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Cover Page

Order ID : P4861

Project ID : Meeker Ave Plumes Superfund Site RI FS

Client : AECOM

Lab Sample Number	Client Sample Number
P4861-01	WC-11-A-202411

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

Signature : _____

Date: 11/22/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

Alliance TECHNICAL GROUP

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

DATA REPORTING QUALIFIERS- INORGANIC

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

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

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **P4861**

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

QA Review Signature: **KETAN PATEL** **Date:** **11/22/2024**

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LAB CHRONICLE

OrderID:	P4861	**OrderDate:**	11/14/2024 1:44:00 PM
Client:	AECOM	**Project:**	Meeker Ave Plumes Superfund Site RI FS
Contact:	Amit Haryani	**Location:**	L41

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4861-01	**WC-11-A-202411**	**TCLP**			**11/13/24**			**11/14/24**
			TCLP ICP Metals	6010D		11/18/24	11/18/24	
			TCLP Mercury	7470A		11/19/24	11/19/24	

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Hit Summary Sheet
SW-846

SDG No.: P4861 **Order ID:** P4861

Client: AECOM **Project ID:** Meeker Ave Plumes Superfund Site RI FS

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WC-11-A-202411								
P4861-01	WC-11-A-202411	TCLP	Chromium	23.7	J	6.60	50.0	ug/L



SAMPLE DATA

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Report of Analysis

Client:	AECOM	Date Collected:	11/13/24
Project:	Meeker Ave Plumes Superfund Site RI FS	Date Received:	11/14/24
Client Sample ID:	WC-11-A-202411	SDG No.:	P4861
Lab Sample ID:	P4861-01	Matrix:	TCLP
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-38-2	Arsenic	34.8	U	1	34.8	100	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-39-3	Barium	62.8	U	1	62.8	500	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-43-9	Cadmium	0.94	U	1	0.94	30.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-47-3	Chromium	23.7	J	1	6.60	50.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7439-92-1	Lead	35.1	U	1	35.1	60.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7439-97-6	Mercury	0.81	U	1	0.81	2.00	ug/L	11/19/24 07:53	11/19/24 12:40	SW7470A	
7782-49-2	Selenium	58.8	U	1	58.8	100	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050
7440-22-4	Silver	5.80	U	1	5.80	50.0	ug/L	11/18/24 11:00	11/18/24 17:27	SW6010	SW3050

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

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

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

METAL CALIBRATION DATA

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV90	Mercury	3.62	4.0	90	90 - 110	CV	11/19/2024	11:19	LB133509

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Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Mercury	5.35	5.0	107	90 - 110	CV	11/19/2024	11:26	LB133509
CCV06	Mercury	5.23	5.0	104	90 - 110	CV	11/19/2024	11:53	LB133509
CCV07	Mercury	5.03	5.0	101	90 - 110	CV	11/19/2024	12:20	LB133509
CCV08	Mercury	5.06	5.0	101	90 - 110	CV	11/19/2024	13:10	LB133509
CCV09	Mercury	5.33	5.0	107	90 - 110	CV	11/19/2024	13:33	LB133509

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Arsenic	1040	1000	104	90 - 110	P	11/18/2024	12:57	LB133502
	Barium	533	520	102	90 - 110	P	11/18/2024	12:57	LB133502
	Cadmium	523	510	103	90 - 110	P	11/18/2024	12:57	LB133502
	Chromium	554	520	107	90 - 110	P	11/18/2024	12:57	LB133502
	Lead	1030	1000	104	90 - 110	P	11/18/2024	12:57	LB133502
	Selenium	1070	1000	107	90 - 110	P	11/18/2024	12:57	LB133502
	Silver	264	250	106	90 - 110	P	11/18/2024	12:57	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Arsenic	18.9	20.0	94	80 - 120	P	11/18/2024	13:11	LB133502
	Barium	101	100	101	80 - 120	P	11/18/2024	13:11	LB133502
	Cadmium	6.99	6.0	116	80 - 120	P	11/18/2024	13:11	LB133502
	Chromium	10.5	10.0	105	80 - 120	P	11/18/2024	13:11	LB133502
	Lead	12.1	12.0	101	80 - 120	P	11/18/2024	13:11	LB133502
	Selenium	20.9	20.0	105	80 - 120	P	11/18/2024	13:11	LB133502
	Silver	10.8	10.0	108	80 - 120	P	11/18/2024	13:11	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Arsenic	4990	5000	100	90 - 110	P	11/18/2024	13:52	LB133502
	Barium	9590	10000	96	90 - 110	P	11/18/2024	13:52	LB133502
	Cadmium	2460	2500	98	90 - 110	P	11/18/2024	13:52	LB133502
	Chromium	1020	1000	102	90 - 110	P	11/18/2024	13:52	LB133502
	Lead	4930	5000	99	90 - 110	P	11/18/2024	13:52	LB133502
	Selenium	5110	5000	102	90 - 110	P	11/18/2024	13:52	LB133502
	Silver	1250	1250	100	90 - 110	P	11/18/2024	13:52	LB133502
CCV02	Arsenic	5030	5000	101	90 - 110	P	11/18/2024	14:31	LB133502
	Barium	9540	10000	95	90 - 110	P	11/18/2024	14:31	LB133502
	Cadmium	2490	2500	100	90 - 110	P	11/18/2024	14:31	LB133502
	Chromium	1030	1000	103	90 - 110	P	11/18/2024	14:31	LB133502
	Lead	4980	5000	100	90 - 110	P	11/18/2024	14:31	LB133502
	Selenium	5160	5000	103	90 - 110	P	11/18/2024	14:31	LB133502
	Silver	1260	1250	100	90 - 110	P	11/18/2024	14:31	LB133502
CCV03	Arsenic	5000	5000	100	90 - 110	P	11/18/2024	15:35	LB133502
	Barium	9430	10000	94	90 - 110	P	11/18/2024	15:35	LB133502
	Cadmium	2450	2500	98	90 - 110	P	11/18/2024	15:35	LB133502
	Chromium	1020	1000	102	90 - 110	P	11/18/2024	15:35	LB133502
	Lead	4910	5000	98	90 - 110	P	11/18/2024	15:35	LB133502
	Selenium	5130	5000	103	90 - 110	P	11/18/2024	15:35	LB133502
	Silver	1240	1250	100	90 - 110	P	11/18/2024	15:35	LB133502
CCV04	Arsenic	5020	5000	100	90 - 110	P	11/18/2024	16:25	LB133502
	Barium	9440	10000	94	90 - 110	P	11/18/2024	16:25	LB133502
	Cadmium	2460	2500	98	90 - 110	P	11/18/2024	16:25	LB133502
	Chromium	1030	1000	103	90 - 110	P	11/18/2024	16:25	LB133502
	Lead	4910	5000	98	90 - 110	P	11/18/2024	16:25	LB133502
	Selenium	5210	5000	104	90 - 110	P	11/18/2024	16:25	LB133502
	Silver	1260	1250	101	90 - 110	P	11/18/2024	16:25	LB133502
CCV05	Arsenic	5120	5000	102	90 - 110	P	11/18/2024	17:01	LB133502
	Barium	9720	10000	97	90 - 110	P	11/18/2024	17:01	LB133502
	Cadmium	2500	2500	100	90 - 110	P	11/18/2024	17:01	LB133502
	Chromium	1040	1000	104	90 - 110	P	11/18/2024	17:01	LB133502
	Lead	5000	5000	100	90 - 110	P	11/18/2024	17:01	LB133502
	Selenium	5040	5000	101	90 - 110	P	11/18/2024	17:01	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Silver	1280	1250	102	90 - 110	P	11/18/2024	17:01	LB133502
CCV06	Arsenic	5080	5000	102	90 - 110	P	11/18/2024	18:04	LB133502
	Barium	9550	10000	96	90 - 110	P	11/18/2024	18:04	LB133502
	Cadmium	2490	2500	100	90 - 110	P	11/18/2024	18:04	LB133502
	Chromium	1040	1000	104	90 - 110	P	11/18/2024	18:04	LB133502
	Lead	4980	5000	100	90 - 110	P	11/18/2024	18:04	LB133502
	Selenium	4980	5000	100	90 - 110	P	11/18/2024	18:04	LB133502
	Silver	1270	1250	102	90 - 110	P	11/18/2024	18:04	LB133502
CCV07	Arsenic	5290	5000	106	90 - 110	P	11/18/2024	18:54	LB133502
	Barium	9680	10000	97	90 - 110	P	11/18/2024	18:54	LB133502
	Cadmium	2570	2500	103	90 - 110	P	11/18/2024	18:54	LB133502
	Chromium	1070	1000	107	90 - 110	P	11/18/2024	18:54	LB133502
	Lead	5140	5000	103	90 - 110	P	11/18/2024	18:54	LB133502
	Selenium	5260	5000	105	90 - 110	P	11/18/2024	18:54	LB133502
	Silver	1300	1250	104	90 - 110	P	11/18/2024	18:54	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Arsenic	1020	1000	102	90 - 110	P	11/19/2024	11:25	LB133524
	Barium	542	520	104	90 - 110	P	11/19/2024	11:25	LB133524
	Cadmium	526	510	103	90 - 110	P	11/19/2024	11:25	LB133524
	Chromium	551	520	106	90 - 110	P	11/19/2024	11:25	LB133524
	Lead	1040	1000	104	90 - 110	P	11/19/2024	11:25	LB133524
	Selenium	1040	1000	104	90 - 110	P	11/19/2024	11:25	LB133524
	Silver	261	250	105	90 - 110	P	11/19/2024	11:25	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Arsenic	20.5	20.0	102	80 - 120	P	11/19/2024	11:34	LB133524
	Barium	104	100	104	80 - 120	P	11/19/2024	11:34	LB133524
	Cadmium	5.89	6.0	98	80 - 120	P	11/19/2024	11:34	LB133524
	Chromium	10.7	10.0	107	80 - 120	P	11/19/2024	11:34	LB133524
	Lead	12.4	12.0	103	80 - 120	P	11/19/2024	11:34	LB133524
	Selenium	20.6	20.0	103	80 - 120	P	11/19/2024	11:34	LB133524
	Silver	10.1	10.0	101	80 - 120	P	11/19/2024	11:34	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Arsenic	4970	5000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Barium	10000	10000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Cadmium	2490	2500	100	90 - 110	P	11/19/2024	12:43	LB133524
	Chromium	996	1000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Lead	4990	5000	100	90 - 110	P	11/19/2024	12:43	LB133524
	Selenium	4950	5000	99	90 - 110	P	11/19/2024	12:43	LB133524
	Silver	1230	1250	98	90 - 110	P	11/19/2024	12:43	LB133524
CCV02	Arsenic	5320	5000	106	90 - 110	P	11/19/2024	13:34	LB133524
	Barium	10300	10000	103	90 - 110	P	11/19/2024	13:34	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	13:34	LB133524
	Chromium	1070	1000	107	90 - 110	P	11/19/2024	13:34	LB133524
	Lead	5240	5000	105	90 - 110	P	11/19/2024	13:34	LB133524
	Selenium	5340	5000	107	90 - 110	P	11/19/2024	13:34	LB133524
	Silver	1320	1250	106	90 - 110	P	11/19/2024	13:34	LB133524
CCV03	Arsenic	5110	5000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Barium	10300	10000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Cadmium	2590	2500	104	90 - 110	P	11/19/2024	14:24	LB133524
	Chromium	1040	1000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Lead	5200	5000	104	90 - 110	P	11/19/2024	14:24	LB133524
	Selenium	5080	5000	102	90 - 110	P	11/19/2024	14:24	LB133524
	Silver	1280	1250	102	90 - 110	P	11/19/2024	14:24	LB133524
CCV04	Arsenic	5260	5000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Barium	10500	10000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	15:31	LB133524
	Chromium	1050	1000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Lead	5230	5000	105	90 - 110	P	11/19/2024	15:31	LB133524
	Selenium	5280	5000	106	90 - 110	P	11/19/2024	15:31	LB133524
	Silver	1290	1250	103	90 - 110	P	11/19/2024	15:31	LB133524
CCV05	Arsenic	5210	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Barium	10300	10000	103	90 - 110	P	11/19/2024	16:18	LB133524
	Cadmium	2580	2500	103	90 - 110	P	11/19/2024	16:18	LB133524
	Chromium	1050	1000	105	90 - 110	P	11/19/2024	16:18	LB133524
	Lead	5170	5000	104	90 - 110	P	11/19/2024	16:18	LB133524
	Selenium	5240	5000	105	90 - 110	P	11/19/2024	16:18	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source: EPA

Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV05	Silver	1290	1250	103	90 - 110	P	11/19/2024	16:18	LB133524
CCV06	Arsenic	5270	5000	105	90 - 110	P	11/19/2024	17:19	LB133524
	Barium	10400	10000	104	90 - 110	P	11/19/2024	17:19	LB133524
	Cadmium	2610	2500	104	90 - 110	P	11/19/2024	17:19	LB133524
	Chromium	1060	1000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Lead	5240	5000	105	90 - 110	P	11/19/2024	17:19	LB133524
	Selenium	5310	5000	106	90 - 110	P	11/19/2024	17:19	LB133524
	Silver	1310	1250	105	90 - 110	P	11/19/2024	17:19	LB133524
CCV07	Arsenic	5070	5000	101	90 - 110	P	11/19/2024	18:01	LB133524
	Barium	10600	10000	106	90 - 110	P	11/19/2024	18:01	LB133524
	Cadmium	2490	2500	99	90 - 110	P	11/19/2024	18:01	LB133524
	Chromium	1020	1000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Lead	5020	5000	100	90 - 110	P	11/19/2024	18:01	LB133524
	Selenium	5100	5000	102	90 - 110	P	11/19/2024	18:01	LB133524
	Silver	1270	1250	101	90 - 110	P	11/19/2024	18:01	LB133524

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Metals

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CRDL STANDARD FOR AA & ICP

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Initial Calibration Source:

Continuing Calibration Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Arsenic	19.8	20.0	99	40 - 160	P	11/18/2024	13:20	LB133502
	Barium	98.9	100	99	40 - 160	P	11/18/2024	13:20	LB133502
	Cadmium	7.02	6.0	117	40 - 160	P	11/18/2024	13:20	LB133502
	Chromium	10.5	10.0	105	40 - 160	P	11/18/2024	13:20	LB133502
	Lead	11.7	12.0	97	40 - 160	P	11/18/2024	13:20	LB133502
	Selenium	21.8	20.0	109	40 - 160	P	11/18/2024	13:20	LB133502
	Silver	11.0	10.0	110	40 - 160	P	11/18/2024	13:20	LB133502
CRA	Mercury	0.17	0.2	87	40 - 160	CV	11/19/2024	11:30	LB133509
CRI01	Arsenic	19.4	20.0	97	40 - 160	P	11/19/2024	11:43	LB133524
	Barium	105	100	105	40 - 160	P	11/19/2024	11:43	LB133524
	Cadmium	5.78	6.0	96	40 - 160	P	11/19/2024	11:43	LB133524
	Chromium	10.2	10.0	102	40 - 160	P	11/19/2024	11:43	LB133524
	Lead	12.1	12.0	101	40 - 160	P	11/19/2024	11:43	LB133524
	Selenium	18.1	20.0	90	40 - 160	P	11/19/2024	11:43	LB133524
	Silver	10.1	10.0	101	40 - 160	P	11/19/2024	11:43	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB90	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	11:21	LB133509

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB05	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	11:28	LB133509
CCB06	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	11:55	LB133509
CCB07	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	12:23	LB133509
CCB08	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	13:12	LB133509
CCB09	Mercury	0.20	+/-0.20	U	0.20	CV	11/19/2024	13:35	LB133509

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	13:15	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	13:15	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	13:15	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	13:15	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	13:15	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	13:15	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	13:15	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	14:02	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	14:02	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	14:02	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	14:02	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	14:02	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	14:02	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	14:02	LB133502
CCB02	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	14:35	LB133502
	Barium	18.0	+/-100	J	100	P	11/18/2024	14:35	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	14:35	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	14:35	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	14:35	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	14:35	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	14:35	LB133502
CCB03	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	15:39	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	15:39	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	15:39	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	15:39	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	15:39	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	15:39	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	15:39	LB133502
CCB04	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	16:29	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	16:29	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	16:29	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	16:29	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	16:29	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	16:29	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	16:29	LB133502
CCB05	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	17:06	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	17:06	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	17:06	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	17:06	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	17:06	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	17:06	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	17:06	LB133502
CCB06	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	18:08	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	18:08	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	18:08	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	18:08	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	18:08	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	18:08	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	18:08	LB133502
CCB07	Arsenic	20.0	+/-20.0	U	20.0	P	11/18/2024	18:58	LB133502
	Barium	100	+/-100	U	100	P	11/18/2024	18:58	LB133502
	Cadmium	6.00	+/-6.00	U	6.00	P	11/18/2024	18:58	LB133502
	Chromium	10.0	+/-10.0	U	10.0	P	11/18/2024	18:58	LB133502
	Lead	12.0	+/-12.0	U	12.0	P	11/18/2024	18:58	LB133502
	Selenium	20.0	+/-20.0	U	20.0	P	11/18/2024	18:58	LB133502
	Silver	10.0	+/-10.0	U	10.0	P	11/18/2024	18:58	LB133502

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	11:38	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	11:38	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	11:38	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	11:38	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	11:38	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	11:38	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	11:38	LB133524

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	12:48	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	12:48	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	12:48	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	12:48	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	12:48	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	12:48	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	12:48	LB133524
CCB02	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	13:38	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	13:38	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	13:38	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	13:38	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	13:38	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	13:38	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	13:38	LB133524
CCB03	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	14:28	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	14:28	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	14:28	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	14:28	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	14:28	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	14:28	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	14:28	LB133524
CCB04	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	15:36	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	15:36	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	15:36	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	15:36	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	15:36	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	15:36	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	15:36	LB133524
CCB05	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	16:22	LB133524
	Barium	100	+/-100	U	100	P	11/19/2024	16:22	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	16:22	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	16:22	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	16:22	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	16:22	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	16:22	LB133524
CCB06	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	17:24	LB133524
	Barium	22.0	+/-100	J	100	P	11/19/2024	17:24	LB133524
	Cadmium	6.00	+/-6.00	U	6.00	P	11/19/2024	17:24	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	17:24	LB133524

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Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB06	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	17:24	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	17:24	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	17:24	LB133524
CCB07	Arsenic	20.0	+/-20.0	U	20.0	P	11/19/2024	18:05	LB133524
	Barium	25.8	+/-100	J	100	P	11/19/2024	18:05	LB133524
	Cadmium	0.62	+/-6.00	J	6.00	P	11/19/2024	18:05	LB133524
	Chromium	10.0	+/-10.0	U	10.0	P	11/19/2024	18:05	LB133524
	Lead	12.0	+/-12.0	U	12.0	P	11/19/2024	18:05	LB133524
	Selenium	20.0	+/-20.0	U	20.0	P	11/19/2024	18:05	LB133524
	Silver	10.0	+/-10.0	U	10.0	P	11/19/2024	18:05	LB133524

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Metals
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PREPARATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165019TB		**WATER**		**Batch Number:**	**PB165080**		**Prep Date:**	**11/19/2024**	
	Mercury	2.00	<2.00	U	2.00	CV	11/19/2024	13:21	LB133509

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165080BL		**WATER**		**Batch Number:**	**PB165080**		**Prep Date:**	**11/19/2024**	
	Mercury	0.20	<0.20	U	0.20	CV	11/19/2024	12:29	LB133509

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Metals
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PREPARATION BLANK SUMMARY

Client: AECOM **SDG No.:** P4861

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165019TB		**WATER**		**Batch Number:**	**PB165049**		**Prep Date:**	**11/18/2024**	
	Arsenic	100	<100	U	100	P	11/19/2024	15:00	LB133524
	Barium	500	<500	U	500	P	11/19/2024	15:00	LB133524
	Cadmium	30.0	<30.0	U	30.0	P	11/19/2024	15:00	LB133524
	Chromium	38.4	<50.0	J	50.0	P	11/19/2024	15:00	LB133524
	Lead	60.0	<60.0	U	60.0	P	11/19/2024	15:00	LB133524
	Selenium	100	<100	U	100	P	11/19/2024	15:00	LB133524
	Silver	50.0	<50.0	U	50.0	P	11/19/2024	15:00	LB133524

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165049BL		**WATER**		**Batch Number:**	**PB165049**		**Prep Date:**	**11/18/2024**	
	Arsenic	100	<100	U	100	P	11/19/2024	15:44	LB133524
	Barium	500	<500	U	500	P	11/19/2024	15:44	LB133524
	Cadmium	30.0	<30.0	U	30.0	P	11/19/2024	15:44	LB133524
	Chromium	50.0	<50.0	U	50.0	P	11/19/2024	15:44	LB133524
	Lead	60.0	<60.0	U	60.0	P	11/19/2024	15:44	LB133524
	Selenium	100	<100	U	100	P	11/19/2024	15:44	LB133524
	Silver	50.0	<50.0	U	50.0	P	11/19/2024	15:44	LB133524

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INTERFERENCE CHECK SAMPLE

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Arsenic	6.18			-20	20	11/18/2024	13:30	LB133502
	Barium	2.50	6.0	42	-94	106	11/18/2024	13:30	LB133502
	Cadmium	4.50	1.0	450	-5	7	11/18/2024	13:30	LB133502
	Chromium	56.3	52.0	108	42	62	11/18/2024	13:30	LB133502
	Lead	8.39			-12	12	11/18/2024	13:30	LB133502
	Selenium	-16.2			-20	20	11/18/2024	13:30	LB133502
	Silver	-0.11			-10	10	11/18/2024	13:30	LB133502
ICSAB01	Arsenic	116	104	112	88.4	120	11/18/2024	13:42	LB133502
	Barium	493	537	92	437	637	11/18/2024	13:42	LB133502
	Cadmium	1020	972	105	826	1120	11/18/2024	13:42	LB133502
	Chromium	579	542	107	460	624	11/18/2024	13:42	LB133502
	Lead	57.7	49.0	118	37	61	11/18/2024	13:42	LB133502
	Selenium	32.7	46.0	71	26	66	11/18/2024	13:42	LB133502
	Silver	202	201	100	170	232	11/18/2024	13:42	LB133502
ICSA01	Arsenic	3.30			-20	20	11/19/2024	11:47	LB133524
	Barium	5.39	6.0	90	-94	106	11/19/2024	11:47	LB133524
	Cadmium	3.48	1.0	348	-5	7	11/19/2024	11:47	LB133524
	Chromium	57.2	52.0	110	42	62	11/19/2024	11:47	LB133524
	Lead	8.06			-12	12	11/19/2024	11:47	LB133524
	Selenium	-17.4			-20	20	11/19/2024	11:47	LB133524
	Silver	-0.45			-10	10	11/19/2024	11:47	LB133524
ICSAB01	Arsenic	116	104	112	88.4	120	11/19/2024	11:51	LB133524
	Barium	525	537	98	437	637	11/19/2024	11:51	LB133524
	Cadmium	832	972	86	826	1120	11/19/2024	11:51	LB133524
	Chromium	571	542	105	460	624	11/19/2024	11:51	LB133524
	Lead	57.8	49.0	118	37	61	11/19/2024	11:51	LB133524
	Selenium	31.5	46.0	68	26	66	11/19/2024	11:51	LB133524
	Silver	201	201	100	170	232	11/19/2024	11:51	LB133524

METAL
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metals
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MATRIX SPIKE SUMMARY

client: AECOM **level:** low **sdg no.:** P4861

contract: AECO02 **lab code:** CHEM **case no.:** P4861 **sas no.:** P4861

matrix: Water **sample id:** P4861-01 **client id:** WC-11-A-202411MS

Percent Solids for Sample: NA **Spiked ID:** P4861-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	75 - 125	3960		100	U	4000	99		P
Barium	ug/L	75 - 125	1010		500	U	1000	101		P
Cadmium	ug/L	75 - 125	939		30.0	U	1000	94		P
Chromium	ug/L	75 - 125	2080		23.7	J	2000	103		P
Lead	ug/L	75 - 125	4570		60.0	U	5000	91		P
Mercury	ug/L	75 - 125	44.7		2.00	U	40.0	112		CV
Selenium	ug/L	75 - 125	9400		100	U	10000	94		P
Silver	ug/L	75 - 125	355		50.0	U	380	93		P

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metals
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MATRIX SPIKE DUPLICATE SUMMARY

client: AECOM **level:** low **sdg no.:** P4861

contract: AECO02 **lab code:** CHEM **case no.:** P4861 **sas no.:** P4861

matrix: Water **sample id:** P4861-01 **client id:** WC-11-A-202411MSD

Percent Solids for Sample: NA **Spiked ID:** P4861-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	ug/L	75 - 125	3910		100	U	4000	98		P
Barium	ug/L	75 - 125	991		500	U	1000	99		P
Cadmium	ug/L	75 - 125	929		30.0	U	1000	93		P
Chromium	ug/L	75 - 125	2060		23.7	J	2000	102		P
Lead	ug/L	75 - 125	4520		60.0	U	5000	90		P
Mercury	ug/L	75 - 125	44.3		2.00	U	40.0	111		CV
Selenium	ug/L	75 - 125	9290		100	U	10000	93		P
Silver	ug/L	75 - 125	355		50.0	U	380	93		P

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Metals
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Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

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

Sample ID: **Spiked ID:**

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

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DUPLICATE SAMPLE SUMMARY

Client: AECOM **Level:** LOW **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Matrix: Water **Sample ID:** P4861-01 **Client ID:** WC-11-A-202411DUP

Percent Solids for Sample: NA **Duplicate ID** P4861-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	100	U	100	U			P
Barium	ug/L	20	500	U	500	U			P
Cadmium	ug/L	20	30.0	U	30.0	U			P
Chromium	ug/L	20	23.7	J	24.0	J	1		P
Lead	ug/L	20	60.0	U	60.0	U			P
Mercury	ug/L	20	2.00	U	2.00	U			CV
Selenium	ug/L	20	100	U	100	U			P
Silver	ug/L	20	50.0	U	50.0	U			P

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

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DUPLICATE SAMPLE SUMMARY

Client: AECOM **Level:** LOW **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Matrix: Water **Sample ID:** P4861-01MS **Client ID:** WC-11-A-202411MSD

Percent Solids for Sample: NA **Duplicate ID** P4861-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	ug/L	20	3960		3910		1		P
Barium	ug/L	20	1010		991		2		P
Cadmium	ug/L	20	939		929		1		P
Chromium	ug/L	20	2080		2060		1		P
Lead	ug/L	20	4570		4520		1		P
Mercury	ug/L	20	44.7		44.3		1		CV
Selenium	ug/L	20	9400		9290		1		P
Silver	ug/L	20	355		355		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: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB165049BS							
Arsenic	ug/L	4000	4010		100	80 - 120	P
Barium	ug/L	1000	1070		107	80 - 120	P
Cadmium	ug/L	1000	1020		102	80 - 120	P
Chromium	ug/L	2000	2120		106	80 - 120	P
Lead	ug/L	5000	5120		102	80 - 120	P
Selenium	ug/L	10000	10100		101	80 - 120	P
Silver	ug/L	380	390		103	80 - 120	P

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LABORATORY CONTROL SAMPLE SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB165080BS							
Mercury	ug/L	4.0	3.49		87	80 - 120	CV

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ICP SERIAL DILUTIONS

SAMPLE NO.

WC-11-A-202411L

Lab Name: Chemtech Consulting Group **Contract:** AECO02

Lab Code: CHEM **Lb No.:** lb133502 **Lab Sample ID :** P4861-01L **SDG No.:** P4861

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	100	U	500	U			P
Barium	500	U	2500	U			P
Cadmium	30.0	U	150	U			P
Chromium	23.7	J	250	U	100.0		P
Lead	60.0	U	300	U			P
Mercury	2.00	U	10.0	U			CV
Selenium	100	U	500	U			P
Silver	50.0	U	250	U			P

METAL PREPARATION & INSTRUMENT DATA

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

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ICP INTERELEMENT CORRECTION FACTORS

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Case No.:** P4861 **SAS No.:** P4861

Instrument ID: **Date:**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

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

METAL PREPARATION & ANALYICAL SUMMARY

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SAMPLE PREPARATION SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Method:**

Case No.: P4861 **SAS No.:** P4861

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB165049**						
P4861-01	WC-11-A-202411	SAM	WATER	11/18/2024	5.0	25.0	
P4861-01DUP	WC-11-A-202411DUP	DUP	WATER	11/18/2024	5.0	25.0	
P4861-01MS	WC-11-A-202411MS	MS	WATER	11/18/2024	5.0	25.0	
P4861-01MSD	WC-11-A-202411MSD	MSD	WATER	11/18/2024	5.0	25.0	
PB165019TB	PB165019TB	MB	WATER	11/18/2024	5.0	25.0	
PB165049BL	PB165049BL	MB	WATER	11/18/2024	5.0	25.0	
PB165049BS	PB165049BS	LCS	WATER	11/18/2024	5.0	25.0	

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SAMPLE PREPARATION SUMMARY

Client: AECOM **SDG No.:** P4861

Contract: AECO02 **Lab Code:** CHEM **Method:**

Case No.: P4861 **SAS No.:** P4861

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number:	**PB165080**						
P4861-01	WC-11-A-202411	SAM	WATER	11/19/2024	3.0	30.0	
P4861-01DUP	WC-11-A-202411DUP	DUP	WATER	11/19/2024	3.0	30.0	
P4861-01MS	WC-11-A-202411MS	MS	WATER	11/19/2024	3.0	30.0	
P4861-01MSD	WC-11-A-202411MSD	MSD	WATER	11/19/2024	3.0	30.0	
PB165019TB	PB165019TB	MB	WATER	11/19/2024	3.0	30.0	
PB165080BL	PB165080BL	MB	WATER	11/19/2024	30.0	30.0	
PB165080BS	PB165080BS	LCS	WATER	11/19/2024	30.0	30.0	

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ANALYSIS RUN LOG

Client: AECOM **Contract:** AECO02

Lab code: CHEM **Case no.:** P4861 **Sas no.:** P4861 **Sdg no.:** P4861

Instrument id number: **Method:** **Run number:** LB133502

Start date: 11/18/2024 **End date:** 11/18/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1231	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1236	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1240	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1244	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1249	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1253	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1257	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1311	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1315	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1320	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1330	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1342	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1352	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1402	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1431	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1435	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1535	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1539	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1625	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1629	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1701	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1706	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01	WC-11-A-202411	1	1727	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01DUP	WC-11-A-202411DUP	1	1731	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01L	WC-11-A-202411L	5	1735	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01MS	WC-11-A-202411MS	1	1740	Ag,As,Ba,Cd,Cr,Pb,Se
P4861-01MSD	WC-11-A-202411MSD	1	1744	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1804	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1808	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1854	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1858	Ag,As,Ba,Cd,Cr,Pb,Se

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ANALYSIS RUN LOG

Client: AECOM **Contract:** AECO02

Lab code: CHEM **Case no.:** P4861 **Sas no.:** P4861 **Sdg no.:** P4861

Instrument id number: **Method:** **Run number:** LB133509

Start date: 11/19/2024 **End date:** 11/19/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1105	HG
S0.2	S0.2	1	1107	HG
S2.5	S2.5	1	1109	HG
S5	S5	1	1111	HG
S7.5	S7.5	1	1114	HG
S10	S10	1	1116	HG
ICV90	ICV90	1	1119	HG
ICB90	ICB90	1	1121	HG
CCV05	CCV05	1	1126	HG
CCB05	CCB05	1	1128	HG
CRA	CRA	1	1130	HG
CCV06	CCV06	1	1153	HG
CCB06	CCB06	1	1155	HG
CCV07	CCV07	1	1220	HG
CCB07	CCB07	1	1223	HG
PB165080BL	PB165080BL	1	1229	HG
PB165080BS	PB165080BS	1	1238	HG
P4861-01	WC-11-A-202411	1	1240	HG
P4861-01DUP	WC-11-A-202411DUP	1	1243	HG
P4861-01MS	WC-11-A-202411MS	1	1301	HG
P4861-01MSD	WC-11-A-202411MSD	1	1303	HG
CCV08	CCV08	1	1310	HG
CCB08	CCB08	1	1312	HG
PB165019TB	PB165019TB	1	1321	HG
P4861-01L	WC-11-A-202411L	5	1328	HG
CCV09	CCV09	1	1333	HG
CCB09	CCB09	1	1335	HG

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ANALYSIS RUN LOG

Client: AECOM **Contract:** AECO02

Lab code: CHEM **Case no.:** P4861 **Sas no.:** P4861 **Sdg no.:** P4861

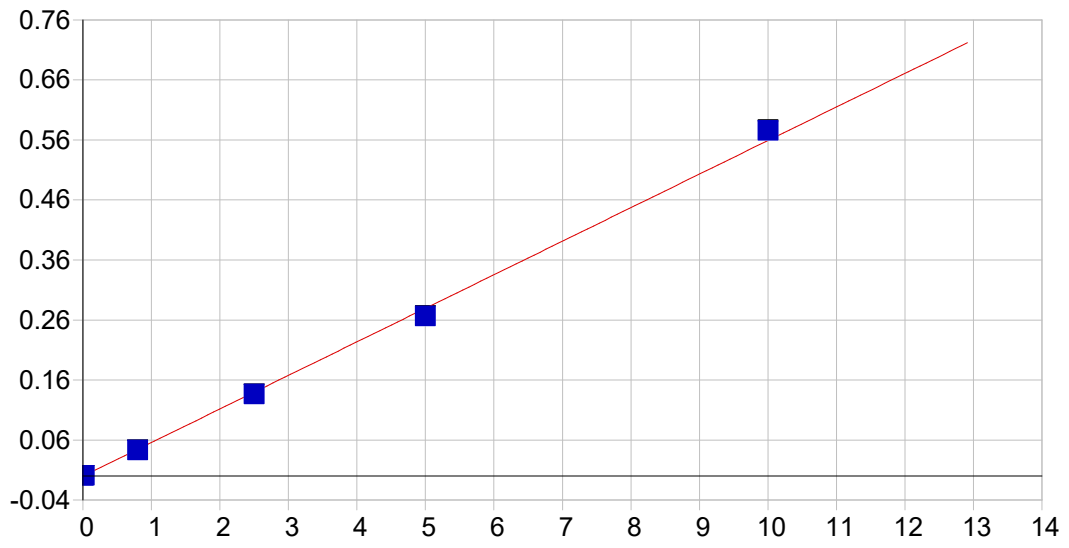
Instrument id number: **Method:** **Run number:** LB133524

Start date: 11/19/2024 **End date:** 11/19/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1055	Ag,As,Ba,Cd,Cr,Pb,Se
S1	S1	1	1100	Ag,As,Ba,Cd,Cr,Pb,Se
S2	S2	1	1104	Ag,As,Ba,Cd,Cr,Pb,Se
S3	S3	1	1108	Ag,As,Ba,Cd,Cr,Pb,Se
S4	S4	1	1113	Ag,As,Ba,Cd,Cr,Pb,Se
S5	S5	1	1117	Ag,As,Ba,Cd,Cr,Pb,Se
ICV01	ICV01	1	1125	Ag,As,Ba,Cd,Cr,Pb,Se
LLICV01	LLICV01	1	1134	Ag,As,Ba,Cd,Cr,Pb,Se
ICB01	ICB01	1	1138	Ag,As,Ba,Cd,Cr,Pb,Se
CRI01	CRI01	1	1143	Ag,As,Ba,Cd,Cr,Pb,Se
ICSA01	ICSA01	1	1147	Ag,As,Ba,Cd,Cr,Pb,Se
ICSAB01	ICSAB01	1	1151	Ag,As,Ba,Cd,Cr,Pb,Se
CCV01	CCV01	1	1243	Ag,As,Ba,Cd,Cr,Pb,Se
CCB01	CCB01	1	1248	Ag,As,Ba,Cd,Cr,Pb,Se
CCV02	CCV02	1	1334	Ag,As,Ba,Cd,Cr,Pb,Se
CCB02	CCB02	1	1338	Ag,As,Ba,Cd,Cr,Pb,Se
CCV03	CCV03	1	1424	Ag,As,Ba,Cd,Cr,Pb,Se
CCB03	CCB03	1	1428	Ag,As,Ba,Cd,Cr,Pb,Se
PB165019TB	PB165019TB	1	1500	Ag,As,Ba,Cd,Cr,Pb,Se
CCV04	CCV04	1	1531	Ag,As,Ba,Cd,Cr,Pb,Se
CCB04	CCB04	1	1536	Ag,As,Ba,Cd,Cr,Pb,Se
PB165049BL	PB165049BL	1	1544	Ag,As,Ba,Cd,Cr,Pb,Se
PB165049BS	PB165049BS	1	1549	Ag,As,Ba,Cd,Cr,Pb,Se
CCV05	CCV05	1	1618	Ag,As,Ba,Cd,Cr,Pb,Se
CCB05	CCB05	1	1622	Ag,As,Ba,Cd,Cr,Pb,Se
CCV06	CCV06	1	1719	Ag,As,Ba,Cd,Cr,Pb,Se
CCB06	CCB06	1	1724	Ag,As,Ba,Cd,Cr,Pb,Se
CCV07	CCV07	1	1801	Ag,As,Ba,Cd,Cr,Pb,Se
CCB07	CCB07	1	1805	Ag,As,Ba,Cd,Cr,Pb,Se

METAL
RAW DATA

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



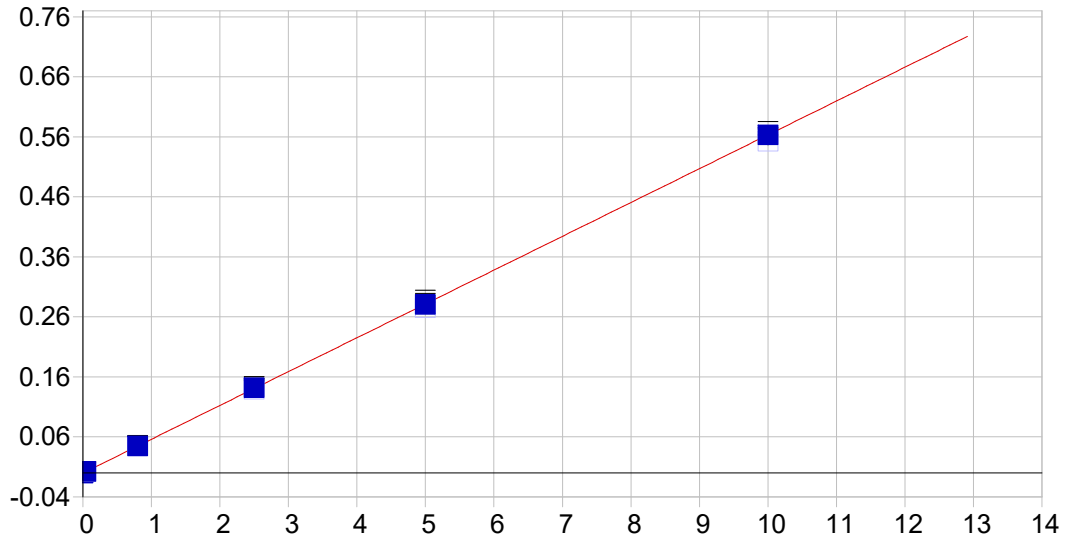
As 189.042 {479}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000155	Re-Slope:	1.000000
A1 (Gain):	0.055924	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999401	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.002474		
Predicted MQL:	0.008245		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00016	.000	1
S1	.02000	.02222	.002	11.1	.00108	.000	1
S3	2.5000	2.4446	-.055	-2.22	.13641	.000	1
S4	5.0000	4.7709	-.229	-4.58	.26635	.001	1
S5	10.000	10.305	.305	3.05	.57554	.001	1
S2	.80000	.77725	-.023	-2.84	.04326	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



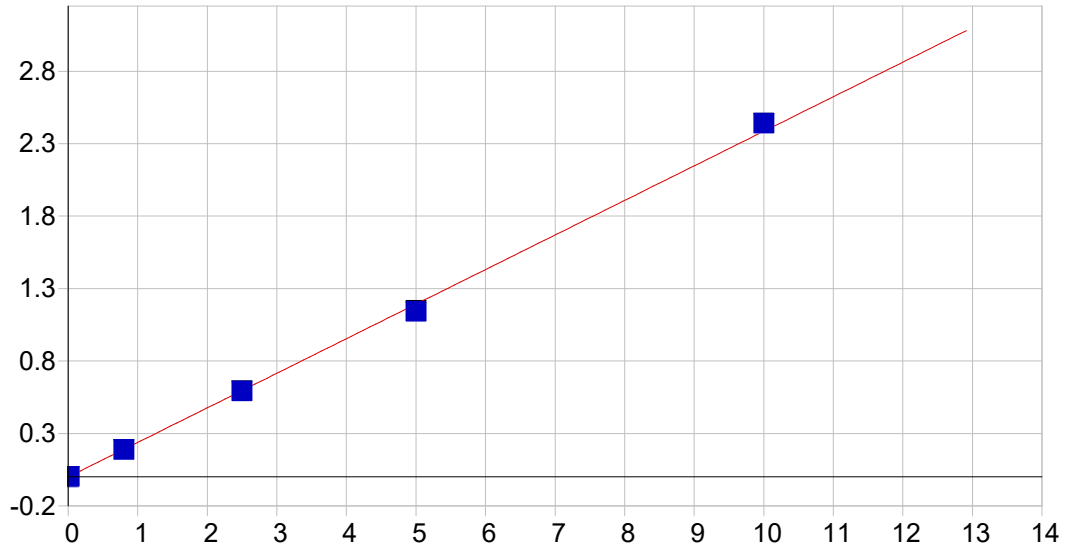
Tl 190.856 {477}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000278	Re-Slope:	1.000000
A1 (Gain):	0.056358	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.001999		
Predicted MQL:	0.006665		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00028	.000	1
S1	.04000	.03928	-.001	-1.79	.00179	.000	1
S3	2.5000	2.5200	.020	.800	.13915	.002	1
S4	5.0000	4.9815	-.019	-.370	.27528	.007	1
S5	10.000	9.9959	-.004	-.041	.55269	.006	1
S2	.80000	.80330	.003	.413	.04416	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



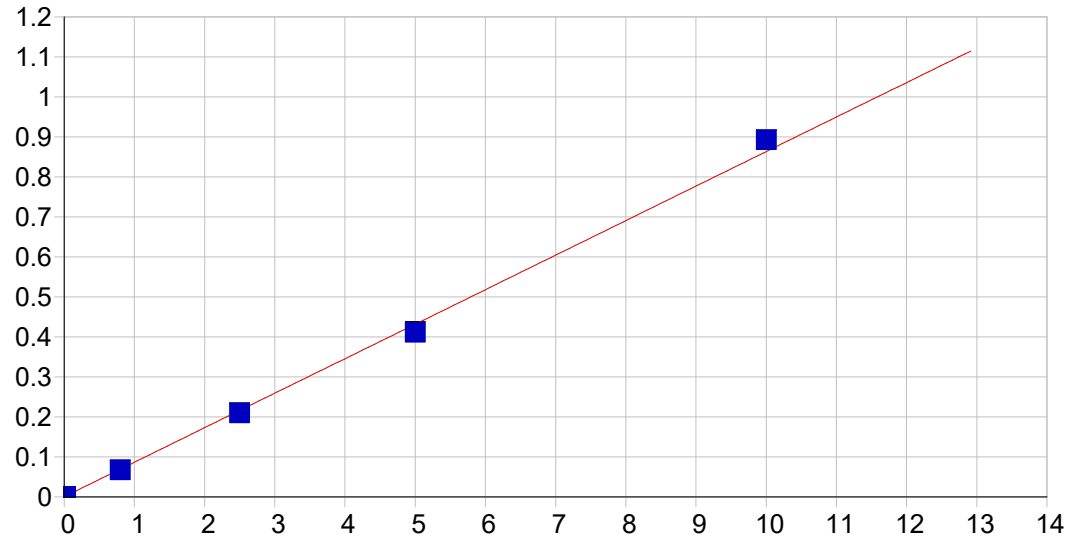
Pb 220.353 {453}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000277	Re-Slope:	1.000000
A1 (Gain):	0.238586	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999607	Status:	OK.
Std Error of Est:	0.000121		
Predicted MDL:	0.001043		
Predicted MQL:	0.003476		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00028	.000	1
S1	.01200	.01223	.000	1.96	.00259	.000	1
S3	2.5000	2.4883	-.012	-.467	.59274	.001	1
S4	5.0000	4.7909	-.209	-4.18	1.1414	.006	1
S5	10.000	10.232	.232	2.32	2.4384	.001	1
S2	.80000	.78818	-.012	-1.48	.18756	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



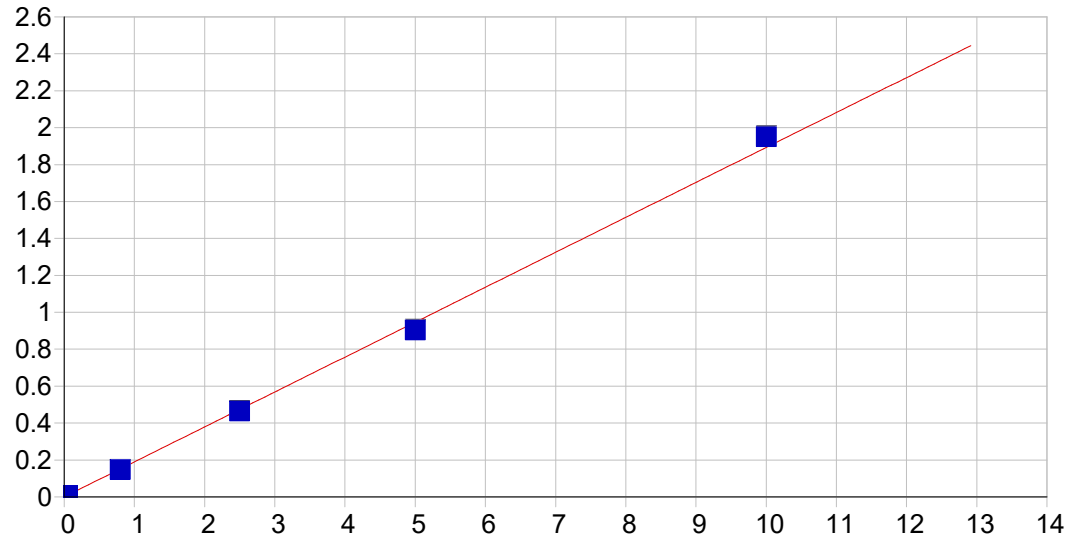
Se 196.090 {472}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000408	Re-Slope:	1.000000
A1 (Gain):	0.086285	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999269	Status:	OK.
Std Error of Est:	0.000077		
Predicted MDL:	0.002155		
Predicted MQL:	0.007182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00041	.000	1
S1	.02000	.02201	.002	10.0	.00231	.000	1
S3	2.5000	2.4250	-.075	-3.00	.20960	.001	1
S4	5.0000	4.7600	-.240	-4.80	.41102	.002	1
S5	10.000	10.342	.342	3.42	.89259	.001	1
S2	.80000	.77042	-.030	-3.70	.06687	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



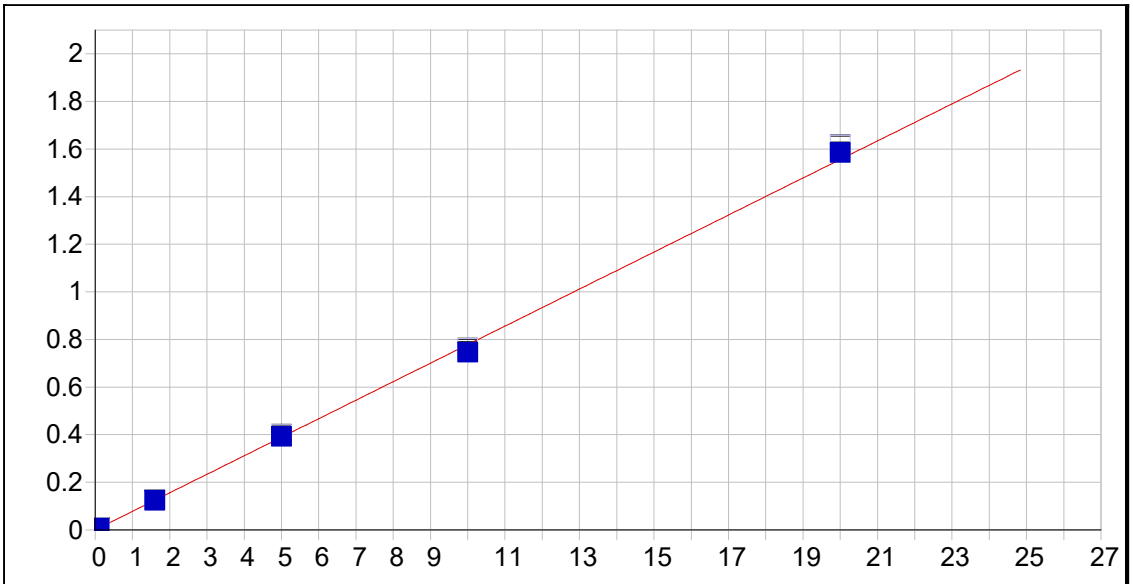
Sb 206.833 {463}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000411	Re-Slope:	1.000000
A1 (Gain):	0.189231	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999416	Status:	OK.
Std Error of Est:	0.000241		
Predicted MDL:	0.001201		
Predicted MQL:	0.004004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00041	.000	1
S1	.05000	.05123	.001	2.46	.01013	.000	1
S3	2.5000	2.4501	-.050	-2.00	.46533	.001	1
S4	5.0000	4.7669	-.233	-4.66	.90504	.004	1
S5	10.000	10.303	.303	3.03	1.9551	.002	1
S2	.80000	.77917	-.021	-2.60	.14827	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



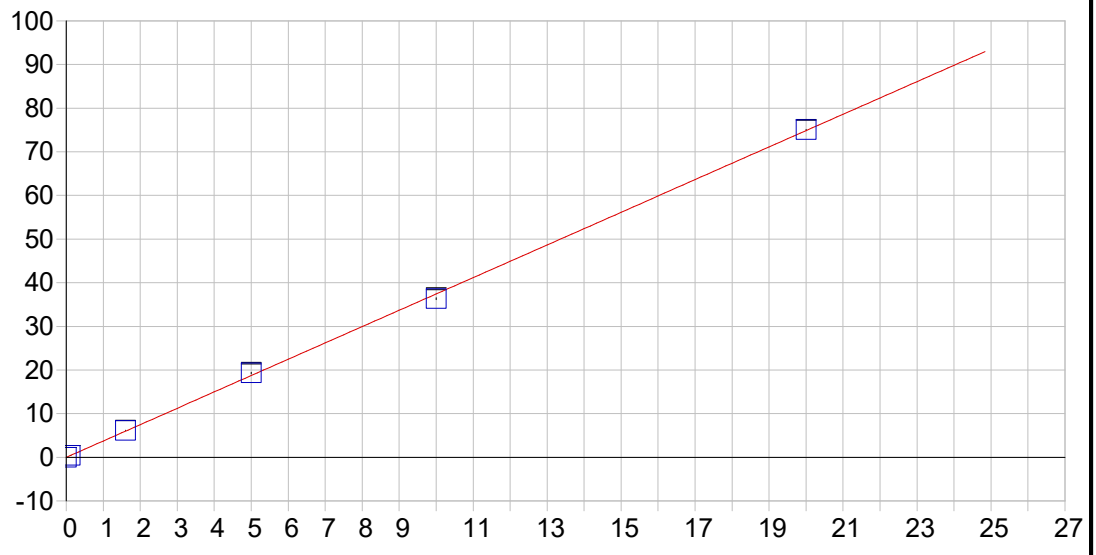
Al 396.152 { 85}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000317	Re-Slope:	1.000000
A1 (Gain):	0.077806	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999674	Status:	OK.
Std Error of Est:	0.000150		
Predicted MDL:	0.005892		
Predicted MQL:	0.019640		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00032	.000	1
S1	.10000	.10764	.008	7.64	.00930	.000	1
S3	5.0000	5.0474	.047	.949	.40058	.001	1
S4	10.000	9.5909	-.409	-4.09	.76164	.002	1
S5	20.000	20.372	.372	1.86	1.6155	.002	1
S2	1.6000	1.5819	-.018	-1.13	.12582	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



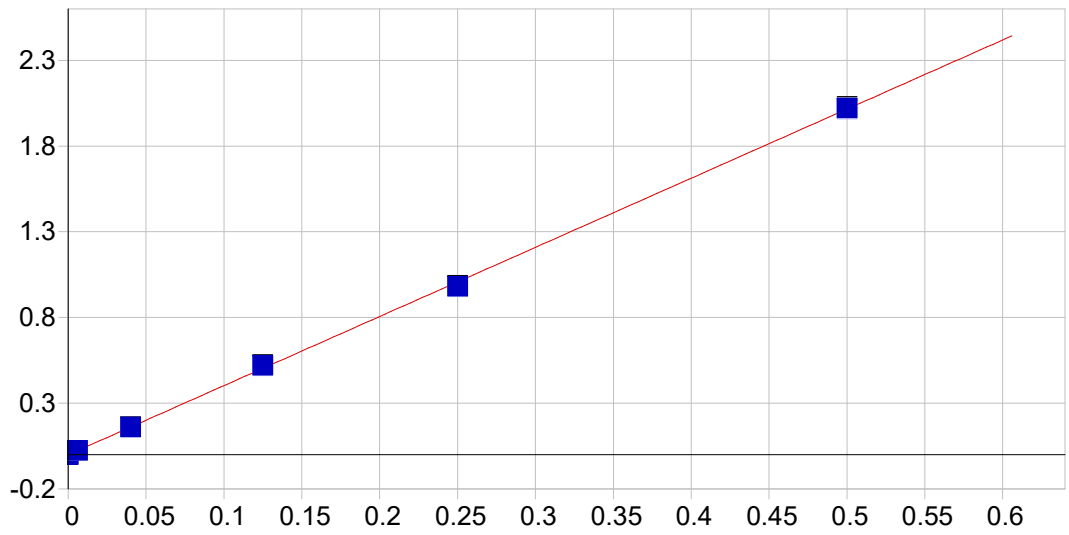
Ba 493.409 { 68}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000438	Re-Slope:	1.000000
A1 (Gain):	3.742875	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999773	Status:	OK.
Std Error of Est:	0.005917		
Predicted MDL:	0.000402		
Predicted MQL:	0.001340		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.00037	.002	1
S1	.10000	.11416	.014	14.2	.42772	.003	1
S3	5.0000	5.1595	.160	3.19	19.312	.162	1
S4	10.000	9.7181	-.282	-2.82	36.374	.219	1
S5	20.000	20.060	.060	.300	75.083	.084	1
S2	1.6000	1.6482	.048	3.01	6.1694	.009	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



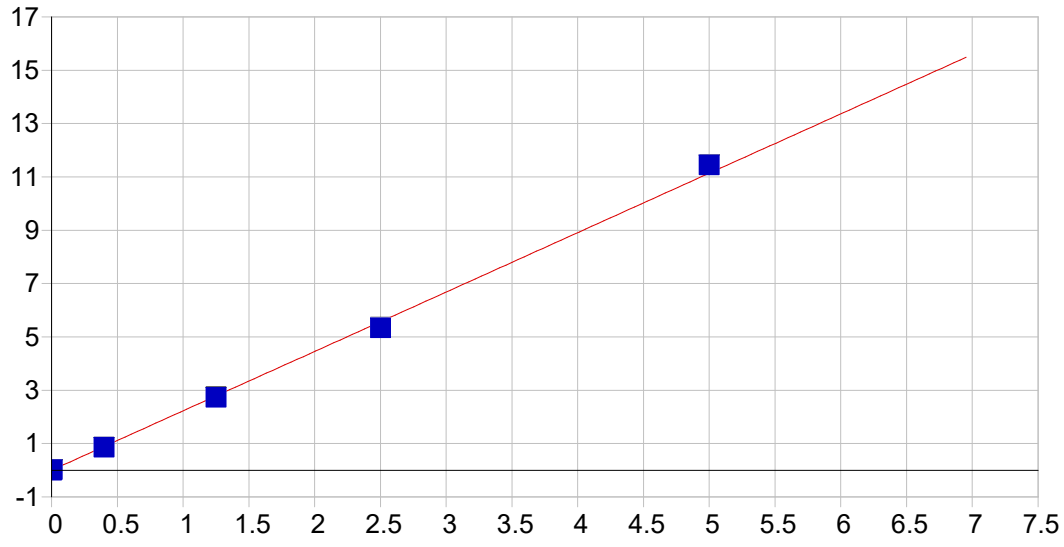
Be 234.861 {144}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000958	Re-Slope:	1.000000
A1 (Gain):	4.033050	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999825	Status:	OK.
Std Error of Est:	0.000216		
Predicted MDL:	0.000058		
Predicted MQL:	0.000194		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00096	.000	1
S1	.00600	.00637	.000	6.17	.02455	.000	1
S3	.12500	.12908	.004	3.27	.51739	.004	1
S4	.25000	.24375	-.006	-2.50	.97757	.005	1
S5	.50000	.50164	.002	.329	2.0132	.008	1
S2	.04000	.04016	.000	.394	.16028	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



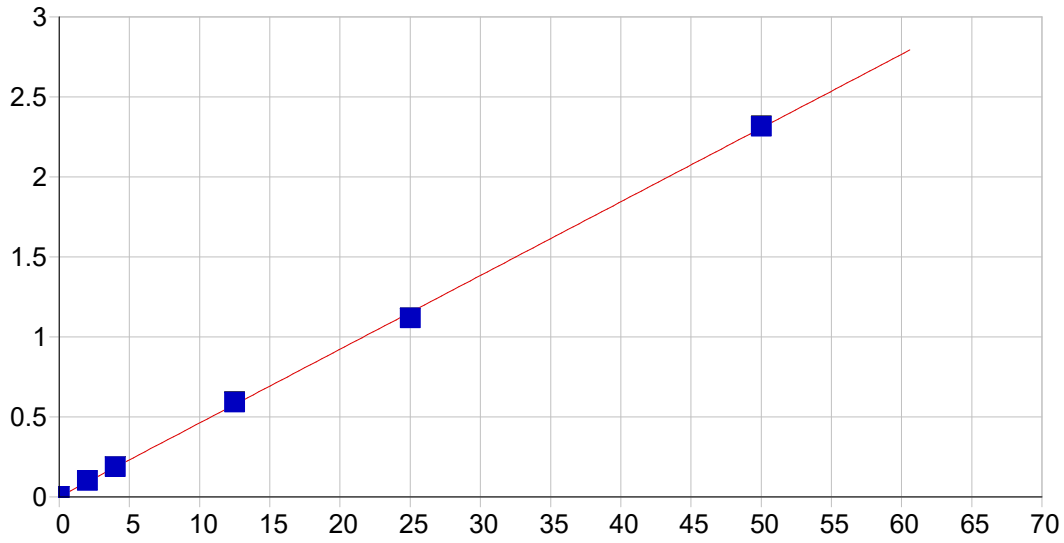
Cd 226.502 {449}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	2.227458	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999491	Status:	OK.
Std Error of Est:	0.000646		
Predicted MDL:	0.000086		
Predicted MQL:	0.000286		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00002	.000	1
S1	.00600	.00725	.001	20.9	.01619	.000	1
S3	1.2500	1.2271	-.023	-1.83	2.7355	.005	1
S4	2.5000	2.3971	-.103	-4.12	5.3437	.021	1
S5	5.0000	5.1393	.139	2.79	11.456	.011	1
S2	.40000	.38519	-.015	-3.70	.85864	.007	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



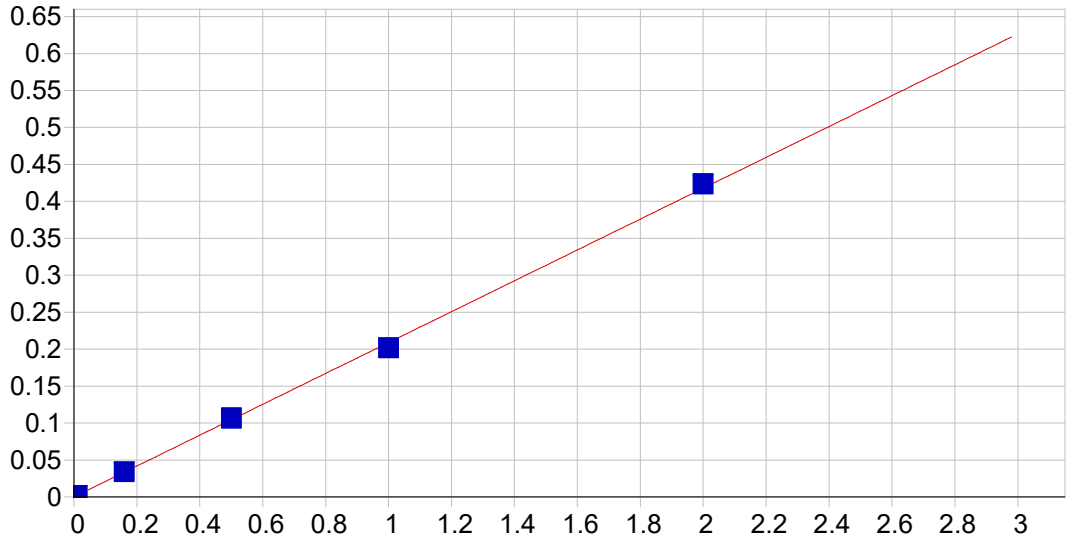
Ca 373.690 { 90}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001384	Re-Slope:	1.000000
A1 (Gain):	0.046077	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999723	Status:	OK.
Std Error of Est:	0.000574		
Predicted MDL:	0.009368		
Predicted MQL:	0.031226		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00021	-.000	.000	.00137	.000	1
S2	4.0000	4.0562	.056	1.40	.18828	.001	1
S3	12.500	12.800	.300	2.40	.59115	.002	1
S4	25.000	24.214	-.786	-3.14	1.1171	.001	1
S5	50.000	50.241	.241	.481	2.3163	.002	1
S1	2.0000	2.1897	.190	9.48	.10228	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



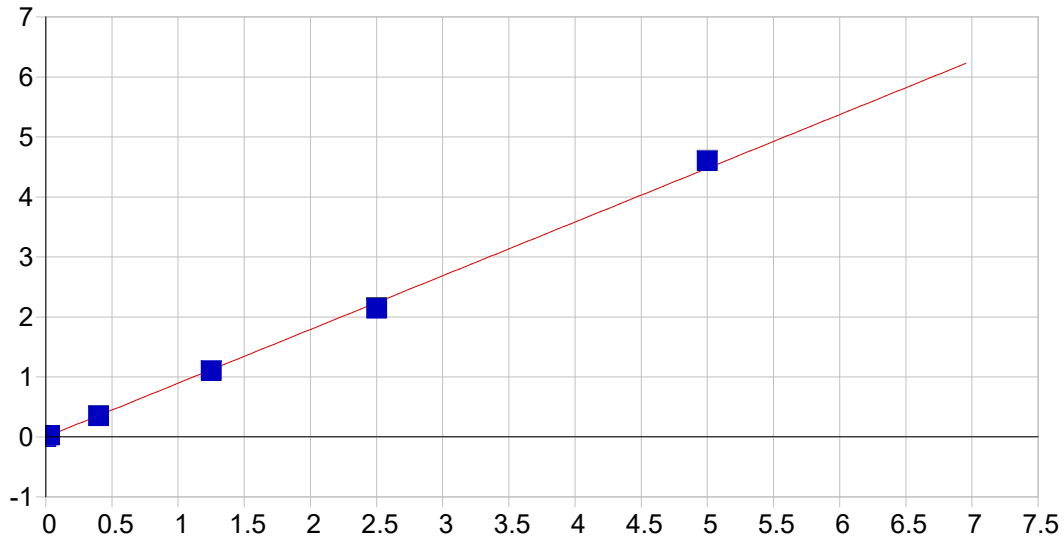
Cr 267.716 {126}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000029	Re-Slope:	1.000000
A1 (Gain):	0.208850	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999766	Status:	OK.
Std Error of Est:	0.000034		
Predicted MDL:	0.000355		
Predicted MQL:	0.001182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00003	.000	1
S1	.01000	.01006	.000	.593	.00213	.000	1
S3	.50000	.50852	.009	1.70	.10626	.000	1
S4	1.0000	.96470	-.035	-3.53	.20157	.001	1
S5	2.0000	2.0248	.025	1.24	.42303	.001	1
S2	.16000	.16196	.002	1.23	.03386	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



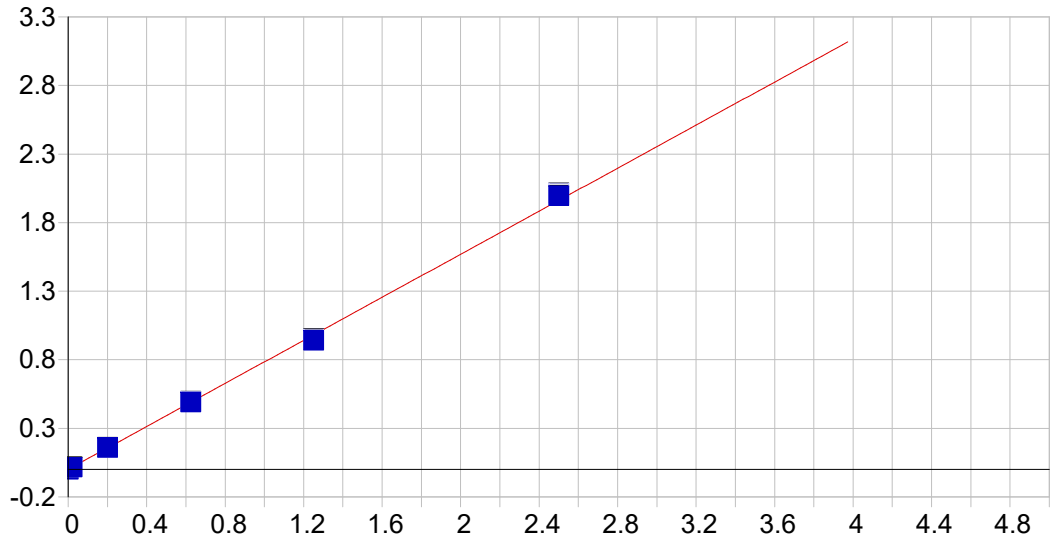
Co 228.616 {448}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000032	Re-Slope:	1.000000
A1 (Gain):	0.895272	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999513	Status:	OK.
Std Error of Est:	0.000569		
Predicted MDL:	0.000192		
Predicted MQL:	0.000640		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00003	.000	1
S1	.03000	.03091	.001	3.04	.02753	.000	1
S3	1.2500	1.2315	-.018	-1.48	1.1044	.002	1
S4	2.5000	2.3918	-.108	-4.33	2.1451	.009	1
S5	5.0000	5.1362	.136	2.72	4.6059	.004	1
S2	.40000	.38954	-.010	-2.61	.34932	.002	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



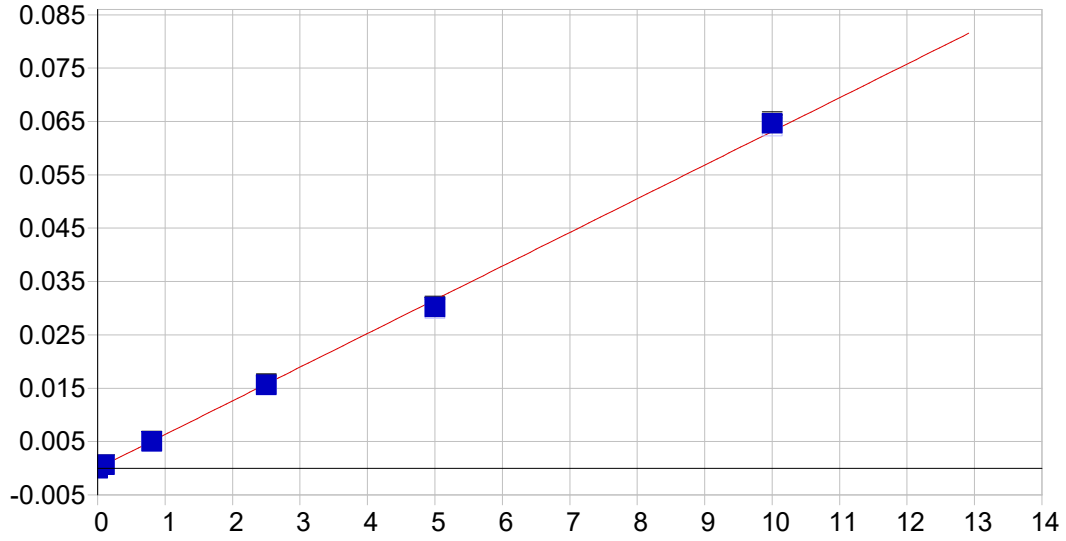
Cu 224.700 {450}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000071	Re-Slope:	1.000000
A1 (Gain):	0.784625	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999667	Status:	OK.
Std Error of Est:	0.000240		
Predicted MDL:	0.000383		
Predicted MQL:	0.001276		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00007	.000	1
S1	.02000	.02263	.003	13.1	.01802	.000	1
S3	.62500	.62637	.001	.219	.49621	.001	1
S4	1.2500	1.2002	-.050	-3.98	.95113	.004	1
S5	2.5000	2.5437	.044	1.75	2.0146	.002	1
S2	.20000	.20207	.002	1.03	.16011	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



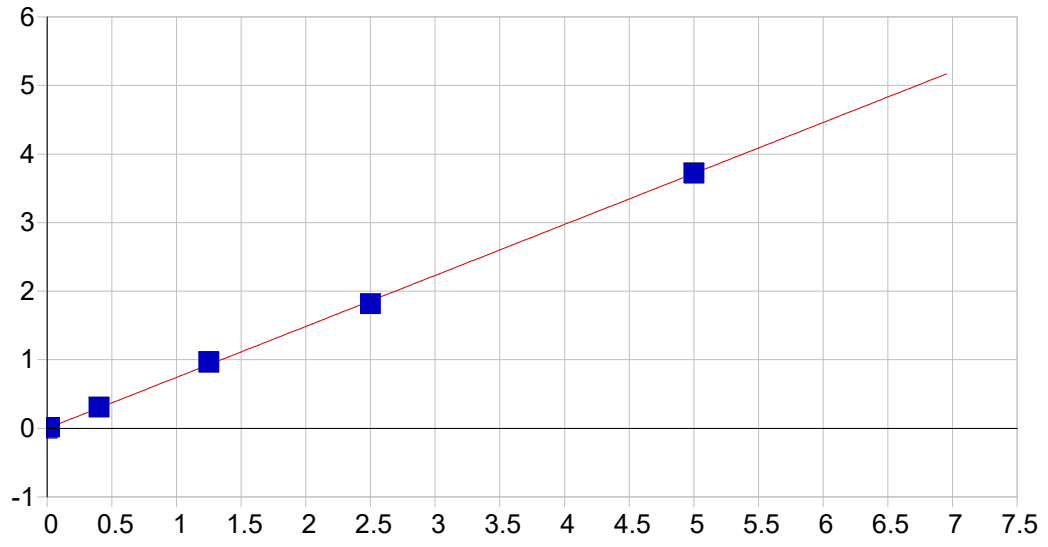
Fe 240.488 {140}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.006314	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999577	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.003971		
Predicted MQL:	0.013236		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00000	.000	1
S1	.10000	.10049	.000	.493	.00063	.000	1
S3	2.5000	2.4800	-.020	-.801	.01552	.000	1
S4	5.0000	4.7830	-.217	-4.34	.02993	.000	1
S5	10.000	10.239	.239	2.39	.06411	.000	1
S2	.80000	.79721	-.003	-.348	.00499	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



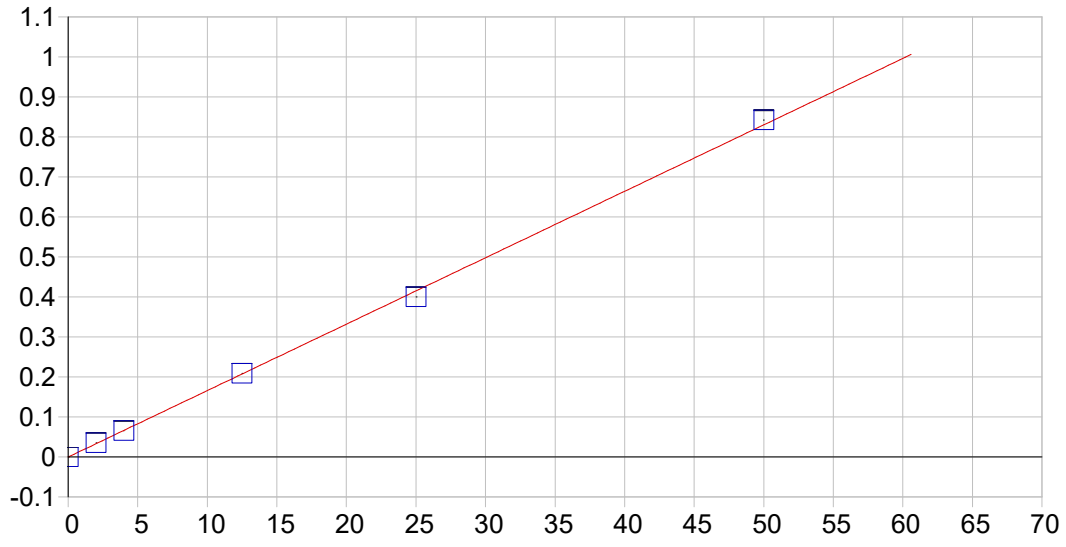
Mn 257.610 {131}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000020	Re-Slope:	1.000000
A1 (Gain):	0.743359	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999792	Status:	OK.
Std Error of Est:	0.000252		
Predicted MDL:	0.000268		
Predicted MQL:	0.000893		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00002	.000	1
S1	.02000	.02293	.003	14.6	.01703	.000	1
S3	1.2500	1.2929	.043	3.43	.96125	.007	1
S4	2.5000	2.4403	-.060	-2.39	1.8144	.003	1
S5	5.0000	4.9998	-.000	-.005	3.7173	.007	1
S2	.40000	.41409	.014	3.52	.30786	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



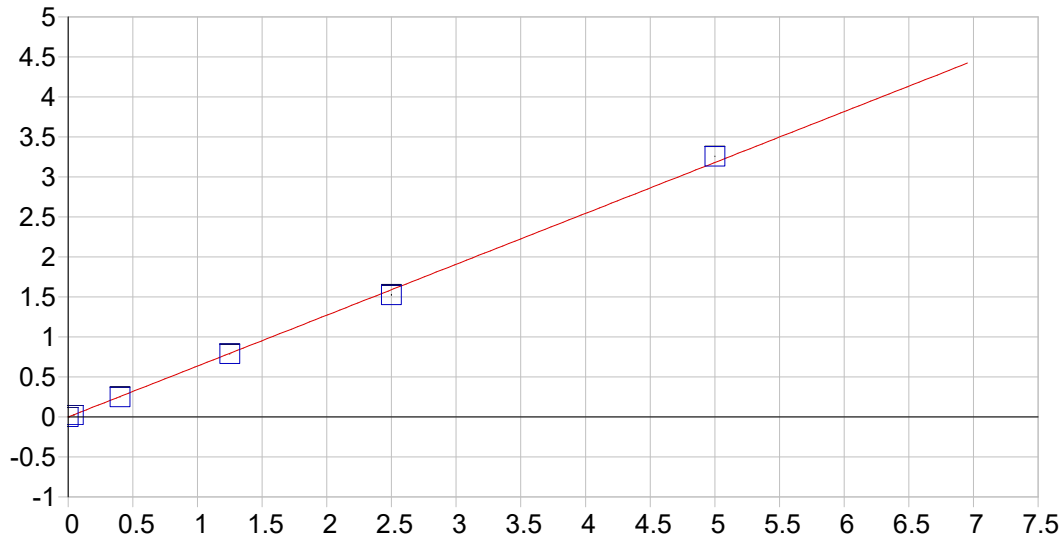
Mg 279.079 {121}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000272	Re-Slope:	1.000000
A1 (Gain):	0.016607	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999704	Status:	OK.
Std Error of Est:	0.000214		
Predicted MDL:	0.012155		
Predicted MQL:	0.040517		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00010	-.000	.000	-.00027	.000	1
S2	4.0000	3.9551	-.045	-1.12	.06541	.000	1
S3	12.500	12.585	.085	.681	.20873	.000	1
S4	25.000	24.092	-.908	-3.63	.39984	.000	1
S5	50.000	50.719	.719	1.44	.84204	.002	1
S1	2.0000	2.1484	.148	7.42	.03541	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



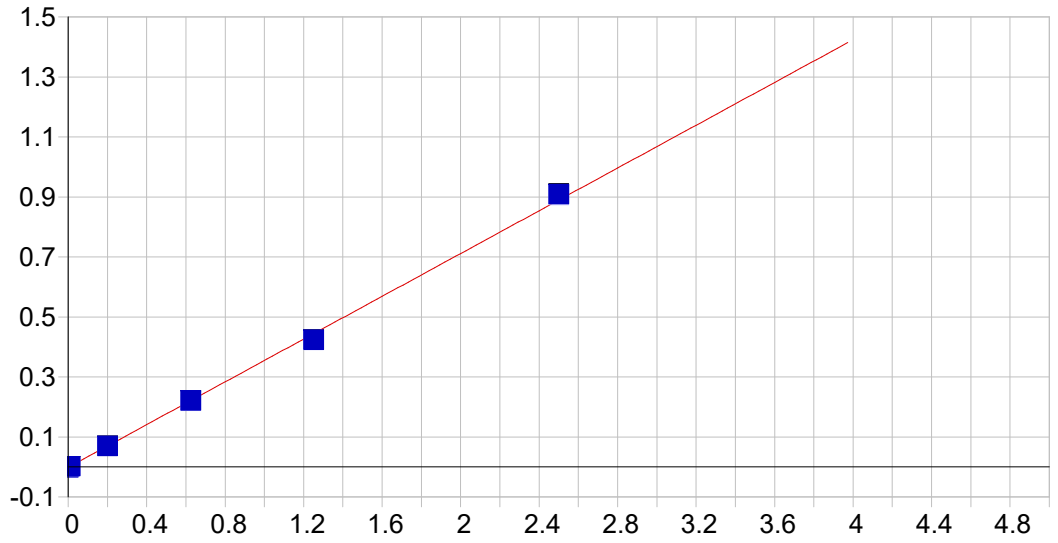
Ni 231.604 {446}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000328	Re-Slope:	1.000000
A1 (Gain):	0.636036	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999590	Status:	OK.
Std Error of Est:	0.000428		
Predicted MDL:	0.000304		
Predicted MQL:	0.001014		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00033	.000	1
S1	.04000	.04087	.001	2.16	.02566	.000	1
S3	1.2500	1.2370	-.013	-1.04	.78647	.002	1
S4	2.5000	2.3972	-.103	-4.11	1.5244	.006	1
S5	5.0000	5.1228	.123	2.46	3.2579	.003	1
S2	.40000	.39215	-.008	-1.96	.24909	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



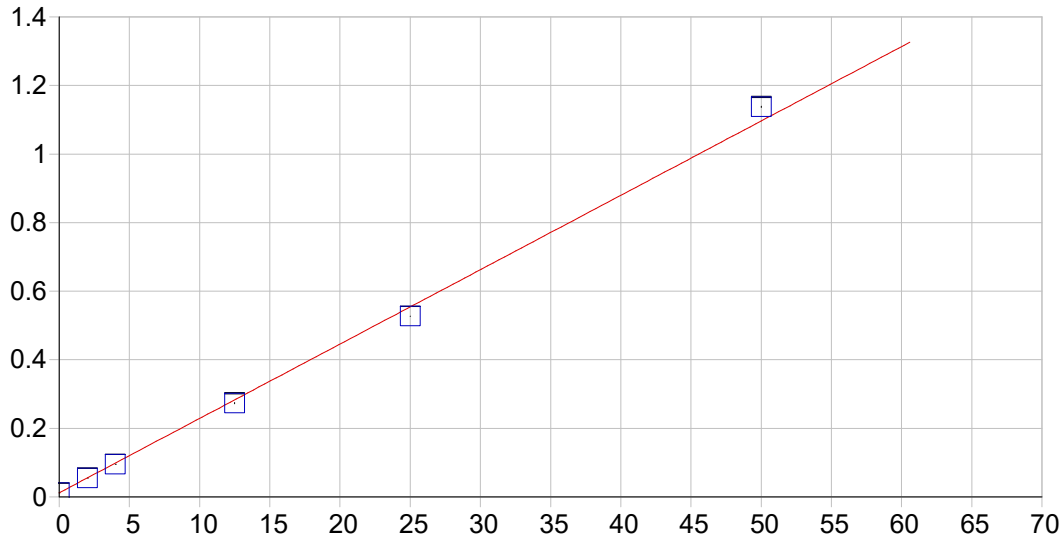
Ag 328.068 {103}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001654	Re-Slope:	1.000000
A1 (Gain):	0.356423	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999585	Status:	OK.
Std Error of Est:	0.000085		
Predicted MDL:	0.000299		
Predicted MQL:	0.000998		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00165	.000	1
S1	.01000	.01074	.001	7.42	.00215	.000	1
S3	.62500	.62425	-.001	-.120	.21996	.001	1
S4	1.2500	1.1943	-.056	-4.45	.42227	.001	1
S5	2.5000	2.5557	.056	2.23	.90572	.002	1
S2	.20000	.19997	-.000	-.017	.06934	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



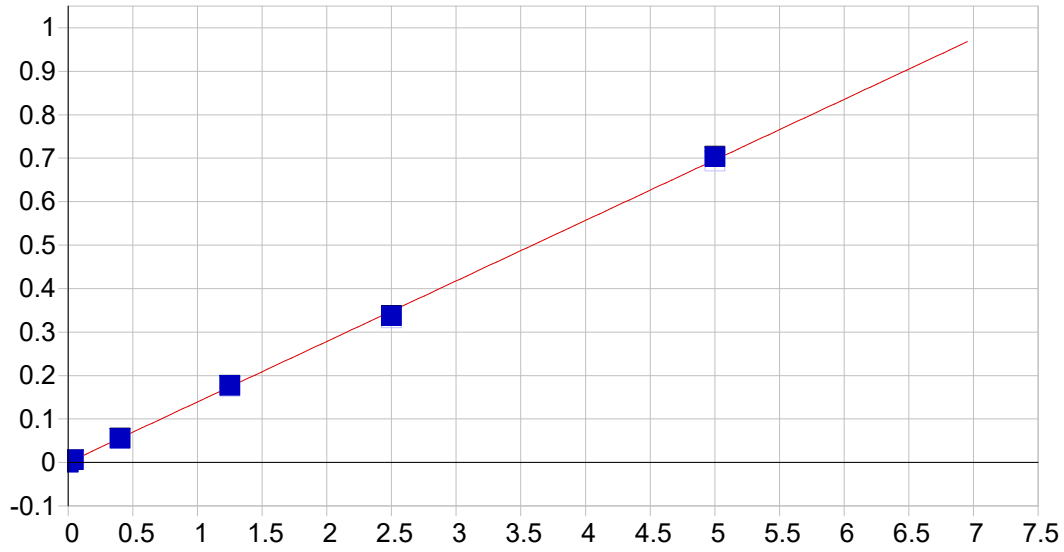
Na 589.592 { 57}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.012006	Re-Slope:	1.000000
A1 (Gain):	0.021689	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999145	Status:	OK.
Std Error of Est:	0.000475		
Predicted MDL:	0.007798		
Predicted MQL:	0.025994		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00020	.000	.000	.01201	.001	1
S2	4.0000	3.8271	-.173	-4.32	.09501	.000	1
S3	12.500	12.050	-.450	-3.60	.27336	.002	1
S4	25.000	23.740	-1.26	-5.04	.52690	.000	1
S5	50.000	51.904	1.90	3.81	1.1378	.002	1
S1	2.0000	1.9782	-.022	-1.09	.05491	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



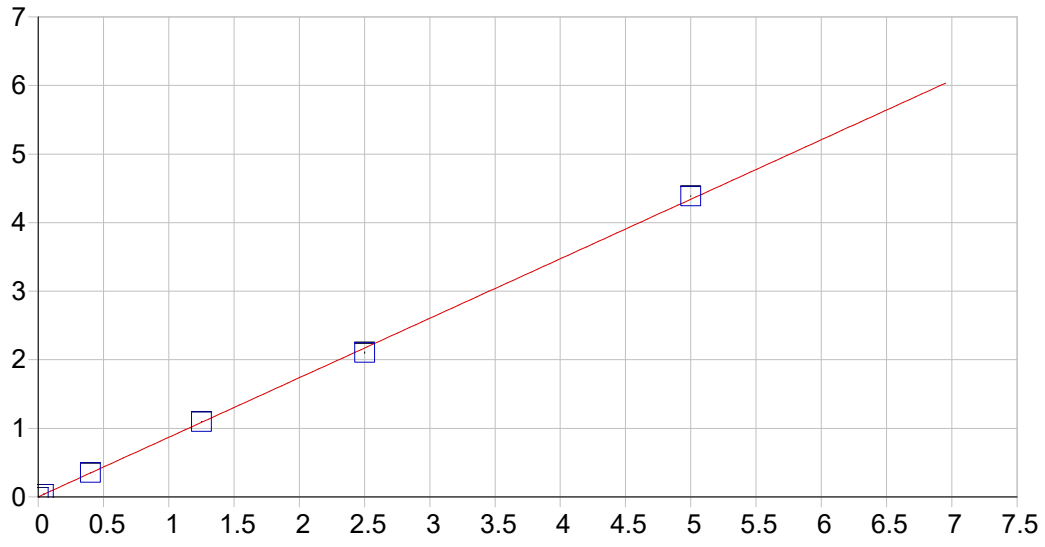
V 292.402 {115}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.139212	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999807	Status:	OK.
Std Error of Est:	0.000063		
Predicted MDL:	0.001494		
Predicted MQL:	0.004979		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00001	.000	1
S1	.04000	.04363	.004	9.09	.00588	.000	1
S3	1.2500	1.2706	.021	1.65	.17436	.001	1
S4	2.5000	2.4250	-.075	-3.00	.33252	.001	1
S5	5.0000	5.0515	.052	1.03	.69309	.002	1
S2	.40000	.39938	-.001	-.155	.05480	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



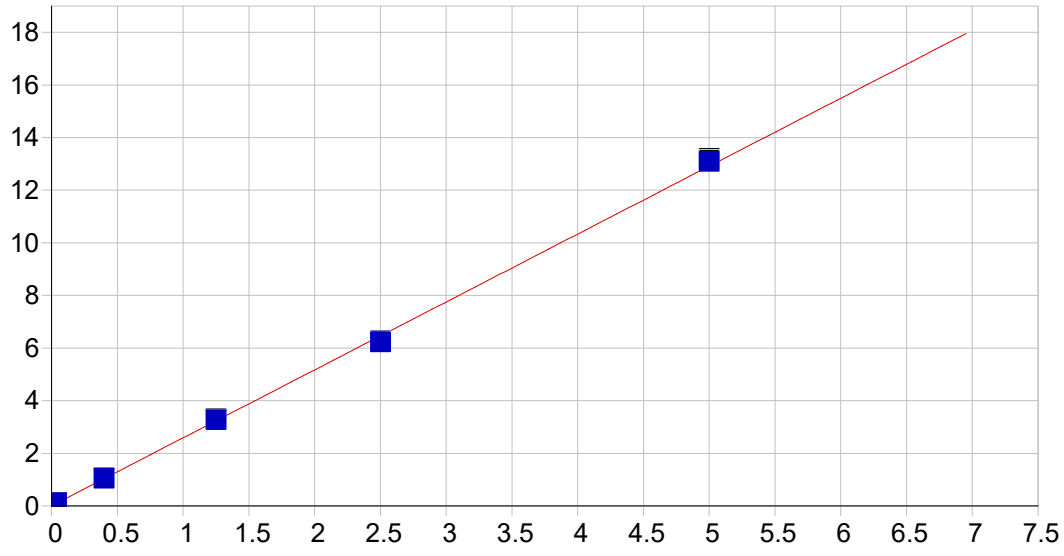
Zn 206.200 {464}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001630	Re-Slope:	1.000000
A1 (Gain):	0.867806	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999812	Status:	OK.
Std Error of Est:	0.000395		
Predicted MDL:	0.000212		
Predicted MQL:	0.000706		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00163	.000	1
S1	.04000	.04417	.004	10.4	.03996	.000	1
S3	1.2500	1.2636	.014	1.09	1.0982	.003	1
S4	2.5000	2.4248	-.075	-3.01	2.1059	.009	1
S5	5.0000	5.0519	.052	1.04	4.3857	.004	1
S2	.40000	.40550	.006	1.38	.35353	.002	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



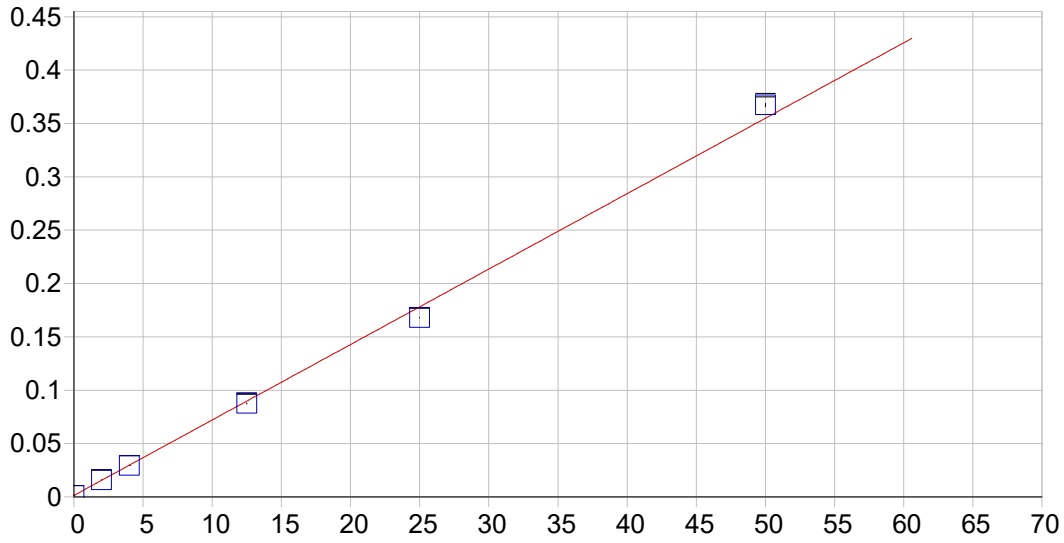
Zn 213.856 {158}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006388	Re-Slope:	1.000000
A1 (Gain):	2.581751	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999752	Status:	OK.
Std Error of Est:	0.001360		
Predicted MDL:	0.000280		
Predicted MQL:	0.000933		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00638	.000	1
S1	.04000	.04424	.004	10.6	.12132	.001	1
S3	1.2500	1.2641	.014	1.13	3.2923	.017	1
S4	2.5000	2.4117	-.088	-3.53	6.2778	.009	1
S5	5.0000	5.0656	.066	1.31	13.174	.032	1
S2	.40000	.40436	.004	1.09	1.0575	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



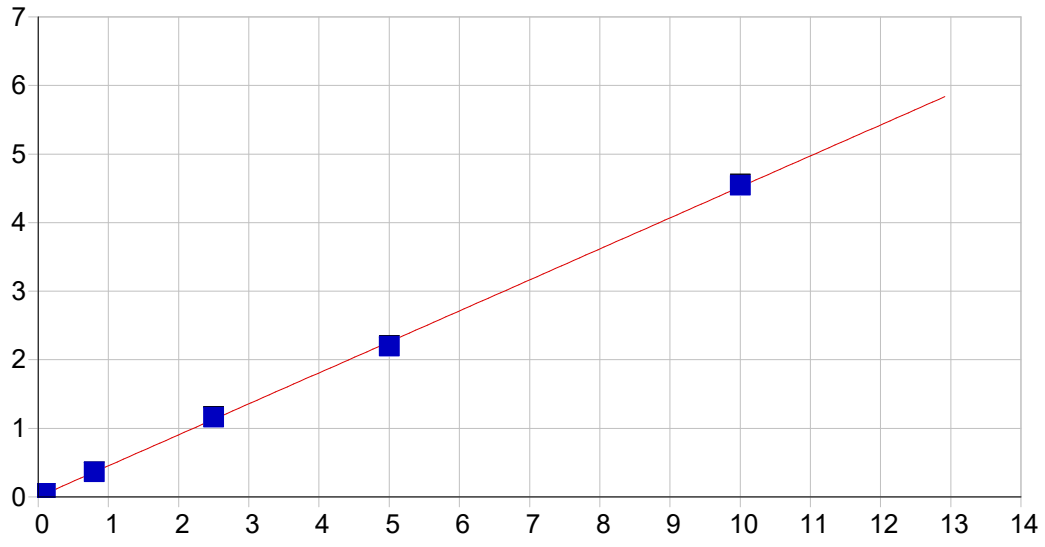
K 766.490 { 44}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001439	Re-Slope:	1.000000
A1 (Gain):	0.007069	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999167	Status:	OK.
Std Error of Est:	0.000153		
Predicted MDL:	0.024825		
Predicted MQL:	0.082749		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00006	.000	.000	.00144	.000	1
S2	4.0000	3.9445	-.056	-1.39	.02932	.000	1
S3	12.500	12.193	-.307	-2.45	.08764	.001	1
S4	25.000	23.548	-1.45	-5.81	.16791	.000	1
S5	50.000	51.754	1.75	3.51	.36730	.002	1
S1	2.0000	2.0604	.060	3.02	.01600	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



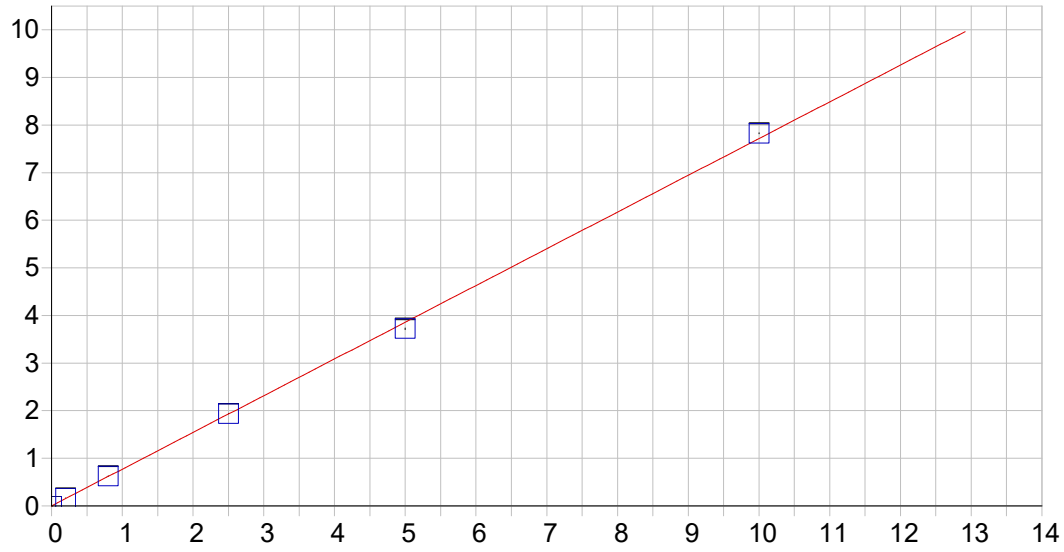
B 249.678 {135}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001210	Re-Slope:	1.000000
A1 (Gain):	0.451898	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999759	Status:	OK.
Std Error of Est:	0.000520		
Predicted MDL:	0.000638		
Predicted MQL:	0.002125		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00002	-.000	.000	.00120	.000	1
S1	.10000	.11600	.016	16.0	.05344	.000	1
S3	2.5000	2.5680	.068	2.72	1.1595	.011	1
S4	5.0000	4.8568	-.143	-2.86	2.1916	.010	1
S5	10.000	10.058	.058	.581	4.5376	.018	1
S2	.80000	.80119	.001	.149	.36256	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



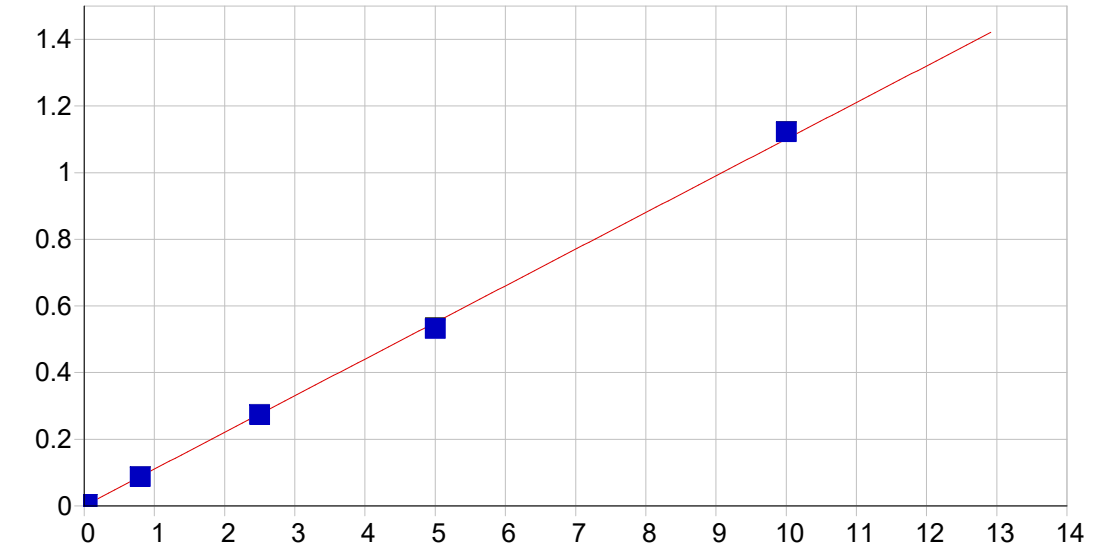
Mo 202.030 {467}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000215	Re-Slope:	1.000000
A1 (Gain):	0.771606	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999746	Status:	OK.
Std Error of Est:	0.001294		
Predicted MDL:	0.000248		
Predicted MQL:	0.000828		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00020	.000	1
S1	.20000	.21315	.013	6.57	.16468	.001	1
S3	2.5000	2.5100	.010	.399	1.9369	.004	1
S4	5.0000	4.8227	-.177	-3.55	3.7215	.016	1
S5	10.000	10.143	.143	1.43	7.8263	.010	1
S2	.80000	.81163	.012	1.45	.62647	.005	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



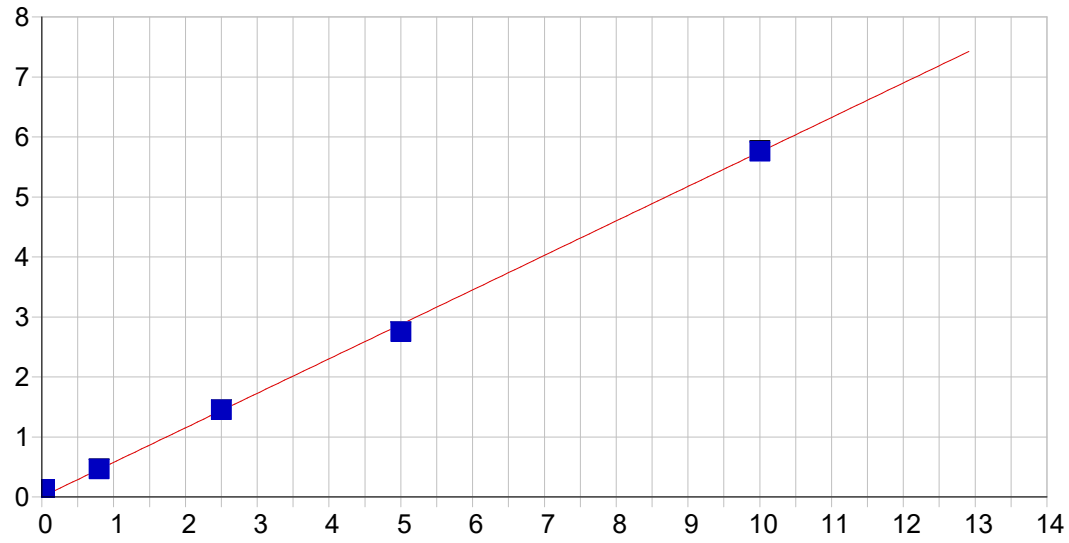
Sn 189.989 {478}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000588	Re-Slope:	1.000000
A1 (Gain):	0.109981	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999718	Status:	OK.
Std Error of Est:	0.000086		
Predicted MDL:	0.000788		
Predicted MQL:	0.002627		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00059	.000	1
S1	.04000	.03762	-.002	-5.96	.00472	.000	1
S3	2.5000	2.4857	-.014	-.571	.27369	.001	1
S4	5.0000	4.8277	-.172	-3.45	.53098	.003	1
S5	10.000	10.200	.200	2.00	1.1213	.000	1
S2	.80000	.78901	-.011	-1.37	.08727	.001	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



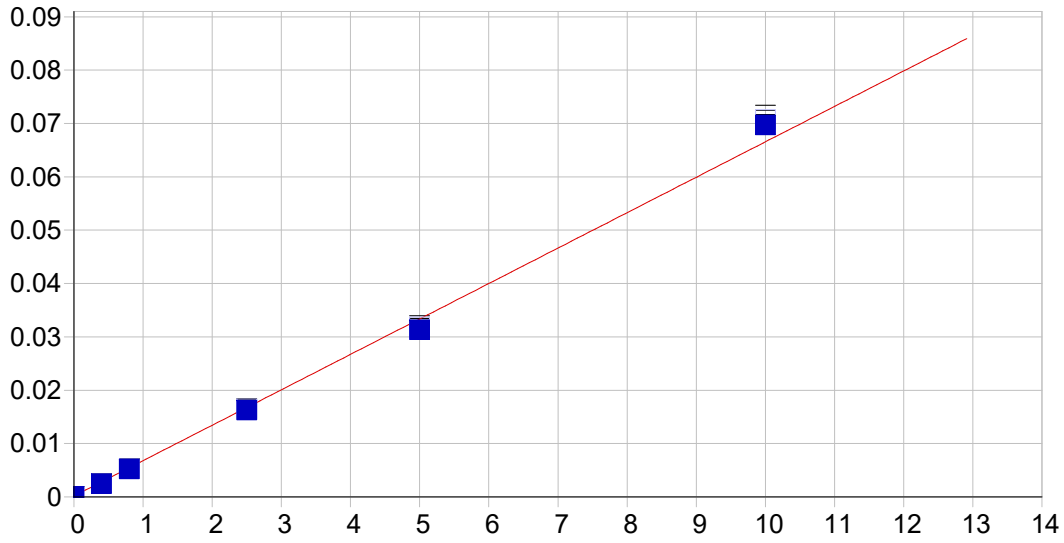
Ti 336.121 {100}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001761	Re-Slope:	1.000000
A1 (Gain):	0.574760	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.979668	Status:	OK.
Std Error of Est:	0.003901		
Predicted MDL:	0.000540		
Predicted MQL:	0.001798		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00017	-.000	.000	.00166	.000	1
S1	.04000	.21417	.174	435.	.12484	.000	1
S3	2.5000	2.5235	.023	.938	1.4516	.004	1
S4	5.0000	4.7863	-.214	-4.27	2.7517	.005	1
S5	10.000	10.015	.015	.151	5.7560	.014	1
S2	.80000	.80099	.001	.124	.46197	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



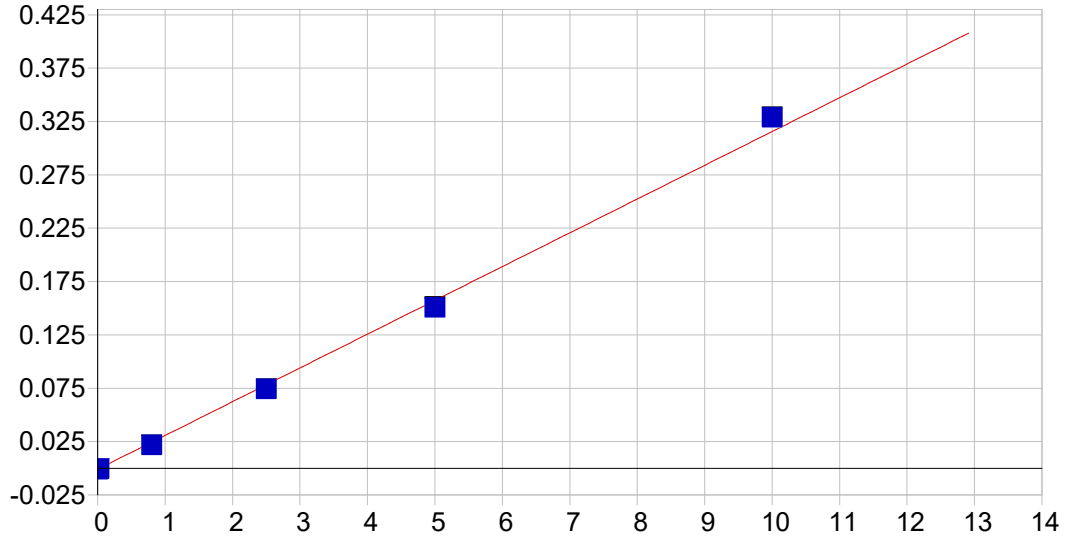
Si 288.158 {117}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000158	Re-Slope:	1.000000
A1 (Gain):	0.006640	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998643	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	0.006230		
Predicted MQL:	0.020765		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00009	.000	.000	.00016	.000	1
S1	.40000	.34821	-.052	-12.9	.00248	.000	1
S3	2.5000	2.4224	-.078	-3.10	.01649	.000	1
S4	5.0000	4.6956	-.304	-6.09	.03184	.000	1
S5	10.000	10.475	.475	4.75	.07071	.001	1
S2	.80000	.75854	-.041	-5.18	.00528	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



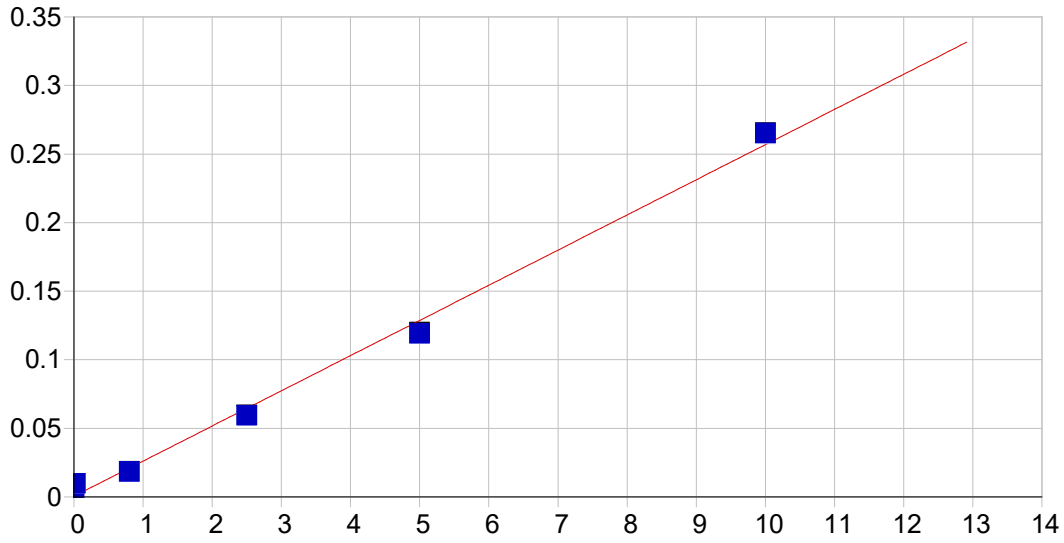
P 177.495 {490}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000969	Re-Slope:	1.000000
A1 (Gain):	0.031656	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998859	Status:	OK.
Std Error of Est:	0.000035		
Predicted MDL:	0.002522		
Predicted MQL:	0.008407		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00001	.000	.000	-.00097	.000	1
S1	.02000	.01700	-.003	-15.0	-.00043	.000	1
S3	2.5000	2.3760	-.124	-4.96	.07423	.000	1
S4	5.0000	4.7893	-.211	-4.21	.15062	.001	1
S5	10.000	10.421	.421	4.21	.32887	.000	1
S2	.80000	.71669	-.083	-10.4	.02171	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



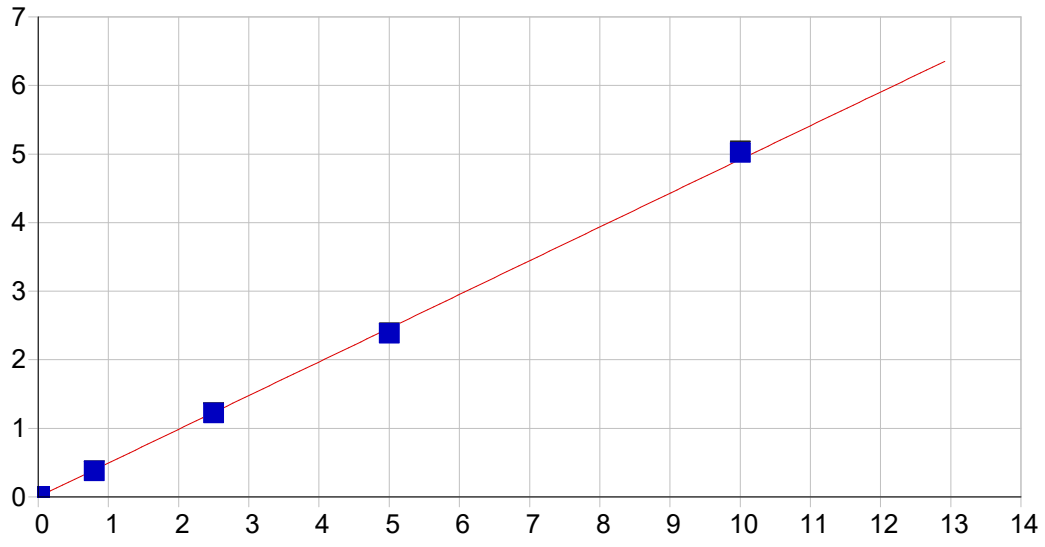
S 182.034 {485}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000456	Re-Slope:	1.000000
A1 (Gain):	0.025643	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.865196	Status:	OK.
Std Error of Est:	0.000347		
Predicted MDL:	0.003139		
Predicted MQL:	0.010464		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00034	-.000	.000	.00045	.000	1
S1	.02000	.36784	.348	1740.	.00987	.000	1
S3	2.5000	2.3005	-.200	-7.98	.05928	.000	1
S4	5.0000	4.6350	-.365	-7.30	.11898	.001	1
S5	10.000	10.328	.328	3.28	.26463	.000	1
S2	.80000	.70247	-.098	-12.2	.01842	.000	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



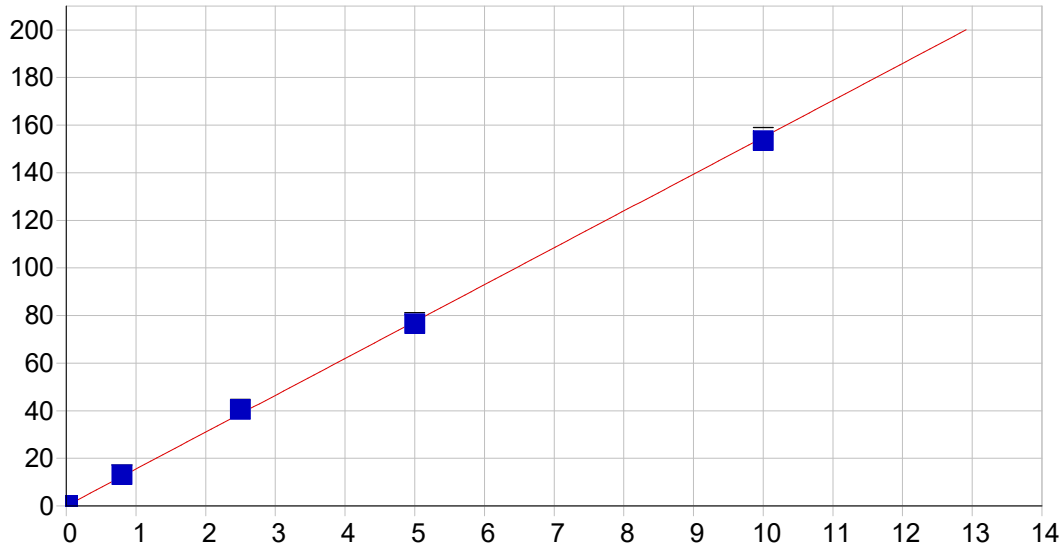
Li 670.784 { 50}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001311	Re-Slope:	1.000000
A1 (Gain):	0.491865	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999706	Status:	OK.
Std Error of Est:	0.000280		
Predicted MDL:	0.001824		
Predicted MQL:	0.006082		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00131	.000	1
S5	10.000	10.209	.209	2.09	5.0271	.016	1
S4	5.0000	4.8459	-.154	-3.08	2.3870	.006	1
S3	2.5000	2.4784	-.022	-.865	1.2214	.012	1
S1	.02000	.02095	.001	4.77	.01180	.000	1
S2	.80000	.76599	-.034	-4.25	.37843	.002	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



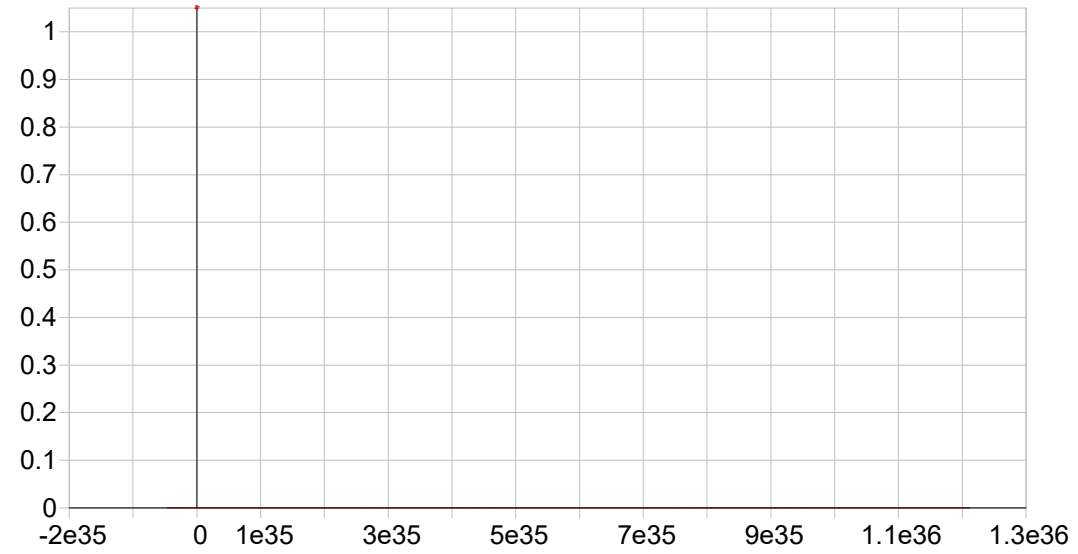
Sr 407.771 { 83}

Date of Fit:	11/18/2024 12:57:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001644	Re-Slope:	1.000000
A1 (Gain):	15.489293	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999747	Status:	OK.
Std Error of Est:	0.008170		
Predicted MDL:	0.000034		
Predicted MQL:	0.000113		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00158	.001	1
S1	.02000	.02231	.002	11.6	.34881	.003	1
S3	2.5000	2.6126	.113	4.50	40.508	.150	1
S4	5.0000	4.9363	-.064	-1.27	76.538	.438	1
S5	10.000	9.9063	-.094	-.937	153.60	1.33	1
S2	.80000	.84247	.042	5.31	13.063	.021	1

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502

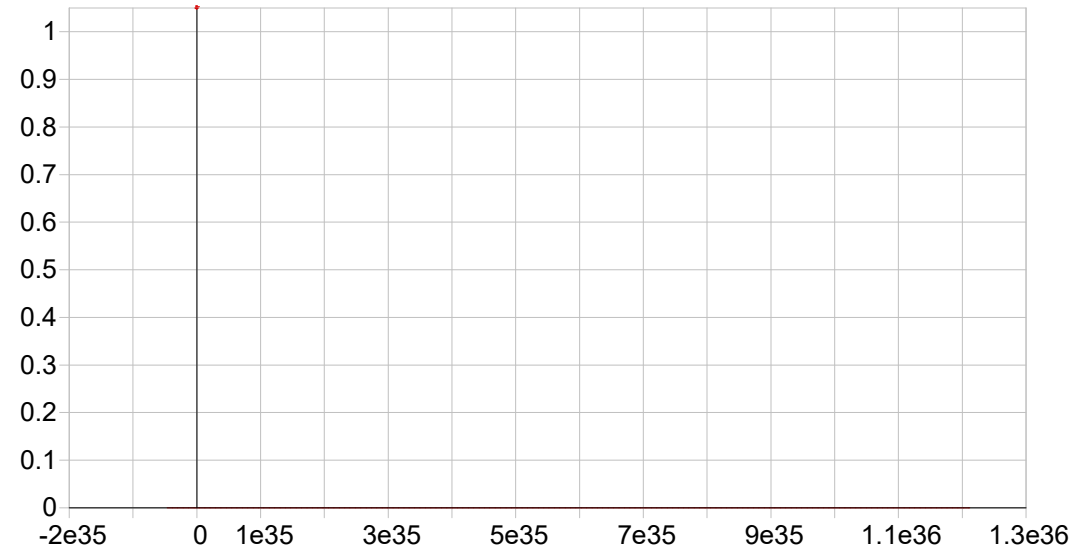


Y 224.306 {450}*

Date of Fit:	11/18/2024 12:31:27	Type of Fit:	Linear	Weighting:	1/Conc

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

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



Y 360.073 { 94}*

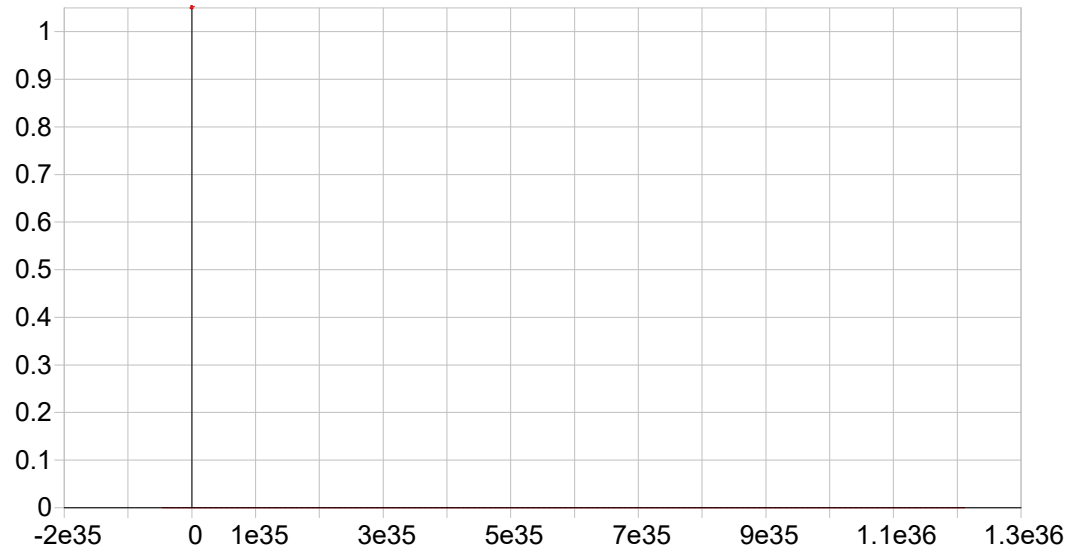
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

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

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502

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

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



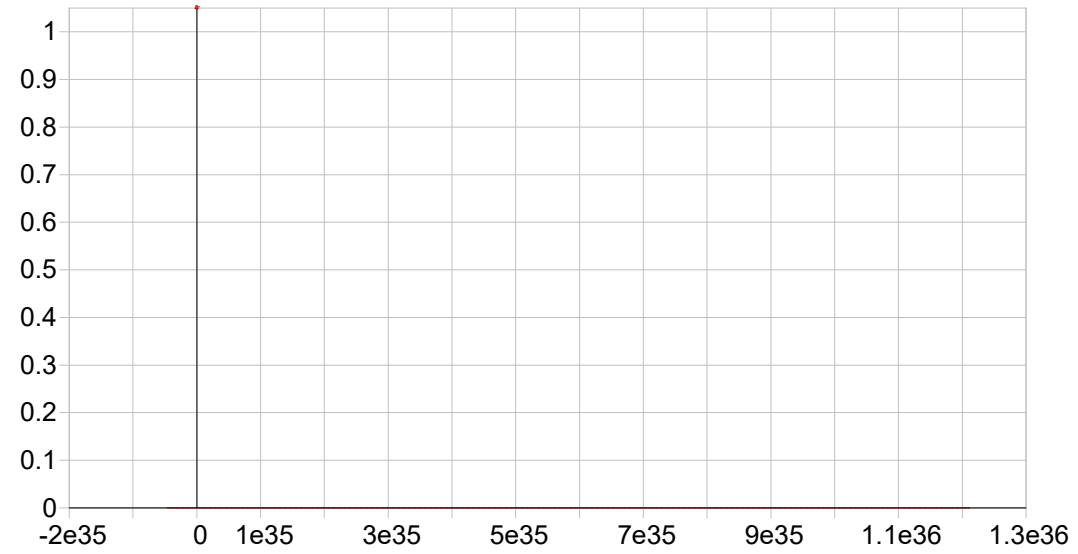
Y 371.030 { 91}*

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

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

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

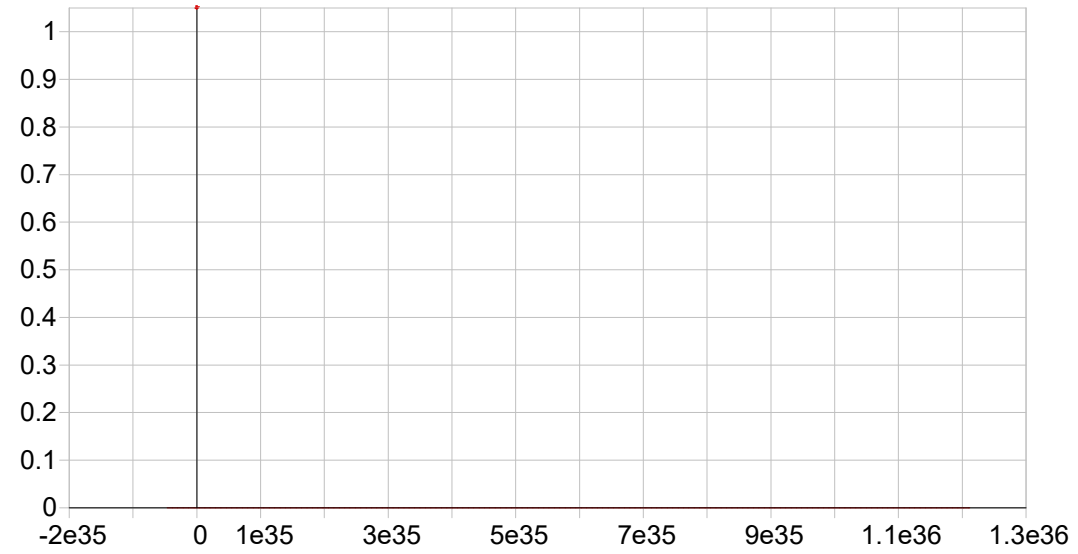
Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502



Y 224.306 {150}*

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

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



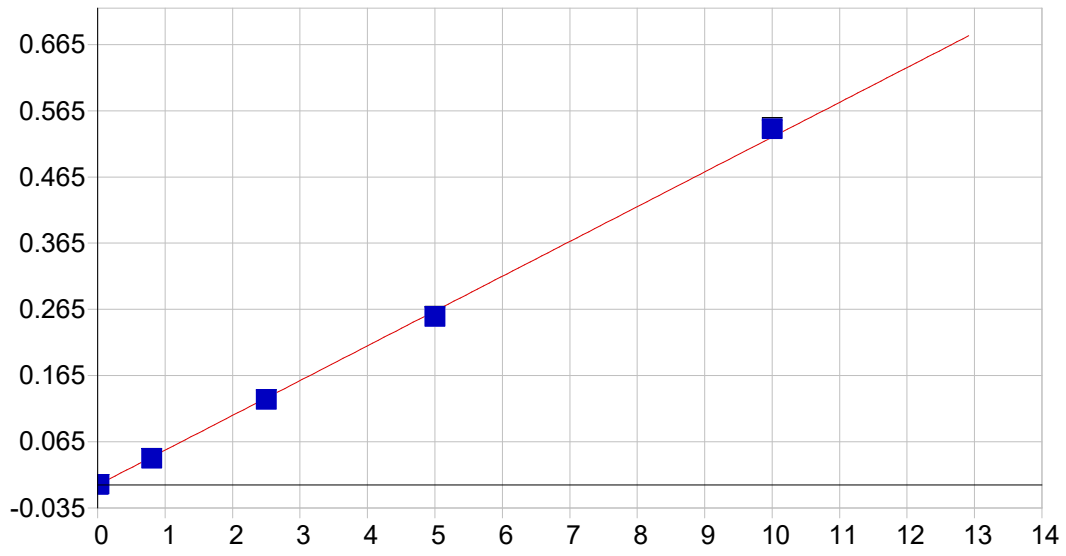
In 230.606 {446}*

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

Reviewed By:jaswal
On:11/19/2024
10:28:07 PM
Inst Id :P4
LB :LB133502

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:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



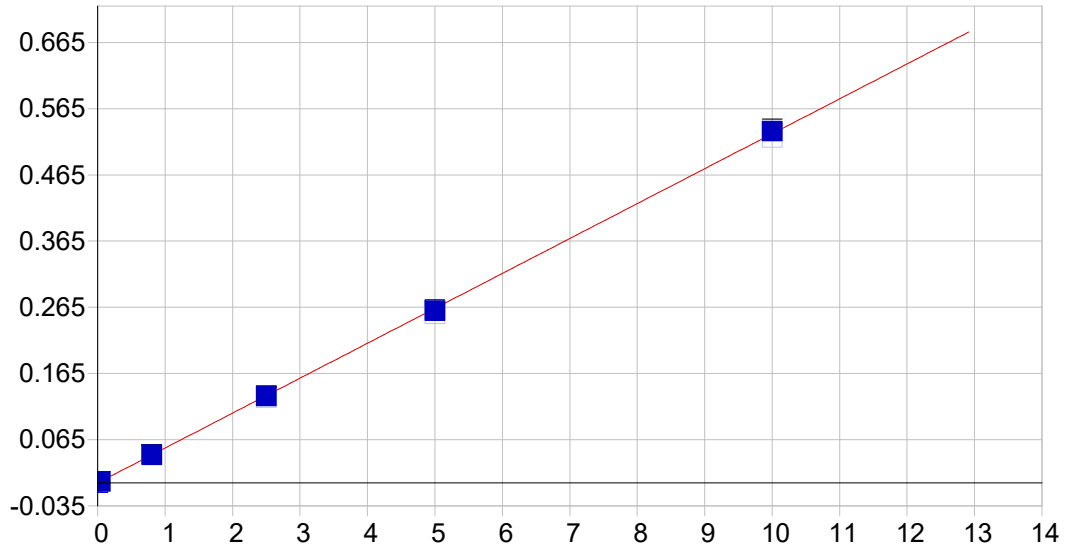
As 189.042 {479}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000238	Re-Slope:	1.000000
A1 (Gain):	0.052540	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999625	Status:	OK.
Std Error of Est:	0.000034		
Predicted MDL:	0.002660		
Predicted MQL:	0.008866		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00024	.000	1
S1	.02000	.02160	.002	8.00	.00089	.000	1
S3	2.5000	2.4526	-.047	-1.90	.12848	.000	1
S4	5.0000	4.8420	-.158	-3.16	.25388	.000	1
S5	10.000	10.242	.242	2.42	.53732	.002	1
S2	.80000	.76171	-.038	-4.79	.03974	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



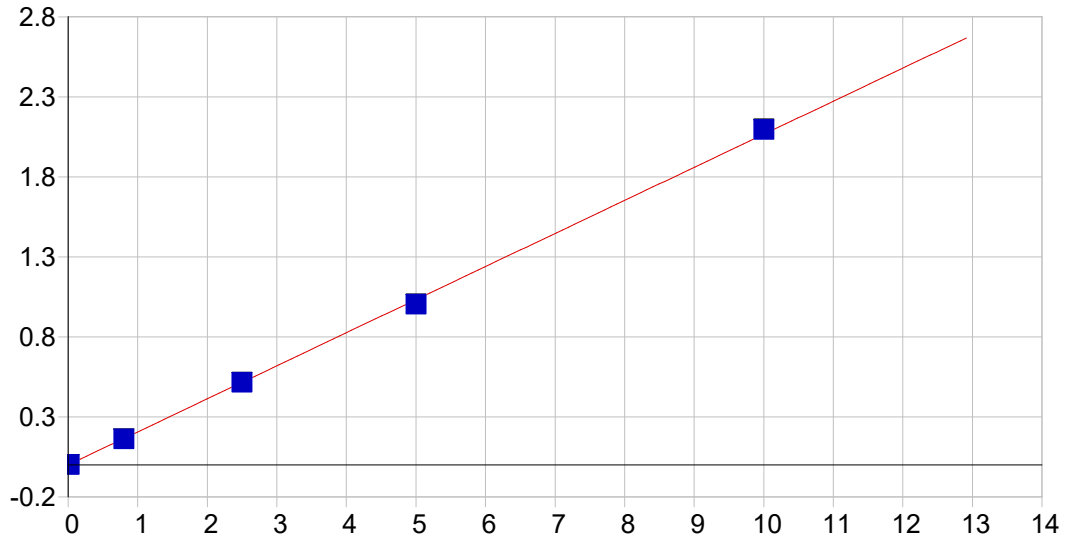
Tl 190.856 {477}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000336	Re-Slope:	1.000000
A1 (Gain):	0.052743	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.002100		
Predicted MQL:	0.006998		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00034	.000	1
S1	.04000	.03902	-.001	-2.45	.00159	.000	1
S3	2.5000	2.4850	-.015	-.598	.12830	.001	1
S4	5.0000	4.9337	-.066	-1.33	.25502	.001	1
S5	10.000	10.076	.076	.755	.52136	.003	1
S2	.80000	.80664	.007	.830	.04143	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



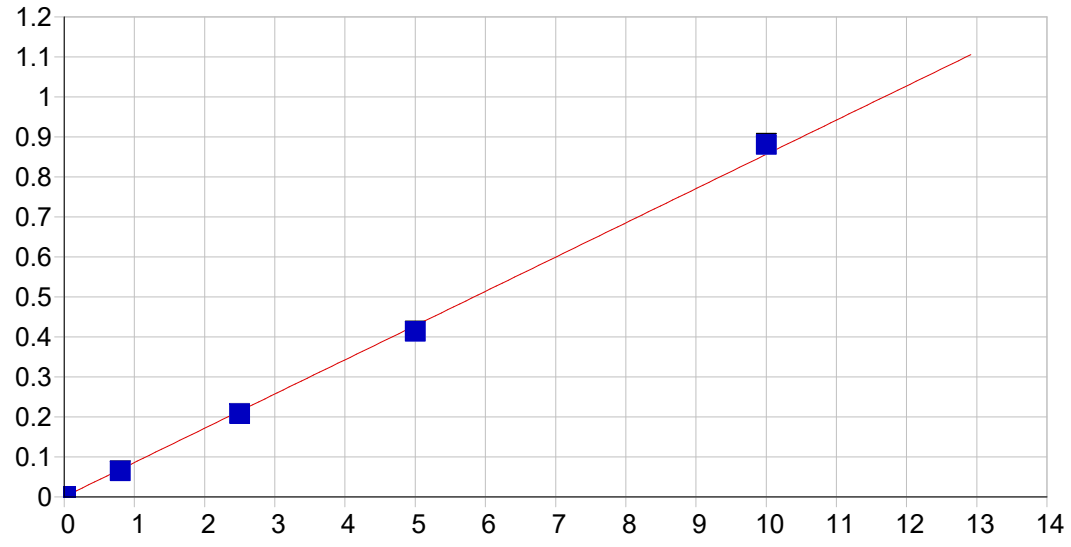
Pb 220.353 {453}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000365	Re-Slope:	1.000000
A1 (Gain):	0.206689	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999832	Status:	OK.
Std Error of Est:	0.000069		
Predicted MDL:	0.001125		
Predicted MQL:	0.003750		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00036	.000	1
S1	.01200	.01164	-.000	-2.99	.00199	.000	1
S3	2.5000	2.5005	.000	.019	.51589	.001	1
S4	5.0000	4.8620	-.138	-2.76	1.0034	.001	1
S5	10.000	10.148	.148	1.48	2.0948	.004	1
S2	.80000	.79007	-.010	-1.24	.16275	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



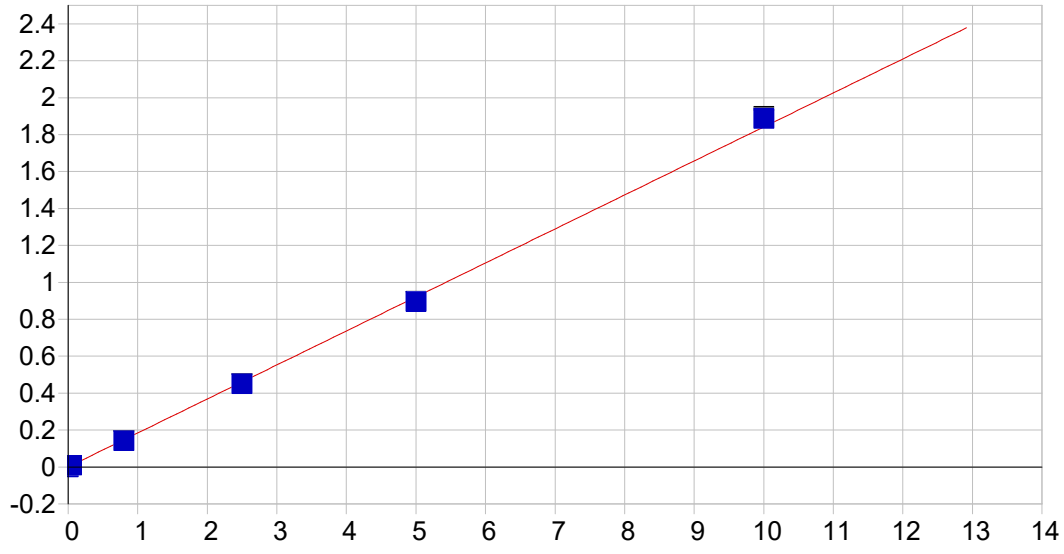
Se 196.090 {472}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000391	Re-Slope:	1.000000
A1 (Gain):	0.085584	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999478	Status:	OK.
Std Error of Est:	0.000065		
Predicted MDL:	0.002194		
Predicted MQL:	0.007315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00039	.000	1
S1	.02000	.02077	.001	3.83	.00217	.000	1
S3	2.5000	2.4267	-.073	-2.93	.20803	.001	1
S4	5.0000	4.8322	-.168	-3.36	.41384	.000	1
S5	10.000	10.289	.289	2.89	.88076	.003	1
S2	.80000	.75117	-.049	-6.10	.06466	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



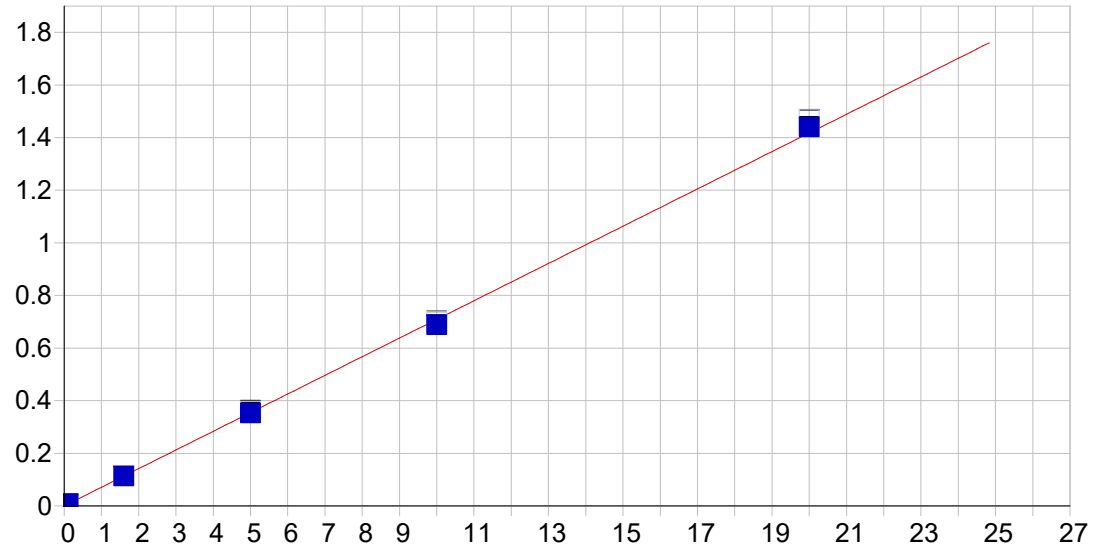
Sb 206.833 {463}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000108	Re-Slope:	1.000000
A1 (Gain):	0.184133	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999648	Status:	OK.
Std Error of Est:	0.000182		
Predicted MDL:	0.001226		
Predicted MQL:	0.004087		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00011	.000	1
S1	.05000	.04916	-.001	-1.67	.00918	.000	1
S3	2.5000	2.4394	-.061	-2.42	.45054	.001	1
S4	5.0000	4.8568	-.143	-2.86	.89691	.000	1
S5	10.000	10.241	.241	2.41	1.8907	.008	1
S2	.80000	.76411	-.036	-4.49	.14121	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



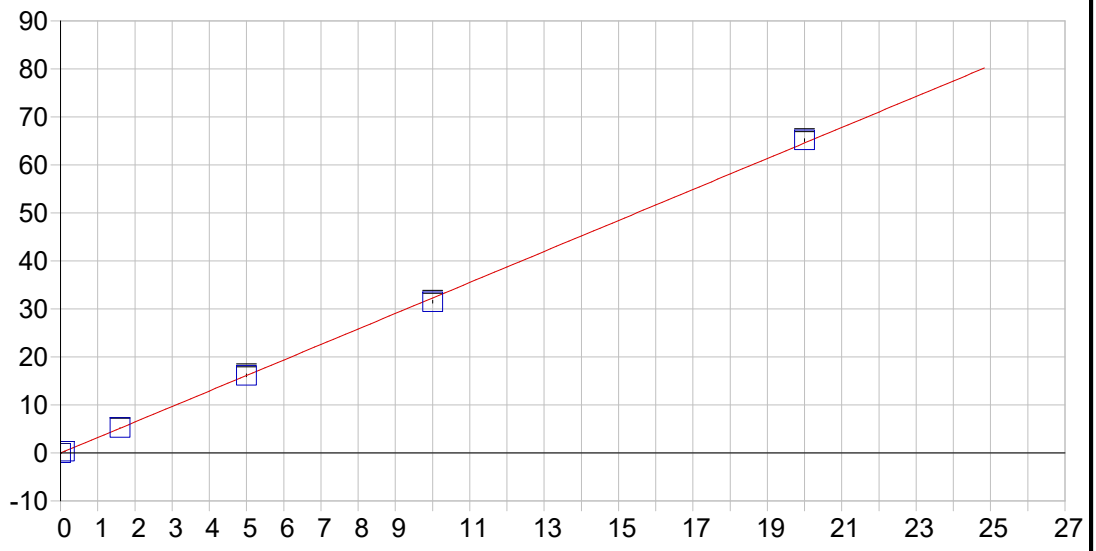
Al 396.152 { 85}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000070	Re-Slope:	1.000000
A1 (Gain):	0.070887	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999815	Status:	OK.
Std Error of Est:	0.000103		
Predicted MDL:	0.005226		
Predicted MQL:	0.017418		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00007	.000	1
S1	.10000	.10145	.001	1.45	.00781	.000	1
S3	5.0000	4.9756	-.024	-.489	.35965	.004	1
S4	10.000	9.7035	-.296	-2.96	.70168	.001	1
S5	20.000	20.323	.323	1.61	1.4682	.002	1
S2	1.6000	1.5964	-.004	-.226	.11543	.001	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



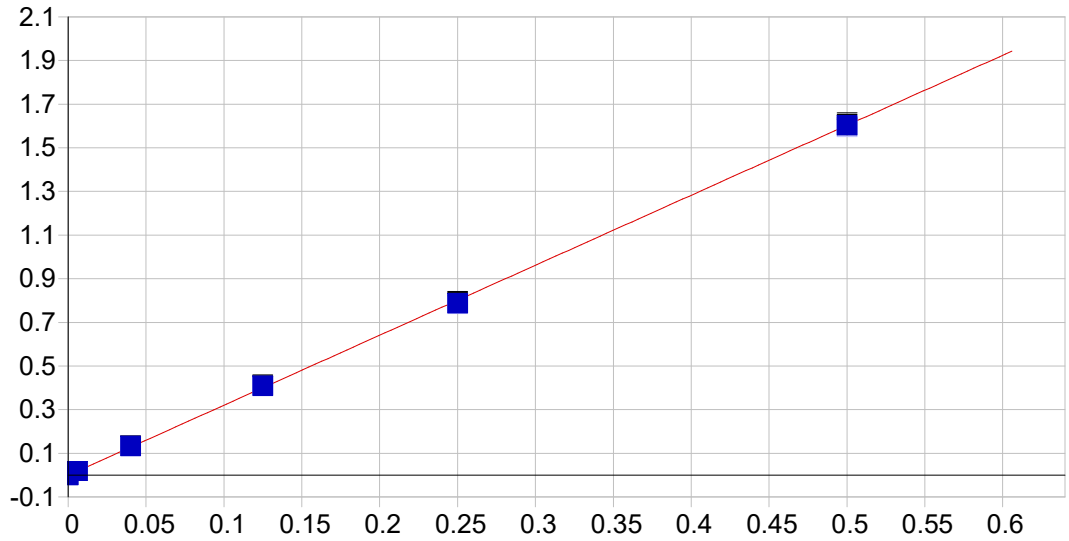
Ba 493.409 { 68}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.022925	Re-Slope:	1.000000
A1 (Gain):	3.229695	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999876	Status:	OK.
Std Error of Est:	0.003779		
Predicted MDL:	0.000428		
Predicted MQL:	0.001426		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	-.02295	.000	1
S1	.10000	.10584	.006	5.84	.31889	.001	1
S3	5.0000	5.0124	.012	.249	16.166	.276	1
S4	10.000	9.7527	-.247	-2.47	31.475	.302	1
S5	20.000	20.194	.194	.970	65.198	.299	1
S2	1.6000	1.6350	.035	2.19	5.2577	.025	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



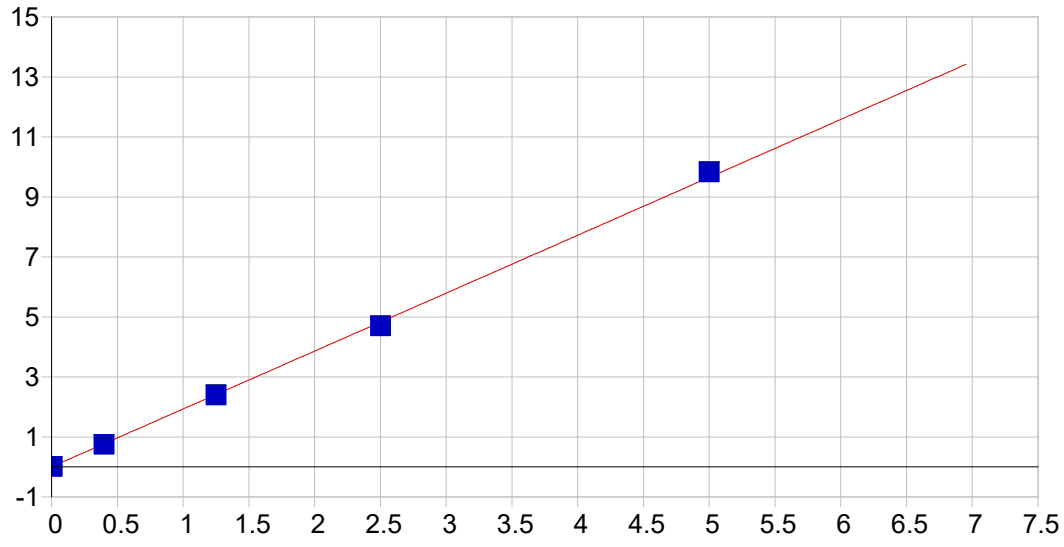
Be 234.861 {144}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000574	Re-Slope:	1.000000
A1 (Gain):	3.207858	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000136		
Predicted MDL:	0.000059		
Predicted MQL:	0.000198		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00057	.000	1
S1	.00600	.00599	-.000	-.153	.01850	.000	1
S3	.12500	.12781	.003	2.25	.40762	.004	1
S4	.25000	.24567	-.004	-1.73	.78391	.008	1
S5	.50000	.49996	-.000	-.008	1.5960	.012	1
S2	.04000	.04157	.002	3.93	.13220	.001	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



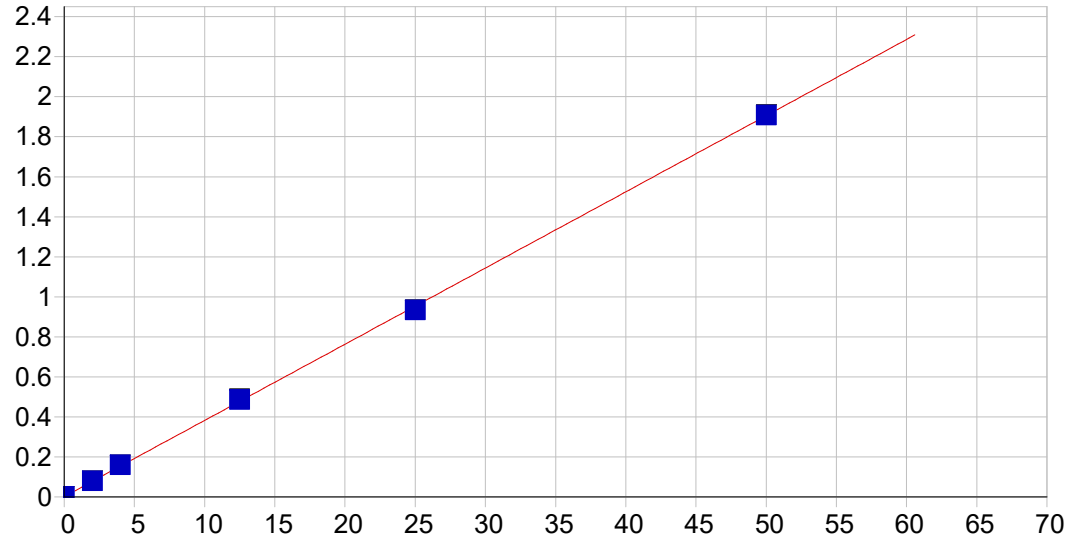
Cd 226.502 {449}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000102	Re-Slope:	1.000000
A1 (Gain):	1.930519	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999775	Status:	OK.
Std Error of Est:	0.000372		
Predicted MDL:	0.000092		
Predicted MQL:	0.000308		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00010	.000	1
S1	.00600	.00732	.001	22.0	.01407	.000	1
S3	1.2500	1.2400	-.010	-.797	2.3956	.002	1
S4	2.5000	2.4317	-.068	-2.73	4.6980	.004	1
S5	5.0000	5.0885	.088	1.77	9.8306	.014	1
S2	.40000	.38849	-.012	-2.88	.75047	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



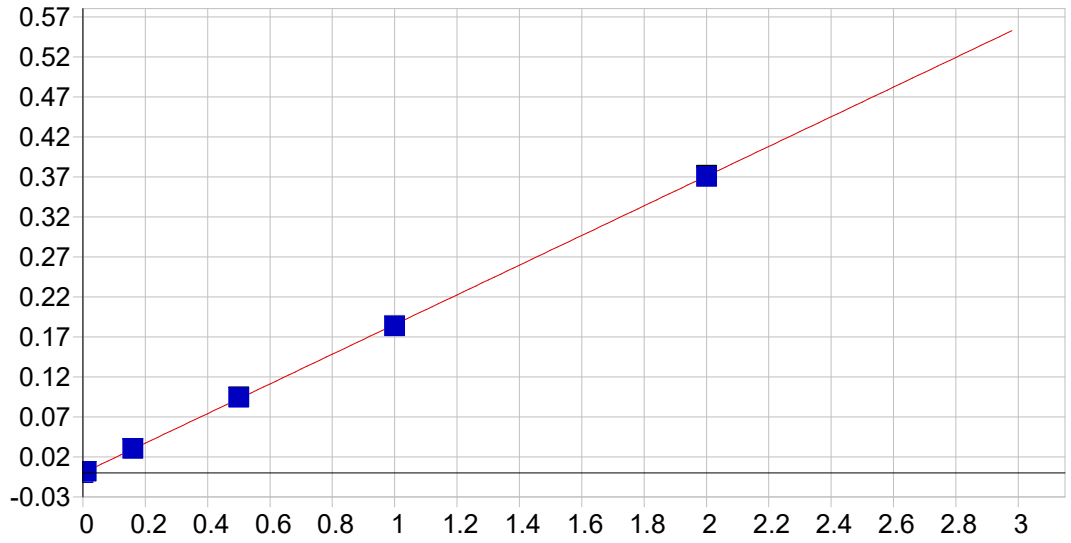
Ca 373.690 { 90}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001690	Re-Slope:	1.000000
A1 (Gain):	0.038071	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999877	Status:	OK.
Std Error of Est:	0.000316		
Predicted MDL:	0.009012		
Predicted MQL:	0.030041		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00014	-.000	.000	.00168	.000	1
S2	4.0000	4.1442	.144	3.61	.15947	.001	1
S3	12.500	12.731	.231	1.85	.48638	.003	1
S4	25.000	24.479	-.521	-2.08	.93365	.002	1
S5	50.000	50.075	.075	.149	1.9081	.003	1
S1	2.0000	2.0709	.071	3.55	.08053	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



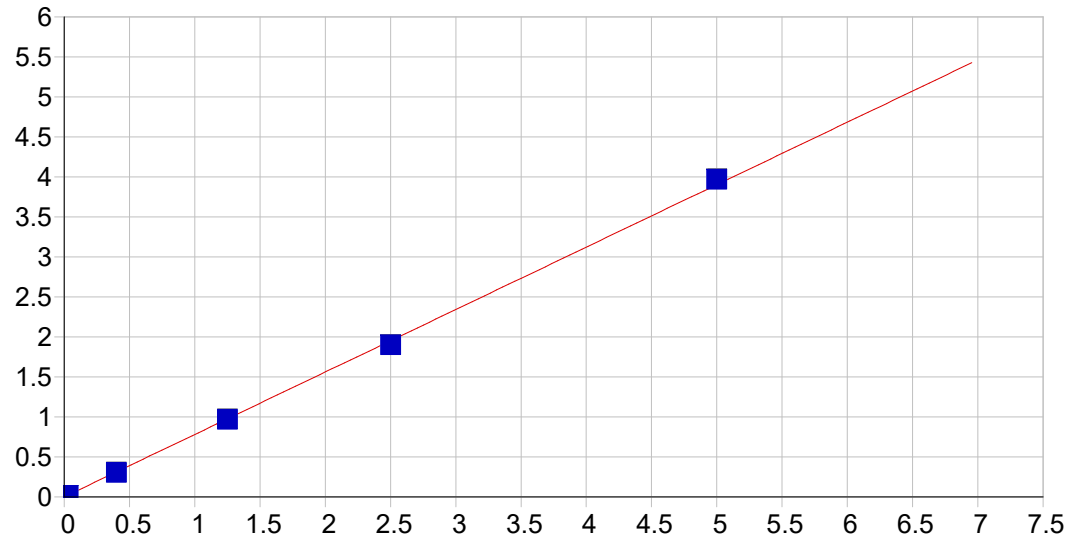
Cr 267.716 {126}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000024	Re-Slope:	1.000000
A1 (Gain):	0.185478	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.000377		
Predicted MQL:	0.001256		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00002	.000	1
S1	.01000	.01018	.000	1.79	.00187	.000	1
S3	.50000	.50979	.010	1.96	.09456	.000	1
S4	1.0000	.99067	-.009	-.933	.18378	.001	1
S5	2.0000	1.9962	-.004	-.191	.37034	.002	1
S2	.16000	.16316	.003	1.98	.03025	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



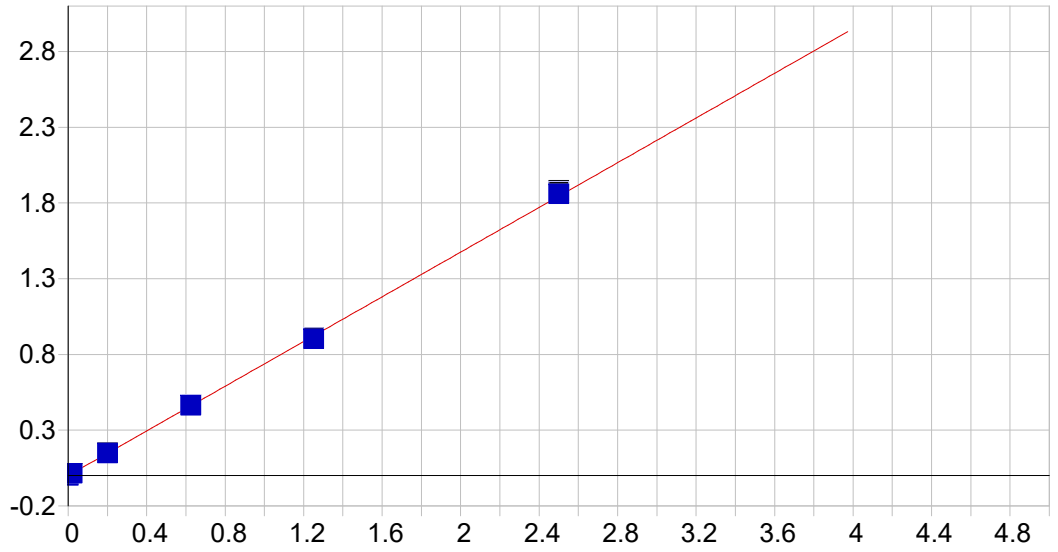
Co 228.616 {448}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000061	Re-Slope:	1.000000
A1 (Gain):	0.780579	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999806	Status:	OK.
Std Error of Est:	0.000313		
Predicted MDL:	0.000204		
Predicted MQL:	0.000679		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00006	.000	1
S1	.03000	.02984	-.000	-.547	.02325	.000	1
S3	1.2500	1.2413	-.009	-.696	.97065	.001	1
S4	2.5000	2.4317	-.068	-2.73	1.9015	.001	1
S5	5.0000	5.0857	.086	1.71	3.9765	.003	1
S2	.40000	.39147	-.009	-2.13	.30616	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



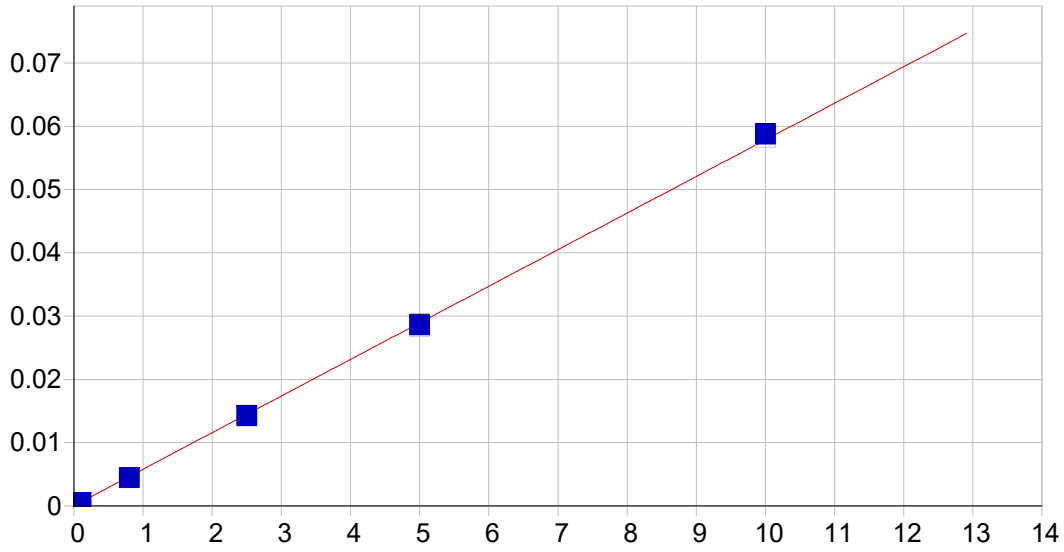
Cu 224.700 {450}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000200	Re-Slope:	1.000000
A1 (Gain):	0.737884	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999897	Status:	OK.
Std Error of Est:	0.000125		
Predicted MDL:	0.000392		
Predicted MQL:	0.001308		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00020	.000	1
S1	.02000	.02186	.002	9.32	.01612	.000	1
S3	.62500	.62947	.004	.715	.46867	.000	1
S4	1.2500	1.2228	-.027	-2.18	.91087	.000	1
S5	2.5000	2.5203	.020	.811	1.8771	.006	1
S2	.20000	.20058	.001	.290	.14921	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



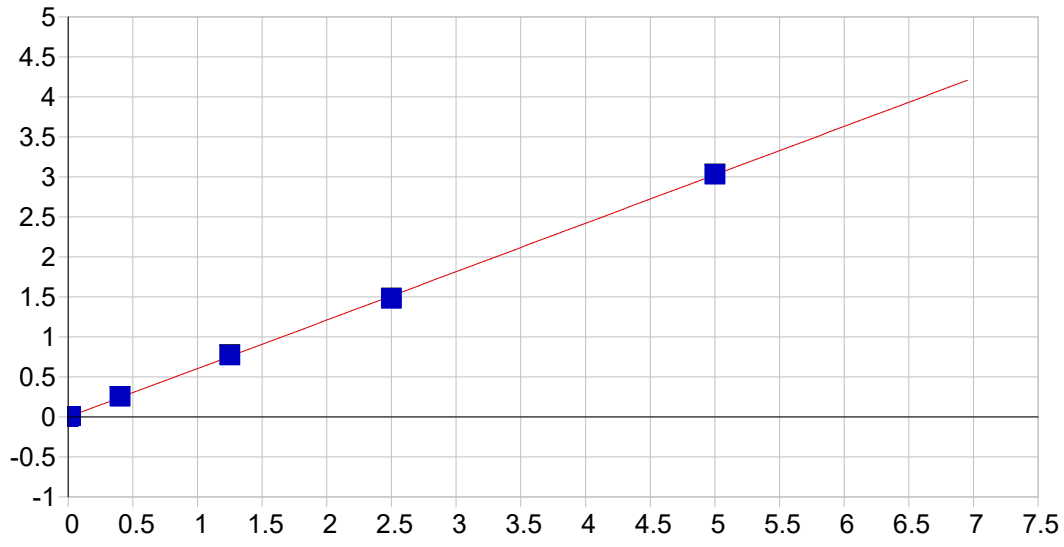
Fe 240.488 {140}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000024	Re-Slope:	1.000000
A1 (Gain):	0.005782	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999832	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.004006		
Predicted MQL:	0.013352		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00002	.000	.000	.00002	.000	1
S1	.10000	.08942	-.011	-10.6	.00053	.000	1
S3	2.5000	2.4614	-.039	-1.55	.01413	.000	1
S4	5.0000	4.9343	-.066	-1.31	.02831	.000	1
S5	10.000	10.147	.147	1.47	.05820	.000	1
S2	.80000	.76747	-.033	-4.07	.00442	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



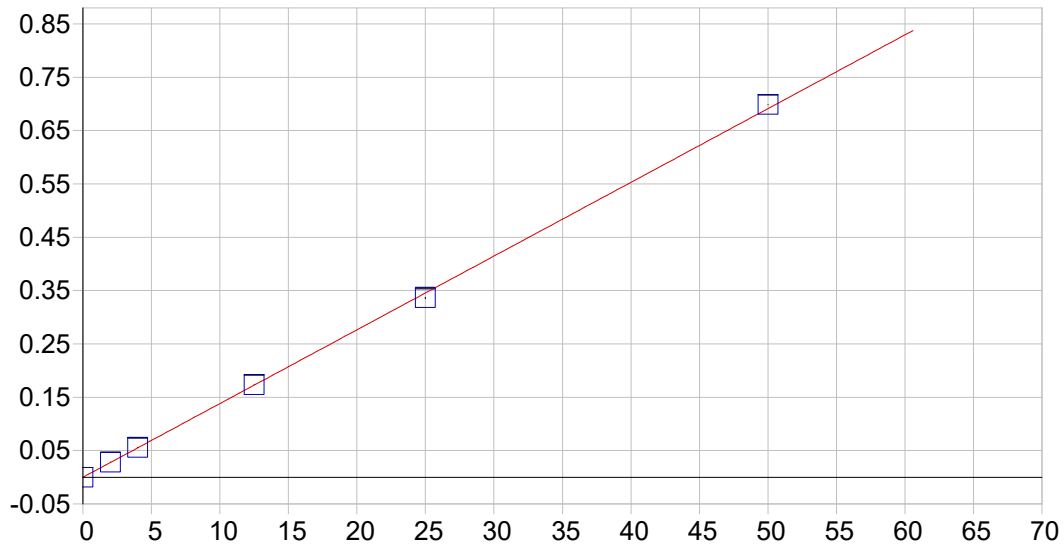
Mn 257.610 {131}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000029	Re-Slope:	1.000000
A1 (Gain):	0.605127	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999832	Status:	OK.
Std Error of Est:	0.000184		
Predicted MDL:	0.000259		
Predicted MQL:	0.000864		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00003	.000	1
S1	.02000	.02152	.002	7.60	.01300	.000	1
S3	1.2500	1.2779	.028	2.24	.77344	.006	1
S4	2.5000	2.4428	-.057	-2.29	1.4785	.005	1
S5	5.0000	5.0074	.007	.148	3.0307	.004	1
S2	.40000	.42027	.020	5.07	.25434	.001	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



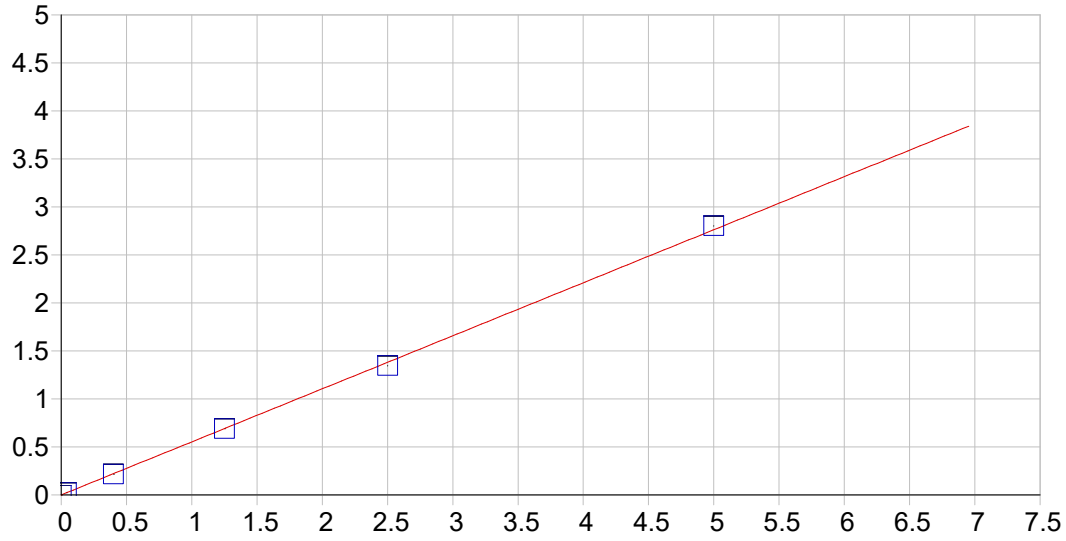
Mg 279.079 {121}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000115	Re-Slope:	1.000000
A1 (Gain):	0.013826	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000123		
Predicted MDL:	0.011951		
Predicted MQL:	0.039838		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00005	-.000	.000	-.00012	.000	1
S2	4.0000	4.0410	.041	1.03	.05575	.001	1
S3	12.500	12.554	.054	.431	.17345	.000	1
S4	25.000	24.319	-.681	-2.72	.33612	.002	1
S5	50.000	50.531	.531	1.06	.69851	.000	1
S1	2.0000	2.0545	.054	2.72	.02829	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



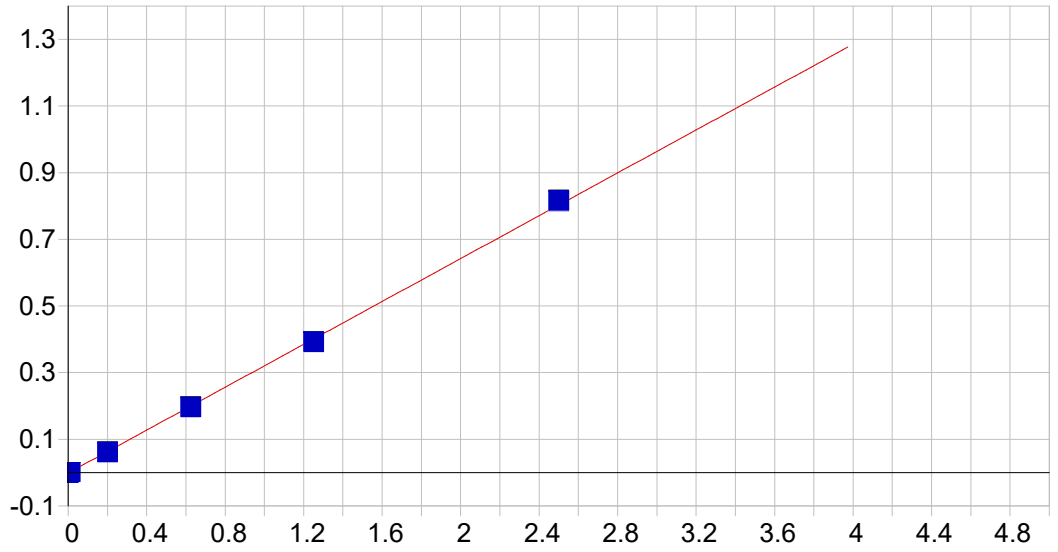
Ni 231.604 {446}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000058	Re-Slope:	1.000000
A1 (Gain):	0.552464	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999851	Status:	OK.
Std Error of Est:	0.000224		
Predicted MDL:	0.000322		
Predicted MQL:	0.001074		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00006	.000	1
S1	.04000	.03926	-.001	-1.85	.02175	.000	1
S3	1.2500	1.2485	-.002	-.123	.68979	.001	1
S4	2.5000	2.4363	-.064	-2.55	1.3460	.001	1
S5	5.0000	5.0717	.072	1.43	2.8020	.002	1
S2	.40000	.39426	-.006	-1.43	.21787	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



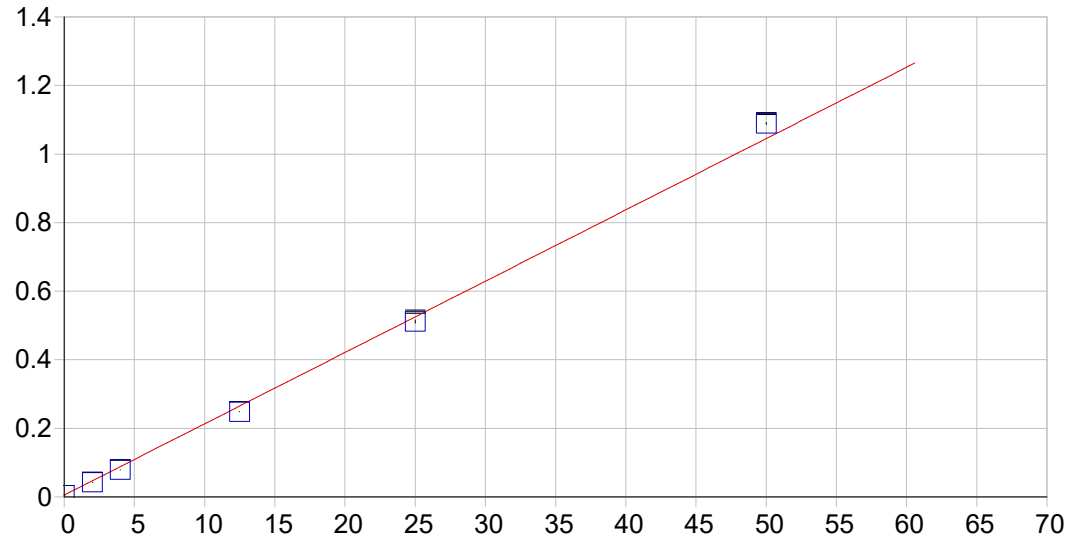
Ag 328.068 {103}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001273	Re-Slope:	1.000000
A1 (Gain):	0.321685	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999844	Status:	OK.
Std Error of Est:	0.000047		
Predicted MDL:	0.000302		
Predicted MQL:	0.001007		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00127	.000	1
S1	.01000	.00949	-.001	-5.10	.00176	.000	1
S3	.62500	.61637	-.009	-1.38	.19621	.000	1
S4	1.2500	1.2234	-.027	-2.13	.39068	.000	1
S5	2.5000	2.5396	.040	1.59	.81250	.002	1
S2	.20000	.19610	-.004	-1.95	.06155	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



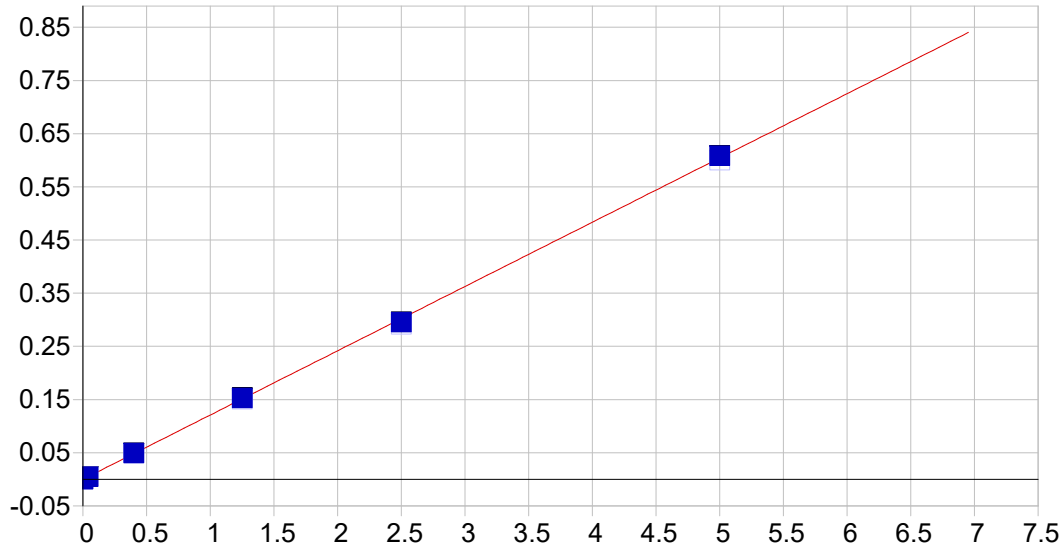
Na 589.592 { 57}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005286	Re-Slope:	1.000000
A1 (Gain):	0.020795	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998762	Status:	OK.
Std Error of Est:	0.000548		
Predicted MDL:	0.007430		
Predicted MQL:	0.024767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00053	.001	.000	.00530	.000	1
S2	4.0000	3.5401	-.460	-11.5	.07890	.000	1
S3	12.500	11.702	-.798	-6.39	.24863	.000	1
S4	25.000	24.340	-.660	-2.64	.51145	.005	1
S5	50.000	52.121	2.12	4.24	1.0891	.003	1
S1	2.0000	1.7973	-.203	-10.1	.04266	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



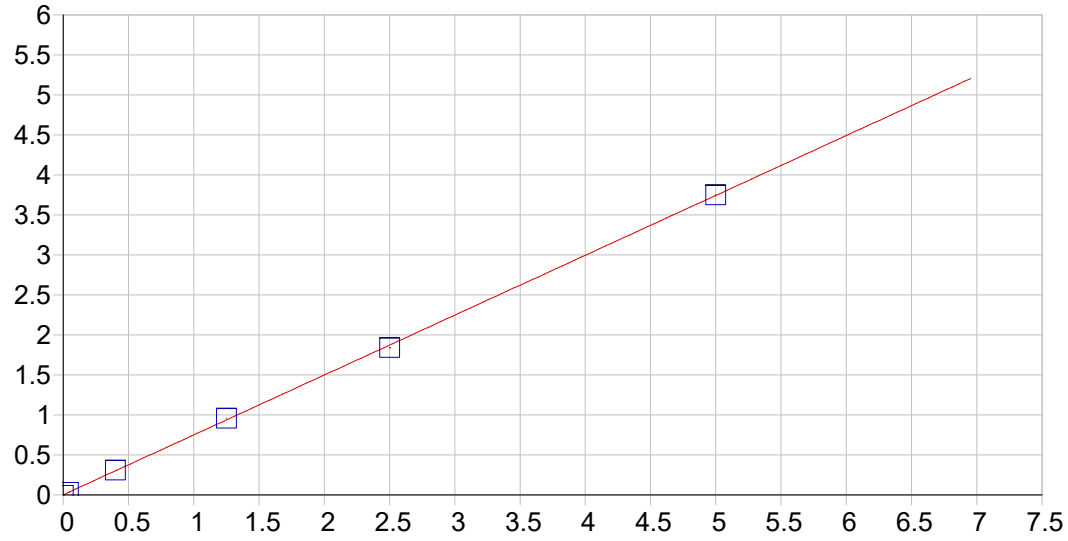
V 292.402 {115}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000087	Re-Slope:	1.000000
A1 (Gain):	0.120859	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000038		
Predicted MDL:	0.001396		
Predicted MQL:	0.004653		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00009	.000	1
S1	.04000	.04054	.001	1.36	.00481	.000	1
S3	1.2500	1.2627	.013	1.02	.15049	.001	1
S4	2.5000	2.4453	-.055	-2.19	.29121	.000	1
S5	5.0000	5.0349	.035	.697	.59978	.000	1
S2	.40000	.40663	.007	1.66	.04853	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



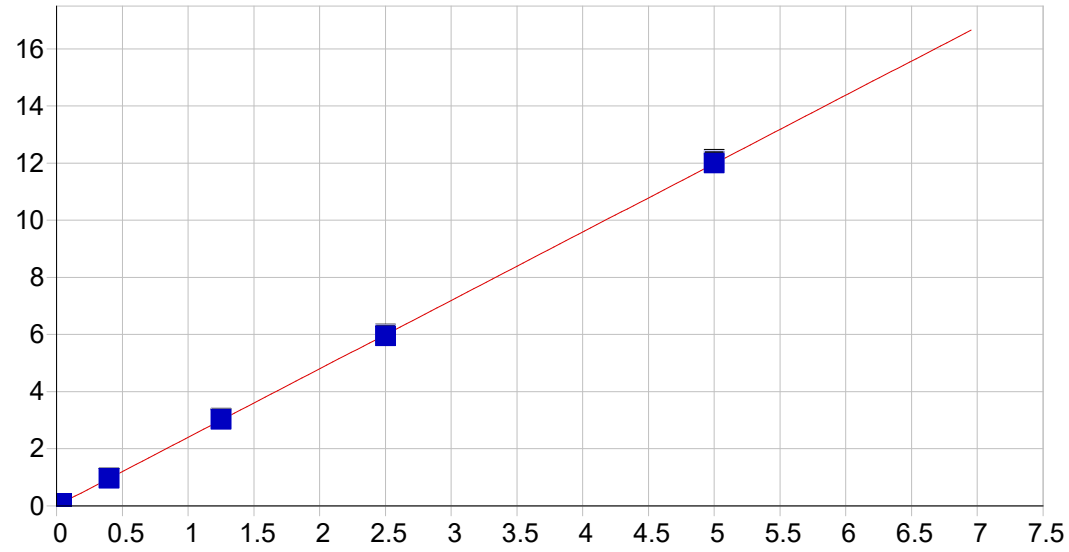
Zn 206.200 {464}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001602	Re-Slope:	1.000000
A1 (Gain):	0.748446	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999913	Status:	OK.
Std Error of Est:	0.000231		
Predicted MDL:	0.000244		
Predicted MQL:	0.000813		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00160	.000	1
S1	.04000	.04144	.001	3.59	.03262	.000	1
S3	1.2500	1.2776	.028	2.20	.95778	.001	1
S4	2.5000	2.4573	-.043	-1.71	1.8407	.001	1
S5	5.0000	5.0048	.005	.096	3.7474	.005	1
S2	.40000	.40894	.009	2.24	.30767	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



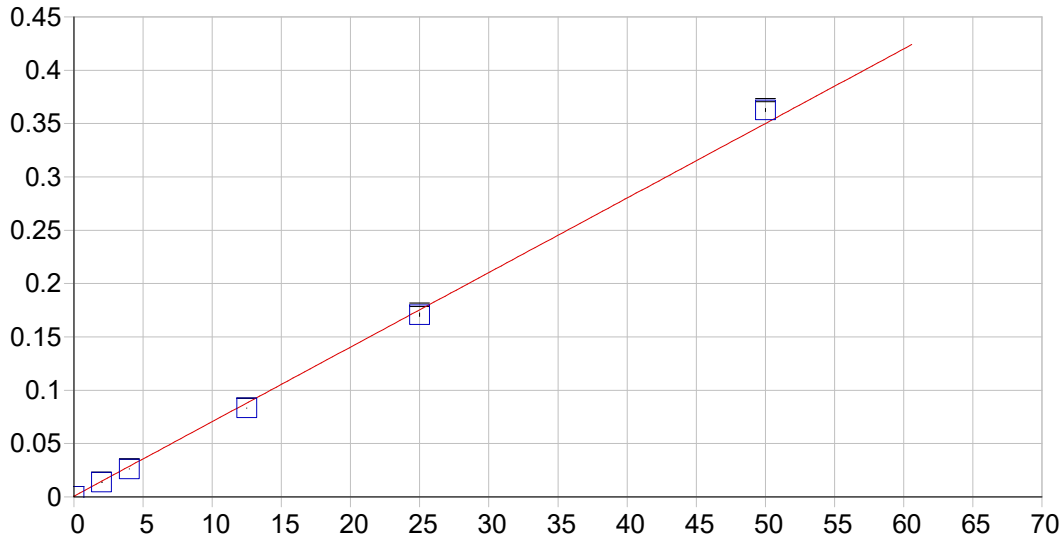
Zn 213.856 {158}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006557	Re-Slope:	1.000000
A1 (Gain):	2.395349	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000295		
Predicted MDL:	0.000318		
Predicted MQL:	0.001058		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00656	.001	1
S1	.04000	.04065	.001	1.64	.10461	.001	1
S3	1.2500	1.2615	.011	.918	3.0490	.016	1
S4	2.5000	2.4826	-.017	-.698	5.9948	.018	1
S5	5.0000	5.0069	.007	.139	12.083	.055	1
S2	.40000	.39838	-.002	-.406	.96747	.007	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



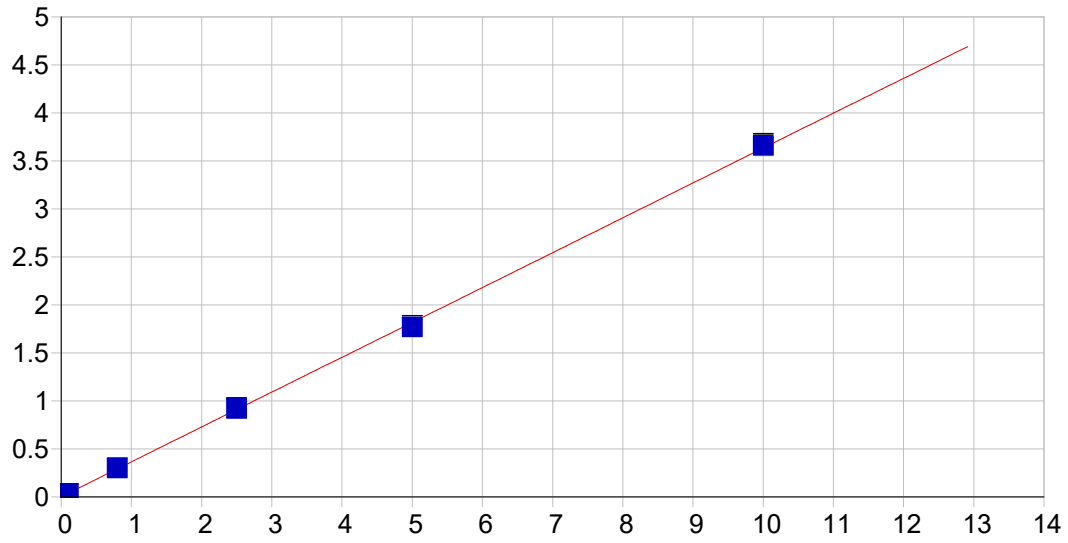
K 766.490 { 44}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000699	Re-Slope:	1.000000
A1 (Gain):	0.006988	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999159	Status:	OK.
Std Error of Est:	0.000152		
Predicted MDL:	0.023226		
Predicted MQL:	0.077420		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00039	.000	.000	.00070	.000	1
S2	4.0000	3.6532	-.347	-8.67	.02623	.000	1
S3	12.500	11.824	-.676	-5.41	.08332	.000	1
S4	25.000	24.348	-.652	-2.61	.17083	.002	1
S5	50.000	51.806	1.81	3.61	.36269	.002	1
S1	2.0000	1.8694	-.131	-6.53	.01376	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



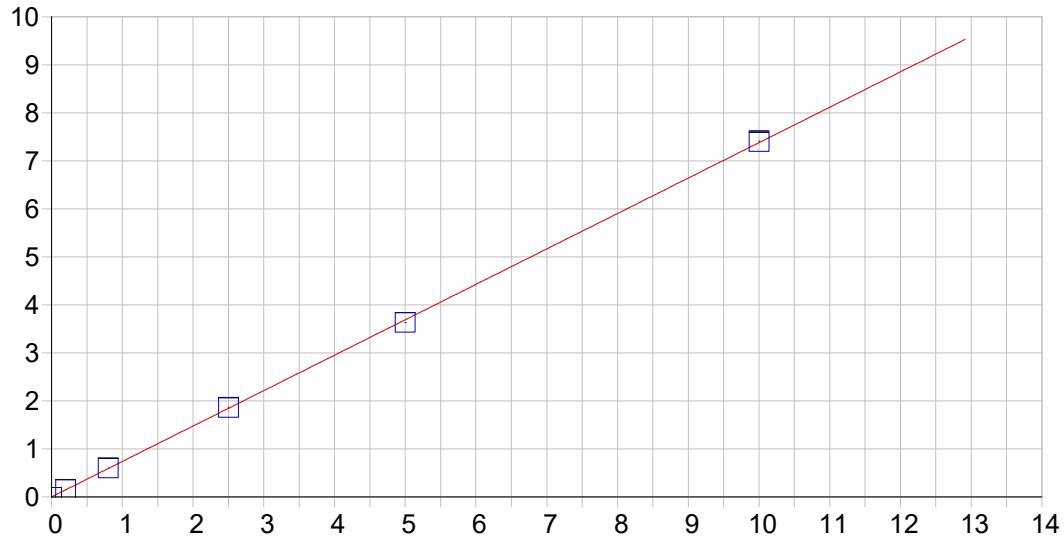
B 249.678 {135}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001952	Re-Slope:	1.000000
A1 (Gain):	0.363151	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999853	Status:	OK.
Std Error of Est:	0.000326		
Predicted MDL:	0.000628		
Predicted MQL:	0.002094		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00195	.000	1
S1	.10000	.10579	.006	5.79	.04022	.001	1
S3	2.5000	2.5277	.028	1.11	.91812	.009	1
S4	5.0000	4.8672	-.133	-2.66	1.7659	.017	1
S5	10.000	10.077	.077	.772	3.6544	.021	1
S2	.80000	.82216	.022	2.77	.29995	.001	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



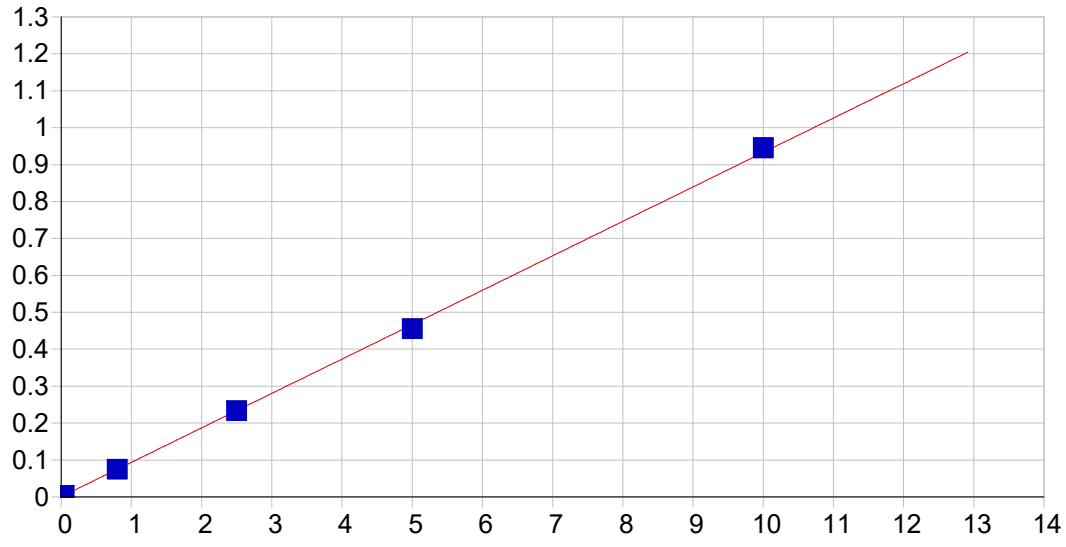
Mo 202.030 {467}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000329	Re-Slope:	1.000000
A1 (Gain):	0.738080	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000612		
Predicted MDL:	0.000262		
Predicted MQL:	0.000873		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00032	.000	1
S1	.20000	.21079	.011	5.39	.15591	.001	1
S3	2.5000	2.5229	.023	.915	1.8624	.003	1
S4	5.0000	4.9224	-.078	-1.55	3.6334	.001	1
S5	10.000	10.031	.031	.313	7.4042	.014	1
S2	.80000	.81266	.013	1.58	.60013	.001	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



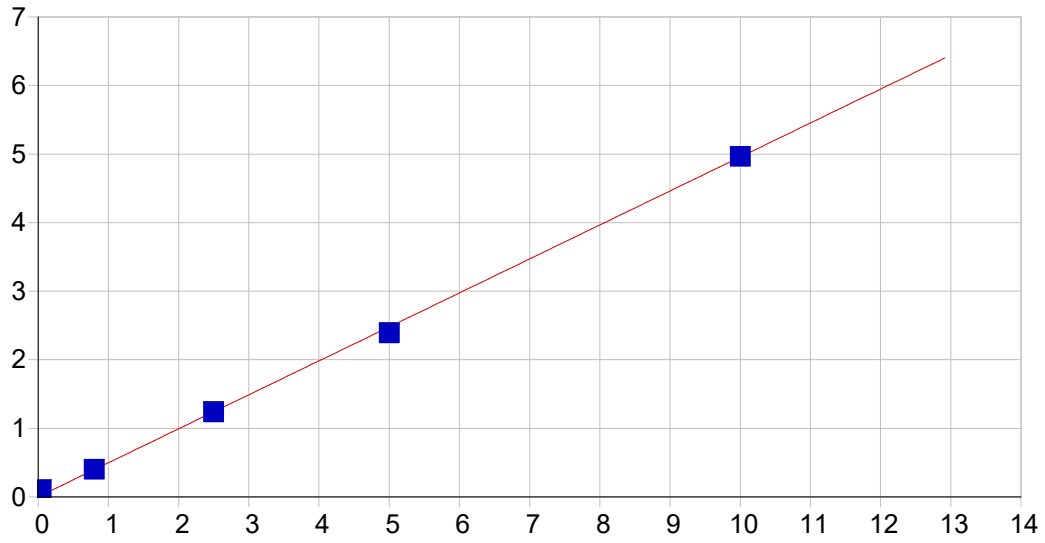
Sn 189.989 {478}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000538	Re-Slope:	1.000000
A1 (Gain):	0.093217	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999827	Status:	OK.
Std Error of Est:	0.000057		
Predicted MDL:	0.000895		
Predicted MQL:	0.002985		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00054	.000	1
S1	.04000	.04846	.008	21.2	.00505	.000	1
S3	2.5000	2.4940	-.006	-.242	.23278	.000	1
S4	5.0000	4.8791	-.121	-2.42	.45488	.001	1
S5	10.000	10.125	.125	1.25	.94337	.001	1
S2	.80000	.79384	-.006	-.770	.07446	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



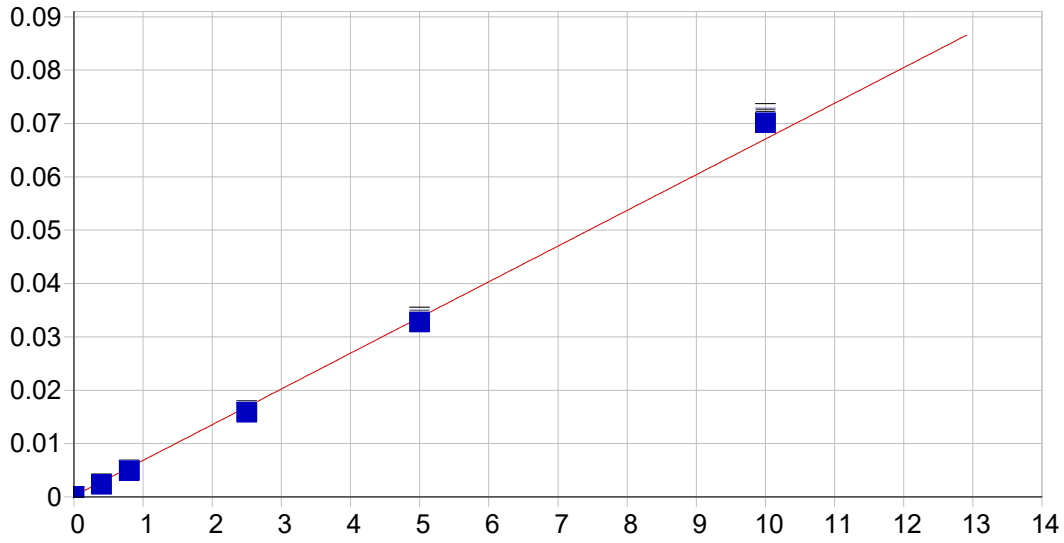
Ti 336.121 {100}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001877	Re-Slope:	1.000000
A1 (Gain):	0.495504	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.982027	Status:	OK.
Std Error of Est:	0.003156		
Predicted MDL:	0.000496		
Predicted MQL:	0.001652		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00016	-.000	.000	.00180	.000	1
S1	.04000	.20368	.164	409.	.10279	.000	1
S3	2.5000	2.4922	-.008	-.314	1.2363	.009	1
S4	5.0000	4.8213	-.179	-3.57	2.3900	.006	1
S5	10.000	10.014	.014	.145	4.9623	.003	1
S2	.80000	.80841	.008	1.05	.40230	.001	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



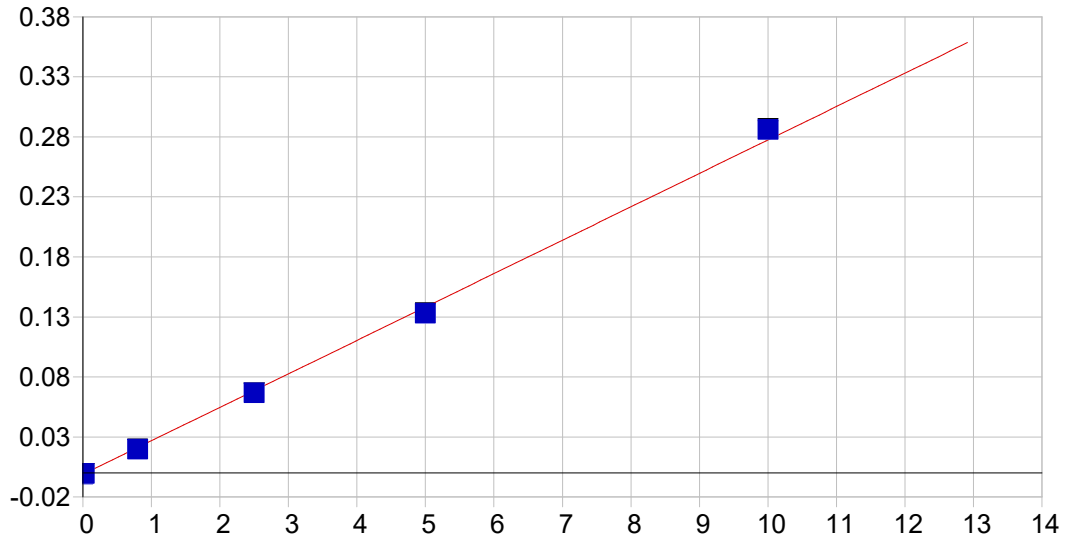
Si 288.158 {117}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000163	Re-Slope:	1.000000
A1 (Gain):	0.006693	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998485	Status:	OK.
Std Error of Est:	0.000040		
Predicted MDL:	0.005843		
Predicted MQL:	0.019476		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00014	.000	.000	.00016	.000	1
S1	.40000	.32667	-.073	-18.3	.00235	.000	1
S3	2.5000	2.3409	-.159	-6.37	.01608	.000	1
S4	5.0000	4.8670	-.133	-2.66	.03324	.000	1
S5	10.000	10.456	.456	4.56	.07115	.001	1
S2	.80000	.70842	-.092	-11.4	.00498	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



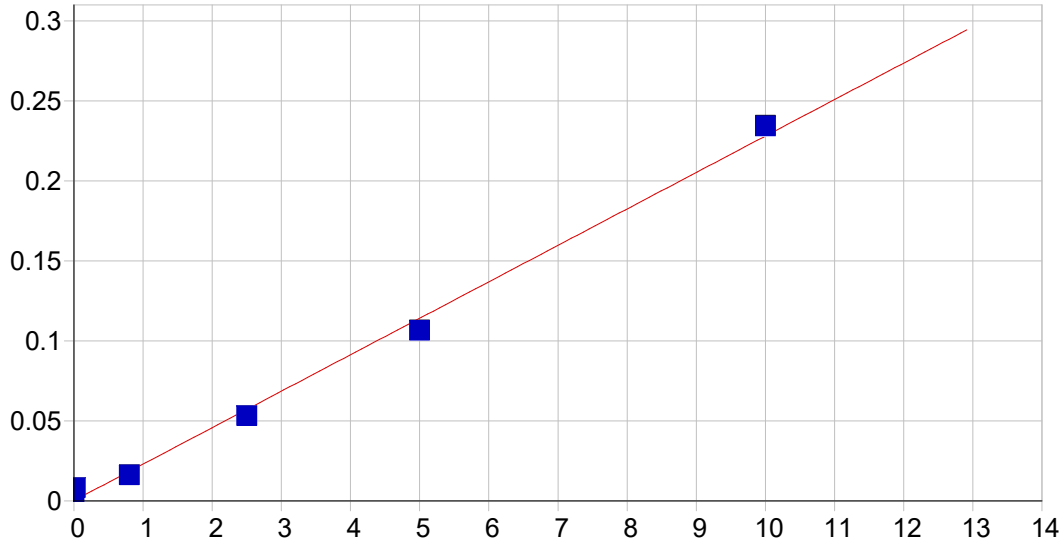
P 177.495 {490}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001033	Re-Slope:	1.000000
A1 (Gain):	0.027849	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999386	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.002832		
Predicted MQL:	0.009440		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00103	.000	1
S1	.02000	.01885	-.001	-5.73	-.00051	.000	1
S3	2.5000	2.4333	-.067	-2.67	.06672	.000	1
S4	5.0000	4.8107	-.189	-3.79	.13292	.000	1
S5	10.000	10.312	.312	3.12	.28610	.001	1
S2	.80000	.74518	-.055	-6.85	.01972	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



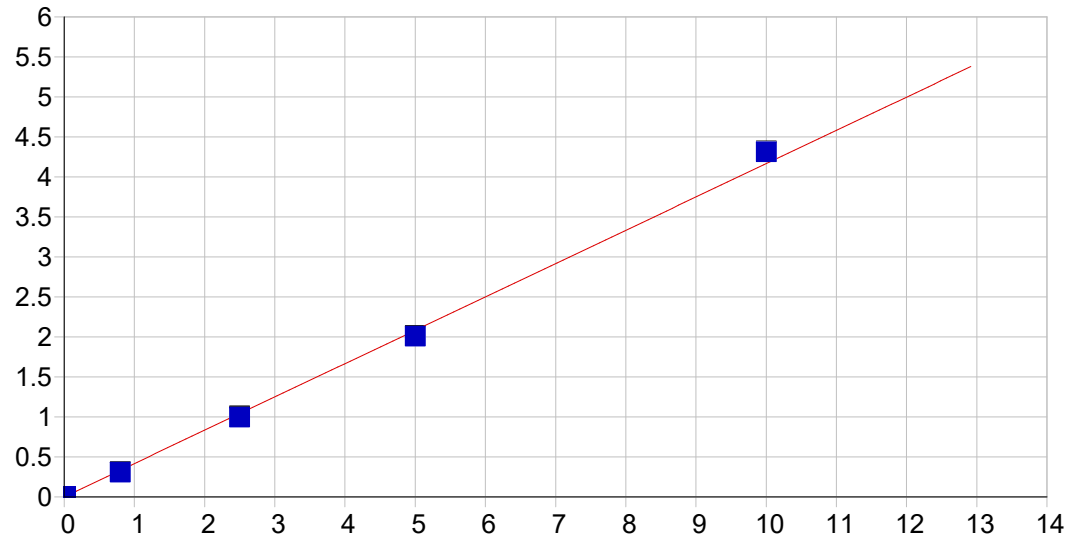
S 182.034 {485}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000227	Re-Slope:	1.000000
A1 (Gain):	0.022782	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.874312	Status:	OK.
Std Error of Est:	0.000296		
Predicted MDL:	0.003451		
Predicted MQL:	0.011505		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00033	-.000	.000	.00022	.000	1
S1	.02000	.35338	.333	1670.	.00826	.000	1
S3	2.5000	2.3291	-.171	-6.83	.05314	.000	1
S4	5.0000	4.6697	-.330	-6.61	.10632	.000	1
S5	10.000	10.280	.280	2.80	.23383	.000	1
S2	.80000	.70148	-.099	-12.3	.01616	.000	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



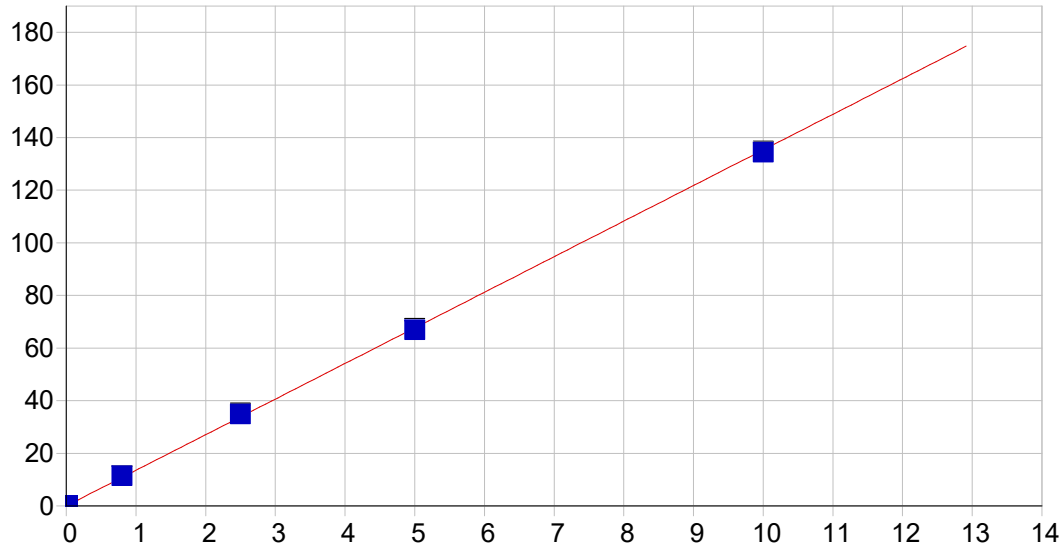
Li 670.784 { 50}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000670	Re-Slope:	1.000000
A1 (Gain):	0.416456	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999227	Status:	OK.
Std Error of Est:	0.000384		
Predicted MDL:	0.001733		
Predicted MQL:	0.005778		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.00067	.000	1
S5	10.000	10.352	.352	3.52	4.3158	.008	1
S4	5.0000	4.8202	-.180	-3.60	2.0100	.006	1
S3	2.5000	2.3879	-.112	-4.48	.99608	.014	1
S1	.02000	.01834	-.002	-8.32	.00846	.000	1
S2	.80000	.74102	-.059	-7.37	.30957	.003	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524



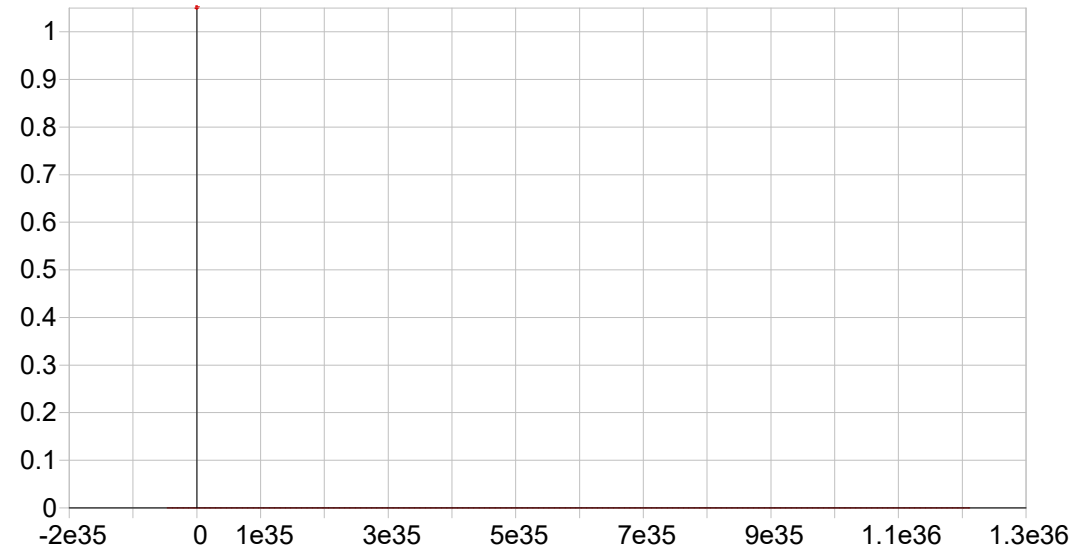
Sr 407.771 { 83}

Date of Fit:	11/19/2024 11:21:27	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000845	Re-Slope:	1.000000
A1 (Gain):	13.531831	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999849	Status:	OK.
Std Error of Est:	0.005514		
Predicted MDL:	0.000030		
Predicted MQL:	0.000101		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00082	.000	1
S1	.02000	.02090	.001	4.49	.28500	.000	1
S3	2.5000	2.5754	.075	3.01	34.884	.371	1
S4	5.0000	4.9466	-.053	-1.07	67.005	.467	1
S5	10.000	9.9349	-.065	-.651	134.57	.273	1
S2	.80000	.84227	.042	5.28	11.409	.037	1

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

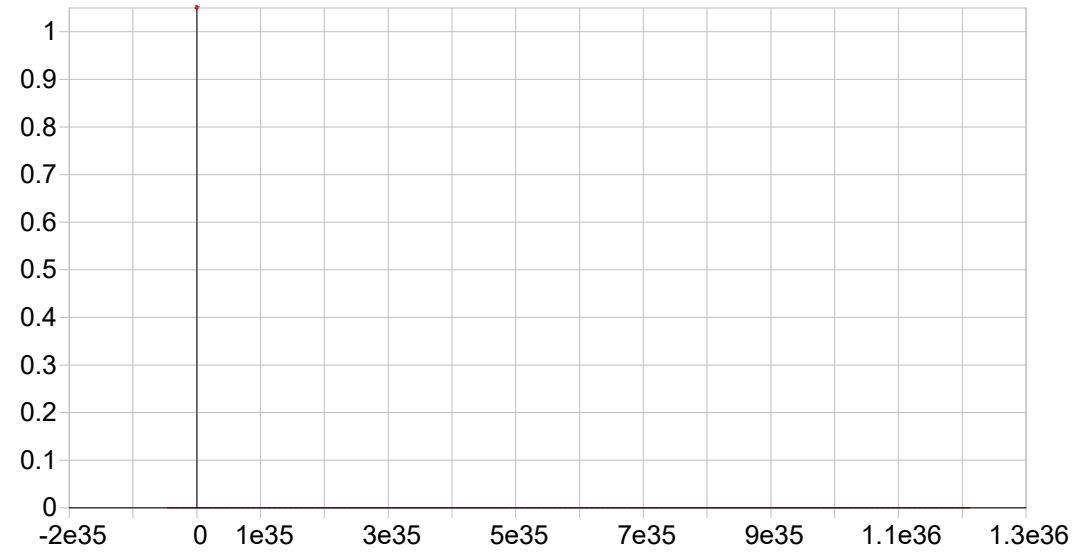


Y 224.306 {450}*

Date of Fit:	11/18/2024 12:31:27	Type of Fit:	Linear	Weighting:	1/Conc

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

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



Y 360.073 { 94}*

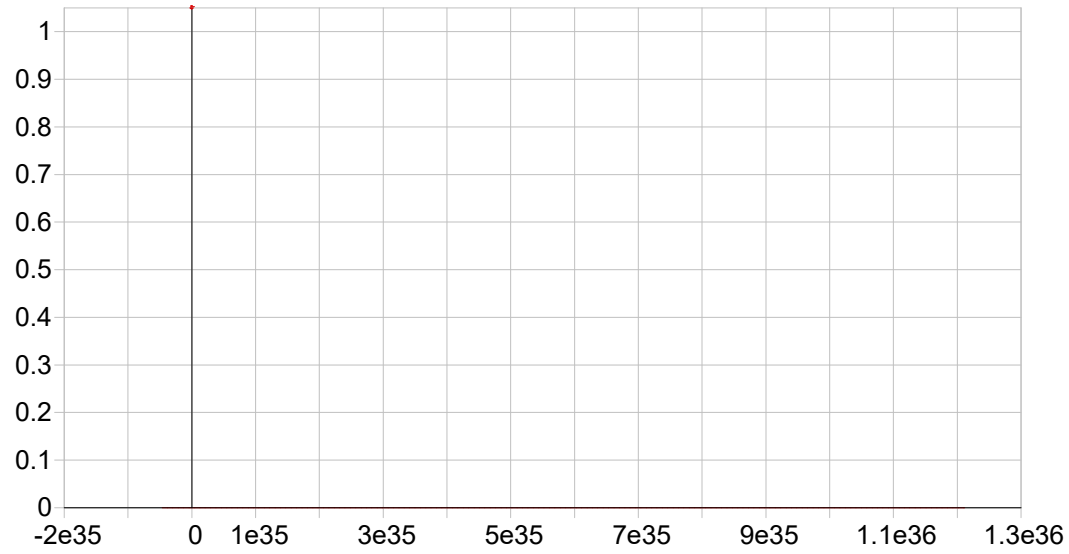
Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc

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

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

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

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



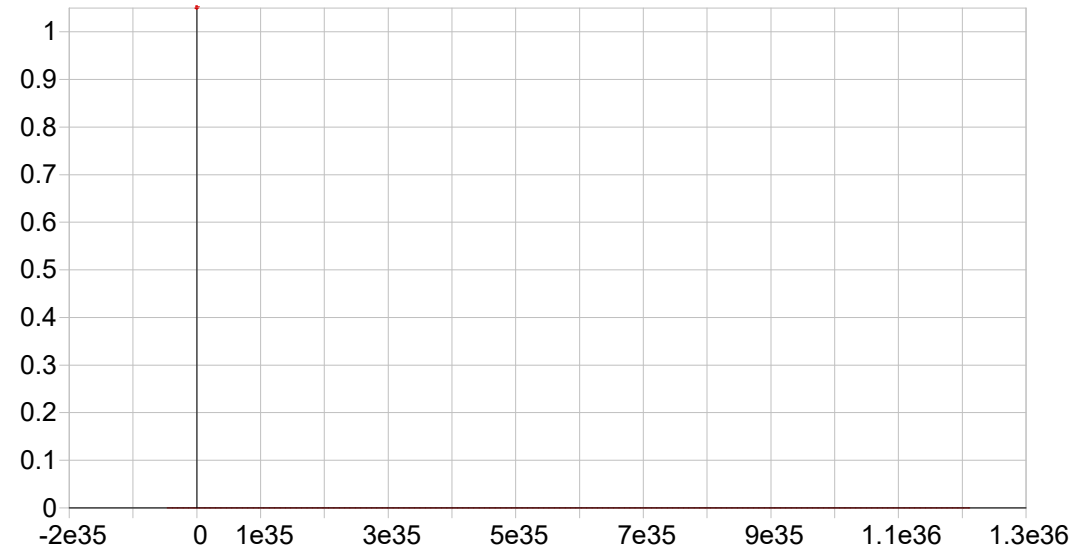
Y 371.030 { 91}*

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

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

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

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

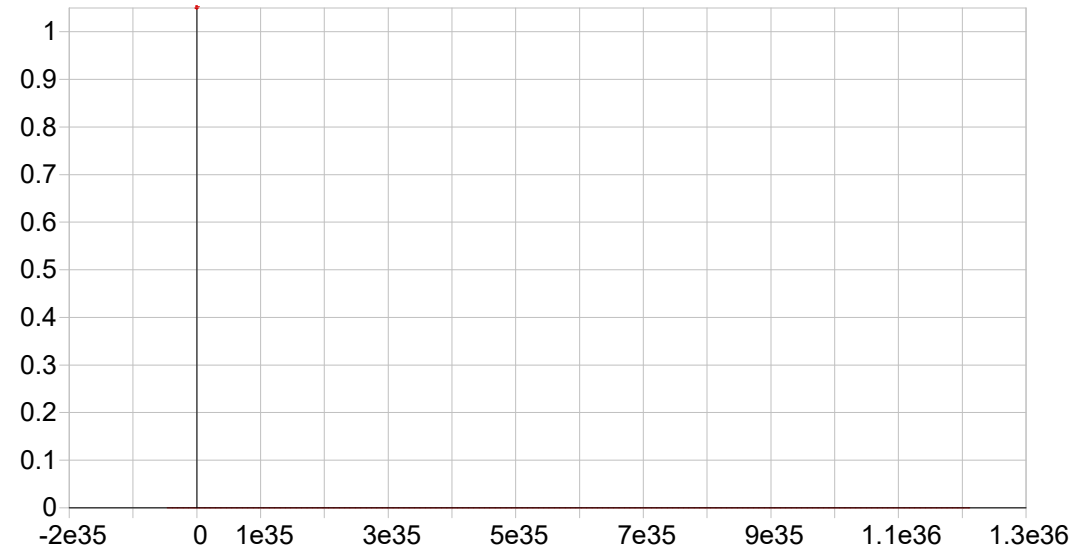


Y 224.306 {150}*

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

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

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



In 230.606 {446}*

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

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

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

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:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S0 Acquired: 11/19/2024 10:55:49 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	-.00024	-.00034	-.00036	.00039	.00011	.00007	-.02295	-.00057
Stddev	.00009	.00005	.00014	.00015	.00024	.00005	.00049	.00009
%RSD	36.732	15.336	37.169	38.713	217.42	68.776	2.1180	15.286
#1	-.00023	-.00039	-.00045	.00056	-.00016	.00009	-.02331	-.00049
#2	-.00033	-.00030	-.00021	.00035	.00019	.00010	-.02239	-.00056
#3	-.00016	-.00032	-.00044	.00027	.00030	.00001	-.02314	-.00067

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	-.00010	.00168	-.00002	.00006	-.00020	.00002	-.00003	-.00012
Stddev	.00019	.00013	.00003	.00005	.00013	.00001	.00009	.00015
%RSD	182.88	7.8774	134.32	75.416	65.685	49.075	286.31	126.55
#1	-.00032	.00177	-.00004	.00004	-.00034	.00003	-.00003	-.00004
#2	.00003	.00153	.00001	.00012	-.00007	.00001	-.00012	-.00028
#3	-.00002	.00175	-.00005	.00003	-.00019	.00003	.00006	-.00002

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	.00006	-.00127	.00530	.00009	.00656	.00070	.00195	.00032
Stddev	.00006	.00003	.00021	.00012	.00050	.00010	.00020	.00022
%RSD	95.407	2.4388	3.9260	134.73	7.6317	14.649	10.052	69.401
#1	-.00000	-.00125	.00509	.00016	.00637	.00064	.00218	.00023
#2	.00010	-.00126	.00529	-.00005	.00712	.00064	.00184	.00057
#3	.00008	-.00131	.00551	.00015	.00618	.00082	.00183	.00016

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	.00054	.00180	.00016	-.00103	.00022	.00067	.00082
Stddev	.00003	.00011	.00003	.00006	.00003	.00043	.00023
%RSD	6.1471	5.9270	16.164	5.6471	15.572	64.148	28.441
#1	.00057	.00169	.00015	-.00107	.00018	.00084	.00082
#2	.00054	.00180	.00019	-.00107	.00025	.00018	.00058
#3	.00050	.00190	.00015	-.00097	.00022	.00099	.00105

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S0 Acquired: 11/19/2024 10:55:49 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	2732.4	62582.	13929.	1941.6	4705.3
Stddev	15.0	119.	40.	10.9	25.5
%RSD	.54935	.19047	.28679	.56028	.54149
#1	2729.3	62584.	13939.	1949.7	4692.6
#2	2719.1	62461.	13963.	1929.3	4688.6
#3	2748.7	62700.	13885.	1945.8	4734.6

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S1 Acquired: 11/19/2024 11:00:17 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	.00089	.00159	.00199	.00217	.00918	.00781	.31889	.01850
Stddev	.00005	.00001	.00017	.00004	.00005	.00021	.00073	.00028
%RSD	5.2033	.50070	8.3113	1.6316	.52702	2.6499	.22895	1.5263
#1	.00092	.00159	.00180	.00213	.00921	.00805	.31814	.01883
#2	.00092	.00159	.00211	.00220	.00921	.00766	.31960	.01833
#3	.00084	.00158	.00206	.00218	.00912	.00773	.31894	.01834

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	.01407	.08053	.00187	.02325	.01612	.00053	.01300	.02829
Stddev	.00024	.00012	.00004	.00006	.00007	.00002	.00010	.00016
%RSD	1.7146	.14624	2.2946	.27537	.44542	3.6179	.76085	.54931
#1	.01422	.08046	.00185	.02325	.01607	.00053	.01302	.02819
#2	.01379	.08067	.00191	.02332	.01609	.00056	.01289	.02847
#3	.01420	.08047	.00183	.02319	.01620	.00052	.01308	.02821

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	.02175	.00176	.04266	.00481	.10461	.01376	.04022	.15591
Stddev	.00003	.00006	.00049	.00011	.00080	.00006	.00059	.00058
%RSD	.11832	3.6680	1.1413	2.3125	.76858	.41109	1.4557	.37139
#1	.02172	.00176	.04210	.00470	.10539	.01376	.04089	.15657
#2	.02175	.00182	.04294	.00481	.10379	.01371	.03983	.15548
#3	.02177	.00169	.04295	.00492	.10465	.01382	.03993	.15568

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	.00505	.10279	.00235	-.00051	.00826	.00846	.28500
Stddev	.00003	.00015	.00003	.00006	.00005	.00003	.00049
%RSD	.53437	.14828	1.2491	11.595	.66463	.36270	.17173
#1	.00508	.10284	.00239	-.00044	.00830	.00849	.28538
#2	.00504	.10262	.00233	-.00053	.00828	.00843	.28444
#3	.00503	.10291	.00234	-.00056	.00820	.00845	.28517

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S1 Acquired: 11/19/2024 11:00:17 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	2824.8	64793.	14167.	1989.0	4817.5
Stddev	8.7	229.	77.	5.1	6.9
%RSD	.30748	.35380	.54341	.25801	.14296
#1	2815.1	65038.	14080.	1993.2	4809.5
#2	2831.9	64583.	14194.	1983.3	4822.0
#3	2827.4	64760.	14226.	1990.6	4820.8

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S2 Acquired: 11/19/2024 11:04:40 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	.03974	.04143	.16275	.06466	.14121	.11543	5.2577	.13220
Stddev	.00018	.00022	.00023	.00018	.00023	.00050	.0246	.00081
%RSD	.46066	.52021	.14176	.28473	.16104	.43710	.46801	.61347
#1	.03992	.04151	.16275	.06475	.14146	.11485	5.2848	.13300
#2	.03974	.04160	.16299	.06478	.14102	.11568	5.2514	.13223
#3	.03955	.04119	.16252	.06445	.14113	.11577	5.2368	.13138

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	.75047	.15947	.03025	.30616	.14921	.00442	.25434	.05575
Stddev	.00037	.00079	.00011	.00013	.00041	.00003	.00122	.00053
%RSD	.04920	.49297	.37088	.04328	.27269	.61433	.48115	.94515
#1	.75089	.15928	.03035	.30624	.14962	.00439	.25564	.05605
#2	.75032	.16033	.03013	.30624	.14881	.00443	.25417	.05607
#3	.75019	.15879	.03027	.30601	.14921	.00444	.25321	.05515

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	.21787	.06155	.07890	.04853	.96747	.02623	.29995	.60013
Stddev	.00020	.00019	.00033	.00008	.00666	.00005	.00095	.00099
%RSD	.09052	.31208	.42434	.16483	.68866	.17235	.31753	.16547
#1	.21804	.06170	.07897	.04861	.97091	.02627	.30105	.60043
#2	.21793	.06134	.07854	.04851	.95979	.02618	.29941	.59903
#3	.21765	.06162	.07920	.04845	.97171	.02622	.29940	.60094

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	.07446	.40230	.00498	.01972	.01616	.30957	11.409
Stddev	.00004	.00087	.00005	.00011	.00007	.00272	.037
%RSD	.05595	.21605	.91887	.55195	.41934	.87914	.32567
#1	.07445	.40283	.00496	.01967	.01622	.31254	11.445
#2	.07443	.40278	.00495	.01964	.01609	.30899	11.412
#3	.07451	.40130	.00504	.01984	.01617	.30719	11.371

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S2 Acquired: 11/19/2024 11:04:40 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	2840.1	65201.	14117.	2025.1	4757.1
Stddev	3.3	246.	90.	9.4	3.4
%RSD	.11686	.37657	.63989	.46403	.07129
#1	2836.9	64935.	14021.	2015.2	4757.1
#2	2843.5	65419.	14129.	2033.9	4760.5
#3	2839.7	65249.	14200.	2026.3	4753.7

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S3 Acquired: 11/19/2024 11:08:46 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	.12848	.12830	.51589	.20803	.45054	.35965	16.166	.40762
Stddev	.00013	.00062	.00050	.00072	.00109	.00359	.276	.00372
%RSD	.10279	.48000	.09757	.34554	.24296	.99719	1.7052	.91172
#1	.12856	.12787	.51617	.20778	.44928	.36358	16.478	.41191
#2	.12833	.12803	.51619	.20746	.45107	.35882	15.957	.40544
#3	.12855	.12901	.51531	.20883	.45127	.35655	16.062	.40551

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	2.3956	.48638	.09456	.97065	.46867	.01413	.77344	.17345
Stddev	.0022	.00289	.00011	.00114	.00036	.00004	.00645	.00024
%RSD	.09033	.59330	.11529	.11697	.07590	.25975	.83330	.13916
#1	2.3980	.48959	.09463	.97195	.46836	.01410	.78087	.17368
#2	2.3951	.48401	.09443	.96986	.46906	.01412	.77004	.17320
#3	2.3938	.48553	.09462	.97013	.46859	.01417	.76941	.17347

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	.68979	.19621	.24863	.15049	3.0490	.08332	.91812	1.8624
Stddev	.00099	.00017	.00041	.00134	.0157	.00014	.00874	.0030
%RSD	.14418	.08679	.16590	.88988	.51343	.16629	.95191	.15892
#1	.69092	.19633	.24900	.15196	3.0556	.08330	.92800	1.8599
#2	.68938	.19601	.24870	.14935	3.0604	.08346	.91493	1.8617
#3	.68906	.19627	.24818	.15017	3.0312	.08318	.91142	1.8657

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	.23278	1.2363	.01608	.06672	.05314	.99608	34.884
Stddev	.00016	.0093	.00014	.00024	.00016	.01433	.371
%RSD	.07071	.75555	.87803	.35234	.30601	1.4385	1.0632
#1	.23294	1.2469	.01593	.06675	.05304	1.0125	35.275
#2	.23261	1.2327	.01610	.06694	.05306	.98934	34.537
#3	.23278	1.2293	.01621	.06647	.05333	.98637	34.841

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S3 Acquired: 11/19/2024 11:08:46 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	2710.8	62403.	14157.	1922.2	4447.1
Stddev	1.7	41.	142.	10.4	7.4
%RSD	.06122	.06563	1.0030	.53896	.16595
#1	2709.5	62407.	13994.	1911.9	4438.6
#2	2712.6	62441.	14241.	1922.3	4451.9
#3	2710.1	62360.	14238.	1932.6	4450.7

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S4 Acquired: 11/19/2024 11:13:02 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	.25388	.25502	1.0034	.41384	.89691	.70168	31.475	.78391
Stddev	.00043	.00136	.0015	.00016	.00025	.00097	.302	.00795
%RSD	.16911	.53500	.14526	.03874	.02764	.13838	.95940	1.0145
#1	.25353	.25371	1.0017	.41373	.89700	.70273	31.774	.79054
#2	.25436	.25643	1.0042	.41403	.89663	.70082	31.482	.77509
#3	.25375	.25493	1.0043	.41378	.89710	.70148	31.170	.78610

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.6980	.93365	.18378	1.9015	.91087	.02831	1.4785	.33612
Stddev	.0038	.00201	.00075	.0009	.00023	.00020	.0049	.00173
%RSD	.08008	.21535	.40576	.04734	.02553	.70283	.32882	.51393
#1	4.6946	.93586	.18304	1.9004	.91075	.02808	1.4841	.33774
#2	4.7021	.93192	.18377	1.9021	.91114	.02839	1.4751	.33430
#3	4.6973	.93319	.18453	1.9019	.91072	.02845	1.4763	.33632

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	1.3460	.39068	.51145	.29121	5.9948	.17083	1.7659	3.6334
Stddev	.0011	.00045	.00470	.00017	.0180	.00176	.0167	.0005
%RSD	.08181	.11501	.91978	.05674	.30072	1.0282	.94714	.01390
#1	1.3463	.39016	.50729	.29124	6.0072	.16890	1.7823	3.6330
#2	1.3470	.39094	.51655	.29104	6.0031	.17232	1.7489	3.6340
#3	1.3448	.39093	.51050	.29136	5.9741	.17128	1.7665	3.6333

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	.45488	2.3900	.03324	.13292	.10632	2.0100	67.005
Stddev	.00063	.0059	.00046	.00032	.00019	.0060	.467
%RSD	.13744	.24502	1.3787	.23896	.17553	.29923	.69714
#1	.45417	2.3965	.03271	.13257	.10625	2.0162	67.469
#2	.45535	2.3883	.03349	.13319	.10652	2.0095	66.535
#3	.45511	2.3851	.03352	.13298	.10617	2.0042	67.010

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S4 Acquired: 11/19/2024 11:13:02 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	2613.0	59183.	14085.	1818.0	4240.7
Stddev	.7	231.	97.	15.7	3.7
%RSD	.02755	.39055	.68528	.86176	.08609
#1	2612.2	59378.	13974.	1814.4	4243.3
#2	2613.2	58927.	14151.	1804.4	4236.5
#3	2613.6	59243.	14131.	1835.1	4242.3

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S5 Acquired: 11/19/2024 11:17:15 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	.53732	.52136	2.0948	.88076	1.8907	1.4682	65.198	1.5960
Stddev	.00202	.00340	.0036	.00314	.0080	.0018	.299	.0118
%RSD	.37681	.65162	.17330	.35615	.42218	.12130	.45869	.74082
#1	.53742	.52104	2.0964	.88033	1.8931	1.4672	65.312	1.6082
#2	.53525	.51813	2.0974	.87785	1.8818	1.4703	64.858	1.5954
#3	.53929	.52490	2.0906	.88408	1.8973	1.4671	65.423	1.5846

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	9.8306	1.9081	.37034	3.9765	1.8771	.05820	3.0307	.69851
Stddev	.0135	.0034	.00176	.0030	.0064	.00017	.0036	.00027
%RSD	.13752	.17944	.47469	.07639	.34305	.29006	.11916	.03872
#1	9.8385	1.9104	.37141	3.9772	1.8785	.05805	3.0348	.69874
#2	9.8382	1.9097	.37129	3.9791	1.8700	.05838	3.0291	.69858
#3	9.8150	1.9042	.36831	3.9732	1.8827	.05818	3.0282	.69821

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.8020	.81250	1.0891	.59978	12.083	.36269	3.6544	7.4042
Stddev	.0017	.00235	.0026	.00034	.055	.00151	.0209	.0142
%RSD	.06067	.28873	.23439	.05667	.45311	.41535	.57136	.19123
#1	2.8031	.81429	1.0864	.60013	12.091	.36102	3.6784	7.4079
#2	2.8028	.81336	1.0896	.59977	12.133	.36313	3.6448	7.3886
#3	2.8000	.80984	1.0915	.59945	12.025	.36393	3.6401	7.4162

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	.94337	4.9623	.07115	.28610	.23383	4.3158	134.57
Stddev	.00102	.0026	.00072	.00090	.00032	.0079	.27
%RSD	.10786	.05276	1.0101	.31629	.13629	.18408	.20323
#1	.94231	4.9653	.07033	.28505	.23415	4.3182	134.43
#2	.94433	4.9613	.07145	.28660	.23351	4.3069	134.40
#3	.94347	4.9603	.07167	.28663	.23382	4.3222	134.89

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: S5 Acquired: 11/19/2024 11:17:15 Type: Cal
Method: NON EPA-6010-200.7(v2475) 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	2511.3	58461.	14021.	1768.1	3987.9
Stddev	8.9	140.	26.	14.1	5.7
%RSD	.35445	.23885	.18861	.80011	.14417
#1	2509.4	58618.	13995.	1781.2	3986.7
#2	2521.0	58351.	14021.	1753.1	3994.1
#3	2503.5	58414.	14048.	1769.9	3982.8

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICV01 Acquired: 11/19/2024 11:25:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.023663	1.092520	1.038383	1.039855	1.013157	2.651644
Stddev	.001146	.010070	.001627	.001973	.000114	.007986
%RSD	.1119902	.9217608	.1567155	.1897561	.0112470	.3011561
#1	1.024811	1.081907	1.037359	1.037576	1.013053	2.642471
#2	1.022519	1.101942	1.037530	1.041014	1.013279	2.657048
#3	1.023658	1.093711	1.040259	1.040974	1.013140	2.655411

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5415475	.5363112	.5258589	10.68863	.5509959	.5305745
Stddev	.0013092	.0007365	.0003492	.00289	.0014368	.0003937
%RSD	.2417480	.1373267	.0663958	.0270659	.2607618	.0742069
#1	.5416052	.5362729	.5254607	10.69196	.5523996	.5301409
#2	.5402103	.5370660	.5261122	10.68714	.5495281	.5306727
#3	.5428268	.5355945	.5260039	10.68678	.5510600	.5309098

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5375422	10.37606	.5503057	6.281840	.5323687	.2614030
Stddev	.0006636	.02812	.0011209	.016855	.0006028	.0003187
%RSD	.1234499	.2710300	.2036881	.2683084	.1132262	.1219082
#1	.5379042	10.38069	.5514581	6.267448	.5321359	.2613348
#2	.5379460	10.34591	.5492192	6.300383	.5319169	.2611240
#3	.5367763	10.40158	.5502397	6.277691	.5330531	.2617503

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.757754	.5236419	1.063047	10.00867	2.506187	2.581474
Stddev	.051533	.0012874	.000900	.05060	.003177	.003259
%RSD	.5281244	.2458554	.0846731	.5055898	.1267622	.1262495
#1	9.794180	.5221607	1.063279	9.98308	2.507534	2.580387
#2	9.698791	.5244918	1.063808	9.97597	2.508468	2.585137
#3	9.780290	.5242732	1.062053	10.06695	2.502558	2.578896

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICV01 Acquired: 11/19/2024 11:25:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.485943	2.521254	F 1.933489	F .0064778	F -.007901	F .0007460
Stddev	.005632	.003949	.009703	.0022060	.003981	.0013380
%RSD	.2265648	.1566442	.5018249	34.05443	50.38654	179.3584
#1	2.480214	2.519724	1.922290	.0046343	-.006849	-.000523
#2	2.491473	2.518298	1.939369	.0089218	-.004552	.002144
#3	2.486142	2.525739	1.938808	.0058772	-.012303	.000618

Elem	Sr4077
Units	ppm
Avg	F -.009001
Stddev	.000060
%RSD	.6618010
#1	-.008972
#2	-.008961
#3	-.009069

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2723.920	61748.83	14153.86	1913.311	4544.185
Stddev	10.919	213.02	25.10	11.396	9.807
%RSD	.4008552	.3449808	.1773185	.5956352	.2158247
#1	2716.873	61506.97	14126.77	1900.624	4538.525
#2	2718.390	61908.56	14158.49	1916.625	4538.519
#3	2736.498	61830.97	14176.32	1922.682	4555.509

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: LLICV01 Acquired: 11/19/2024 11:34:17 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0205033	.0391786	.0123684	.0206013	.0510667	.1043452
Stddev	.0014461	.0020174	.0004562	.0026173	.0005219	.0012560
%RSD	7.053147	5.149207	3.688021	12.70468	1.021944	1.203665
#1	.0210336	.0398484	.0123189	.0201292	.0505792	.1029131
#2	.0188669	.0369115	.0128473	.0182521	.0516172	.1048632
#3	.0216095	.0407759	.0119391	.0234225	.0510035	.1052593

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1043799	.0058543	.0058921	2.094437	.0107050	.0298553
Stddev	.0002978	.0000530	.0000415	.009956	.0002226	.0003477
%RSD	.2852555	.9054589	.7048570	.4753624	2.079365	1.164666
#1	.1040895	.0059127	.0059058	2.083296	.0108950	.0302556
#2	.1043657	.0058091	.0059250	2.097551	.0104601	.0296283
#3	.1046845	.0058412	.0058454	2.102464	.0107598	.0296820

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0223124	.1000675	.0213875	2.037378	.0397440	.0100659
Stddev	.0003197	.0007752	.0000945	.016166	.0001023	.0001461
%RSD	1.432981	.7746943	.4417565	.7934875	.2573533	1.451254
#1	.0224665	.1005215	.0212787	2.018911	.0398383	.0099023
#2	.0225258	.1005086	.0214493	2.048974	.0396352	.0101122
#3	.0219447	.0991724	.0214344	2.044250	.0397586	.0101832

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.816150	.0402873	.0457501	1.923074	.1118494	.2146340
Stddev	.016971	.0004858	.0003991	.008575	.0005836	.0005040
%RSD	.9344236	1.205706	.8722833	.4459165	.5217522	.2348025
#1	1.801926	.0408191	.0461532	1.924876	.1124883	.2151894
#2	1.834935	.0401760	.0457420	1.930605	.1113443	.2145066
#3	1.811588	.0398669	.0453552	1.913741	.1117157	.2142059

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: LLICV01 Acquired: 11/19/2024 11:34:17 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	F .0489022	F .2041213	.3400141	.0194373	F .3589843	.0183263
Stddev	.0005193	.0007651	.0050381	.0006444	.0046131	.0004741
%RSD	1.061872	.3748327	1.481726	3.315210	1.285055	2.586747
#1	.0494412	.2033106	.3386226	.0196818	.3640580	.0181183
#2	.0484051	.2048307	.3358181	.0199237	.3550422	.0188688
#3	.0488604	.2042227	.3456017	.0187065	.3578528	.0179918

Elem	Sr4077
Units	ppm
Avg	.0210214
Stddev	.0000412
%RSD	.1958796
#1	.0210209
#2	.0210628
#3	.0209804

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2692.649	62330.79	14128.39	1888.805	4636.544
Stddev	8.807	93.68	24.34	4.377	13.560
%RSD	.3270729	.1502936	.1723056	.2317504	.2924681
#1	2691.020	62223.99	14101.00	1886.954	4628.551
#2	2684.770	62399.09	14136.61	1885.657	4628.880
#3	2702.156	62369.28	14147.56	1893.804	4652.201

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICB01 Acquired: 11/19/2024 11:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000856	-.002207	-.000049	.0015815	-.000429	.0032145	-.000937
Stddev	.001153	.000733	.000835	.0009213	.000055	.0025555	.000253
%RSD	134.6754	33.20900	1716.820	58.25403	12.86479	79.50120	27.02380
#1	-.000425	-.002838	.000853	.0010512	-.000493	.0006737	-.000985
#2	-.002163	-.002379	-.000795	.0026452	-.000399	.0057845	-.001164
#3	.000019	-.001403	-.000204	.0010480	-.000395	.0031852	-.000664

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000053	.0000044	-.016175	.0003784	-.000216	.0000420	-.003945
Stddev	.000079	.0000300	.004737	.0003029	.000162	.0004141	.004392
%RSD	149.7030	682.6613	29.28820	80.03607	74.79340	985.6474	111.3393
#1	-.000077	-.000030	-.019616	.0006996	-.000160	-.000034	-.001295
#2	.000036	.000019	-.010772	.0003379	-.000090	.000489	-.001524
#3	-.000117	.000024	-.018137	.0000979	-.000399	-.000329	-.009014

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001055	-.002932	-.000382	-.000199	-.058367	-.000810	-.000985
Stddev	.0002082	.007942	.000097	.000258	.001958	.001159	.000274
%RSD	197.4986	270.8591	25.43883	129.8829	3.355404	143.0429	27.78848
#1	-.000065	-.005776	-.000491	-.000486	-.060627	-.001587	-.001001
#2	.000338	-.009060	-.000350	-.000122	-.057174	-.001365	-.001249
#3	.000044	.006040	-.000304	.000013	-.057299	.000522	-.000703

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.009811	.0026290	-.000037	.0095219	-.000356	.0019549	-.001188
Stddev	.013845	.0005231	.000063	.0002308	.000207	.0049818	.001154
%RSD	141.1188	19.89714	170.0382	2.423582	58.16404	254.8374	97.13880
#1	-.025653	.0029574	-.000094	.0097455	-.000334	.0000034	-.001925
#2	-.003751	.0020258	-.000048	.0095356	-.000161	-.001756	.000142
#3	-.000029	.0029039	.000031	.0092846	-.000573	.007617	-.001780

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICB01 Acquired: 11/19/2024 11:38:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.003121	-.000116	-.000096
Stddev	.001853	.001821	.000012
%RSD	59.35891	1565.418	12.27323
#1	-.002035	.001558	-.000083
#2	-.002068	.000148	-.000105
#3	-.005260	-.002056	-.000100

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2695.980	62690.77	14105.66	1891.012	4693.106
Stddev	14.554	83.86	33.98	6.131	19.074
%RSD	.5398281	.1337642	.2409234	.3242045	.4064315
#1	2680.442	62606.70	14066.42	1885.996	4673.020
#2	2698.204	62691.21	14125.62	1897.846	4695.323
#3	2709.293	62774.41	14124.92	1889.193	4710.975

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CRI01 Acquired: 11/19/2024 11:43:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0193977	.0390569	.0120840	.0180950	.0491135	.1067218
Stddev	.0029873	.0020737	.0003325	.0020518	.0013694	.0033882
%RSD	15.40019	5.309468	2.751513	11.33902	2.788168	3.174816
#1	.0209724	.0381800	.0122150	.0198784	.0484789	.1042986
#2	.0212682	.0375657	.0123311	.0158526	.0506851	.1105935
#3	.0159525	.0414250	.0117060	.0185539	.0481766	.1052733

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1046275	.0059004	.0057839	2.069313	.0101636	.0296160
Stddev	.0001415	.0000318	.0000917	.017028	.0003800	.0001228
%RSD	.1351946	.5386663	1.585634	.8228914	3.738678	.4146858
#1	.1044965	.0059263	.0058166	2.054010	.0105878	.0295164
#2	.1047775	.0058649	.0056803	2.087657	.0098545	.0297532
#3	.1046085	.0059099	.0058547	2.066273	.0100484	.0295784

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0221747	.0960009	.0211396	2.046503	.0390825	.0100869
Stddev	.0003698	.0020437	.0002109	.006271	.0001502	.0000568
%RSD	1.667848	2.128818	.9973981	.3064173	.3844082	.5634035
#1	.0226016	.0953175	.0210936	2.046630	.0392528	.0101146
#2	.0219734	.0943865	.0213697	2.040170	.0390263	.0100215
#3	.0219492	.0982987	.0209556	2.052710	.0389685	.0101246

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.809978	.0396163	.0423611	1.920277	.1069730	.2127577
Stddev	.007514	.0003878	.0009085	.017495	.0002602	.0005427
%RSD	.4151493	.9789922	2.144584	.9110766	.2432236	.2550877
#1	1.803260	.0392880	.0415541	1.928481	.1067214	.2121428
#2	1.808582	.0395167	.0421843	1.900188	.1072410	.2131698
#3	1.818093	.0400442	.0433450	1.932163	.1069568	.2129605

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CRI01 Acquired: 11/19/2024 11:43:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0487037	F .2028860	.3439067	.0169639	F .3524992	.0171258
Stddev	.0007753	.0007419	.0062083	.0021616	.0026091	.0017191
%RSD	1.591768	.3656864	1.805230	12.74236	.7401818	10.03799
#1	.0495591	.2021451	.3504399	.0183823	.3494944	.0184118
#2	.0480474	.2028841	.3431955	.0180333	.3538126	.0151733
#3	.0485046	.2036289	.3380845	.0144760	.3541907	.0177924

Elem	Sr4077
Units	ppm
Avg	.0208870
Stddev	.0000478
%RSD	.2287941
#1	.0208553
#2	.0209419
#3	.0208637

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2778.733	62968.64	14233.99	1934.313	4778.208
Stddev	2.143	109.79	14.99	1.825	9.553
%RSD	.0771094	.1743621	.1053032	.0943316	.1999347
#1	2781.203	62844.90	14226.50	1932.396	4789.131
#2	2777.616	63054.42	14224.22	1934.514	4771.411
#3	2777.380	63006.60	14251.25	1936.028	4774.082

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICSA01 Acquired: 11/19/2024 11:47:19 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0033045	-.003778	.0080599	-.017377	-.001781	263.3966
Stddev	.0033167	.002484	.0008655	.003716	.002757	1.2732
%RSD	100.3693	65.76244	10.73830	21.38451	154.7810	.4833752
#1	.0021314	-.002589	.0072289	-.021662	-.003630	264.8299
#2	.0070484	-.002111	.0089562	-.015038	-.003101	262.3967
#3	.0007338	-.006633	.0079947	-.015432	.001388	262.9632

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0053912	.0012713	.0034811	251.0711	.0571669	.0021438
Stddev	.0002846	.0000831	.0000610	.1849	.0003832	.0002096
%RSD	5.278421	6.533442	1.752450	.0736379	.6703520	9.775735
#1	.0051766	.0012597	.0035487	250.9550	.0575933	.0023260
#2	.0052831	.0011946	.0034302	250.9740	.0568512	.0021905
#3	.0057140	.0013595	.0034643	251.2843	.0570562	.0019148

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0074807	98.17656	.0040232	274.4109	.0020627	-.000445
Stddev	.0006538	.23379	.0003770	.3855	.0005887	.000153
%RSD	8.739847	.2381285	9.369775	.1404974	28.53881	34.35084
#1	.0077376	98.21386	.0044400	274.0659	.0018845	-.000616
#2	.0067375	97.92636	.0037060	274.3398	.0027198	-.000398
#3	.0079670	98.38945	.0039237	274.8270	.0015837	-.000321

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0498234	.0070403	.0056955	.0438463	.0344430	-.001014
Stddev	.0170241	.0005924	.0002115	.0113958	.0001458	.000485
%RSD	34.16898	8.414611	3.713978	25.99033	.4232375	47.90309
#1	.0312660	.0066456	.0055762	.0310036	.0343697	-.001378
#2	.0534861	.0077215	.0059397	.0527502	.0346109	-.000462
#3	.0647180	.0067539	.0055705	.0477851	.0343484	-.001201

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICSA01 Acquired: 11/19/2024 11:47:19 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0049138	-.001108	.0096906	.0023930	-.015253	F .0442051
Stddev	.0012078	.000274	.0026951	.0019868	.001215	.0020287
%RSD	24.58003	24.73216	27.81169	83.02369	7.963069	4.589383
#1	.0042529	-.001419	.0128024	.0046870	-.015364	.0424443
#2	.0041806	-.000900	.0081729	.0012260	-.016409	.0437474
#3	.0063078	-.001005	.0080966	.0012660	-.013987	.0464236

Elem	Sr4077
Units	ppm
Avg	.0064613
Stddev	.0005587
%RSD	8.646853
#1	.0067259
#2	.0068386
#3	.0058195

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2442.747	57123.86	13577.78	1748.437	3777.494
Stddev	9.763	196.84	55.66	16.276	8.348
%RSD	.3996813	.3445927	.4099219	.9308846	.2210055
#1	2435.610	56912.30	13517.06	1729.683	3772.203
#2	2453.873	57301.62	13589.91	1758.872	3787.118
#3	2438.758	57157.65	13626.37	1756.756	3773.161

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICSAB01 Acquired: 11/19/2024 11:51:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.1163889	.0914525	.0577930	.0314931	.6255685	264.6928
Stddev	.0020865	.0023753	.0021306	.0029290	.0018880	1.2520
%RSD	1.792655	2.597351	3.686550	9.300357	.3017985	.4729983
#1	.1145420	.0939024	.0585736	.0347966	.6234240	265.7087
#2	.1186521	.0912956	.0553822	.0292139	.6263012	263.2941
#3	.1159726	.0891595	.0594231	.0304687	.6269803	265.0755

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5254769	.5239004	.8320350	249.8802	.5712850	.5180354
Stddev	.0025953	.0029041	.0017812	.9439	.0033539	.0007839
%RSD	.4938896	.5543125	.2140824	.3777587	.5870858	.1513188
#1	.5272319	.5272098	.8318972	249.9719	.5745034	.5182792
#2	.5224957	.5217774	.8303267	248.8937	.5715412	.5171585
#3	.5267031	.5227140	.8338811	250.7749	.5678102	.5186684

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4932111	99.68449	.5091143	272.9892	1.019629	.2012973
Stddev	.0011684	.45211	.0019212	.8366	.001531	.0010293
%RSD	.2368926	.4535431	.3773697	.3064749	.1501153	.5113533
#1	.4918928	99.33044	.5090072	273.0030	1.019793	.2016077
#2	.4941185	99.52926	.5072489	272.1457	1.018023	.2021357
#3	.4936219	100.1938	.5110869	273.8189	1.021071	.2001484

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0628422	.5086577	1.094847	.0621151	.9640083	.9937529
Stddev	.0113936	.0024732	.002728	.0213359	.0056276	.0014288
%RSD	18.13047	.4862202	.2491933	34.34890	.5837660	.1437815
#1	.0527097	.5089883	1.097989	.0533658	.9691568	.9921534
#2	.0606410	.5060359	1.093471	.0465447	.9580006	.9942022
#3	.0751757	.5109490	1.093080	.0864348	.9648675	.9949030

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: ICSAB01 Acquired: 11/19/2024 11:51:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.9757014	.9588376	F .7965718	F .0059584	F -.019278	F .0455822
Stddev	.0029244	.0042194	.0062348	.0039961	.001168	.0002194
%RSD	.2997240	.4400569	.7827049	67.06652	6.060938	.4812474
#1	.9756903	.9617451	.7895587	.0093404	-.017946	.0457982
#2	.9727825	.9539980	.8014874	.0015489	-.019763	.0455889
#3	.9786313	.9607695	.7986693	.0069858	-.020126	.0453596

Elem	Sr4077
Units	ppm
Avg	F .0064145
Stddev	.0006618
%RSD	10.31725
#1	.0071610
#2	.0061829
#3	.0058997

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2380.748	55695.04	13619.81	1669.240	3704.667
Stddev	3.711	70.95	49.99	5.923	7.221
%RSD	.1558606	.1273815	.3670335	.3548491	.1949292
#1	2384.985	55743.88	13564.49	1667.899	3709.319
#2	2378.081	55613.66	13661.73	1664.103	3708.334
#3	2379.177	55727.57	13633.23	1675.719	3696.348

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV01 Acquired: 11/19/2024 12:43:53 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.967466	5.027947	4.991072	4.953321	4.981408	9.941916	10.02124
Stddev	.018001	.074493	.007063	.020348	.006215	.024102	.04725
%RSD	.3623781	1.481586	.1415207	.4107889	.1247629	.2424291	.4714631
#1	4.947084	4.977741	4.982952	4.933911	4.975810	9.963727	10.01244
#2	4.974125	4.992561	4.994472	4.951561	4.980320	9.945980	9.97902
#3	4.981189	5.113537	4.995792	4.974492	4.988096	9.916040	10.07228

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2494287	2.489449	24.83595	.9964459	2.489726	1.261959	4.884239
Stddev	.0003120	.003910	.10384	.0014720	.004374	.001404	.015003
%RSD	.1250874	.1570759	.4180929	.1477219	.1756875	.1112222	.3071663
#1	.2490711	2.485200	24.82318	.9958299	2.484946	1.260642	4.866929
#2	.2496457	2.490253	24.94558	.9953820	2.490705	1.263435	4.893498
#3	.2495693	2.492896	24.73908	.9981258	2.493528	1.261798	4.892289

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.489376	24.77979	2.495488	1.231028	24.22011	2.496372	2.491179
Stddev	.007691	.12819	.005843	.000590	.17771	.007151	.004081
%RSD	.3089720	.5173209	.2341540	.0479425	.7337251	.2864499	.1638222
#1	2.488683	24.66760	2.488744	1.230363	24.42229	2.493349	2.486582
#2	2.497390	24.91951	2.499049	1.231488	24.14939	2.504538	2.494373
#3	2.482054	24.75227	2.498670	1.231235	24.08864	2.491229	2.492583

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.18715	4.975498	5.037880	4.997781	4.936565	4.770784	5.057191
Stddev	.06620	.005491	.013103	.009000	.014341	.021900	.033461
%RSD	.2737104	.1103696	.2600842	.1800840	.2905142	.4590521	.6616507
#1	24.26321	4.975290	5.024917	4.988716	4.948426	4.746074	5.020913
#2	24.15576	4.981090	5.037605	4.997913	4.940643	4.778480	5.063817
#3	24.14248	4.970113	5.051119	5.006715	4.920627	4.787797	5.086843

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV01 Acquired: 11/19/2024 12:43:53 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	4.834463	4.963369	5.073410
Stddev	.026133	.030982	.028375
%RSD	.5405636	.6242104	.5592919
#1	4.809391	4.997323	5.043897
#2	4.832454	4.956148	5.100491
#3	4.861542	4.936634	5.075841

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2587.944	60575.27	14026.30	1844.580	4199.185
Stddev	1.294	83.13	27.89	8.478	5.317
%RSD	.0499958	.1372390	.1988755	.4595955	.1266081
#1	2588.754	60481.48	14013.60	1840.480	4203.570
#2	2588.626	60604.43	14007.02	1838.932	4200.714
#3	2586.452	60639.89	14058.29	1854.329	4193.272

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB01 Acquired: 11/19/2024 12:48:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000701	-.002001	-.000197	-.000436	.0001112	-.000165	-.000190
Stddev	.001517	.000175	.000659	.002063	.0008774	.000691	.000329
%RSD	216.3363	8.724688	334.4549	473.3538	788.6862	419.1113	173.0608
#1	-.002090	-.001884	-.000661	.001607	.0009434	-.000140	-.000544
#2	-.000930	-.001918	.000557	-.000397	-.000805	-.000868	.000107
#3	.000917	-.002202	-.000487	-.002517	.000196	.000513	-.000133

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000011	-.000046	-.017327	.0002437	-.000114	.0000133	-.002943
Stddev	.000038	.000048	.001921	.0002337	.000111	.0002554	.002149
%RSD	340.1066	104.4957	11.08857	95.92433	97.41218	1920.814	73.02307
#1	-.000024	-.000081	-.019315	.0003801	-.000011	.0000300	-.002682
#2	.000031	.000009	-.015481	.0003771	-.000099	-.000250	-.000936
#3	-.000041	-.000065	-.017185	-.000026	-.000232	.000260	-.005210

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000314	-.001910	-.000119	-.000162	-.019331	.0000773	-.001163
Stddev	.0002553	.010844	.000028	.000080	.009930	.0005568	.000454
%RSD	813.7743	567.8903	23.44362	49.22999	51.36971	720.1974	39.05052
#1	-.000252	-.011409	-.000143	-.000138	-.020223	-.000258	-.001675
#2	.000101	.009905	-.000126	-.000251	-.028784	-.000230	-.000807
#3	.000245	-.004226	-.000088	-.000097	-.008984	.000720	-.001009

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.015207	.0066378	.0001548	.0093243	.0002518	.0050105	-.000259
Stddev	.021239	.0005341	.0000227	.0003300	.0003025	.0025826	.001209
%RSD	139.6690	8.045867	14.65668	3.538819	120.1360	51.54247	466.5387
#1	-.039099	.0072439	.0001807	.0092125	.0003709	.0066371	-.001573
#2	.001531	.0062360	.0001450	.0090648	.0004767	.0020327	-.000008
#3	-.008051	.0064335	.0001387	.0096957	-.000092	.0063619	.000804

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB01 Acquired: 11/19/2024 12:48:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.004997	-.000609	-.000005
Stddev	.003320	.001301	.000047
%RSD	66.44273	213.6911	861.6379
#1	-.002039	-.001664	.000043
#2	-.008589	.000845	-.000008
#3	-.004364	-.001007	-.000051

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2760.892	65212.01	14292.64	1969.661	4843.576
Stddev	4.271	84.19	18.29	6.734	4.522
%RSD	.1547026	.1290988	.1279625	.3419019	.0933521
#1	2759.882	65235.08	14272.20	1976.719	4846.000
#2	2757.216	65282.26	14298.27	1968.959	4838.359
#3	2765.577	65118.69	14307.45	1963.305	4846.369

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165067BL Acquired: 11/19/2024 12:52:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000406	-.001723	-.000203	.0005873	.0010648	.0008854	-.001138
Stddev	.002050	.000917	.000314	.0008963	.0013530	.0072914	.000316
%RSD	504.6682	53.21284	154.5471	152.6162	127.0612	823.4892	27.79265
#1	-.002172	-.002761	-.000554	.0002962	.0001055	.0059533	-.001127
#2	.001842	-.001022	-.000106	-.000127	.0004766	-.007471	-.001460
#3	-.000888	-.001387	.000050	.001593	.0026123	.004174	-.000828

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000013	-.000005	-.016680	.0002159	-.000035	-.000006	-.003206
Stddev	.000037	.000086	.004652	.0002471	.000154	.000438	.002827
%RSD	275.7693	1903.751	27.88645	114.4319	443.2411	6741.942	88.17512
#1	-.000040	-.000100	-.016707	.0001464	.000142	-.000503	-.005543
#2	.000029	.000066	-.012016	.0000110	-.000112	.000327	-.000064
#3	-.000029	.000020	-.021318	.0004903	-.000135	.000156	-.004012

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001387	-.005476	-.000262	.0000828	-.015964	-.000777	-.001132
Stddev	.0002082	.008931	.000093	.0000736	.013022	.001134	.000066
%RSD	150.0936	163.0797	35.64743	88.89531	81.57157	146.0061	5.843111
#1	-.000094	-.015291	-.000158	.0001617	-.023038	-.000724	-.001168
#2	.000204	.002172	-.000338	.0000708	-.023917	-.001936	-.001172
#3	.000307	-.003310	-.000291	.0000159	-.000936	.000330	-.001055

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004659	.0015154	-.000028	.0097194	.0001999	.0028960	-.000010
Stddev	.021551	.0006203	.000234	.0007310	.0001803	.0077380	.002406
%RSD	462.5931	40.93138	823.4813	7.521419	90.19796	267.1947	25146.13
#1	-.027821	.0008322	-.000126	.0104131	.0003737	-.005245	.001791
#2	-.000956	.0016707	.000239	.0089561	.0000137	.010155	.000922
#3	.014801	.0020433	-.000197	.0097889	.0002124	.003778	-.002742

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165067BL Acquired: 11/19/2024 12:52:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.004539	-.000335	-.000071
Stddev	.001169	.001345	.000017
%RSD	25.74314	401.3077	23.67724
#1	-.003949	.001216	-.000059
#2	-.003784	-.001052	-.000091
#3	-.005885	-.001169	-.000064

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2744.970	64447.38	14246.30	1915.900	4855.586
Stddev	5.515	320.36	79.39	9.005	7.575
%RSD	.2009225	.4970894	.5572673	.4699997	.1560009
#1	2740.258	64180.72	14155.95	1911.253	4848.534
#2	2751.036	64358.67	14278.03	1910.169	4863.593
#3	2743.617	64802.74	14304.92	1926.279	4854.633

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165067BS Acquired: 11/19/2024 12:56:48 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7749236	2.007431	.9686478	1.946470	.7792225	2.000114
Stddev	.0015342	.056795	.0016786	.007229	.0009050	.005514
%RSD	.1979864	2.829223	.1732899	.3713842	.1161442	.2756741
#1	.7756049	1.965480	.9672742	1.941266	.7794064	2.001175
#2	.7731667	1.984751	.9681503	1.943421	.7782396	2.005020
#3	.7759993	2.072061	.9705189	1.954724	.7800214	1.994146

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2005521	.2013284	.1931487	1.009107	.4036902	.1959168
Stddev	.0009436	.0003863	.0003916	.009134	.0017760	.0003794
%RSD	.4704828	.1919006	.2027607	.9051241	.4399404	.1936778
#1	.1994656	.2017626	.1935591	.998566	.4035952	.1959395
#2	.2010256	.2012001	.1927790	1.014098	.4055118	.1955265
#3	.2011652	.2010226	.1931081	1.014659	.4019636	.1962844

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3085877	2.896331	.2051140	1.957970	.4914102	.0729236
Stddev	.0004178	.030804	.0012855	.014963	.0001301	.0003778
%RSD	.1353885	1.063558	.6267213	.7641861	.0264819	.5180311
#1	.3082667	2.861098	.2037414	1.957025	.4915072	.0731202
#2	.3090601	2.918178	.2053110	1.973383	.4912623	.0731625
#3	.3084363	2.909716	.2062897	1.943502	.4914611	.0724881

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.709479	.3031312	.2037601	9.428127	.2990397	.4158525
Stddev	.018416	.0021583	.0004964	.039098	.0011394	.0009930
%RSD	.6796772	.7119855	.2436450	.4146916	.3810094	.2387904
#1	2.692345	.3030771	.2037857	9.384255	.2999910	.4147499
#2	2.728953	.3010005	.2042433	9.440836	.2977770	.4161311
#3	2.707138	.3053160	.2032514	9.459288	.2993512	.4166765

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165067BS Acquired: 11/19/2024 12:56:48 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.6846096	.2003989	F .7031503	5.525063	F -.012674	.1903979
Stddev	.0014174	.0002804	.0105505	.031933	.004304	.0010263
%RSD	.2070365	.1399225	1.500461	.5779676	33.96350	.5390041
#1	.6837318	.2004619	.6909934	5.511141	-.010838	.1901258
#2	.6838522	.2006424	.7099151	5.502455	-.017592	.1895352
#3	.6862448	.2000924	.7085423	5.561594	-.009592	.1915328

Elem	Sr4077
Units	ppm
Avg	.2077553
Stddev	.0001404
%RSD	.0675781
#1	.2076431
#2	.2077100
#3	.2079127

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2696.422	63152.88	14131.04	1888.722	4640.602
Stddev	4.910	230.02	42.24	12.516	8.183
%RSD	.1820957	.3642318	.2989277	.6626644	.1763358
#1	2691.956	63161.65	14095.56	1893.572	4631.153
#2	2695.631	62918.59	14119.79	1874.507	4645.372
#3	2701.680	63378.39	14177.77	1898.087	4645.282

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164759BL Acquired: 11/19/2024 13:00:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0007629	-.000622	.0005842	-.000055	.0004679	.0016467	-.000601
Stddev	.0019176	.001123	.0006167	.001296	.0007454	.0027480	.000413
%RSD	251.3624	180.5266	105.5624	2360.287	159.3079	166.8768	68.67308
#1	.0027958	-.000439	.0008794	-.000398	.0013032	-.001518	-.001044
#2	-.001014	.000398	.0009979	.001378	-.000129	.003433	-.000227
#3	.000506	-.001825	-.000125	-.001145	.000230	.003025	-.000533

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000020	-.000046	-.021760	.0002842	-.000191	-.000132	-.003279
Stddev	.000019	.000013	.004172	.0003523	.000120	.000311	.002676
%RSD	92.59117	27.97422	19.17264	123.9464	62.92005	235.5041	81.61222
#1	-.000025	-.000044	-.026564	.0001932	-.000127	-.000429	-.000623
#2	.000001	-.000060	-.019045	.0006730	-.000116	-.000158	-.005975
#3	-.000035	-.000034	-.019671	-.000014	-.000329	.000191	-.003240

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000442	-.003077	-.000301	-.000174	-.041064	-.001027	-.000852
Stddev	.0000948	.010474	.000287	.000201	.008325	.000830	.000344
%RSD	214.5776	340.3936	95.26546	115.4413	20.27337	80.87548	40.31685
#1	.0000737	.000959	-.000609	-.000080	-.050529	-.001976	-.000969
#2	-.000062	-.014969	-.000252	-.000405	-.037788	-.000436	-.000466
#3	.000121	.004779	-.000042	-.000037	-.034876	-.000668	-.001122

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.038833	.0000562	-.000277	.0086789	-.000037	.0047431	.0001642
Stddev	.006315	.0006150	.000058	.0002831	.000437	.0034544	.0019194
%RSD	16.26292	1093.474	21.07704	3.262202	1183.987	72.82988	1169.013
#1	-.038811	-.000549	-.000322	.0084325	.000406	.0060702	.0004044
#2	-.032528	.000681	-.000211	.0086160	-.000049	.0073370	.0019522
#3	-.045159	.000037	-.000297	.0089882	-.000467	.0008219	-.001864

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164759BL Acquired: 11/19/2024 13:00:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.004093	-.001701	-.000091
Stddev	.002499	.001360	.000040
%RSD	61.05997	79.96128	43.53474
#1	-.001241	-.002952	-.000048
#2	-.005903	-.001896	-.000099
#3	-.005134	-.000253	-.000126

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2782.665	64814.93	14393.41	1942.231	4912.510
Stddev	7.345	92.37	45.83	5.845	8.568
%RSD	.2639412	.1425182	.3184351	.3009629	.1744063
#1	2774.379	64880.72	14350.58	1946.517	4903.252
#2	2785.246	64709.33	14387.89	1944.604	4914.119
#3	2788.371	64854.75	14441.75	1935.572	4920.160

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164759BS Acquired: 11/19/2024 13:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7746300	2.063154	.9777479	1.928291	.7752960	2.002536
Stddev	.0042500	.025831	.0034697	.011258	.0052887	.004255
%RSD	.5486444	1.252030	.3548665	.5838145	.6821569	.2124681
#1	.7704409	2.052146	.9744099	1.916794	.7706889	1.999244
#2	.7789384	2.092666	.9774980	1.939293	.7810711	2.001023
#3	.7745109	2.044650	.9813358	1.928785	.7741280	2.007340

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2054196	.2064810	.1956035	1.041532	.4069720	.1984784
Stddev	.0002873	.0002215	.0008889	.008025	.0002727	.0010209
%RSD	.1398598	.1072845	.4544182	.7704844	.0670160	.5143790
#1	.2054256	.2066861	.1947434	1.036969	.4068111	.1976915
#2	.2051293	.2062461	.1955486	1.050797	.4068180	.1981116
#3	.2057038	.2065109	.1965186	1.036828	.4072869	.1996320

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3096682	2.943861	.2109729	2.001774	.4965130	.0735752
Stddev	.0019054	.008705	.0002191	.007337	.0023604	.0003131
%RSD	.6152868	.2957061	.1038481	.3665415	.4753860	.4255030
#1	.3074682	2.937708	.2107492	2.002569	.4943985	.0734818
#2	.3107516	2.953821	.2109825	1.994071	.4960809	.0733195
#3	.3107848	2.940054	.2111871	2.008681	.4990596	.0739244

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.724805	.3080957	.2051480	9.379973	.3048081	.4157893
Stddev	.002453	.0011052	.0003226	.044483	.0004421	.0020609
%RSD	.0900123	.3587041	.1572258	.4742385	.1450323	.4956658
#1	2.722914	.3070000	.2053930	9.430894	.3051686	.4134345
#2	2.727577	.3080771	.2052685	9.348673	.3049407	.4172647
#3	2.723926	.3092101	.2047826	9.360353	.3043149	.4166686

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164759BS Acquired: 11/19/2024 13:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7003451	.2029637	F .6978393	5.743271	F -.013535	.1928278
Stddev	.0007463	.0011961	.0054867	.026930	.002959	.0011273
%RSD	.1065645	.5893066	.7862360	.4688969	21.86309	.5845949
#1	.6996790	.2021027	.6939410	5.717668	-.011661	.1915398
#2	.7002046	.2043294	.7041135	5.771356	-.016947	.1933090
#3	.7011517	.2024589	.6954636	5.740787	-.011998	.1936346

Elem	Sr4077
Units	ppm
Avg	.2099426
Stddev	.0001958
%RSD	.0932533
#1	.2101439
#2	.2097528
#3	.2099310

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2746.521	63708.06	14042.45	1952.126	4676.921
Stddev	10.992	132.83	26.87	10.694	10.101
%RSD	.4002283	.2084988	.1913578	.5478370	.2159737
#1	2757.646	63650.07	14043.05	1958.576	4688.355
#2	2735.667	63614.09	14015.29	1939.781	4669.209
#3	2746.251	63860.03	14069.02	1958.021	4673.200

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164645BL Acquired: 11/19/2024 13:09:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000026	-.001058	.0000947	-.000261	-.000064	-.000811	-.000815
Stddev	.001517	.000579	.0009400	.001309	.000761	.001646	.000227
%RSD	5816.298	54.73159	992.9731	500.7565	1198.150	202.9168	27.81359
#1	.001593	-.000396	.0011433	.000779	.000724	.000339	-.000619
#2	-.001413	-.001303	-.000187	.000167	-.000794	-.002697	-.000763
#3	-.000258	-.001473	-.000672	-.001731	-.000120	-.000076	-.001063

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000009	.0000549	-.016955	.0003238	-.000267	.0001831	-.004068
Stddev	.000023	.0000288	.008983	.0002250	.000061	.0001499	.002029
%RSD	258.3706	52.50934	52.97872	69.48058	22.81569	81.84113	49.87029
#1	.000018	.0000216	-.006589	.0003227	-.000283	.0002625	-.004127
#2	-.000021	.0000715	-.022434	.0005494	-.000200	.0002766	-.002011
#3	-.000023	.0000716	-.021844	.0000994	-.000318	.0000103	-.006067

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000021	-.001794	-.000010	-.000147	-.049402	-.000972	-.000992
Stddev	.000076	.002371	.000110	.000153	.005162	.001323	.000385
%RSD	364.6197	132.1471	1155.638	103.6786	10.44928	136.1537	38.85005
#1	.000052	-.000669	-.000074	-.000135	-.052967	-.001302	-.001197
#2	-.000014	-.004518	.000117	-.000305	-.051757	-.002098	-.001231
#3	-.000100	-.000196	-.000072	-.000001	-.043483	.000485	-.000547

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.033312	-.001713	-.000184	.0098859	-.000133	.0021860	-.000600
Stddev	.026696	.000438	.000102	.0003696	.000543	.0011679	.001262
%RSD	80.13994	25.58340	55.63321	3.739050	406.7626	53.42827	210.2990
#1	-.061273	-.001909	-.000085	.0100987	.000054	.0034317	.000803
#2	-.030572	-.001211	-.000177	.0100999	.000291	.0020105	-.000960
#3	-.008092	-.002020	-.000289	.0094590	-.000745	.0011157	-.001644

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164645BL Acquired: 11/19/2024 13:09:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002912	-.000243	-.000080
Stddev	.002872	.001414	.000005
%RSD	98.60376	581.1162	5.757505
#1	-.001524	-.000403	-.000081
#2	-.000999	.001244	-.000084
#3	-.006215	-.001571	-.000075

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2735.335	63824.99	14282.82	1931.691	4816.349
Stddev	6.764	89.26	40.84	6.199	6.343
%RSD	.2472790	.1398458	.2859660	.3209177	.1316985
#1	2727.664	63841.29	14266.51	1937.248	4809.088
#2	2740.440	63728.70	14252.64	1925.005	4820.815
#3	2737.901	63904.97	14329.29	1932.820	4819.142

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164645BS Acquired: 11/19/2024 13:13:31 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7894929	2.039584	.9836746	1.983563	.7940409	2.017874
Stddev	.0031202	.020194	.0003843	.010738	.0008807	.004351
%RSD	.3952159	.9901103	.0390678	.5413695	.1109092	.2156033
#1	.7877895	2.035218	.9839877	1.971504	.7935859	2.012910
#2	.7930941	2.061605	.9837904	1.992093	.7934808	2.021023
#3	.7875952	2.021931	.9832457	1.987091	.7950559	2.019690

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2023914	.2041029	.1969258	1.029326	.4098460	.1996755
Stddev	.0002108	.0002039	.0002270	.004700	.0009952	.0001340
%RSD	.1041396	.0999152	.1152541	.4566063	.2428248	.0671207
#1	.2026345	.2040021	.1970428	1.027636	.4102708	.1998211
#2	.2022591	.2043376	.1970703	1.025704	.4087088	.1996479
#3	.2022807	.2039689	.1966642	1.034637	.4105582	.1995574

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3137423	2.936200	.2063307	2.009071	.5000071	.0738829
Stddev	.0005706	.011060	.0002057	.023814	.0003657	.0000713
%RSD	.1818551	.3766638	.0996925	1.185312	.0731346	.0965064
#1	.3130913	2.928822	.2064358	1.992693	.5004237	.0739267
#2	.3139801	2.930862	.2060937	2.036389	.4997390	.0738006
#3	.3141555	2.948916	.2064626	1.998131	.4998588	.0739213

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.716900	.3069843	.2055785	9.476136	.2990457	.4227749
Stddev	.009093	.0017400	.0013139	.007024	.0012011	.0008750
%RSD	.3346980	.5667938	.6391199	.0741250	.4016340	.2069723
#1	2.722709	.3049996	.2060430	9.474046	.2997545	.4218355
#2	2.706421	.3077065	.2065971	9.483967	.2997237	.4229222
#3	2.721571	.3082469	.2040955	9.470393	.2976589	.4235669

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164645BS Acquired: 11/19/2024 13:13:31 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7023783	.2030111	F .7088268	5.687483	F -.016615	.1882013
Stddev	.0028683	.0010018	.0081586	.017686	.002786	.0009682
%RSD	.4083753	.4934540	1.150994	.3109642	16.76744	.5144671
#1	.7006329	.2018544	.7003198	5.674096	-.019482	.1892734
#2	.7056887	.2035944	.7165854	5.707533	-.013918	.1873905
#3	.7008133	.2035845	.7095751	5.680821	-.016444	.1879399

Elem	Sr4077
Units	ppm
Avg	.2089998
Stddev	.0000974
%RSD	.0466113
#1	.2090847
#2	.2090213
#3	.2088934

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2648.174	62481.01	13994.24	1873.923	4535.824
Stddev	9.265	29.80	18.21	4.540	8.619
%RSD	.3498522	.0476910	.1301517	.2422776	.1900139
#1	2657.610	62503.79	14002.07	1871.253	4544.437
#2	2647.821	62491.96	13973.42	1871.351	4535.836
#3	2639.090	62447.29	14007.23	1879.165	4527.200

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164944TB Acquired: 11/19/2024 13:17:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.007303	-.008163	.0004690	.0060808	.0001069	.0164430
Stddev	.001125	.000623	.0001978	.0026713	.0017172	.0019530
%RSD	15.40779	7.637358	42.17530	43.92986	1606.904	11.87770
#1	-.006530	-.007904	.0005240	.0052645	-.001619	.0170191
#2	-.008594	-.008875	.0002495	.0090650	.000124	.0142666
#3	-.006785	-.007711	.0006334	.0039130	.001815	.0180431

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001711	-.000155	-.000160	-.008347	.0033281	-.000368
Stddev	.000562	.000044	.000048	.008251	.0003024	.000102
%RSD	32.85804	28.57725	30.21279	98.84408	9.085945	27.84670
#1	-.001062	-.000163	-.000141	-.012102	.0031535	-.000251
#2	-.002037	-.000107	-.000125	-.014053	.0031535	-.000409
#3	-.002034	-.000195	-.000215	.001113	.0036773	-.000444

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010986	.0282348	.0081163	.0000620	.0017971	-.000187
Stddev	.0003272	.0027233	.0000794	.0082210	.0003689	.000104
%RSD	29.78008	9.645240	.9783222	13250.85	20.52794	55.75442
#1	.0011468	.0261072	.0081586	.0095548	.0019300	-.000081
#2	.0007501	.0272932	.0080246	-.004686	.0020811	-.000190
#3	.0013991	.0313039	.0081655	-.004683	.0013801	-.000290

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 316.1480	-.000571	.0045127	-.010499	-.002759	.0002794
Stddev	1.2219	.000284	.0003845	.021187	.000095	.0002411
%RSD	.3864962	49.64242	8.520968	201.8045	3.432517	86.29295
#1	314.8376	-.000832	.0040744	.001748	-.002816	.0001638
#2	317.2561	-.000612	.0047934	.001719	-.002812	.0001178
#3	316.3504	-.000270	.0046702	-.034963	-.002650	.0005565

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164944TB Acquired: 11/19/2024 13:17:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002459	.0002426	.0249584	.0032836	F .0235901	.0005814
Stddev	.001067	.0001120	.0038149	.0016756	.0012781	.0006070
%RSD	43.40684	46.15906	15.28518	51.02869	5.418049	104.4029
#1	-.003439	.0002977	.0234764	.0049741	.0222357	.0008497
#2	-.002615	.0001138	.0292920	.0016233	.0237596	-.000114
#3	-.001322	.0003164	.0221069	.0032535	.0247751	.001008

Elem	Sr4077
Units	ppm
Avg	-.000067
Stddev	.000014
%RSD	21.45465
#1	-.000068
#2	-.000052
#3	-.000080

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2407.648	56508.95	14039.95	1674.558	3969.110
Stddev	6.461	53.83	7.10	8.603	6.917
%RSD	.2683628	.0952514	.0505931	.5137550	.1742633
#1	2406.930	56461.10	14036.47	1672.442	3962.883
#2	2401.575	56498.53	14035.27	1667.210	3967.893
#3	2414.438	56567.22	14048.13	1684.022	3976.555

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4892-01 Acquired: 11/19/2024 13:22:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.4203700	-.002441	4.424053	-.034526	-.028396	119.3019
Stddev	.0192000	.003980	.202144	.005465	.002325	.4596
%RSD	4.567398	163.0632	4.569195	15.82748	8.188129	.3852348
#1	.4346625	-.005948	4.582193	-.038326	-.028043	119.1408
#2	.4279013	-.003258	4.493663	-.036989	-.026267	118.9446
#3	.3985461	.001884	4.196302	-.028264	-.030877	119.8204

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.684135	.0110510	.0920852	37.52487	F 3.170199	.1084368
Stddev	.006240	.0001558	.0064065	.13403	.035008	.0054208
%RSD	.2324614	1.409564	6.957123	.3571763	1.104299	4.999035
#1	2.680116	.0110881	.0973040	37.41598	3.198004	.1127090
#2	2.680966	.0108801	.0940164	37.48407	3.130885	.1102626
#3	2.691323	.0111849	.0849353	37.67456	3.181709	.1023389

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.323162	267.0839	2.775960	53.62929	.5383815	.0425452
Stddev	.162676	1.5795	.011882	.28269	.0247242	.0002170
%RSD	4.895206	.5914020	.4280270	.5271143	4.592322	.5100597
#1	3.450849	266.8556	2.765472	53.53298	.5583386	.0423757
#2	3.378630	265.6309	2.773544	53.40734	.5460828	.0427898
#3	3.140006	268.7652	2.788864	53.94754	.5107232	.0424701

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	56.72421	.4296791	7.438269	17.79155	.2205266	.0136660
Stddev	.20955	.0020116	.089277	.07369	.0024348	.0005181
%RSD	.3694120	.4681727	1.200245	.4141654	1.104067	3.791523
#1	56.85200	.4293137	7.528883	17.78817	.2199878	.0141628
#2	56.48238	.4278751	7.350391	17.71962	.2184065	.0137064
#3	56.83826	.4318483	7.435534	17.86687	.2231857	.0131288

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4892-01 Acquired: 11/19/2024 13:22:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	4.322353	3.291274	F 22.69349	F 15.72595	F 158.8866	.1998660
Stddev	.200682	.010336	.12992	.76942	8.1040	.0007954
%RSD	4.642886	.3140549	.5725201	4.892651	5.100473	.3979477
#1	4.487762	3.283653	22.70756	16.34850	165.7512	.1991279
#2	4.380194	3.287130	22.55710	15.96360	160.9617	.1997617
#3	4.099102	3.303039	22.81581	14.86574	149.9468	.2007083

Elem	Sr4077
Units	ppm
Avg	.3219600
Stddev	.0007328
%RSD	.2276056
#1	.3214149
#2	.3227930
#3	.3216720

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3020.423	66049.34	15785.87	1978.208	4243.763
Stddev	142.793	541.43	80.14	18.388	210.504
%RSD	4.727586	.8197329	.5076614	.9295135	4.960325
#1	2909.137	65554.93	15706.82	1958.757	4079.322
#2	2970.702	66627.93	15867.06	1995.305	4170.962
#3	3181.429	65965.17	15783.73	1980.563	4481.005

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4892-02 Acquired: 11/19/2024 13:26:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0290287	-.001742	.1112111	-.059913	.0000067	74.52727
Stddev	.0014705	.002105	.0024696	.003032	.0007943	1.23903
%RSD	5.065834	120.8661	2.220682	5.061090	11833.31	1.662517
#1	.0273872	.000688	.1085297	-.059323	-.000775	75.54051
#2	.0302259	-.003008	.1133926	-.057219	-.000017	73.14589
#3	.0294728	-.002905	.1117110	-.063197	.000813	74.89540

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2765170	.0077764	.0233233	111.3220	.1685205	.1117285
Stddev	.0042438	.0001395	.0001512	1.5761	.0028936	.0012920
%RSD	1.534744	1.793700	.6481887	1.415784	1.717049	1.156384
#1	.2802612	.0079065	.0232952	112.5008	.1659451	.1108941
#2	.2719071	.0076291	.0231882	109.5318	.1679647	.1110747
#3	.2773826	.0077937	.0234866	111.9333	.1716516	.1132168

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1784994	248.2950	5.670787	66.73815	.2004916	.0000277
Stddev	.0012827	4.8812	.085410	.89579	.0021253	.0002088
%RSD	.7186253	1.965902	1.506141	1.342247	1.060030	753.6823
#1	.1799200	244.3224	5.738068	67.42709	.1992033	-.000135
#2	.1781525	246.8186	5.574698	65.72550	.1993270	-.000045
#3	.1774258	253.7440	5.699596	67.06185	.2029447	.000263

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.19303	.2301971	.4244102	13.65943	.1449257	.0000702
Stddev	.29992	.0040929	.0098849	.25530	.0061886	.0003317
%RSD	1.852151	1.778019	2.329088	1.869048	4.270217	472.2386
#1	16.00057	.2323548	.4181867	13.45661	.1388220	.0001736
#2	16.03991	.2254768	.4192358	13.57555	.1447594	-.000301
#3	16.53860	.2327598	.4358083	13.94611	.1511959	.000338

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4892-02 Acquired: 11/19/2024 13:26:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0017002	2.407378	F 15.82176	8.125296	5.603202	.1473332
Stddev	.0017527	.040980	.33946	.110715	.085560	.0030509
%RSD	103.0909	1.702250	2.145514	1.362601	1.526985	2.070725
#1	.0036976	2.442618	15.54021	8.052927	5.536954	.1498297
#2	.0009837	2.362410	15.72635	8.070212	5.572851	.1439324
#3	.0004192	2.417107	16.19871	8.252749	5.699800	.1482374

Elem	Sr4077
Units	ppm
Avg	-.059014
Stddev	.006031
%RSD	10.21952
#1	-.052224
#2	-.061068
#3	-.063749

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2948.391	70401.22	16935.92	2115.860	4074.752
Stddev	15.197	1181.02	251.10	43.462	35.720
%RSD	.5154175	1.677562	1.482657	2.054083	.8766152
#1	2957.956	71394.71	16695.03	2146.342	4098.410
#2	2956.348	70713.52	17196.12	2135.145	4092.184
#3	2930.868	69095.43	16916.62	2066.093	4033.664

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4893-01 Acquired: 11/19/2024 13:30:08 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0717343	-.026984	.1928873	-.065416	-.001112	120.8883
Stddev	.0011519	.005715	.0010328	.002555	.001105	.6213
%RSD	1.605751	21.18038	.5354446	3.906323	99.37381	.5139797
#1	.0730159	-.032712	.1921963	-.068345	-.001242	121.1031
#2	.0707854	-.026959	.1940746	-.063643	.000052	120.1881
#3	.0714016	-.021282	.1923910	-.064259	-.002147	121.3738

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.686916	.0153049	.0305993	197.1953	.2774983	.1831383
Stddev	.009456	.0001719	.0004303	1.3746	.0015789	.0006323
%RSD	.5605213	1.123283	1.406224	.6970627	.5689754	.3452413
#1	1.687299	.0154451	.0309156	196.6992	.2787797	.1829508
#2	1.677274	.0151131	.0307729	196.1377	.2757345	.1838431
#3	1.696174	.0153566	.0301093	198.7491	.2779807	.1826210

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2254046	255.7197	8.674406	82.49489	.3695421	-.000097
Stddev	.0031317	2.2861	.064048	.61341	.0010121	.000375
%RSD	1.389364	.8939964	.7383568	.7435711	.2738884	384.9020
#1	.2254271	255.4918	8.648488	82.25189	.3684742	-.000501
#2	.2285251	253.5561	8.627379	82.04021	.3704872	-.000031
#3	.2222618	258.1113	8.747351	83.19257	.3696649	.000240

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.664942	.3638862	.7184531	29.12041	.1739195	-.000200
Stddev	.034444	.0022251	.0063457	.23547	.0028892	.000188
%RSD	.9398353	.6114688	.8832434	.8086080	1.661210	93.58473
#1	3.667066	.3650180	.7255297	29.13413	.1739398	-.000235
#2	3.629485	.3613228	.7132688	28.87838	.1710202	.000002
#3	3.698275	.3653178	.7165607	29.34872	.1767984	-.000368

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4893-01 Acquired: 11/19/2024 13:30:08 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002459	5.550964	F 21.22768	F 12.44574	1.342437	.3008337
Stddev	.000505	.033481	.18321	.09151	.007693	.0022246
%RSD	20.54723	.6031600	.8630631	.7352387	.5730590	.7394781
#1	-.002694	5.546406	21.24469	12.54970	1.341709	.3018858
#2	-.001879	5.519996	21.03656	12.41012	1.350468	.2982782
#3	-.002804	5.586491	21.40179	12.37741	1.335134	.3023370

Elem	Sr4077
Units	ppm
Avg	.1455901
Stddev	.0002097
%RSD	.1440621
#1	.1458323
#2	.1454663
#3	.1454717

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2961.339	70256.62	16935.20	2074.676	3662.578
Stddev	8.113	458.30	59.18	20.287	11.418
%RSD	.2739603	.6523243	.3494606	.9778441	.3117605
#1	2959.008	69829.41	16874.30	2055.912	3656.354
#2	2954.646	70740.71	16992.50	2096.203	3655.625
#3	2970.362	70199.74	16938.81	2071.914	3675.756

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV02 Acquired: 11/19/2024 13:34:13 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	5.319998	5.225436	5.243816	5.340381	5.358211	10.58663	10.32813
Stddev	.024282	.062370	.002536	.017758	.025023	.00330	.11564
%RSD	.4564382	1.193577	.0483592	.3325233	.4670050	.0311674	1.119663
#1	5.314770	5.277760	5.242482	5.333286	5.339071	10.58376	10.32555
#2	5.298755	5.156418	5.242225	5.327268	5.349036	10.58591	10.21381
#3	5.346469	5.242130	5.246740	5.360590	5.386526	10.59023	10.44504

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2619479	2.610368	26.10526	1.073120	2.621998	1.345665	5.265354
Stddev	.0016753	.003425	.08742	.004656	.002938	.005141	.021009
%RSD	.6395602	.1311906	.3348856	.4339095	.1120704	.3820624	.3989972
#1	.2638820	2.613005	26.09722	1.078339	2.623450	1.341751	5.251604
#2	.2610140	2.606498	26.02213	1.071630	2.618616	1.343758	5.254921
#3	.2609476	2.611602	26.19642	1.069391	2.623927	1.351488	5.289537

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.580073	26.20707	2.624626	1.321262	25.86215	2.635225	2.679411
Stddev	.011394	.10005	.001083	.001902	.02875	.011384	.007400
%RSD	.4416295	.3817532	.0412544	.1439531	.1111697	.4320067	.2761657
#1	2.583410	26.16921	2.623835	1.323369	25.83627	2.633940	2.676863
#2	2.567382	26.13149	2.624185	1.319672	25.85709	2.624538	2.673621
#3	2.589426	26.32052	2.625860	1.320745	25.89310	2.647198	2.687747

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.26057	5.213657	5.407313	5.233811	5.174166	5.276169	5.251545
Stddev	.06494	.022133	.017388	.011225	.007007	.038352	.018568
%RSD	.2472819	.4245272	.3215623	.2144726	.1354243	.7268985	.3535739
#1	26.18559	5.239211	5.400258	5.240179	5.176038	5.248970	5.247286
#2	26.29867	5.201244	5.394561	5.220850	5.166413	5.259500	5.235475
#3	26.29746	5.200517	5.427119	5.240405	5.180046	5.320035	5.271872

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV02 Acquired: 11/19/2024 13:34:13 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	5.056185	5.091466	5.304638
Stddev	.023524	.018553	.018735
%RSD	.4652521	.3643858	.3531909
#1	5.061265	5.112744	5.300244
#2	5.030536	5.078675	5.325181
#3	5.076754	5.082980	5.288491

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2443.040	56815.81	13580.28	1704.853	4013.751
Stddev	10.220	152.14	47.87	15.767	9.164
%RSD	.4183330	.2677856	.3524977	.9248397	.2283155
#1	2453.603	56865.19	13535.52	1716.960	4023.740
#2	2442.317	56937.14	13630.75	1710.575	4011.779
#3	2433.201	56645.11	13574.56	1687.023	4005.733

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB02 Acquired: 11/19/2024 13:38:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.001478	-.002217	-.000413	.0001802	.0005730	.0035974	-.001448
Stddev	.002021	.001494	.000476	.0015757	.0004203	.0061355	.000194
%RSD	136.7767	67.39749	115.2669	874.2857	73.34959	170.5511	13.37573
#1	-.003770	-.003910	.000114	.0008763	.0001053	-.003424	-.001671
#2	.000047	-.001086	-.000813	.0012880	.0006946	.007927	-.001354
#3	-.000710	-.001654	-.000540	-.001624	.0009191	.006289	-.001320

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000042	-.000010	-.016401	.0001429	-.000098	.0000465	-.003471
Stddev	.000080	.000124	.001244	.0004962	.000260	.0004388	.001902
%RSD	188.7536	1205.088	7.582118	347.1745	264.0357	943.3992	54.79643
#1	-.000103	-.000154	-.015025	-.000419	-.000308	-.000160	-.003396
#2	.000048	.000063	-.017445	.000519	-.000180	.000550	-.005410
#3	-.000072	.000060	-.016733	.000329	.000193	-.000251	-.001608

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000933	-.005829	.0000047	-.000017	-.016541	-.000651	-.001128
Stddev	.0000522	.007962	.0002414	.000174	.013359	.001438	.000288
%RSD	55.94891	136.6036	5162.853	1009.871	80.76537	220.7037	25.49138
#1	.0000642	.000372	.0002594	.000179	-.026754	-.002258	-.001460
#2	.0000621	-.003050	-.000025	-.000151	-.021447	-.000210	-.000968
#3	.0001535	-.014808	-.000221	-.000079	-.001422	.000514	-.000956

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0234275	.0048220	.0002058	.0103349	.0004763	.0103438	.0005875
Stddev	.0061001	.0008527	.0002574	.0007222	.0002821	.0052984	.0000697
%RSD	26.03826	17.68415	125.0900	6.988234	59.21843	51.22226	11.86166
#1	.0187911	.0057802	.0004410	.0109342	.0003069	.0042311	.0006510
#2	.0303380	.0041465	-.000069	.0095330	.0008019	.0131804	.0005130
#3	.0211533	.0045394	.000246	.0105375	.0003201	.0136201	.0005986

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB02 Acquired: 11/19/2024 13:38:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.003459	-.002002	.0000115
Stddev	.001890	.000099	.0000388
%RSD	54.63146	4.941265	336.6283
#1	-.001519	-.001943	.0000105
#2	-.003564	-.002116	.0000508
#3	-.005294	-.001946	-.000027

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2607.987	61566.73	13812.97	1838.278	4553.753
Stddev	7.365	185.55	212.96	12.511	7.870
%RSD	.2824111	.3013795	1.541735	.6805582	.1728187
#1	2599.657	61380.26	13675.65	1833.119	4545.105
#2	2613.638	61568.58	14058.29	1829.173	4560.493
#3	2610.665	61751.35	13704.97	1852.543	4555.661

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4893-05 Acquired: 11/19/2024 13:42:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0715970	-.004241	.0993799	-.044786	-.000450	71.47654
Stddev	.0013478	.001067	.0017271	.001799	.001864	.31744
%RSD	1.882419	25.17190	1.737859	4.017248	414.0149	.4441117
#1	.0722997	-.003320	.1000287	-.042785	-.002469	71.59537
#2	.0724481	-.003991	.1006886	-.046270	-.000089	71.71742
#3	.0700431	-.005411	.0974223	-.045304	.001207	71.11684

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.261072	.0069533	.0136374	22.95251	.1627586	.0958256
Stddev	.011602	.0000881	.0003133	.04066	.0005229	.0006972
%RSD	.9200125	1.266690	2.297600	.1771501	.3212752	.7276000
#1	1.265549	.0070542	.0133820	22.95093	.1633598	.0960137
#2	1.269769	.0068920	.0139870	22.91267	.1624096	.0964094
#3	1.247899	.0069137	.0135431	22.99394	.1625065	.0950536

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1789909	202.9300	10.39387	26.03518	.1703019	.0007476
Stddev	.0021665	.6831	.01914	.05100	.0006151	.0002474
%RSD	1.210395	.3366120	.1841353	.1958992	.3612140	33.08905
#1	.1778973	203.0743	10.40127	25.99555	.1709625	.0005812
#2	.1814862	202.1863	10.40821	26.01727	.1697455	.0006298
#3	.1775892	203.5294	10.37214	26.09272	.1701976	.0010319

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.222587	.3008697	.5020685	9.180150	.1118877	.0032435
Stddev	.032080	.0013226	.0012976	.069046	.0016244	.0000220
%RSD	.9954621	.4396007	.2584589	.7521206	1.451776	.6774606
#1	3.249642	.2993691	.5023524	9.218313	.1128846	.0032646
#2	3.230970	.3018658	.5006524	9.221690	.1100133	.0032208
#3	3.187148	.3013742	.5032007	9.100446	.1127652	.0032452

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4893-05 Acquired: 11/19/2024 13:42:46 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0015855	1.509192	F 22.49875	6.107440	1.338698	.1353633
Stddev	.0002767	.004791	.09213	.020651	.008247	.0014464
%RSD	17.45186	.3174492	.4095086	.3381225	.6160317	1.068541
#1	.0017705	1.510118	22.50663	6.087031	1.342312	.1354150
#2	.0017185	1.513452	22.40292	6.128324	1.344521	.1367832
#3	.0012674	1.504006	22.58668	6.106966	1.329261	.1338918

Elem	Sr4077
Units	ppm
Avg	-.105494
Stddev	.001438
%RSD	1.363417
#1	-.105430
#2	-.104089
#3	-.106964

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2820.014	65634.58	15638.24	1989.725	4074.307
Stddev	11.416	237.72	72.26	2.790	14.525
%RSD	.4048129	.3621843	.4620785	.1402125	.3564985
#1	2827.074	65363.44	15584.85	1986.746	4078.315
#2	2806.843	65733.14	15609.41	1990.154	4058.200
#3	2826.124	65807.17	15720.47	1992.276	4086.408

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4908-01 Acquired: 11/19/2024 13:46:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0930796	-.037957	.4177236	-.072392	.0010080	190.5701
Stddev	.0030918	.004371	.0015531	.002495	.0012752	1.1194
%RSD	3.321711	11.51687	.3718033	3.446987	126.5048	.5874163
#1	.0938096	-.040746	.4195140	-.074622	.0016300	189.9029
#2	.0957411	-.040207	.4167387	-.069697	.0018529	189.9449
#3	.0896881	-.032919	.4169182	-.072856	-.000459	191.8625

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8876659	.0101812	.0397207	145.1886	.2479901	.2353601
Stddev	.0052891	.0000931	.0004159	1.1588	.0011347	.0009440
%RSD	.5958462	.9143391	1.047151	.7981308	.4575425	.4010768
#1	.8842977	.0100980	.0397033	144.0349	.2486907	.2361301
#2	.8849379	.0101638	.0393138	145.1785	.2466810	.2356433
#3	.8937620	.0102818	.0401451	146.3524	.2485987	.2343070

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9358938	296.3149	6.209156	121.8649	.4307192	.0011821
Stddev	.0020576	1.4465	.051023	1.0408	.0010060	.0004158
%RSD	.2198515	.4881606	.8217317	.8540869	.2335584	35.17400
#1	.9377185	296.3201	6.159856	120.7935	.4313177	.0010361
#2	.9336637	297.7588	6.205868	121.9290	.4312820	.0016511
#3	.9362992	294.8659	6.261743	122.8722	.4295577	.0008590

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.895983	.4648814	.8020774	12.76572	3.241410	.0014227
Stddev	.013032	.0053280	.0025975	.03187	.017794	.0000287
%RSD	.1316855	1.146101	.3238422	.2496787	.5489652	2.019316
#1	9.902857	.4609189	.8031412	12.79522	3.232754	.0014439
#2	9.880954	.4627869	.7991169	12.73191	3.229601	.0013900
#3	9.904139	.4709384	.8039741	12.77002	3.261877	.0014343

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4908-01 Acquired: 11/19/2024 13:46:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0035173	7.579045	F 20.87600	F 12.35651	1.240401	.2640487
Stddev	.0013259	.050767	.04813	.09281	.007769	.0029221
%RSD	37.69664	.6698379	.2305714	.7511041	.6262938	1.106667
#1	.0020040	7.536448	20.84491	12.44958	1.247265	.2657111
#2	.0044752	7.565466	20.85165	12.35597	1.241971	.2606746
#3	.0040728	7.635221	20.93145	12.26396	1.231967	.2657603

Elem	Sr4077
Units	ppm
Avg	.0951361
Stddev	.0037039
%RSD	3.893290
#1	.0935859
#2	.0924592
#3	.0993633

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2984.945	71865.92	17532.55	2136.485	3605.323
Stddev	2.928	85.76	89.52	13.512	2.909
%RSD	.0981025	.1193391	.5105830	.6324561	.0806815
#1	2983.609	71792.58	17614.29	2146.176	3602.560
#2	2988.303	71844.96	17546.46	2121.050	3605.050
#3	2982.923	71960.22	17436.89	2142.230	3608.358

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4908-03 Acquired: 11/19/2024 13:51:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0813384	-.051716	.4876650	-.092007	-.001986	220.1377
Stddev	.0070396	.001614	.0035625	.002300	.002404	1.5814
%RSD	8.654668	3.121760	.7305293	2.500044	121.0320	.7183586
#1	.0761646	-.053515	.4860973	-.089396	-.003649	220.3695
#2	.0893547	-.051239	.4917426	-.093734	.000770	218.4533
#3	.0784957	-.050394	.4851552	-.092892	-.003079	221.5904

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7855215	.0111105	.0496124	159.8580	.3528490	.2893023
Stddev	.0020369	.0000575	.0004987	.4291	.0022869	.0015289
%RSD	.2592999	.5174977	1.005160	.2684377	.6481227	.5284755
#1	.7877955	.0111577	.0499479	159.3652	.3502825	.2877626
#2	.7849046	.0111274	.0490394	160.0600	.3546704	.2893241
#3	.7838645	.0110465	.0498500	160.1489	.3535941	.2908201

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.179965	363.8443	5.926235	168.7711	.5368331	.0015276
Stddev	.004123	5.0251	.005185	.4131	.0024404	.0006244
%RSD	.3494438	1.381114	.0874900	.2447972	.4545962	40.87693
#1	1.179826	358.0993	5.920455	168.3466	.5341467	.0010716
#2	1.175912	366.0111	5.930477	168.7950	.5374391	.0012718
#3	1.184155	367.4225	5.927773	169.1718	.5389134	.0022393

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	15.49838	.5991534	.8806999	11.20202	5.757011	.0017648
Stddev	.08954	.0007941	.0063743	.05667	.014828	.0002370
%RSD	.5777400	.1325427	.7237786	.5058779	.2575677	13.42627
#1	15.41427	.5985198	.8733421	11.13679	5.770499	.0019498
#2	15.59251	.6000443	.8842088	11.23019	5.759400	.0014977
#3	15.48836	.5988962	.8845487	11.23909	5.741133	.0018468

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4908-03 Acquired: 11/19/2024 13:51:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0026154	F 11.70526	F 20.21170	8.998828	2.164566	.2906574
Stddev	.0016414	.01484	.18571	.052770	.010630	.0015149
%RSD	62.75945	.1267786	.9188108	.5864105	.4910727	.5211792
#1	.0043967	11.72212	20.00095	8.947719	2.152399	.2919156
#2	.0011639	11.69947	20.28282	8.995649	2.172049	.2910808
#3	.0022856	11.69419	20.35134	9.053115	2.169251	.2889759

Elem	Sr4077
Units	ppm
Avg	.0255796
Stddev	.0056496
%RSD	22.08624
#1	.0320747
#2	.0228580
#3	.0218059

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2837.397	68476.12	16846.78	1991.697	3549.261
Stddev	12.221	326.76	62.16	9.621	12.299
%RSD	.4307048	.4771933	.3689955	.4830313	.3465154
#1	2836.702	68850.69	16779.46	1998.117	3553.395
#2	2849.950	68328.16	16902.02	1996.338	3558.960
#3	2825.538	68249.50	16858.85	1980.636	3535.428

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01 Acquired: 11/19/2024 13:55:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.1146349	-.006573	.2452211	-.017147	.0026962	35.90399
Stddev	.0023421	.001969	.0038643	.000892	.0011790	.20731
%RSD	2.043137	29.95549	1.575829	5.199155	43.72950	.5773881
#1	.1165039	-.008804	.2496545	-.018110	.0025267	36.10442
#2	.1120075	-.005841	.2434416	-.016982	.0016110	35.69044
#3	.1153933	-.005076	.2425671	-.016350	.0039508	35.91711

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2502177	.0032501	.0054430	39.09091	.1897481	.0183563
Stddev	.0019048	.0000472	.0000762	.15861	.0009446	.0002820
%RSD	.7612472	1.451994	1.400123	.4057353	.4978210	1.536457
#1	.2522605	.0033033	.0055173	39.21323	.1888470	.0186700
#2	.2484904	.0032336	.0054468	38.91171	.1896663	.0181237
#3	.2499023	.0032134	.0053650	39.14781	.1907309	.0182752

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2024164	100.7051	.6826926	10.11062	.0402390	.0010041
Stddev	.0012282	.4301	.0040755	.04525	.0001538	.0003337
%RSD	.6067513	.4271273	.5969782	.4475651	.3822575	33.23747
#1	.2037229	100.7426	.6857633	10.14941	.0403886	.0013245
#2	.2012855	100.2574	.6780689	10.06090	.0402471	.0010292
#3	.2022408	101.1152	.6842457	10.12154	.0400813	.0006585

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8451069	.1631063	.5753885	6.809613	.1022183	.0066961
Stddev	.0075459	.0008034	.0022708	.026835	.0008396	.0001734
%RSD	.8928936	.4925610	.3946545	.3940777	.8213934	2.588799
#1	.8436078	.1638856	.5757663	6.831440	.1031863	.0065180
#2	.8384231	.1631526	.5774467	6.779652	.1017814	.0067061
#3	.8532899	.1622808	.5729525	6.817747	.1016873	.0068643

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01 Acquired: 11/19/2024 13:55:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0050253	1.289517	F 15.82692	3.068809	2.472215	.0314655
Stddev	.0009023	.007108	.05291	.008878	.018261	.0014853
%RSD	17.95464	.5512411	.3342871	.2893111	.7386511	4.720524
#1	.0052919	1.295390	15.79868	3.078318	2.489175	.0323380
#2	.0057642	1.281615	15.79412	3.060736	2.452885	.0323080
#3	.0040197	1.291546	15.88795	3.067373	2.474584	.0297504

Elem	Sr4077
Units	ppm
Avg	.0875158
Stddev	.0010911
%RSD	1.246697
#1	.0887699
#2	.0867848
#3	.0869926

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2572.097	59585.88	14393.64	1757.128	4207.103
Stddev	19.781	158.55	72.75	7.539	35.796
%RSD	.7690733	.2660897	.5054654	.4290614	.8508570
#1	2549.294	59519.61	14328.15	1752.422	4165.794
#2	2582.350	59766.82	14471.96	1765.823	4226.495
#3	2584.646	59471.21	14380.81	1753.137	4229.019

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01DUP Acquired: 11/19/2024 13:59:40 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.1163819	-.005531	.2500538	-.016627	.0036294	35.79646
Stddev	.0026775	.002293	.0021446	.002751	.0004121	.35264
%RSD	2.300636	41.45761	.8576702	16.54722	11.35328	.9851334
#1	.1143319	-.005143	.2480101	-.017401	.0031557	35.58316
#2	.1194112	-.007993	.2522868	-.018908	.0039049	36.20350
#3	.1154025	-.003456	.2498646	-.013571	.0038276	35.60273

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2537241	.0033945	.0058418	38.53665	.1861800	.0184640
Stddev	.0025920	.0000220	.0001031	.39590	.0011689	.0003885
%RSD	1.021568	.6466122	1.765169	1.027346	.6278530	2.103953
#1	.2518488	.0034050	.0059558	38.12335	.1849100	.0180958
#2	.2566818	.0034093	.0057549	38.91249	.1872108	.0188700
#3	.2526418	.0033693	.0058149	38.57412	.1864193	.0184260

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2041169	98.36413	.6833531	10.14980	.0389689	.0009176
Stddev	.0005625	1.07678	.0068801	.14181	.0002922	.0002522
%RSD	.2755867	1.094689	1.006817	1.397195	.7499307	27.48203
#1	.2039135	97.12140	.6779824	9.99311	.0388243	.0006342
#2	.2047528	98.95104	.6911082	10.26935	.0387771	.0011171
#3	.2036843	99.01993	.6809685	10.18695	.0393052	.0010015

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7016712	.1629988	.4777658	6.573825	.0946382	.0064843
Stddev	.0068549	.0026426	.0020159	.032428	.0008908	.0003246
%RSD	.9769369	1.621228	.4219374	.4932867	.9412943	5.005218
#1	.6937839	.1623465	.4754402	6.540944	.0936348	.0068149
#2	.7061912	.1659064	.4790144	6.605780	.0953360	.0064718
#3	.7050385	.1607434	.4788429	6.574751	.0949437	.0061661

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01DUP Acquired: 11/19/2024 13:59:40 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0049403	1.305725	F 15.43582	3.127056	2.474043	.0309371
Stddev	.0007537	.016496	.15472	.024872	.012409	.0009319
%RSD	15.25535	1.263397	1.002335	.7953660	.5015795	3.012149
#1	.0041191	1.293544	15.25739	3.099876	2.462229	.0305776
#2	.0056003	1.324499	15.53266	3.132611	2.486972	.0319952
#3	.0051015	1.299133	15.51743	3.148679	2.472928	.0302385

Elem	Sr4077
Units	ppm
Avg	.0903147
Stddev	.0018629
%RSD	2.062657
#1	.0906317
#2	.0919987
#3	.0883136

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2580.701	61510.81	14362.49	1824.222	4195.490
Stddev	14.076	313.51	101.44	11.694	19.125
%RSD	.5454260	.5096865	.7063093	.6410622	.4558582
#1	2583.243	61868.62	14406.96	1836.887	4205.448
#2	2565.527	61284.27	14246.40	1813.833	4173.441
#3	2593.332	61379.54	14434.10	1821.946	4207.583

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01LX5 Acquired: 11/19/2024 14:03:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0200835	-.002341	.0539636	-.003060	.0007340	7.494414	.0534546
Stddev	.0027444	.000461	.0010937	.000905	.0003966	.019535	.0002037
%RSD	13.66496	19.69711	2.026751	29.58497	54.03129	.2606586	.3810456
#1	.0204654	-.002306	.0539289	-.003686	.0011637	7.516172	.0534008
#2	.0226169	-.002819	.0550743	-.003472	.0006565	7.488688	.0536798
#3	.0171681	-.001899	.0528877	-.002022	.0003819	7.478383	.0532832

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007248	.0008174	8.267059	.0394419	.0036638	.0456057	20.71635
Stddev	.0000221	.0000350	.018332	.0001556	.0000962	.0002193	.09926
%RSD	3.050922	4.276291	.2217519	.3945469	2.626878	.4808100	.4791394
#1	.0007098	.0008017	8.271518	.0392977	.0037101	.0453529	20.61018
#2	.0007503	.0007930	8.282751	.0394213	.0037282	.0457207	20.80683
#3	.0007145	.0008574	8.246909	.0396068	.0035532	.0457435	20.73204

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1474898	2.185559	.0082465	-.000081	.1122775	.0334671	.0998919
Stddev	.0008683	.009853	.0004427	.000151	.0089034	.0006055	.0007112
%RSD	.5886915	.4508158	5.368574	186.3030	7.929837	1.809148	.7119592
#1	.1473471	2.178821	.0077352	-.000125	.1034034	.0340550	.1004912
#2	.1484205	2.196867	.0085007	.000087	.1122191	.0328454	.0991060
#3	.1467016	2.180988	.0085034	-.000205	.1212100	.0335009	.1000784

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.331520	.0225206	.0012611	.0079376	.2730692	3.136422	.6261600
Stddev	.026145	.0003316	.0001803	.0005433	.0004650	.008196	.0055803
%RSD	1.963534	1.472581	14.30138	6.844922	.1702750	.2613084	.8911953
#1	1.301988	.0227348	.0012307	.0073863	.2734996	3.143406	.6242752
#2	1.351712	.0221386	.0014547	.0079540	.2731319	3.127399	.6324386
#3	1.340860	.0226884	.0010979	.0084725	.2725760	3.138460	.6217661

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01LX5 Acquired: 11/19/2024 14:03:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.4904698	.0054043	.0188725
Stddev	.0050692	.0007996	.0002019
%RSD	1.033533	14.79561	1.069829
#1	.4847336	.0050453	.0190383
#2	.4943473	.0063205	.0189314
#3	.4923284	.0048471	.0186477

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2697.455	62391.76	14074.33	1908.003	4564.324
Stddev	12.650	158.18	48.49	9.674	18.420
%RSD	.4689659	.2535325	.3445280	.5070059	.4035614
#1	2711.598	62369.61	14033.24	1901.596	4582.640
#2	2687.220	62245.81	14061.95	1903.282	4545.802
#3	2693.546	62559.84	14127.81	1919.130	4564.531

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01MS Acquired: 11/19/2024 14:08:07 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.9322719	1.919297	1.245361	1.989783	.8128472	38.48675
Stddev	.0046618	.018736	.007724	.010294	.0046230	.15355
%RSD	.5000496	.9761901	.6201837	.5173477	.5687367	.3989599
#1	.9322858	1.897855	1.238492	1.979396	.8079915	38.32545
#2	.9276030	1.927517	1.253722	1.999981	.8133544	38.63114
#3	.9369267	1.932517	1.243869	1.989971	.8171956	38.50365

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4674617	.2085106	.2130946	39.99852	.5993059	.2310309
Stddev	.0019557	.0008029	.0013915	.03022	.0021734	.0013747
%RSD	.4183716	.3850593	.6530080	.0755583	.3626460	.5950235
#1	.4652045	.2087680	.2116593	39.96486	.6018096	.2298033
#2	.4686507	.2091533	.2144378	40.00737	.5982016	.2325162
#3	.4685299	.2076106	.2131867	40.02333	.5979064	.2307731

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5132759	99.41322	.8979225	12.32907	.5660657	.0763429
Stddev	.0023062	.46510	.0037467	.02180	.0032592	.0001421
%RSD	.4493154	.4678483	.4172599	.1767798	.5757575	.1861297
#1	.5107848	99.32426	.8948818	12.33153	.5630928	.0761884
#2	.5153366	98.99903	.8967778	12.30615	.5695505	.0763722
#3	.5137063	99.91638	.9021081	12.34953	.5655539	.0764680

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.612528	.4823697	.6754365	16.42846	.3855520	.4443745
Stddev	.014772	.0027715	.0031082	.08522	.0012607	.0016184
%RSD	.4089045	.5745603	.4601784	.5187227	.3269988	.3641883
#1	3.599974	.4791774	.6754666	16.36764	.3866977	.4427806
#2	3.608804	.4837715	.6785295	16.39188	.3857569	.4443266
#3	3.628805	.4841604	.6723133	16.52586	.3842013	.4460163

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01MS Acquired: 11/19/2024 14:08:07 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7184375	1.544843	F 16.17976	9.280003	2.399331	.2311087
Stddev	.0042999	.004606	.04521	.036687	.016841	.0018710
%RSD	.5985092	.2981769	.2794384	.3953390	.7018908	.8095657
#1	.7147412	1.540350	16.14773	9.240184	2.380278	.2295359
#2	.7231566	1.549555	16.16007	9.287389	2.412227	.2306123
#3	.7174149	1.544625	16.23148	9.312435	2.405488	.2331778

Elem	Sr4077
Units	ppm
Avg	.3123372
Stddev	.0016936
%RSD	.5422224
#1	.3104107
#2	.3135914
#3	.3130094

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2544.254	61497.90	13895.73	1812.574	4132.294
Stddev	5.143	52.65	44.41	8.162	7.765
%RSD	.2021318	.0856174	.3195596	.4502760	.1879001
#1	2547.340	61443.47	13897.44	1811.281	4141.135
#2	2547.105	61501.67	13850.49	1805.136	4129.166
#3	2538.317	61548.57	13939.25	1821.305	4126.582

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01MSD Acquired: 11/19/2024 14:12:05 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.9404700	1.958522	1.246184	2.012102	.8186759	39.02676
Stddev	.0039185	.006839	.003405	.005565	.0012733	.33691
%RSD	.4166491	.3491752	.2732354	.2765747	.1555361	.8632754
#1	.9435460	1.960178	1.243188	2.008071	.8172069	38.64269
#2	.9418055	1.964381	1.249887	2.018451	.8193560	39.27242
#3	.9360583	1.951007	1.245476	2.009784	.8194648	39.16518

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4668925	.2059519	.2127572	39.81138	.6082724	.2301767
Stddev	.0038125	.0023751	.0003254	.44784	.0026234	.0000873
%RSD	.8165698	1.153254	.1529506	1.124910	.4312838	.0379471
#1	.4625268	.2032140	.2123860	39.29790	.6080442	.2300762
#2	.4685842	.2074592	.2129935	40.01506	.6110025	.2302198
#3	.4695663	.2071826	.2128919	40.12118	.6057706	.2302341

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5137210	102.0310	.8925198	12.29123	.5660121	.0775057
Stddev	.0012051	.5193	.0099503	.13362	.0007813	.0002581
%RSD	.2345754	.5090031	1.114855	1.087112	.1380340	.3329804
#1	.5134117	101.4432	.8814564	12.13750	.5652009	.0772888
#2	.5150506	102.4279	.8953664	12.35664	.5667596	.0777911
#3	.5127008	102.2219	.9007365	12.37954	.5660759	.0774371

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.706574	.4796241	.6848034	17.00070	.3839944	.4455360
Stddev	.016451	.0079113	.0055090	.07615	.0019097	.0012448
%RSD	.4438272	1.649474	.8044615	.4479182	.4973324	.2794036
#1	3.688903	.4705688	.6830596	16.99876	.3821855	.4442919
#2	3.709376	.4831080	.6909732	17.07780	.3838067	.4467816
#3	3.721445	.4851955	.6803773	16.92553	.3859911	.4455343

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01MSD Acquired: 11/19/2024 14:12:05 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7160320	1.575246	F 17.76632	9.320897	2.419853	.2274798
Stddev	.0008156	.010439	.06408	.047359	.011988	.0015532
%RSD	.1139068	.6626597	.3607082	.5080906	.4954061	.6827772
#1	.7151321	1.563206	17.72003	9.266858	2.410772	.2258992
#2	.7167225	1.581746	17.83947	9.355174	2.433441	.2275359
#3	.7162413	1.580787	17.73947	9.340661	2.415345	.2290041

Elem	Sr4077
Units	ppm
Avg	.3088021
Stddev	.0026419
%RSD	.8555397
#1	.3058115
#2	.3097760
#3	.3108188

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2511.406	59746.81	13947.45	1757.645	4090.018
Stddev	3.044	342.53	63.82	10.949	7.683
%RSD	.1211984	.5733024	.4575470	.6229139	.1878381
#1	2509.783	59572.90	14020.51	1752.279	4085.595
#2	2509.517	59526.13	13902.63	1750.415	4085.570
#3	2514.917	60141.41	13919.20	1770.241	4098.889

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01A Acquired: 11/19/2024 14:16:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.9182897	1.969347	1.216541	1.965431	.7984430	40.34166
Stddev	.0038491	.017313	.002138	.005252	.0039232	.56128
%RSD	.4191633	.8791276	.1757746	.2672090	.4913524	1.391321
#1	.9222505	1.986704	1.214075	1.969169	.8015337	40.79014
#2	.9145629	1.952078	1.217673	1.959427	.7997658	39.71222
#3	.9180557	1.969258	1.217877	1.967698	.7940294	40.52263

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4713595	.2022968	.2068624	39.58600	.6032005	.2244563
Stddev	.0073671	.0030129	.0003845	.54661	.0037899	.0004176
%RSD	1.562937	1.489337	.1858747	1.380804	.6283062	.1860635
#1	.4783438	.2044009	.2070878	39.98453	.6054205	.2243276
#2	.4636616	.1988454	.2070810	38.96288	.5988244	.2249231
#3	.4720731	.2036442	.2064184	39.81060	.6053565	.2241182

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4999546	102.6182	.8887695	12.20799	.5517237	.0774631
Stddev	.0011300	.4670	.0121902	.14339	.0005341	.0001853
%RSD	.2260252	.4550561	1.371576	1.174538	.0968147	.2392668
#1	.4996309	103.0213	.8990451	12.30438	.5520190	.0775988
#2	.5012111	102.1065	.8753005	12.04321	.5520449	.0772519
#3	.4990217	102.7267	.8919629	12.27639	.5511070	.0775384

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.747370	.4778079	.6908890	17.29899	.3790242	.4350355
Stddev	.029306	.0072508	.0006304	.11077	.0046338	.0005748
%RSD	.7820297	1.517503	.0912410	.6402985	1.222557	.1321243
#1	3.772040	.4856958	.6909796	17.37198	.3832708	.4350649
#2	3.714976	.4714331	.6902182	17.17154	.3740819	.4355951
#3	3.755095	.4762948	.6914691	17.35347	.3797199	.4344466

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4909-01A Acquired: 11/19/2024 14:16:03 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7017757	1.678609	F 20.48443	9.143172	2.400028	.2294746
Stddev	.0025395	.025854	.17963	.005642	.002829	.0046758
%RSD	.3618673	1.540208	.8768946	.0617023	.1178852	2.037612
#1	.6997320	1.697392	20.47064	9.149488	2.397065	.2345293
#2	.7046187	1.649122	20.31209	9.141392	2.400316	.2253040
#3	.7009763	1.689312	20.67055	9.138635	2.402702	.2285905

Elem	Sr4077
Units	ppm
Avg	.3076693
Stddev	.0056171
%RSD	1.825681
#1	.3127545
#2	.3016400
#3	.3086132

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2554.561	59495.83	14024.76	1759.521	4156.570
Stddev	10.854	315.94	187.53	10.984	13.531
%RSD	.4248976	.5310310	1.337149	.6242447	.3255220
#1	2542.395	59165.66	13855.09	1746.904	4141.087
#2	2558.037	59795.30	14226.12	1766.946	4162.502
#3	2563.252	59526.53	13993.08	1764.714	4166.122

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4890-01 Acquired: 11/19/2024 14:20:01 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0008171	-.006405	.1465708	.0067118	.0073403	.4283075
Stddev	.0021182	.001810	.0005410	.0002964	.0006155	.0005170
%RSD	259.2408	28.26187	.3691232	4.415272	8.385610	.1206974
#1	-.001519	-.008415	.1471951	.0068503	.0071078	.4277923
#2	.001359	-.005897	.1462795	.0069135	.0068749	.4283038
#3	.002612	-.004903	.1462380	.0063716	.0080382	.4288262

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1308132	.0000327	.0014033	12.49104	.0113321	.0056108
Stddev	.0003742	.0000607	.0000575	.02397	.0002430	.0001700
%RSD	.2860357	185.4537	4.098821	.1919319	2.144604	3.029043
#1	.1307640	-.000011	.0013502	12.46472	.0111194	.0058052
#2	.1304661	.000102	.0014643	12.49677	.0115970	.0054901
#3	.1312095	.000007	.0013952	12.51163	.0112798	.0055371

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0769225	3.877207	.1704303	3.745689	.0139700	.0001402
Stddev	.0004832	.004607	.0003546	.029970	.0002131	.0002893
%RSD	.6281522	.1188103	.2080519	.8001182	1.525304	206.2422
#1	.0773537	3.881831	.1707488	3.711137	.0137239	-.000110
#2	.0764003	3.872618	.1700482	3.764653	.0140946	.000457
#3	.0770134	3.877173	.1704938	3.761275	.0140914	.000073

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	141.3792	.0119672	1.009460	8.638324	.1215298	.0049171
Stddev	.0707	.0006845	.001184	.017799	.0005877	.0001607
%RSD	.0499929	5.719961	.1172775	.2060442	.4836232	3.267106
#1	141.3061	.0112946	1.008719	8.650102	.1217461	.0049735
#2	141.3842	.0126630	1.010825	8.647021	.1208646	.0050418
#3	141.4472	.0119440	1.008836	8.617849	.1219788	.0047358

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4890-01 Acquired: 11/19/2024 14:20:01 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0003424	.0337547	8.496689	.4373360	F 10.06129	.0062741
Stddev	.0004945	.0000639	.008927	.0038076	.03431	.0021325
%RSD	144.4450	.1894650	.1050682	.8706288	.3409648	33.98891
#1	.0002584	.0337951	8.490628	.4361228	10.04980	.0041408
#2	-.000105	.0337880	8.506941	.4342828	10.03421	.0062757
#3	.000873	.0336809	8.492499	.4416023	10.09987	.0084058

Elem	Sr4077
Units	ppm
Avg	.0363706
Stddev	.0000312
%RSD	.0856860
#1	.0363748
#2	.0363375
#3	.0363994

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2510.583	58364.64	13495.66	1775.947	4139.687
Stddev	7.705	259.14	58.07	17.354	8.406
%RSD	.3069036	.4440072	.4303028	.9771966	.2030542
#1	2514.753	58085.75	13430.68	1755.985	4144.007
#2	2501.691	58410.17	13542.48	1787.448	4130.000
#3	2515.304	58598.00	13513.82	1784.409	4145.054

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV03 Acquired: 11/19/2024 14:24:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	5.107336	5.157656	5.199587	5.078343	5.127489	10.36847	10.25274
Stddev	.013394	.088579	.014795	.028887	.018188	.01444	.01716
%RSD	.2622514	1.717421	.2845373	.5688329	.3547138	.1393110	.1673679
#1	5.092356	5.099990	5.206190	5.045106	5.106609	10.36999	10.23430
#2	5.111494	5.113330	5.182641	5.092532	5.135978	10.38210	10.26824
#3	5.118157	5.259647	5.209931	5.097393	5.139881	10.35333	10.25569

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2658851	2.590679	25.95153	1.044632	2.595744	1.296288	4.989768
Stddev	.0010629	.009172	.15835	.003244	.006127	.001585	.046095
%RSD	.3997694	.3540317	.6101710	.3105657	.2360458	.1222387	.9237891
#1	.2660552	2.597104	25.76907	1.046874	2.599609	1.295896	4.941513
#2	.2647474	2.580175	26.05300	1.040912	2.588679	1.294937	5.033346
#3	.2668527	2.594757	26.03254	1.046109	2.598943	1.298032	4.994446

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.586918	25.98775	2.599626	1.280871	24.45560	2.597679	2.587829
Stddev	.018711	.10067	.008439	.001389	.14000	.005512	.007036
%RSD	.7232796	.3873765	.3246263	.1084681	.5724461	.2122026	.2719015
#1	2.565655	25.87363	2.605134	1.281949	24.39762	2.591319	2.594473
#2	2.594230	26.02565	2.589911	1.281360	24.61527	2.601078	2.588557
#3	2.600868	26.06396	2.603835	1.279303	24.35391	2.600640	2.580457

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.59985	5.269188	5.224670	5.216884	5.126195	4.902569	5.392828
Stddev	.12696	.024575	.012273	.024444	.020223	.036021	.033528
%RSD	.5160928	.4663897	.2349013	.4685487	.3944976	.7347420	.6217132
#1	24.52109	5.260520	5.210500	5.223292	5.103784	4.865537	5.410298
#2	24.74631	5.250122	5.231566	5.189875	5.143081	4.937486	5.354173
#3	24.53215	5.296923	5.231943	5.237486	5.131719	4.904683	5.414013

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV03 Acquired: 11/19/2024 14:24:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.015381	5.109629	5.217816
Stddev	.028746	.026209	.052017
%RSD	.5731494	.5129407	.9969057
#1	5.006524	5.079379	5.180741
#2	4.992106	5.123952	5.195428
#3	5.047513	5.125557	5.277278

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2579.761	59687.94	13510.41	1816.538	4159.947
Stddev	4.540	320.92	54.23	24.552	6.151
%RSD	.1759877	.5376580	.4013577	1.351601	.1478584
#1	2581.755	59437.23	13447.94	1795.225	4154.535
#2	2574.565	59576.98	13537.94	1811.003	4166.636
#3	2582.963	60049.61	13545.34	1843.385	4158.670

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB03 Acquired: 11/19/2024 14:28:34 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.001408	.0002528	.0005745	.0016687	.0020997	.0028219	-.000823
Stddev	.001677	.0006759	.0013526	.0025235	.0005866	.0013507	.000361
%RSD	119.1253	267.3856	235.4521	151.2219	27.93812	47.86409	43.82849
#1	-.003287	.0008019	-.000987	-.000819	.0027649	.0027774	-.001238
#2	-.000062	.0004586	.001397	.001599	.0018776	.0041943	-.000635
#3	-.000874	-.000502	.001313	.004226	.0016565	.0014940	-.000595

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000068	.0000084	-.017095	.0004110	-.000133	.0001261	.0022400
Stddev	.000028	.0000860	.003933	.0002920	.000149	.0001988	.0049785
%RSD	40.68034	1024.780	23.00925	71.05924	112.2412	157.6960	222.2514
#1	-.000060	-.000062	-.020878	.0004137	.000027	.0002194	-.002009
#2	-.000046	.000104	-.013026	.0001176	-.000268	-.000102	.001012
#3	-.000099	-.000017	-.017381	.0007016	-.000157	.000261	.007718

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000852	.0033775	-.000293	-.000202	-.017491	-.000473	-.000566
Stddev	.0003103	.0031270	.000103	.000128	.008257	.000588	.000492
%RSD	364.0257	92.58286	35.02654	63.02688	47.20517	124.1249	86.93430
#1	.0002528	.0002901	-.000408	-.000100	-.026151	-.000220	-.000183
#2	-.000273	.0032998	-.000212	-.000345	-.016615	-.001145	-.001120
#3	.000276	.0065427	-.000259	-.000162	-.009707	-.000055	-.000393

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0323376	.0044242	.0001986	.0110362	.0002747	.0107112	-.002436
Stddev	.0199557	.0004612	.0000828	.0004002	.0002165	.0023112	.000793
%RSD	61.71059	10.42545	41.67918	3.626029	78.80007	21.57698	32.55734
#1	.0195912	.0048909	.0002928	.0106993	.0005108	.0114880	-.002918
#2	.0220862	.0044131	.0001650	.0114786	.0002279	.0081117	-.001520
#3	.0553355	.0039686	.0001378	.0109308	.0000855	.0125338	-.002869

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB03 Acquired: 11/19/2024 14:28:34 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002270	-.000001	.0001502
Stddev	.002846	.001111	.0000453
%RSD	125.3486	78223.40	30.18065
#1	-.003818	.000903	.0001776
#2	.001014	-.001242	.0001751
#3	-.004006	.000334	.0000979

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2647.315	61300.39	13629.32	1834.720	4638.330
Stddev	7.566	73.65	18.51	5.587	10.405
%RSD	.2857877	.1201384	.1358398	.3045177	.2243226
#1	2638.580	61221.44	13609.31	1830.182	4626.881
#2	2651.755	61367.23	13632.81	1840.960	4640.899
#3	2651.612	61312.51	13645.85	1833.019	4647.209

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4890-02 Acquired: 11/19/2024 14:37:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.005595	-.004871	.0016363	-.003291	.0017377	.0068915	.2601715
Stddev	.000710	.002754	.0010237	.002754	.0005005	.0054160	.0003679
%RSD	12.68552	56.54710	62.56570	83.68824	28.80393	78.58867	.1414207
#1	-.005538	-.001944	.0006443	-.004010	.0013619	.0008566	.2601339
#2	-.004915	-.005257	.0015755	-.000249	.0015455	.0113292	.2605569
#3	-.006332	-.007411	.0026891	-.005615	.0023059	.0084888	.2598239

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001436	.0006346	31.48681	.0036185	.0033795	.0180085	28.15312
Stddev	.0000634	.0000388	.06951	.0002712	.0002070	.0002591	.08356
%RSD	44.14416	6.118990	.2207675	7.495236	6.126392	1.438660	.2967954
#1	.0000725	.0006794	31.40679	.0033912	.0031451	.0177650	28.05858
#2	.0001941	.0006099	31.52141	.0039187	.0035376	.0179797	28.18372
#3	.0001643	.0006146	31.53223	.0035457	.0034557	.0182807	28.21706

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4752313	3.123379	.0206749	.0000893	81.57005	.0037233	.0738984
Stddev	.0011427	.016339	.0002472	.0001476	.16901	.0008756	.0006962
%RSD	.2404430	.5231111	1.195774	165.1761	.2072018	23.51677	.9421044
#1	.4739473	3.105938	.0206367	.0001082	81.76106	.0040724	.0746492
#2	.4761365	3.125869	.0209390	-.000067	81.50925	.0043705	.0737716
#3	.4756100	3.138330	.0204490	.000227	81.43986	.0027270	.0732743

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.12439	.0543462	.0012255	-.006694	.0003153	2.504634	.0209234
Stddev	.03848	.0003223	.0001985	.000727	.0003042	.009076	.0015758
%RSD	.3459186	.5930686	16.19915	10.85324	96.45841	.3623602	7.531315
#1	11.15764	.0541137	.0013157	-.005923	.0002992	2.504702	.0227430
#2	11.13330	.0542108	.0013629	-.007366	.0006273	2.513675	.0200000
#3	11.08224	.0547141	.0009979	-.006794	.0000196	2.495524	.0200273

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4890-02 Acquired: 11/19/2024 14:37:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	1.402254	.0091164	.0889799
Stddev	.006676	.0011873	.0003652
%RSD	.4761124	13.02391	.4103792
#1	1.408782	.0103197	.0894006
#2	1.395439	.0090838	.0887946
#3	1.402542	.0079458	.0887446

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2507.533	58933.52	14148.35	1749.963	4241.772
Stddev	4.722	115.77	27.21	10.136	2.518
%RSD	.1883285	.1964477	.1923134	.5792026	.0593625
#1	2502.178	58814.73	14127.87	1743.048	4239.068
#2	2509.323	58939.81	14137.95	1745.243	4242.197
#3	2511.099	59046.02	14179.22	1761.598	4244.050

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4890-03 Acquired: 11/19/2024 14:41:33 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000986	-.003993	.5609497	.0033972	.0063665	.1016061
Stddev	.002240	.002329	.0012410	.0008452	.0004573	.0020345
%RSD	227.1863	58.34385	.2212293	24.87934	7.183195	2.002375
#1	.001464	-.001602	.5598804	.0025114	.0066837	.1007267
#2	-.002929	-.004120	.5623105	.0041949	.0065735	.1039324
#3	-.001493	-.006256	.5606582	.0034854	.0058423	.1001593

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1388591	.0000499	.0081346	20.75936	.0067490	.0102720
Stddev	.0013250	.0000466	.0000280	.21204	.0003177	.0001261
%RSD	.9542091	93.49372	.3437504	1.021436	4.707570	1.227354
#1	.1373893	.0000261	.0081287	20.51711	.0068101	.0101650
#2	.1399620	.0001036	.0081650	20.84965	.0064052	.0104110
#3	.1392259	.0000200	.0081100	20.91131	.0070318	.0102401

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0764266	11.12690	.3163839	3.691635	.0234269	-.000142
Stddev	.0005743	.03566	.0040585	.051483	.0001519	.000159
%RSD	.7515000	.3204718	1.282769	1.394593	.6482381	111.6853
#1	.0769829	11.09187	.3116983	3.639112	.0235249	-.000309
#2	.0758357	11.12567	.3186526	3.693781	.0235037	-.000126
#3	.0764612	11.16315	.3188007	3.742011	.0232519	.000008

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	143.6334	.0066791	5.986835	9.529195	.1420123	.0047287
Stddev	2.2834	.0007529	.032721	.097555	.0008264	.0002557
%RSD	1.589749	11.27200	.5465548	1.023749	.5819338	5.408015
#1	146.2070	.0070797	6.024553	9.640380	.1416745	.0047380
#2	141.8502	.0058107	5.969888	9.489268	.1414083	.0049797
#3	142.8430	.0071470	5.966063	9.457937	.1429541	.0044685

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4890-03 Acquired: 11/19/2024 14:41:33 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002505	.0386999	3.163659	.3950983	F 11.27231	.0062001
Stddev	.001031	.0012481	.008153	.0022037	.01285	.0005775
%RSD	41.16793	3.225052	.2577172	.5577487	.1140026	9.313870
#1	-.002063	.0374353	3.161209	.3931023	11.28560	.0068645
#2	-.003683	.0399308	3.172757	.3974631	11.25994	.0059168
#3	-.001768	.0387335	3.157012	.3947295	11.27141	.0058190

Elem	Sr4077
Units	ppm
Avg	.0637701
Stddev	.0001449
%RSD	.2272436
#1	.0636046
#2	.0638740
#3	.0638318

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2521.040	57670.13	13342.95	1777.173	4145.365
Stddev	7.744	445.87	46.79	18.149	6.892
%RSD	.3071796	.7731316	.3506395	1.021247	.1662590
#1	2518.278	57156.96	13392.88	1756.307	4147.002
#2	2515.055	57962.62	13335.84	1785.910	4137.801
#3	2529.786	57890.81	13300.12	1789.301	4151.290

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4849-02 Acquired: 11/19/2024 14:56:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.006395	-.009309	.0228671	.0066164	.0003168	.1827698	.1722248
Stddev	.000152	.001082	.0012110	.0003814	.0007756	.0014863	.0006538
%RSD	2.375761	11.62199	5.295969	5.764948	244.7876	.8131943	.3796505
#1	-.006460	-.008801	.0229718	.0068582	.0006172	.1823395	.1717260
#2	-.006504	-.008575	.0216071	.0061767	.0008973	.1815462	.1719834
#3	-.006222	-.010551	.0240224	.0068144	-.000564	.1844238	.1729651

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000090	.0004429	29.40042	.0037474	-.000350	.0241137	.1439400
Stddev	.000017	.0000441	.13050	.0003097	.000186	.0002332	.0043853
%RSD	18.64756	9.944773	.4438563	8.263559	53.06914	.9668757	3.046639
#1	-.000109	.0004830	29.32513	.0038922	-.000136	.0243687	.1429792
#2	-.000079	.0003958	29.32504	.0039581	-.000438	.0240608	.1487260
#3	-.000081	.0004499	29.55111	.0033918	-.000475	.0239115	.1401147

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0837446	2.453110	.0029583	-.000301	335.1756	-.000787	.2978379
Stddev	.0007358	.015466	.0004189	.000162	2.4561	.000720	.0007270
%RSD	.8785939	.6304564	14.16006	53.80511	.7327756	91.48762	.2440979
#1	.0842157	2.461989	.0032513	-.000483	336.0557	-.001186	.2976591
#2	.0828968	2.435252	.0024785	-.000172	332.4007	.000044	.2972170
#3	.0841214	2.462090	.0031451	-.000249	337.0704	-.001219	.2986377

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9864036	.0275046	.0003767	-.004378	.0033165	1.746255	.0486048
Stddev	.0150980	.0002544	.0002760	.000730	.0002419	.017219	.0028562
%RSD	1.530607	.9249623	73.26644	16.67275	7.292621	.9860523	5.876318
#1	.9951582	.0274446	.0002366	-.003938	.0030758	1.741162	.0505149
#2	.9689700	.0272857	.0006947	-.003975	.0035595	1.732158	.0499782
#3	.9950826	.0277837	.0001989	-.005220	.0033141	1.765447	.0453214

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4849-02 Acquired: 11/19/2024 14:56:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	1.966386	.0073967	.1367785
Stddev	.004528	.0011195	.0007686
%RSD	.2302660	15.13472	.5618952
#1	1.963384	.0076097	.1361161
#2	1.971594	.0083944	.1365983
#3	1.964179	.0061861	.1376211

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2354.156	54738.47	13591.41	1636.543	3846.665
Stddev	11.486	259.75	52.55	13.488	16.405
%RSD	.4878891	.4745376	.3866577	.8241714	.4264697
#1	2342.246	54499.50	13565.02	1636.177	3827.796
#2	2355.057	55014.94	13651.93	1650.209	3854.648
#3	2365.164	54700.98	13557.28	1623.241	3857.549

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165019TB Acquired: 11/19/2024 15:00:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.005172	-.009628	.0005123	.0050124	.0014552	.0100723
Stddev	.002590	.000477	.0009411	.0017095	.0003198	.0013139
%RSD	50.08388	4.955929	183.6897	34.10484	21.97861	13.04415
#1	-.005152	-.009748	.0001484	.0031337	.0018052	.0099207
#2	-.002592	-.010033	-.000192	.0054274	.0013825	.0088409
#3	-.007772	-.009102	.001581	.0064763	.0011780	.0114554

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001541	-.000187	-.000154	.0352680	.0076812	-.000416
Stddev	.000381	.000062	.000060	.0125074	.0001727	.000071
%RSD	24.68827	33.10546	38.89061	35.46376	2.247774	17.05863
#1	-.001898	-.000127	-.000093	.0209229	.0074892	-.000491
#2	-.001141	-.000182	-.000212	.0438892	.0078238	-.000408
#3	-.001586	-.000251	-.000158	.0409918	.0077305	-.000350

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005451	F .1264096	.0029325	-.006608	.0058787	-.000393
Stddev	.0003441	.0030078	.0001892	.012263	.0004742	.000069
%RSD	63.13120	2.379381	6.450700	185.5797	8.066973	17.54003
#1	.0008870	.1281355	.0030242	-.000236	.0054712	-.000336
#2	.0001989	.1229366	.0027150	.001158	.0057658	-.000374
#3	.0005493	.1281568	.0030584	-.020745	.0063992	-.000470

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 361.8891	-.001396	.0037980	-.021588	-.003431	.0005090
Stddev	4.5911	.001816	.0002967	.007245	.000418	.0001475
%RSD	1.268649	130.1258	7.813499	33.56173	12.18537	28.97780
#1	359.2040	-.002788	.0040093	-.029936	-.003905	.0003566
#2	359.2730	-.002058	.0034587	-.017890	-.003277	.0006510
#3	367.1903	.000659	.0039259	-.016939	-.003113	.0005195

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165019TB Acquired: 11/19/2024 15:00:37 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002746	.0001650	.0150195	.0050324	.0134693	.0001827
Stddev	.000675	.0002091	.0056036	.0034318	.0038451	.0007840
%RSD	24.57176	126.6826	37.30925	68.19477	28.54678	429.0324
#1	-.002278	.0002980	.0131160	.0087303	.0091729	.0010024
#2	-.003520	-.000076	.0106155	.0019500	.0165871	.0001056
#3	-.002441	.000273	.0213269	.0044169	.0146480	-.000560

Elem	Sr4077
Units	ppm
Avg	-.000206
Stddev	.000022
%RSD	10.80217
#1	-.000183
#2	-.000227
#3	-.000207

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2386.797	55439.51	13493.45	1683.570	3888.438
Stddev	6.640	104.28	18.08	7.489	3.134
%RSD	.2782176	.1880991	.1339712	.4448081	.0805930
#1	2391.284	55432.67	13472.78	1677.449	3891.757
#2	2379.168	55547.05	13506.30	1691.920	3885.530
#3	2389.937	55338.82	13501.27	1681.341	3888.027

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-13 Acquired: 11/19/2024 15:05:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.003679	-.011651	.0002403	.0005452	.0006850	.1560826	.3441908
Stddev	.001231	.001394	.0011179	.0027139	.0009157	.0041735	.0007696
%RSD	33.45087	11.96640	465.1651	497.8170	133.6955	2.673878	.2236005
#1	-.003116	-.010104	.0009348	-.002586	.0008048	.1579906	.3450765
#2	-.002831	-.012809	.0008354	.002000	.0015349	.1589611	.3438112
#3	-.005090	-.012041	-.001049	.002222	-.000285	.1512962	.3436848

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000716	.0005072	23.58060	.0042413	.0273289	.0043307	15.79852
Stddev	.000028	.0000585	.03116	.0000586	.0001227	.0002057	.08087
%RSD	3.956833	11.53161	.1321336	1.381499	.4491168	4.751020	.5118964
#1	-.000739	.0004444	23.58713	.0041848	.0274692	.0040932	15.83374
#2	-.000684	.0005171	23.60797	.0043018	.0272414	.0044556	15.70601
#3	-.000725	.0005601	23.54669	.0042374	.0272760	.0044432	15.85581

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.00398	.8947407	.0069416	-.000322	300.1731	-.000007	.0460961
Stddev	.02736	.0067755	.0002307	.000127	1.4970	.000657	.0003805
%RSD	.2279601	.7572596	3.323113	39.40239	.4986966	9539.802	.8255310
#1	12.03462	.8998993	.0066912	-.000378	301.7468	.000595	.0459047
#2	11.98197	.8972554	.0071454	-.000411	298.7670	.000091	.0465344
#3	11.99535	.8870674	.0069883	-.000177	300.0054	-.000708	.0458493

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.264120	.0435594	-.000464	-.004773	.0038587	.9765055	.0136521
Stddev	.015158	.0006023	.000338	.000456	.0002440	.0031814	.0014181
%RSD	1.199093	1.382697	72.89906	9.548493	6.322568	.3257934	10.38740
#1	1.274647	.0431568	-.000295	-.004900	.0036010	.9733340	.0152467
#2	1.246747	.0432695	-.000243	-.005152	.0038889	.9764858	.0131773
#3	1.270967	.0442518	-.000853	-.004268	.0040861	.9796967	.0125323

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-13 Acquired: 11/19/2024 15:05:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.2525116	.0038381	.1327591
Stddev	.0035986	.0008580	.0000770
%RSD	1.425122	22.35372	.0579734
#1	.2484181	.0032157	.1328443
#2	.2551767	.0048169	.1327384
#3	.2539400	.0034819	.1326947

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2402.886	55774.69	13583.22	1699.790	3916.203
Stddev	4.531	207.05	67.32	8.155	6.169
%RSD	.1885800	.3712170	.4955866	.4797871	.1575361
#1	2398.537	55680.97	13541.68	1691.220	3911.179
#2	2402.541	56012.02	13547.10	1707.456	3914.340
#3	2407.580	55631.07	13660.89	1700.695	3923.089

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-14 Acquired: 11/19/2024 15:09:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.003931	-.011721	.0013992	.0048922	.0008078	.0274462	.1919703
Stddev	.001972	.001689	.0010991	.0006808	.0011577	.0025164	.0006459
%RSD	50.17065	14.40720	78.55430	13.91541	143.3198	9.168446	.3364315
#1	-.005763	-.013402	.0001310	.0056461	.0015683	.0245417	.1920716
#2	-.004188	-.010024	.0019892	.0047082	-.000525	.0289698	.1925595
#3	-.001843	-.011739	.0020772	.0043224	.001380	.0288271	.1912798

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002160	.0002643	6.565503	.0010074	-.000347	.0107552	.0271734
Stddev	.0000454	.0000693	.029260	.0001434	.000203	.0003633	.0014954
%RSD	21.02195	26.20322	.4456591	14.23936	58.58339	3.377613	5.502977
#1	.0001802	.0002247	6.533586	.0008852	-.000118	.0111054	.0255219
#2	.0002670	.0002239	6.591058	.0011653	-.000507	.0103801	.0284356
#3	.0002007	.0003442	6.571866	.0009716	-.000417	.0107799	.0275629

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1453975	2.171624	.0035427	-.000322	304.7728	-.000418	.0392831
Stddev	.0002575	.015738	.0003486	.000382	1.7185	.000680	.0005661
%RSD	.1770725	.7247110	9.839296	118.6325	.5638547	162.6494	1.440978
#1	.1453199	2.153879	.0039440	-.000752	303.5997	-.001188	.0387935
#2	.1456848	2.183893	.0033143	-.000022	303.9734	-.000168	.0399030
#3	.1451878	2.177100	.0033699	-.000192	306.7454	.000102	.0391529

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.281809	.0094597	.0004262	-.003491	.0001499	.5931004	.0229763
Stddev	.010766	.0003042	.0002025	.001185	.0001622	.0062562	.0016549
%RSD	.8399102	3.215429	47.51948	33.95568	108.1567	1.054839	7.202503
#1	1.290247	.0092203	.0005232	-.004385	.0000343	.5858891	.0211205
#2	1.285496	.0098020	.0005620	-.003941	.0000802	.5970784	.0235097
#3	1.269684	.0093568	.0001934	-.002146	.0003353	.5963336	.0242987

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-14 Acquired: 11/19/2024 15:09:32 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.3381669	.0021308	.0333555
Stddev	.0039642	.0019186	.0001177
%RSD	1.172258	90.04448	.3527001
#1	.3416072	.0003593	.0333471
#2	.3338318	.0041687	.0334772
#3	.3390616	.0018642	.0332423

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2411.015	56554.71	13566.65	1710.801	3948.081
Stddev	2.266	119.48	22.36	3.825	7.014
%RSD	.0939899	.2112610	.1648194	.2235855	.1776661
#1	2411.604	56687.54	13570.65	1714.637	3950.380
#2	2412.930	56520.56	13542.56	1710.779	3953.658
#3	2408.513	56456.01	13586.75	1706.987	3940.206

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-15 Acquired: 11/19/2024 15:13:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.005791	-.010046	.0033293	.0064806	.0010808	.0322834	.1541402
Stddev	.000154	.001277	.0004644	.0029942	.0012675	.0024001	.0004057
%RSD	2.661647	12.71424	13.95048	46.20213	117.2770	7.434595	.2631781
#1	-.005786	-.008675	.0035940	.0063902	-.000294	.0343054	.1544970
#2	-.005639	-.011203	.0027930	.0035326	.001334	.0329139	.1542245
#3	-.005947	-.010260	.0036008	.0095189	.002202	.0296310	.1536990

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000054	.0001225	10.55635	.0131743	-.000365	.0140032	.0706541
Stddev	.0000531	.0000271	.02089	.0001110	.000154	.0003644	.0025744
%RSD	989.5227	22.07615	.1978856	.8421830	42.22299	2.602318	3.643610
#1	.0000029	.0001059	10.56016	.0133001	-.000518	.0136431	.0677301
#2	.0000597	.0001537	10.57508	.0130901	-.000209	.0139947	.0716522
#3	-.000046	.0001079	10.53382	.0131329	-.000369	.0143718	.0725799

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0708531	.8061385	.0117486	-.000377	273.9473	.0001546	.0328635
Stddev	.0001164	.0087854	.0000940	.000383	2.1550	.0005089	.0002852
%RSD	.1642083	1.089812	.7998563	101.5892	.7866362	329.1335	.8679318
#1	.0707477	.8158484	.0117960	.000029	273.7506	-.000428	.0328007
#2	.0708336	.7987395	.0118094	-.000427	276.1939	.000511	.0326150
#3	.0709779	.8038275	.0116403	-.000732	271.8975	.000381	.0331750

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.532636	.0086596	.0008329	-.002434	.0003785	.7685383	.0202851
Stddev	.010666	.0004776	.0001450	.000405	.0003058	.0031645	.0004408
%RSD	.6958966	5.514852	17.41299	16.65933	80.80168	.4117548	2.173228
#1	1.528919	.0090295	.0009416	-.002848	.0005075	.7657695	.0205557
#2	1.544662	.0088290	.0008890	-.002416	.0000293	.7678577	.0197765
#3	1.524326	.0081205	.0006682	-.002038	.0005987	.7719877	.0205233

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-15 Acquired: 11/19/2024 15:13:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.2094544	.0033991	.0569221
Stddev	.0010743	.0001468	.0001244
%RSD	.5128961	4.318030	.2184863
#1	.2097712	.0032681	.0569632
#2	.2082573	.0033714	.0570208
#3	.2103346	.0035577	.0567824

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2344.458	55551.48	13619.09	1663.110	3862.555
Stddev	.488	43.32	58.41	1.382	4.925
%RSD	.0208046	.0779767	.4288856	.0830985	.1274946
#1	2344.519	55530.01	13569.49	1663.157	3856.887
#2	2343.942	55523.09	13604.30	1664.467	3865.003
#3	2344.912	55601.34	13683.47	1661.705	3865.776

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-16 Acquired: 11/19/2024 15:18:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.004973	-.013352	.0048955	.0053060	.0020915	.0419995	.3106613
Stddev	.002426	.002187	.0012438	.0009887	.0007538	.0062908	.0011542
%RSD	48.78087	16.37817	25.40705	18.63354	36.04102	14.97826	.3715370
#1	-.007423	-.011027	.0037863	.0041947	.0021821	.0351627	.3111104
#2	-.004923	-.015368	.0062402	.0056352	.0027959	.0432923	.3093501
#3	-.002572	-.013659	.0046600	.0060882	.0012965	.0475434	.3115236

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000040	.0001026	14.55752	.0014559	-.000609	.0141672	.0301303
Stddev	.000015	.0000767	.06888	.0003436	.000172	.0001250	.0015851
%RSD	37.17582	74.76240	.4731459	23.59943	28.27087	.8820249	5.260860
#1	-.000053	.0000157	14.52250	.0010615	-.000444	.0142612	.0315515
#2	-.000024	.0001608	14.51318	.0016907	-.000788	.0140254	.0284208
#3	-.000042	.0001312	14.63687	.0016155	-.000596	.0142150	.0304185

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0460242	1.442737	.0020541	-.000450	331.8719	-.001216	.0731392
Stddev	.0006098	.016920	.0003258	.000065	1.9727	.001680	.0008193
%RSD	1.324990	1.172759	15.86125	14.44458	.5944293	138.1583	1.120228
#1	.0456286	1.442198	.0016781	-.000521	332.6779	-.001068	.0737772
#2	.0457174	1.426092	.0022322	-.000434	333.3140	-.002965	.0734253
#3	.0467264	1.459919	.0022522	-.000394	329.6238	.000385	.0722152

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.137510	.0305023	.0004910	-.003937	.0003165	1.213837	.0288331
Stddev	.016768	.0008801	.0002581	.000103	.0004395	.005910	.0028511
%RSD	1.474085	2.885209	52.56004	2.607255	138.8766	.4868770	9.888116
#1	1.131799	.0297194	.0007174	-.004030	.0003100	1.211645	.0321172
#2	1.124343	.0303326	.0005457	-.003827	.0007591	1.220530	.0269922
#3	1.156387	.0314548	.0002100	-.003955	-.000120	1.209336	.0273900

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-16 Acquired: 11/19/2024 15:18:27 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.2813139	.0042602	.0971117
Stddev	.0051045	.0011301	.0003248
%RSD	1.814502	26.52730	.3344191
#1	.2872079	.0031252	.0970624
#2	.2783820	.0053854	.0968143
#3	.2783516	.0042702	.0974582

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2351.973	54065.07	13514.20	1623.978	3867.704
Stddev	8.344	243.81	51.01	21.532	17.438
%RSD	.3547586	.4509649	.3774183	1.325856	.4508608
#1	2342.628	53887.99	13477.67	1608.942	3847.684
#2	2358.677	53964.07	13572.47	1614.348	3879.580
#3	2354.615	54343.16	13492.46	1648.643	3875.849

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4887-02 Acquired: 11/19/2024 15:22:54 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.003674	-.009990	.0012272	.0026486	.0009465	.0402699	.4315992
Stddev	.000426	.001331	.0010628	.0007490	.0001486	.0037906	.0040440
%RSD	11.60256	13.31903	86.60358	28.27977	15.69541	9.413011	.9369858
#1	-.003304	-.011292	.0022502	.0025346	.0010081	.0441150	.4282101
#2	-.003579	-.010045	.0001287	.0019631	.0007770	.0365363	.4305118
#3	-.004141	-.008632	.0013026	.0034481	.0010543	.0401584	.4360758

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000097	.0001410	10.61977	.0039864	.0042657	.0128976	1.205797
Stddev	.0000413	.0000303	.03450	.0004062	.0001838	.0001693	.007387
%RSD	428.0055	21.51633	.3248513	10.19089	4.308776	1.312993	.6126621
#1	.0000087	.0001249	10.58281	.0040099	.0041746	.0130918	1.206547
#2	-.000031	.0001760	10.62539	.0035690	.0041452	.0128199	1.198064
#3	.000051	.0001221	10.65112	.0043805	.0044772	.0127810	1.212781

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.342820	1.480932	.0071748	-.000265	332.6980	-.000613	.0476706
Stddev	.021190	.002956	.0003555	.000023	3.8296	.000573	.0002453
%RSD	.6338812	.1995708	4.955444	8.842774	1.151069	93.49770	.5146077
#1	3.325654	1.480624	.0072700	-.000291	329.4877	-.000095	.0477988
#2	3.336304	1.478143	.0067814	-.000247	331.6695	-.001229	.0473878
#3	3.366503	1.484030	.0074731	-.000255	336.9368	-.000516	.0478253

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6011842	.0172752	.0001243	-.003027	-.000084	.5823234	.0113333
Stddev	.0118545	.0006469	.0001321	.001011	.000044	.0043999	.0031847
%RSD	1.971849	3.744552	106.2904	33.39877	52.10063	.7555754	28.10049
#1	.5912880	.0165663	.0001005	-.004020	-.000039	.5773965	.0080570
#2	.5979423	.0174256	.0002668	-.003063	-.000088	.5837132	.0144177
#3	.6143224	.0178336	.0000057	-.001999	-.000126	.5858606	.0115253

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4887-02 Acquired: 11/19/2024 15:22:54 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.2567595	.0032049	.0431925
Stddev	.0019169	.0010951	.0003211
%RSD	.7465736	34.16995	.7433945
#1	.2588919	.0041912	.0428684
#2	.2562074	.0033971	.0431985
#3	.2551792	.0020264	.0435105

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2398.849	55637.90	13630.36	1685.642	3899.694
Stddev	11.019	23.85	41.57	2.380	11.587
%RSD	.4593550	.0428683	.3049953	.1411777	.2971152
#1	2386.788	55642.17	13677.44	1687.423	3887.357
#2	2401.366	55612.21	13614.96	1682.939	3901.377
#3	2408.391	55659.34	13598.69	1686.565	3910.346

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4887-06 Acquired: 11/19/2024 15:27:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.003344	-.011255	.0004805	.0040416	.0016654	-.041274	.4611460
Stddev	.003404	.002124	.0009721	.0008582	.0016335	.009670	.0017974
%RSD	101.7977	18.86869	202.3261	21.23396	98.08267	23.42909	.3897721
#1	.000419	-.009410	.0013890	.0039134	.0031676	-.038428	.4627649
#2	-.006210	-.013576	.0005972	.0049566	-.000073	-.052048	.4592118
#3	-.004240	-.010779	-.000545	.0032547	.001902	-.033346	.4614614

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000309	.0003512	150.6223	.0029867	.0038945	.0035038	.0185171
Stddev	.000016	.0000733	.5350	.0002472	.0002291	.0000680	.0012495
%RSD	5.220553	20.87859	.3552231	8.276273	5.882092	1.939487	6.747797
#1	-.000291	.0003476	150.1029	.0027898	.0037198	.0035647	.0181042
#2	-.000319	.0004262	151.1717	.0032641	.0041538	.0035161	.0175263
#3	-.000318	.0002797	150.5924	.0029063	.0038099	.0034305	.0199208

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.130243	1.586542	.0059288	-.000711	342.5239	-.001181	.0309570
Stddev	.000703	.003698	.0001339	.000127	1.3294	.001314	.0003299
%RSD	.0330200	.2330799	2.257646	17.85807	.3881255	111.2945	1.065632
#1	2.130470	1.585861	.0060295	-.000837	342.8658	-.001046	.0310568
#2	2.130805	1.590533	.0059799	-.000583	341.0569	-.002556	.0305888
#3	2.129454	1.583232	.0057769	-.000713	343.6489	.000061	.0312255

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.925347	.0077680	.0012981	-.006723	-.002862	1.275148	.0053343
Stddev	.020657	.0006713	.0002246	.001297	.000226	.003122	.0014773
%RSD	1.072912	8.642022	17.29987	19.29600	7.898085	.2448486	27.69393
#1	1.937045	.0076372	.0010528	-.007359	-.002610	1.275019	.0047984
#2	1.901495	.0071716	.0014935	-.007580	-.002930	1.278333	.0041998
#3	1.937501	.0084950	.0013481	-.005230	-.003046	1.272093	.0070048

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4887-06 Acquired: 11/19/2024 15:27:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.8597066	.0302866	.3723151
Stddev	.0030597	.0013701	.0012913
%RSD	.3558960	4.523880	.3468406
#1	.8564941	.0287436	.3737063
#2	.8600393	.0307554	.3711548
#3	.8625863	.0313609	.3720842

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2335.177	54345.58	13447.79	1647.544	3758.080
Stddev	3.421	112.38	45.19	9.648	4.696
%RSD	.1464948	.2067863	.3360629	.5855776	.1249705
#1	2336.099	54264.54	13400.21	1638.752	3755.444
#2	2338.043	54473.87	13453.02	1657.865	3763.502
#3	2331.390	54298.32	13490.14	1646.015	3755.293

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV04 Acquired: 11/19/2024 15:31:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.264753	5.405114	5.228761	5.281621	5.287223	10.44286	10.48136
Stddev	.014693	.033661	.012951	.017673	.015578	.01926	.04115
%RSD	.2790910	.6227576	.2476796	.3346040	.2946335	.1844342	.3926416
#1	5.249941	5.368226	5.217466	5.274629	5.276540	10.44753	10.49823
#2	5.264992	5.434163	5.225921	5.268513	5.280032	10.42169	10.51139
#3	5.279325	5.412954	5.242896	5.301719	5.305098	10.45934	10.43445

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2605319	2.609764	25.80235	1.051745	2.614409	1.330544	5.076687
Stddev	.0000625	.003597	.04318	.001501	.004164	.003691	.013928
%RSD	.0239861	.1378268	.1673417	.1427324	.1592711	.2774200	.2743589
#1	.2604600	2.608059	25.81231	1.051326	2.611550	1.328109	5.071698
#2	.2605619	2.607337	25.83968	1.050497	2.612490	1.328733	5.092422
#3	.2605737	2.613897	25.75506	1.053411	2.619186	1.334791	5.065940

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.571973	25.78576	2.619384	1.290297	25.55838	2.609841	2.620138
Stddev	.010437	.04420	.004291	.003758	.22867	.001354	.011439
%RSD	.4057910	.1714116	.1638226	.2912384	.8946797	.0518768	.4365897
#1	2.580254	25.73473	2.616008	1.289133	25.82238	2.609740	2.606943
#2	2.575414	25.81134	2.617931	1.287260	25.43033	2.611242	2.627246
#3	2.560250	25.81123	2.624213	1.294500	25.42244	2.608540	2.626227

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.53000	5.196138	5.366042	5.255070	5.158445	5.027902	5.367501
Stddev	.05547	.010224	.012592	.009547	.008145	.033408	.016753
%RSD	.2172679	.1967710	.2346671	.1816646	.1579059	.6644472	.3121171
#1	25.59164	5.187947	5.362620	5.244697	5.167802	4.991584	5.348970
#2	25.48411	5.192870	5.355515	5.257026	5.154601	5.034800	5.381574
#3	25.51423	5.207597	5.379992	5.263487	5.152934	5.057322	5.371959

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV04 Acquired: 11/19/2024 15:31:49 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.089016	5.154440	5.280061
Stddev	.015788	.044202	.007764
%RSD	.3102351	.8575588	.1470378
#1	5.071018	5.205115	5.288121
#2	5.100529	5.134377	5.272632
#3	5.095501	5.123827	5.279429

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2488.251	58998.24	13698.96	1759.859	4060.095
Stddev	5.897	96.74	31.36	.078	8.744
%RSD	.2370111	.1639790	.2289558	.0044369	.2153534
#1	2490.451	58900.37	13666.90	1759.833	4067.509
#2	2492.731	59093.82	13700.41	1759.947	4062.324
#3	2481.569	59000.52	13729.58	1759.798	4050.453

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB04 Acquired: 11/19/2024 15:36:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000195	-.000126	.0004155	.0021061	.0014757	.0017618	-.001348
Stddev	.002941	.001176	.0001678	.0016954	.0009029	.0020080	.000515
%RSD	1506.865	934.6063	40.37656	80.50131	61.18445	113.9692	38.19510
#1	-.000783	.001094	.0002461	.0016901	.0006047	-.000503	-.001943
#2	-.002797	-.000219	.0005816	.0039708	.0024074	.002463	-.001068
#3	.002995	-.001253	.0004187	.0006574	.0014149	.003325	-.001035

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000073	-.000010	-.015680	.0000682	-.000024	.0001989	-.001727
Stddev	.000070	.000090	.011311	.0005264	.000068	.0000415	.004096
%RSD	96.56085	913.2443	72.13155	771.7754	285.1280	20.85090	237.1743
#1	.000001	-.000077	-.018813	-.000248	.000020	.0002377	-.002596
#2	-.000139	-.000045	-.025094	.000676	.000011	.0001552	-.005319
#3	-.000080	.000092	-.003134	-.000223	-.000103	.0002038	.002734

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002460	.0029205	-.000251	-.000093	.1556940	-.000527	-.000889
Stddev	.0002187	.0062318	.000167	.000238	.0238825	.000698	.000147
%RSD	88.89598	213.3815	66.43403	255.3407	15.33935	132.5887	16.58231
#1	.0000716	-.002026	-.000386	-.000220	.1326716	.000206	-.000804
#2	.0001751	.000868	-.000065	-.000241	.1540582	-.000601	-.000803
#3	.0004913	.009920	-.000301	.000181	.1803523	-.001185	-.001059

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1313635	.0035674	.0001478	.0101046	-.000009	.0153675	-.001307
Stddev	.0192462	.0008685	.0000812	.0003009	.000220	.0041827	.001519
%RSD	14.65109	24.34674	54.95061	2.977408	2474.438	27.21771	116.1787
#1	.1094886	.0045246	.0001783	.0102731	-.000184	.0105377	-.002535
#2	.1456966	.0033478	.0002094	.0097573	-.000081	.0177794	-.001778
#3	.1389053	.0028297	.0000558	.0102835	.000239	.0177852	.000391

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB04 Acquired: 11/19/2024 15:36:00 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.005876	.0000478	.0001501
Stddev	.002281	.0005433	.0001983
%RSD	38.81291	1136.345	132.1201
#1	-.007766	.0002016	.0000521
#2	-.003343	-.000556	.0000198
#3	-.006520	.000498	.0003783

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2623.735	60625.95	13856.41	1810.126	4633.239
Stddev	10.514	175.20	35.61	3.766	10.087
%RSD	.4007277	.2889799	.2570094	.2080365	.2177037
#1	2616.861	60460.10	13816.32	1808.055	4625.386
#2	2618.506	60608.57	13868.50	1807.850	4629.716
#3	2635.838	60809.20	13884.40	1814.472	4644.614

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164986TB Acquired: 11/19/2024 15:40:21 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.005749	-.009829	.0003916	.0048619	.0007455	.0040526
Stddev	.001632	.000371	.0009135	.0013850	.0001877	.0027180
%RSD	28.38221	3.773370	233.2732	28.48722	25.17451	67.06721
#1	-.006930	-.009972	.0014311	.0032636	.0006038	.0011423
#2	-.006430	-.010107	.0000272	.0057094	.0006743	.0044905
#3	-.003887	-.009408	-.000283	.0056126	.0009583	.0065250

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002077	-.000204	-.000308	-.022215	F .0135456	-.000326
Stddev	.000828	.000044	.000086	.009342	.0001809	.000100
%RSD	39.88827	21.57252	27.79643	42.05335	1.335532	30.67328
#1	-.002924	-.000168	-.000405	-.018938	.0137193	-.000316
#2	-.002038	-.000191	-.000242	-.032755	.0133583	-.000231
#3	-.001269	-.000253	-.000277	-.014953	.0135593	-.000430

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006742	.0552157	.0014308	-.004319	.0033762	-.000532
Stddev	.0005590	.0039940	.0001178	.006573	.0001174	.000091
%RSD	82.90844	7.233481	8.229223	152.1987	3.475827	17.02865
#1	.0008089	.0531521	.0012975	-.005106	.0032870	-.000615
#2	.0011536	.0598194	.0014745	.002612	.0033324	-.000435
#3	.0000602	.0526756	.0015205	-.010462	.0035091	-.000545

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 332.6627	-.000571	.0006055	.0413471	-.000754	.0008416
Stddev	2.3370	.000061	.0001563	.0082266	.000415	.0001661
%RSD	.7025275	10.64061	25.80933	19.89641	54.99250	19.73853
#1	334.9158	-.000505	.0007748	.0496301	-.000542	.0007511
#2	332.8223	-.000583	.0004667	.0331781	-.000489	.0007403
#3	330.2499	-.000625	.0005751	.0412333	-.001232	.0010333

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB164986TB Acquired: 11/19/2024 15:40:21 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002094	.0003043	.0135092	.0051610	.0091046	.0003690
Stddev	.000213	.0001555	.0046176	.0012744	.0051219	.0018971
%RSD	10.18157	51.10742	34.18091	24.69309	56.25667	514.0856
#1	-.001850	.0002696	.0097190	.0063726	.0113826	-.000998
#2	-.002188	.0004742	.0121567	.0038319	.0126923	-.000430
#3	-.002244	.0001690	.0186521	.0052784	.0032388	.002535

Elem	Sr4077
Units	ppm
Avg	-.000129
Stddev	.000016
%RSD	12.19810
#1	-.000125
#2	-.000146
#3	-.000116

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2386.161	55114.46	13649.52	1673.867	3916.747
Stddev	5.228	180.79	23.99	6.709	4.188
%RSD	.2191054	.3280197	.1757564	.4008015	.1069241
#1	2391.211	55081.34	13622.45	1675.249	3919.594
#2	2386.502	54952.53	13668.15	1666.575	3918.709
#3	2380.771	55309.52	13657.96	1679.778	3911.938

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165049BL Acquired: 11/19/2024 15:44:50 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0007135	-.000985	.0006924	.0014328	.0007047	-.000259	-.000606
Stddev	.0021121	.000664	.0005020	.0002251	.0005854	.002148	.000638
%RSD	296.0025	67.39685	72.49370	15.71113	83.05954	828.4776	105.3359
#1	-.001268	-.000315	.0001225	.0015994	.0001094	.002050	-.000627
#2	.000473	-.001642	.0008860	.0015222	.0007252	-.000629	-.001234
#3	.002936	-.000999	.0010687	.0011767	.0012796	-.002198	.000043

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000012	-.000038	.0091294	.0001974	-.000079	-.000322	-.003788
Stddev	.000026	.000023	.0088632	.0002271	.000047	.000142	.002458
%RSD	220.7461	60.65369	97.08373	115.0383	58.73611	44.23417	64.88190
#1	-.000018	-.000033	.0057925	.0001632	-.000078	-.000453	-.004591
#2	-.000035	-.000018	.0024190	-.000011	-.000126	-.000170	-.005745
#3	.000017	-.000063	.0191766	.000440	-.000033	-.000342	-.001030

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003770	-.001713	-.000217	-.000344	.1225175	-.001220	.0006859
Stddev	.0002960	.008143	.000367	.000391	.0203482	.000553	.0003094
%RSD	78.51508	475.5023	168.9739	113.9156	16.60838	45.34631	45.11321
#1	.0006474	.005232	.000067	-.000106	.0996931	-.001734	.0009954
#2	.0000607	.000306	-.000087	-.000795	.1290992	-.001290	.0003765
#3	.0004229	-.010675	-.000631	-.000129	.1387602	-.000635	.0006858

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1051456	-.000335	-.000307	-.003949	-.000133	.0070568	-.000149
Stddev	.0319167	.000448	.000250	.000162	.000126	.0030599	.001631
%RSD	30.35481	133.6668	81.50257	4.096212	95.24553	43.36150	1091.542
#1	.0732581	-.000094	-.000168	-.004110	-.000275	.0092149	.001505
#2	.1050870	-.000852	-.000595	-.003787	-.000034	.0035549	-.000197
#3	.1370915	-.000060	-.000157	-.003950	-.000088	.0084005	-.001756

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165049BL Acquired: 11/19/2024 15:44:50 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.001949	-.000226	-.000066
Stddev	.002043	.001482	.000022
%RSD	104.7918	655.6388	33.75131
#1	-.004302	-.001717	-.000085
#2	-.000915	.001246	-.000071
#3	-.000630	-.000206	-.000042

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2691.485	62635.89	13947.99	1904.663	4696.909
Stddev	8.352	125.58	39.60	9.170	10.356
%RSD	.3103038	.2004876	.2838789	.4814507	.2204811
#1	2684.077	62496.76	13909.48	1896.973	4687.554
#2	2689.841	62670.08	13945.89	1914.811	4695.138
#3	2700.536	62740.83	13988.59	1902.204	4708.037

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165049BS Acquired: 11/19/2024 15:49:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.8023184	1.979555	1.024735	2.014651	.8050831	2.089549
Stddev	.0069752	.019770	.005633	.008816	.0007714	.006077
%RSD	.8693873	.9987073	.5497177	.4376105	.0958106	.2908391
#1	.8063255	1.965035	1.022912	2.014926	.8058070	2.095630
#2	.7942641	1.971561	1.020240	2.005701	.8051704	2.089542
#3	.8063657	2.002071	1.031054	2.023327	.8042718	2.083475

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2135684	.2205160	.2043798	1.104395	.4237481	.2058213
Stddev	.0005336	.0001491	.0001934	.002986	.0016961	.0003468
%RSD	.2498550	.0676103	.0946247	.2703491	.4002609	.1684813
#1	.2140069	.2203797	.2041652	1.107825	.4219494	.2054427
#2	.2137240	.2204930	.2045405	1.102980	.4239765	.2058974
#3	.2129743	.2206752	.2044339	1.102379	.4253184	.2061236

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3232187	3.099294	.2199370	2.110294	.5174734	.0779154
Stddev	.0010781	.002437	.0008619	.012683	.0007816	.0000387
%RSD	.3335360	.0786402	.3918902	.6010159	.1510391	.0497175
#1	.3226603	3.096480	.2196678	2.095856	.5176176	.0779346
#2	.3225344	3.100735	.2209014	2.115387	.5166298	.0778708
#3	.3244614	3.100666	.2192418	2.119639	.5181729	.0779408

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.965036	.3204667	.2187881	9.949541	.3254523	.4242325
Stddev	.008361	.0011979	.0006308	.008919	.0007112	.0012928
%RSD	.2819992	.3738107	.2883382	.0896389	.2185351	.3047286
#1	2.958143	.3210955	.2192634	9.943285	.3262587	.4245481
#2	2.974337	.3212193	.2180724	9.959754	.3251839	.4228112
#3	2.962628	.3190853	.2190285	9.945586	.3249144	.4253383

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165049BS Acquired: 11/19/2024 15:49:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7078463	.2116828	F .7374253	6.032666	F -.011829	.2011852
Stddev	.0015470	.0005432	.0054703	.008769	.001002	.0004148
%RSD	.2185458	.2565993	.7418138	.1453668	8.471500	.2061627
#1	.7061369	.2111941	.7435244	6.029646	-.012604	.2008468
#2	.7091500	.2122676	.7329525	6.025805	-.010697	.2010608
#3	.7082519	.2115867	.7357991	6.042546	-.012186	.2016479

Elem	Sr4077
Units	ppm
Avg	.2181824
Stddev	.0006540
%RSD	.2997254
#1	.2189185
#2	.2179601
#3	.2176685

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2685.068	61031.55	13550.69	1878.058	4570.524
Stddev	8.786	46.13	33.78	7.635	6.484
%RSD	.3272041	.0755904	.2493042	.4065514	.1418582
#1	2685.533	60993.26	13512.11	1869.293	4571.751
#2	2693.611	61018.62	13564.94	1883.262	4576.307
#3	2676.059	61082.77	13575.01	1881.620	4563.515

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4892-01DLX5 Acquired: 11/19/2024 15:53:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0994422	-.000357	1.056667	-.008401	-.005872	26.81434
Stddev	.0004658	.002019	.003214	.001523	.000893	.15236
%RSD	.4683754	566.0725	.3041439	18.13047	15.20120	.5682118
#1	.0989171	-.001373	1.057069	-.008173	-.004995	26.69076
#2	.0996040	-.001665	1.059660	-.007005	-.005843	26.98458
#3	.0998055	.001968	1.053270	-.010025	-.006779	26.76770

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5937578	.0027340	.0197768	8.699790	.7628169	.0242909
Stddev	.0028612	.0000241	.0000938	.084896	.0060908	.0001932
%RSD	.4818815	.8816016	.4740729	.9758405	.7984608	.7953488
#1	.5925831	.0027203	.0198626	8.631360	.7559921	.0245094
#2	.5970194	.0027619	.0197913	8.794794	.7677007	.0242205
#3	.5916709	.0027200	.0196767	8.673215	.7647578	.0241428

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8983312	61.85340	.6476662	12.24124	.1232282	.0090707
Stddev	.0029069	.36758	.0048411	.16438	.0005784	.0002345
%RSD	.3235868	.5942745	.7474636	1.342828	.4693374	2.584813
#1	.8994834	61.46594	.6441847	12.09626	.1231796	.0088027
#2	.9004854	62.19720	.6531944	12.41982	.1238294	.0091718
#3	.8950249	61.89707	.6456194	12.20764	.1226757	.0092377

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.97091	.0985006	1.923641	3.992455	.0521421	.0029997
Stddev	.02199	.0011963	.007850	.013969	.0004577	.0002991
%RSD	.1837007	1.214467	.4080544	.3498943	.8778021	9.971202
#1	11.99183	.0980925	1.914791	3.980604	.0517269	.0026628
#2	11.97291	.0998474	1.926375	4.007857	.0526329	.0032341
#3	11.94799	.0975617	1.929759	3.988904	.0520664	.0031022

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4892-01DLX5 Acquired: 11/19/2024 15:53:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.9928344	.7531796	5.099162	3.494142	F 36.29237	.0437732
Stddev	.0012395	.0048486	.014162	.029335	.17255	.0012777
%RSD	.1248410	.6437478	.2777264	.8395451	.4754493	2.918871
#1	.9915943	.7493469	5.089894	3.516646	36.10480	.0429165
#2	.9940733	.7586303	5.115464	3.504815	36.44435	.0452418
#3	.9928356	.7515616	5.092130	3.460965	36.32798	.0431615

Elem	Sr4077
Units	ppm
Avg	.0697841
Stddev	.0004407
%RSD	.6315654
#1	.0700462
#2	.0700309
#3	.0692753

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2645.927	61516.59	14448.22	1853.124	4271.094
Stddev	8.915	103.38	76.17	1.009	13.863
%RSD	.3369215	.1680490	.5272122	.0544431	.3245842
#1	2639.663	61572.06	14482.57	1852.395	4261.339
#2	2641.985	61397.32	14360.92	1852.701	4264.979
#3	2656.133	61580.40	14501.17	1854.276	4286.963

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4341-02 Acquired: 11/19/2024 15:57:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.063074	.0505826	-.001216	.5508536	.0105399	.0782231
Stddev	.004750	.0031007	.000428	.0058900	.0019450	.0022103
%RSD	7.530175	6.129943	35.21720	1.069250	18.45375	2.825586
#1	-.060199	.0490341	-.001472	.5576108	.0098732	.0783000
#2	-.060467	.0485612	-.001455	.5468057	.0127307	.0803939
#3	-.068557	.0541525	-.000722	.5481445	.0090160	.0759754

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016559	.0002733	-.001246	.0899442	.0091848	.0015050
Stddev	.0004586	.0000765	.000078	.0077444	.0004329	.0001040
%RSD	27.69091	28.00459	6.233431	8.610215	4.713641	6.913551
#1	.0021396	.0002058	-.001234	.0836261	.0093677	.0013858
#2	.0012276	.0003565	-.001329	.0876226	.0094963	.0015513
#3	.0016006	.0002576	-.001175	.0985838	.0086905	.0015779

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0155982	.1036853	.0025849	.0133198	.0024295	.0004788
Stddev	.0005855	.0035673	.0001130	.0053693	.0000632	.0000778
%RSD	3.753464	3.440473	4.370399	40.31082	2.602146	16.24195
#1	.0156908	.1059345	.0026832	.0072398	.0024406	.0003936
#2	.0149720	.1055492	.0026099	.0174107	.0024866	.0005461
#3	.0161319	.0995722	.0024615	.0153089	.0023616	.0004966

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.86100	-.000537	.0541096	751.3683	-.010542	.0193250
Stddev	.21588	.000207	.0013449	12.8336	.000631	.0004437
%RSD	1.452677	38.57914	2.485420	1.708026	5.981240	2.295937
#1	15.10316	-.000774	.0555761	764.9038	-.009823	.0193003
#2	14.79116	-.000395	.0538188	749.8249	-.010804	.0188942
#3	14.68869	-.000440	.0529340	739.3762	-.010999	.0197806

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4341-02 Acquired: 11/19/2024 15:57:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.2672539	.0010874	.3985223	F 161.4364	4.388327	-.000289
Stddev	.0042352	.0000220	.0205990	.6078	.036276	.001778
%RSD	1.584709	2.019130	5.168856	.3764826	.8266446	614.8318
#1	.2719307	.0010797	.4217543	162.1368	4.427123	-.001025
#2	.2661537	.0010704	.3913251	161.0477	4.382608	-.001581
#3	.2636774	.0011122	.3824874	161.1248	4.355251	.001739

Elem	Sr4077
Units	ppm
Avg	.0002277
Stddev	.0000386
%RSD	16.92964
#1	.0002711
#2	.0001975
#3	.0002145

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1628.387	42084.01	12448.63	1122.891	3316.220
Stddev	15.058	477.09	36.62	14.646	24.178
%RSD	.9246963	1.133661	.2941458	1.304335	.7290776
#1	1611.023	41575.68	12406.54	1109.914	3288.307
#2	1636.290	42154.30	12466.11	1119.988	3329.730
#3	1637.848	42522.06	12473.22	1138.772	3330.623

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-01 Acquired: 11/19/2024 16:01:45 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000392	-.006350	.0196655	-.001604	.0050990	5.393181	.0181154
Stddev	.005624	.004263	.0027100	.000773	.0008423	.193119	.0000412
%RSD	1433.481	67.12871	13.78062	48.20527	16.51805	3.580790	.2276336
#1	.005411	-.002561	.0184256	-.002239	.0047545	5.606470	.0181369
#2	-.000770	-.005524	.0177972	-.001830	.0044837	5.342889	.0180679
#3	-.005818	-.010965	.0227737	-.000743	.0060589	5.230184	.0181415

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005541	.0008534	2.434204	.0409097	.0018027	.0258175	30.45282
Stddev	.0000387	.0007596	.082813	.0008403	.0006363	.0084297	.66854
%RSD	6.988935	89.00671	3.402060	2.054062	35.29610	32.65086	2.195335
#1	.0005154	.0004392	2.521651	.0415485	.0013676	.0215813	31.08909
#2	.0005929	.0003909	2.423989	.0412229	.0015075	.0203462	30.51327
#3	.0005540	.0017300	2.356973	.0399578	.0025330	.0355251	29.75611

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0713895	.2650111	.0069041	.0006038	.3859501	.0678928	.0904232
Stddev	.0023699	.0094737	.0009446	.0001544	.0038383	.0027517	.0017569
%RSD	3.319708	3.574824	13.68229	25.56692	.9945062	4.053068	1.943016
#1	.0738857	.2754198	.0064385	.0004439	.3843706	.0708978	.0923473
#2	.0711127	.2627216	.0062825	.0007520	.3903261	.0672845	.0900181
#3	.0691701	.2568920	.0079911	.0006155	.3831536	.0654961	.0889042

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8106781	.0141881	.0013396	.0016980	1.058769	2.005730	.4432453
Stddev	.0060164	.0006059	.0002451	.0006224	.038030	.031494	.0654472
%RSD	.7421485	4.270610	18.29729	36.65836	3.591891	1.570202	14.76545
#1	.8174360	.0148788	.0012675	.0017946	1.099467	2.040394	.4125301
#2	.8059044	.0139391	.0011387	.0010329	1.052702	1.997922	.3988052
#3	.8086939	.0137463	.0016127	.0022665	1.024137	1.978875	.5184006

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-01 Acquired: 11/19/2024 16:01:45 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.4127411	.0001455	-.010416
Stddev	.0619031	.0009710	.000175
%RSD	14.99804	667.5077	1.680241
#1	.3812581	.0009263	-.010314
#2	.3729074	.0004518	-.010618
#3	.4840578	-.000942	-.010317

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3048.168	68954.30	16068.06	2084.807	5206.234
Stddev	388.031	1434.46	525.70	43.763	646.005
%RSD	12.72997	2.080308	3.271719	2.099145	12.40829
#1	3207.155	67507.15	15496.56	2043.829	5476.667
#2	3331.456	68980.03	16176.61	2079.688	5673.073
#3	2605.894	70375.72	16531.02	2130.905	4468.961

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-02 Acquired: 11/19/2024 16:06:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.000828	-.007667	.0705317	-.006740	.0016792	18.69952	.0837654
Stddev	.000672	.001463	.0004422	.002739	.0018431	.06142	.0008537
%RSD	81.16904	19.07576	.6268968	40.63214	109.7565	.3284530	1.019172
#1	-.001604	-.009298	.0703687	-.006496	.0024604	18.77038	.0847429
#2	-.000445	-.006474	.0710322	-.004132	.0030031	18.66158	.0831663
#3	-.000435	-.007229	.0701941	-.009593	-.000426	18.66660	.0833870

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009716	.0022251	5.720034	.1003997	.0035702	.0961343	40.66134
Stddev	.0000488	.0000780	.020849	.0013184	.0000877	.0001444	.59324
%RSD	5.024296	3.506942	.3644935	1.313129	2.457336	.1502091	1.458987
#1	.0009586	.0023141	5.742521	.0988835	.0036702	.0962995	40.02179
#2	.0009307	.0021925	5.716233	.1010400	.0035345	.0960320	41.19366
#3	.0010256	.0021686	5.701346	.1012758	.0035061	.0960714	40.76855

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1653891	.7459187	.0395606	.0026066	.5082088	.0883897	.4169867
Stddev	.0008234	.0062417	.0002858	.0001517	.0133299	.0009363	.0050233
%RSD	.4978575	.8367837	.7225085	5.818710	2.622919	1.059232	1.204664
#1	.1662280	.7520842	.0392526	.0024861	.4929684	.0894704	.4119611
#2	.1645822	.7460686	.0398173	.0025569	.5139622	.0878760	.4220077
#3	.1653571	.7396034	.0396118	.0027769	.5176958	.0878227	.4169914

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.266482	.0210534	.0016157	.0148910	1.774898	6.731202	1.689526
Stddev	.008530	.0013075	.0002211	.0007429	.009733	.104317	.007164
%RSD	.6735537	6.210448	13.68421	4.989141	.5483630	1.549760	.4240075
#1	1.267279	.0195571	.0017737	.0145641	1.785945	6.620535	1.683157
#2	1.274587	.0219761	.0017103	.0157414	1.771165	6.827727	1.697281
#3	1.257582	.0216269	.0013630	.0143676	1.767585	6.745344	1.688139

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-02 Acquired: 11/19/2024 16:06:02 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	1.048902	.0038583	-.008846
Stddev	.005585	.0018496	.000883
%RSD	.5324635	47.93912	9.978662
#1	1.047465	.0059932	-.007853
#2	1.055065	.0027376	-.009542
#3	1.044176	.0028441	-.009144

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2690.090	63223.83	14328.94	1882.316	4574.609
Stddev	7.761	634.50	109.61	13.744	7.543
%RSD	.2885101	1.003580	.7649211	.7301678	.1648991
#1	2683.277	63888.35	14204.18	1889.303	4571.481
#2	2688.454	62624.35	14372.88	1866.482	4569.133
#3	2698.538	63158.80	14409.75	1891.164	4583.214

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-03 Acquired: 11/19/2024 16:10:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0016912	-.008628	.0836404	-.004014	.0024047	19.52261	.1208627
Stddev	.0011470	.002233	.0002522	.001520	.0008549	.11658	.0008171
%RSD	67.82256	25.88760	.3015033	37.87125	35.54968	.5971419	.6761019
#1	.0015512	-.010894	.0834205	-.003015	.0031755	19.39847	.1199283
#2	.0029017	-.006429	.0835849	-.003264	.0014853	19.53961	.1212163
#3	.0006206	-.008560	.0839157	-.005763	.0025533	19.62975	.1214435

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007458	.0021578	10.33535	.1075790	.0044735	.1590718	29.64722
Stddev	.0000224	.0000250	.05554	.0006038	.0001607	.0004814	.13349
%RSD	3.002120	1.159315	.5373602	.5612466	3.592249	.3026528	.4502640
#1	.0007494	.0021866	10.27227	.1082688	.0044225	.1585798	29.49432
#2	.0007662	.0021455	10.35690	.1073219	.0043444	.1595419	29.70676
#3	.0007219	.0021413	10.37689	.1071464	.0046535	.1590937	29.74057

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1617848	1.804106	.0703472	.0043179	.3401903	.0655924	.3346017
Stddev	.0009962	.005566	.0000447	.0001470	.0076167	.0014079	.0017931
%RSD	.6157415	.3085022	.0635966	3.404707	2.238952	2.146449	.5358816
#1	.1607007	1.801645	.0703458	.0042745	.3341146	.0643511	.3327023
#2	.1619938	1.810478	.0703032	.0041974	.3487353	.0653039	.3362651
#3	.1626599	1.800195	.0703926	.0044817	.3377210	.0671222	.3348378

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.341632	.0180036	.0020245	.0265266	1.213595	6.572662	2.583695
Stddev	.018309	.0007487	.0001180	.0011123	.007187	.026382	.008874
%RSD	1.364677	4.158324	5.827724	4.193280	.5921963	.4013923	.3434521
#1	1.349787	.0171686	.0019276	.0270052	1.205363	6.543355	2.587170
#2	1.320663	.0186150	.0021558	.0273196	1.218623	6.580114	2.573609
#3	1.354447	.0182272	.0019900	.0252551	1.216798	6.594516	2.590305

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-03 Acquired: 11/19/2024 16:10:15 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	1.331182	.0074729	.0186081
Stddev	.002595	.0008608	.0002097
%RSD	.1949056	11.51873	1.126811
#1	1.328407	.0084666	.0184440
#2	1.331591	.0069958	.0185360
#3	1.333547	.0069563	.0188443

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2711.045	63532.98	14336.00	1909.729	4596.580
Stddev	5.315	78.75	14.96	8.062	7.101
%RSD	.1960589	.1239491	.1043469	.4221317	.1544947
#1	2716.051	63586.48	14353.01	1912.630	4600.810
#2	2711.619	63442.55	14330.10	1900.619	4600.549
#3	2705.467	63569.91	14324.90	1915.939	4588.382

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-04 Acquired: 11/19/2024 16:14:26 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0122551	.0051304	.0653763	-.049211	-.001133	29.01428	.0804476
Stddev	.0032578	.0016231	.0014689	.001203	.001261	.08315	.0002798
%RSD	26.58341	31.63721	2.246786	2.444939	111.2989	.2865890	.3477645
#1	.0085270	.0045597	.0642385	-.049964	-.002249	28.98116	.0802155
#2	.0136842	.0038698	.0648560	-.047823	-.001384	28.95278	.0807583
#3	.0145541	.0069618	.0670345	-.049845	.000235	29.10888	.0803692

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046767	.0079148	7.769528	.3990428	.0097877	.1142136	225.6148
Stddev	.0001234	.0002875	.012865	.0033981	.0000686	.0013204	3.2562
%RSD	2.639318	3.632258	.1655769	.8515708	.7010311	1.156082	1.443268
#1	.0045620	.0079013	7.784224	.3998554	.0097090	.1140715	225.8099
#2	.0048073	.0082088	7.764055	.3953120	.0098349	.1155993	222.2654
#3	.0046606	.0076343	7.760305	.4019610	.0098192	.1129700	228.7691

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0644627	.8380715	.0225719	.0020945	.1531664	.2409586	.1696371
Stddev	.0004943	.0104466	.0004735	.0001414	.0024534	.0004397	.0018916
%RSD	.7668055	1.246499	2.097868	6.752543	1.601779	.1824845	1.115109
#1	.0648861	.8479474	.0226352	.0019371	.1503548	.2410880	.1695622
#2	.0639195	.8271352	.0230106	.0021356	.1548730	.2404687	.1677840
#3	.0645824	.8391320	.0220699	.0022109	.1542713	.2413190	.1715651

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8755467	.0936551	.0063072	.0040887	2.056542	5.401094	2.733207
Stddev	.0510505	.0041705	.0001683	.0005023	.004926	.076249	.006319
%RSD	5.830702	4.453050	2.667894	12.28447	.2395046	1.411736	.2311836
#1	.8751648	.0925578	.0061344	.0043104	2.058609	5.409126	2.740128
#2	.8246882	.0901430	.0064705	.0035137	2.050920	5.321146	2.727747
#3	.9267871	.0982646	.0063167	.0044419	2.060098	5.473009	2.731744

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-04 Acquired: 11/19/2024 16:14:26 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	1.296882	.0034103	-.190290
Stddev	.005829	.0004541	.003159
%RSD	.4494491	13.31636	1.659973
#1	1.296534	.0031315	-.190476
#2	1.291235	.0039344	-.187042
#3	1.302877	.0031651	-.193351

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2607.703	60796.53	14113.90	1820.314	4346.397
Stddev	9.408	778.62	36.78	29.625	12.034
%RSD	.3607717	1.280694	.2606073	1.627475	.2768617
#1	2610.142	60592.42	14071.48	1817.122	4350.530
#2	2615.651	61656.87	14136.86	1851.406	4355.819
#3	2597.316	60140.29	14133.37	1792.415	4332.841

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV05 Acquired: 11/19/2024 16:18:36 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	5.214454	5.210920	5.172696	5.242353	5.215554	10.36362	10.29947
Stddev	.016647	.061252	.008907	.010278	.012417	.10439	.01742
%RSD	.3192539	1.175460	.1721993	.1960549	.2380773	1.007268	.1691649
#1	5.202521	5.147398	5.182981	5.234677	5.207943	10.41772	10.30979
#2	5.207370	5.215744	5.167433	5.238353	5.208837	10.42986	10.30925
#3	5.233472	5.269617	5.167675	5.254030	5.229883	10.24329	10.27935

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2568221	2.579126	25.58120	1.052979	2.580699	1.312746	5.140225
Stddev	.0023589	.004297	.27804	.003265	.004530	.000876	.033445
%RSD	.9185125	.1666189	1.086875	.3100877	.1755206	.0667086	.6506441
#1	.2580509	2.583985	25.73897	1.055879	2.585504	1.312074	5.173018
#2	.2583129	2.575824	25.74447	1.053615	2.576507	1.312428	5.141491
#3	.2541024	2.577569	25.26017	1.049443	2.580084	1.313736	5.106165

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.539836	25.58909	2.587902	1.291213	25.33888	2.586596	2.636953
Stddev	.034843	.26759	.003821	.004377	.27425	.026204	.007634
%RSD	1.371878	1.045702	.1476485	.3389498	1.082326	1.013069	.2895044
#1	2.560374	25.72095	2.591275	1.295997	25.60451	2.600368	2.644778
#2	2.559529	25.76516	2.583752	1.290233	25.35539	2.603042	2.636556
#3	2.499605	25.28117	2.588679	1.287410	25.05675	2.556378	2.629525

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.70181	5.108152	5.290266	5.180153	5.100383	5.099799	5.186793
Stddev	.16026	.044153	.008956	.003925	.065591	.020609	.017471
%RSD	.6235473	.8643546	.1692995	.0757713	1.286003	.4041090	.3368357
#1	25.84343	5.137248	5.282232	5.180323	5.144032	5.093992	5.183269
#2	25.73416	5.129860	5.288642	5.176146	5.132162	5.082718	5.171352
#3	25.52784	5.057348	5.299923	5.183990	5.024956	5.122689	5.205757

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV05 Acquired: 11/19/2024 16:18:36 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	4.997121	5.035715	5.238599
Stddev	.013739	.089745	.073912
%RSD	.2749429	1.782173	1.410918
#1	4.983236	5.104722	5.313244
#2	4.997418	5.068165	5.237109
#3	5.010710	4.934259	5.165442

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2516.624	58335.67	13866.70	1745.899	4105.548
Stddev	4.345	255.56	142.63	10.929	8.553
%RSD	.1726552	.4380884	1.028577	.6259538	.2083306
#1	2515.437	58043.01	13749.40	1733.378	4097.949
#2	2521.439	58449.24	13825.23	1753.522	4114.810
#3	2512.995	58514.77	14025.47	1750.797	4103.884

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB05 Acquired: 11/19/2024 16:22:47 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0004637	-.003492	-.000186	.0011034	.0012418	.0014925	-.000925
Stddev	.0018800	.000459	.000718	.0003536	.0013217	.0003103	.000194
%RSD	405.4264	13.13567	386.1918	32.04667	106.4271	20.79314	20.98309
#1	-.001064	-.003935	-.000800	.0008949	.0000196	.0018265	-.000703
#2	.002563	-.003019	.000603	.0009037	.0026444	.0014378	-.001064
#3	-.000108	-.003523	-.000361	.0015117	.0010615	.0012131	-.001008

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000039	.0000573	-.021394	.0003009	-.000188	-.000146	-.001721
Stddev	.000034	.0000548	.005025	.0002884	.000146	.000175	.001216
%RSD	87.87791	95.52649	23.48949	95.84725	77.93025	119.7843	70.64848
#1	.000000	.0001205	-.017524	.0005382	-.000113	-.000243	-.002001
#2	-.000055	.0000234	-.019584	.0003847	-.000356	-.000251	-.000390
#3	-.000061	.0000281	-.027073	-.000020	-.000094	.000056	-.002773

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000528	.0021929	-.000334	-.000175	.0237542	-.000366	-.001071
Stddev	.0002163	.0032619	.000187	.000258	.0119995	.000823	.000009
%RSD	409.8789	148.7427	56.02134	147.3259	50.51521	224.7169	.8460392
#1	-.000151	-.000531	-.000287	-.000045	.0134768	.000085	-.001082
#2	.000029	.005808	-.000541	-.000472	.0208449	-.001316	-.001065
#3	.000280	.001302	-.000175	-.000008	.0369407	.000133	-.001067

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0889038	.0035648	.0001408	.0102591	.0002724	.0094652	.0004207
Stddev	.0157273	.0002804	.0001207	.0005098	.0000593	.0034665	.0017036
%RSD	17.69029	7.864602	85.77488	4.969771	21.78743	36.62316	404.9305
#1	.0709092	.0035805	.0002769	.0103983	.0002563	.0076224	.0005393
#2	.0957811	.0032769	.0000986	.0106849	.0002228	.0134638	-.001339
#3	.1000211	.0038370	.0000468	.0096941	.0003381	.0073094	.002062

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB05 Acquired: 11/19/2024 16:22:47 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.004996	-.000379	.0000599
Stddev	.002041	.001380	.0000110
%RSD	40.84993	363.9452	18.41103
#1	-.007248	-.001329	.0000643
#2	-.003270	-.001012	.0000473
#3	-.004468	.001204	.0000680

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2716.434	63451.05	14202.89	1910.265	4707.124
Stddev	3.675	144.17	58.12	4.384	8.498
%RSD	.1352755	.2272174	.4092238	.2295201	.1805344
#1	2715.566	63297.52	14136.17	1905.617	4714.265
#2	2720.465	63472.07	14229.93	1914.326	4709.381
#3	2713.271	63583.56	14242.56	1910.852	4697.725

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-05 Acquired: 11/19/2024 16:27:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0149951	.0003458	.0333837	-.025046	.0025074	17.52067	.0479309
Stddev	.0029436	.0012244	.0020984	.003683	.0005216	.16561	.0004934
%RSD	19.63020	354.0946	6.285580	14.70629	20.80355	.9452390	1.029399
#1	.0171524	.0008460	.0321692	-.024304	.0029226	17.34448	.0474882
#2	.0116418	-.001050	.0358067	-.029044	.0019219	17.54439	.0478416
#3	.0161911	.001241	.0321752	-.021790	.0026778	17.67315	.0484628

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026160	.0038235	2.222566	.1016936	.0064705	.0530668	126.5327
Stddev	.0001403	.0001071	.007191	.0005205	.0001427	.0007405	.5276
%RSD	5.364836	2.800091	.3235644	.5118034	2.205370	1.395359	.4169553
#1	.0025583	.0038659	2.214433	.1014668	.0065688	.0539059	125.9365
#2	.0027760	.0037018	2.228082	.1022890	.0065360	.0525050	126.9392
#3	.0025137	.0039029	2.225185	.1013251	.0063069	.0527896	126.7225

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0732717	1.253832	.0138482	.0008853	.1246999	.1206382	.0922691
Stddev	.0002776	.009196	.0004233	.0002699	.0100173	.0011616	.0004749
%RSD	.3788723	.7334371	3.056571	30.49123	8.033125	.9628984	.5146838
#1	.0729779	1.243310	.0133596	.0009843	.1148968	.1193785	.0921384
#2	.0733078	1.260332	.0140804	.0005799	.1242843	.1208689	.0918733
#3	.0735295	1.257854	.0141045	.0010918	.1349185	.1216671	.0927957

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.803632	.0577654	.0022046	-.001793	1.376818	6.245893	1.027125
Stddev	.034204	.0004941	.0002387	.000331	.013287	.034800	.002995
%RSD	1.896381	.8554380	10.82494	18.45797	.9650472	.5571740	.2916058
#1	1.764847	.0580061	.0021659	-.001601	1.362334	6.205772	1.030413
#2	1.829482	.0580930	.0024603	-.002175	1.379681	6.267909	1.026410
#3	1.816566	.0571970	.0019877	-.001603	1.388441	6.263997	1.024551

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-05 Acquired: 11/19/2024 16:27:09 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	1.187311	.0073231	-.108191
Stddev	.007834	.0010001	.000411
%RSD	.6597851	13.65730	.3800686
#1	1.189562	.0072760	-.107769
#2	1.193772	.0083459	-.108591
#3	1.178598	.0063473	-.108212

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2703.886	62686.54	14595.02	1893.488	4535.549
Stddev	7.131	144.02	50.05	11.936	11.049
%RSD	.2637398	.2297390	.3428920	.6303888	.2436028
#1	2695.663	62795.87	14649.38	1901.838	4523.226
#2	2708.371	62523.36	14584.83	1879.816	4538.847
#3	2707.624	62740.39	14550.86	1898.809	4544.573

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-06 Acquired: 11/19/2024 16:31:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0056492	-.003507	.0237337	-.017330	.0015512	12.50546	.0182493
Stddev	.0020507	.002782	.0003992	.001582	.0004872	.03303	.0006953
%RSD	36.30015	79.31673	1.682183	9.130614	31.40596	.2640869	3.809994
#1	.0056783	-.005828	.0239951	-.015714	.0018956	12.48861	.0175736
#2	.0076851	-.000424	.0239318	-.018876	.0017642	12.54352	.0189626
#3	.0035841	-.004270	.0232741	-.017401	.0009938	12.48427	.0182116

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018293	.0024487	1.197728	.0637945	.0032884	.0332744	87.79931
Stddev	.0000374	.0001088	.010444	.0004275	.0001503	.0011734	.20214
%RSD	2.042947	4.444703	.8719614	.6701039	4.569497	3.526509	.2302244
#1	.0018698	.0025524	1.209679	.0642814	.0032775	.0337825	87.57269
#2	.0017961	.0023354	1.190356	.0636216	.0031438	.0319325	87.86421
#3	.0018220	.0024583	1.193150	.0634806	.0034437	.0341082	87.96102

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0429755	.3876120	.0072252	.0007790	.0291724	.0820274	.0602105
Stddev	.0002757	.0049160	.0000999	.0001103	.0052921	.0014504	.0006944
%RSD	.6414070	1.268273	1.382946	14.15563	18.14081	1.768200	1.153218
#1	.0430140	.3874010	.0071411	.0006755	.0237802	.0803914	.0608121
#2	.0432299	.3828049	.0073357	.0008950	.0343584	.0831557	.0594507
#3	.0426827	.3926301	.0071989	.0007667	.0293784	.0825351	.0603688

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5052800	.0336477	.0025332	-.002779	1.436515	3.149768	.6991428
Stddev	.0167731	.0007519	.0002117	.001087	.007135	.003121	.0007824
%RSD	3.319569	2.234538	8.355761	39.09052	.4966725	.0990904	.1119082
#1	.4865968	.0335010	.0027337	-.001730	1.434722	3.148225	.6989581
#2	.5102012	.0329800	.0023119	-.003900	1.444375	3.147719	.6984693
#3	.5190420	.0344621	.0025539	-.002708	1.430447	3.153360	.7000010

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-06 Acquired: 11/19/2024 16:31:23 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.1639930	.0015141	-.081369
Stddev	.0019944	.0022305	.000206
%RSD	1.216153	147.3186	.2528633
#1	.1630414	.0001590	-.081174
#2	.1626526	.0002948	-.081348
#3	.1662849	.0040885	-.081584

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2691.598	62488.64	14239.56	1874.973	4555.819
Stddev	14.354	58.32	68.64	3.578	20.888
%RSD	.5332813	.0933293	.4820327	.1908076	.4585007
#1	2678.101	62421.88	14233.33	1872.881	4542.211
#2	2706.677	62529.67	14174.25	1872.935	4579.869
#3	2690.017	62514.36	14311.11	1879.104	4545.376

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-07 Acquired: 11/19/2024 16:35:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0029739	-.007953	.2313763	-.009319	.0011549	12.82657	.0888737
Stddev	.0014707	.000674	.0001556	.001571	.0008758	.15293	.0009297
%RSD	49.45147	8.474721	.0672468	16.86031	75.82646	1.192263	1.046052
#1	.0016211	-.007879	.2314759	-.008202	.0008816	12.65642	.0878701
#2	.0045393	-.007318	.2314561	-.008638	.0021348	12.95255	.0890455
#3	.0027614	-.008660	.2311970	-.011115	.0004484	12.87074	.0897054

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011877	.0021605	6.198548	.0772146	.0053016	.0594491	51.19177
Stddev	.0000763	.0000230	.070147	.0001604	.0001241	.0002201	.33745
%RSD	6.427043	1.065781	1.131667	.2077126	2.340165	.3702244	.6591963
#1	.0011018	.0021544	6.117762	.0772078	.0053447	.0595546	50.89522
#2	.0012476	.0021411	6.244015	.0770578	.0053983	.0595967	51.12115
#3	.0012138	.0021859	6.233868	.0773783	.0051617	.0591962	51.55895

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1444592	1.638929	.0129566	.0009225	.1251724	.0840563	.1606919
Stddev	.0014176	.039008	.0003187	.0000526	.0103465	.0002786	.0008259
%RSD	.9813066	2.380069	2.459696	5.704643	8.265780	.3314601	.5139937
#1	.1430009	1.593889	.0128501	.0008618	.1147886	.0837539	.1616456
#2	.1445445	1.661843	.0133149	.0009541	.1354811	.0843026	.1602053
#3	.1458323	1.661055	.0127048	.0009518	.1252474	.0841125	.1602249

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7960306	.0247384	.0019601	.0300933	1.513592	4.973580	.6885785
Stddev	.0037845	.0003460	.0002818	.0010735	.015995	.027377	.0015992
%RSD	.4754239	1.398735	14.37608	3.567115	1.056728	.5504564	.2322481
#1	.7987380	.0247338	.0016351	.0297452	1.495529	4.949883	.6897771
#2	.7976475	.0250866	.0021093	.0292371	1.525960	4.967307	.6891958
#3	.7917062	.0243947	.0021360	.0312976	1.519286	5.003549	.6867627

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-07 Acquired: 11/19/2024 16:35:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.5161531	.0036642	-.030217
Stddev	.0023273	.0012519	.000262
%RSD	.4508885	34.16587	.8677288
#1	.5146704	.0039388	-.030235
#2	.5188354	.0022978	-.029946
#3	.5149534	.0047561	-.030470

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2670.729	62527.31	14427.62	1872.332	4552.240
Stddev	1.538	30.26	73.30	4.063	1.806
%RSD	.0575876	.0484010	.5080379	.2169833	.0396820
#1	2671.064	62519.77	14510.12	1867.644	4551.691
#2	2672.072	62560.63	14369.99	1874.835	4554.257
#3	2669.051	62501.52	14402.76	1874.516	4550.772

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-08 Acquired: 11/19/2024 16:39:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0056849	-.006077	.0472452	-.019668	.0007658	20.72917	.0660227
Stddev	.0022175	.002026	.0008481	.000742	.0003566	.05325	.0002586
%RSD	39.00616	33.33565	1.795124	3.772154	46.56326	.2568890	.3916037
#1	.0031418	-.005790	.0472108	-.018812	.0006277	20.70430	.0657350
#2	.0066983	-.004210	.0481099	-.020074	.0011708	20.79030	.0660973
#3	.0072147	-.008231	.0464147	-.020119	.0004989	20.69290	.0662356

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020473	.0037374	13.01558	.1126233	.0051306	.0768976	100.8216
Stddev	.0000417	.0002732	.09383	.0009319	.0001018	.0019204	1.7282
%RSD	2.034793	7.308706	.7209158	.8274953	1.984596	2.497296	1.714159
#1	.0020783	.0040527	12.90744	.1116828	.0050502	.0791073	98.9339
#2	.0020636	.0035726	13.07542	.1126406	.0050964	.0759536	101.2050
#3	.0019999	.0035868	13.06389	.1135464	.0052451	.0756321	102.3260

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0734252	1.325037	.0101918	.0033632	1.282927	.1315546	.1837258
Stddev	.0004196	.020178	.0001314	.0003771	.018029	.0003382	.0026025
%RSD	.5714166	1.522837	1.289014	11.21195	1.405281	.2570543	1.416513
#1	.0729421	1.313137	.0103423	.0029281	1.264599	.1315185	.1815449
#2	.0736351	1.348334	.0100997	.0035955	1.283541	.1319094	.1830257
#3	.0736984	1.313638	.0101335	.0035659	1.300641	.1312359	.1866067

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.846597	.0517215	.0025127	.0029577	1.967894	5.995298	2.109541
Stddev	.035866	.0021141	.0002123	.0007653	.007011	.080639	.016610
%RSD	1.942297	4.087523	8.446899	25.87552	.3562872	1.345039	.7873709
#1	1.814570	.0495264	.0027480	.0027784	1.961807	5.906355	2.124218
#2	1.839872	.0518939	.0024544	.0037968	1.975560	6.015905	2.091510
#3	1.885350	.0537441	.0023357	.0022980	1.966314	6.063634	2.112896

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-08 Acquired: 11/19/2024 16:39:52 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.6512184	.0055689	-.064248
Stddev	.0013595	.0008966	.001742
%RSD	.2087615	16.10043	2.711070
#1	.6525220	.0053134	-.062365
#2	.6498092	.0048279	-.064575
#3	.6513239	.0065656	-.065802

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2567.307	59922.98	14094.01	1775.092	4366.658
Stddev	6.317	531.49	33.40	22.459	9.146
%RSD	.2460529	.8869550	.2369998	1.265253	.2094547
#1	2562.015	60363.71	14055.62	1794.875	4361.362
#2	2574.300	60072.48	14116.38	1779.724	4377.219
#3	2565.605	59332.75	14110.05	1750.678	4361.392

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-09 Acquired: 11/19/2024 16:44:04 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.001650	-.012595	.0257386	-.011011	.0003915	11.99819	.0157282
Stddev	.002360	.001811	.0010383	.002254	.0006694	.08020	.0003815
%RSD	142.9931	14.37881	4.033963	20.47146	170.9903	.6684264	2.425607
#1	-.002552	-.010767	.0247540	-.011446	.0011292	11.98495	.0156453
#2	-.003427	-.014389	.0256386	-.013016	.0002227	12.08419	.0153949
#3	.001027	-.012628	.0268233	-.008571	-.000177	11.92544	.0161443

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012224	.0022012	3.063337	.1614175	.0031742	.0403982	65.42242
Stddev	.0000731	.0001653	.027706	.0036333	.0001240	.0009069	1.11563
%RSD	5.978087	7.510573	.9044231	2.250860	3.905519	2.244998	1.705271
#1	.0011578	.0021980	3.081215	.1596239	.0030313	.0409416	64.54125
#2	.0013017	.0023681	3.077374	.1590299	.0032380	.0409018	65.04921
#3	.0012078	.0020375	3.031422	.1655988	.0032532	.0393512	66.67682

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0602206	.4847203	.0090604	.0012768	1.231188	.1359759	.1125541
Stddev	.0004384	.0115440	.0002671	.0001249	.022163	.0006604	.0023395
%RSD	.7279662	2.381571	2.947563	9.779663	1.800100	.4856758	2.078527
#1	.0597178	.4786019	.0089232	.0011328	1.211791	.1362896	.1102811
#2	.0605228	.4980355	.0093682	.0013420	1.226428	.1364210	.1124262
#3	.0604212	.4775234	.0088898	.0013555	1.255343	.1352171	.1149548

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.174415	.0276450	.0031672	-.001326	1.735650	3.160258	1.086351
Stddev	.041873	.0015430	.0002731	.000471	.010508	.032535	.001809
%RSD	3.565428	5.581574	8.621334	35.48194	.6054272	1.029507	.1664842
#1	1.147797	.0269403	.0029364	-.001581	1.731975	3.136792	1.088425
#2	1.152767	.0265801	.0030966	-.000783	1.747501	3.146583	1.085523
#3	1.222680	.0294145	.0034686	-.001615	1.727472	3.197398	1.085104

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-09 Acquired: 11/19/2024 16:44:04 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	3.130931	.0006265	-.050562
Stddev	.007436	.0007149	.001229
%RSD	.2375168	114.1156	2.430277
#1	3.139276	-.000166	-.049649
#2	3.128509	.000822	-.050079
#3	3.125007	.001223	-.051959

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2614.336	62698.62	14171.82	1833.388	4496.666
Stddev	9.379	905.08	67.06	26.158	14.839
%RSD	.3587444	1.443543	.4732191	1.426737	.3300098
#1	2612.965	63297.36	14200.51	1853.718	4497.025
#2	2605.717	63141.07	14095.19	1842.569	4481.650
#3	2624.324	61657.42	14219.77	1803.878	4511.322

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-10 Acquired: 11/19/2024 16:48:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0018545	-.007404	.0121681	-.004891	.0012892	4.822766	.0101648
Stddev	.0022014	.002082	.0014297	.001142	.0005675	.012947	.0003282
%RSD	118.7079	28.12060	11.74938	23.33794	44.02110	.2684526	3.228655
#1	.0000519	-.006055	.0105292	-.003574	.0008787	4.834773	.0101819
#2	.0012036	-.006354	.0128155	-.005509	.0010521	4.809049	.0104841
#3	.0043079	-.009802	.0131595	-.005591	.0019369	4.824475	.0098284

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006356	.0009084	1.796536	.0567424	.0016045	.0210442	34.10225
Stddev	.0000677	.0000762	.004412	.0003645	.0001315	.0004207	.23129
%RSD	10.65864	8.392495	.2455878	.6423236	8.195349	1.999220	.6782365
#1	.0006294	.0009459	1.791542	.0564629	.0014769	.0206882	33.85735
#2	.0007063	.0009585	1.798158	.0566097	.0017395	.0209359	34.31697
#3	.0005712	.0008206	1.799908	.0571547	.0015972	.0215085	34.13245

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0443014	.1980587	.0100077	.0002623	.3375402	.0730763	.0569509
Stddev	.0003307	.0017568	.0002244	.0003885	.0084403	.0006346	.0003884
%RSD	.7465461	.8870233	2.241940	148.1275	2.500539	.8683946	.6820847
#1	.0446803	.1961602	.0097975	-.000020	.3310364	.0730460	.0565417
#2	.0441535	.1983890	.0102439	.000705	.3470781	.0724574	.0573146
#3	.0440705	.1996270	.0099816	.000101	.3345060	.0737255	.0569963

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5605190	.0139783	.0014322	-.001980	.9540692	1.449662	.3722934
Stddev	.0346725	.0003669	.0001369	.000124	.0024573	.008317	.0017174
%RSD	6.185786	2.624604	9.561442	6.287264	.2575617	.5736973	.4612960
#1	.5205193	.0135673	.0013706	-.001893	.9562856	1.440315	.3741399
#2	.5790347	.0142728	.0015891	-.002123	.9514267	1.452427	.3707438
#3	.5820030	.0140948	.0013369	-.001925	.9544953	1.456244	.3719967

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4860-10 Acquired: 11/19/2024 16:48:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.2400726	-.001128	-.026710
Stddev	.0013710	.001295	.000283
%RSD	.5710939	114.8343	1.058160
#1	.2413122	-.002618	-.026406
#2	.2403057	-.000481	-.026964
#3	.2386000	-.000284	-.026759

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2707.129	63331.20	14270.87	1911.640	4665.462
Stddev	2.487	502.31	53.85	15.014	9.258
%RSD	.0918502	.7931474	.3773239	.7854214	.1984298
#1	2709.656	63880.34	14208.90	1925.504	4676.102
#2	2707.046	62894.91	14306.22	1895.693	4661.034
#3	2704.685	63218.36	14297.50	1913.724	4659.250

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-01 Acquired: 11/19/2024 16:52:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.1448359	.0040161	.3866067	-.133733	-.000464	170.4514
Stddev	.0004408	.0017732	.0027347	.000201	.003311	1.1236
%RSD	.3043376	44.15077	.7073661	.1505125	714.3659	.6591869
#1	.1445179	.0034763	.3896507	-.133573	.002182	169.1903
#2	.1453391	.0025757	.3858123	-.133667	-.004177	170.8181
#3	.1446508	.0059965	.3843571	-.133959	.000604	171.3459

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.092074	.0219642	.0473443	83.69444	.2730640	.3132144
Stddev	.005466	.0000849	.0016396	.40724	.0023863	.0023770
%RSD	.5005130	.3867382	3.463044	.4865781	.8738881	.7589118
#1	1.094050	.0219500	.0484139	83.31841	.2753869	.3158424
#2	1.096278	.0220554	.0481623	84.12699	.2731859	.3125864
#3	1.085895	.0218873	.0454567	83.63793	.2706191	.3112145

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7529863	541.6553	26.76969	53.53855	.2344825	-.005566
Stddev	.0079722	3.8441	.12792	.29948	.0016480	.000802
%RSD	1.058748	.7096866	.4778408	.5593733	.7028211	14.40027
#1	.7576685	542.4708	26.72682	53.26436	.2363653	-.006280
#2	.7575092	537.4689	26.91353	53.85814	.2333019	-.005719
#3	.7437812	545.0262	26.66870	53.49315	.2337802	-.004699

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.31444	.7297782	1.448236	9.402358	.5093181	.0153488
Stddev	.09752	.0044399	.011621	.100017	.0071897	.0003098
%RSD	.7324719	.6083956	.8024425	1.063740	1.411635	2.018381
#1	13.42268	.7256965	1.459717	9.504380	.5095169	.0155218
#2	13.23340	.7345057	1.448512	9.304476	.5020311	.0149912
#3	13.28724	.7291325	1.436480	9.398217	.5164064	.0155335

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-01 Acquired: 11/19/2024 16:52:38 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0431870	4.490665	F 15.49684	F 10.35639	1.458427	.1959311
Stddev	.0007711	.017296	.09584	.10942	.013544	.0022068
%RSD	1.785367	.3851567	.6184414	1.056546	.9286474	1.126311
#1	.0440013	4.489281	15.55220	10.45826	1.469972	.1979492
#2	.0430915	4.508611	15.38617	10.37018	1.461790	.1962693
#3	.0424681	4.474102	15.55214	10.24073	1.443518	.1935747

Elem	Sr4077
Units	ppm
Avg	-.174675
Stddev	.005697
%RSD	3.261354
#1	-.175086
#2	-.168783
#3	-.180154

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2783.329	65787.55	15260.86	1961.302	3949.148
Stddev	22.114	347.75	87.88	16.540	29.393
%RSD	.7945075	.5285885	.5758829	.8433214	.7442938
#1	2762.374	65422.90	15232.36	1942.403	3921.838
#2	2781.168	66115.48	15190.77	1973.136	3945.349
#3	2806.443	65824.27	15359.46	1968.368	3980.256

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-04 Acquired: 11/19/2024 16:57:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0804745	-.044003	.4592647	-.044081	-.003606	110.1131
Stddev	.0037819	.004596	.0011076	.002416	.000706	.3869
%RSD	4.699545	10.44571	.2411744	5.479888	19.57166	.3513286
#1	.0790715	-.039269	.4598450	-.046487	-.004150	109.6764
#2	.0847574	-.044290	.4579875	-.041656	-.002809	110.4128
#3	.0775945	-.048449	.4599616	-.044101	-.003861	110.2501

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.033585	.0130669	.0216398	31.10685	.2458704	.1577893
Stddev	.005974	.0000174	.0003546	.14697	.0012405	.0012234
%RSD	.5779407	.1332464	1.638584	.4724790	.5045338	.7753389
#1	1.031170	.0130765	.0217892	30.93958	.2460477	.1581359
#2	1.040388	.0130468	.0212349	31.21528	.2445508	.1564300
#3	1.029196	.0130774	.0218952	31.16571	.2470128	.1588020

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3591459	190.4757	7.993201	79.10720	.2761197	.0009956
Stddev	.0016881	.5873	.033326	.54286	.0012517	.0001482
%RSD	.4700368	.3083554	.4169264	.6862278	.4533300	14.88140
#1	.3603131	190.3742	7.977075	78.51953	.2767961	.0008806
#2	.3572103	189.9457	8.031523	79.21216	.2746753	.0011628
#3	.3599144	191.1072	7.971006	79.58992	.2768877	.0009434

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.986774	.4654505	1.359868	29.22068	.1191123	.0016663
Stddev	.026874	.0008923	.006944	.04910	.0015472	.0004084
%RSD	.2990399	.1916984	.5106588	.1680296	1.298933	24.50699
#1	9.014562	.4647981	1.363583	29.22302	.1198863	.0021115
#2	8.960919	.4650861	1.351857	29.17045	.1173308	.0015785
#3	8.984840	.4664673	1.364165	29.26856	.1201197	.0013090

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-04 Acquired: 11/19/2024 16:57:06 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.006959	8.804344	F 19.85442	F 10.00077	.3039697	.2386393
Stddev	.000310	.038337	.13444	.09378	.0013542	.0028346
%RSD	4.461217	.4354341	.6771093	.9377337	.4454961	1.187820
#1	-.006815	8.762880	19.79915	10.08896	.3026008	.2387403
#2	-.006746	8.838503	19.75643	9.90225	.3039997	.2414221
#3	-.007315	8.811650	20.00768	10.01110	.3053086	.2357556

Elem	Sr4077
Units	ppm
Avg	-.071610
Stddev	.001196
%RSD	1.670646
#1	-.071472
#2	-.070489
#3	-.072870

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3046.097	71567.23	16942.03	2140.536	3925.447
Stddev	18.665	238.27	55.87	11.339	25.153
%RSD	.6127663	.3329263	.3297591	.5297390	.6407593
#1	3032.056	71354.10	16940.33	2131.845	3905.381
#2	3067.278	71824.47	16887.03	2153.362	3953.664
#3	3038.956	71523.13	16998.73	2136.400	3917.295

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-07 Acquired: 11/19/2024 17:01:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0981214	-.039644	.5781394	-.042862	-.002245	103.9555
Stddev	.0025369	.000420	.0040545	.001719	.000963	.5311
%RSD	2.585416	1.058515	.7013088	4.009738	42.90784	.5108832
#1	.1009993	-.039176	.5800047	-.041921	-.001210	104.5602
#2	.0962092	-.039987	.5809255	-.041820	-.002408	103.7417
#3	.0971557	-.039770	.5734879	-.044846	-.003116	103.5647

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.075954	.0126291	.0205227	44.46200	.2377836	.1510042
Stddev	.008581	.0001442	.0004917	.18324	.0002748	.0013187
%RSD	.7975675	1.142124	2.395869	.4121360	.1155900	.8732672
#1	1.085741	.0127671	.0210250	44.53619	.2378137	.1524017
#2	1.072402	.0126409	.0205008	44.25329	.2380421	.1508292
#3	1.069719	.0124793	.0200423	44.59651	.2374949	.1497818

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6221766	186.4987	6.955623	74.44797	.2635029	.0007570
Stddev	.0063979	.9340	.037729	.33362	.0019707	.0001922
%RSD	1.028302	.5008336	.5424206	.4481231	.7478845	25.39085
#1	.6279579	185.7918	6.988404	74.55804	.2646879	.0005852
#2	.6232691	186.1466	6.914383	74.07323	.2645928	.0007212
#3	.6153028	187.5576	6.964082	74.71265	.2612280	.0009646

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.097591	.4540256	1.372411	36.06969	.1184154	.0033996
Stddev	.022986	.0024966	.001230	.08178	.0021055	.0000576
%RSD	.4509251	.5498867	.0896151	.2267153	1.778108	1.694259
#1	5.111751	.4568493	1.373117	36.08561	.1163028	.0034060
#2	5.109953	.4531168	1.373126	36.14233	.1184295	.0034537
#3	5.071069	.4521106	1.370991	35.98112	.1205138	.0033390

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-07 Acquired: 11/19/2024 17:01:11 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0023668	8.098696	F 21.01892	F 11.38450	.1427708	.2279918
Stddev	.0007039	.042445	.03966	.15695	.0020722	.0042324
%RSD	29.73999	.5240962	.1886695	1.378585	1.451420	1.856404
#1	.0030620	8.146783	20.97691	11.53720	.1442753	.2328522
#2	.0023841	8.066449	21.02412	11.39269	.1404072	.2260046
#3	.0016545	8.082856	21.05571	11.22363	.1436298	.2251187

Elem	Sr4077
Units	ppm
Avg	.0068231
Stddev	.0020724
%RSD	30.37372
#1	.0091124
#2	.0062819
#3	.0050749

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3046.270	71551.19	16971.74	2109.033	3922.670
Stddev	24.649	163.57	135.18	1.217	38.740
%RSD	.8091597	.2286026	.7965257	.0577070	.9875879
#1	3018.633	71385.56	16815.77	2108.653	3881.044
#2	3054.197	71555.39	17044.07	2110.395	3929.299
#3	3065.981	71712.62	17055.36	2108.052	3957.668

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-10 Acquired: 11/19/2024 17:05:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0647660	-.012927	.3996891	-.068169	-.001732	145.1581
Stddev	.0006526	.004906	.0030040	.002111	.002458	1.9922
%RSD	1.007640	37.94951	.7515720	3.097320	141.9295	1.372416
#1	.0647852	-.018250	.3989606	-.070239	-.003504	143.1075
#2	.0641040	-.008586	.3971163	-.068249	-.002766	145.2806
#3	.0654087	-.011946	.4029902	-.066018	.001074	147.0862

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.258180	.0145167	.0257613	32.55623	.2773371	.1587680
Stddev	.012117	.0001326	.0002086	.53480	.0031577	.0010258
%RSD	.9630435	.9134367	.8098703	1.642705	1.138575	.6460736
#1	1.246585	.0144723	.0260020	31.94232	.2798491	.1590108
#2	1.257195	.0144121	.0256497	32.80533	.2737924	.1576426
#3	1.270759	.0146658	.0256323	32.92104	.2783698	.1596505

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4122492	285.7766	6.516753	62.74894	.3227160	-.000873
Stddev	.0022209	2.2767	.091256	1.05959	.0024315	.000550
%RSD	.5387365	.7966804	1.400330	1.688623	.7534476	62.98825
#1	.4132179	285.3508	6.417405	61.54132	.3225643	-.001504
#2	.4097084	283.7428	6.536010	63.18253	.3203638	-.000614
#3	.4138212	288.2361	6.596844	63.52297	.3252197	-.000500

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.283007	.4239627	.8838921	21.89478	.1798913	-.000019
Stddev	.081126	.0077602	.0066922	.25253	.0003287	.000177
%RSD	1.291195	1.830387	.7571292	1.153382	.1827331	945.7410
#1	6.325214	.4154671	.8868972	22.01564	.1801525	-.000138
#2	6.189479	.4257430	.8762241	21.60454	.1795222	-.000103
#3	6.334328	.4306781	.8885550	22.06417	.1799994	.000185

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: P4870-10 Acquired: 11/19/2024 17:05:16 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0119647	4.678672	F 19.38995	7.642003	.3240687	.2606613
Stddev	.0017192	.054018	.17699	.053086	.0046459	.0017270
%RSD	14.36859	1.154564	.9127901	.6946638	1.433611	.6625600
#1	.0136964	4.621182	19.41879	7.701293	.3281883	.2596648
#2	.0102584	4.686461	19.20032	7.598878	.3190330	.2596635
#3	.0119393	4.728373	19.55075	7.625840	.3249847	.2626555

Elem	Sr4077
Units	ppm
Avg	-.044839
Stddev	.001722
%RSD	3.841463
#1	-.046686
#2	-.043276
#3	-.044557

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3026.331	70535.93	16794.04	2073.246	4052.577
Stddev	16.190	598.25	127.11	11.962	23.518
%RSD	.5349644	.8481488	.7568651	.5769518	.5803273
#1	3009.700	70094.89	16935.20	2065.367	4038.678
#2	3042.040	71216.90	16758.28	2087.010	4079.730
#3	3027.252	70296.00	16688.65	2067.361	4039.321

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV06 Acquired: 11/19/2024 17:19:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	5.266167	5.299796	5.239455	5.309398	5.275207	10.48806	10.40381
Stddev	.019674	.104175	.012258	.020388	.011566	.02954	.08910
%RSD	.3735830	1.965633	.2339586	.3839951	.2192448	.2816555	.8564229
#1	5.288834	5.419688	5.246341	5.327160	5.288095	10.51831	10.50056
#2	5.256139	5.231374	5.225302	5.287137	5.265733	10.45928	10.32513
#3	5.253528	5.248327	5.246722	5.313898	5.271791	10.48658	10.38572

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2605391	2.606454	25.75202	1.058079	2.601618	1.328597	5.191708
Stddev	.0006345	.005004	.10829	.000659	.005397	.003647	.026354
%RSD	.2435454	.1919876	.4205134	.0622610	.2074488	.2744754	.5076240
#1	.2611969	2.608125	25.83953	1.058008	2.605526	1.332789	5.221018
#2	.2599308	2.600828	25.63091	1.058770	2.595460	1.326158	5.184142
#3	.2604897	2.610408	25.78562	1.057459	2.603868	1.326844	5.169964

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.544765	25.79341	2.610836	1.309004	25.85270	2.598481	2.675314
Stddev	.018204	.09852	.004983	.002614	.18627	.003531	.004119
%RSD	.7153595	.3819740	.1908591	.1996853	.7205067	.1358901	.1539581
#1	2.565774	25.82736	2.613880	1.311040	26.01200	2.601844	2.673884
#2	2.533652	25.68240	2.605086	1.306056	25.89821	2.594803	2.672101
#3	2.534869	25.87047	2.613543	1.309915	25.64790	2.598797	2.679957

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.92972	5.228620	5.321310	5.236835	5.137782	5.168560	5.482556
Stddev	.07172	.025907	.014315	.020687	.021172	.025494	.065615
%RSD	.2765965	.4954809	.2690154	.3950341	.4120856	.4932480	1.196788
#1	25.97420	5.258072	5.337829	5.256480	5.161892	5.141040	5.558195
#2	25.96797	5.209353	5.312535	5.215243	5.129229	5.173270	5.448511
#3	25.84698	5.218436	5.313566	5.238782	5.122224	5.191371	5.440961

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV06 Acquired: 11/19/2024 17:19:59 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	5.119305	5.082187	5.222871
Stddev	.040810	.053261	.065759
%RSD	.7971706	1.047998	1.259062
#1	5.162081	5.131982	5.294480
#2	5.080797	5.088548	5.208939
#3	5.115038	5.026031	5.165194

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2496.702	57714.34	13746.37	1736.771	4068.455
Stddev	4.395	154.02	76.82	6.443	4.286
%RSD	.1760369	.2668651	.5588315	.3709691	.1053575
#1	2492.574	57548.69	13661.67	1741.970	4063.565
#2	2496.210	57853.22	13811.54	1738.780	4071.567
#3	2501.323	57741.09	13765.90	1729.563	4070.232

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB06 Acquired: 11/19/2024 17:24:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005051	.0019218	.0010899	.0013875	.0016161	.0302180
Stddev	.0004315	.0006365	.0004832	.0009181	.0011296	.0150766
%RSD	85.44040	33.12084	44.33867	66.17024	69.89610	49.89280
#1	.0005435	.0019521	.0011536	.0009136	.0015082	.0470089
#2	.0000556	.0025427	.0015381	.0024458	.0027958	.0258045
#3	.0009161	.0012707	.0005779	.0008032	.0005443	.0178407

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0219732	.0001033	.0001017	.0598054	.0004557	-.000052
Stddev	.0164010	.0000734	.0000441	.0500340	.0005143	.000149
%RSD	74.64100	71.03494	43.29780	83.66144	112.8661	286.1044
#1	.0397242	.0001617	.0000675	.1159098	.0002974	-.000145
#2	.0188135	.0001272	.0000863	.0436958	.0010305	-.000130
#3	.0073819	.0000210	.0001514	.0198106	.0000391	.000119

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000159	.0101402	.0065111	.0621765	-.000197	-.000090
Stddev	.000193	.0056720	.0040884	.0360996	.000137	.000290
%RSD	121.3237	55.93595	62.79201	58.05996	69.24647	321.6950
#1	.000019	.0166028	.0108412	.0987436	-.000076	.000243
#2	-.000132	.0078298	.0059749	.0612227	-.000345	-.000222
#3	-.000364	.0059880	.0027172	.0265632	-.000171	-.000291

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0253564	.0055595	.0011518	.0773000	.0099897	.0006680
Stddev	.0308998	.0038001	.0004709	.0166851	.0008321	.0002441
%RSD	121.8621	68.35299	40.88098	21.58491	8.329764	36.54112
#1	.0600816	.0099201	.0016443	.0959809	.0105522	.0008632
#2	.0150940	.0038031	.0011051	.0720419	.0103830	.0007464
#3	.0008934	.0029554	.0007061	.0638774	.0090338	.0003943

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB06 Acquired: 11/19/2024 17:24:10 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003656	.0137524	.0377672	.0010183	-.003312	.0078177
Stddev	.000657	.0074289	.0179290	.0009319	.001740	.0065387
%RSD	17.97291	54.01876	47.47250	91.51570	52.53553	83.63989
#1	-.002962	.0216411	.0576021	-.000020	-.004965	.0142479
#2	-.004269	.0127259	.0329858	.001291	-.001496	.0080296
#3	-.003736	.0068901	.0227135	.001783	-.003476	.0011756

Elem	Sr4077
Units	ppm
Avg	F .0124164
Stddev	.0085813
%RSD	69.11260
#1	.0216719
#2	.0108530
#3	.0047243

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2625.535	60376.30	13920.74	1803.774	4623.671
Stddev	2.820	167.18	53.22	3.681	1.360
%RSD	.1073967	.2769038	.3823004	.2040790	.0294220
#1	2626.230	60198.73	13859.51	1800.623	4623.196
#2	2622.433	60530.68	13955.86	1807.820	4622.612
#3	2627.942	60399.49	13946.84	1802.878	4625.205

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165047BL Acquired: 11/19/2024 17:28:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0000539	-.000417	.0002028	.0002932	.0005838	.0063623	-.000875
Stddev	.0022990	.000947	.0010471	.0010084	.0005066	.0021096	.000348
%RSD	4267.831	227.1255	516.3167	343.9311	86.78472	33.15766	39.74992
#1	-.002473	-.001444	.0005287	.0004773	.0006179	.0063536	-.001276
#2	.000612	.000423	.0010482	.0011968	.0010725	.0042571	-.000680
#3	.002022	-.000230	-.000968	-.000795	.0000609	.0084763	-.000668

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000039	.0000169	.0091653	.0002216	-.000074	-.000206	-.004289
Stddev	.000068	.0000592	.0009497	.0003441	.000290	.000081	.002844
%RSD	176.3647	348.9878	10.36249	155.2892	390.4183	39.38771	66.29992
#1	.000035	.0000842	.0102612	.0005956	-.000212	-.000132	-.001552
#2	-.000052	-.000027	.0086525	-.000082	-.000269	-.000193	-.004087
#3	-.000099	-.000006	.0085822	.000151	.000259	-.000293	-.007228

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001755	-.007774	.0000295	-.000139	-.016119	-.000489	.0005342
Stddev	.0001404	.005117	.0002098	.000161	.007870	.001016	.0002626
%RSD	79.98661	65.81961	711.1816	115.7665	48.82510	207.7225	49.15860
#1	.0003308	-.003785	.0002692	-.000306	-.021594	-.001083	.0005016
#2	.0001380	-.013543	-.000060	.000015	-.019662	.000684	.0002894
#3	.0000576	-.005993	-.000121	-.000127	-.007100	-.001068	.0008115

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0346690	.0052955	-.000169	-.003740	.0003260	.0048383	-.000297
Stddev	.0203547	.0005193	.000131	.000511	.0005846	.0044331	.001539
%RSD	58.71158	9.806236	77.20006	13.67074	179.3144	91.62526	517.5627
#1	.0157864	.0058221	-.000266	-.004172	.0008751	.0034327	.001387
#2	.0319901	.0052805	-.000021	-.003176	-.000289	.0012784	-.000648
#3	.0562305	.0047839	-.000221	-.003874	.000392	.0098037	-.001630

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165047BL Acquired: 11/19/2024 17:28:30 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.002756	-.000610	-.000059
Stddev	.002765	.001402	.000034
%RSD	100.3041	229.8557	57.08691
#1	-.001621	-.000496	-.000098
#2	-.005908	.000731	-.000036
#3	-.000740	-.002065	-.000044

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2685.589	61264.28	13809.81	1876.562	4669.027
Stddev	1.039	107.38	3.03	3.620	1.602
%RSD	.0386890	.1752779	.0219689	.1928798	.0343194
#1	2684.857	61223.39	13806.41	1872.886	4667.613
#2	2685.132	61183.34	13810.74	1876.679	4668.700
#3	2686.779	61386.10	13812.26	1880.122	4670.767

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165047BS Acquired: 11/19/2024 17:32:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.8295257	2.250458	1.053349	2.087089	.8107741	2.118107
Stddev	.0051940	.025422	.001710	.006942	.0012342	.018204
%RSD	.6261414	1.129633	.1623037	.3326224	.1522245	.8594580
#1	.8346526	2.266413	1.055007	2.094290	.8118969	2.103353
#2	.8242671	2.221141	1.053449	2.080439	.8094526	2.112518
#3	.8296575	2.263819	1.051592	2.086537	.8109728	2.138451

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2167987	.2244786	.2106587	1.125897	.4306755	.2117401
Stddev	.0010628	.0018093	.0003841	.014477	.0010435	.0003821
%RSD	.4902235	.8059828	.1823333	1.285823	.2422933	.1804628
#1	.2160983	.2224366	.2105460	1.118353	.4300694	.2112997
#2	.2162761	.2251175	.2103435	1.116749	.4300767	.2119833
#3	.2180216	.2258818	.2110865	1.142588	.4318804	.2119373

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3298824	3.082929	.2225739	2.142875	.5317538	.0786257
Stddev	.0003738	.020880	.0013408	.023211	.0008283	.0003050
%RSD	.1133227	.6772762	.6024099	1.083155	.1557630	.3878865
#1	.3300394	3.063555	.2211039	2.118728	.5314802	.0783449
#2	.3301521	3.080188	.2228882	2.144878	.5310970	.0789501
#3	.3294556	3.105044	.2237298	2.165019	.5326843	.0785822

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.850131	.3254542	.2212399	9.811735	.3372268	.4320248
Stddev	.019009	.0025656	.0011726	.063182	.0021908	.0006194
%RSD	.6669654	.7883100	.5300262	.6439468	.6496641	.1433618
#1	2.851417	.3226037	.2225936	9.872315	.3347258	.4323384
#2	2.830512	.3261810	.2205875	9.746238	.3381476	.4313114
#3	2.868465	.3275780	.2205385	9.816652	.3388070	.4324248

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: PB165047BS Acquired: 11/19/2024 17:32:51 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.7305443	.2125809	F .7320324	6.380269	F -.010693	.2009792
Stddev	.0011638	.0018497	.0136390	.018333	.001472	.0008306
%RSD	.1593088	.8701086	1.863164	.2873356	13.76815	.4132676
#1	.7318447	.2112296	.7271362	6.398906	-.009000	.2010287
#2	.7301879	.2118242	.7215175	6.362256	-.011410	.2001249
#3	.7296004	.2146890	.7474437	6.379643	-.011671	.2017838

Elem	Sr4077
Units	ppm
Avg	.2214556
Stddev	.0014958
%RSD	.6754561
#1	.2204287
#2	.2207663
#3	.2231718

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2678.847	61873.05	13482.05	1894.788	4528.284
Stddev	4.905	263.76	63.40	16.007	4.319
%RSD	.1831009	.4262977	.4702680	.8448142	.0953753
#1	2676.548	61611.18	13543.25	1879.065	4529.809
#2	2675.513	62138.67	13486.24	1911.066	4523.409
#3	2684.479	61869.30	13416.65	1894.232	4531.633

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: LR1 Acquired: 11/19/2024 17:51:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0397976	-.028747	.0066392	-.328647	-.014771	1976.940	.0338811
Stddev	.0129222	.002166	.0098264	.013389	.006039	8.922	.0079794
%RSD	32.46976	7.533433	148.0065	4.073872	40.88501	.4512940	23.55119
#1	.0377974	-.026278	-.002031	-.318971	-.011080	1972.718	.0430905
#2	.0279922	-.030322	.017313	-.323043	-.021740	1970.913	.0295234
#3	.0536033	-.029642	.004636	-.343927	-.011492	1987.189	.0290294

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0114262	.1651057	1760.683	.0000859	.0512683	.1300035	1067.942
Stddev	.0002071	.0024073	3.199	.0001408	.0007589	.0116298	4.765
%RSD	1.812293	1.458068	.1816633	163.8635	1.480146	8.945736	.4461945
#1	.0115925	.1678845	1757.169	-.000008	.0520426	.1363011	1062.669
#2	.0114920	.1637815	1761.454	.000018	.0505260	.1371263	1069.219
#3	.0111943	.1636512	1763.425	.000248	.0512363	.1165830	1071.939

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.129609	1911.416	.0222814	-.042749	2060.327	.0878589	.3486346
Stddev	.004132	4.609	.0014215	.001380	11.897	.0005616	.0046399
%RSD	3.188004	.2411412	6.379874	3.228986	.5774098	.6392452	1.330883
#1	-.124861	1908.212	.0217679	-.044061	2074.020	.0876488	.3433057
#2	-.132389	1916.698	.0238883	-.042876	2052.528	.0874326	.3517791
#3	-.131578	1909.337	.0211880	-.041309	2054.435	.0884953	.3508192

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1333.962	.3625430	-.015153	.0105338	-.038970	.1617722	.1066153
Stddev	9.875	.0042583	.001459	.0020662	.000685	.0072481	.0062997
%RSD	.7402505	1.174561	9.627534	19.61475	1.758768	4.480457	5.908823
#1	1335.763	.3580409	-.016480	.0095210	-.039183	.1539155	.1134217
#2	1342.813	.3665062	-.013591	.0091694	-.039524	.1632026	.1009892
#3	1323.312	.3630819	-.015388	.0129110	-.038204	.1681985	.1054350

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: LR1 Acquired: 11/19/2024 17:51:22 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.195736	.6180572	-1.05385
Stddev	.013406	.0061945	.00482
%RSD	6.849206	1.002257	.4569619
#1	-.180260	.6144470	-1.04851
#2	-.203771	.6145148	-1.05517
#3	-.203178	.6252099	-1.05787

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1518.922	36775.08	10234.82	1062.723	2149.082
Stddev	9.987	50.49	28.22	6.049	12.623
%RSD	.6574804	.1372991	.2757476	.5692320	.5873711
#1	1507.516	36764.24	10234.83	1066.447	2134.584
#2	1523.157	36730.90	10263.04	1055.743	2155.027
#3	1526.093	36830.12	10206.60	1065.979	2157.636

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: LR2 Acquired: 11/19/2024 17:56:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	.0096753	-.041582	241.1496	.0059750	-.000615	2.996840	^F *****
Stddev	.0029509	.001525	1.0490	.0012601	.001834	1.932082	-----
%RSD	30.49891	3.668579	.4349839	21.09003	298.1757	64.47064	-----
#1	.0105183	-.040448	242.0966	.0050508	-.001386	5.105186	^ -----
#2	.0121129	-.043316	241.3301	.0074104	.001478	2.574409	^ -----
#3	.0063947	-.040983	240.0221	.0054637	-.001938	1.310925	^ -----

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.003347	-.006398	3.124756	.0114296	-.018207	241.2186	1.733472
Stddev	.000018	.000234	2.133240	.0002688	.000291	1.8662	1.153686
%RSD	.5293583	3.660078	68.26900	2.352161	1.598051	.7736739	66.55347
#1	-.003367	-.006585	5.500563	.0116980	-.017915	242.9363	2.990234
#2	-.003338	-.006474	2.500210	.0114305	-.018497	239.2328	1.487717
#3	-.003336	-.006136	1.373497	.0111603	-.018211	241.4867	.722465

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.90412	2.904660	47.60555	.0018063	2.280257	-.019525	32.22652
Stddev	.15643	2.161554	.20995	.0003842	1.601286	.000556	.25297
%RSD	.3407682	74.41679	.4410233	21.27227	70.22391	2.848340	.7849807
#1	45.86171	5.300625	47.79277	.0022491	4.099020	-.020016	32.44789
#2	46.07738	2.312342	47.64532	.0016087	1.659311	-.019637	32.28088
#3	45.77327	1.101012	47.37855	.0015610	1.082442	-.018921	31.95079

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.256810	-.000507	-.006375	-.003182	-.045711	.0001422	3.725247
Stddev	.758146	.001711	.000285	.000919	.000283	.0018426	.067671
%RSD	60.32309	337.2479	4.472676	28.87404	.6187244	1296.148	1.816542
#1	2.120749	.001265	-.006661	-.004147	-.045540	.0012642	3.776956
#2	.947283	-.000637	-.006090	-.002319	-.046038	.0011466	3.750127
#3	.702397	-.002150	-.006375	-.003079	-.045557	-.001984	3.648658

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: LR2 Acquired: 11/19/2024 17:56:20 Type: Unk
Method: NON EPA-6010-200.7(v2475) 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	-.025668	.0002717	.0006249
Stddev	.007383	.0017330	.0011661
%RSD	28.76506	637.8862	186.6157
#1	-.026052	.0022127	-.000642
#2	-.018100	-.000277	.000863
#3	-.032852	-.001120	.001654

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2243.283	60696.32	13707.23	1753.542	4255.662
Stddev	17.196	54.93	101.16	4.533	24.278
%RSD	.7665681	.0904949	.7380404	.2585191	.5704968
#1	2224.827	60634.03	13590.43	1754.007	4228.171
#2	2258.854	60737.82	13767.45	1757.825	4274.167
#3	2246.167	60717.10	13763.80	1748.795	4264.647

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV07 Acquired: 11/19/2024 18:01:12 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.065827	4.937236	5.019439	5.096101	5.079452	10.25340	10.56510
Stddev	.018729	.039579	.031152	.018865	.017095	.03163	.34168
%RSD	.3697116	.8016424	.6206366	.3701777	.3365555	.3084992	3.234002
#1	5.086869	4.979828	5.050574	5.117249	5.099161	10.26106	10.92571
#2	5.050982	4.930291	5.019474	5.081004	5.068638	10.28050	10.52341
#3	5.059630	4.901589	4.988269	5.090051	5.070558	10.21864	10.24619

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2557015	2.485292	25.07741	1.020604	2.487304	1.293530	4.986168
Stddev	.0013347	.015721	.08013	.004691	.016786	.006983	.009026
%RSD	.5219622	.6325585	.3195288	.4596348	.6748867	.5398049	.1810227
#1	.2569406	2.500739	25.03697	1.026006	2.503985	1.301343	4.996578
#2	.2558754	2.485825	25.16971	1.018254	2.487514	1.291348	4.981393
#3	.2542884	2.469311	25.02557	1.017553	2.470414	1.287899	4.980532

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.601531	25.11179	2.498052	1.265786	25.55142	2.544088	2.478544
Stddev	.108724	.11122	.014522	.002736	.16821	.006556	.010110
%RSD	4.179244	.4428966	.5813269	.2161815	.6583104	.2577031	.4078937
#1	2.721821	25.01027	2.512124	1.268851	25.74391	2.540590	2.471121
#2	2.572510	25.23067	2.498912	1.263589	25.47766	2.551651	2.474452
#3	2.510262	25.09443	2.483119	1.264918	25.43269	2.540022	2.490058

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.17355	5.151639	5.087718	4.990683	5.033914	4.945669	5.162757
Stddev	.10483	.021399	.021517	.035295	.020312	.027474	.068584
%RSD	.4164196	.4153780	.4229262	.7072140	.4035058	.5555260	1.328435
#1	25.26523	5.166340	5.111683	5.024388	5.048772	4.916791	5.224497
#2	25.19616	5.161488	5.081416	4.993672	5.042202	4.971482	5.174840
#3	25.05926	5.127089	5.070056	4.953989	5.010769	4.948733	5.088935

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCV07 Acquired: 11/19/2024 18:01:12 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.864697	5.015318	5.139707
Stddev	.031504	.039677	.025642
%RSD	.6475970	.7911069	.4989064
#1	4.895403	5.059187	5.129801
#2	4.866236	5.004825	5.168824
#3	4.832452	4.981943	5.120495

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2553.955	59030.34	13781.20	1771.313	4177.188
Stddev	8.909	227.17	77.55	4.371	20.944
%RSD	.3488172	.3848439	.5627216	.2467680	.5013845
#1	2543.701	58768.58	13705.22	1768.583	4154.298
#2	2558.368	59146.47	13778.14	1776.355	4181.876
#3	2559.795	59175.98	13860.23	1769.003	4195.391

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB07 Acquired: 11/19/2024 18:05:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014847	.0014597	.0022453	.0026075	.0037128	.0413156
Stddev	.0023719	.0017664	.0007808	.0019232	.0010470	.0166911
%RSD	159.7598	121.0083	34.77666	73.75729	28.19999	40.39904
#1	-.000944	.0026353	.0031436	.0026760	.0048423	.0588222
#2	.001603	.0023153	.0018631	.0044955	.0027747	.0395433
#3	.003795	-.000572	.0017292	.0006509	.0035215	.0255814

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0258050	.0001143	.0006212	.0818416	.0006109	.0005590
Stddev	.0181333	.0000552	.0000661	.0421101	.0003622	.0001312
%RSD	70.27059	48.34199	10.63419	51.45319	59.28611	23.47378
#1	.0453397	.0001770	.0006559	.1247257	.0009549	.0006899
#2	.0225656	.0000730	.0005450	.0802483	.0006450	.0004275
#3	.0095097	.0000928	.0006626	.0405507	.0002329	.0005594

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019142	.0169101	.0076839	.0761709	.0005180	.0001079
Stddev	.0003935	.0076120	.0043825	.0354160	.0004825	.0001649
%RSD	20.55739	45.01428	57.03434	46.49545	93.16073	152.7660
#1	.0016876	.0247895	.0123680	.1125449	.0007082	.0002617
#2	.0023686	.0163436	.0070003	.0741700	-.000031	.0001284
#3	.0016864	.0095972	.0036834	.0417978	.000876	-.000066

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2900565	.0063430	.0014606	.2324288	.0041265	.0015637
Stddev	.0362717	.0047256	.0000506	.0165252	.0002943	.0003690
%RSD	12.50506	74.50152	3.464674	7.109775	7.132645	23.60039
#1	.3306313	.0105709	.0015190	.2514704	.0043681	.0016713
#2	.2787637	.0072164	.0014316	.2239784	.0037987	.0011528
#3	.2607745	.0012416	.0014312	.2218377	.0042127	.0018670

Reviewed By:Jaswal
On:11/20/2024
11:38:44 AM
Inst Id :P4
LB :LB133524

Sample Name: CCB07 Acquired: 11/19/2024 18:05:24 Type: Unk
Method: NON EPA-6010-200.7(v2475) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002788	.0152080	.0294282	.0018736	-.000001	F .0104251
Stddev	.000573	.0082754	.0148630	.0015233	.001825	.0074443
%RSD	20.54861	54.41460	50.50588	81.30559	321066.3	71.40716
#1	-.002750	.0239849	.0459130	.0028645	-.001221	.0186900
#2	-.003379	.0140918	.0253210	.0001195	-.000878	.0083386
#3	-.002235	.0075474	.0170508	.0026368	.002098	.0042467

Elem	Sr4077
Units	ppm
Avg	F .0141954
Stddev	.0092296
%RSD	65.01807
#1	.0241437
#2	.0125316
#3	.0059109

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2650.543	62802.55	13891.81	1866.712	4694.042
Stddev	10.701	304.57	46.47	11.273	12.535
%RSD	.4037444	.4849614	.3345138	.6038749	.2670370
#1	2641.907	62655.10	13838.71	1857.914	4682.991
#2	2647.206	62599.77	13911.64	1862.802	4691.472
#3	2662.515	63152.78	13925.08	1879.419	4707.663

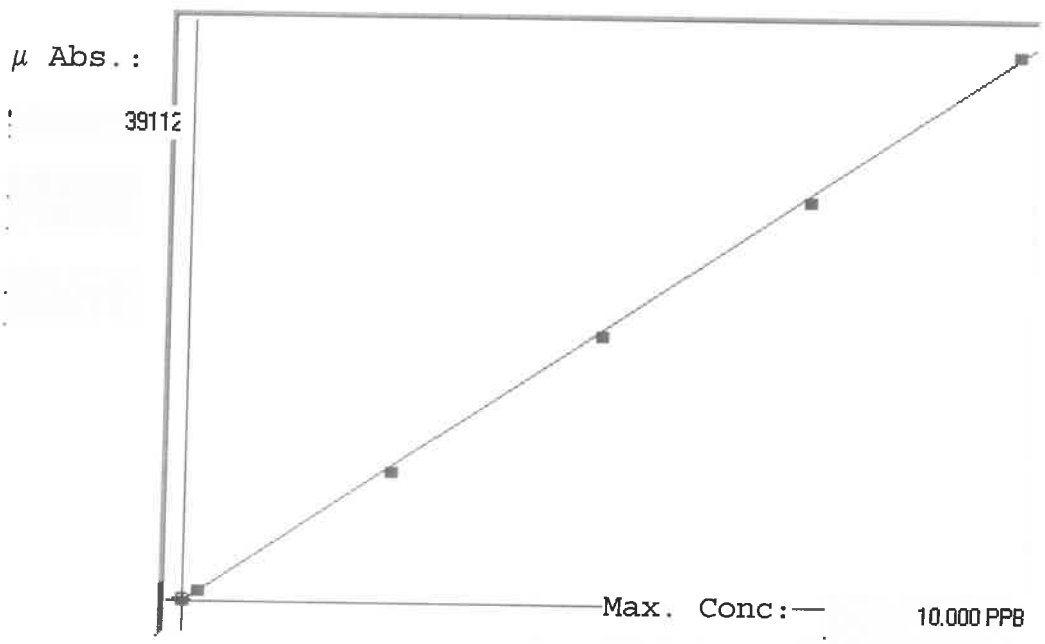
Reviewed By:mohan
On:11/19/2024
10:30:36 PM
Inst Id :CV1
LB :LB133509

LB133509

7470A

INSTRUMENT ID: CV1

Linear



A= 0.0000e+000

B= 2.5757e-004

C= 1.1210e-002

Rho= 0.9998704

Accept=Accepted

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	%RSD
0.0	0.000	0.054	0.054	167	0.000	167	0				1
0.2	0.200	0.232	0.032	856	0.0 %	856					16
2.5	2.500	2.443	-0.057	9442	0.0 %	9442					2
5.0	5.000	4.952	-0.048	19183	0.0 %	19183					1
7.5	7.500	7.433	-0.067	28816	0.0 %	28816					1
10.0	10.000	10.085	0.085	39112	0.0 %	39112					1

Reviewed By:mohan
On:11/19/2024
10:30:36 PM
Inst Id :CV1
LB :LB133509

LB133509 INSTRUMENT ID : CV1

Method: 7470A Operator: Admin Date of Analysis: 19 Nov 2024 10:56:41

Sample ID	Extended ID	µ Abs	Conc.	Stnd Conc	Method	Units	Date	Type	Type
0.0 - 1	S0	167	-	0.0000	7470A	PPB	19 Nov 2024 11:05:05	S	Std
0.2 - 1	S0.2	856	-	0.2000	7470A	PPB	19 Nov 2024 11:07:21	S	Std
2.5 - 1	S2.5	9442	-	2.5000	7470A	PPB	19 Nov 2024 11:09:38	S	Std
5.0 - 1	S5	19183	-	5.0000	7470A	PPB	19 Nov 2024 11:11:55	S	Std
7.5 - 1	S7.5	28816	-	7.5000	7470A	PPB	19 Nov 2024 11:14:12	S	Std
10.0 - 1	S10	39112	-	10.0000	7470A	PPB	19 Nov 2024 11:16:29	S	Std
ICV90 - 1	ICV90	14012	3.6203		-7470A	PPB	19 Nov 2024 11:19:21	U	SMPL
ICB90 - 1	ICB90	-130	-0.0223		-7470A	PPB	19 Nov 2024 11:21:36	U	SMPL
CCV05 - 1	CCV05	20709	5.3452		-7470A	PPB	19 Nov 2024 11:26:25	U	SMPL
CCB05 - 1	CCB05	-235	-0.0493		-7470A	PPB	19 Nov 2024 11:28:40	U	SMPL
CRA - 1	CRA	630	0.1735		-7470A	PPB	19 Nov 2024 11:30:56	U	SMPL
HighStd - 1	HighStd	38765	9.9959		-7470A	PPB	19 Nov 2024 11:33:11	U	SMPL
ChkStd - 1	ChkStd	27345	7.0545		-7470A	PPB	19 Nov 2024 11:35:26	U	SMPL
PB165079BL - 1	PBW	-387	-0.0885		-7470A	PPB	19 Nov 2024 11:37:44	U	SMPL
PB165079BS - 1	LCSW	13428	3.4699		-7470A	PPB	19 Nov 2024 11:40:02	U	SMPL
P4848-02 - 1	TP-1	-192	-0.0382		-7470A	PPB	19 Nov 2024 11:42:18	U	SMPL
P4849-02 - 1	RR-1	-80	-0.0094		-7470A	PPB	19 Nov 2024 11:44:35	U	SMPL
P4870-13 - 1	TP-1	6	0.0128		-7470A	PPB	19 Nov 2024 11:46:52	U	SMPL
P4870-14 - 1	MH-735	-231	-0.0483		-7470A	PPB	19 Nov 2024 11:49:09	U	SMPL
P4870-15 - 1	MH-736	-90	-0.0120		-7470A	PPB	19 Nov 2024 11:51:25	U	SMPL
CCV06 - 1	CCV06	20251	5.2273		-7470A	PPB	19 Nov 2024 11:53:40	U	SMPL
CCB06 - 1	CCB06	-168	-0.0321		-7470A	PPB	19 Nov 2024 11:55:56	U	SMPL
P4870-16 - 1	TP-15	-60	-0.0042		-7470A	PPB	19 Nov 2024 11:58:13	U	SMPL
P4887-02 - 1	MH-739	5	0.0125		-7470A	PPB	19 Nov 2024 12:00:28	U	SMPL
P4887-06 - 1	MH-760	-27	0.0043		-7470A	PPB	19 Nov 2024 12:02:44	U	SMPL
P4887-06DUP - 1	MH-760DUP	-35	0.0022		-7470A	PPB	19 Nov 2024 12:04:59	U	SMPL
P4887-06MS - 1	MH-760MS	15604	4.0303		-7470A	PPB	19 Nov 2024 12:07:15	U	SMPL
P4887-06MSD - 1	MH-760MSD	15791	4.0785		-7470A	PPB	19 Nov 2024 12:09:31	U	SMPL
P4890-06 - 1	D3721	-223	-0.0462		-7470A	PPB	19 Nov 2024 12:11:49	U	SMPL
P4892-03 - 1	WB-310-BOT	-22	0.0055		-7470A	PPB	19 Nov 2024 12:14:07	U	SMPL
P4893-04 - 1	MH-763	-42	0.0004		-7470A	PPB	19 Nov 2024 12:16:24	U	SMPL
P4893-08 - 1	MH-762	50	0.0241		-7470A	PPB	19 Nov 2024 12:18:39	U	SMPL
CCV07 - 1	CCV07	19504	5.0349		-7470A	PPB	19 Nov 2024 12:20:55	U	SMPL
CCB07 - 1	CCB07	-130	-0.0223		-7470A	PPB	19 Nov 2024 12:23:10	U	SMPL
P4910-04 - 1	MH-COTTAGE	-7	0.0094		-7470A	PPB	19 Nov 2024 12:25:28	U	SMPL
P4910-08 - 1	MH-759	5	0.0125		-7470A	PPB	19 Nov 2024 12:27:43	U	SMPL
PB165080BL - 1	PBW	-87	-0.0112		-7470A	PPB	19 Nov 2024 12:29:58	U	SMPL
PB165080BS - 1	LCSW	13493	3.4866		-7470A	PPB	19 Nov 2024 12:38:27	U	SMPL
P4861-01 - 1	WC-11-A-202411	-180	-0.0352		-7470A	PPB	19 Nov 2024 12:40:43	U	SMPL
P4861-01DUP - 1	WC-11-A-202411DUP	-36	0.0019		-7470A	PPB	19 Nov 2024 12:43:00	U	SMPL
P4861-01MS - 1	WC-11-A-202411MS	17312	4.4703		-7470A	PPB	19 Nov 2024 13:01:06	U	SMPL
P4861-01MSD - 1	WC-11-A-202411MSD	17158	4.4306		-7470A	PPB	19 Nov 2024 13:03:31	U	SMPL
P4871-01 - 1	WC-10-A-202411	-229	-0.0478		-7470A	PPB	19 Nov 2024 13:05:59	U	SMPL
P4890-01 - 1	#3711	-43	0.0001		-7470A	PPB	19 Nov 2024 13:08:24	U	SMPL
CCV08 - 1	CCV08	19596	5.0586		-7470A	PPB	19 Nov 2024 13:10:39	U	SMPL
CCB08 - 1	CCB08	-275	-0.0596		-7470A	PPB	19 Nov 2024 13:12:54	U	SMPL
P4890-02 - 1	D3617	617	0.1701		-7470A	PPB	19 Nov 2024 13:15:12	U	SMPL
P4890-03 - 1	D3690	0	0.0112		-7470A	PPB	19 Nov 2024 13:17:27	U	SMPL
PB164986TB - 1	PB164986TB	-55	-0.0030		-7470A	PPB	19 Nov 2024 13:19:44	U	SMPL
PB165019TB - 1	PB165019TB	35	0.0202		-7470A	PPB	19 Nov 2024 13:21:59	U	SMPL
P4887-06LX5 - 1		-87	-0.0112		-7470A	PPB	19 Nov 2024 13:24:15	U	SMPL
P4887-06A - 1		15359	3.9672		-7470A	PPB	19 Nov 2024 13:26:31	U	SMPL
P4861-01LX5 - 1		-189	-0.0375		-7470A	PPB	19 Nov 2024 13:28:47	U	SMPL
P4861-01A - 1		16297	4.2088		-7470A	PPB	19 Nov 2024 13:31:05	U	SMPL
CCV09 - 1	CCV09	20666	5.3342		-7470A	PPB	19 Nov 2024 13:33:21	U	SMPL
CCB09 - 1	CCB09	-138	-0.0243		-7470A	PPB	19 Nov 2024 13:35:39	U	SMPL

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB165049

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: 11/18/2024 **Time :** 11:00 **Temp :** 95 °C

End Digest Date: 11/18/2024 **Time :** 14:10 **Temp :** 95 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: JPP

Supervisor Signature: SJ

Temp : 1. 95°C 2. N/A

Standared Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6000
LFS-2	0.25	M6009
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6120
1:1 HCL	5.00	MP83105
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 : 96C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/18/24 15:00	JPP / Met dig	SJ (Metals Lab).
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Water Metals Preparation Sheet

PB165049

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
P4848-02	TP-1	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	1
P4849-02	RR-1	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	2
P4861-01	WC-11-A-202411	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	3
P4861-01DUP	WC-11-A-202411DUP	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	4
P4861-01MS	WC-11-A-202411MS	<2	5	25	Colorless	Colorless	Clear	Clear	M6000,M6009	5
P4861-01MSD	WC-11-A-202411MSD	<2	5	25	Colorless	Colorless	Clear	Clear	M6000,M6009	6
P4870-13	TP-1	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	7
P4870-14	MH-735	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	8
P4870-15	MH-736	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	9
P4870-16	TP-15	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	10
P4871-01	WC-10-A-202411	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	11
P4887-02	MH-739	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	12
P4887-06	MH-760	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	13
P4890-01	#3711	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	14
P4890-02	D3617	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	15
P4890-03	D3690	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	16
PB164986TB	PB164986TB	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	17
PB165019TB	PB165019TB	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	18
PB165049BL	PBW049	<2	5	25	Colorless	Colorless	Clear	Clear	N/A	19
PB165049BS	LCS049	<2	5	25	Colorless	Colorless	Clear	Clear	M6000,M6009	20

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB165019

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
P4861-01	WC-11-A-202411	N/A	N/A	N/A	N/A	N/A	N/A	7.2	1.5	N/A
P4871-01	WC-10-A-202411	N/A	N/A	N/A	N/A	N/A	N/A	7.2	1.5	N/A
P4890-01	#3711	N/A	N/A	N/A	N/A	N/A	N/A	6.4	1.0	N/A
P4890-02	D3617	N/A	N/A	N/A	N/A	N/A	N/A	7.0	1.5	N/A
P4890-03	D3690	N/A	N/A	N/A	N/A	N/A	N/A	7.0	1.5	N/A
PB165019TB	LEB019	N/A	N/A	N/A	N/A	N/A	N/A	4.94	1.0	N/A

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB164986

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
P4848-02	TP-1	01	100.03	2000	N/A	N/A	N/A	8.6	1.5	T-1
P4849-02	RR-1	02	100.04	2000	N/A	N/A	N/A	5.8	1.0	T-1
P4870-13	TP-1	03	100.03	2000	N/A	N/A	N/A	5.6	1.5	T-1
P4870-14	MH-735	04	100.02	2000	N/A	N/A	N/A	5.8	1.0	T-1
P4870-15	MH-736	05	100.03	2000	N/A	N/A	N/A	5.6	1.5	T-1
P4870-16	TP-15	06	100.02	2000	N/A	N/A	N/A	5.5	1.0	T-1
P4887-02	MH-739	07	100.03	2000	N/A	N/A	N/A	5.5	1.5	T-1
P4887-06	MH-760	08	100.04	2000	N/A	N/A	N/A	7.2	1.0	T-1
PB164986TB	LEB986	09	N/A	2000	N/A	N/A	N/A	4.94	1.5	T-1

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 # LB133502

Review By	kareem	Review On	11/19/2024 9:23:02 AM
Supervise By	jaswal	Supervise On	11/19/2024 10:28:07 PM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/18/24 12:31		Kareem	OK
2	S1	S1	CAL2	11/18/24 12:36		Kareem	OK
3	S2	S2	CAL3	11/18/24 12:40		Kareem	OK
4	S3	S3	CAL4	11/18/24 12:44		Kareem	OK
5	S4	S4	CAL5	11/18/24 12:49		Kareem	OK
6	S5	S5	CAL6	11/18/24 12:53		Kareem	OK
7	ICV01	ICV01	ICV	11/18/24 12:57		Kareem	OK
8	LLICV01	LLICV01	LLICV	11/18/24 13:11		Kareem	OK
9	ICB01	ICB01	ICB	11/18/24 13:15		Kareem	OK
10	CRI01	CRI01	CRDL	11/18/24 13:20		Kareem	OK
11	ICSA01	ICSA01	ICSA	11/18/24 13:30		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	11/18/24 13:42		Kareem	OK
13	CCV01	CCV01	CCV	11/18/24 13:52		Kareem	OK
14	CCB01	CCB01	CCB	11/18/24 14:02		Kareem	OK
15	P4857-01	ETGI-328	SAM	11/18/24 14:06		Kareem	OK
16	P4857-03	VNJ-226	SAM	11/18/24 14:10		Kareem	OK
17	P4859-01	NB-08-111424	SAM	11/18/24 14:14		Kareem	OK
18	P4867-02	TT-070-IDWGW-2024	SAM	11/18/24 14:18		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133502

Review By	kareem	Review On	11/19/2024 9:23:02 AM
Supervise By	jaswal	Supervise On	11/19/2024 10:28:07 PM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

19	P4867-03	TT-071-IDWGW-2024	SAM	11/18/24 14:23		Kareem	OK
20	P4867-04	TT-072-IDWGW-2024	SAM	11/18/24 14:27		Kareem	OK
21	CCV02	CCV02	CCV	11/18/24 14:31		Kareem	OK
22	CCB02	CCB02	CCB	11/18/24 14:35		Kareem	OK
23	PB165011BL	PB165011BL	MB	11/18/24 14:40	Not Use	Kareem	Not Ok
24	PB165011BS	PB165011BS	LCS	11/18/24 14:45	Not Use	Kareem	Not Ok
25	PB165003BL	PB165003BL	MB	11/18/24 14:49		Kareem	OK
26	PB165003BS	PB165003BS	LCS	11/18/24 14:53	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
27	P4848-01	TP-1	SAM	11/18/24 15:10	Cr high	Kareem	Dilution
28	P4849-01	RR-1	SAM	11/18/24 15:14		Kareem	OK
29	P4850-01	OR-03-11142024	SAM	11/18/24 15:18		Kareem	OK
30	P4851-01	OK-02-11142024	SAM	11/18/24 15:22		Kareem	OK
31	P4852-01	COMP-1	SAM	11/18/24 15:26		Kareem	OK
32	P4852-02	COMP-2	SAM	11/18/24 15:31		Kareem	OK
33	CCV03	CCV03	CCV	11/18/24 15:35		Kareem	OK
34	CCB03	CCB03	CCB	11/18/24 15:39		Kareem	OK
35	P4852-03	COMP-3	SAM	11/18/24 15:43		Kareem	OK
36	P4859-01DUP	NB-08-111424DUP	DUP	11/18/24 15:48		Kareem	OK
37	P4859-01L	NB-08-111424L	SD	11/18/24 15:52		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133502

Review By	kareem	Review On	11/19/2024 9:23:02 AM
Supervise By	jaswal	Supervise On	11/19/2024 10:28:07 PM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

38	P4859-01MS	NB-08-111424MS	MS	11/18/24 15:56	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
39	P4859-01MSD	NB-08-111424MSD	MSD	11/18/24 16:00	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
40	P4859-01A	NB-08-111424A	PS	11/18/24 16:04	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
41	P4868-01	RW5-SP100-2024111	SAM	11/18/24 16:08		Kareem	OK
42	P4868-03	RW5-SP303-2024111	SAM	11/18/24 16:12		Kareem	OK
43	P4868-03DUP	RW5-SP303-2024111	DUP	11/18/24 16:16		Kareem	OK
44	P4868-03MSD	RW5-SP303-2024111	MSD	11/18/24 16:21	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
45	CCV04	CCV04	CCV	11/18/24 16:25		Kareem	OK
46	CCB04	CCB04	CCB	11/18/24 16:29		Kareem	OK
47	P4848-01DL	TP-1DL	SAM	11/18/24 16:33	10x for Cr	Kareem	Confirms
48	P4868-03A	RW5-SP303-2024111	PS	11/18/24 16:37	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
49	P4868-03L	RW5-SP303-2024111	SD	11/18/24 16:41		Kareem	OK
50	P4868-03MS	RW5-SP303-2024111	MS	11/18/24 16:46	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
51	LR1	LR1	HIGH STD	11/18/24 16:51		Kareem	OK
52	LR2	LR2	HIGH STD	11/18/24 16:56		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133502

Review By	kareem	Review On	11/19/2024 9:23:02 AM
Supervise By	jaswal	Supervise On	11/19/2024 10:28:07 PM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

53	CCV05	CCV05	CCV	11/18/24 17:01		Kareem	OK
54	CCB05	CCB05	CCB	11/18/24 17:06		Kareem	OK
55	P4861-01	WC-11-A-202411	SAM	11/18/24 17:27		Kareem	OK
56	P4861-01DUP	WC-11-A-202411DUP	DUP	11/18/24 17:31		Kareem	OK
57	P4861-01L	WC-11-A-202411L	SD	11/18/24 17:35		Kareem	OK
58	P4861-01MS	WC-11-A-202411MS	MS	11/18/24 17:40	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
59	P4861-01MSD	WC-11-A-202411MSD	MSD	11/18/24 17:44	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
60	P4861-01A	WC-11-A-202411A	PS	11/18/24 17:48	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
61	P4871-01	WC-10-A-202411	SAM	11/18/24 17:51		Kareem	OK
62	P4848-02	TP-1	SAM	11/18/24 17:56		Kareem	OK
63	P4869-01	EO-02-11152024	SAM	11/18/24 18:00		Kareem	OK
64	CCV06	CCV06	CCV	11/18/24 18:04		Kareem	OK
65	CCB06	CCB06	CCB	11/18/24 18:08		Kareem	OK
66	P4887-01	MH-739	SAM	11/18/24 18:13		Kareem	OK
67	P4887-05	MH-760	SAM	11/18/24 18:17		Kareem	OK
68	P4889-01	VNJ-228	SAM	11/18/24 18:21		Kareem	OK
69	P4889-03	#72-11978	SAM	11/18/24 18:25		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133502

Review By	kareem	Review On	11/19/2024 9:23:02 AM
Supervise By	jaswal	Supervise On	11/19/2024 10:28:07 PM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

70	P4889-05	#72-11930	SAM	11/18/24 18:29		Kareem	OK
71	P4889-05DUP	#72-11930DUP	DUP	11/18/24 18:33		Kareem	OK
72	P4889-05L	#72-11930L	SD	11/18/24 18:37		Kareem	OK
73	P4889-05MS	#72-11930MS	MS	11/18/24 18:42	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
74	P4889-05MSD	#72-11930MSD	MSD	11/18/24 18:46	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
75	P4889-05A	#72-11930A	PS	11/18/24 18:50	0.1ml of m6010 and m6001 were added to 10ml of the sample	Kareem	OK
76	CCV07	CCV07	CCV	11/18/24 18:54		Kareem	OK
77	CCB07	CCB07	CCB	11/18/24 18:58		Kareem	OK

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Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB133509

Review By	jaswal	Review On	11/19/2024 10:27:51 PM
Supervise By	mohan	Supervise On	11/19/2024 10:30:36 PM

STD. NAME	STD REF.#
ICAL Standard	MP83297,MP83298,MP83299,MP83300,MP83301,MP83302
ICV Standard	MP83303
CCV Standard	MP83305
ICSA Standard	
CRI Standard	MP83307
LCS Standard	
Chk Standard	MP83304,MP83306,MP83308,MP83310

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/19/24 11:05		Mohan	OK
2	S0.2	S0.2	CAL2	11/19/24 11:07		Mohan	OK
3	S2.5	S2.5	CAL3	11/19/24 11:09		Mohan	OK
4	S5	S5	CAL4	11/19/24 11:11		Mohan	OK
5	S7.5	S7.5	CAL5	11/19/24 11:14		Mohan	OK
6	S10	S10	CAL6	11/19/24 11:16		Mohan	OK
7	ICV90	ICV90	ICV	11/19/24 11:19		Mohan	OK
8	ICB90	ICB90	ICB	11/19/24 11:21		Mohan	OK
9	CCV05	CCV05	CCV	11/19/24 11:26		Mohan	OK
10	CCB05	CCB05	CCB	11/19/24 11:28		Mohan	OK
11	CRA	CRA	CRDL	11/19/24 11:30		Mohan	OK
12	HighStd	HighStd	HIGH STD	11/19/24 11:33		Mohan	OK
13	ChkStd	ChkStd	SAM	11/19/24 11:35		Mohan	OK
14	PB165079BL	PB165079BL	MB	11/19/24 11:37		Mohan	OK
15	PB165079BS	PB165079BS	LCS	11/19/24 11:40		Mohan	OK
16	P4848-02	TP-1	SAM	11/19/24 11:42		Mohan	OK
17	P4849-02	RR-1	SAM	11/19/24 11:44		Mohan	OK
18	P4870-13	TP-1	SAM	11/19/24 11:46		Mohan	OK

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

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB133509

Review By	jaswal	Review On	11/19/2024 10:27:51 PM
Supervise By	mohan	Supervise On	11/19/2024 10:30:36 PM

STD. NAME	STD REF.#
ICAL Standard	MP83297,MP83298,MP83299,MP83300,MP83301,MP83302
ICV Standard	MP83303
CCV Standard	MP83305
ICSA Standard	
CRI Standard	MP83307
LCS Standard	
Chk Standard	MP83304,MP83306,MP83308,MP83310

19	P4870-14	MH-735	SAM	11/19/24 11:49		Mohan	OK
20	P4870-15	MH-736	SAM	11/19/24 11:51		Mohan	OK
21	CCV06	CCV06	CCV	11/19/24 11:53		Mohan	OK
22	CCB06	CCB06	CCB	11/19/24 11:55		Mohan	OK
23	P4870-16	TP-15	SAM	11/19/24 11:58		Mohan	OK
24	P4887-02	MH-739	SAM	11/19/24 12:00		Mohan	OK
25	P4887-06	MH-760	SAM	11/19/24 12:02		Mohan	OK
26	P4887-06DUP	MH-760DUP	DUP	11/19/24 12:04		Mohan	OK
27	P4887-06MS	MH-760MS	MS	11/19/24 12:07		Mohan	OK
28	P4887-06MSD	MH-760MSD	MSD	11/19/24 12:09		Mohan	OK
29	P4890-06	D3721	SAM	11/19/24 12:11		Mohan	OK
30	P4892-03	WB-310-BOT	SAM	11/19/24 12:14		Mohan	OK
31	P4893-04	MH-763	SAM	11/19/24 12:16		Mohan	OK
32	P4893-08	MH-762	SAM	11/19/24 12:18		Mohan	OK
33	CCV07	CCV07	CCV	11/19/24 12:20		Mohan	OK
34	CCB07	CCB07	CCB	11/19/24 12:23		Mohan	OK
35	P4910-04	MH-COTTAGE	SAM	11/19/24 12:25		Mohan	OK
36	P4910-08	MH-759	SAM	11/19/24 12:27		Mohan	OK
37	PB165080BL	PB165080BL	MB	11/19/24 12:29		Mohan	OK
38	PB165080BS	PB165080BS	LCS	11/19/24 12:38		Mohan	OK

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Instrument ID: CV1

Daily Analysis Runlog For Sequence/QCBatch ID # LB133509

Review By	jaswal	Review On	11/19/2024 10:27:51 PM
Supervise By	mohan	Supervise On	11/19/2024 10:30:36 PM

STD. NAME	STD REF.#
ICAL Standard	MP83297,MP83298,MP83299,MP83300,MP83301,MP83302
ICV Standard	MP83303
CCV Standard	MP83305
ICSA Standard	
CRI Standard	MP83307
LCS Standard	
Chk Standard	MP83304,MP83306,MP83308,MP83310

39	P4861-01	WC-11-A-202411	SAM	11/19/24 12:40		Mohan	OK
40	P4861-01DUP	WC-11-A-202411DUP	DUP	11/19/24 12:43		Mohan	OK
41	P4861-01MS	WC-11-A-202411MS	MS	11/19/24 13:01		Mohan	OK
42	P4861-01MSD	WC-11-A-202411MSD	MSD	11/19/24 13:03		Mohan	OK
43	P4871-01	WC-10-A-202411	SAM	11/19/24 13:05		Mohan	OK
44	P4890-01	#3711	SAM	11/19/24 13:08		Mohan	OK
45	CCV08	CCV08	CCV	11/19/24 13:10		Mohan	OK
46	CCB08	CCB08	CCB	11/19/24 13:12		Mohan	OK
47	P4890-02	D3617	SAM	11/19/24 13:15		Mohan	OK
48	P4890-03	D3690	SAM	11/19/24 13:17		Mohan	OK
49	PB164986TB	PB164986TB	MB	11/19/24 13:19		Mohan	OK
50	PB165019TB	PB165019TB	MB	11/19/24 13:21		Mohan	OK
51	P4887-06L	MH-760L	SD	11/19/24 13:24		Mohan	OK
52	P4887-06A	MH-760A	PS	11/19/24 13:26		Mohan	OK
53	P4861-01L	WC-11-A-202411L	SD	11/19/24 13:28		Mohan	OK
54	P4861-01A	WC-11-A-202411A	PS	11/19/24 13:31		Mohan	OK
55	CCV09	CCV09	CCV	11/19/24 13:33		Mohan	OK
56	CCB09	CCB09	CCB	11/19/24 13:35		Mohan	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133524

Review By	kareem	Review On	11/20/2024 11:25:14 AM
Supervise By	Jaswal	Supervise On	11/20/2024 11:38:44 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	11/19/24 10:55		Kareem	OK
2	S1	S1	CAL2	11/19/24 11:00		Kareem	OK
3	S2	S2	CAL3	11/19/24 11:04		Kareem	OK
4	S3	S3	CAL4	11/19/24 11:08		Kareem	OK
5	S4	S4	CAL5	11/19/24 11:13		Kareem	OK
6	S5	S5	CAL6	11/19/24 11:17		Kareem	OK
7	ICV01	ICV01	ICV	11/19/24 11:25		Kareem	OK
8	LLICV01	LLICV01	LLICV	11/19/24 11:34		Kareem	OK
9	ICB01	ICB01	ICB	11/19/24 11:38		Kareem	OK
10	CRI01	CRI01	CRDL	11/19/24 11:43		Kareem	OK
11	ICSA01	ICSA01	ICSA	11/19/24 11:47		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	11/19/24 11:51		Kareem	OK
13	CCV01	CCV01	CCV	11/19/24 12:43		Kareem	OK
14	CCB01	CCB01	CCB	11/19/24 12:48		Kareem	OK
15	PB165067BL	PB165067BL	MB	11/19/24 12:52		Kareem	OK
16	PB165067BS	PB165067BS	LCS	11/19/24 12:56	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
17	PB164759BL	PB164759BL	MB	11/19/24 13:00		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133524

Review By	kareem	Review On	11/20/2024 11:25:14 AM
Supervise By	Jaswal	Supervise On	11/20/2024 11:38:44 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

18	PB164759BS	PB164759BS	LCS	11/19/24 13:05	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
19	PB164645BL	PB164645BL	MB	11/19/24 13:09		Kareem	OK
20	PB164645BS	PB164645BS	LCS	11/19/24 13:13	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
21	PB164944TB	PB164944TB	MB	11/19/24 13:17		Kareem	OK
22	P4892-01	WB-310-TOP	SAM	11/19/24 13:22	Cr high	Kareem	Dilution
23	P4892-02	WB-310-BOT	SAM	11/19/24 13:26		Kareem	OK
24	P4893-01	MH-763	SAM	11/19/24 13:30		Kareem	OK
25	CCV02	CCV02	CCV	11/19/24 13:34		Kareem	OK
26	CCB02	CCB02	CCB	11/19/24 13:38		Kareem	OK
27	P4893-05	MH-762	SAM	11/19/24 13:42		Kareem	OK
28	P4908-01	SP-1	SAM	11/19/24 13:46		Kareem	OK
29	P4908-03	SP-2	SAM	11/19/24 13:51		Kareem	OK
30	P4909-01	BU-02-111824	SAM	11/19/24 13:55		Kareem	OK
31	P4909-01DUP	BU-02-111824DUP	DUP	11/19/24 13:59		Kareem	OK
32	P4909-01L	BU-02-111824L	SD	11/19/24 14:03		Kareem	OK
33	P4909-01MS	BU-02-111824MS	MS	11/19/24 14:08	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
34	P4909-01MSD	BU-02-111824MSD	MSD	11/19/24 14:12	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133524

Review By	kareem	Review On	11/20/2024 11:25:14 AM
Supervise By	Jaswal	Supervise On	11/20/2024 11:38:44 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

35	P4909-01A	BU-02-111824A	PS	11/19/24 14:16	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
36	P4890-01	#3711	SAM	11/19/24 14:20		Kareem	OK
37	CCV03	CCV03	CCV	11/19/24 14:24		Kareem	OK
38	CCB03	CCB03	CCB	11/19/24 14:28		Kareem	OK
39	P4890-02	D3617	SAM	11/19/24 14:37		Kareem	OK
40	P4890-03	D3690	SAM	11/19/24 14:41		Kareem	OK
41	P4849-02	RR-1	SAM	11/19/24 14:56		Kareem	OK
42	PB165019TB	PB165019TB	MB	11/19/24 15:00		Kareem	OK
43	P4870-13	TP-1	SAM	11/19/24 15:05		Kareem	OK
44	P4870-14	MH-735	SAM	11/19/24 15:09		Kareem	OK
45	P4870-15	MH-736	SAM	11/19/24 15:13		Kareem	OK
46	P4870-16	TP-15	SAM	11/19/24 15:18		Kareem	OK
47	P4887-02	MH-739	SAM	11/19/24 15:22		Kareem	OK
48	P4887-06	MH-760	SAM	11/19/24 15:27		Kareem	OK
49	CCV04	CCV04	CCV	11/19/24 15:31		Kareem	OK
50	CCB04	CCB04	CCB	11/19/24 15:36		Kareem	OK
51	PB164986TB	PB164986TB	MB	11/19/24 15:40	fail for Cr	Kareem	Not Ok
52	PB165049BL	PB165049BL	MB	11/19/24 15:44		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133524

Review By	kareem	Review On	11/20/2024 11:25:14 AM
Supervise By	Jaswal	Supervise On	11/20/2024 11:38:44 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

53	PB165049BS	PB165049BS	LCS	11/19/24 15:49	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF THE SAMPLE	Kareem	OK
54	P4892-01DL	WB-310-TOPDL	SAM	11/19/24 15:53	5x for Cr	Kareem	Confirms
55	P4341-02	10324-0	SAM	11/19/24 15:57		Kareem	OK
56	P4860-01	DUP-01	SAM	11/19/24 16:01		Kareem	OK
57	P4860-02	PH2-BOT-001	SAM	11/19/24 16:06		Kareem	OK
58	P4860-03	PH2-BOT-002	SAM	11/19/24 16:10		Kareem	OK
59	P4860-04	PH2-BOT-003	SAM	11/19/24 16:14		Kareem	OK
60	CCV05	CCV05	CCV	11/19/24 16:18		Kareem	OK
61	CCB05	CCB05	CCB	11/19/24 16:22		Kareem	OK
62	P4860-05	PH2-BOT-004	SAM	11/19/24 16:27		Kareem	OK
63	P4860-06	PH2-BOT-009	SAM	11/19/24 16:31		Kareem	OK
64	P4860-07	PH2-BOT-008	SAM	11/19/24 16:35		Kareem	OK
65	P4860-08	PH2-BOT-007	SAM	11/19/24 16:39		Kareem	OK
66	P4860-09	PH2-BOT-006	SAM	11/19/24 16:44		Kareem	OK
67	P4860-10	PH2-BOT-005	SAM	11/19/24 16:48		Kareem	OK
68	P4870-01	TP-1	SAM	11/19/24 16:52		Kareem	OK
69	P4870-04	MH-735	SAM	11/19/24 16:57		Kareem	OK
70	P4870-07	MH-736	SAM	11/19/24 17:01		Kareem	OK
71	P4870-10	TP-15	SAM	11/19/24 17:05		Kareem	OK

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Instrument ID: P4

Daily Analysis Runlog For Sequence/QCBatch ID # LB133524

Review By	kareem	Review On	11/20/2024 11:25:14 AM
Supervise By	Jaswal	Supervise On	11/20/2024 11:38:44 AM

STD. NAME	STD REF.#
ICAL Standard	MP83078,MP83079,MP73080,MP83081,MP83082,MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086,MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091,MP83092

72	CCV06	CCV06	CCV	11/19/24 17:19		Kareem	OK
73	CCB06	CCB06	CCB	11/19/24 17:24		Kareem	OK
74	PB165047BL	PB165047BL	MB	11/19/24 17:28		Kareem	OK
75	PB165047BS	PB165047BS	LCS	11/19/24 17:32		Kareem	OK
76	LR1	LR1	HIGH STD	11/19/24 17:51		Kareem	OK
77	LR2	LR2	HIGH STD	11/19/24 17:56		Kareem	OK
78	CCV07	CCV07	CCV	11/19/24 18:01		Kareem	OK
79	CCB07	CCB07	CCB	11/19/24 18:05		Kareem	OK

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB165019

SOP ID : M1311-TCLP-15

SDG No : N/A

Weigh By : N/A

Balance ID : N/A

pH Meter ID : WC PH METER-1

Extraction By : JP

Filter By : N/A

Pippete ID : N/A

Tumbler ID : N/A

TCLP Filter ID : 114771

Start Prep Date : N/A **Time :** N/A

End Prep Date : N/A **Time :** N/A

Combination Ratio : N/A

ZHE Cleaning Batch : N/A

Initial Room Temperature: N/A

Final Room Temperature: N/A

TCLP Technician Signature : JP

Supervisor By : IR

Standared Name	MLS USED	STD REF. # FROM LOG
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE U	Lot Number
N/A	N/A	N/A
N/A	N/A	N/A
HNO3-TCLP,1N	N/A	WP108585
pH Strips	N/A	W1931,W1934,W2350,W2755
pH Strips	N/A	W1937,W1938,W1939,W1940,W1941,W1942
N/A	N/A	N/A
120ml Plastic bottle	N/A	21029
1:1 HNO3	N/A	MP83122

Extraction Conformance/Non-Conformance Comments:

Matrix spikes are added after fiftration and before preservation. P4861-01 IS USED FOR MS-MSD.

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11-16-24 11:00	JP /TCLP Room	JP. RJ/Det Dig.
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

TCLP EXTRACTION LOGPAGE

PB165019

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
P4861-01	WC-11-A-202411	N/A	N/A	N/A	N/A	N/A	N/A	7.2	1.5	N/A
P4871-01	WC-10-A-202411	N/A	N/A	N/A	N/A	N/A	N/A	7.2	1.5	N/A
P4890-01	#3711	N/A	N/A	N/A	N/A	N/A	N/A	6.4	1.0	N/A
P4890-02	D3617	N/A	N/A	N/A	N/A	N/A	N/A	7.0	1.5	N/A
P4890-03	D3690	N/A	N/A	N/A	N/A	N/A	N/A	7.0	1.5	N/A
PB165019TB	LEB019	N/A	N/A	N/A	N/A	N/A	N/A	4.94	1.0	N/A

SampleID	ClientID	Sample Weight (g)	Filter Weight (g)	Filtrate (mL)	Filter + Solid (After 100°C)	% solids	% Dry Solids
P4861-01	WC-11-A-202411	N/A	N/A	N/A	N/A	<0.5	N/A
P4871-01	WC-10-A-202411	N/A	N/A	N/A	N/A	<0.5	N/A
P4890-01	#3711	N/A	N/A	N/A	N/A	N/A	N/A
P4890-02	D3617	N/A	N/A	N/A	N/A	N/A	N/A
P4890-03	D3690	N/A	N/A	N/A	N/A	N/A	N/A
PB165019TB	LEB019	N/A	N/A	N/A	N/A	N/A	N/A

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Prep Standard - Chemical Standard Summary

Order ID : P4861

Test : TCLP ICP Metals,TCLP Mercury

Prepbatch ID : PB165049,PB165080,

Sequence ID/Qc Batch ID: LB133502,LB133502,LB133509,LB133524,LB133524,

Standard ID :
MP73080,MP83078,MP83079,MP83081,MP83082,MP83083,MP83084,MP83085,MP83086,MP83087,MP83088,MP83091,MP83092,MP83105,MP83296,MP83297,MP83298,MP83299,MP83300,MP83301,MP83302,MP83303,MP83304,MP83305,MP83306,MP83307,MP83308,MP83310,

Chemical ID :
M5062,M5130,M5192,M5218,M5223,M5288,M5295,M5296,M5390,M5394,M5404,M5429,M5467,M5498,M5515,M5658,M5697,M5698,M5747,M5748,M5769,M5798,M5799,M5800,M5801,M5802,M5806,M5814,M5815,M5816,M5817,M5818,M5819,M5820,M5875,M5882,M5953,M5962,M5970,M5978,M5982,M5984,M5985,M6000,M6009,M6021,M6023,M6028,M6030,M6033,M6111,M6117,M6120,M6121,W2606,W3112,

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
903	ICP AES RINSE SOLN	MP73080	12/27/2022	01/08/2023	Bin He	None	METALS_PIPETTE_3 (A)	Sarabjit Jaswal 12/28/2022

FROM 200.00000ml of M5404 + 9800.00000ml of W2606 = Final Quantity: 10000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
902	ICP AES CAL BLK (SO/ICB/CCB)	MP83078	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 125.00000ml of M6111 + 2350.00000ml of W3112 + 25.00000ml of M6117 = Final Quantity: 2500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
907	ICP AES STD S (S5)	MP83079	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 5.00000ml of M5296 + 5.00000ml of M5394 + 5.00000ml of M5802 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M5982 + 460.00000ml of MP83078 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
909	ICP AES STD S3	MP83081	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 25.00000ml of MP83079 + 75.00000ml of MP83078 = 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	MP83082	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 16.00000ml of MP83079 + 184.00000ml of MP83078 = Final Quantity: 200.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2950	ICP AES S1/CRI STOCK STD	MP83083	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5515 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6033 + 0.06000ml of M5747 + 0.10000ml of M5697 + 0.10000ml of M5698 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M5982 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5819 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M5802 + 0.50000ml of M5390 + 0.50000ml of M5814 + 1.00000ml of M5192 + 1.00000ml of M5288 + 1.00000ml of M5498 + 1.00000ml of M5769 + 1.00000ml of M5806 + 1.00000ml of M5978 + 2.00000ml of M5816 + 2.00000ml of M5818 + 77.68000ml of MP83078 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2951	ICP AES S1/CRI WORK STD	MP83084	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 2.00000ml of MP83083 + 98.00000ml of MP83078 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
912	ICP AES ICV SOLN	MP83085	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.25000ml of M5218 + 0.25000ml of M5982 + 10.00000ml of M5295 + 89.77500ml of MP83078 = 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	MP83086	11/06/2024	11/19/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 25.00000ml of M5130 + 225.00000ml of MP83078 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3494	ICP AES ICSAB SOLN-1	MP83087	11/06/2024	11/19/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5296 + 0.10000ml of M5970 + 1.00000ml of M5982 + 10.00000ml of M5130 + 10.00000ml of M5223 + 79.50000ml of MP83078 = Final Quantity: 100.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
911	ICP AES CCV SOLN	MP83088	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 50.00000ml of MP83078 + 50.00000ml of MP83079 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
919	ICP AES INTERNAL STD	MP83091	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 1.00000ml of M5984 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M6117 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
513	RINSE SOLN	MP83092	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal 11/07/2024

FROM 200.00000ml of M6117 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
170	1:1HCL	MP83105	11/07/2024	12/06/2024	Janvi Patel	None	None	Sarabjit Jaswal 11/07/2024

FROM 1000.00000ml of M6111 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP83296	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 1.00000ml of M6120 + 2.50000ml of M5062 + 96.50000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1340	Hg 0.00 PPB STD	MP83297	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1341	Hg 0.2 PPB STD	MP83298	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 247.30000ml of W3112 + 0.20000ml of MP83296 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1342	Hg 2.5 PPB STD	MP83299	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 245.00000ml of W3112 + 2.50000ml of MP83296 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1343	Hg 5.0 PPB STD	MP83300	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 242.50000ml of W3112 + 5.00000ml of MP83296 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1344	Hg 7.5 PPB STD	MP83301	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 240.00000ml of W3112 + 7.50000ml of MP83296 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1345	Hg 10.0 PPB STD	MP83302	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 237.50000ml of W3112 + 10.00000ml of MP83296 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1346	Hg ICV SOLUTION	MP83303	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M5953 + 2.50000ml of M6120 + 245.00000ml of W3112 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1351	ICB (Hg 0.00 PPB SOLUTION)	MP83304	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 247.50000ml of W3112 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP83305	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 485.00000ml of W3112 + 5.00000ml of M6120 + 10.00000ml of MP83296 = Final Quantity: 500.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1352	CCB (Hg 0.00 PPB SOLUTION)	MP83306	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 495.00000ml of W3112 + 5.00000ml of M6120 = Final Quantity: 500.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP83307	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 247.30000ml of W3112 + 0.20000ml of MP83296 = Final Quantity: 250.000 ml

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Metals STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP83308	11/19/2024	11/20/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 11/19/2024

FROM 2.50000ml of M6120 + 240.50000ml of W3112 + 7.00000ml of MP83296 = Final Quantity: 250.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
68	STANNOUS CHLORIDE SOLUTION	MP83310	11/19/2024	11/20/2024	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 11/19/2024

FROM 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6121 = Final Quantity: 500.000 ml

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	11/19/2024	05/20/2024 /	04/20/2021 / bin	M5130

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	11/19/2024	05/20/2024 /	04/20/2021 / bin	M5223

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

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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	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	02/05/2025	08/07/2024 / jaswal	02/20/2020 / bin	M5295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	11/28/2022 / bin	09/19/2022 / bin	M5394

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	22C0462001	06/12/2023	12/20/2022 / Al-Terek	02/11/2022 / Al-Terek	M5404

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	05/24/2024 / Jaswal	01/03/2024 / bin	M5769

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	12/29/2026	05/20/2024 / Jaswal	02/09/2024 / jaswal	M5816

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57116 / S, 10000 PPM, 125 ml	071123	07/11/2026	03/01/2024 / jaswal	02/09/2024 / jaswal	M5817

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57014 / Si, 1000 PPM, 125 ml	122023	12/20/2026	03/06/2024 / jaswal	02/09/2024 / jaswal	M5818

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0415	01/01/2025	07/01/2024 / mohan	03/30/2023 / mohan	M5953

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
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 #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	08/05/2024 / kareem	06/14/2024 / Jaswal	M5984

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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	08/30/2026	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6000

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	03/17/2028	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6009

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / Tl, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	01/25/2019 / Jaswal	M6028

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 #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22F0762009	05/09/2027	11/04/2024 / Eman	09/29/2024 / Janvi	M6111

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	05/06/2025	11/06/2024 / Janvi	09/29/2024 / Eman	M6117

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)	23I0662003	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6120

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

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Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

Certificate of Analysis

ThermoFisher SCIENTIFIC

M5882 M3

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)

Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R 8/5/24

M6028

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

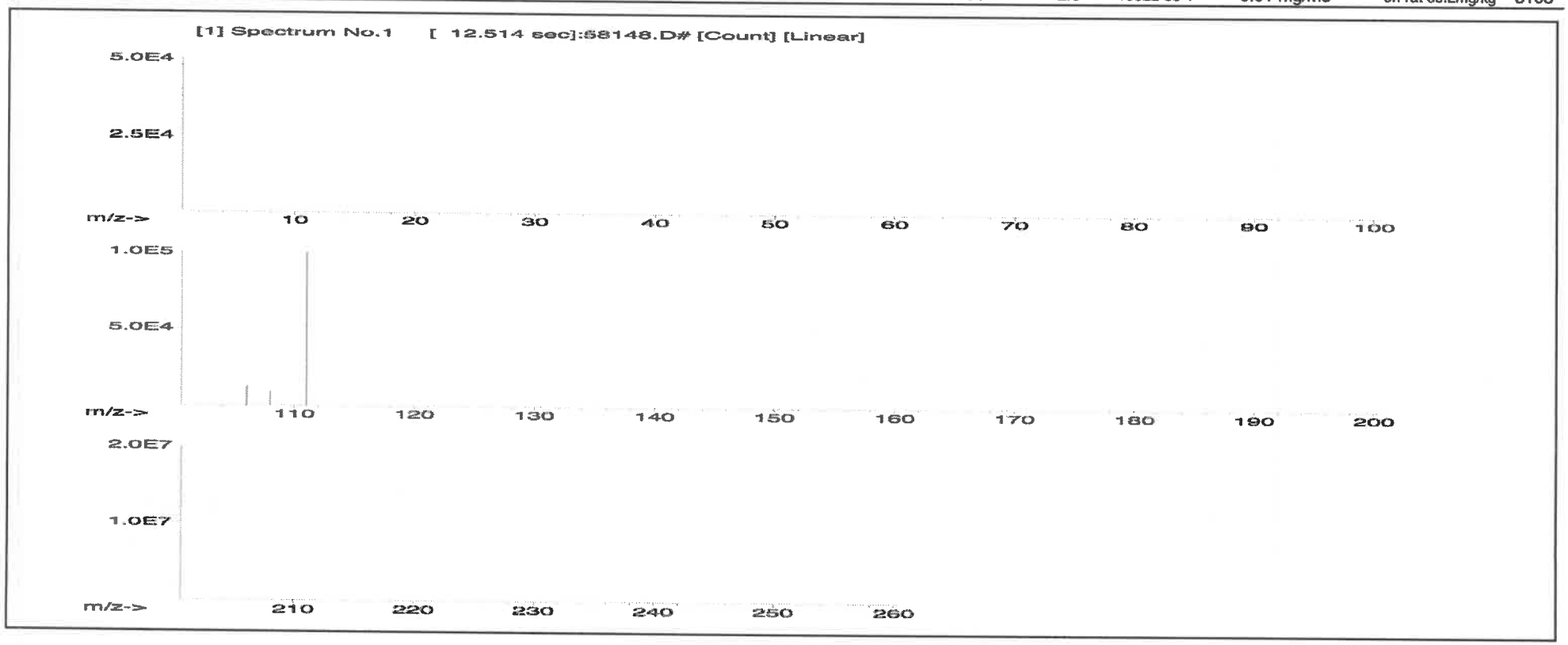
CERTIFIED WEIGHT REPORT:

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



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	T	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

M5296 OP: 09/19/2022 BH

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Certificate of Analysis

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Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	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 (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

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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Christiansburg, VA 24073 USA
inorganicventures.com

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-1
Lot Number:	T2-MEB714417
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	5 000 µg/mL ea: Calcium, Potassium, Magnesium, Sodium, 2 000 µg/mL ea: Aluminum, Barium, 1 000 µg/mL ea: Iron, 500 µg/mL ea: Nickel, Vanadium, Zinc, Cobalt, Manganese, 250 µg/mL ea: Silver, Copper, 200 µg/mL ea: Chromium, 50 µg/mL ea: Beryllium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**2 000 ± 7 µg/mL**	**Barium, Ba**	**2 000 ± 9 µg/mL**
Beryllium, Be	**50.00 ± 0.26 µg/mL**	**Calcium, Ca**	**5 000 ± 22 µg/mL**
Chromium, Cr	**200.0 ± 1.0 µg/mL**	**Cobalt, Co**	**500.0 ± 2.4 µg/mL**
Copper, Cu	**250.0 ± 1.0 µg/mL**	**Iron, Fe**	**1 000 ± 4 µg/mL**
Magnesium, Mg	**5 000 ± 20 µg/mL**	**Manganese, Mn**	**500.0 ± 2.0 µg/mL**
Nickel, Ni	**500.0 ± 2.2 µg/mL**	**Potassium, K**	**5 000 ± 19 µg/mL**
Silver, Ag	**250.0 ± 1.1 µg/mL**	**Sodium, Na**	**5 000 ± 18 µg/mL**
Vanadium, V	**499.7 ± 2.2 µg/mL**	**Zinc, Zn**	**500.0 ± 2.2 µg/mL**

Density: 1.118 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

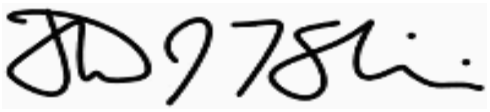
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CLPP-CAL-3
Lot Number:	T2-MEB714159
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Arsenic, Lead, Selenium, Thallium, 500 µg/mL ea: Cadmium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	**1 000 ± 8 µg/mL**	**Cadmium, Cd**	**500.0 ± 2.1 µg/mL**
Lead, Pb	**1 000 ± 5 µg/mL**	**Selenium, Se**	**1 000 ± 8 µg/mL**
Thallium, Tl	**1 000 ± 7 µg/mL**		

Density: 1.043 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
As	ICP Assay	3103a	100818
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Tl	ICP Assay	3158	151215

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 13, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

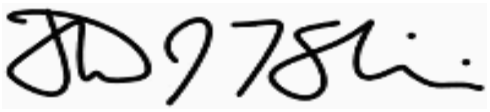
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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RD:05/14/2024

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01

ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO3

Value / Analyte(s):	1 000 µg/mL ea: Potassium,	
	600 µg/mL ea: Phosphorus,	
	300 µg/mL ea: Sodium,	Iron,
	200 µg/mL ea: Magnesium, Cerium, Thallium,	Aluminum, Selenium,
	100 µg/mL ea: Lead,	Calcium,
	80 µg/mL ea: Arsenic,	
	70 µg/mL ea: Mercury,	
	50 µg/mL ea: Nickel,	
	40 µg/mL ea: Chromium,	
	30 µg/mL ea: Copper, Vanadium,	Boron,
	20 µg/mL ea: Zinc, Barium, Cadmium, Manganese,	Strontium, Beryllium, Cobalt, Lithium,
	7.5 µg/mL ea: Silver	

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	200.0 ± 0.7 µg/mL	Arsenic, As	80.0 ± 0.7 µg/mL
Barium, Ba	20.00 ± 0.09 µg/mL	Beryllium, Be	20.00 ± 0.13 µg/mL
Boron, B	30.00 ± 0.18 µg/mL	Cadmium, Cd	20.00 ± 0.09 µg/mL
Calcium, Ca	100.0 ± 0.4 µg/mL	Cerium, Ce	200.0 ± 0.8 µg/mL
Chromium, Cr	40.00 ± 0.30 µg/mL	Cobalt, Co	20.00 ± 0.10 µg/mL
Copper, Cu	30.00 ± 0.13 µg/mL	Iron, Fe	300.0 ± 1.3 µg/mL
Lead, Pb	100.0 ± 0.4 µg/mL	Lithium, Li	20.00 ± 0.08 µg/mL
Magnesium, Mg	200.0 ± 0.8 µg/mL	Manganese, Mn	20.00 ± 0.08 µg/mL
Mercury, Hg	70.0 ± 0.3 µg/mL	Nickel, Ni	50.00 ± 0.22 µg/mL
Phosphorus, P	600.0 ± 2.7 µg/mL	Potassium, K	1 000 ± 4 µg/mL
Selenium, Se	200.0 ± 1.3 µg/mL	Silver, Ag	7.50 ± 0.03 µg/mL
Sodium, Na	300.0 ± 1.4 µg/mL	Strontium, Sr	20.01 ± 0.08 µg/mL
Thallium, Tl	200.0 ± 1.4 µg/mL	Vanadium, V	30.00 ± 0.13 µg/mL
Zinc, Zn	20.00 ± 0.09 µg/mL		

Density: 1.034 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	190605
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Ce	ICP Assay	3110	090504
Ce	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	Traceable to 3152A	S2-NA700842
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Tl	ICP Assay	3158	151215
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 30, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 863.01 ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-2
Lot Number:	U2-MEB731108
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	200 µg/mL ea: Silica, 80 µg/mL ea: Antimony, 70 µg/mL ea: Tin, 40 µg/mL ea: Molybdenum, 20 µg/mL ea: Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	80.1 ± 0.6 µg/mL	Molybdenum, Mo	40.03 ± 0.18 µg/mL
Silica, SiO2	200.2 ± 1.3 µg/mL	Tin, Sn	70.0 ± 0.4 µg/mL
Titanium, Ti	20.01 ± 0.13 µg/mL		

Density: 1.025 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
SiO2	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925
Ti	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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 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



INORGANIC VENTURES
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

M5062
M5063
M3

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	S2-HG709270
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance.

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO_3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO_3 / LDPE container, stable in 10% HNO_3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO_3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO_3 / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxide (Soluble in HNO_3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 22, 2026

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



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.

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

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

M5192 R: 06/17/22

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

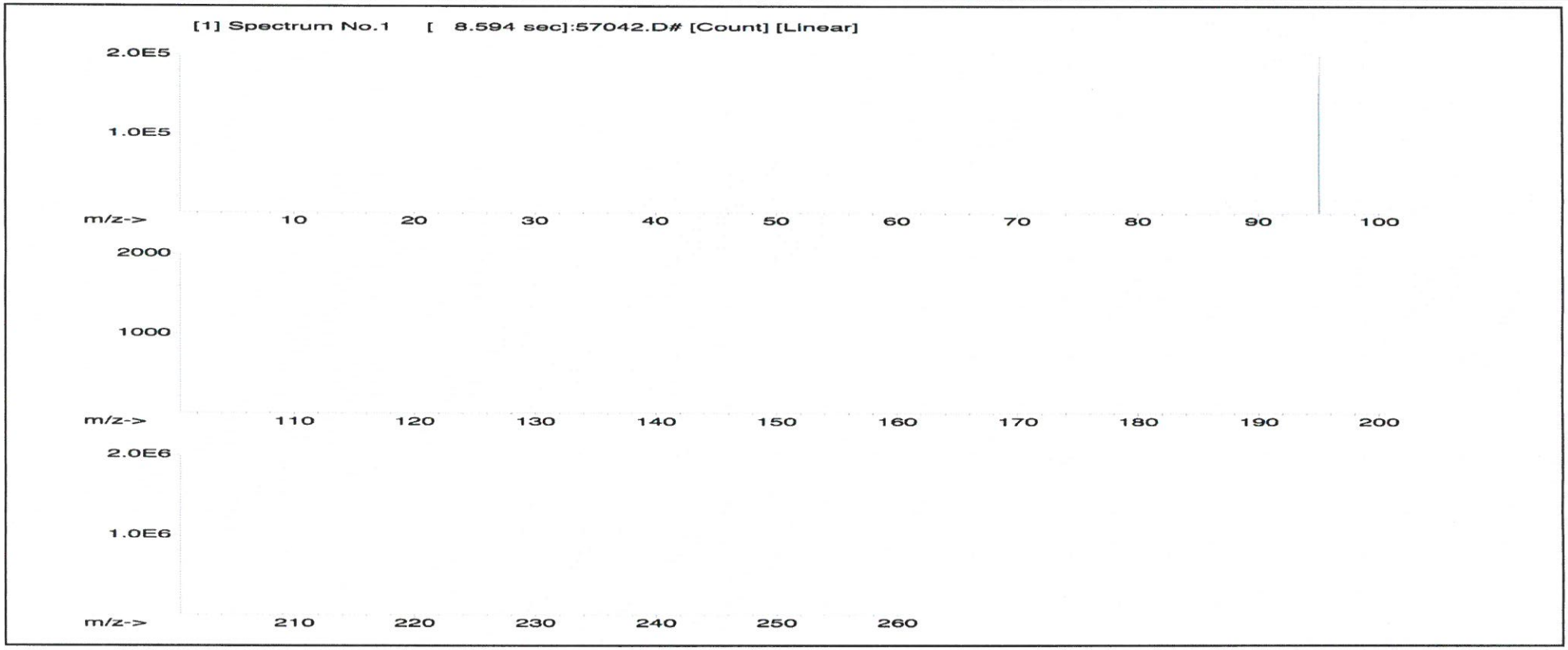
Part Number: 57042
Lot Number: 051722
Description: Molybdenum (Mo)

	Lot #	Solvent:	
	MKBQ8597V	Ammonium hydroxide	
	0.5%	15.0 (mL)	Ammonium hydroxide

Expiration Date: 051725
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Volume shown below was diluted to (mL): 3000.41 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	051722
Reviewed By:	Pedro L. Rentas	051722

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium molybdate (Mo)	58142	022222	0.1000	300.0	0.084	1000	10001.0	**1000.0**	**2.1**	13106-76-8	5 mg(Mo)/m3	orl-rat 333 mg/kg	3134



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	T	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	CHEM-QC-4
Lot Number:	S2-MEB711674
Matrix:	3% (v/v) HNO3 3% (v/v) HF
Value / Analyte(s):	1 000 µg/mL ea: Boron, Molybdenum, Silicon, Tin, Titanium

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	**1 000 ± 7 µg/mL**	**Molybdenum, Mo**	**1 000 ± 5 µg/mL**
Silicon, Si	**1 000 ± 7 µg/mL**	**Tin, Sn**	**1 000 ± 5 µg/mL**
Titanium, Ti	**1 001 ± 6 µg/mL**		

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

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**

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



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.

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

ICSA M5126 M5127 M5128 M5129 M5130

ICSB M5219 M5220 M5221 M5222 M5223

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.

V15200 R: 04/24/22 (BP)

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:

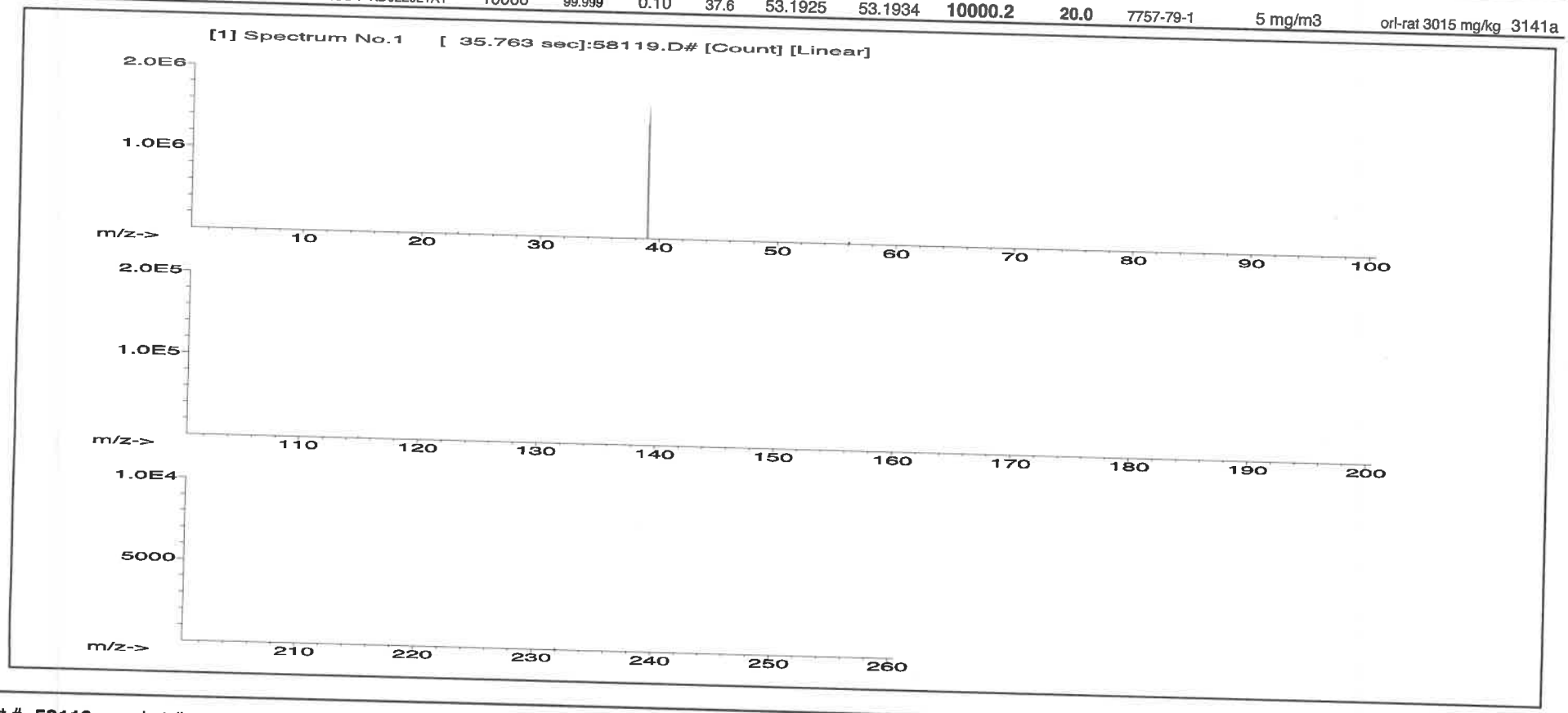
Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

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



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

M5291
M5292
M5293
M5294
M5295

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

R: 09/08/22 (BH)

Certified Reference Material CRM

M5387 . M5389 . M5390 . M5391 . M5392

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

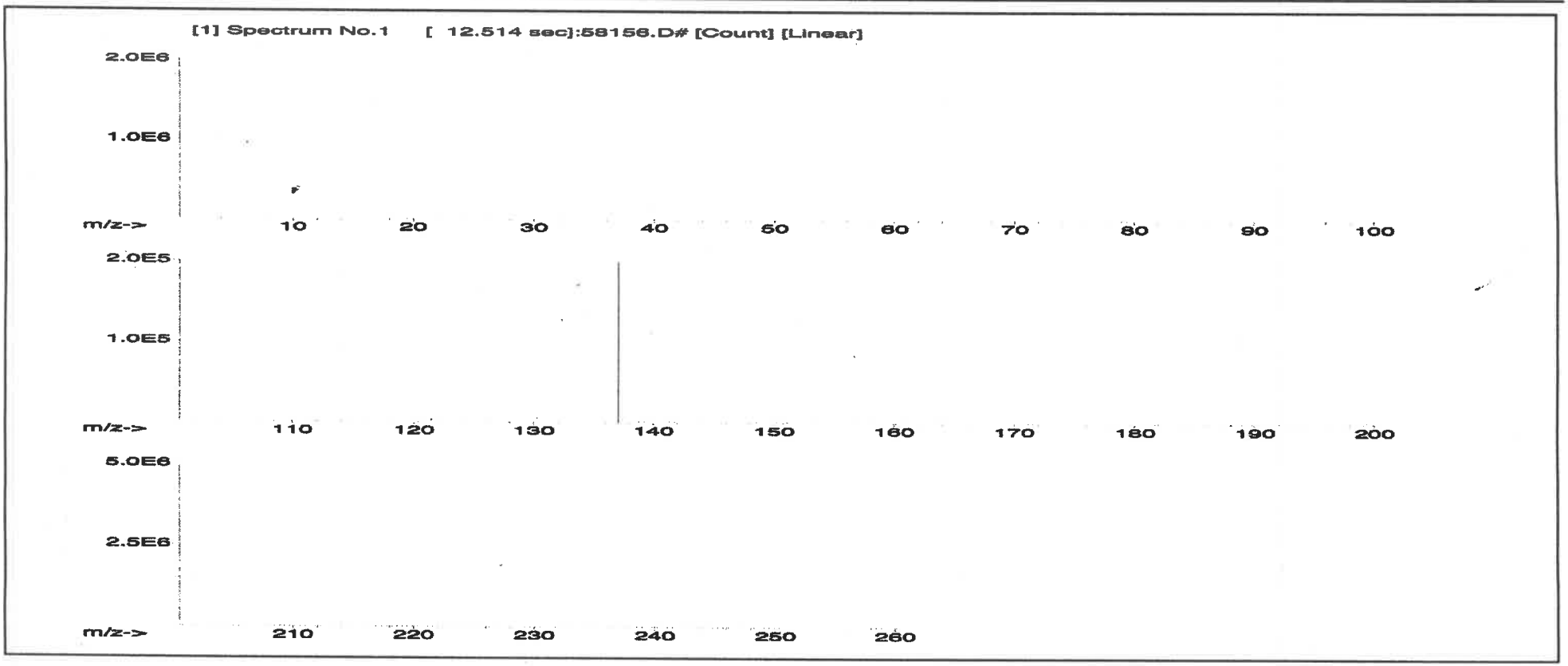
CERTIFIED WEIGHT REPORT:

		Lot #		
Part Number:	**57056**	**Solvent:**	20510011	Nitric Acid
Lot Number:	**072122**			
Description:	**Barium (Ba)**	2%	40.0 (mL)	Nitric Acid
Expiration Date:	072125			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	072122
Reviewed By:	Pedro L. Rentas	072122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Barium nitrate (Ba)	IN023	BAD022019A1	1000	99.999	0.10	52.3	3.82417	3.82426	**1000.0**	**2.0**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Nitric Acid
CMOS

M5402 M5403 M5404
M5405 M5406 M5407

Material No.: 9606-03
Batch No.: 22C0462001
Manufactured Date: 2022-02-11
Retest Date: 2027-02-10
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.4 %
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	1.2 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	1.7 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Nitric Acid
CMOS

Material No.: 9606-03
Batch No.: 22C0462001

Test	Specification	Result
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 µm and greater	≤ 60 par/ml	7 par/ml
Particle Count - 1.0 µm and greater	≤ 10 par/ml	2 par/ml

>>> Continued on page 3 >>>

Nitric Acid
CMOS

Material No.: 9606-03
Batch No.: 22C0462001

Test	Specification	Result

For Microelectronic Use
Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Ethier
Vice President Global Quality

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M5429 R1 01/26/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 57103
Lot Number: 070622
Description: Lithium (Li)

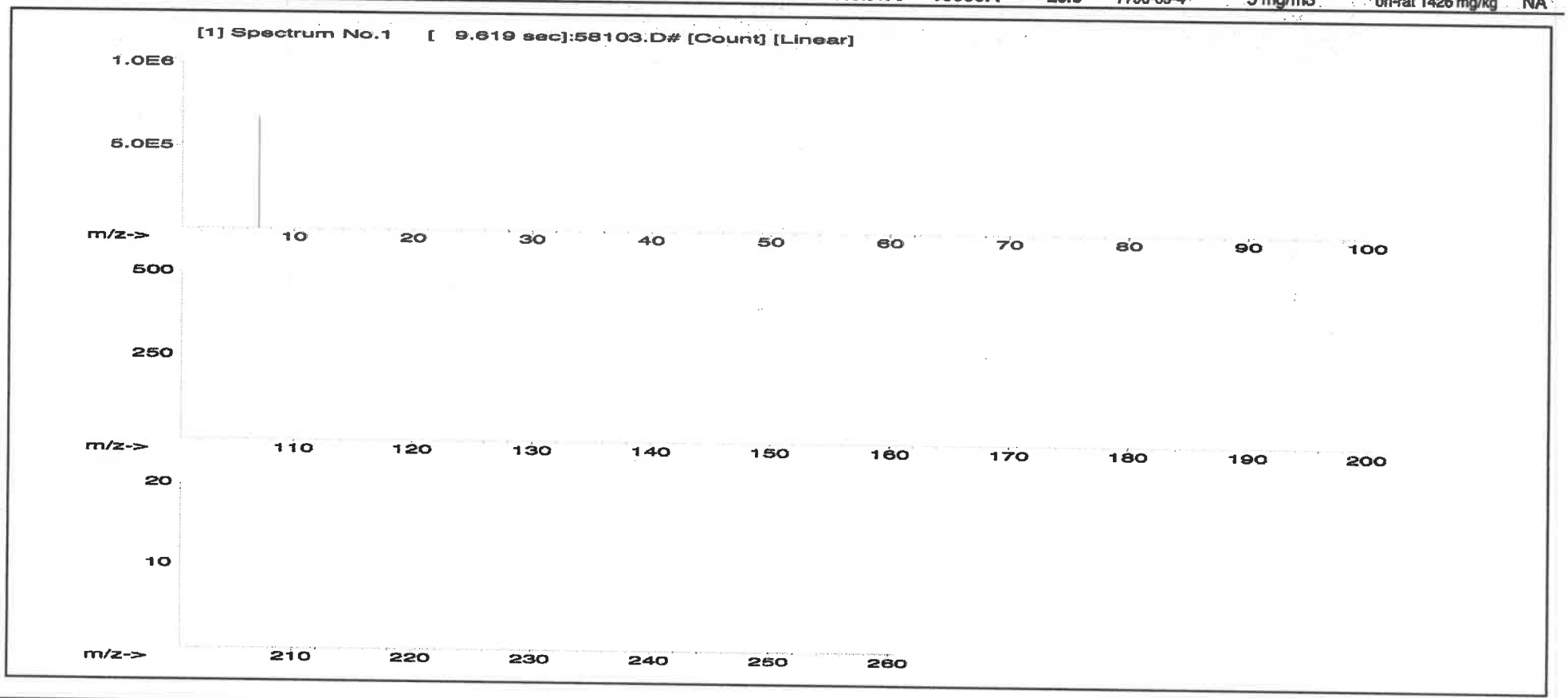
Expiration Date: 070625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1000.12

	Lot #		
Solvent:	20510011	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	IN019	LIZ042018A1	10000	99.999	0.10	10.0	100.0134	100.0173	**10000.4**	**20.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	T	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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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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M5467 R: 03/01/23 (LA)

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CERTIFIED WEIGHT REPORT:

Part Number: 57058
Lot Number: 020623
Description: Cerium (Ce)

Expiration Date: 020626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

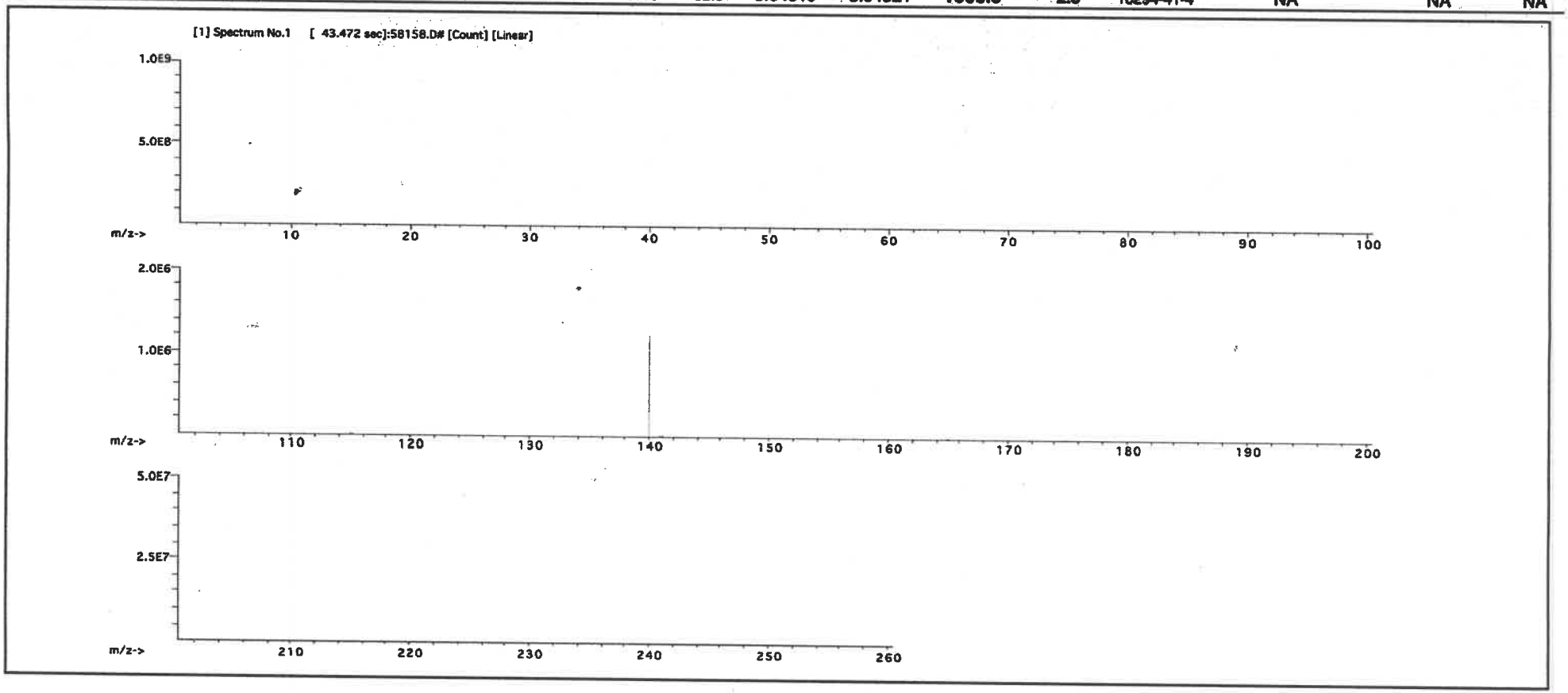
Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	20.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	020623
Reviewed By:	Pedro L. Rentas	020623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	**1000.0**	**2.0**	10294-41-4	NA	NA	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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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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IN5497 - IN5498 R: 03/17/23 BH

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CERTIFIED WEIGHT REPORT:

Part Number: 58120
Lot Number: 031523
Description: Calcium (Ca)

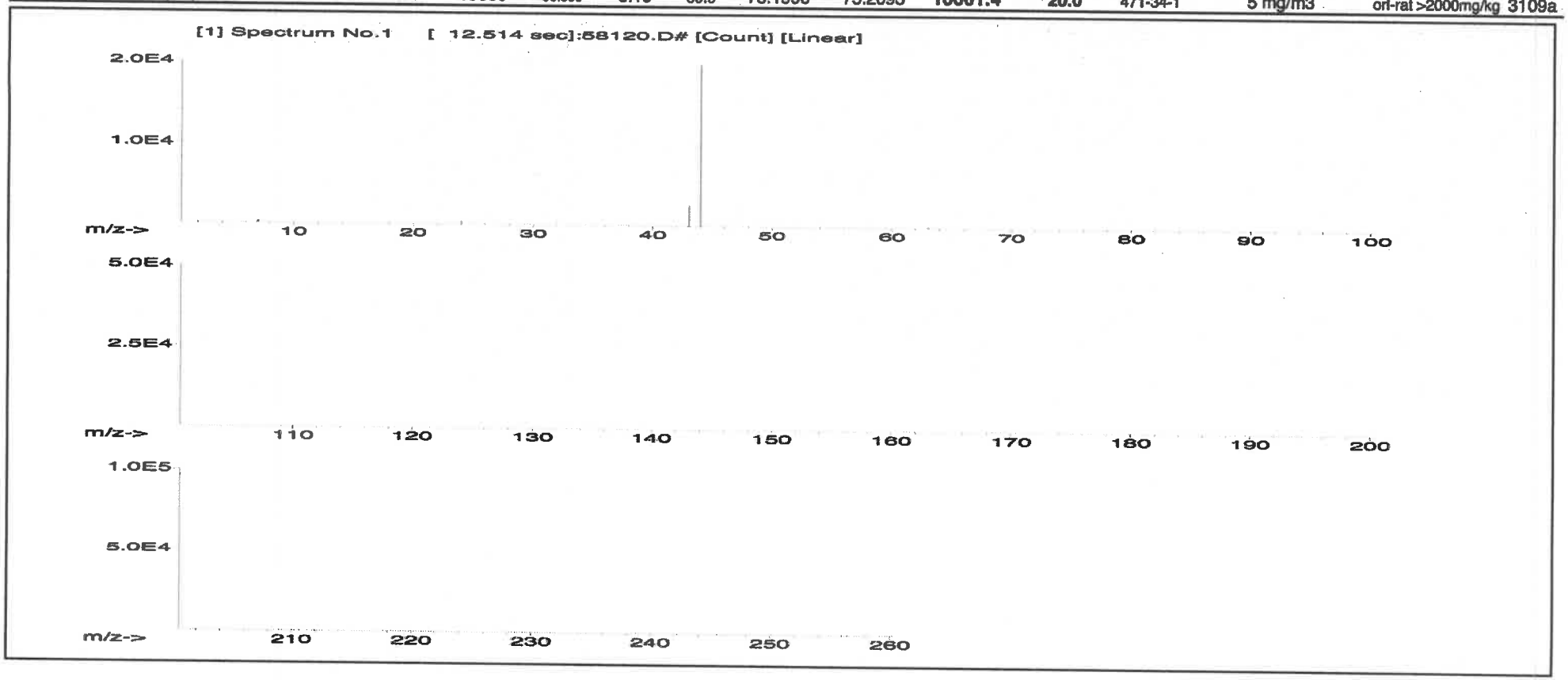
Expiration Date: 031526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 3000.41 ± 0.058 Flask Uncertainty

		Lot #	
Solvent:	21110221	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	
	5E-05	Balance Uncertainty	

Giovanni Esposito

Formulated By:	Giovanni Esposito	031523
Reviewed By:	Pedro L. Rentas	031523

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Calcium carbonate (Ca)	IN014	CAD072022A1	10000	99.999	0.10	39.9	75.1990	75.2093	**10001.4**	**20.0**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.



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M5514 - M5515 R: 03/17/22

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CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 092122
Description: Iron (Fe)

Expiration Date: 092125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 5000.1 ± 0.12 Flask Uncertainty

	Lot #		
Solvent:	20510011	Nitric Acid	
7.0%	350.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

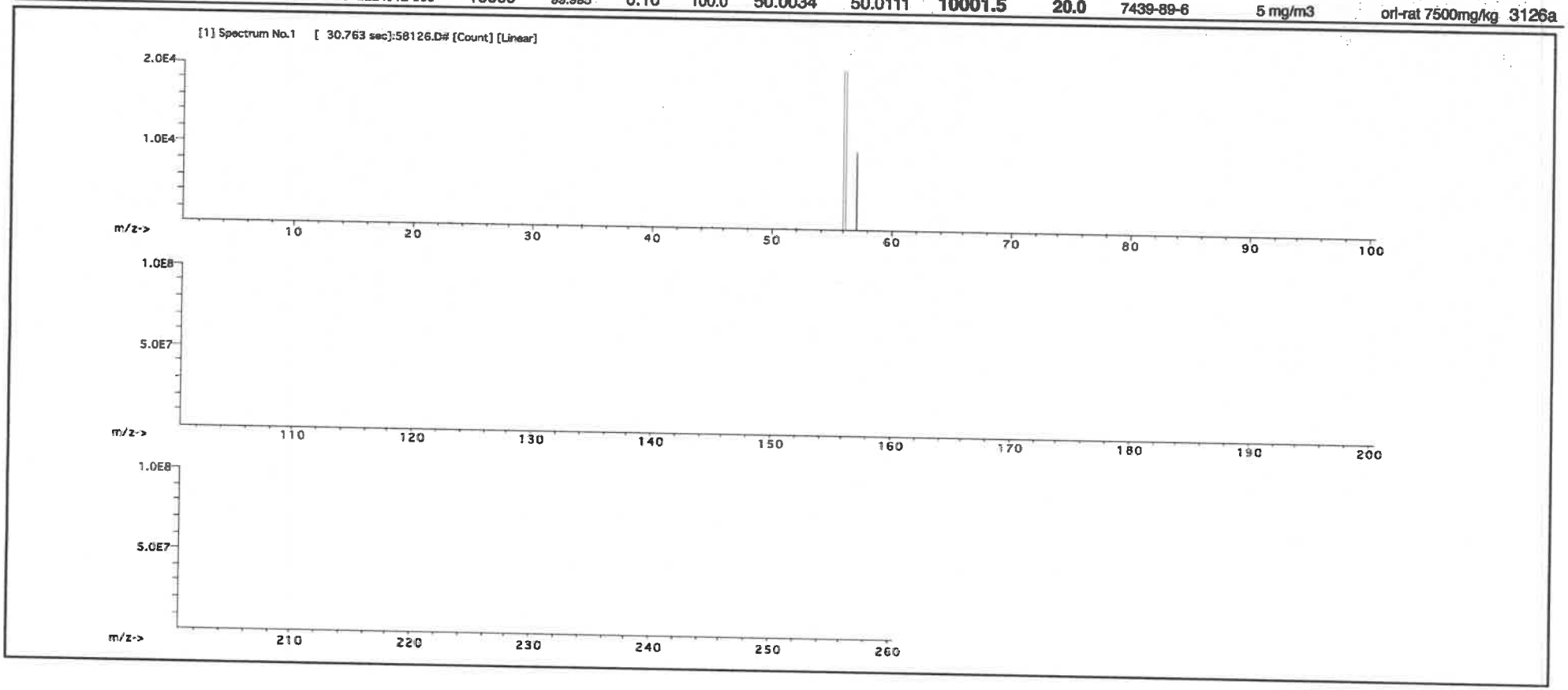
Giovanni Esposito

Formulated By: Giovanni Esposito 092122

Pedro Rentas

Reviewed By: Pedro L. Rentas 092122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Iron (Fe)	IN346	2224912-500	10000	99.995	0.10	100.0	50.0034	50.0111	**10001.5**	**20.0**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.10	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.05
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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M5658 R ! 8/25/23

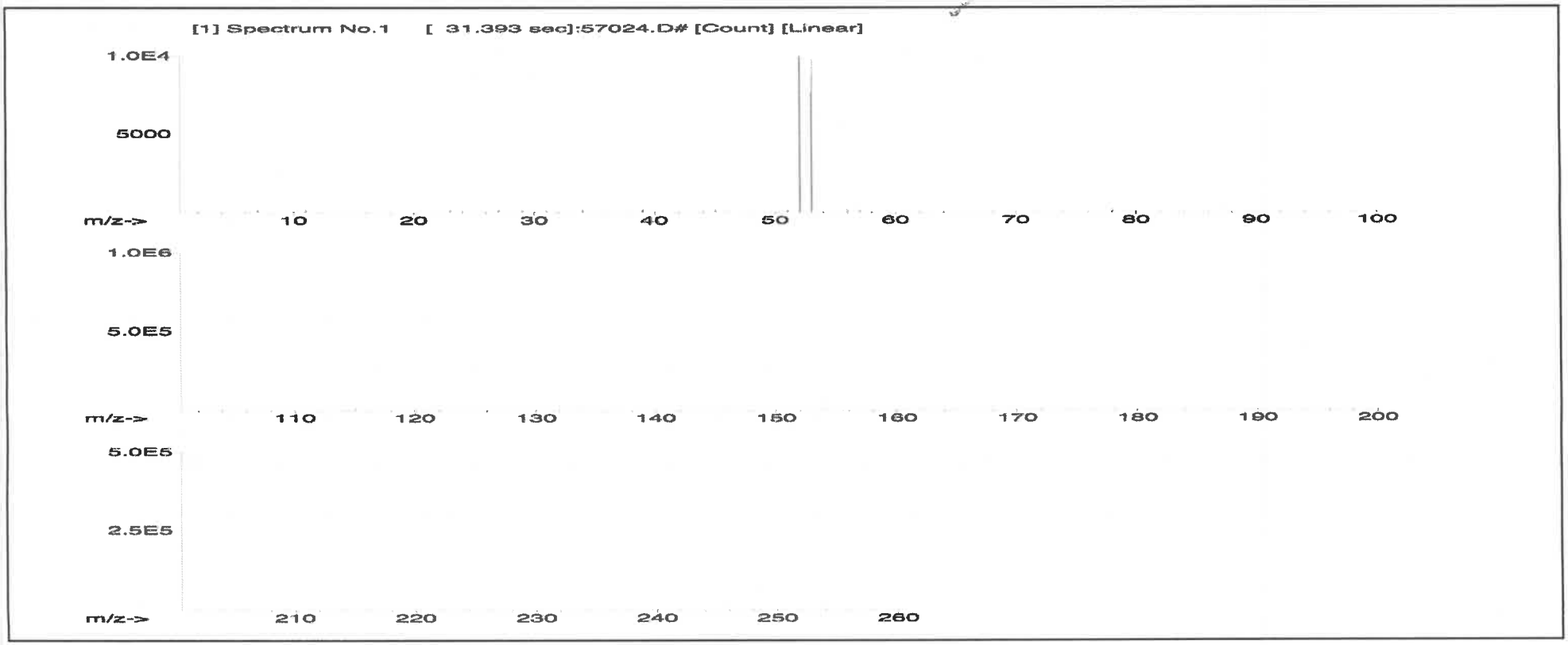
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**58024**	21110221	Nitric Acid	
Lot Number:	**060523**			
Description:	**Chromium (Cr)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	060523
Reviewed By:	Pedro L. Rentas	060523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Chromium(III) nitrate nonahydrate (Cr)	58124	071122	0.1000	200.0	0.084	1000	10000.1	**1000.0**	**2.2**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	T	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

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M5697 R: 10/27/23

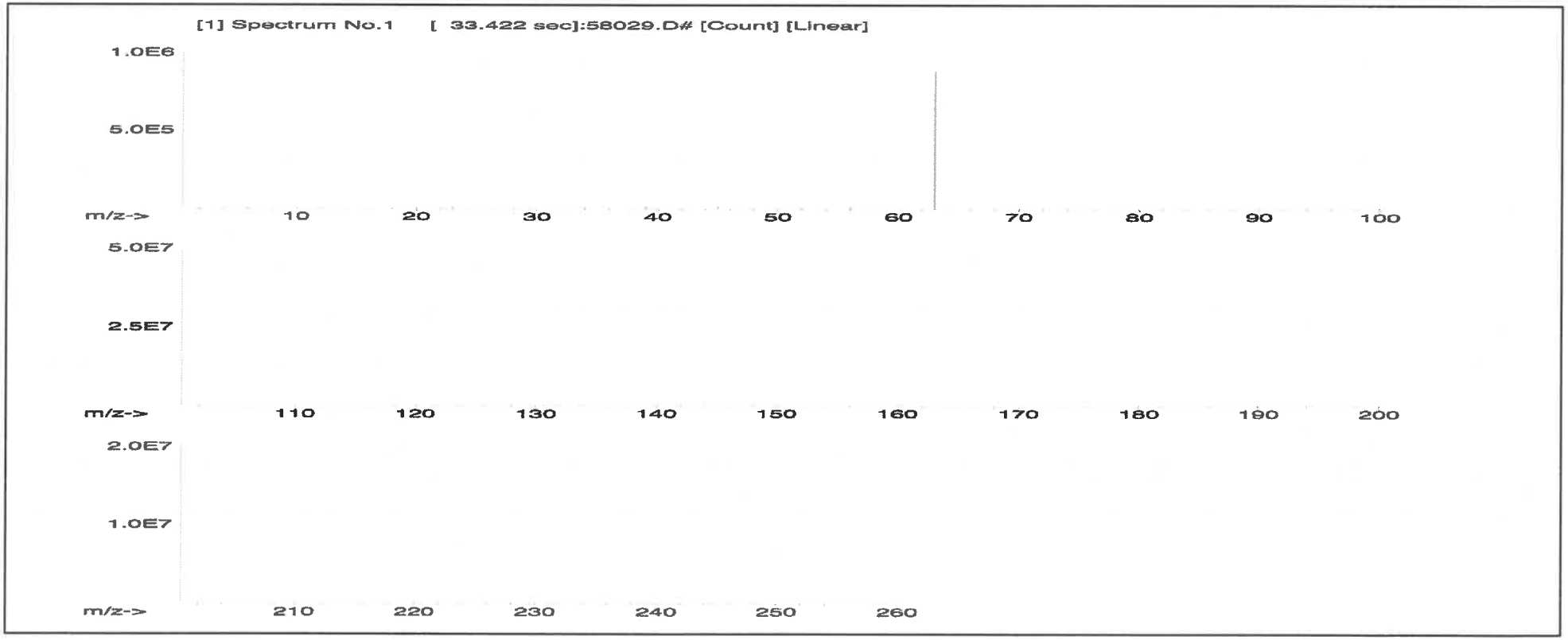
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CERTIFIED WEIGHT REPORT:

		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



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.
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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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M5648 R: 10/27/23

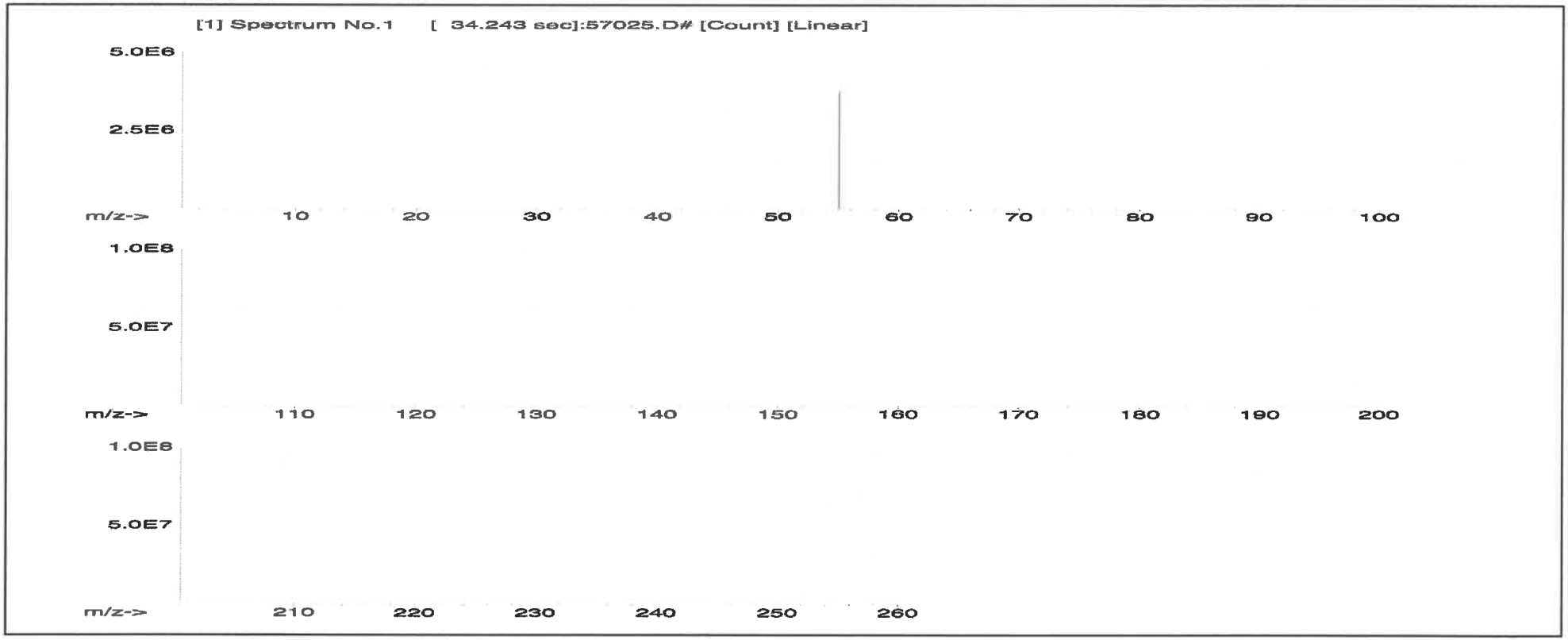
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CERTIFIED WEIGHT REPORT:

		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



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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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 12/20/23 M5747

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CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

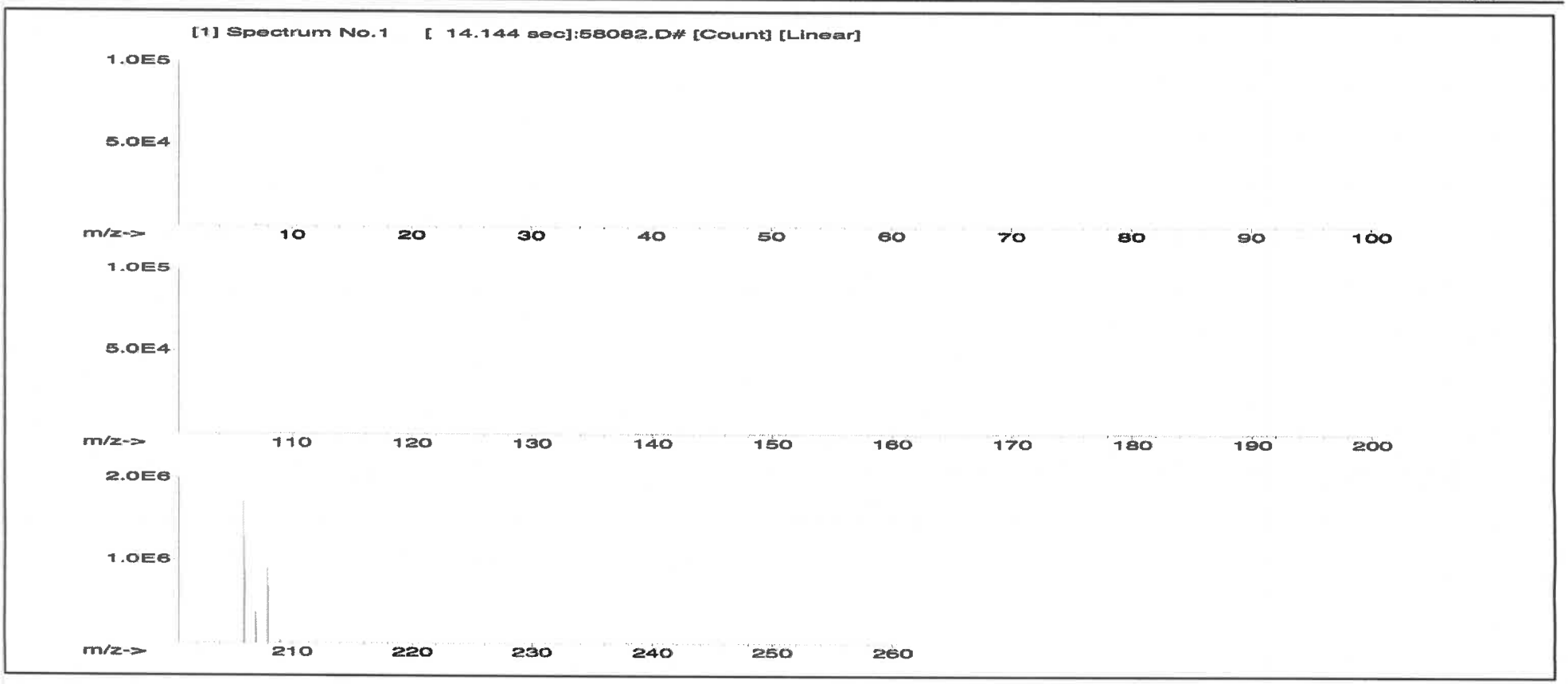
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Lawrence Barry	100923
Reviewed By:	Pedro L. Rentas	100923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lead(II) nitrate (Pb)	IN029	PBD122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	**1000.0**	**2.0**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	T	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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R: 12/20/23 M5748

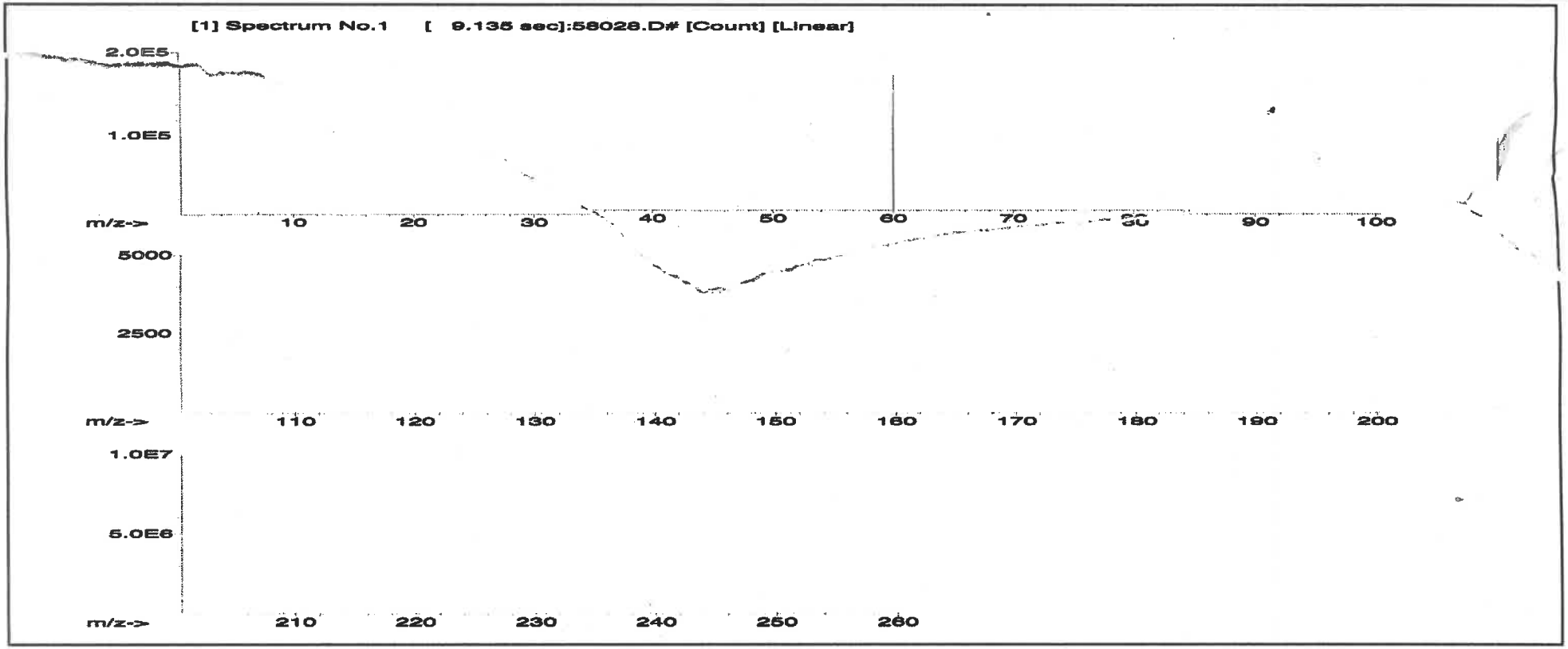
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CERTIFIED WEIGHT REPORT:

		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



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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* 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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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

M5768, M5769 (BP) R: 1/3/24

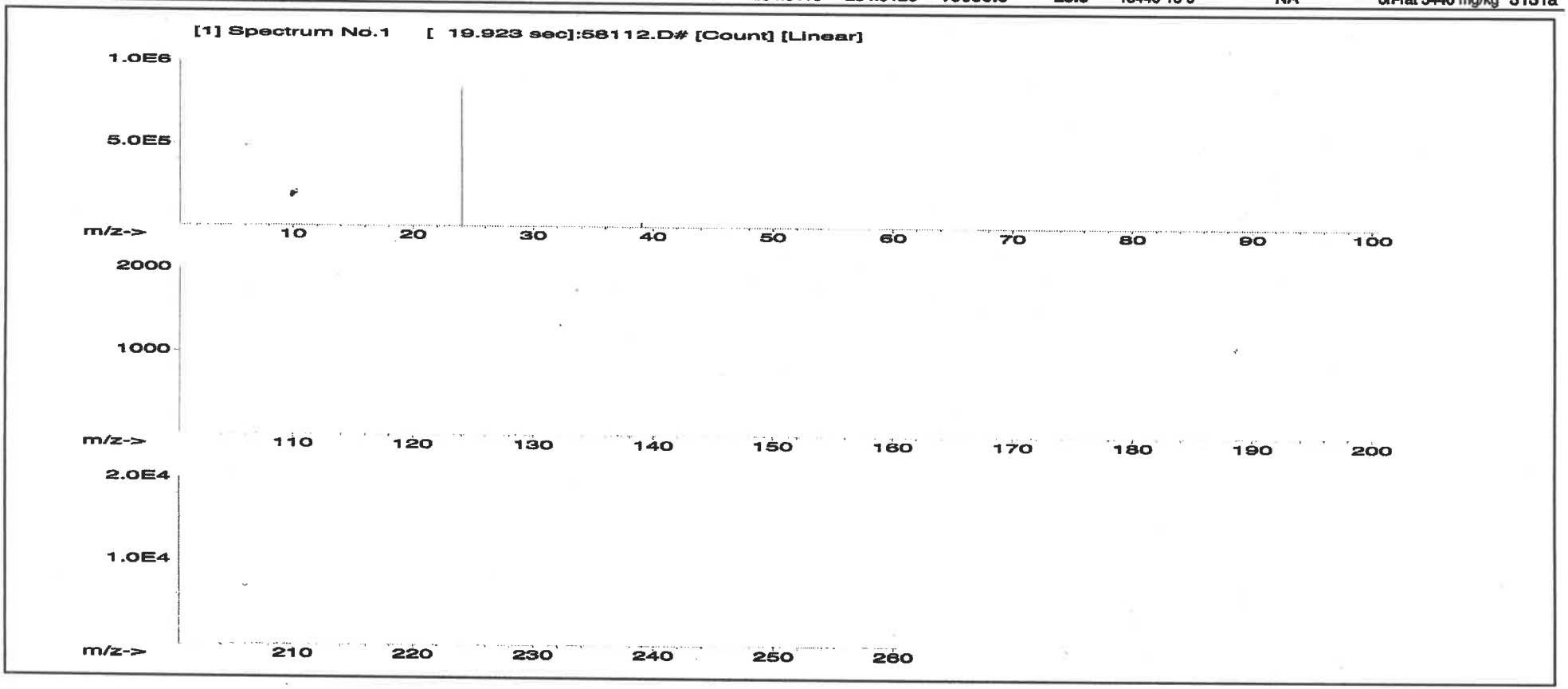
Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

	Lot #		
Solvent:	24002546	Nitric Acid	
	2%	40.0 (mL)	Nitric Acid
		5E-05	Balance Uncertainty

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



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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R: 02/09/24 M5798

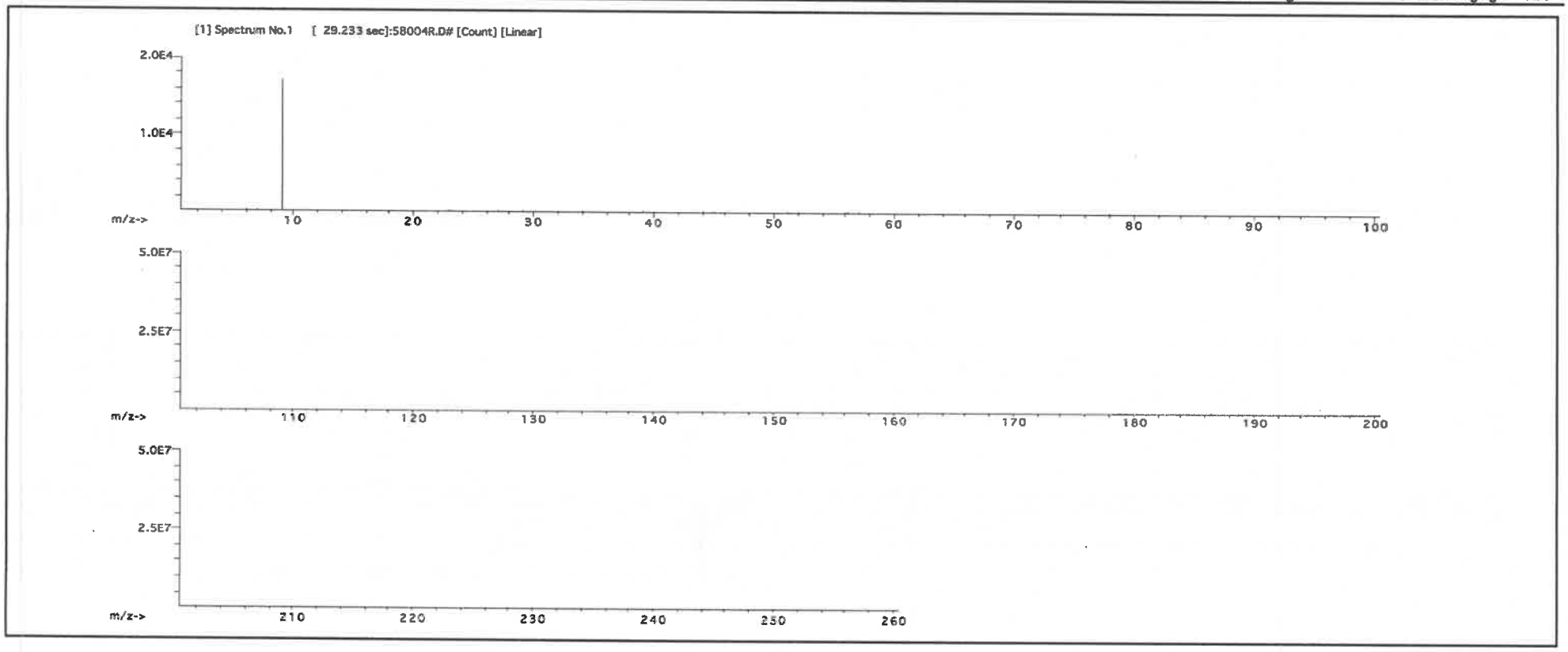
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CERTIFIED WEIGHT REPORT:

		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



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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CERTIFIED WEIGHT REPORT:

Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

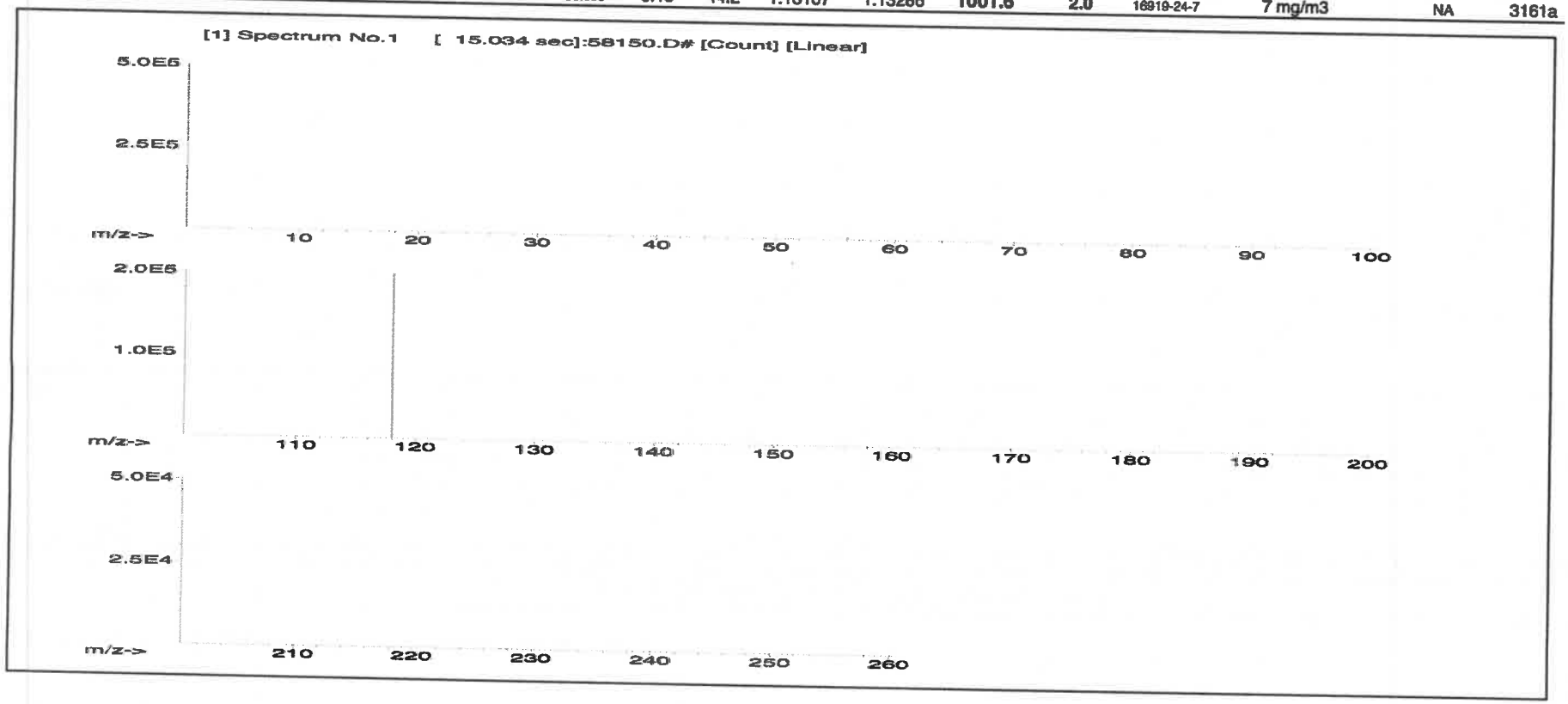
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93

	Lot #	
Solvents:	21110221	Nitric Acid
	22D0562008	Hydrochloric acid
2%	10.0	Nitric Acid
6%	30.0	Hydrochloric acid
	(mL)	

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorostannate(IV) (Sn)	IN010	SND042023A1	1000	99.999	0.10	44.2	1.13107	1.13286	**1001.6**	**2.0**	16919-24-7	7 mg/m3	NA	3161a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* 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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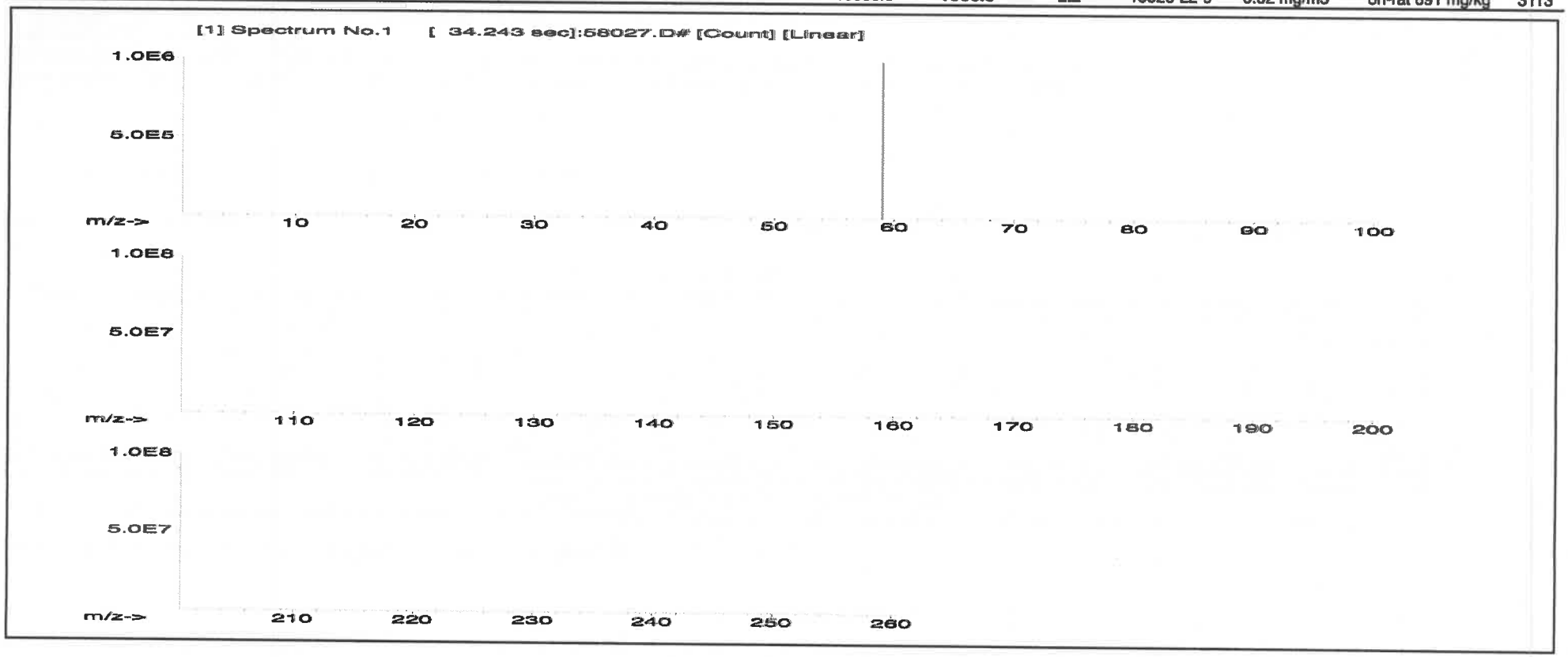
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:		
Part Number:	**57027**	24002546	Nitric Acid		
Lot Number:	**091923**				
Description:	**Cobalt (Co)**	2.0%	40.0 (mL)	Nitric Acid	
Expiration Date:	091926				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091923
Reviewed By:	Pedro L. Rentas	091923

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.1000	200.0	0.084	1000	10000.0	**1000.0**	**2.2**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Gé	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* 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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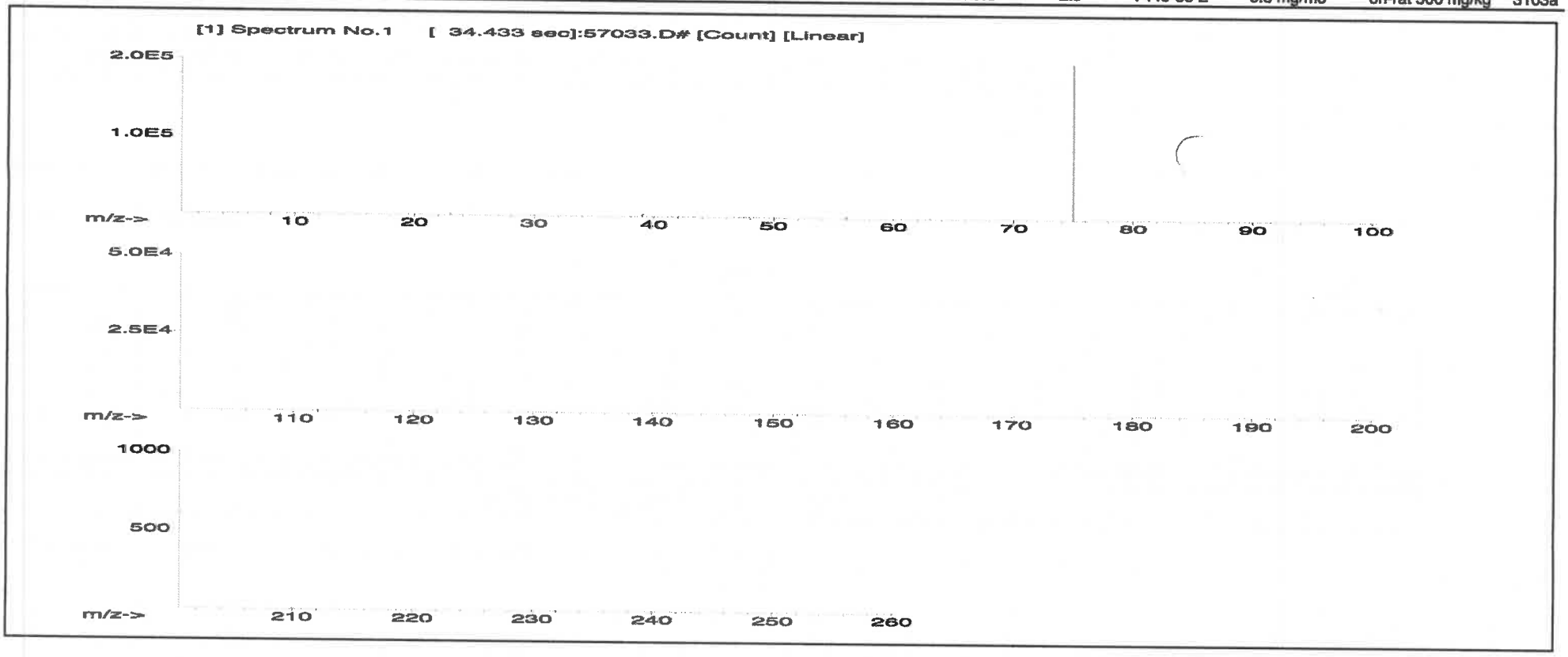
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CERTIFIED **WEIGHT** REPORT:

		Lot #	Solvent:		
Part Number:	**57033**	24002546	Nitric Acid		
Lot Number:	**111323**				
Description:	**Arsenic (As)**	2.0%	80.0 (mL)	Nitric Acid	
Expiration Date:	111326				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Volume shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty		

Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rentas	111323

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	**1000.0**	**2.0**	7440-38-2	0.5 mg/m3	orl-rat 500 mg/kg	3103a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge*	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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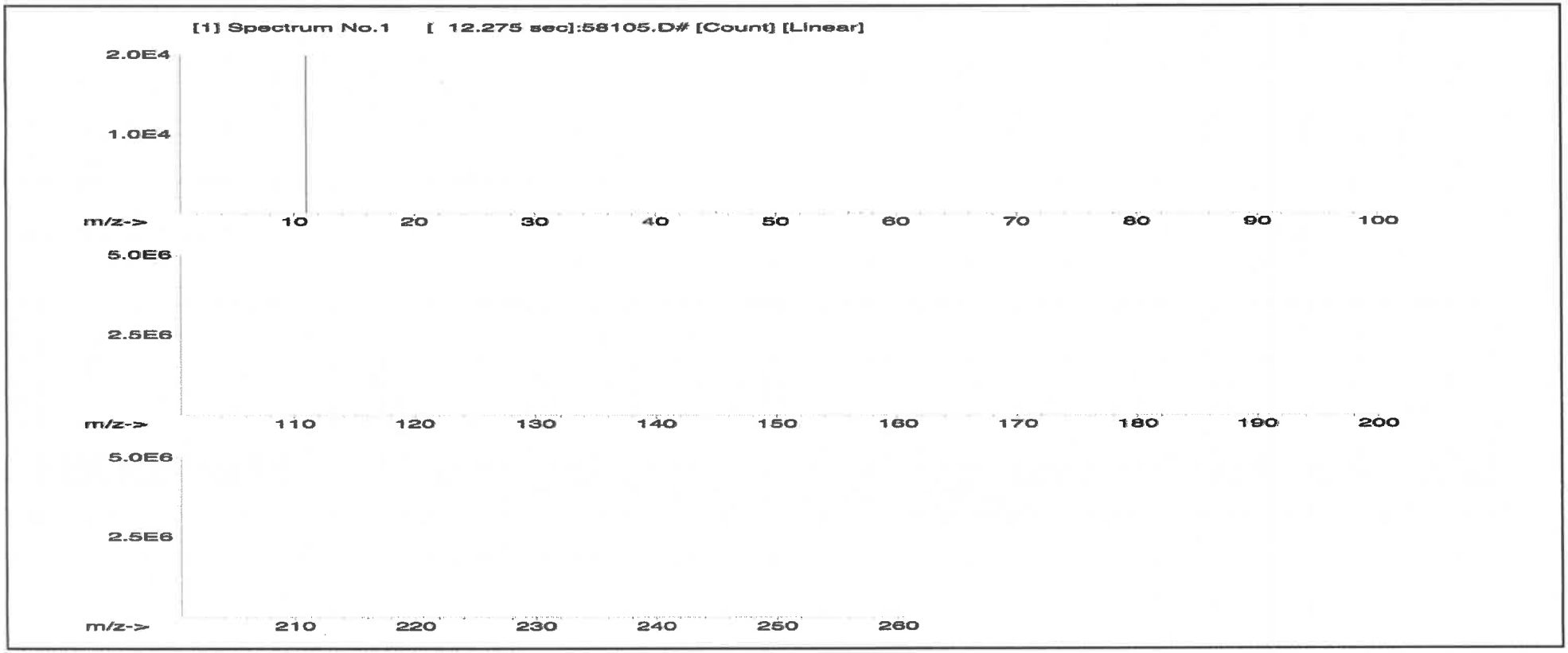
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CERTIFIED WEIGHT REPORT:

Part Number:	**57005**		**Solvent:**	MKBQ8597V	Ammonium hydroxide
Lot Number:	**071123**				
Description:	**Boron (B)**		2.0%	40.0 (mL)	Ammonium hydroxide
Expiration Date:	071126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	1999.48	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Boric acid (B)	IN018	BV092016A1	1000	99.9999	0.10	17.3	11.55772	11.56201	**1000.4**	**2.0**	10043-35-3	2 mg/m3	orl-rat 2660 mg/kg	3107



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

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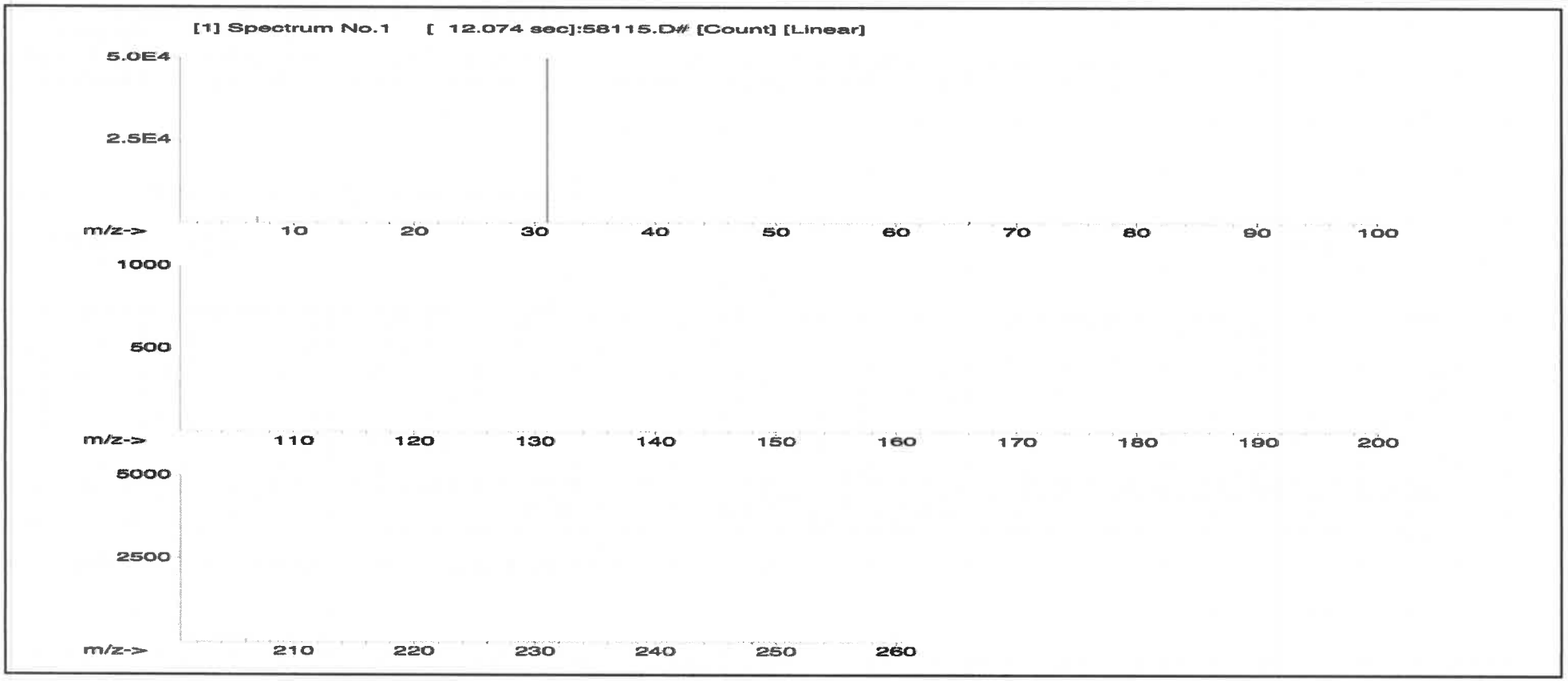
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CERTIFIED WEIGHT REPORT:

			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



Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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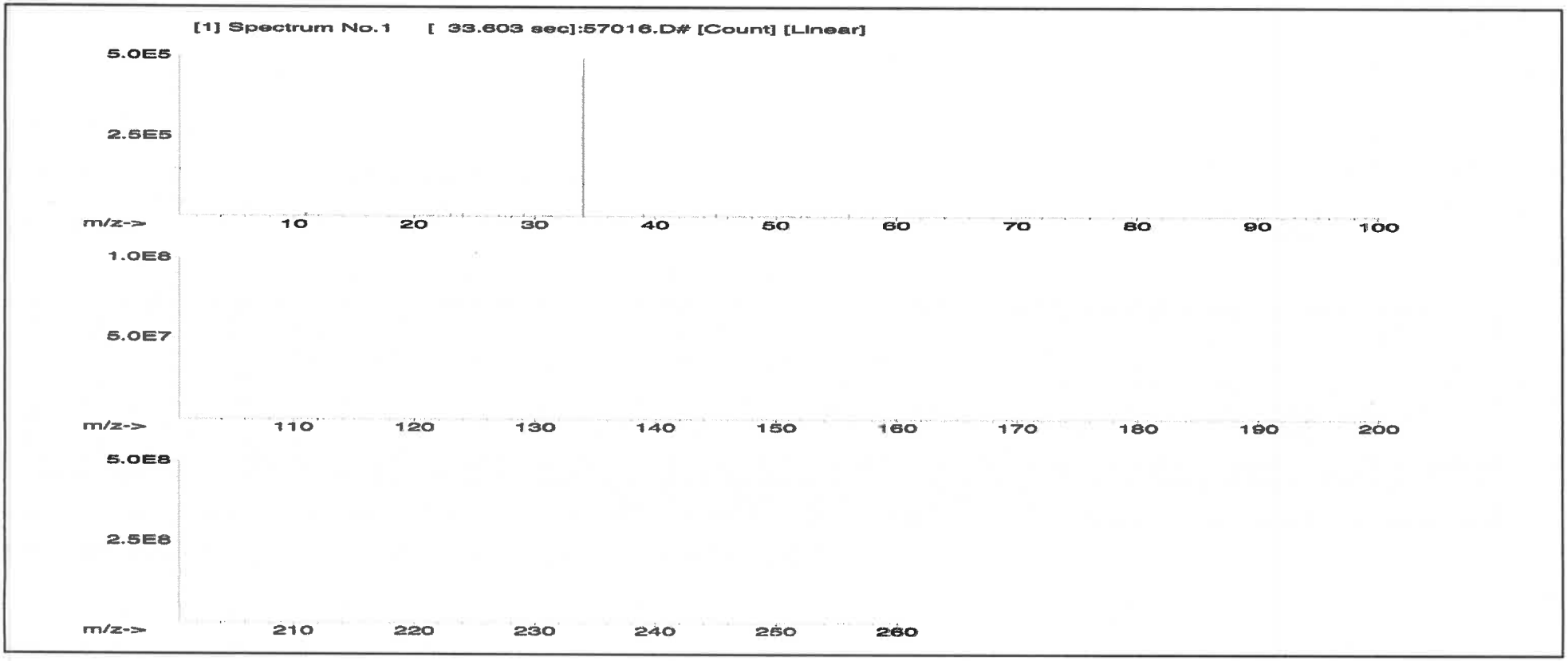
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CERTIFIED WEIGHT REPORT:

Part Number:	**57016**	**Solvent:**	**Lot #** 122923	ASTM Type 1 Water
Lot Number:	**122923**			
Description:	**Sulfur (S)**			
Expiration Date:	122926			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Weight shown below was diluted to (mL):	4000.0	0.06	Flask Uncertainty	

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	1000	99.9	0.10	24.3	16.4979	16.4980	**1000.0**	**2.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	T	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



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CERTIFIED WEIGHT REPORT:

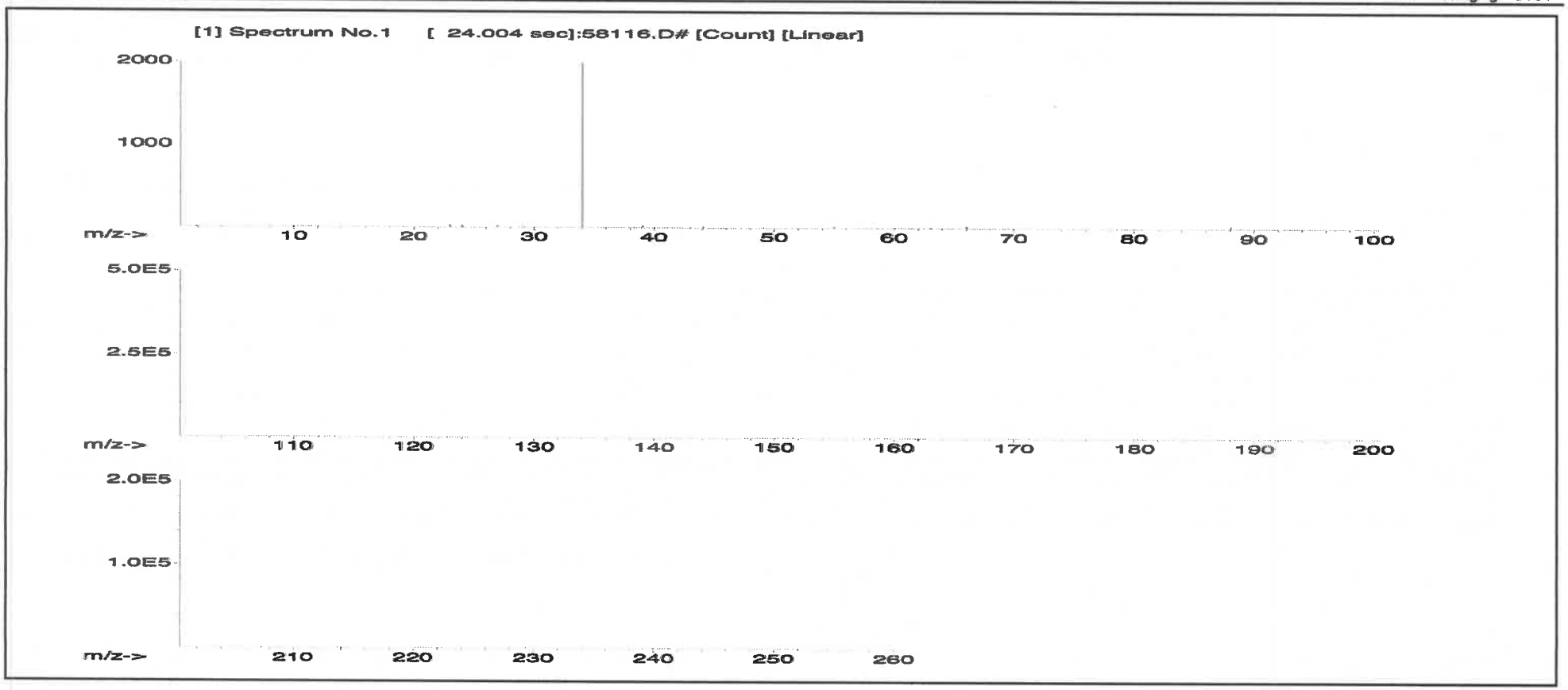
Part Number: 57116
Lot Number: 071123
Description: Sulfur (S)

Lot #
Solvent: 071123 ASTM Type 1 Water

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB 5E-05 Balance Uncertainty
Weight shown below was diluted to (mL): 1999.48 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	071123
Reviewed By:	Pedro L. Rentas	071123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium sulfate (S)	IN117	SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4682	**10000.1**	**20.0**	7783-20-2	NA	orl-rat 4250mg/kg	3181



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:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R: 02/09/24 M.5818

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CERTIFIED WEIGHT REPORT:

Part Number: 57014
Lot Number: 122023
Description: Silicon (Si)

Expiration Date: 122026
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48 ± 0.058 Flask Uncertainty

Solvent: 24002546 Nitric Acid

2% 40.0 (mL) Nitric Acid

5E-05 Balance Uncertainty

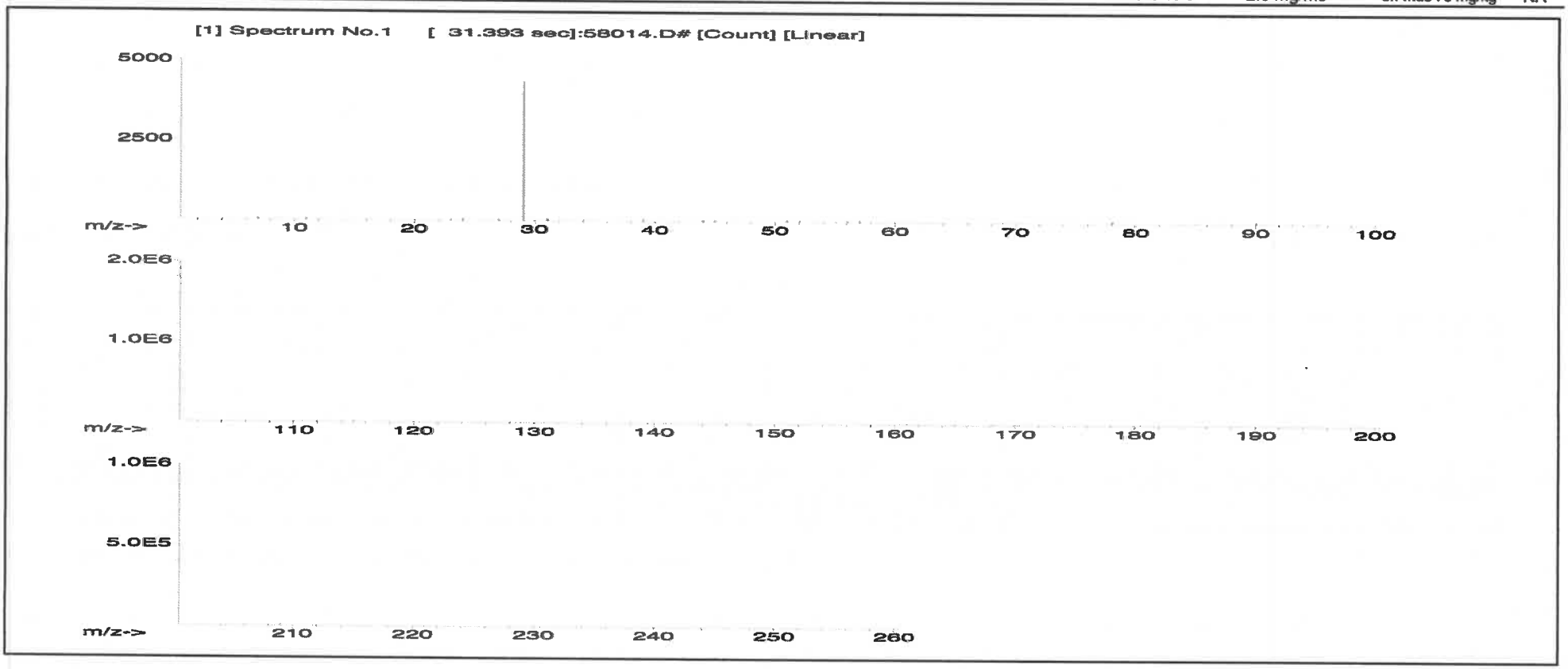
Aleah O'Brady

Formulated By: Aleah O'Brady 122023

Pedro Rentas

Reviewed By: Pedro L. Rentas 122023

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium hexafluorosilicate (Si)	IN009	SID082022A1	1000	99.999	0.10	14.4	13.8854	13.8855	**1000.0**	**2.0**	16919-19-0	2.5 mg/m3	orl-mus 70 mg/kg	NA



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	T	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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 WEIGHT REPORT:

Part Number: 58030
Lot Number: 111623
Description: Zinc (Zn)

Expiration Date: 111626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

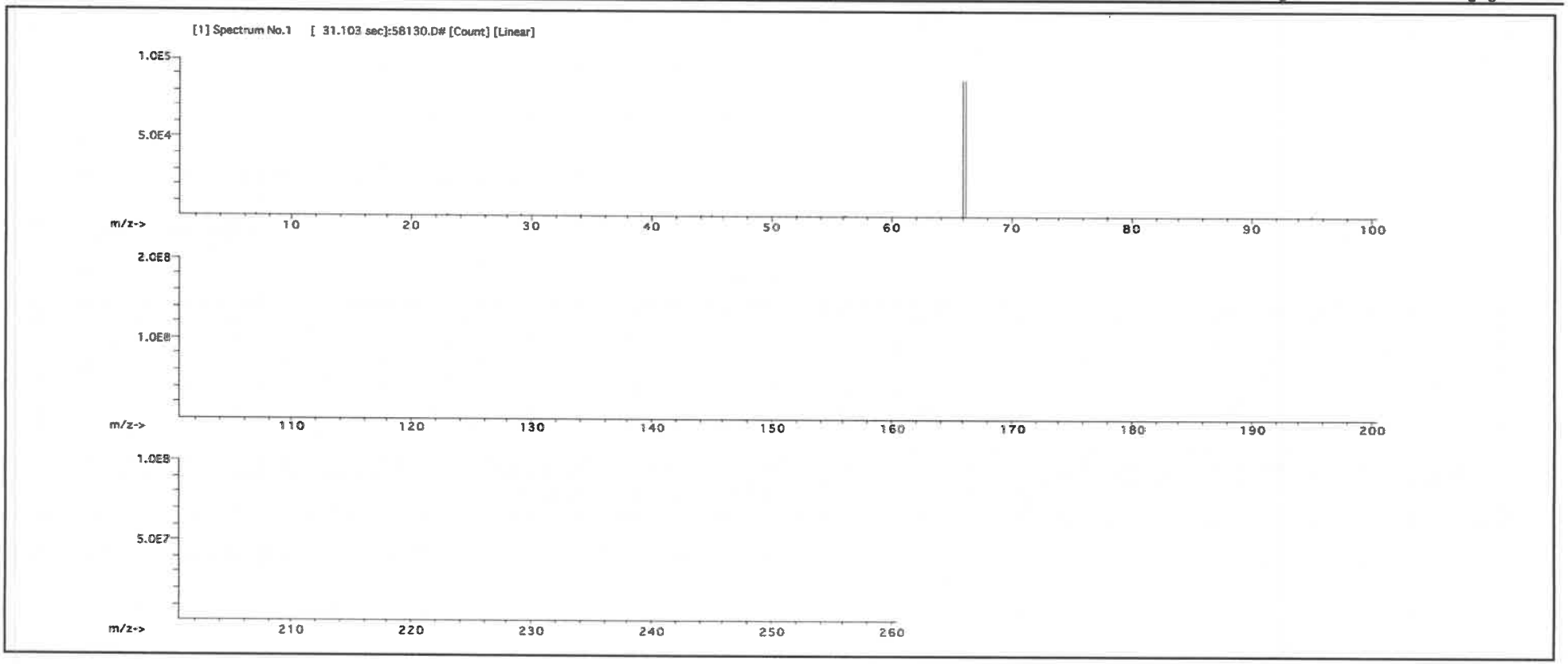
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

		Lot #		
Solvent:	24002546	Nitric Acid		
	2%	60.0 (mL)	Nitric Acid	

5E-05 Balance Uncertainty

Formulated By:	Benson Chan	111623
Reviewed By:	Pedro L. Rentas	111623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Zinc nitrate hexahydrate (Zn)	IN016	ZNE032021A1	1000	99.999	0.10	24.3	12.3475	12.3502	**1000.2**	**2.0**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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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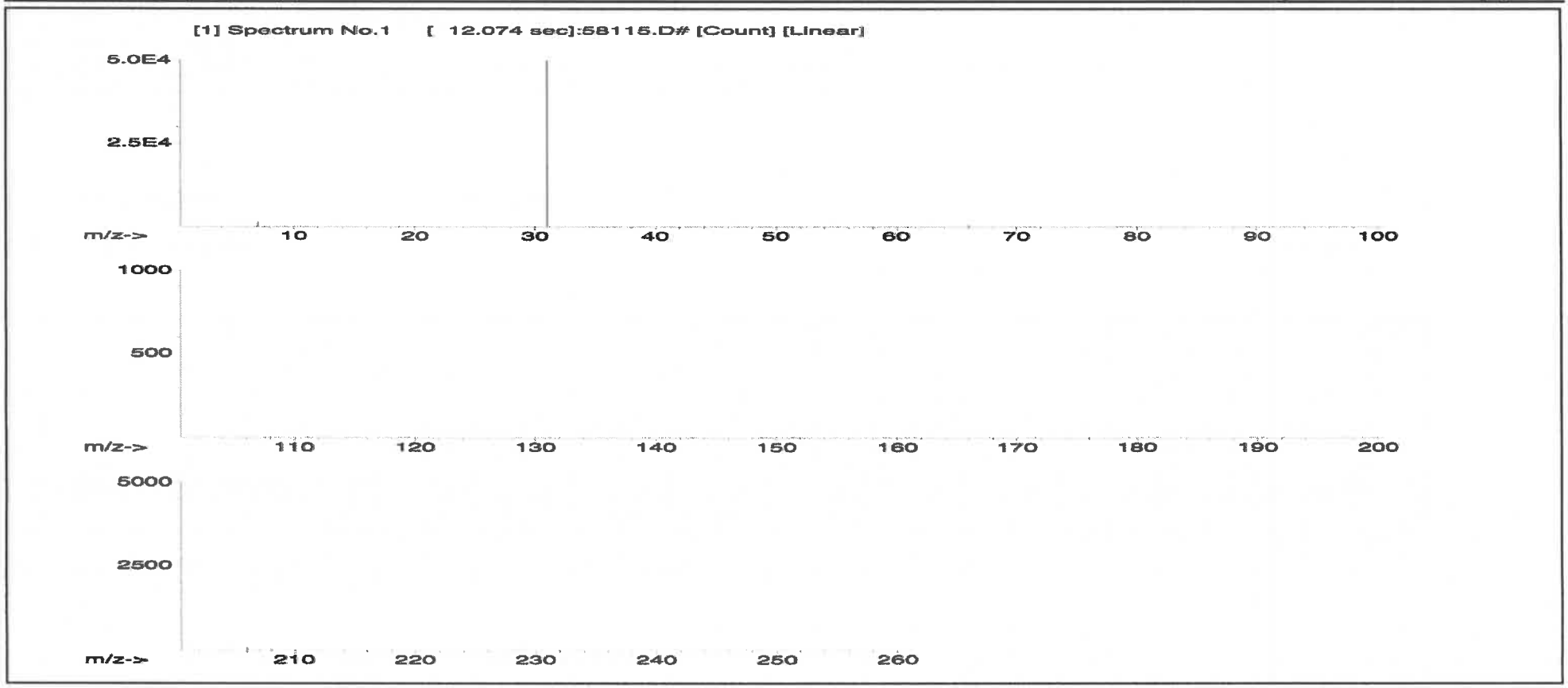
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CERTIFIED WEIGHT REPORT:

Part Number:	**57015**		**Lot #**		
Lot Number:	**091123**	**Solvent:**	24002546	Nitric Acid	
Description:	**Phosphorous (P)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	091126				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Formulated By:	Lawrence Barry	091123
Reviewed By:	Pedro L. Rentas	091123

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Ammonium dihydrogen phosphate (P)	IN008	PV082019A1	1000	99.999	0.10	27.5	7.2729	7.2730	**1000.0**	**2.0**	7722-76-1	5 mg/m3	orl-rat >2000mg/k	3186



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	T	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

MSS28 - 37 MB MSS53 MB 3/30/23

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

The Quality Assurance Technical Support (QATS) contract is operated by APTIM Federal Services, LLC.

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

ICV1-1014 For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

ICV5-0415 For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400 For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) *CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS*

ICV1-1014		
Element	**Concentration (µg/L) (after 10-fold dilution)**	**Concentration (µg/L) (after 50-fold dilution)**
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	**Concentration (µg/L) (after 100-fold dilution)**	**Analyte**	**Concentration (µg/L) (after 100-fold dilution)**
Hg	4.0	**CN^-**	99

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M5962 R! 06/14/24.

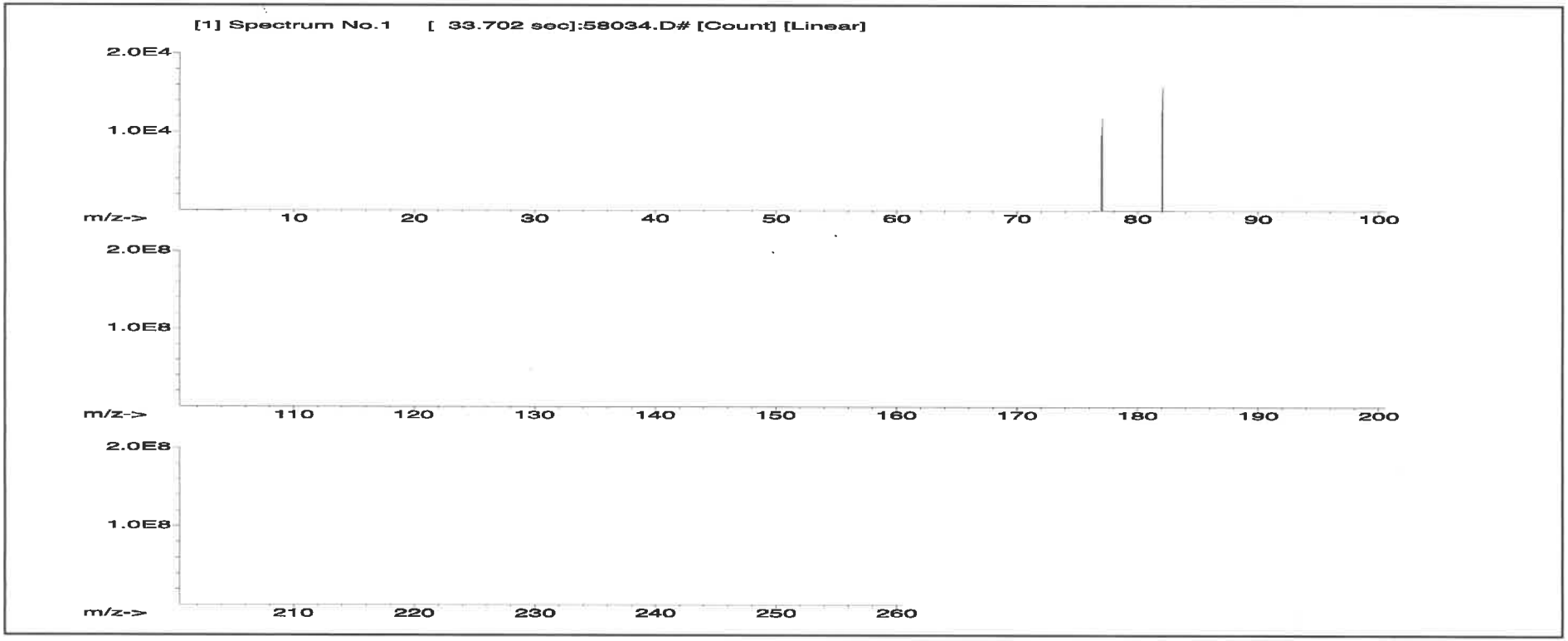
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CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57034**	24002546	Nitric Acid	
Lot Number:	**060624**			
Description:	**Selenium (Se)**			
		2.0%	40.0 (mL)	Nitric Acid
Expiration Date:	060627			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	2000.07	0.100	Flask Uncertainty	

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rentas	060624

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	**1000.0**	**2.2**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																		
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:



* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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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

M5970, M5971 R: 7/01/24

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AR-1539 Certificate Number
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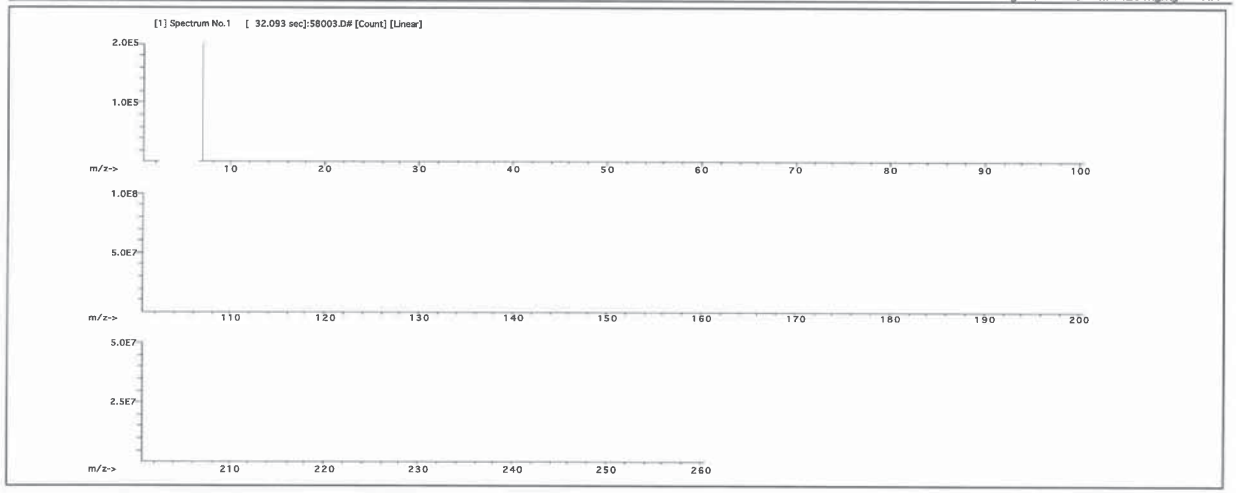
CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:
Part Number:	**57003**	24002546	Nitric Acid
Lot Number:	**062124**		
Description:	**Lithium (Li)**		
		2.0%	5.0 (mL) Nitric Acid
Expiration Date:	062127		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	**1000**		
NIST Test Number:	6UTB	5E-05 Balance Uncertainty	
Volume shown below was diluted to (mL):	250.11	0.016 Flask Uncertainty	

Giovanni Esposito
Formulated By: Giovanni Esposito 062124

Pedro Rentas
Reviewed By: Pedro L. Rentas 062124

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Lithium nitrate (Li)	58103	070622	0.1000	25.0	0.004	1000	10000.4	**1000.0**	**2.0**	7790-69-4	5 mg/m3	orl-rat 1426 mg/kg	NA



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).

M5978, M5979

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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:	Single Analyte Custom Grade Solution
Catalog Number:	CGTI1
Lot Number:	T2-TI719972
Matrix:	2% (v/v) HNO_3 tr. HF
Value / Analyte(s):	1 000 µg/mL ea: Titanium
Starting Material:	Ti Metal
Starting Material Lot#:	2094
Starting Material Purity:	99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3162a Lot Number: 130925

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance

$w_i = (1/u_{char\ i}^2) / (\Sigma(1/u_{char\ i}^2))$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma(w_i)^2\ (u_{char\ i})^2]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000536	M	Eu	<	0.000268	O	Na	<	0.032670	M	Se		0.001204	O	Zn	<	0.003267
O	Al		0.000872	O	Fe		0.003225	O	Nb	<	0.043560	O	Si		0.004735	O	Zr	<	0.043560
M	As	<	0.008586	M	Ga	<	0.000268	M	Nd	<	0.000268	M	Sm	<	0.000268				
M	Au	<	0.004577	M	Gd	<	0.000268	O	Ni	<	0.010890	M	Sn		0.000096				
O	B	<	0.008929	M	Ge	<	0.002146	M	Os	<	0.000269	O	Sr		0.000096				
M	Ba	<	0.002683	M	Hf		0.002161	O	P	<	0.054450	M	Ta		0.010560				
M	Be	<	0.005366	M	Hg	<	0.003231	M	Pb	<	0.001073	M	Tb	<	0.000268				
M	Bi	<	0.001609	M	Ho	<	0.000268	M	Pd	<	0.000268	M	Te	<	0.001341				
O	Ca		0.000676	M	In	<	0.002683	M	Pr	<	0.000268	M	Th	<	0.053663				
M	Cd	<	0.000268	M	Ir	<	0.000269	M	Pt	<	0.000536	s	Ti	<					
M	Ce	<	0.000268	M	K		0.001172	M	Rb	<	0.000268	M	Tl	<	0.000268				
M	Co	<	0.004293	M	La	<	0.000268	M	Re	<	0.000268	M	Tm	<	0.000268				
M	Cr		0.000752	O	Li	<	0.027225	M	Rh	<	0.000268	M	U	<	0.000268				
M	Cs	<	0.000268	M	Lu	<	0.000268	M	Ru	<	0.000269	M	V	<	0.019855				
O	Cu	<	0.010890	O	Mg	<	0.005445	i	S	<		M	W		0.000473				
M	Dy	<	0.000268	O	Mn	<	0.003267	M	Sb	<	0.006976	M	Y	<	0.002146				
M	Er	<	0.000268	M	Mo		0.000774	O	Sc	<	0.004900	M	Yb	<	0.000536				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 47.87 +4 6 Ti(F)6-2

Chemical Compatibility - Soluble in concentrated HCl, HF, H3PO4 H2SO4 and HNO3. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths or high levels of transition elements unless they are fluorinated). Stable with most inorganic anions with a tendency to hydrolyze forming the hydrated oxide in all dilute acids except HF.

Stability - 2-100 ppb levels stable (Alone or mixed with all other metals) as the Ti(F)6-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the Ti(F)6-2 chemically stable for years in 2-5% HNO3 / trace HF in an LDPE container.

Ti Containing Samples (Preparation and Solution) - Metal (Soluble in H2O / HF caution -powder reacts violently); Oxide - low temperature history anatase or rutile (Dissolved by heating in 1:1:1 H2O / HF / H2SO4); Oxide - high temperature history (~800EC) brookite (fuse in Pt0 with K2S2O7); Ores (fuse in Pt0 with KF + K2S2O7 - no KF if silica not present); Organic Matrices (Dry ash at 450EC in Pt0 and dissolve by heating with 1:1:1 H2O / HF / H2SO4 or fuse ash with pyrosulfate if oxide is as plastic pigment and likely in brookite crystalline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 48 amu	14 ppt	N/A	32S16O, 32S14N, 14N16O18O, 14N17N2, 36Ar12C, 48Ca, [96X=2 (where X = Zr, Mo, Ru)]
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1	Ce, Ar, Ni
ICP-OES 334.941 nm	0.0038 / 0.000028 µg/mL	1	Nb, Ta, Cr, U
ICP-OES 336.121 nm	0.0053 / 0.000034 µg/mL	1	W, Mo, Co

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 17, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- June 17, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

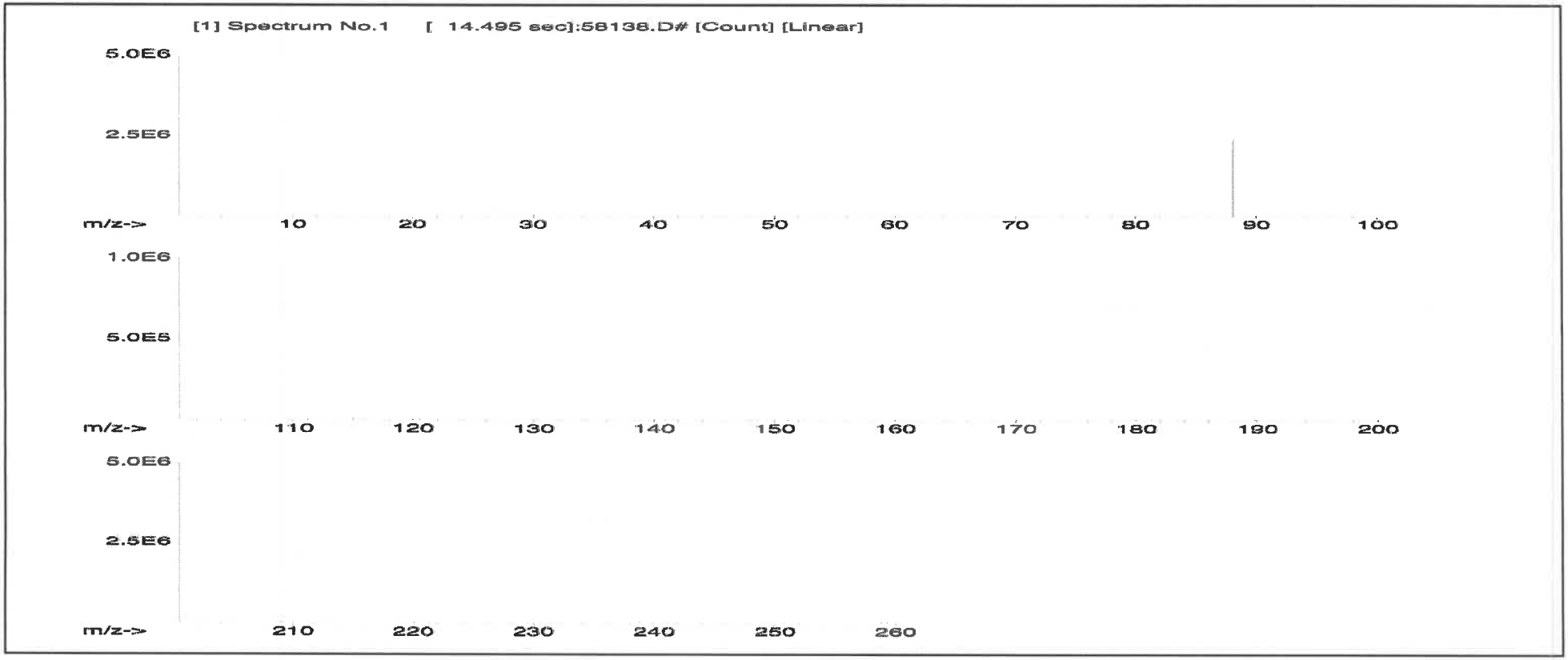
45982 R: 6/11/24

CERTIFIED WEIGHT REPORT:

Part Number:	**57038**		**Lot #**		
Lot Number:	**031524**	**Solvent:**	24002546	Nitric Acid	
Description:	**Strontium (Sr)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	031527				
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		

Formulated By:	Benson Chan	031524
Reviewed By:	Pedro L. Rentas	031524

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Strontium nitrate (Sr)	IN017	SRZ022018A1	1000	99.997	0.10	41.2	4.85470	4.85502	**1000.1**	**2.0**	10042-76-9	NA	orl-rat >2000mg/kg	3153a



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	T	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	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



INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

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



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

R: 01/03/24 M6033

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

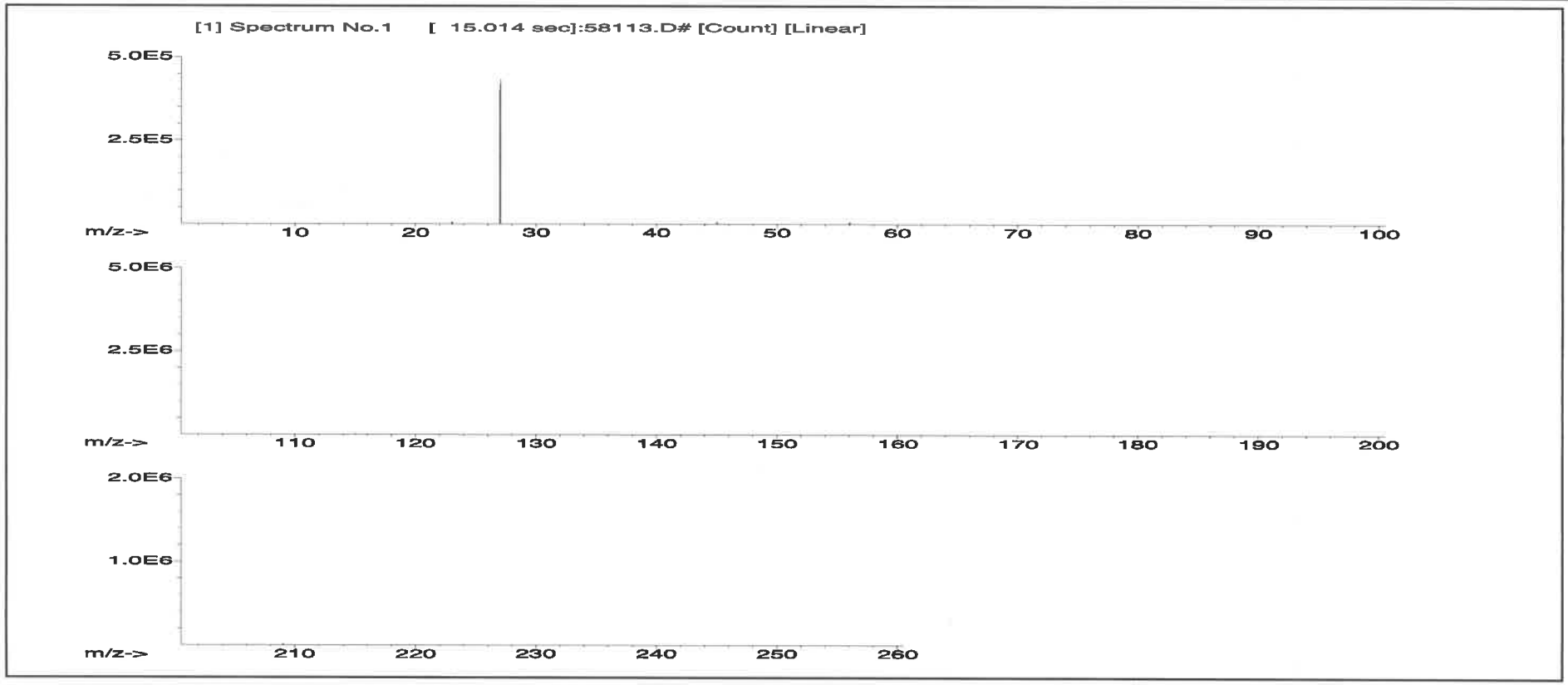
Part Number:	**58113**		**Solvent:**	20510011	Nitric Acid
Lot Number:	**011623**				
Description:	**Aluminum (Al)**				
			2%	40.0 (mL)	Nitric Acid
Expiration Date:	011626				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**10000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty		

Lot #

Giovanni Esposito

Formulated By:	Giovanni Esposito	011623
Reviewed By:	Pedro L. Rentas	011623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Aluminum nitrate nonahydrate (Al)	IN022	ALM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	**10001.1**	**20.0**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a



Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

M6109
M6110
M6111

Received date 9/29/24 Met dig.

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22F0762009
Manufactured Date: 2022-05-10
Retest Date: 2027-05-09
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.190
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	0.8 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	14.9 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	< 0.4 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	0.2 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.: 22F0762009

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	0.8 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - 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	< 0.2 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	1.0 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	0.7 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities - Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22F0762009

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

James T Ethier

Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

M6112
M6113
M6114
M6115
M6116
M6117

Receive:
9/29/24
Met dig

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.6 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	< 0.2 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Ken Koehnlein
Sr. Manager, Quality Assurance

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

R ->10/13/24
Metal g

M 6120

Material No.: 9606-03
Batch No.: 2310662003
Manufactured Date: 2023-08-21
Retest Date: 2028-08-19
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.5 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	10
Residue after Ignition	≤ 2 ppm	< 2 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.08 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.10 ppm
Sulfate (SO_4)	≤ 0.2 ppm	0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 40.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 5.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 20.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 50 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	< 50.0 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	30.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 20 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 20 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 40.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 20.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 20 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 20.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 2310662003

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 50.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 50 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 50 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 20.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 150.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 30.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 20.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 20.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 10.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	60 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	10 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 2310662003

Test	Specification	Result

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Ken Koehnlein
Sr. Manager, Quality Assurance

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

R → 10/13/24
Met dig

M 6/21

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.6
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.190
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	1
ACS - Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.3
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

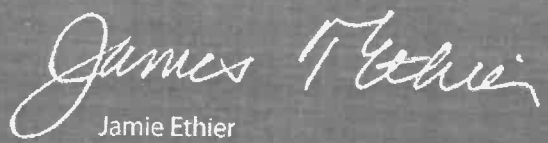
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33
Batch No.: 0000275677

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	<1
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

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Certified Reference Material CRM

R: 01/03/24 M5806, M5807

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AR-1539 Certificate Number
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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

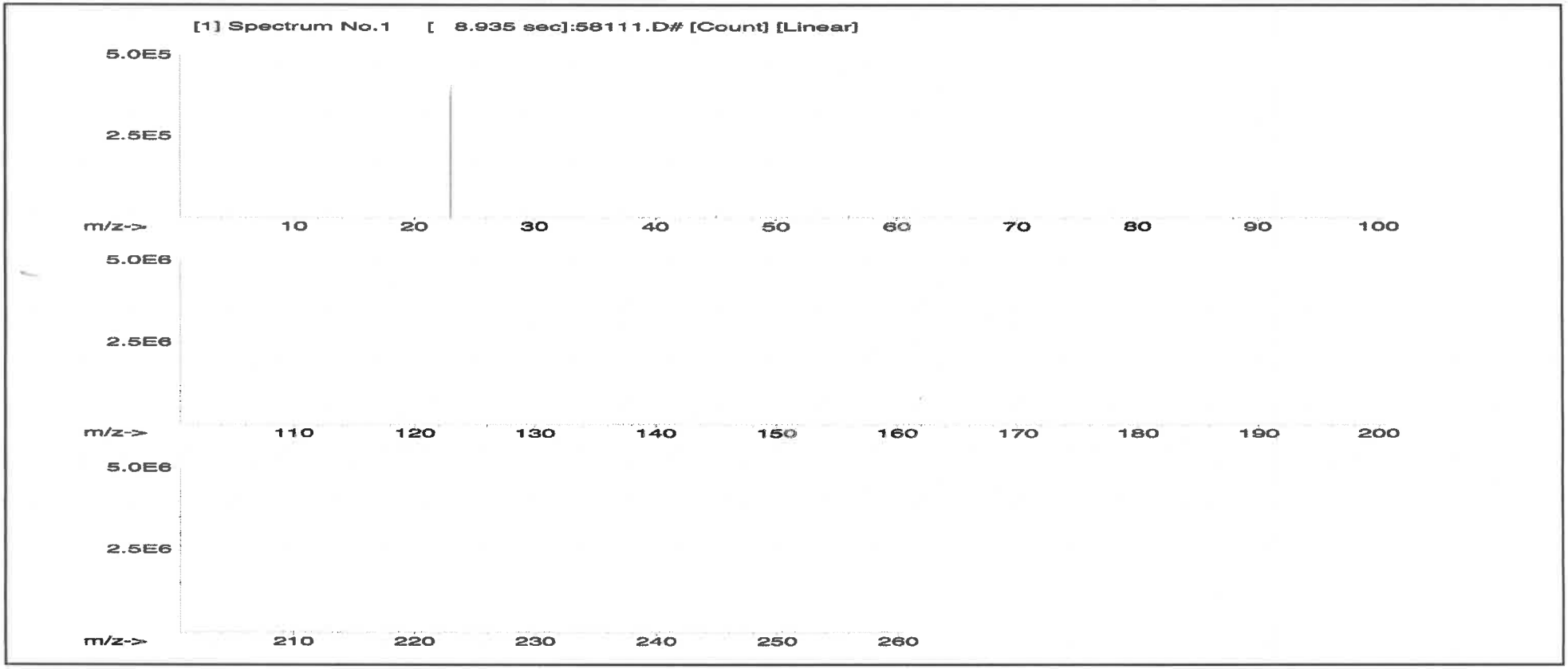
	Lot #		
Solvent:	24002546	Nitric Acid	
2%	60.0 (mL)	Nitric Acid	

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



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.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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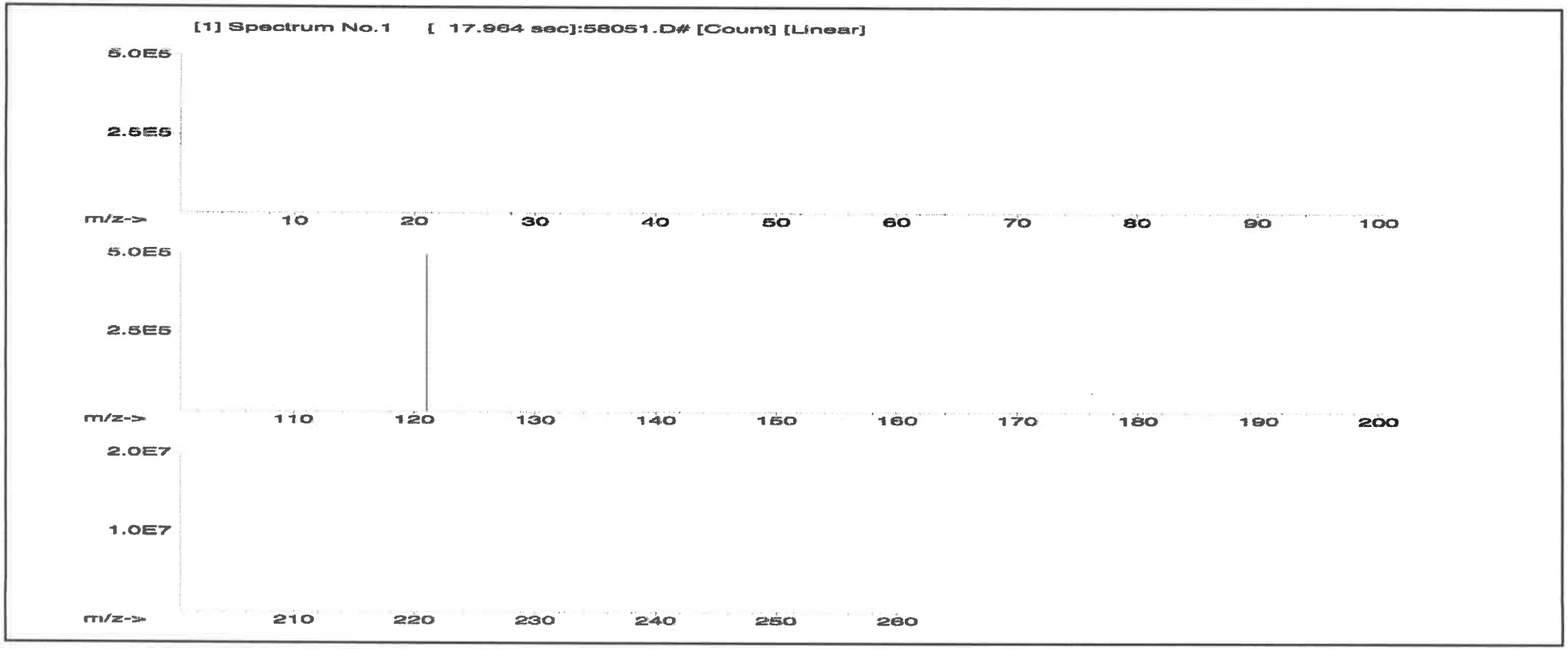
R: 01/03/24 M5802, M5803

CERTIFIED WEIGHT REPORT:

		Lot #	Solvent:	
Part Number:	**57051**	24002546	Nitric Acid	
Lot Number:	**120523**			
Description:	**Antimony (Sb)**			
		2.0%	60.0 (mL)	Nitric Acid
Expiration Date:	120526			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	**1000**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volume shown below was diluted to (mL):	3000.41	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Rentas	120523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Antimony (Sb)	58151	100923	0.1000	300.0	0.084	1000	10001.4	**1000.0**	2.1	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a



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).

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M6030

R: 8/5/24

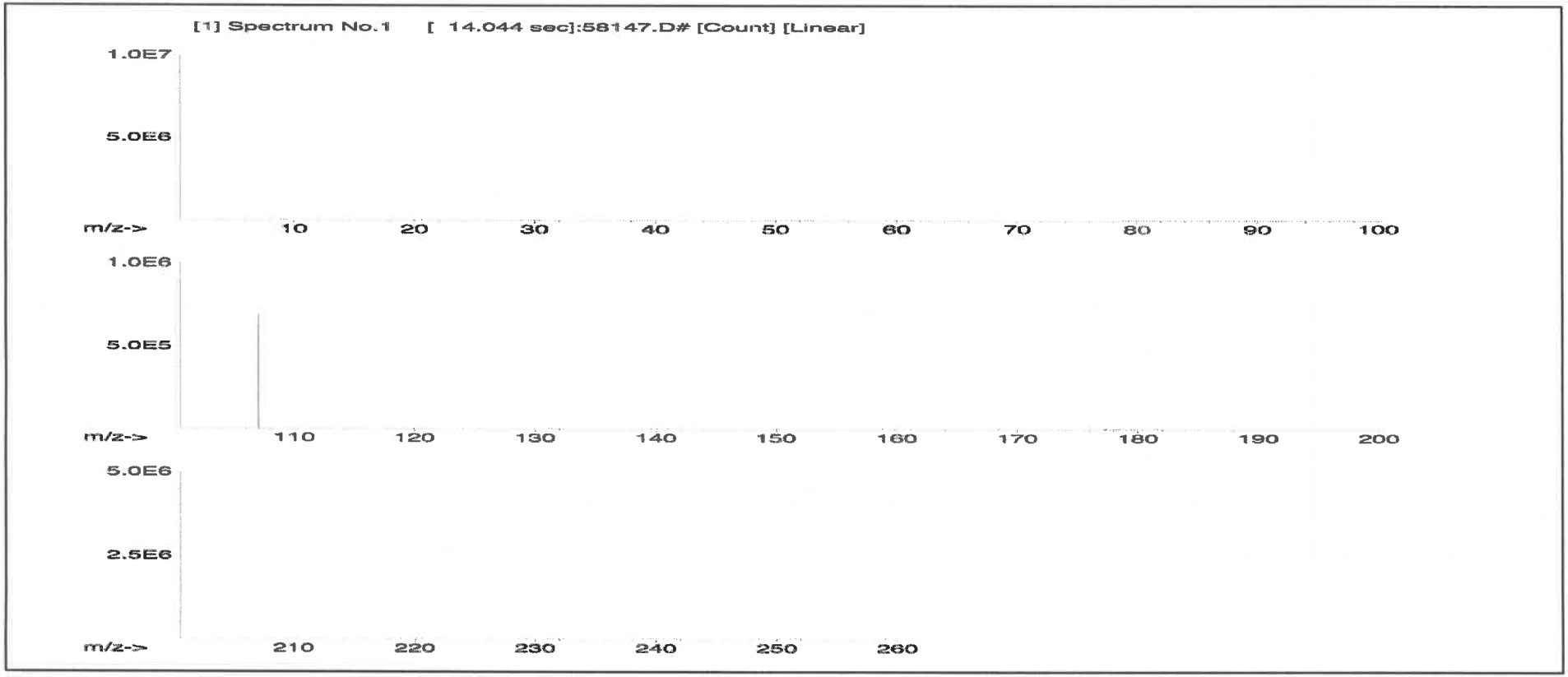
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CERTIFIED WEIGHT REPORT:

Part Number:	**57047**		**Lot #**		
Lot Number:	**122823**	**Solvent:**	24002546	Nitric Acid	
Description:	**Silver (Ag)**	2%	80.0 (mL)	Nitric Acid	
Expiration Date:	122826				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	4000.30	0.058	Flask Uncertainty		

Formulated By:	Benson Chan	122823
Reviewed By:	Pedro L. Rentas	122823

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9999	0.10	63.7	6.27992	6.27998	**1000.0**	**2.0**	7761-88-8	10 ug/m3	NA	3151



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	T	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
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* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

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R ! 8/5/24

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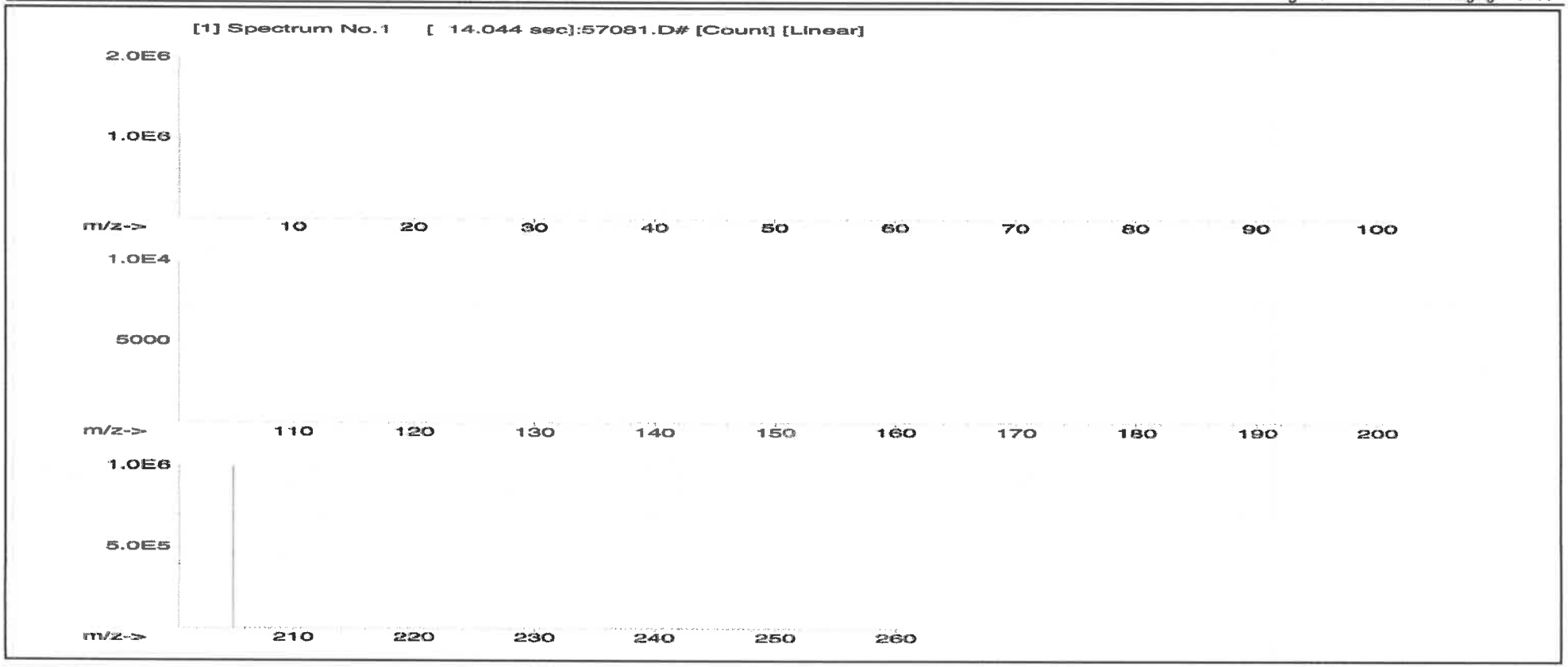
CERTIFIED WEIGHT REPORT:

Part Number:	**57081**		**Lot #**		
Lot Number:	**062724**	**Solvent:**	24002546	Nitric Acid	
Description:	**Thallium (Tl)**				
		2%	40.0 (mL)	Nitric Acid	
Expiration Date:	062727				
Recommended Storage:	Ambient (20 °C)				
Nominal Concentration (µg/mL):	**1000**				
NIST Test Number:	6UTB	5E-05	Balance Uncertainty		
Weight shown below was diluted to (mL):	2000.1	0.10	Flask Uncertainty		

Aleah O'Brady

Formulated By:	Aleah O'Brady	062724
Reviewed By:	Pedro L. Rentas	062724

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Thallium nitrate (Tl)	IN037	BCCF4399	1000	99.999	0.10	77.0	2.5975	2.5977	**1000.1**	**2.0**	10102-45-1	0.1 mg/m3	orl-mus 15mg/kg	3158



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)																	
Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	T	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
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Certified Reference Material CRM

M6021

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

Bc. 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	

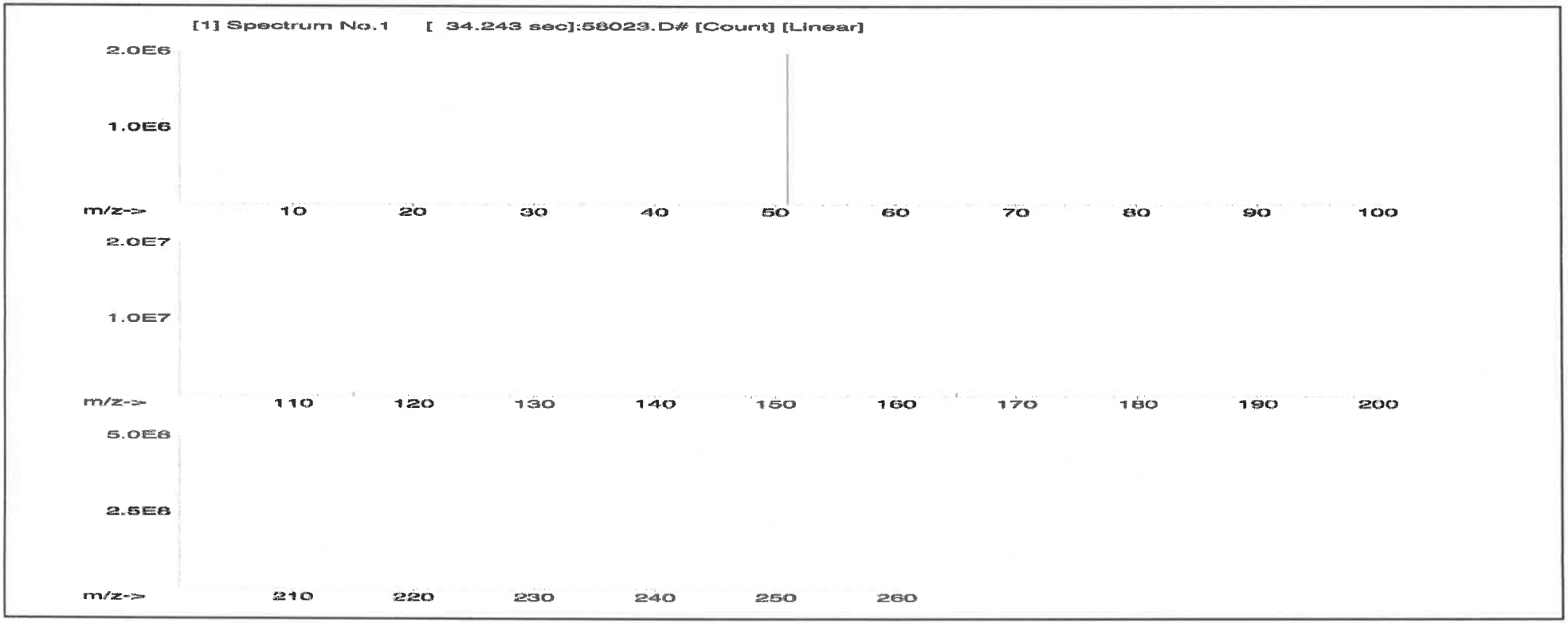
Aleah O'Brady

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



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	T
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

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* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



SHIPPING DOCUMENTS

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CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. P4861
QUOTE NO.
COC Number 2041712

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: AECOM
ADDRESS: 605 3rd Ave
CITY New York STATE: NY ZIP: 10158
ATTENTION: Amit Haryani
PHONE: FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Meeker Ave Superfund
PROJECT NO.: 60705866 LOCATION: Brooklyn
PROJECT MANAGER: Amit Haryani
e-mail: amit.haryani@aecom.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:
ADDRESS:
CITY → SAME STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) 3 day DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ☐ Level 1 (Results Only)
- ☐ Level 2 (Results + QC)
- ☐ Level 3 (Results + QC + Raw Data)
- ☐ Level 4 (QC + Full Raw Data)
- ☐ NJ Reduced ☐ US EPA CLP
- ☐ NYS ASP A ☐ NYS ASP B
- ☐ Other
- ☐ EDD FORMAT

ANALYSIS

1 TCLP VOA
2 TCLP BNA
3 TCLP ICP Metals TCLP Mercury
4 Paint Filter
5 Reactive Cyanide
6 Reactive Sulfide
7 pH
8 TCLP Pesticide
9 PCB + Flashpoint

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1 B2406004	WC-11-A-202411	GW	X		11/13/24	1500	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. Hannah Dwyer	11/14/24 1200	1. 1326 11-14-24
2.		2.
3.	11-14-24 1832	3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.3 °C
Comments:

Page ____ of ____

CLIENT: ☐ Hand Delivered ☐ Other
CHEMTECH: ☐ Picked Up ☐ Field Sampling

Shipment Complete ☐ YES ☐ NO

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WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 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