	Colorless	Colorless	Clear	Clear	M6003,M6011	6
Q1540-01DUP	OU4-CF-15R-031025DUP	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	4
Q1540-01	OU4-CF-15R-031025	<2	50	50	Colorless	Colorless	Clear	Clear	N/A	3

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SPLP EXTRACTION LOGPAGE

PB167088

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Pr Pos
PB167088TB	LEB088	12	N/A	2000	N/A	N/A	N/A	4.24	1.0	T-
Q1540-01	OU4-CF-15R-031025	11	100.03	2000	N/A	N/A	N/A	5.5	1.5	T-

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

Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB135011

Review By	kareem	Review On	3/13/2025 10:36:08 AM
Supervise By	jaswal	Supervise On	3/14/2025 1:32:25 PM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84846
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	03/12/25 10:27		Kareem	OK
2	S1	S1	CAL2	03/12/25 10:31		Kareem	OK
3	S2	S2	CAL3	03/12/25 10:35		Kareem	OK
4	S3	S3	CAL4	03/12/25 10:39		Kareem	OK
5	S4	S4	CAL5	03/12/25 10:44		Kareem	OK
6	S5	S5	CAL6	03/12/25 10:48		Kareem	OK
7	ICV01	ICV01	ICV	03/12/25 10:52	ICV As,Be,Tl,Zn (200.7)	Kareem	OK
8	LLICV01	LLICV01	LLICV	03/12/25 10:56		Kareem	OK
9	ICB01	ICB01	ICB	03/12/25 11:01		Kareem	OK
10	CRI01	CRI01	CRDL	03/12/25 11:05		Kareem	OK
11	ICSA01	ICSA01	ICSA	03/12/25 11:09		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	03/12/25 11:14		Kareem	OK
13	ICSADL	ICSADL	ICSA	03/12/25 11:21		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	03/12/25 11:25		Kareem	OK
15	CCV01	CCV01	CCV	03/12/25 11:29		Kareem	OK
16	CCB01	CCB01	CCB	03/12/25 11:34		Kareem	OK
17	PB167037BL	PB167037BL	MB	03/12/25 11:38		Kareem	OK
18	PB167037BS	PB167037BS	LCS	03/12/25 11:42	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK

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LCS Standard	
Chk Standard	MP84649,MP84650

19	PB166981BL	PB166981BL	MB	03/12/25 11:46		Kareem	OK
20	PB166981BS	PB166981BS	LCS	03/12/25 11:51	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
21	PB167038BL	PB167038BL	MB	03/12/25 11:55		Kareem	OK
22	PB167038BS	PB167038BS	LCS	03/12/25 11:59	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
23	PB167024BL	PB167024BL	MB	03/12/25 12:03		Kareem	OK
24	PB167024BS	PB167024BS	LCS	03/12/25 12:07	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
25	PB167100BL	PB167100BL	MB	03/12/25 12:11		Kareem	OK
26	PB167100BS	PB167100BS	LCS	03/12/25 12:16	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
27	CCV02	CCV02	CCV	03/12/25 12:20		Kareem	OK
28	CCB02	CCB02	CCB	03/12/25 12:24		Kareem	OK
29	PB166977BL	PB166977BL	MB	03/12/25 12:28		Kareem	OK
30	PB166977BS	PB166977BS	LCS	03/12/25 12:33	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
31	PB166963BL	PB166963BL	MB	03/12/25 12:37	Ba fail LCS	Kareem	Not Ok
32	PB166963BS	PB166963BS	LCS	03/12/25 12:41	Ba fail LCS	Kareem	Not Ok
33	Q1466-05	CITY WATER	SAM	03/12/25 12:49		Kareem	OK
34	Q1466-05DUP	CITY WATERDUP	DUP	03/12/25 12:53		Kareem	OK

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ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

35	Q1466-05L	CITY WATERL	SD	03/12/25 12:58		Kareem	OK
36	Q1466-05MS	CITY WATERMS	MS	03/12/25 13:02	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
37	Q1466-05MSD	CITY WATERMSD	MSD	03/12/25 13:06	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
38	CCV03	CCV03	CCV	03/12/25 13:10		Kareem	OK
39	CCB03	CCB03	CCB	03/12/25 13:14		Kareem	OK
40	Q1466-05A	CITY WATERA	PS	03/12/25 13:18	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
41	Q1507-01	50-MIDDLESEX-AVE	SAM	03/12/25 13:22		Kareem	OK
42	Q1508-01	RBR251372	SAM	03/12/25 13:27		Kareem	OK
43	Q1510-01	FMC-25-0001-0005	SAM	03/12/25 13:31		Kareem	OK
44	PB167098BL	PB167098BL	MB	03/12/25 13:59		Kareem	OK
45	PB167098BS	PB167098BS	LCS	03/12/25 14:03	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
46	PB167099BL	PB167099BL	MB	03/12/25 14:07		Kareem	OK
47	PB167099BS	PB167099BS	LCS	03/12/25 14:12	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
48	Q1515-01	AU-06-030625	SAM	03/12/25 14:16		Kareem	OK
49	Q1515-01DUP	AU-06-030625DUP	DUP	03/12/25 14:20		Kareem	OK
50	CCV04	CCV04	CCV	03/12/25 14:24		Kareem	OK

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Supervise By	jaswal	Supervise On	3/14/2025 1:32:25 PM

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ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

51	CCB04	CCB04	CCB	03/12/25 14:28		Kareem	OK
52	Q1540-01	OU4-CF-15R-031025	SAM	03/12/25 14:32		Kareem	OK
53	Q1540-01DUP	OU4-CF-15R-031025I	DUP	03/12/25 14:37		Kareem	OK
54	Q1540-01L	OU4-CF-15R-031025I	SD	03/12/25 14:41		Kareem	OK
55	Q1540-01A	OU4-CF-15R-031025A	PS	03/12/25 14:58	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
56	PB167088TB	PB167088TB	MB	03/12/25 15:02		Kareem	OK
57	Q1545-01	BU-02-031125	SAM	03/12/25 15:06		Kareem	OK
58	Q1545-01DUP	BU-02-031125DUP	DUP	03/12/25 15:11		Kareem	OK
59	Q1545-01L	BU-02-031125L	SD	03/12/25 15:15		Kareem	OK
60	CCV05	CCV05	CCV	03/12/25 15:25		Kareem	OK
61	CCB05	CCB05	CCB	03/12/25 15:29		Kareem	OK
62	Q1545-01MS	BU-02-031125MS	MS	03/12/25 15:33	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
63	Q1545-01MSD	BU-02-031125MSD	MSD	03/12/25 15:37	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
64	Q1545-01A	BU-02-031125A	PS	03/12/25 15:41	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
65	Q1547-01	OR-620-JB-COMP-01	SAM	03/12/25 15:45		Kareem	OK
66	Q1547-06	OR-620-JB-COMP-02	SAM	03/12/25 15:49		Kareem	OK

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ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

67	Q1549-01	72-11978	SAM	03/12/25 15:54		Kareem	OK
68	Q1515-01L	AU-06-030625L	SD	03/12/25 15:58		Kareem	OK
69	Q1515-01MS	AU-06-030625MS	MS	03/12/25 16:02	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
70	Q1515-01MSD	AU-06-030625MSD	MSD	03/12/25 16:06	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
71	Q1515-01A	AU-06-030625A	PS	03/12/25 16:10	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
72	CCV06	CCV06	CCV	03/12/25 16:25		Kareem	OK
73	CCB06	CCB06	CCB	03/12/25 16:30		Kareem	OK
74	Q1540-01MS	OU4-CF-15R-031025I	MS	03/12/25 16:34	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
75	Q1540-01MSD	OU4-CF-15R-031025I	MSD	03/12/25 16:38	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
76	Q1516-03	GAS-AUD-25-0026	SAM	03/12/25 16:42		Kareem	OK
77	Q1519-01	WATER TREATMENT	SAM	03/12/25 16:47		Kareem	OK
78	LR1	LR1	HIGH STD	03/12/25 16:53		Kareem	OK
79	LR2	LR2	HIGH STD	03/12/25 16:58		Kareem	OK
80	Q1517-01DL	MOO-25-0062DL	SAM	03/12/25 17:02		Kareem	OK
81	Q1522-02	TW-WTS-04	SAM	03/12/25 17:07		Kareem	OK
82	Q1522-02DUP	TW-WTS-04DUP	DUP	03/12/25 17:11		Kareem	OK

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ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

83	Q1522-02L	TW-WTS-04L	SD	03/12/25 17:16		Kareem	OK
84	CCV07	CCV07	CCV	03/12/25 17:25		Kareem	OK
85	CCB07	CCB07	CCB	03/12/25 17:30		Kareem	OK
86	Q1522-02MS	TW-WTS-04MS	MS	03/12/25 17:35	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
87	Q1522-02MSD	TW-WTS-04MSD	MSD	03/12/25 17:39	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
88	Q1522-02A	TW-WTS-04A	PS	03/12/25 17:43	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
89	Q1478-07	IDW-AQ-IW-03-COMP	SAM	03/12/25 17:47		Kareem	OK
90	Q1478-07DUP	IDW-AQ-IW-03-COMP	DUP	03/12/25 17:52		Kareem	OK
91	Q1478-07L	IDW-AQ-IW-03-COMP	SD	03/12/25 17:56		Kareem	OK
92	Q1478-07MS	IDW-AQ-IW-03-COMP	MS	03/12/25 18:00	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
93	Q1478-07MSD	IDW-AQ-IW-03-COMP	MSD	03/12/25 18:05	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
94	Q1478-07A	IDW-AQ-IW-03-COMP	PS	03/12/25 18:09	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
95	Q1478-01	IDW-AQ-MW-19B-CO	SAM	03/12/25 18:13		Kareem	OK
96	CCV08	CCV08	CCV	03/12/25 18:23		Kareem	OK
97	CCB08	CCB08	CCB	03/12/25 18:27		Kareem	OK

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LCS Standard	
Chk Standard	MP84649,MP84650

98	Q1478-03	IDW-AQ-IW-01-COMP	SAM	03/12/25 18:31		Kareem	OK
99	Q1478-05	IDW-AQ-IW-02-COMP	SAM	03/12/25 18:36		Kareem	OK
100	Q1477-01	RW7-SP100-2025022	SAM	03/12/25 18:40		Kareem	OK
101	Q1477-04	RW7-SP303-2025022	SAM	03/12/25 18:44		Kareem	OK
102	CCV09	CCV09	CCV	03/12/25 18:49		Kareem	OK
103	CCB09	CCB09	CCB	03/12/25 18:53		Kareem	OK

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SPLP EXTRACTION LOGPAGE

PB167088

SOP ID : M1312-SPLP-10

SDG No : N/A

Weigh By : JP

Balance ID : WC SC-7

pH Meter ID : WC PH METER-1

Extraction By : JP

Filter By : JP

Pippete ID : WC

Tumbler ID : T-2

TCLP Filter ID : 115525

Start Prep Date : 03/11/2025 **Time :** 14:30

End Prep Date : 03/12/2025 **Time :** 09:25

Combination Ratio : 20

ZHE Cleaning Batch : ~~N/A~~ JP

Initial Room Temperature: 23 °C

Final Room Temperature: 22 °C

TCLP Technician Signature : JP

Supervisor By : IZ

Standared Name	MLS USED	STD REF. # FROM LOG
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE U	Lot Number
SPLP FLUID	N/A	WP110806
N/A	N/A	N/A
HNO3-TCLP,1N	N/A	WP110804
pH Strips	W3172.	W1931,W1934,W3171,W3172
pH Strips	W1941,W1942	W3166,W1938,W1939,W1940,
N/A	N/A	N/A
120ml Plastic bottle	N/A	405130101
1:1 HNO3	N/A	MP84041

Extraction Conformance/Non-Conformance Comments:

Natrix spikes are added after fiftration and before preservation. TUMBLER T-2 checked,30 rpm. q1540-01 is used for MS-MSD.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/12/25 10:30	JP ICP Room	SHG. IN-DIG
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

SPLP EXTRACTION LOGPAGE

PB167088

Sample ID	ClientID	TCLP Vessel ID	Sample Wt (g)	Volume Extraction Fluid #1 (mL)	Multi phasic	Phase Miscible	Phases Combined	Final Leachate PH	Metals Leachate Adj. PH	Prep Pos
PB167088TB	LEB088	12	N/A	2000	N/A	N/A	N/A	4.24	1.0	T-2
Q1540-01	OU4-CF-15R-031025	11	100.03	2000	N/A	N/A	N/A	5.5	1.5	T-2

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
PB167088TB	LEB088	N/A	N/A	N/A	N/A	N/A	N/A
Q1540-01	OU4-CF-15R-031025	N/A	N/A	N/A	N/A	100	N/A

Alliance TECHNICAL GROUP

SPLP Fluid Determination

PB167088

Hot Block ID : WC S-1 /WC S-2

Thermometer ID : FLASHPOINT

SampleID	ClientID	Sample Weight (g)	Volume DI Water (mL)	PH after 5 min stir	PH after 10 min stir	Extraction Fluid 1 or 2	pH Extraction Fluid
PB167088TB	LEB088	N/A	N/A	N/A	N/A	#1	4.24
Q1540-01	OU4-CF-15R-031025	N/A	N/A	N/A	N/A	#1	4.24

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Prep Standard - Chemical Standard Summary

Order ID : Q1540

Test : SPLP MetalGroup6

Prepbatch ID : PB167099,

Sequence ID/Qc Batch ID: LB135011,

Standard ID :
MP84636,MP84637,MP84638,MP84639,MP84640,MP84643,MP84644,MP84646,MP84649,MP84650,MP84720,MP84721,MP84845,MP84846,

Chemical ID :
M4883,M4891,M5218,M5288,M5296,M5395,M5429,M5467,M5472,M5497,M5658,M5697,M5698,M5747,M5748,M5769,M5789,M5792,M5798,M5799,M5800,M5801,M5806,M5808,M5811,M5814,M5815,M5816,M5817,M5820,M5875,M5959,M5970,M5978,M5985,M6003,M6011,M6021,M6023,M6028,M6030,M6032,M6077,M6137,M6146,M6150,M6151,M6152,M6155,M6156,M6158,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP84636	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 125.00000ml of M5792 + 2350.00000ml of W3112 + 25.00000ml of M5789 = Final Quantity: 2500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP84637	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 5.00000ml of M5395 + 5.00000ml of M5467 + 5.00000ml of M5472 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M6077 + 5.00000ml of M6146 + 455.00000ml of MP84636 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
910	ICP AES STD S4	MP84638	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 50.00000ml of MP84636 + 50.00000ml of MP84637 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP84639	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 25.00000ml of MP84637 + 75.00000ml of MP84636 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3913	ICP AES STD S2	MP84640	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 16.00000ml of MP84637 + 184.00000ml of MP84636 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
912	ICP AES ICV SOLN	MP84643	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.10000ml of M5467 + 0.25000ml of M5218 + 0.25000ml of M5472 + 10.00000ml of M6150 + 89.77500ml of MP84636 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
904	ICP AES ICSA SOLN	MP84644	02/24/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 25.00000ml of M6152 + 225.00000ml of MP84636 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP84646	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 50.00000ml of MP84636 + 50.00000ml of MP84637 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP84649	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M5789 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
513	RINSE SOLN	MP84650	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 200.00000ml of M5789 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP84720	03/03/2025	04/04/2025	Sagar Kanani	None	METALS_PIPETTE_1 (ICPA)	Sarabjit Jaswal 03/03/2025

FROM 1000.00000ml of M6151 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP84721	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025

FROM 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5296 + 0.10000ml of M5472 + 0.10000ml of M5970 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.50000ml of MP84636 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP84845	03/09/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 03/11/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5658 + 0.05000ml of M5808 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.06000ml of M5747 + 0.10000ml of M4883 + 0.10000ml of M5472 + 0.10000ml of M5697 + 0.10000ml of M5698 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5970 + 0.15000ml of M5800 + 0.20000ml of M4891 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M6146 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5288 + 1.00000ml of M5497 + 1.00000ml of M5769 + 1.00000ml of M5806 + 1.00000ml of M5978 + 1.00000ml of M6156 + 2.00000ml of M5816 + 77.68000ml of MP84636 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP84846	03/09/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 03/11/2025

FROM 2.00000ml of MP84845 + 98.00000ml of MP84636 = Final Quantity: 100.000 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 #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	070221	09/07/2025	08/06/2021 / jaswal	08/05/2021 / jaswal	M4883

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	031921	05/19/2025	08/25/2021 / bin	08/05/2021 / jaswal	M4891

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	01/30/2024 / bin	09/19/2022 / bin	M5395

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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.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	01/14/2025 / Jaswal	03/16/2023 / jaswal	M5472

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	03/18/2023 / bin	03/17/2023 / bin	M5497

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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

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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.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

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 #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	23G1262003	07/30/2025	02/08/2024 / Al-Terek	06/26/2023 / Al-Terek	M5789

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22D1462006	08/05/2025	02/05/2024 / Al-Terek	02/24/2022 / Al-Terek	M5792

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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.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

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.	58113 / Al, 10000 PPM, 500 ml	122926	12/29/2026	12/18/2024 / janvi	01/03/2024 / jaswal	M5808

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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.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	12/29/2026	05/20/2024 / Jaswal	02/09/2024 / jaswal	M5816

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57116 / S, 10000 PPM, 125 ml	071123	07/11/2026	03/01/2024 / jaswal	02/09/2024 / jaswal	M5817

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-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 #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	07/01/2024 / Jaswal	06/14/2024 / Jaswal	M5959

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	07/01/2024 / Jaswal	07/01/2024 / Jaswal	M5970

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5978

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	U2-IN729349	02/21/2028	10/08/2024 / Jaswal	06/14/2024 / Jaswal	M5985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/26/2025	02/26/2025 / Eman	05/14/2024 / Jaswal	M6003

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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	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	07/14/2025	01/14/2025 / Eman	05/14/2024 / Jaswal	M6011

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6028

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	010924	01/09/2027	01/14/2025 / Jaswal	08/05/2024 / Jaswal	M6032

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	09/06/2029	01/23/2025 / kareem	09/19/2024 / kareem	M6077

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSI1-1 / SILICON 125mL 1000ug/mL	V2-SI744713	07/10/2029	01/14/2025 / Jaswal	10/03/2024 / Jaswal	M6137

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	01/31/2025 / kareem	10/18/2024 / kareem	M6146

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-1014	07/07/2025	02/07/2025 / JANVI	04/20/2021 / JANVI	M6150

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	08/24/2025	02/24/2025 / kareem	04/20/2021 / kareem	M6152

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	06/20/2025	02/10/2025 / kareem	02/09/2024 / kareem	M6155

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	032123	03/21/2026	11/06/2024 / JANVI	06/12/2024 / JANVI	M6156

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

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Certified Reference Material CRM

R: 01/03/24 M5808, M5809

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CERTIFIED WEIGHT REPORT:

Part Number: 58113
Lot Number: 122923
Description: Aluminum (Al)

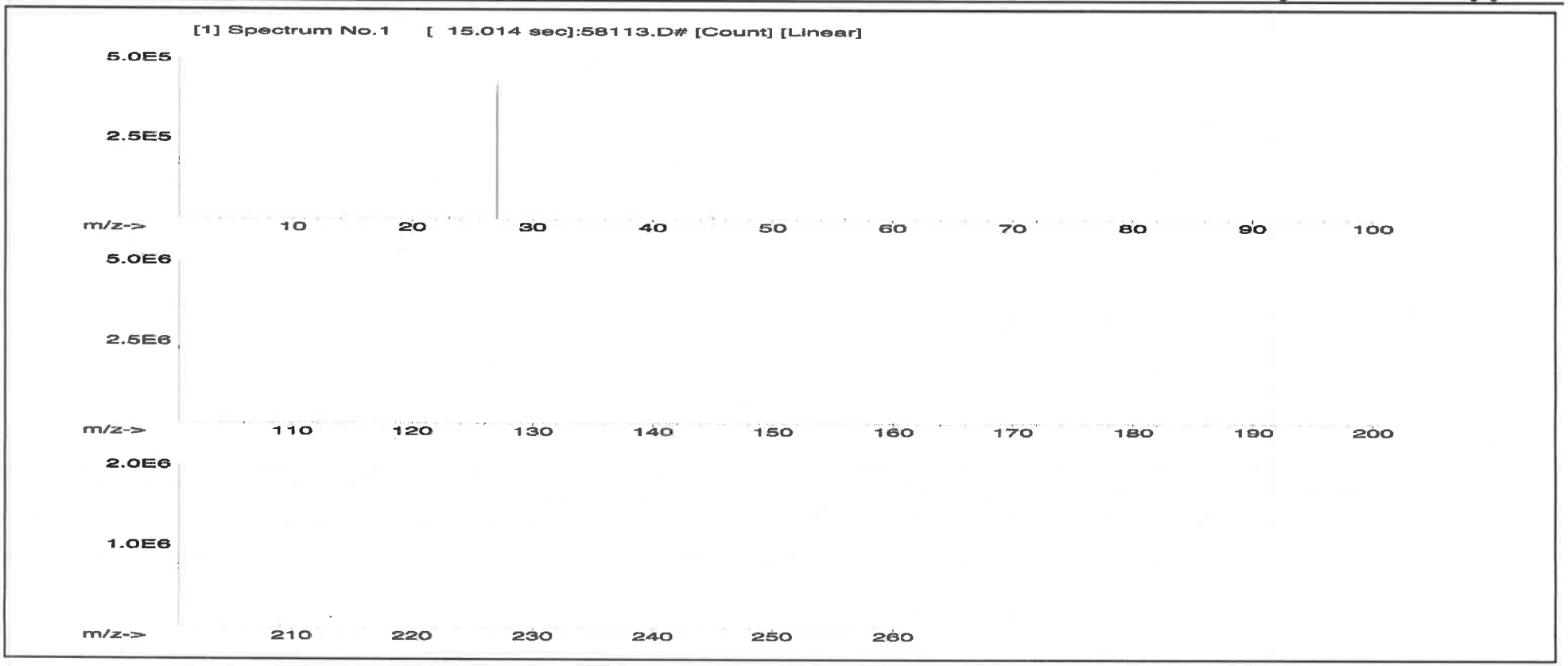
Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02 ± 0.058 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	± 5E-05 Balance Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 122923

Pedro Rentas
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. Aluminum nitrate nonahydrate (Al)	IN022	ALM092022A1	10000	99.999	0.10	7.30	273.9779	273.9813	**10000.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	T	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	17	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	0.03
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	4.5	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	0.56	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M6032

R 8/5/24

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CERTIFIED WEIGHT REPORT:

Part Number:	**57056**		**Lot #**		
Lot Number:	**010924**	**Solvent:**	24002546	Nitric Acid	
Description:	**Barium (Ba)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	010927				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

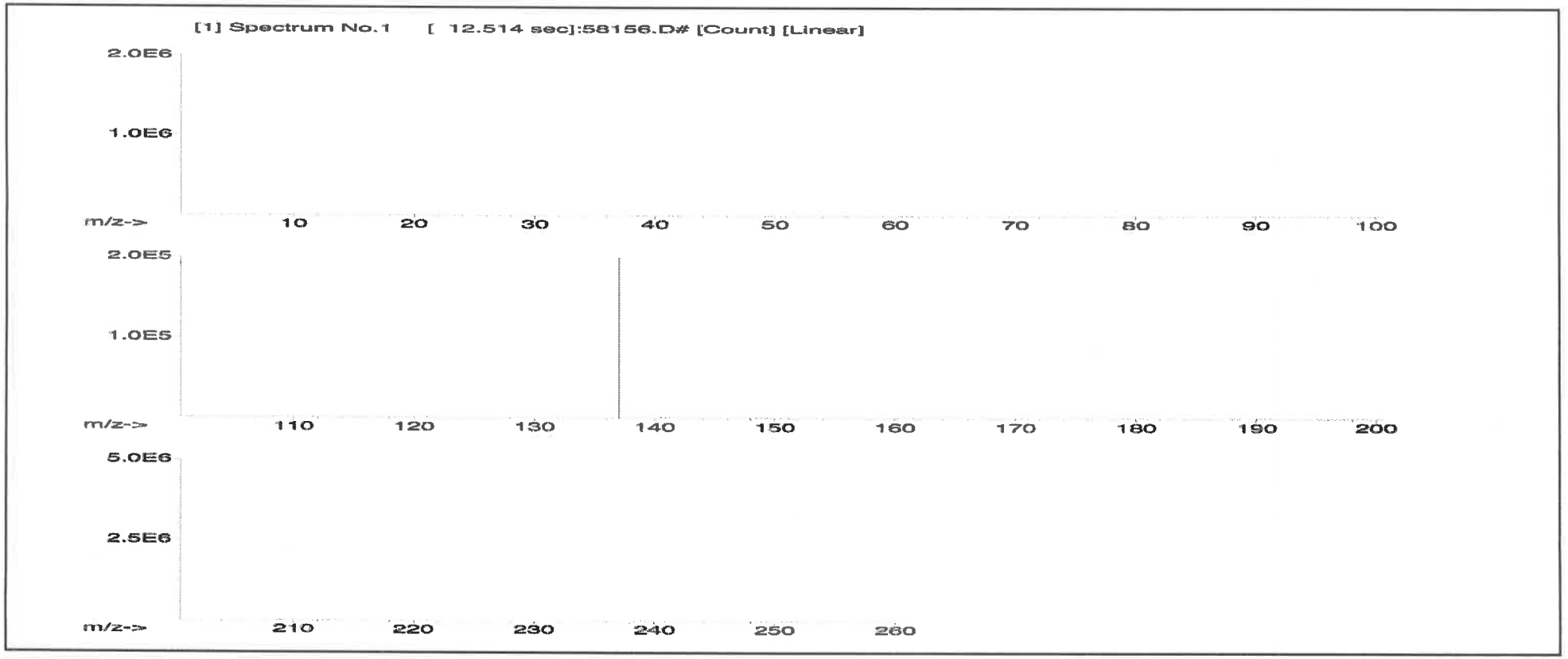
Giovanni Esposito

Formulated By:	Giovanni Esposito	010924

Pedro Rentas

Reviewed By:	Pedro L. Rentas	010924

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	**1000.1**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



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ANAB ISO 17034 Accredited
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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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 Reference Material CRM

M6028

R 8/5/24

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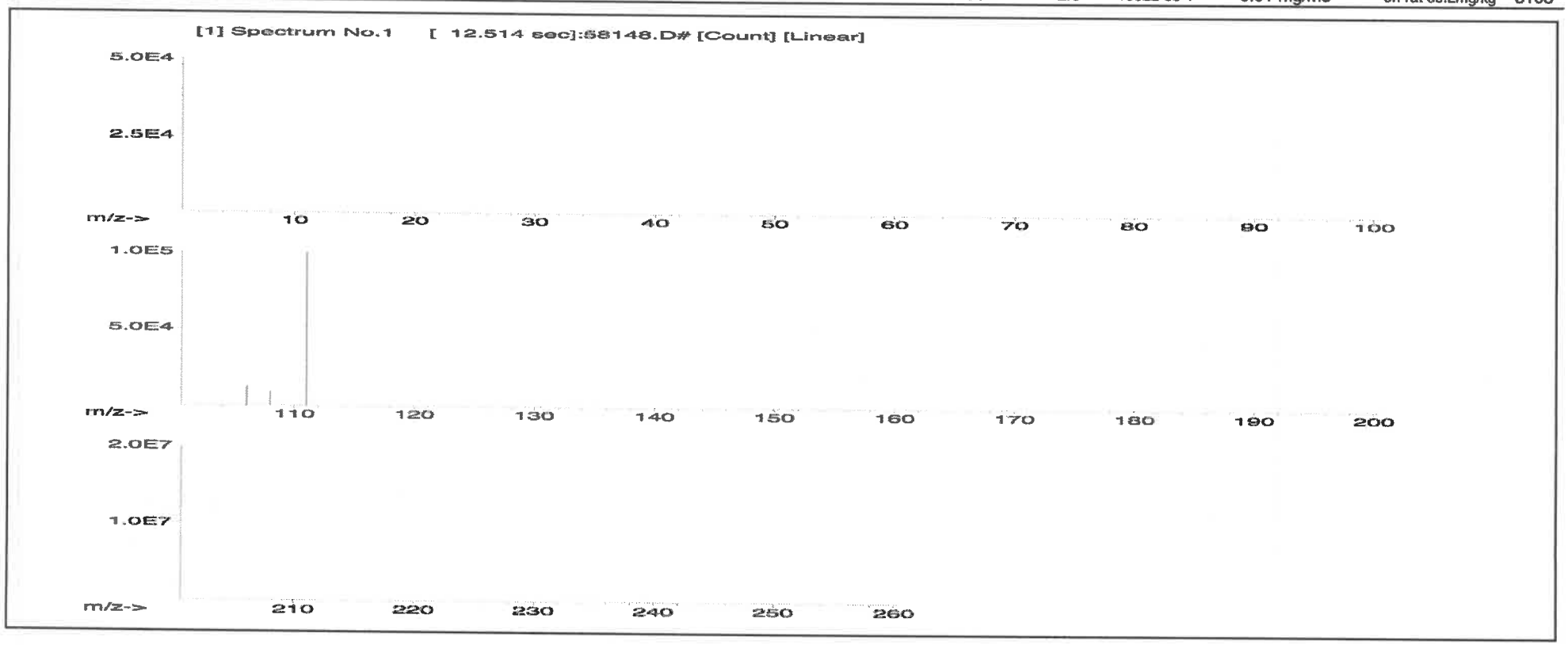
CERTIFIED WEIGHT REPORT:

Part Number:	**57048**		**Lot #**		
Lot Number:	**070124**	**Solvent:**	24002546	Nitric Acid	
Description:	**Cadmium (Cd)**	2%	40.0 (mL)	Nitric Acid	
Expiration Date:	070127				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	070124
Reviewed By:	Pedro L. Rentas	070124

	Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1.	Cadmium nitrate tetrahydrate (Cd)	IN024	CDM092021A1	1000	99.999	0.10	36.5	5.4797	5.4804	**1000.1**	**2.0**	10022-68-1	0.01 mg/m3	orl-rat 60.2mg/kg	3108



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	T	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

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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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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	S2-MEB711673
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 6 µg/mL**	**Molybdenum, Mo**	**1 000 ± 6 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 6 µg/mL**
Titanium, Ti	**1 000 ± 7 µg/mL**		

Density: 1.030 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 02, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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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:	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 (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

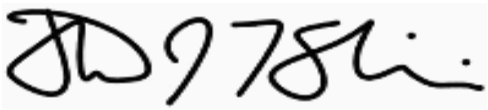
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-3
Lot Number:	T2-MEB714159
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 500 µg/mL ea: Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**1 000 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 13, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

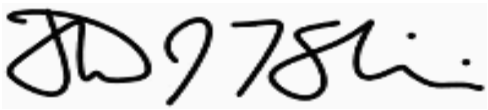
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R : 01/03/24. M5810, M5811

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 051523
Description: Iron (Fe)

Expiration Date: 051526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1

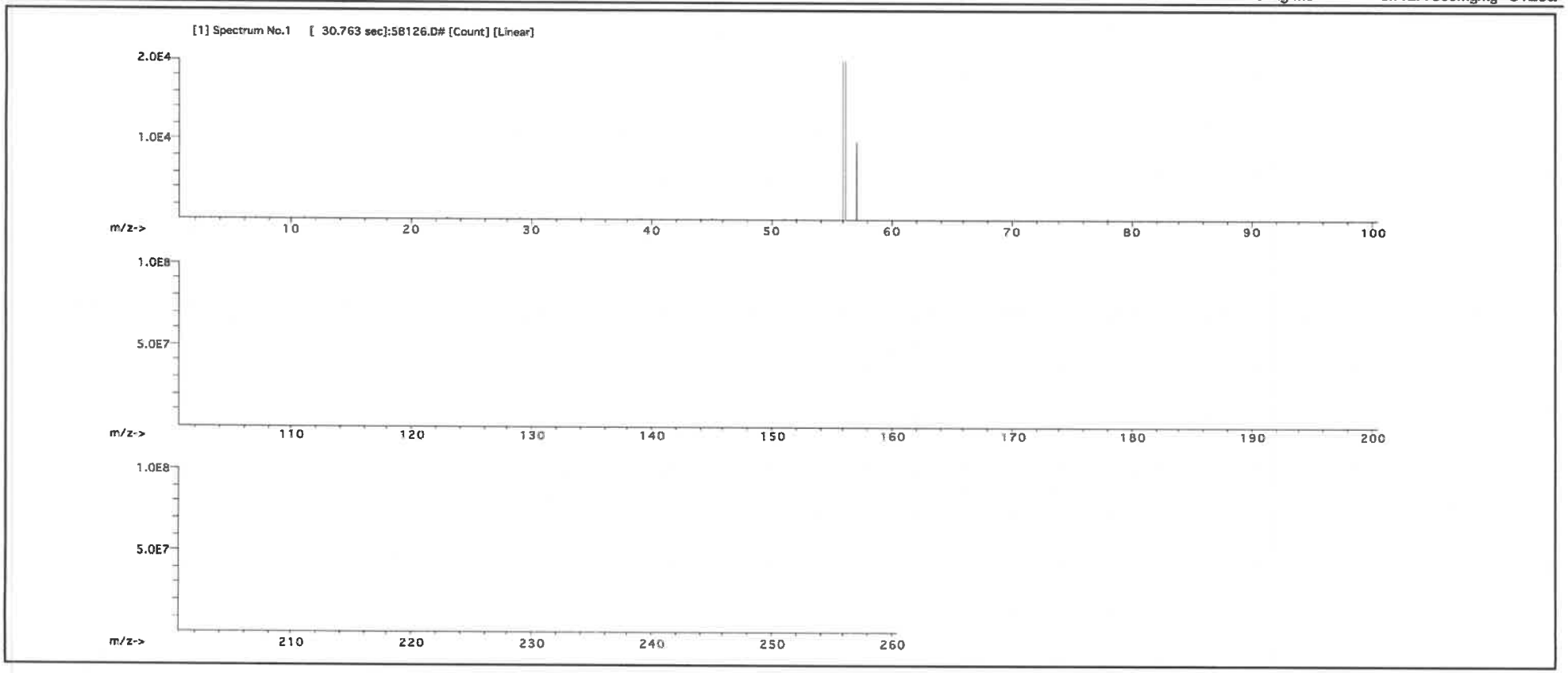
	Lot #		
Solvent:	21110221	Nitric Acid	
5.0%	250.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.12 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 051523

Pedro Rentas
Reviewed By: Pedro L. Rentas 051523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2302010-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

Value / Analyte(s):	1 000 µg/mL ea: Potassium,	
	600 µg/mL ea: Phosphorus,	
	300 µg/mL ea: Sodium,	Iron,
	200 µg/mL ea: Magnesium, Cerium, Thallium,	Aluminum, Selenium,
	100 µg/mL ea: Lead,	Calcium,
	80 µg/mL ea: Arsenic,	
	70 µg/mL ea: Mercury,	
	50 µg/mL ea: Nickel,	
	40 µg/mL ea: Chromium,	
	30 µg/mL ea: Copper, Vanadium,	Boron,
	20 µg/mL ea: Zinc, Barium, Cadmium, Manganese,	Strontium, Beryllium, Cobalt, Lithium,
	7.5 µg/mL ea: Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 30, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES

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Certificate of Analysis

RD:05/14/2024

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Christiansburg, VA 24073 USA
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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

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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

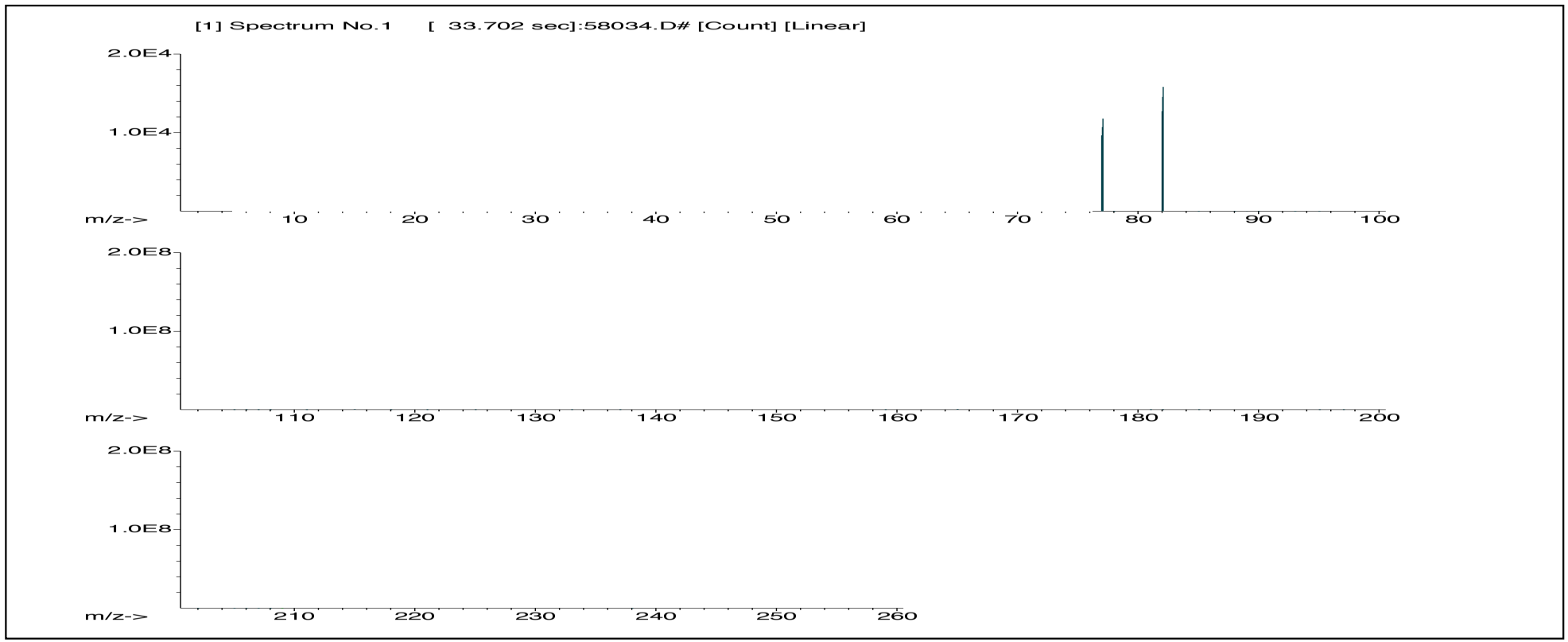
ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	20370011	Nitric Acid	
Lot Number:	**070221**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	070224			
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:	Giovanni Esposito 070221
Reviewed By:	Pedro L. Rentas 070221

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(IV) oxide (Se)	58134	021621	0.1000	200.0	0.084	1000	10000.2	**1000.0**	**2.2**	7446-08-4	0.2 mg/m3	orl-rat 68 mg/kg	3149



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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	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58030**	20370011	Nitric Acid	
Lot Number:	**031921**			
Description:	**Zinc (Zn)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	031924			
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	

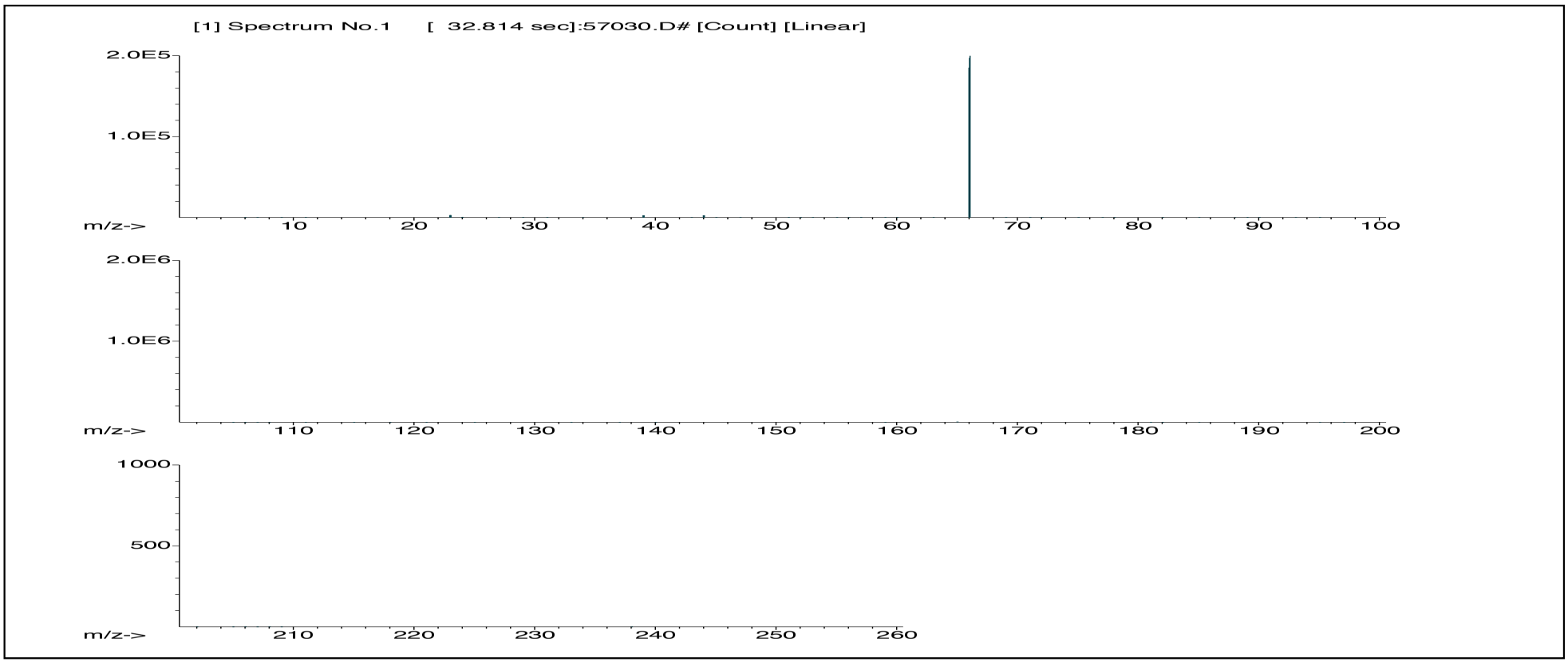
Giovanni Esposito

Formulated By:	Giovanni Esposito	031921

Pedro Rentas

Reviewed By:	Pedro L. Rentas	031921

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. Zinc nitrate hexahydrate (Zn)	58130	082020	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168



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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	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:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certificate of Analysis

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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

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5288 R: 07/21/2022

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

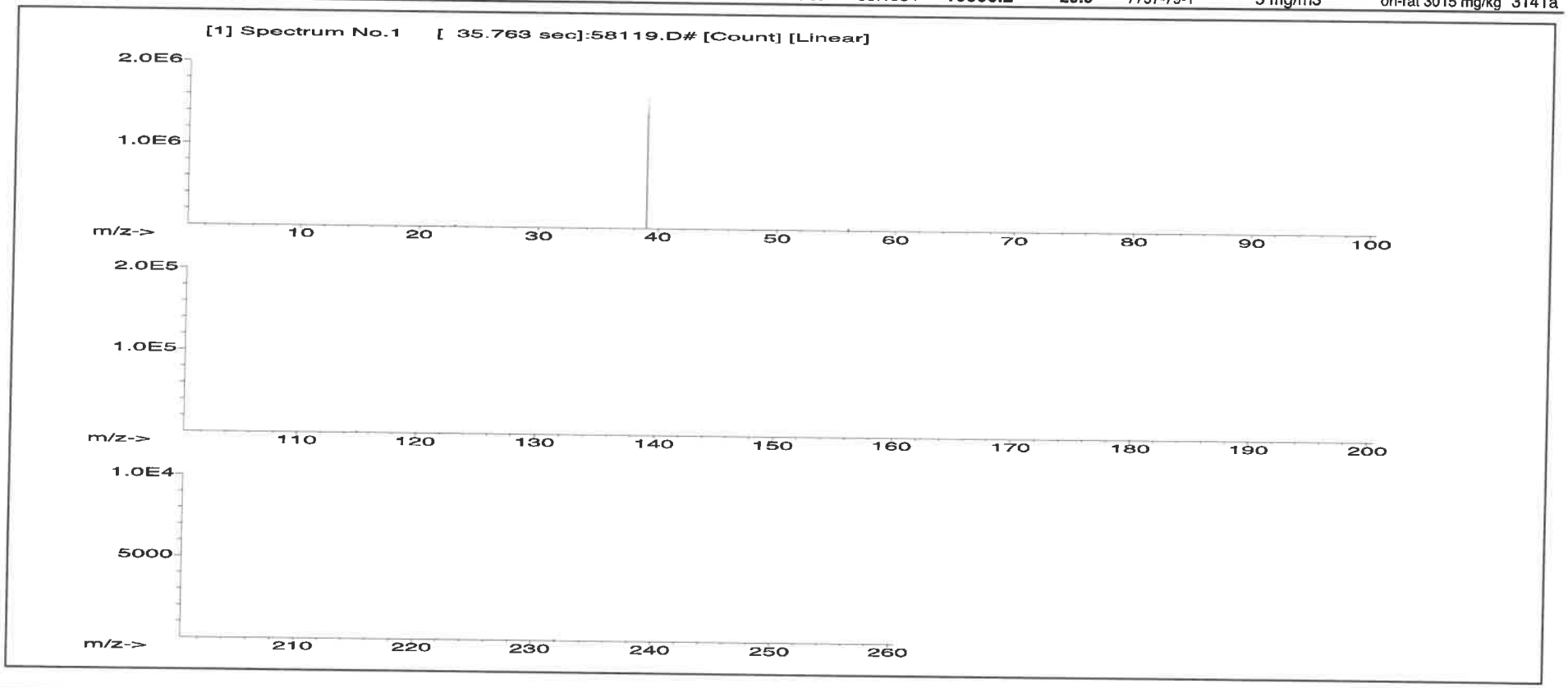
Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

Expiration Date: 071125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	40.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	071122
Reviewed By:	Pedro L. Rentas	071122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	**Actual Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Potassium nitrate (K)	IN034	KD022021A1	10000	99.999	0.10	37.6	53.1925	53.1934	**10000.2**	**20.0**	7757-79-1	5 mg/m3	orl-rat 3015 mg/kg	3141a



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ANAB ISO 17034 Accredited
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Part # **58119** Lot # **071122**

Printed: 8/2/2022, 11:20:01 PM

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Certified Reference Material CRM

M5429 R1 01/26/23 BH

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AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

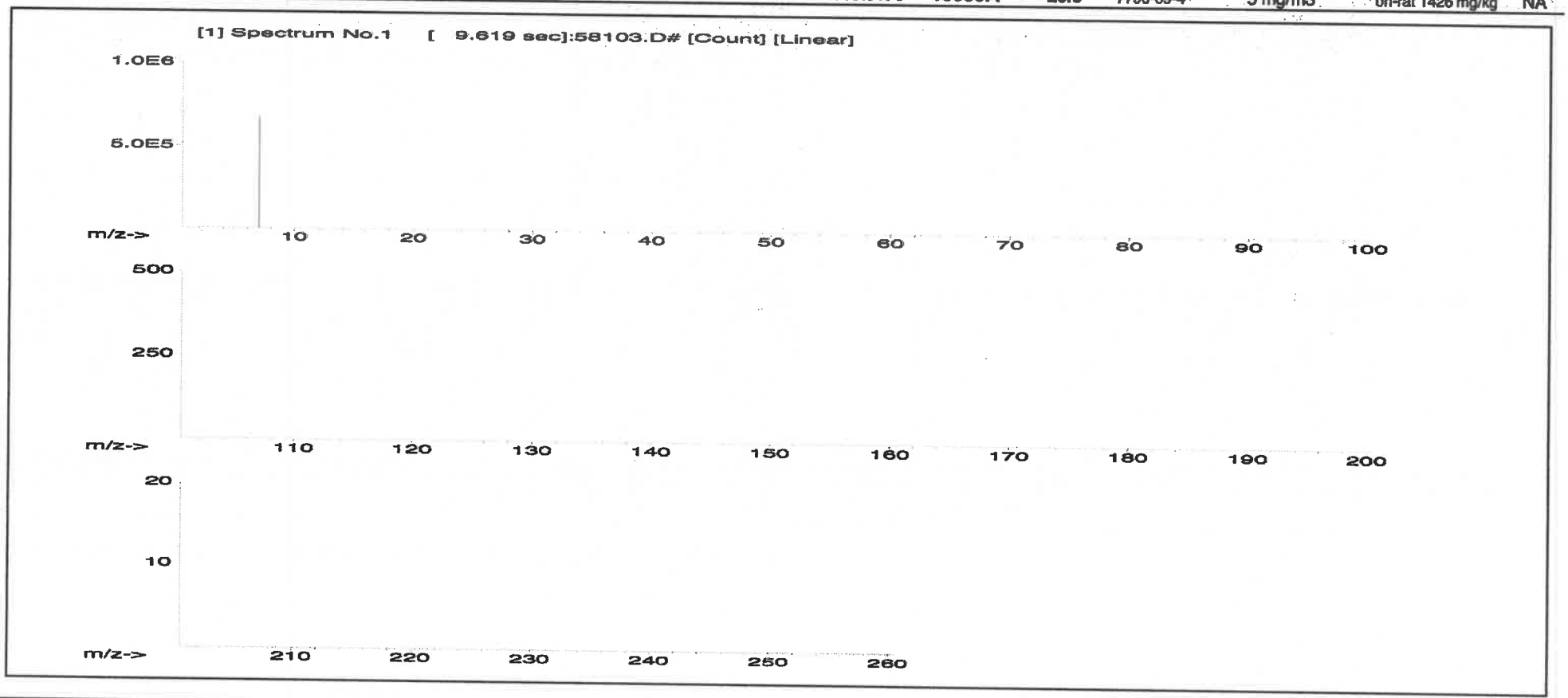
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #			
Solvent:	20510011	Nitric Acid		
2%	20.0 (mL)	Nitric Acid		

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



QUALITY-METALS

Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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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).

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

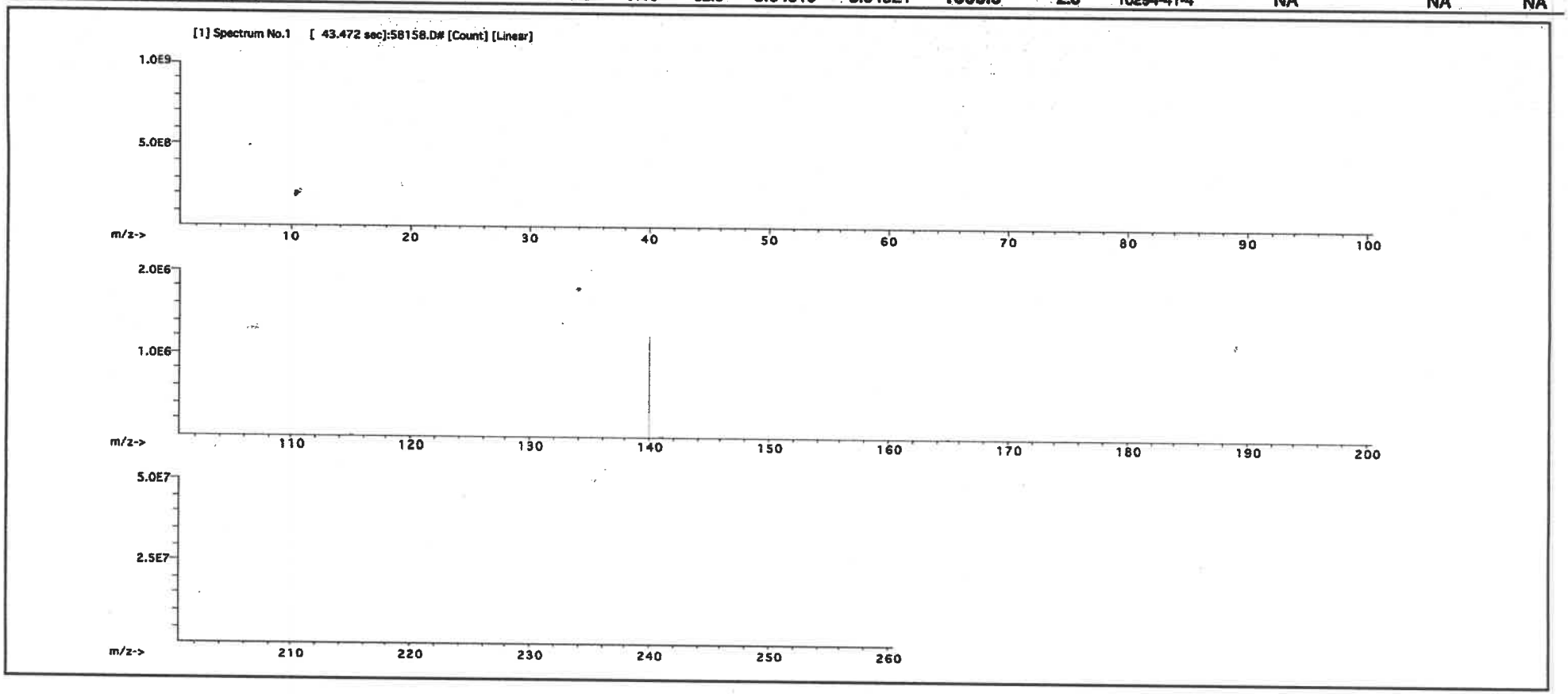
Weight shown below was diluted to (mL): 1000.12

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	1000.0	2.0	10294-41-4	NA	NA	NA



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M5497 - M5498 R: 03/17/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

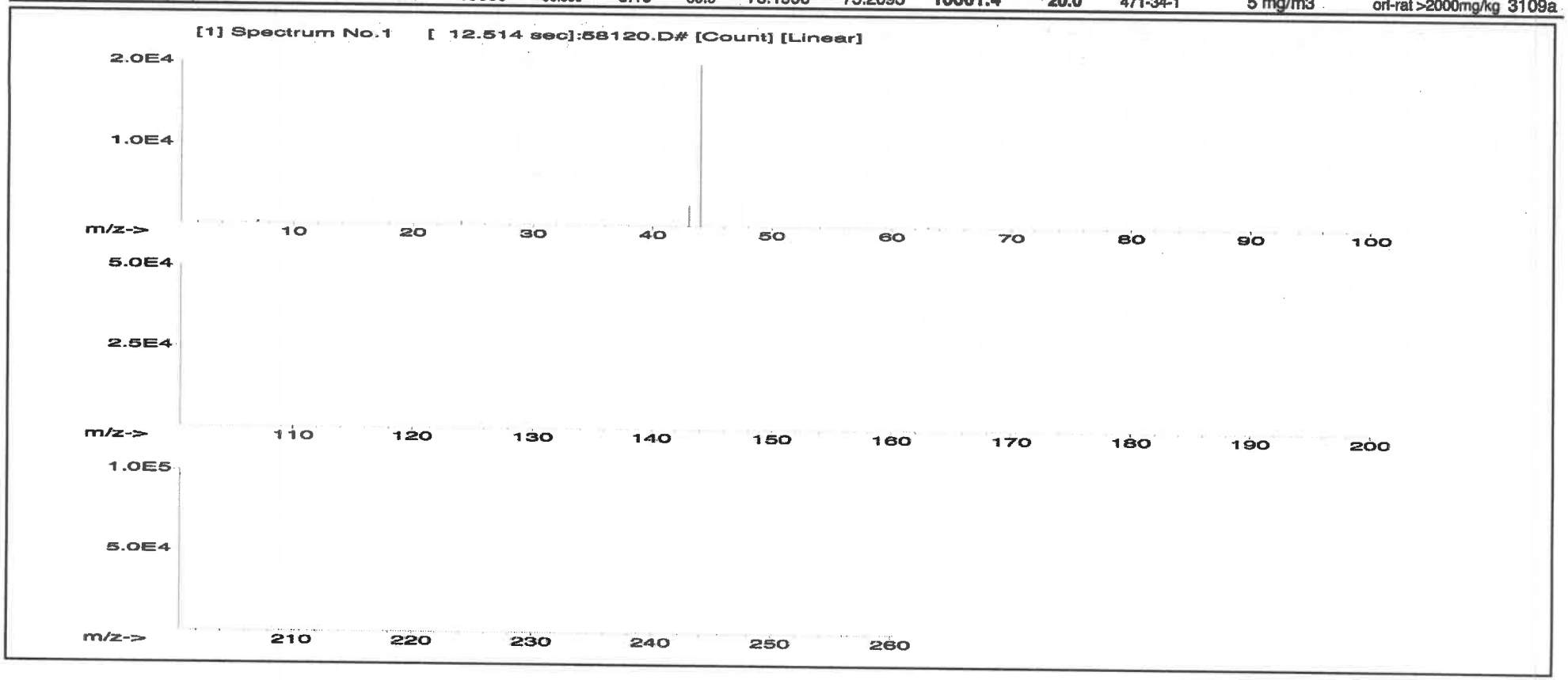
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41

	Lot #		
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
Reviewed By:	Pedro L. Rentas	031523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
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Certified Reference Material CRM

M5658 R ! 8/25/23

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AR-1539 Certificate Number
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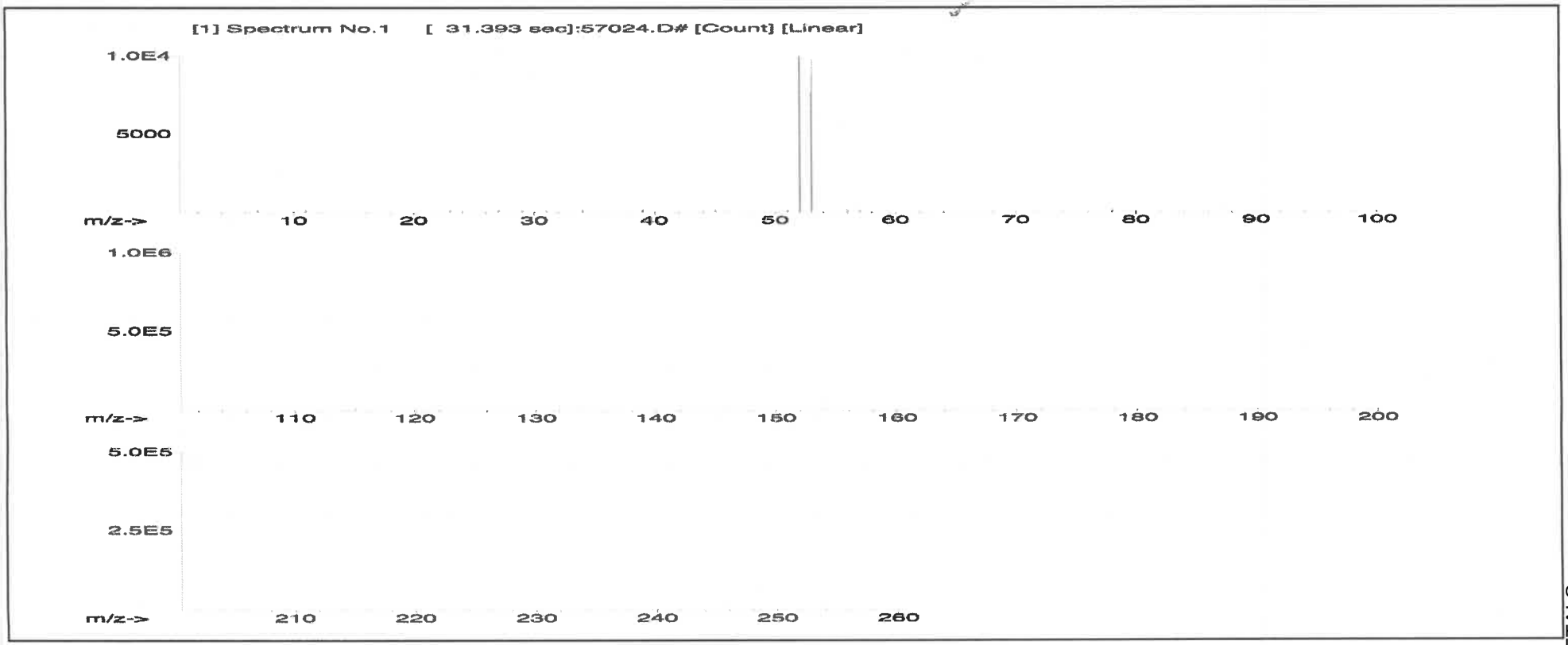
CERTIFIED WEIGHT REPORT:

		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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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	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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M5697 R: 10/27/23

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CERTIFIED WEIGHT REPORT:

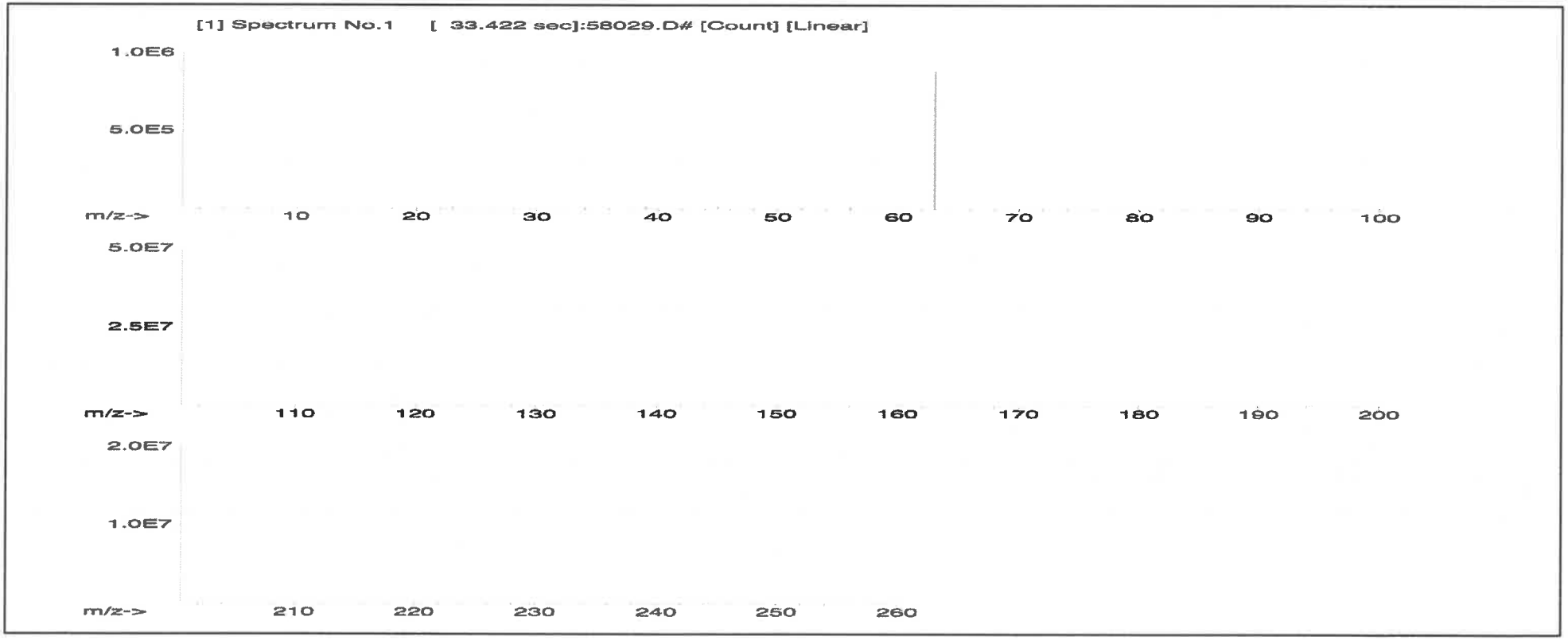
		Lot #	Solvent:
Part Number:	**58029**	24002546	Nitric Acid
Lot Number:	**102523**		
Description:	**Copper (Cu)**		

		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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AR-1539 Certificate Number
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* 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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M5648 R: 10/27/23

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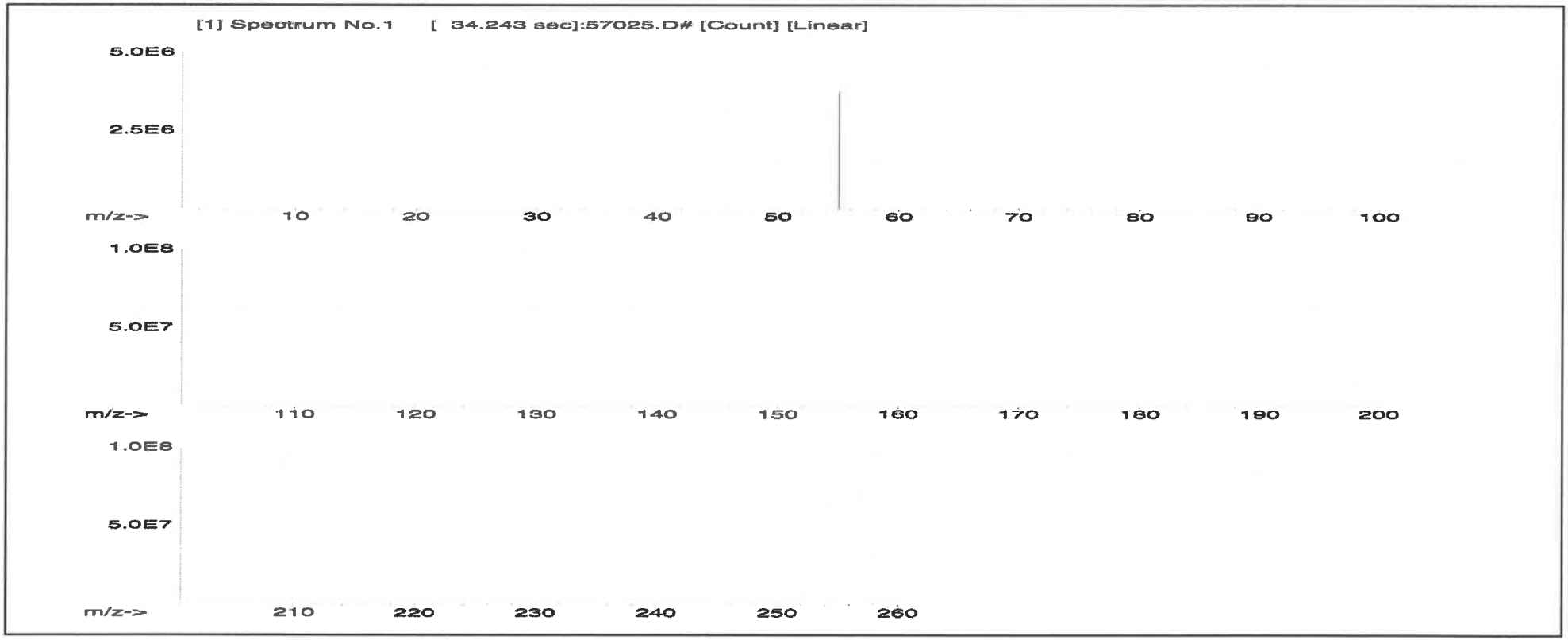
CERTIFIED WEIGHT REPORT:

		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:

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art # **58025** Lot # **102623**

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Certified Reference Material CRM

R: 12/20/23 M5747

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

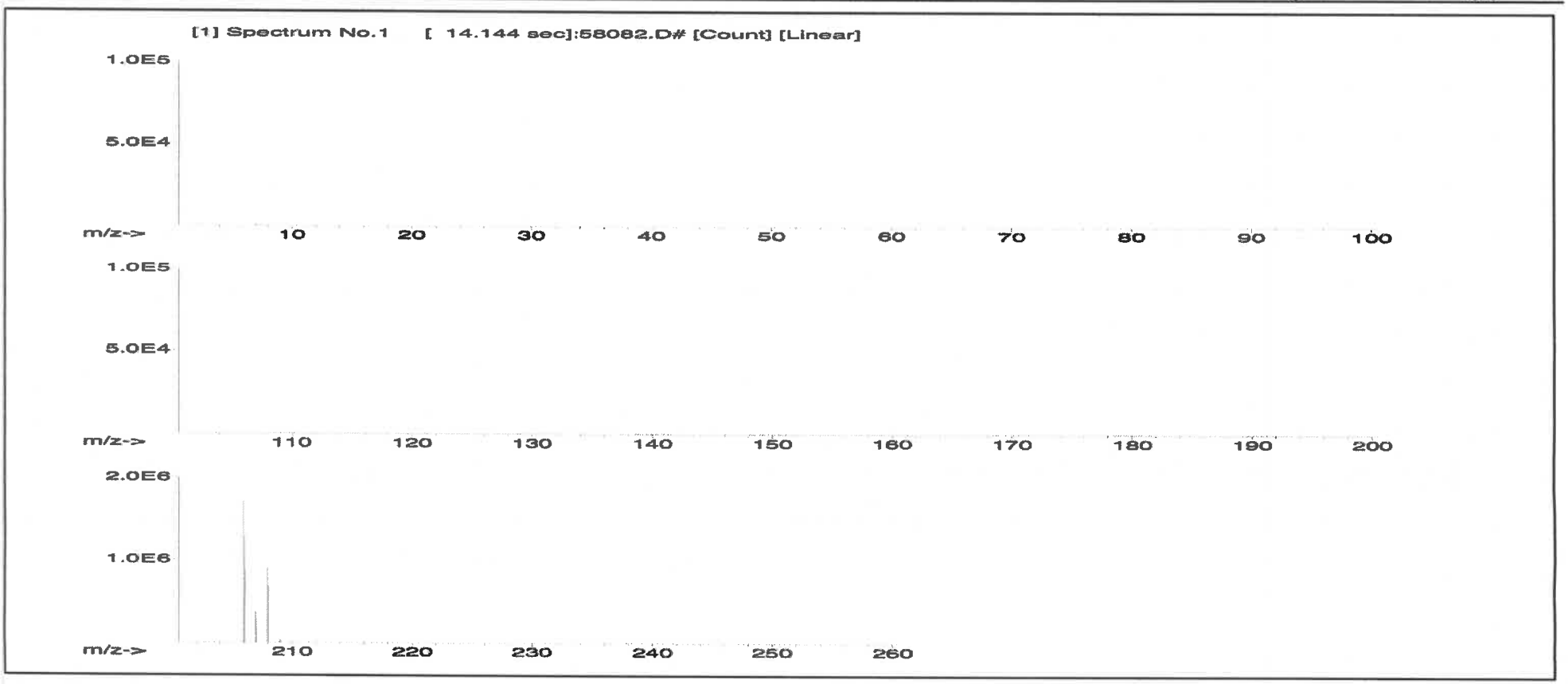
Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



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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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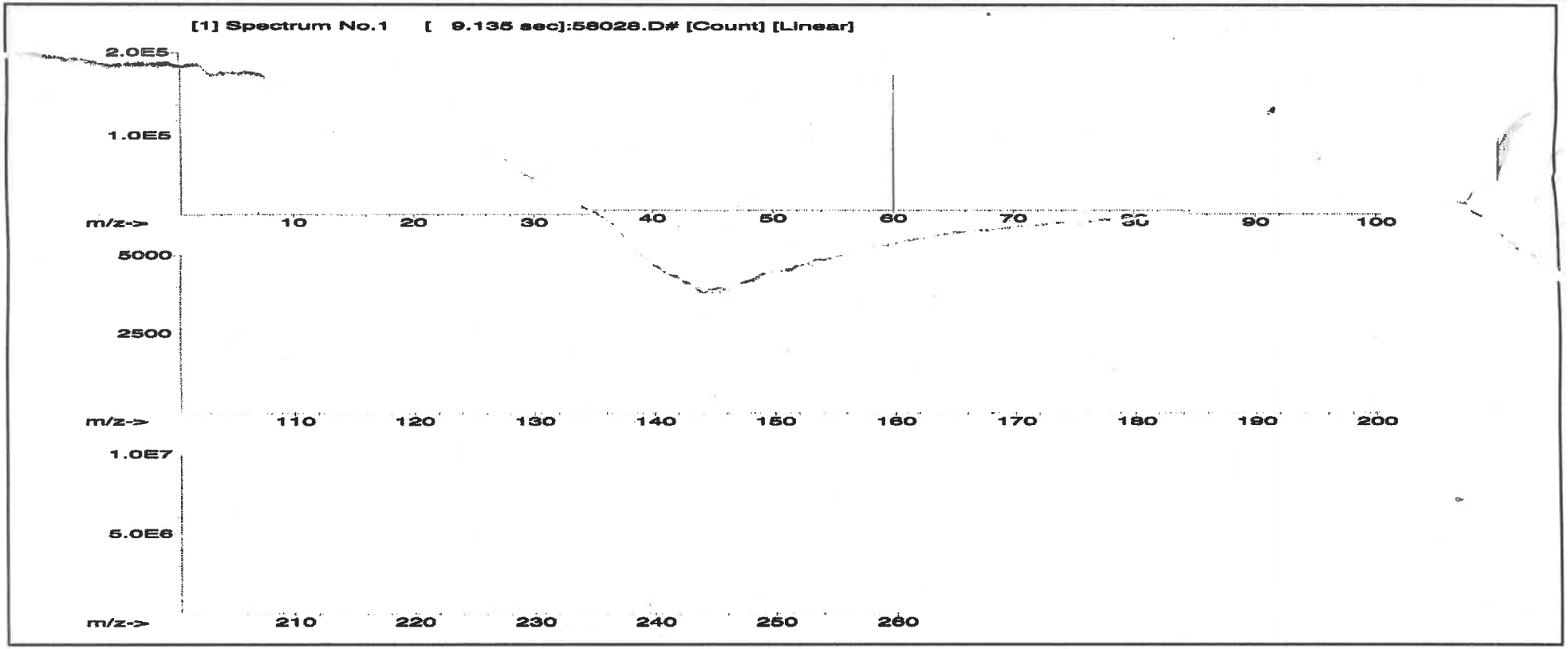
CERTIFIED WEIGHT REPORT:

		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

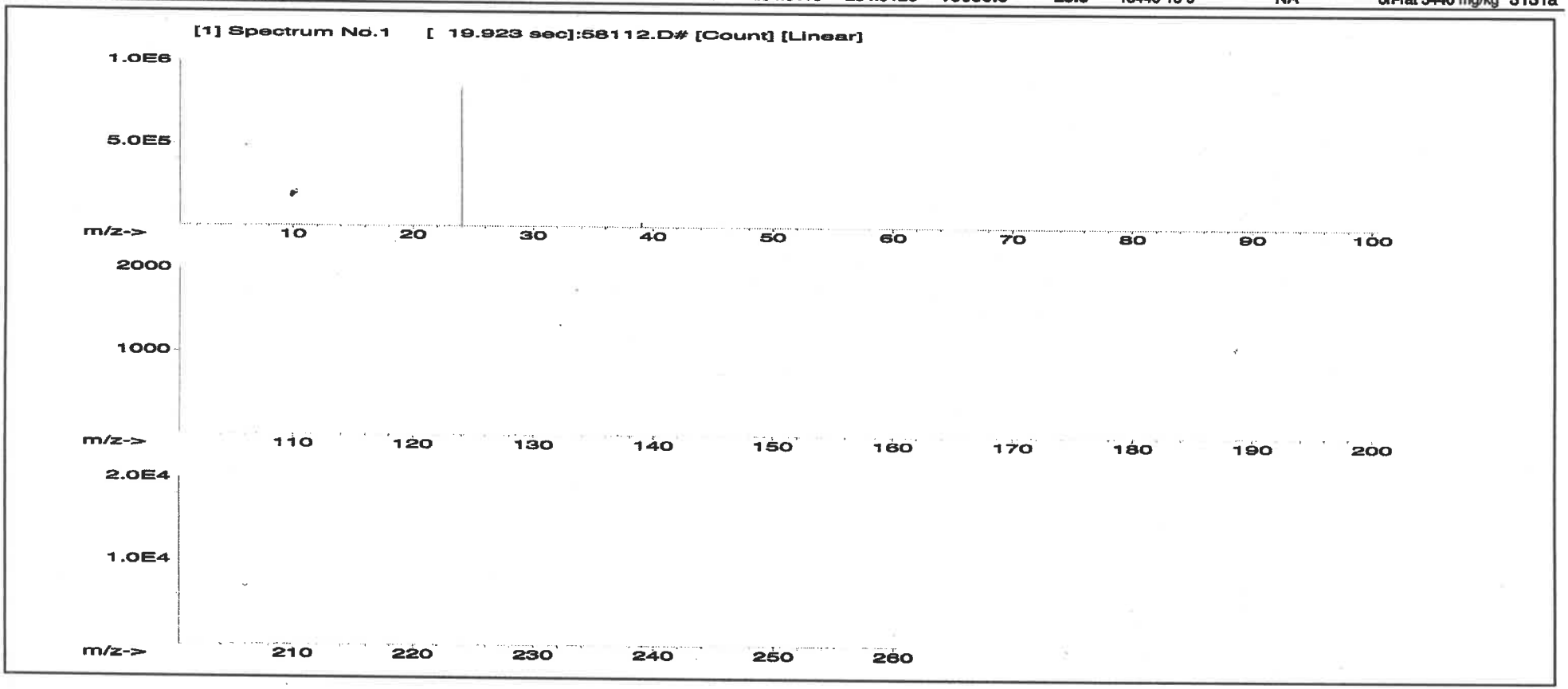
		Lot #	
Solvent:	2%	24002546	Nitric Acid
		40.0 (mL)	Nitric Acid

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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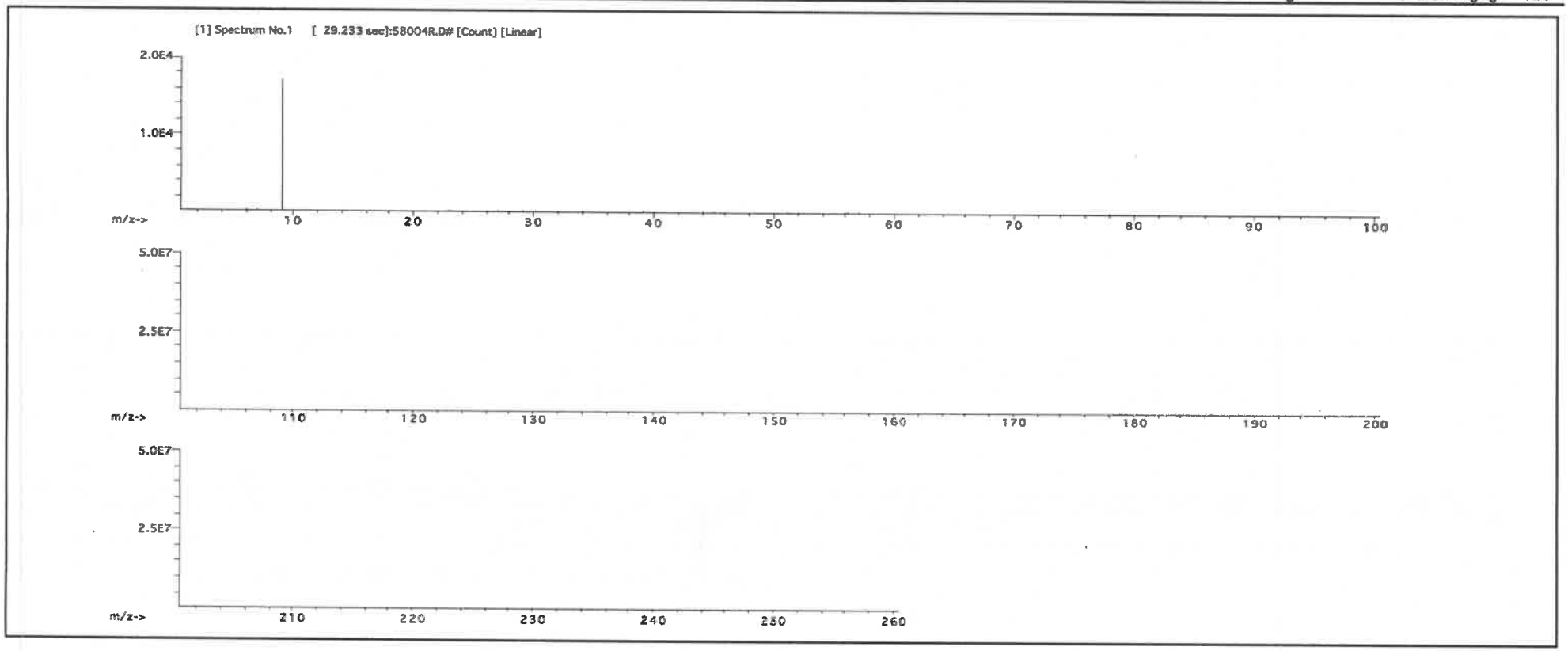
CERTIFIED WEIGHT REPORT:

		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



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

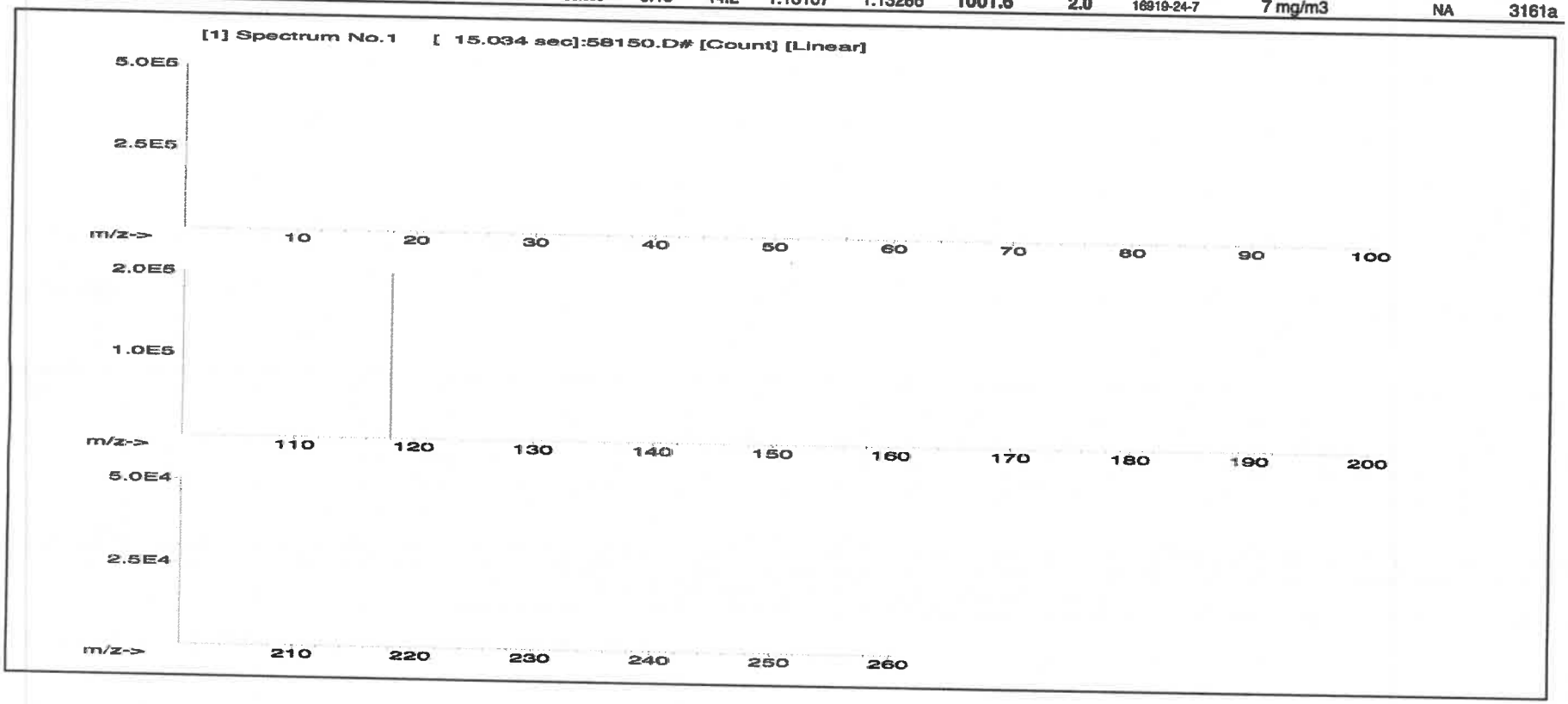
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

Solvents:	Lot #	
	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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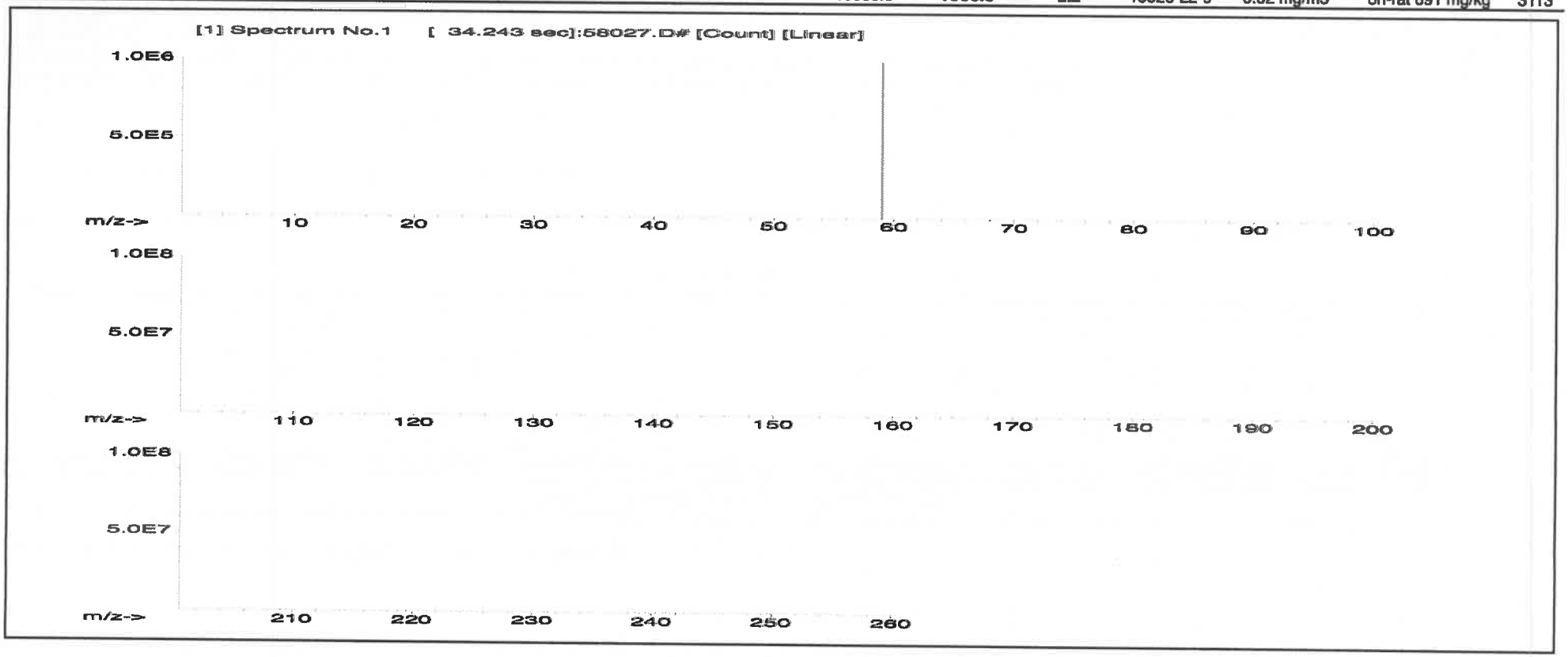
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By: Lawrence Barry 091923

Reviewed By: Pedro L. Rentas 091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	2.2	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Gé	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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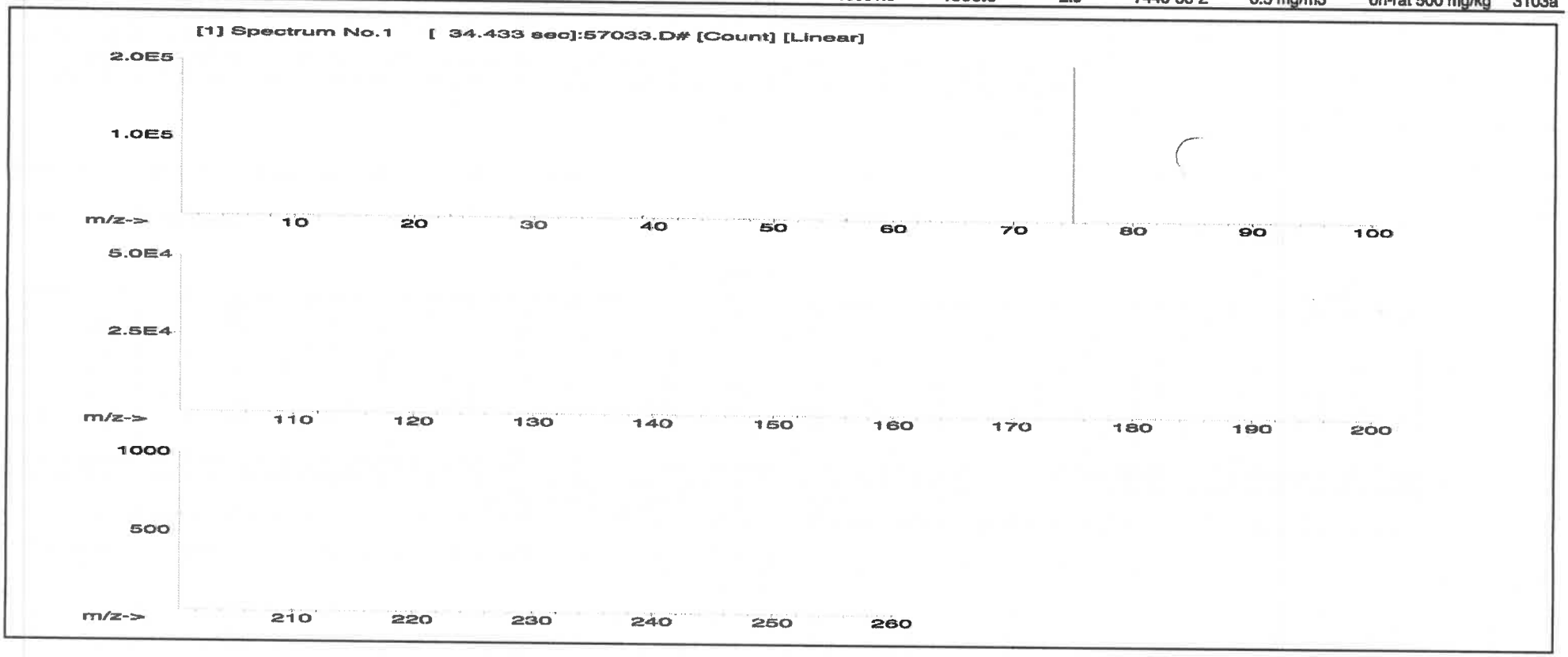
CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**	24002546	Nitric Acid		
Lot Number:	**111323**				
Description:	**Arsenic (As)**	2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rentas	111323

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	**1000.0**	2.0	7440-38-2	0.5 mg/m3	orl-rat 500 mg/kg	3103a



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge*	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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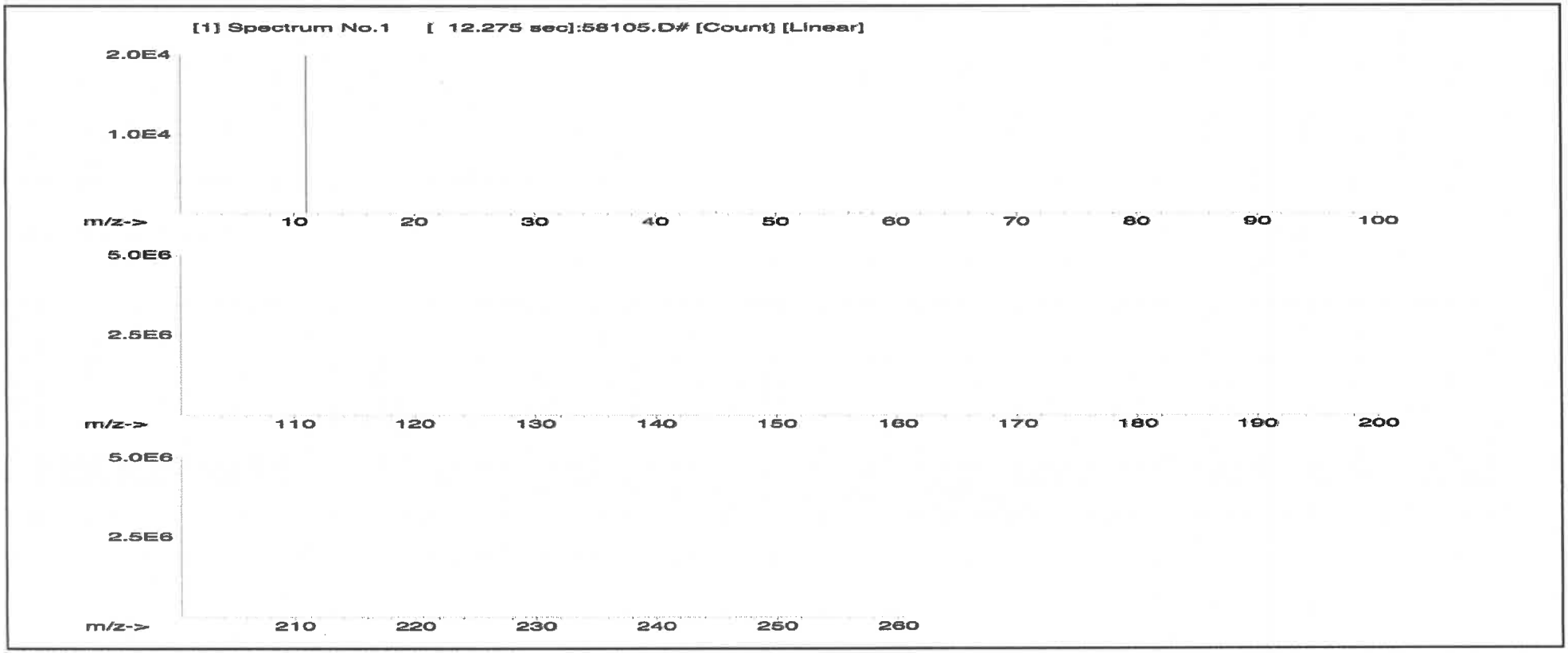
CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**Lot #**		
Lot Number:	**071123**	**Solvent:**	MKBQ8597V	Ammonium hydroxide	
Description:	**Boron (B)**	2.0%	40.0 (mL)	Ammonium hydroxide	
Expiration Date:	071126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	1999.48	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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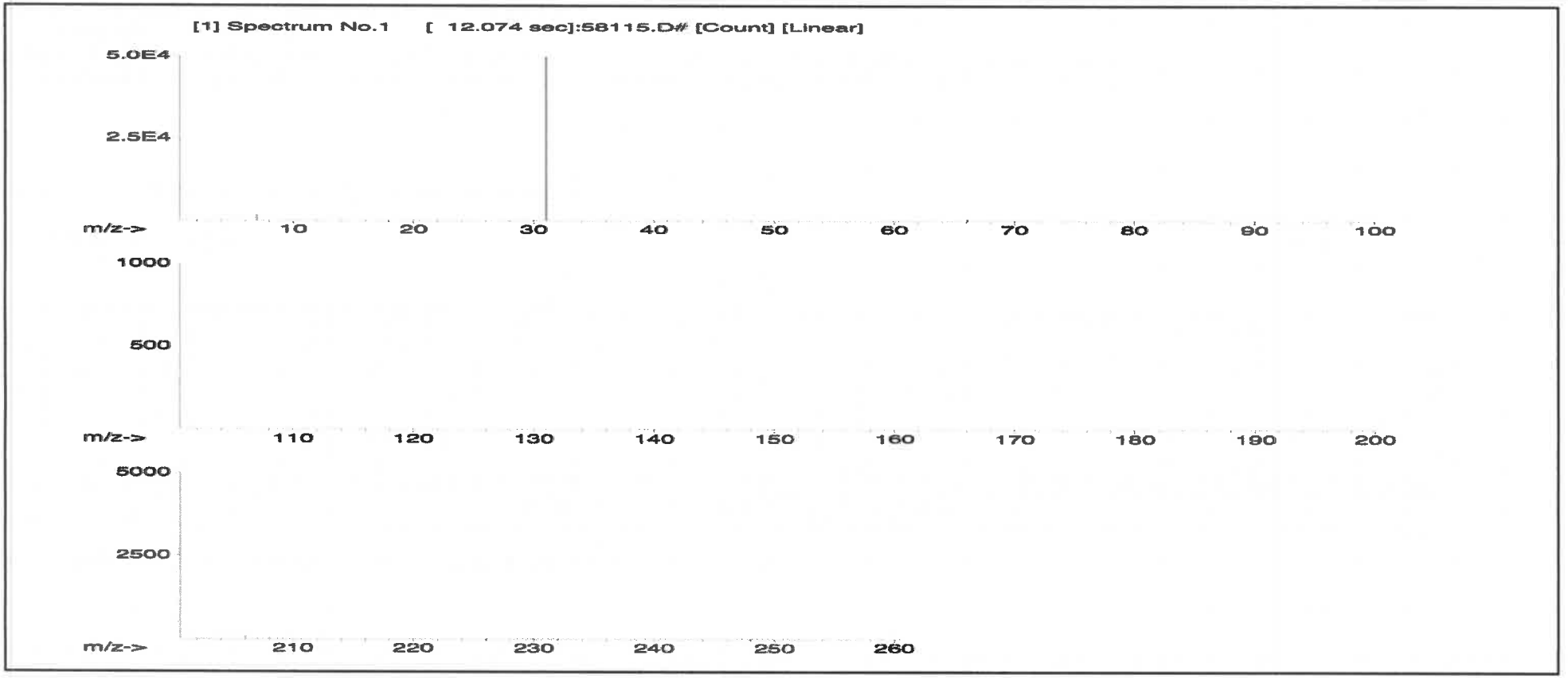
CERTIFIED WEIGHT REPORT:

				Lot #	
Part Number:	**57115**		**Solvent:**	21110221	Nitric Acid
Lot Number:	**041723**				
Description:	**Phosphorous (P)**		2%	40.0 (mL)	Nitric Acid
Expiration Date:	041726				
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	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.

* 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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Certified Reference Material CRM

R: 02/09/24 M5816

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57016
Lot Number: 122923
Description: Sulfur (S)

Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

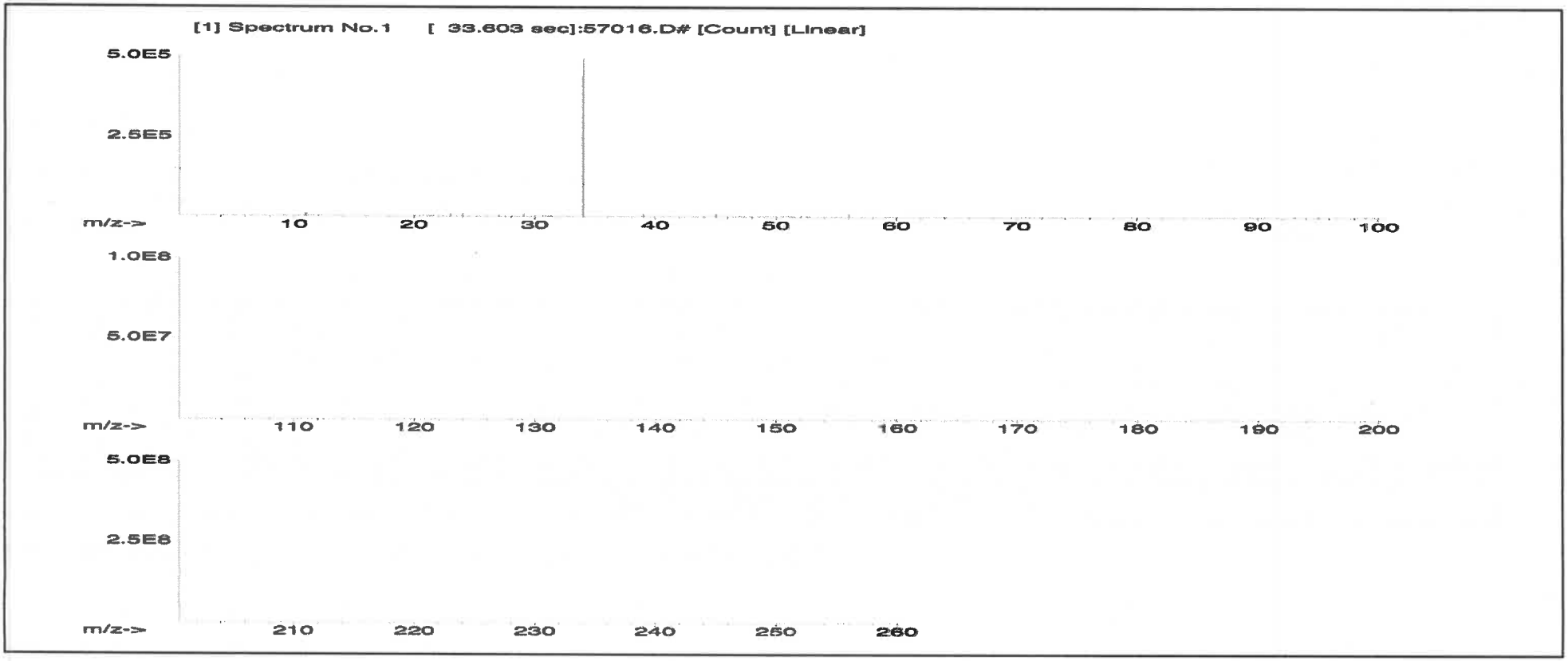
Weight shown below was diluted to (mL): 4000.0 0.06 Flask Uncertainty

	Lot #	
Solvent:	122923	ASTM Type 1 Water

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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AR-1539 Certificate Number
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	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:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

R: 02/09/24 M5817

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

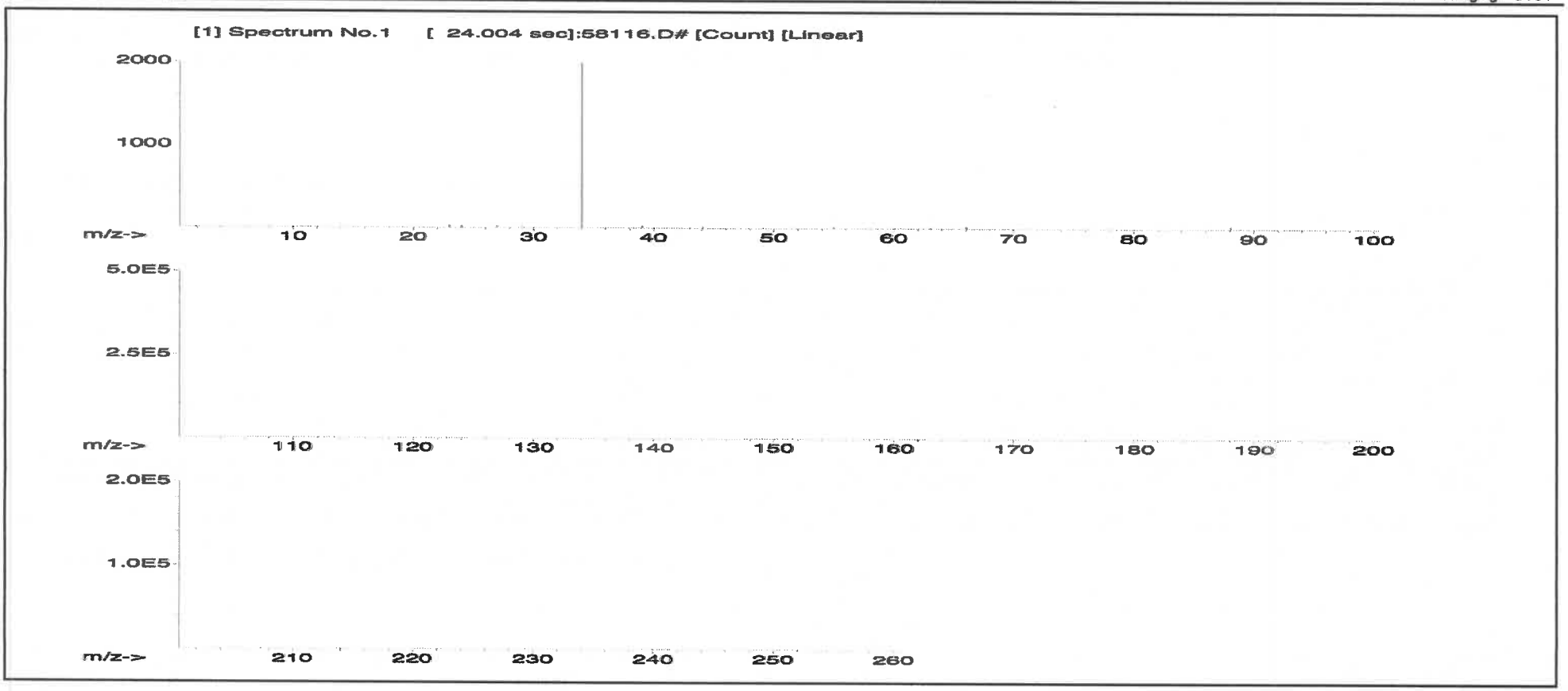
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 1999.48 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	ori-rat 4250mg/kg	3181



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Certified Reference Material CRM

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AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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Certified Reference Material CRM

R: 02/09/24 M5820

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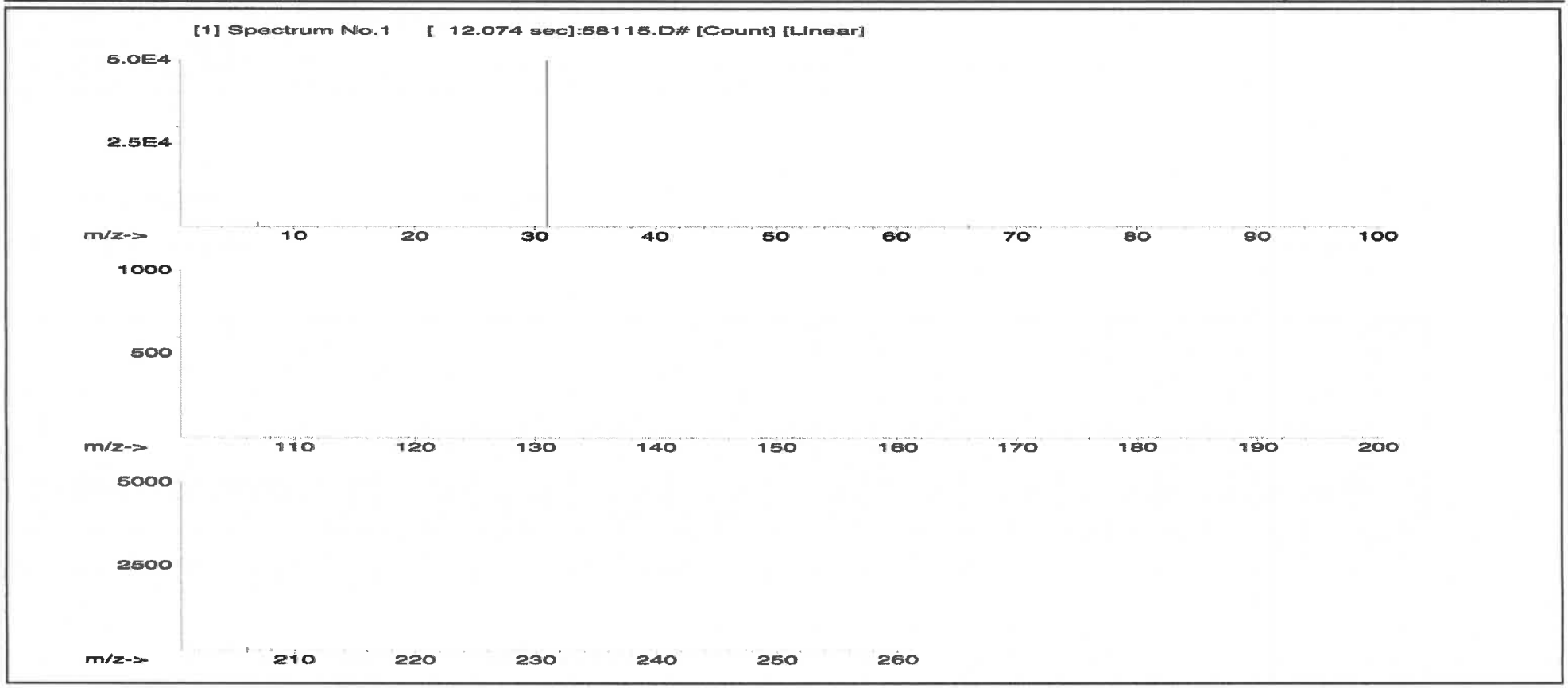
CERTIFIED WEIGHT REPORT:

		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	orl-rat >2000mg/k	3186



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
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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

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Certificate of Analysis

M5959 R: 6/14/24.

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	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

M5970, M5971 R: 7/01/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 062127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11

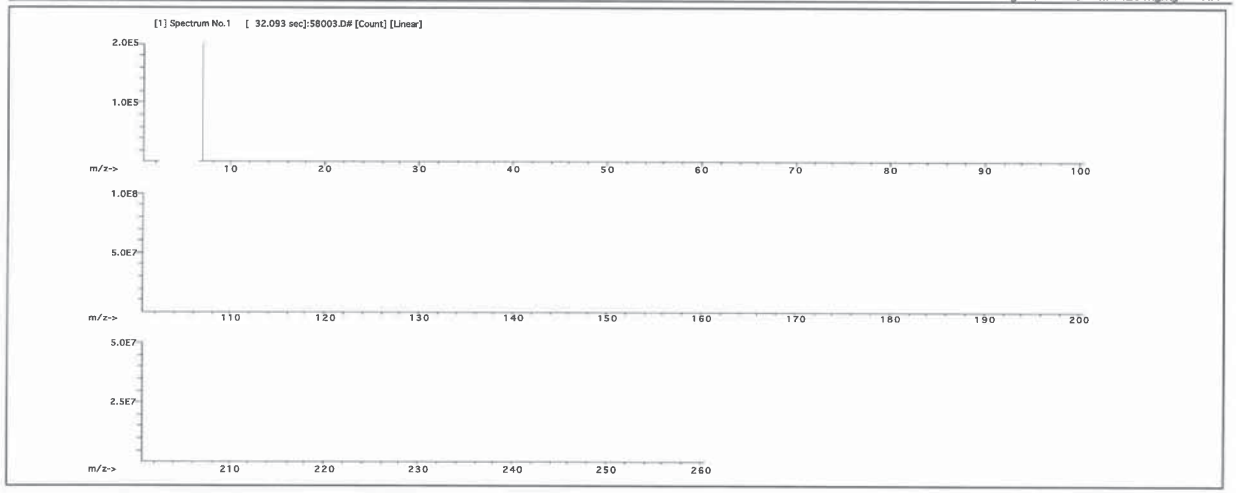
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	5.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.016 Flask Uncertainty

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	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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Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

R: 2/22/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 865.01

ACCREDITED Reference Material Producer Certificate 865.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium TI Metal
Starting Material:	
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 ($\pm$) = $u_{CRM/RM} = k\,(u^2_{Char} + u^2_{Lb} + u^2_{lts} + u^2_{ts})^{½}$

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_{Lb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (\Sigma x_a)\,(v_{Char\,a})$$

X_a = mean of Assay Method A with

$u_{Char\,a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty ($\pm$) = $u_{CRM/RM} = k\,(u^2_{Char\,a} + u^2_{Lb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{Char\,a}$ = the errors from characterization

u_{Lb} = 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=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.5798; 540.585.3030; Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on property stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozlkowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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MS985
R: 6/14/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGIN10
Lot Number:	U2-IN729349
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Indium
Starting Material:	Indium Metal
Starting Material Lot#:	2511
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.044 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	**10021 ± 56 µg/mL** ICP Assay NIST SRM 3124a Lot Number: 110516
Assay Method #2	**10035 ± 25 µg/mL** EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	**10001 ± 33 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	M	Eu	<	0.000760	O	Na		0.012771	M	Se	<	0.023000	M	Zn	<	0.006100
M	Al		0.003385	O	Fe		0.004462	M	Nb	<	0.000760	O	Si		0.024619	M	Zr	<	0.000760
M	As	<	0.004600	M	Ga	<	0.000760	M	Nd	<	0.000760	M	Sm	<	0.000760				
M	Au	<	0.002300	M	Gd	<	0.000760	O	Ni	<	0.005100	M	Sn	<	0.000760				
O	B		0.003692	M	Ge	<	0.001600	M	Os	<	0.000760	O	Sr	<	0.000610				
M	Ba	<	0.001600	M	Hf	<	0.000760	n	P	<		M	Ta	<	0.000760				
O	Be	<	0.000130	M	Hg	<	0.003100	M	Pb		0.001400	M	Tb	<	0.000760				
M	Bi	<	0.000760	M	Ho	<	0.000760	M	Pd	<	0.001600	M	Te	<	0.000760				
O	Ca		0.004616	s	In	<		M	Pr	<	0.000760	M	Th	<	0.000760				
M	Cd	<	0.000760	M	Ir	<	0.000760	M	Pt	<	0.000760	O	Ti	<	0.001100				
M	Ce	<	0.000760	O	K		0.007078	M	Rb	<	0.000760	M	Tl	<	0.000760				
M	Co	<	0.000760	M	La	<	0.000760	M	Re	<	0.000760	M	Tm	<	0.000760				
O	Cr	<	0.001300	O	Li	<	0.000130	M	Rh	<	0.000760	M	U	<	0.000760				
M	Cs	<	0.000760	M	Lu	<	0.000760	M	Ru	<	0.000760	M	V	<	0.001600				
M	Cu	<	0.003800	O	Mg		0.000707	n	S	<		M	W	<	0.001600				
M	Dy	<	0.000760	O	Mn		0.000149	M	Sb	<	0.000760	M	Y	<	0.000760				
M	Er	<	0.000760	M	Mo	<	0.002300	M	Sc	<	0.000760	M	Yb	<	0.000760				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 114.82 +3 6 In(H2O)6+3

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4. Avoid neutral and basic media. Stable with most metals and inorganic anions. The oxalate, sulfide, carbonate, hydroxide and phosphate are insoluble in water.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

In Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); Oxide (Soluble in mineral acids); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

M6074
M6075
M6076
M6077

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F: 540-585-3012
info@inorganicventures.com

EXP.: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-CLP-4
Lot Number:	V2-MEB746762
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 06, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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M6137 R→10/3/24

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSI1
Lot Number:	V2-SI744713
Matrix:	tr. HNO3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Silicon
Starting Material:	Silica
Starting Material Lot#:	1771
Starting Material Purity:	99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 5 µg/mL**
ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546

Assay Method #2 **1000 ± 7 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na		0.001656	M	Se	<	0.022000	M	Zn	<	0.002500
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphic (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 10, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor

Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

R : 4/20/21

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

M6150

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) ***CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS***

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	CN^-	99

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R-> 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

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M6156

Certified Reference Material CRM

R→ 6/12/24

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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57042
Lot Number: 032123
Description: Molybdenum (Mo)

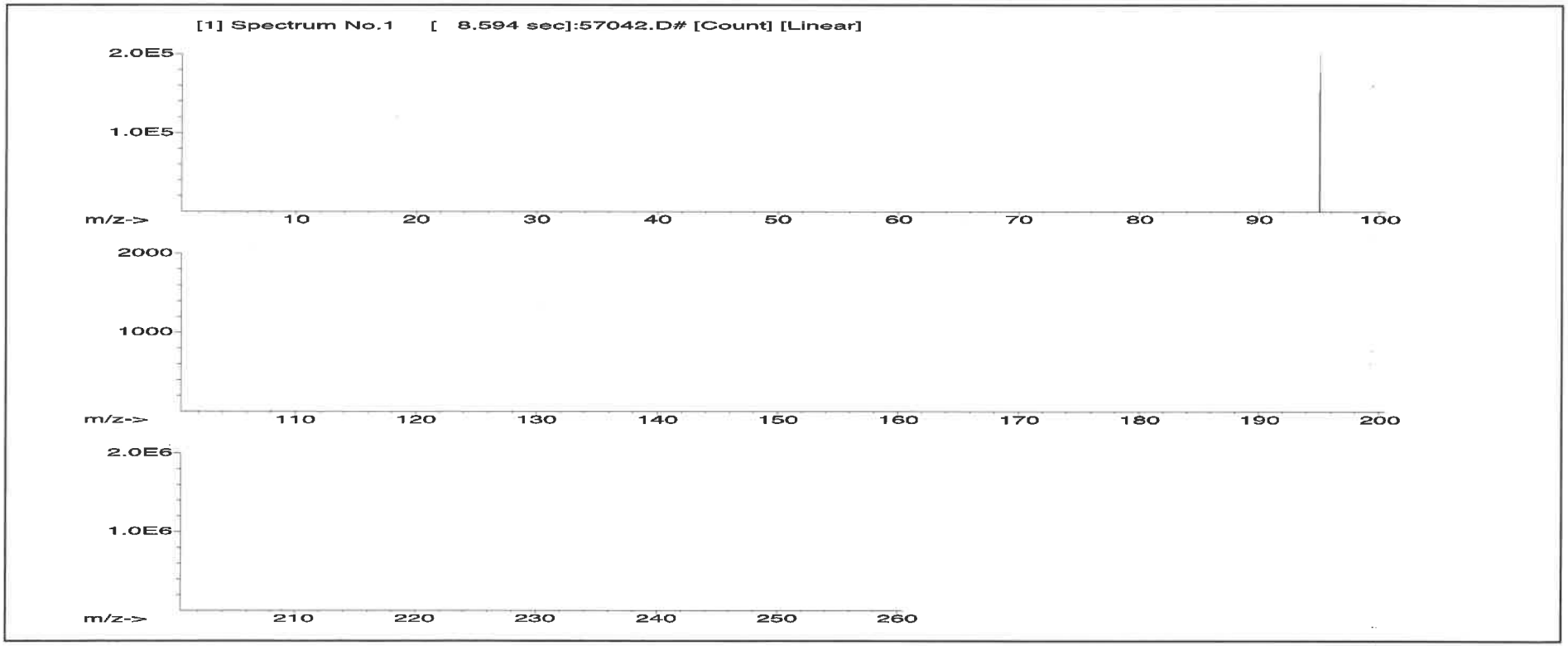
Expiration Date: 032126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 3000.41

Lot #	Solvent:		
MKBQ8597V	Ammonium hydroxide		
0.5%	15.0 (mL)	Ammonium hydroxide	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	032123
Reviewed By:	Pedro L. Rentas	032123

	Part	Lot	Dilution	Initial	Uncertainty	Nominal	Initial	Final	Expanded Uncertainty	SDS Information (Solvent Safety Info. On Attached pg.)			NIST
Compound	Number	Number	Factor	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	**Conc. (µg/mL)**	+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM
1. Ammonium molybdate (Mo)	58142	112322	0.1000	300.0	0.084	1000	10001.4	**1000.0**	**2.1**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	T	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Nitric Acid 69%
CMOS

R-02102/2025

M-6158

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

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Certified Reference Material CRM

R: 01/03/24 M5806, M5807

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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

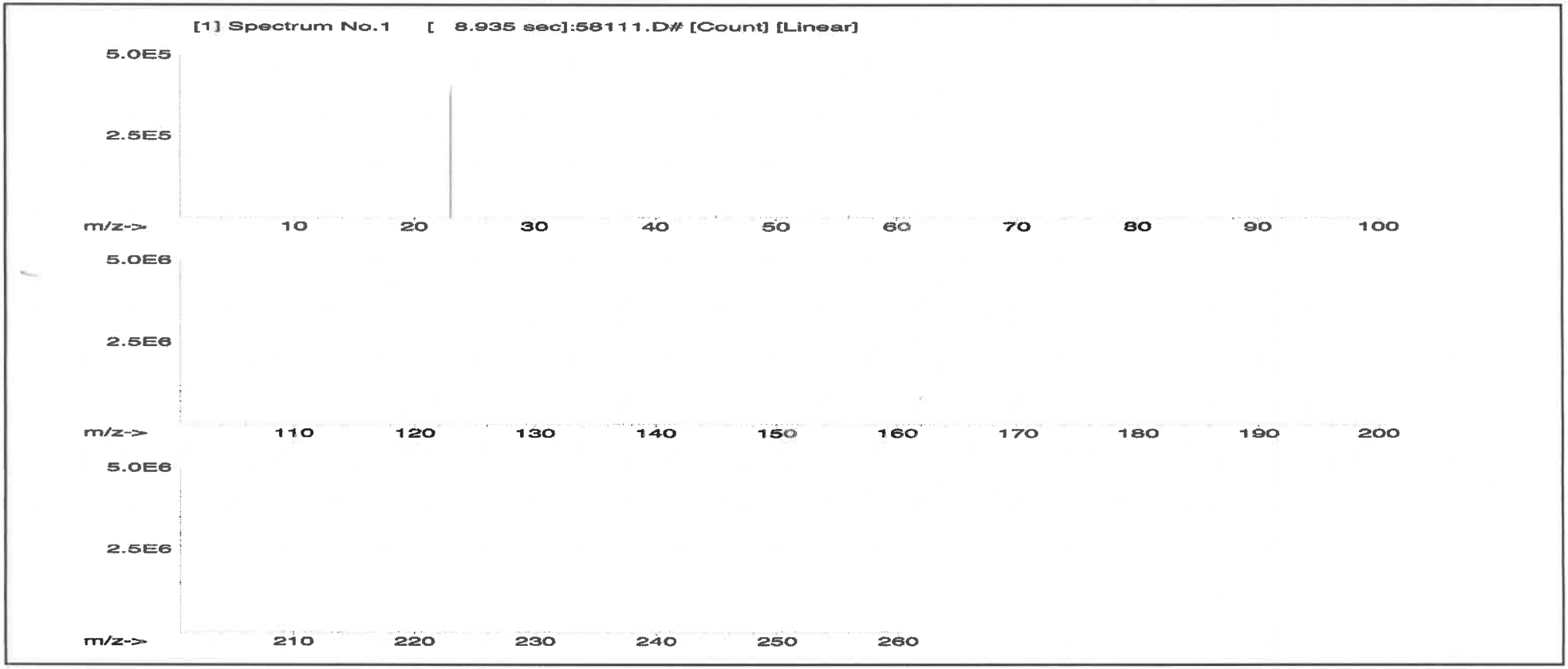
5E-05 Balance Uncertainty

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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* 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

M6030

R: 8/5/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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CERTIFIED WEIGHT REPORT:

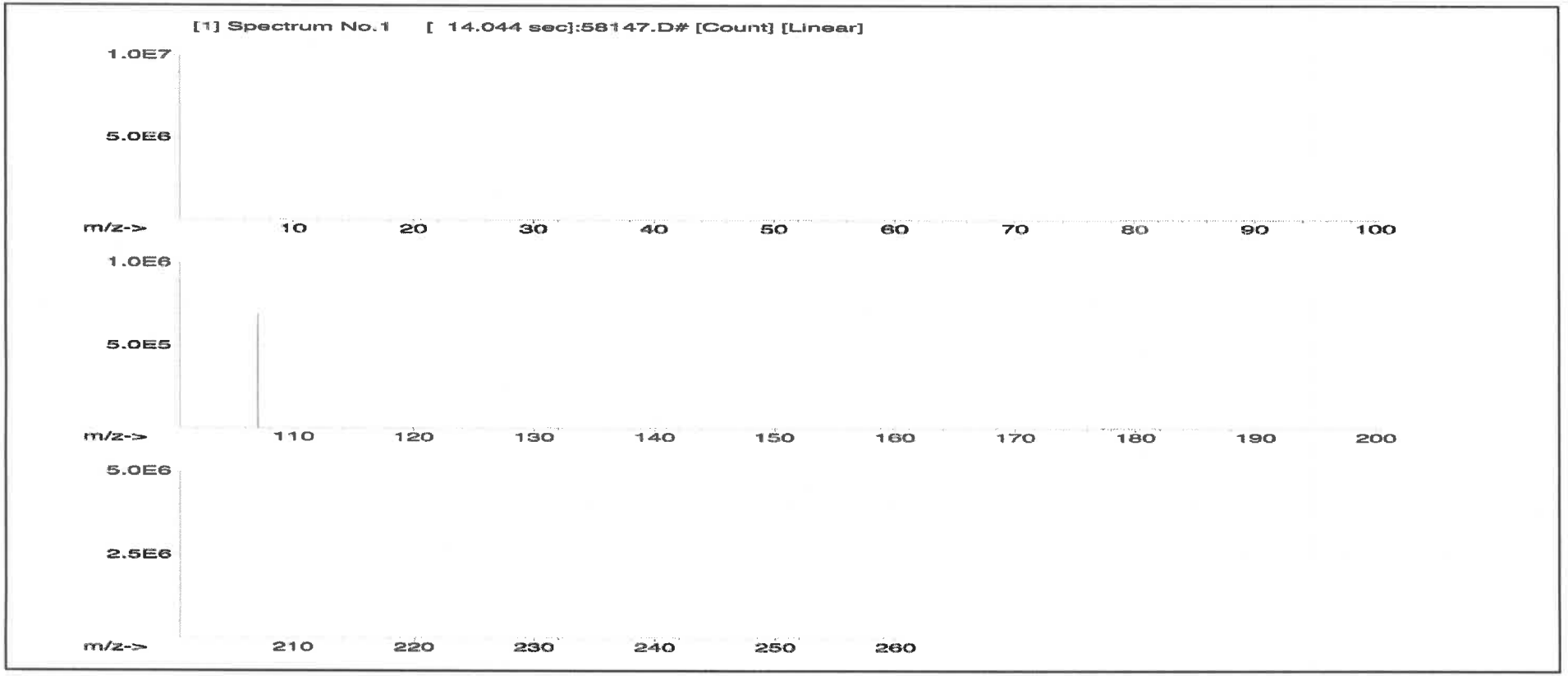
Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)

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

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	80.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	
	0.058	Flask Uncertainty	

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



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Certified Reference Material CRM

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AR-1539 Certificate Number
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	T	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

R: 10/18/24

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CERTIFIED WEIGHT REPORT:

MG146

Part Number: 57051
Lot Number: 071724
Description: Antimony (Sb)
Expiration Date: 071727
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.26 ± 0.058 Flask Uncertainty

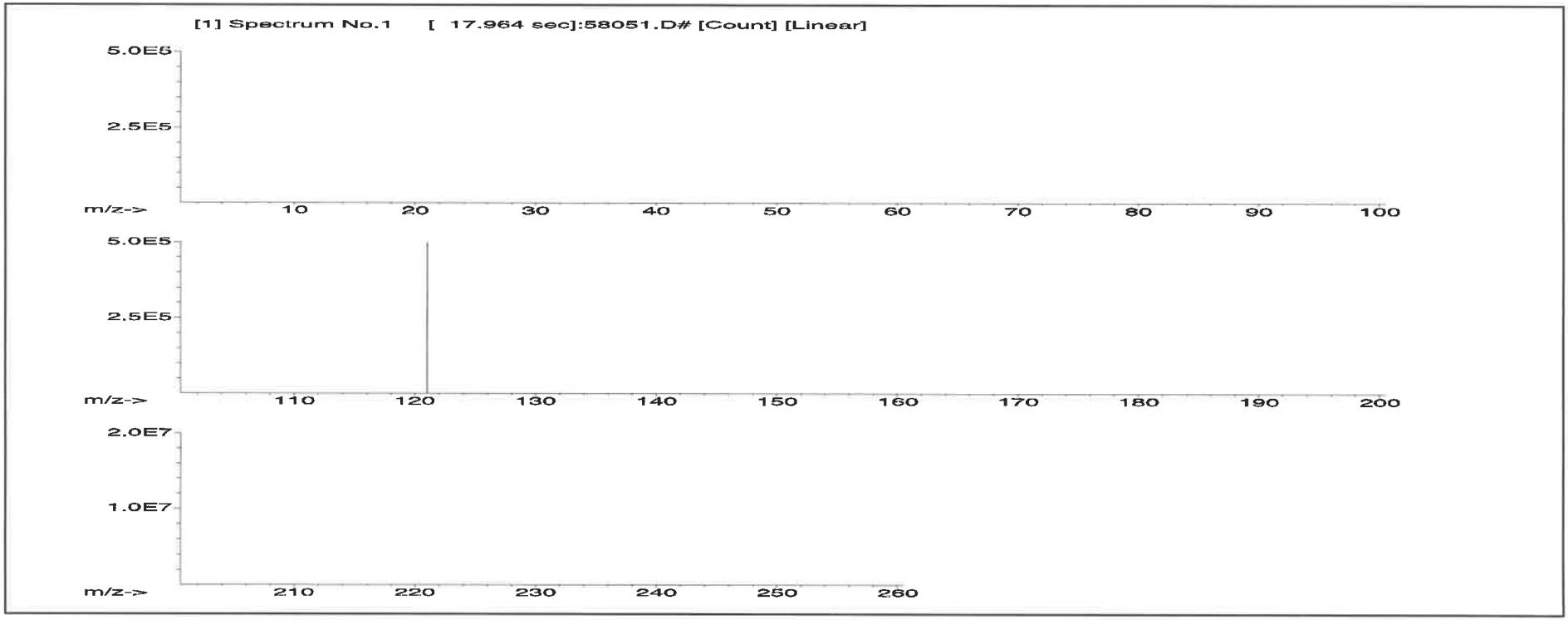
Lot #	Solvent:		
24002546	Nitric Acid		
2.0%	40.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Giovanni Esposito

Formulated By:	Giovanni Esposito	071724
Reviewed By:	Pedro L. Rentas	071724

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	060324	0.1000	200.0	0.084	1000	10001.4	**1000.0**	**2.2**	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	T	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

R : 04/20/21

APTIM

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6152

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

APTIM

Instructions for QATS Reference Material: *ICP-AES ICS*

QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6155

Contains Heavy Metals
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more bottles of Aqueous Reference Material, each composed of metals at various concentrations and prepared with nitrate salts and oxy-acids of the respective elements in a 5% nitric acid matrix. **For the reference material source in reporting ICSA and ICSAB mixture use "USEPA". For the reference material lot number for the ICSA use "ICSA-1211" and for the ICSAB mixture use "ICSA-1211+ICSB-0710".**

CAUTION: The bottle(s) should be protected from light during storage to ensure the stability of silver which is contained in the ICSB solution. The bottle(s) should be stored at room temperature. **Do not allow the solution(s) to freeze.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The interference check sample set is to be used to verify inter-element and background correction factors of inductively-coupled plasma (ICP) spectrometers. This reference material set consists of two (2) concentrated solutions. The ICSA solution contains the four (4) interferent elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,

Cd, Co, Cr, Cu, Mn, Ni, Pb, Tl, Se, V, and Zn. This instruction sheet provides the nominal values for ICP-AES Part A and Part B target analytes when diluted as directed.

Using Class "A" glassware, preparation and analysis must be performed according to the following instructions:

ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSA solution by ICP-AES.

ICSB-0710, Analytes, mixed with ICSA-1211, Interferents: Pipet 10 mL of the ICSA solution and 10 mL of the ICSB solution into a 100 mL volumetric flask and dilute to volume with 2% v/v HNO_3. Analyze this ICSAB solution by ICP-AES.

(D) *"CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)*

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

INORGANIC VENTURES™
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R: 8/5/24 M6019

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Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 885.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSR1
Lot Number:	U2-SR730227
Matrix:	0.1% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Strontium
Starting Material:	SrCO3
Starting Material Lot#:	M2-2192
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL

Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **998 ± 4 µg/mL**
ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985

Assay Method #2 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 2 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na		0.000200	M	Se	<	0.013862	O	Zn		0.000143
O	Al		0.000370	O	Fe		0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495				
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990				
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<					
M	Ba		0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495				
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495				
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724				
O	Ca		0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990				
M	Cd		0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940				
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495				
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495				
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485				
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980				
M	Cu		0.000099	O	Mg		0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn		0.000066	M	Sb	<	0.014852	O	Y	<	0.000995				
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 $Sr(H_2O)_{6}^{+2}$

Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO_3 / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 03, 2028**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M6023

R ! 8/5/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

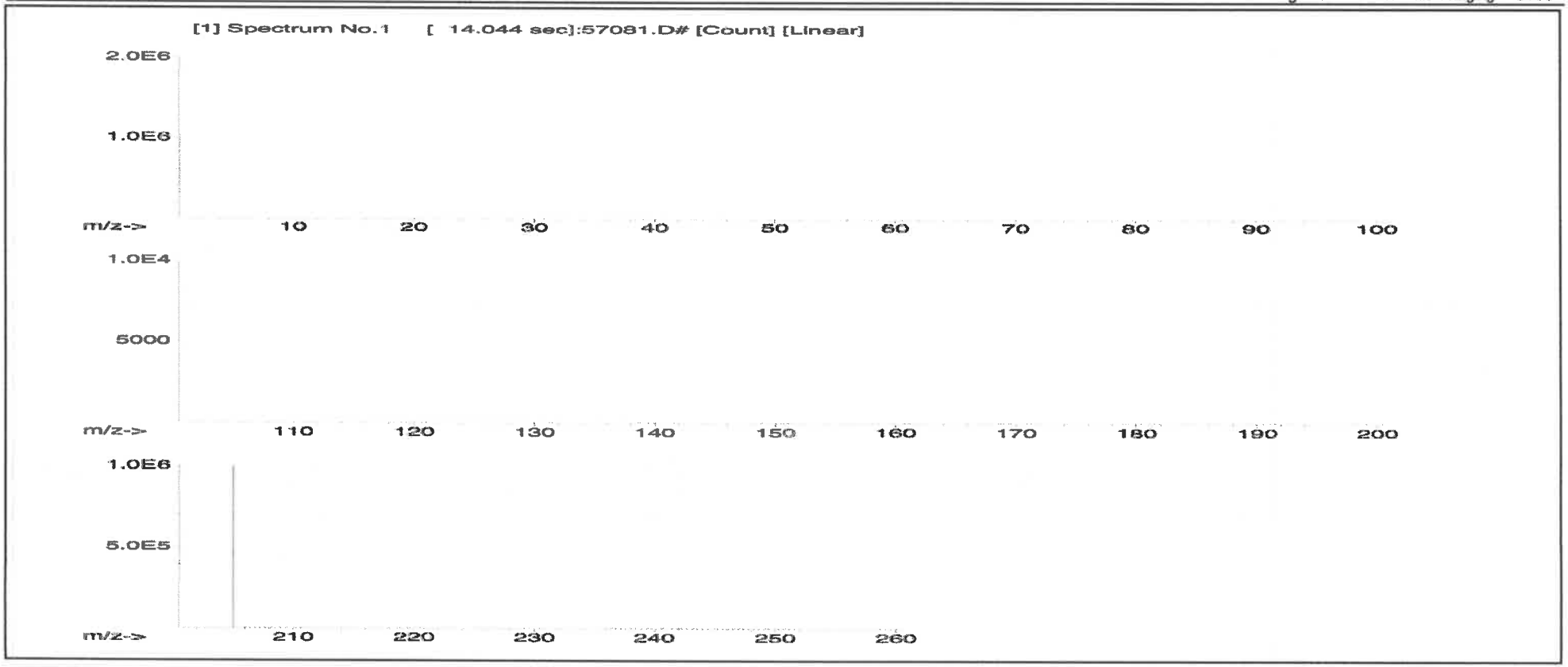
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**			Lot #	
Lot Number:	**062724**		**Solvent:**	24002546	Nitric Acid
Description:	**Thallium (Tl)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	062724
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



Absolute Standards, Inc.
800-368-1131
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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Certified Reference Material CRM

M6021

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Rc. 8/5/24

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57023**			
Lot Number:	**062424**	24002546	Nitric Acid	
Description:	**Vanadium (V)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	062427			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.3	0.06	Flask Uncertainty	

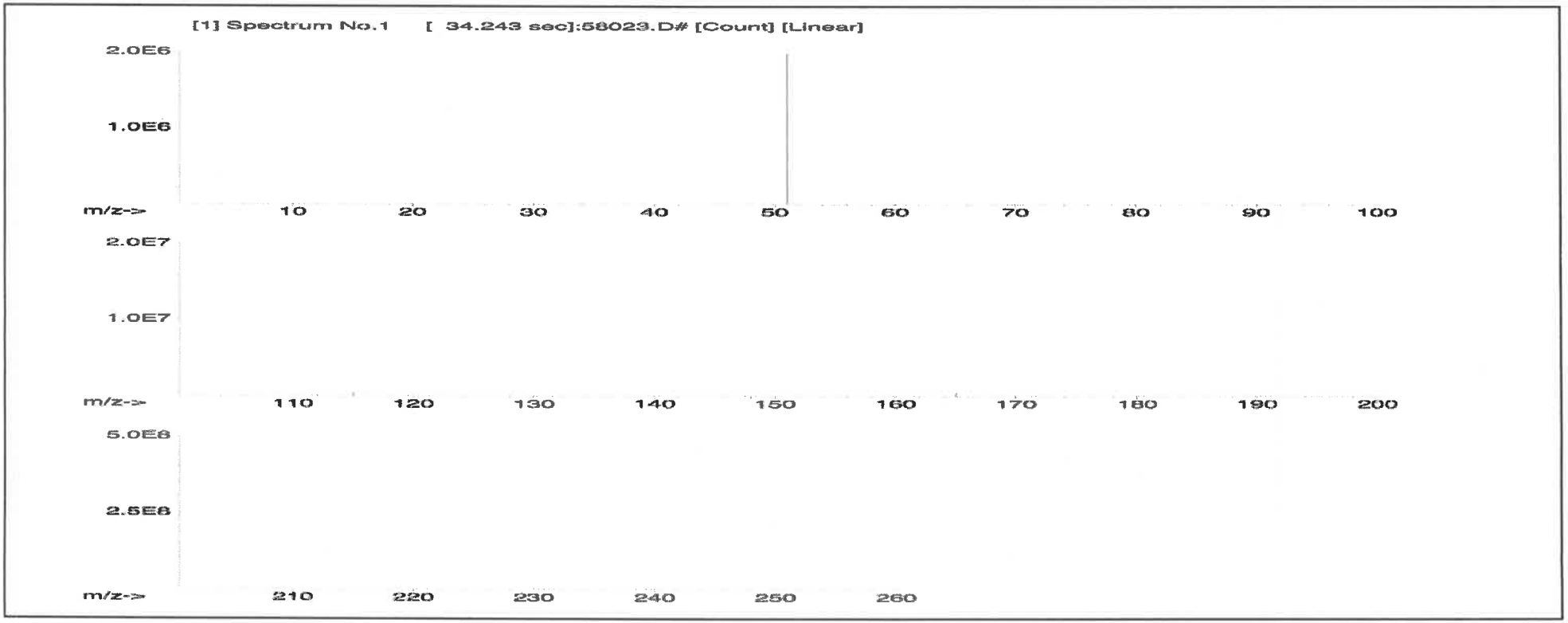
Aleah O'Brady

Formulated By:	Aleah O'Brady	062424

Pedro Rentas

Reviewed By:	Pedro L. Rentas	062424

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	**1000.0**	**2.2**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165



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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

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SHIPPING DOCUMENTS

Q1540

Chemtech

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

http://www.contestlabs.com

CHAIN OF CUSTODY RECORD

Doc # 381 Rev 4_01/08/2020

39 Spruce Street
East Longmeadow, MA 01028

Page __1__ of __1__

Company Name:	Nobis Group
Address:	55 Technology Dr Suite 101, Lowell, MA 01851
Phone:	978-703-6014
Project Name:	Raymark
Project Location:	Stratford, CT
Project Number:	95700
Project Manager:	Adam Roy
Con-Test Quote Name/Number:	
Invoice Recipient:	
Sampled By:	P. Moran

Requested Turnaround Time
5-Day ☐ 10-Day ☑
PFAS 10-Day (std) ☐ Due Date:

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☑
Other:
CLP Like Data Pkg Required: ☐ No
Email To: aroy@nobis-group.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☑
NON SOXHLET ☐

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	[1]Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	SPLP Copper	I									
	OU4-CF-15R-031025	3/10/25	11:30	G	SO			1				X										

[2] Preservation Code

Total Number Of:

VIALS_____
GLASS_____
PLASTIC_____
BACTERIA_____
ENCORE_____

Glassware in the fridge? Y / N

Glassware in freezer? Y / N

Prepackaged Cooler? Y / N

*Contest is not responsible for missing samples from prepacked coolers

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time: 3/10/25 1200
Received by: (signature)	Date/Time: 9:56 3-11-25
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments: 3.2°C IL Gun #1

Detection Limit Requirements
MA
CT
Other:

Special Requirements
☐ MA MCP Required
MCP Certification Form Required
☑ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U Unknown

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ *AIHA-LAP,LLC*

Lab Comments:

Disclaimer: Con-Test Labs is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Con-Test values your partnership on each project and will try to assist with missing information, but will not be held accountable.

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488