

Cover Page

Order ID : Q1707

Project ID : Transfer Station - SPDES 2025

Client : Tully Environmental, Inc

Lab Sample Number

Q1707-01
Q1707-02

Client Sample Number

001-WILLETS-PT-BLVD(MAR)
002-35TH-AVE(MAR)

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: 4/10/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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

APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: Q1707

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: PRADIP PRAJAPATI

Date: 04/10/2025

LAB CHRONICLE

OrderID:	Q1707	OrderDate:	4/2/2025 3:16:00 PM
Client:	Tully Environmental, Inc	Project:	Transfer Station - SPDES 2025
Contact:	Dean Devoe	Location:	L12

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1707-01	001-WILLETS-PT-BLV D(MAR)	Water			04/01/25			04/02/25
			Metals Group3	200.7		04/03/25	04/03/25	
Q1707-02	002-35TH-AVE(MAR)	Water			04/01/25			04/02/25
			Metals Group3	200.7		04/03/25	04/03/25	



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Hit Summary Sheet
SW-846

SDG No.: Q1707

Order ID: Q1707

Client: Tully Environmental, Inc

Project ID: Transfer Station - SPDES 2025

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : 001-WILLETS-PT-BLVD(MAR)								
Q1707-01	001-WILLETS-PT-BLVD(MAR)	Water	Copper	26.7		1.52	10.0	ug/L
Q1707-01	001-WILLETS-PT-BLVD(MAR)	Water	Iron	6900		12.4	50.0	ug/L
Q1707-01	001-WILLETS-PT-BLVD(MAR)	Water	Lead	13.1		1.57	6.00	ug/L
Client ID : 002-35TH-AVE(MAR)								
Q1707-02	002-35TH-AVE(MAR)	Water	Copper	30.8		1.52	10.0	ug/L
Q1707-02	002-35TH-AVE(MAR)	Water	Iron	7230		12.4	50.0	ug/L
Q1707-02	002-35TH-AVE(MAR)	Water	Lead	15.5		1.57	6.00	ug/L



SAMPLE DATA

Report of Analysis

Client:	Tully Environmental, Inc	Date Collected:	04/01/25
Project:	Transfer Station - SPDES 2025	Date Received:	04/02/25
Client Sample ID:	001-WILLETS-PT-BLVD(MAR)	SDG No.:	Q1707
Lab Sample ID:	Q1707-01	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-50-8	Copper	26.7		1	1.52	10.0	ug/L	04/03/25 09:10	04/03/25 14:15	EPA 200.7	
7439-89-6	Iron	6900		1	12.4	50.0	ug/L	04/03/25 09:10	04/03/25 14:15	EPA 200.7	
7439-92-1	Lead	13.1		1	1.57	6.00	ug/L	04/03/25 09:10	04/03/25 14:15	EPA 200.7	

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

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

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

Report of Analysis

Client:	Tully Environmental, Inc	Date Collected:	04/01/25
Project:	Transfer Station - SPDES 2025	Date Received:	04/02/25
Client Sample ID:	002-35TH-AVE(MAR)	SDG No.:	Q1707
Lab Sample ID:	Q1707-02	Matrix:	Water
Level (low/med):	low	% Solid:	0

Cas	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	Prep Met.
7440-50-8	Copper	30.8		1	1.52	10.0	ug/L	04/03/25 09:10	04/03/25 14:19	EPA 200.7	
7439-89-6	Iron	7230		1	12.4	50.0	ug/L	04/03/25 09:10	04/03/25 14:19	EPA 200.7	
7439-92-1	Lead	15.5		1	1.57	6.00	ug/L	04/03/25 09:10	04/03/25 14:19	EPA 200.7	

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

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

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



METAL CALIBRATION DATA

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Copper	516	510	101	95 - 105	P	04/03/2025	12:06	LB135289
	Iron	10300	10000	103	95 - 105	P	04/03/2025	12:06	LB135289
	Lead	1010	1000	101	95 - 105	P	04/03/2025	12:06	LB135289

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Copper	22.8	20.0	114	80 - 120	P	04/03/2025	12:11	LB135289
	Iron	102	100	102	80 - 120	P	04/03/2025	12:11	LB135289
	Lead	11.1	12.0	93	80 - 120	P	04/03/2025	12:11	LB135289

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Copper	1270	1250	102	90 - 110	P	04/03/2025	12:41	LB135289
	Iron	4870	5000	97	90 - 110	P	04/03/2025	12:41	LB135289
	Lead	4930	5000	99	90 - 110	P	04/03/2025	12:41	LB135289
CCV02	Copper	1260	1250	101	90 - 110	P	04/03/2025	13:53	LB135289
	Iron	4860	5000	97	90 - 110	P	04/03/2025	13:53	LB135289
	Lead	4860	5000	97	90 - 110	P	04/03/2025	13:53	LB135289
CCV03	Copper	1270	1250	102	90 - 110	P	04/03/2025	14:39	LB135289
	Iron	4880	5000	98	90 - 110	P	04/03/2025	14:39	LB135289
	Lead	4910	5000	98	90 - 110	P	04/03/2025	14:39	LB135289
CCV04	Copper	1250	1250	100	90 - 110	P	04/03/2025	15:32	LB135289
	Iron	4970	5000	99	90 - 110	P	04/03/2025	15:32	LB135289
	Lead	4850	5000	97	90 - 110	P	04/03/2025	15:32	LB135289
CCV05	Copper	1250	1250	100	90 - 110	P	04/03/2025	16:36	LB135289
	Iron	4900	5000	98	90 - 110	P	04/03/2025	16:36	LB135289
	Lead	4860	5000	97	90 - 110	P	04/03/2025	16:36	LB135289
CCV06	Copper	1280	1250	103	90 - 110	P	04/03/2025	17:48	LB135289
	Iron	4880	5000	98	90 - 110	P	04/03/2025	17:48	LB135289
	Lead	4940	5000	99	90 - 110	P	04/03/2025	17:48	LB135289
CCV07	Copper	1280	1250	103	90 - 110	P	04/03/2025	18:29	LB135289
	Iron	4960	5000	99	90 - 110	P	04/03/2025	18:29	LB135289
	Lead	4980	5000	100	90 - 110	P	04/03/2025	18:29	LB135289

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Copper	515	510	101	95 - 105	P	04/09/2025	14:21	LB135361
	Iron	9500	10000	95	95 - 105	P	04/09/2025	14:21	LB135361
	Lead	1020	1000	102	95 - 105	P	04/09/2025	14:21	LB135361

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV01	Copper	21.5	20.0	108	80 - 120	P	04/09/2025	14:26	LB135361
	Iron	96.6	100	97	80 - 120	P	04/09/2025	14:26	LB135361
	Lead	11.7	12.0	97	80 - 120	P	04/09/2025	14:26	LB135361

Metals

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV01	Copper	1230	1250	98	90 - 110	P	04/09/2025	14:56	LB135361
	Iron	5030	5000	100	90 - 110	P	04/09/2025	14:56	LB135361
	Lead	4870	5000	97	90 - 110	P	04/09/2025	14:56	LB135361
CCV02	Copper	1210	1250	97	90 - 110	P	04/09/2025	15:23	LB135361
	Iron	4840	5000	97	90 - 110	P	04/09/2025	15:23	LB135361
	Lead	4730	5000	95	90 - 110	P	04/09/2025	15:23	LB135361
CCV03	Copper	1220	1250	98	90 - 110	P	04/09/2025	16:26	LB135361
	Iron	4920	5000	98	90 - 110	P	04/09/2025	16:26	LB135361
	Lead	4790	5000	96	90 - 110	P	04/09/2025	16:26	LB135361
CCV04	Copper	1240	1250	99	90 - 110	P	04/09/2025	17:23	LB135361
	Iron	5030	5000	101	90 - 110	P	04/09/2025	17:23	LB135361
	Lead	4880	5000	98	90 - 110	P	04/09/2025	17:23	LB135361
CCV05	Copper	1240	1250	100	90 - 110	P	04/09/2025	18:09	LB135361
	Iron	4980	5000	100	90 - 110	P	04/09/2025	18:09	LB135361
	Lead	4890	5000	98	90 - 110	P	04/09/2025	18:09	LB135361
CCV06	Copper	1200	1250	96	90 - 110	P	04/09/2025	18:36	LB135361
	Iron	4930	5000	99	90 - 110	P	04/09/2025	18:36	LB135361
	Lead	4680	5000	94	90 - 110	P	04/09/2025	18:36	LB135361



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Metals

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CRDL STANDARD FOR AA & ICP

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Initial Calibration Source: _____
Continuing Calibration Source: _____

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CRI01	Copper	22.8	20.0	114	40 - 160	P	04/03/2025	12:20	LB135289
	Iron	110	100	110	40 - 160	P	04/03/2025	12:20	LB135289
	Lead	11.6	12.0	96	40 - 160	P	04/03/2025	12:20	LB135289
CRI01	Copper	21.0	20.0	105	40 - 160	P	04/09/2025	14:35	LB135361
	Iron	96.9	100	97	40 - 160	P	04/09/2025	14:35	LB135361
	Lead	11.5	12.0	96	40 - 160	P	04/09/2025	14:35	LB135361



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Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	12:15	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	12:15	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	12:15	LB135289

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	12:47	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	12:47	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	12:47	LB135289
CCB02	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	13:57	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	13:57	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	13:57	LB135289
CCB03	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	14:43	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	14:43	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	14:43	LB135289
CCB04	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	15:36	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	15:36	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	15:36	LB135289
CCB05	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	16:40	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	16:40	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	16:40	LB135289
CCB06	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	18:00	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	18:00	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	18:00	LB135289
CCB07	Copper	20.0	+/-20.0	U	20.0	P	04/03/2025	18:33	LB135289
	Iron	100	+/-100	U	100	P	04/03/2025	18:33	LB135289
	Lead	12.0	+/-12.0	U	12.0	P	04/03/2025	18:33	LB135289

Metals

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INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc

SDG No.: Q1707

Contract: TULL01

Lab Code: CHEM

Case No.: Q1707

SAS No.: Q1707

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Copper	20.0	+/-20.0	U	20.0	P	04/09/2025	14:30	LB135361
	Iron	100	+/-100	U	100	P	04/09/2025	14:30	LB135361
	Lead	12.0	+/-12.0	U	12.0	P	04/09/2025	14:30	LB135361

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Copper	20.0	+/-20.0	U	20.0	P	04/09/2025	15:00	LB135361
	Iron	100	+/-100	U	100	P	04/09/2025	15:00	LB135361
	Lead	12.0	+/-12.0	U	12.0	P	04/09/2025	15:00	LB135361
CCB02	Copper	20.0	+/-20.0	U	20.0	P	04/09/2025	15:27	LB135361
	Iron	100	+/-100	U	100	P	04/09/2025	15:27	LB135361
	Lead	12.0	+/-12.0	U	12.0	P	04/09/2025	15:27	LB135361
CCB03	Copper	20.0	+/-20.0	U	20.0	P	04/09/2025	16:30	LB135361
	Iron	100	+/-100	U	100	P	04/09/2025	16:30	LB135361
	Lead	12.0	+/-12.0	U	12.0	P	04/09/2025	16:30	LB135361
CCB04	Copper	20.0	+/-20.0	U	20.0	P	04/09/2025	17:27	LB135361
	Iron	100	+/-100	U	100	P	04/09/2025	17:27	LB135361
	Lead	12.0	+/-12.0	U	12.0	P	04/09/2025	17:27	LB135361
CCB05	Copper	20.0	+/-20.0	U	20.0	P	04/09/2025	18:13	LB135361
	Iron	100	+/-100	U	100	P	04/09/2025	18:13	LB135361
	Lead	12.0	+/-12.0	U	12.0	P	04/09/2025	18:13	LB135361
CCB06	Copper	20.0	+/-20.0	U	20.0	P	04/09/2025	18:40	LB135361
	Iron	100	+/-100	U	100	P	04/09/2025	18:40	LB135361
	Lead	12.0	+/-12.0	U	12.0	P	04/09/2025	18:40	LB135361

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tully Environmental, Inc

SDG No.: Q1707

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167442BL	WATER			Batch Number:	PB167442		Prep Date:	04/03/2025	
	Copper	10.0	<10.0	U	10.0	P	04/03/2025	18:21	LB135289
	Iron	50.0	<50.0	U	50.0	P	04/03/2025	18:21	LB135289
	Lead	6.00	<6.00	U	6.00	P	04/03/2025	18:21	LB135289

Metals
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INTERFERENCE CHECK SAMPLE

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
ICS Source: EPA **Instrument ID:** P4

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Low Limit (ug/L)	High Limit (ug/L)	Analysis Date	Analysis Time	Run Number
ICSA01	Copper	3.95	2.0	198	-18	22	04/03/2025	12:24	LB135289
	Iron	93800	101000	93	85600	116500	04/03/2025	12:24	LB135289
	Lead	4.36			-12	12	04/03/2025	12:24	LB135289
ICSAB01	Copper	512	511	100	434	588	04/03/2025	12:28	LB135289
	Iron	99000	99300	100	84400	114500	04/03/2025	12:28	LB135289
	Lead	55.2	49.0	113	37	61	04/03/2025	12:28	LB135289
ICSA	Copper	10.4	2.0	522	-18	22	04/03/2025	12:33	LB135289
	Iron	90700	101000	90	85600	116500	04/03/2025	12:33	LB135289
	Lead	8.69			-12	12	04/03/2025	12:33	LB135289
ICSAB	Copper	538	511	105	434	588	04/03/2025	12:37	LB135289
	Iron	102000	99300	103	84400	114500	04/03/2025	12:37	LB135289
	Lead	56.0	49.0	114	37	61	04/03/2025	12:37	LB135289
ICSA01	Copper	0.93	2.0	46	-18	22	04/09/2025	14:39	LB135361
	Iron	97200	101000	96	85600	116500	04/09/2025	14:39	LB135361
	Lead	6.82			-12	12	04/09/2025	14:39	LB135361
ICSAB01	Copper	483	511	94	434	588	04/09/2025	14:43	LB135361
	Iron	106000	99300	107	84400	114500	04/09/2025	14:43	LB135361
	Lead	51.3	49.0	105	37	61	04/09/2025	14:43	LB135361
ICSA	Copper	-2.16	2.0	108	-18	22	04/09/2025	14:48	LB135361
	Iron	105000	101000	104	85600	116500	04/09/2025	14:48	LB135361
	Lead	16.4			-12	12	04/09/2025	14:48	LB135361
ICSAB	Copper	527	511	103	434	588	04/09/2025	14:52	LB135361
	Iron	97000	99300	98	84400	114500	04/09/2025	14:52	LB135361
	Lead	52.0	49.0	106	37	61	04/09/2025	14:52	LB135361



METAL

QC

DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client: Tully Environmental, Inc **level:** low **sdg no.:** Q1707
contract: TULL01 **lab code:** CHEM **case no.:** Q1707 **sas no.:** Q1707
matrix: Water **sample id:** Q1689-01 **client id:** Q2 WASTEWATERMS
Percent Solids for Sample: NA **Spiked ID:** Q1689-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/L	75 - 125	129	D	100	UD	150	82		P
Iron	ug/L	75 - 125	1650	D	500	UD	1500	101		P
Lead	ug/L	75 - 125	423	D	60.0	UD	500	89		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: Tully Environmental, Inc **level:** low **sdg no.:** Q1707
contract: TULL01 **lab code:** CHEM **case no.:** Q1707 **sas no.:** Q1707
matrix: Water **sample id:** Q1689-01 **client id:** Q2 WASTEWATERMSD
Percent Solids for Sample: NA **Spiked ID:** Q1689-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/L	75 - 125	131	D	100	UD	150	83		P
Iron	ug/L	75 - 125	1670	D	500	UD	1500	102		P
Lead	ug/L	75 - 125	426	D	60.0	UD	500	89		P

Metals
- 5b -

Client: Tully Environmental, Inc **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Matrix: **Level:** LOW **Client ID:**
Sample ID: **Spiked ID:**

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

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DUPLICATE SAMPLE SUMMARY

Client: Tully Environmental, Inc **Level:** LOW **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Matrix: Water **Sample ID:** Q1689-01 **Client ID:** Q2 WASTEWATERDUP
Percent Solids for Sample: NA **Duplicate ID** Q1689-01DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Copper	ug/L	20	100	UD	100	UD	200		P
Iron	ug/L	20	500	UD	500	UD	200		P
Lead	ug/L	20	60.0	UD	60.0	UD	200		P

Metals

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DUPLICATE SAMPLE SUMMARY

Client: Tully Environmental, Inc **Level:** LOW **SDG No.:** Q1707
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1707 **SAS No.:** Q1707
Matrix: Water **Sample ID:** Q1689-01MS **Client ID:** Q2 WASTEWATERMSD
Percent Solids for Sample: NA **Duplicate ID** Q1689-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Copper	ug/L	20	129	D	131	D	2		P
Iron	ug/L	20	1650	D	1670	D	1		P
Lead	ug/L	20	423	D	426	D	1		P



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Client:	<u>Tully Environmental, Inc</u>	SDG No.:	<u>Q1707</u>				
Contract:	TULL01	Lab Code:	CHEM	Case No.:	Q1707	SAS No.:	Q1707

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167442BS							
Copper	ug/L	150	158		105	85 - 115	P
Iron	ug/L	1500	1480		99	85 - 115	P
Lead	ug/L	500	478		96	85 - 115	P

Metals

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ICP SERIAL DILUTIONS

SAMPLE NO.

Q2 WASTEWATERL

Lab Name: Chemtech Consulting Group

Contract: TULL01

Lab Code: CHEM **Lb No.:** lb135361 **Lab Sample ID :** Q1689-01L **SDG No.:** Q1707

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Differ- ence	Q	M
	C		C				
Copper	100	UD	500	UD	214		P
Iron	500	UD	2500	UD	237		P
Lead	60.0	UD	300	UD	27		P



METAL PREPARATION & INSTRUMENT DATA

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1707

Contract: TULL01

Lab Code: CHEM

Case No.: Q1707

SAS No.: Q1707

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Al	Ca	Fe	Mg	Ag
Copper	224.700	0.0000000	0.0000000	0.0007850	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1707

Contract: TULL01

Lab Code: CHEM

Case No.: Q1707

SAS No.: Q1707

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		As	Ba	Be	Cd	Co
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0009530
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	-0.0039600
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1707

Contract: TULL01

Lab Code: CHEM

Case No.: Q1707

SAS No.: Q1707

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Cr	Cu	K	Mn	Mo
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0006510	0.0020500
Iron	240.488	0.0000000	0.0000000	0.0000730	0.0000000	-0.0015250
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600

Metals

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ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1707

Contract: TULL01

Lab Code: CHEM

Case No.: Q1707

SAS No.: Q1707

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Na	Ni	Pb	Sb	Se
Copper	224.700	0.0000000	-0.0047000	0.0036100	0.0000000	0.0000000
Iron	240.488	0.0000000	-0.0017000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290

Metals

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ICP INTERELEMEN CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1707

Contract: TULL01

Lab Code: CHEM

Case No.: Q1707

SAS No.: Q1707

Instrument ID: _____

Date: _____

Interement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interement Correction Factors For:				
		Sn	Ti	Tl	V	Zn
Copper	224.700	0.0000000	0.0003840	0.0000000	0.0000000	0.0000000
Iron	240.488	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000



METAL PREPARATION & ANALYICAL SUMMARY

Metals

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SAMPLE PREPARATION SUMMARY

Client:	<u>Tully Environmental, Inc</u>	SDG No.:	<u>Q1707</u>
Contract:	<u>TULL01</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q1707</u>
		SAS No.:	<u>Q1707</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB167442							
PB167442BL	PB167442BL	MB	WATER	04/03/2025	50.0	25.0	
PB167442BS	PB167442BS	LCS	WATER	04/03/2025	50.0	25.0	
Q1689-01DUP	Q2 WASTEWATERDUP	DUP	WATER	04/03/2025	50.0	25.0	
Q1689-01MS	Q2 WASTEWATERMS	MS	WATER	04/03/2025	50.0	25.0	
Q1689-01MSD	Q2 WASTEWATERMSD	MSD	WATER	04/03/2025	50.0	25.0	
Q1707-01	001-WILLETS-PT-BLVD(MAR)	SAM	WATER	04/03/2025	50.0	25.0	
Q1707-02	002-35TH-AVE(MAR)	SAM	WATER	04/03/2025	50.0	25.0	

metals
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ANALYSIS RUN LOG

Client: Tully Environmental, Inc **Contract:** TULL01

Lab code: CHEM **Case no.:** Q1707 **Sas no.:** Q1707 **Sdg no.:** Q1707

Instrument id number: **Method:** **Run number:** LB135289

Start date: 04/03/2025 **End date:** 04/03/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1022	Cu,Fe,Pb
S1	S1	1	1026	Cu,Fe,Pb
S2	S2	1	1030	Cu,Fe,Pb
S3	S3	1	1034	Cu,Fe,Pb
S4	S4	1	1039	Cu,Fe,Pb
S5	S5	1	1043	Cu,Fe,Pb
ICV01	ICV01	1	1206	Cu,Fe,Pb
LLICV01	LLICV01	1	1211	Cu,Fe,Pb
ICB01	ICB01	1	1215	Cu,Fe,Pb
CRI01	CRI01	1	1220	Cu,Fe,Pb
ICSA01	ICSA01	1	1224	Cu,Fe,Pb
ICSAB01	ICSAB01	1	1228	Cu,Fe,Pb
ICSA	ICSA	20	1233	Cu,Fe,Pb
ICSAB	ICSAB	20	1237	Cu,Fe,Pb
CCV01	CCV01	1	1241	Cu,Fe,Pb
CCB01	CCB01	1	1247	Cu,Fe,Pb
CCV02	CCV02	1	1353	Cu,Fe,Pb
CCB02	CCB02	1	1357	Cu,Fe,Pb
Q1707-01	001-WILLETS-PT-BLVD(MAR	1	1415	Cu,Fe,Pb
Q1707-02	002-35TH-AVE(MAR)	1	1419	Cu,Fe,Pb
CCV03	CCV03	1	1439	Cu,Fe,Pb
CCB03	CCB03	1	1443	Cu,Fe,Pb
CCV04	CCV04	1	1532	Cu,Fe,Pb
CCB04	CCB04	1	1536	Cu,Fe,Pb
CCV05	CCV05	1	1636	Cu,Fe,Pb
CCB05	CCB05	1	1640	Cu,Fe,Pb
CCV06	CCV06	1	1748	Cu,Fe,Pb
CCB06	CCB06	1	1800	Cu,Fe,Pb
PB167442BL	PB167442BL	1	1821	Cu,Fe,Pb
PB167442BS	PB167442BS	1	1825	Cu,Fe,Pb
CCV07	CCV07	1	1829	Cu,Fe,Pb
CCB07	CCB07	1	1833	Cu,Fe,Pb

metals
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ANALYSIS RUN LOG

Client: Tully Environmental, Inc **Contract:** TULL01

Lab code: CHEM **Case no.:** Q1707 **Sas no.:** Q1707 **Sdg no.:** Q1707

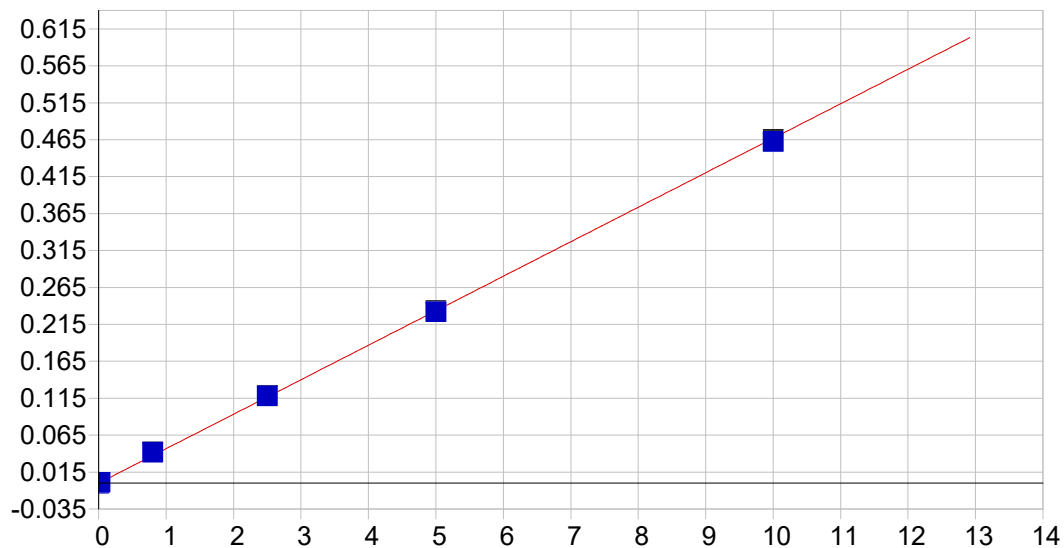
Instrument id number: **Method:** **Run number:** LB135361

Start date: 04/09/2025 **End date:** 04/09/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1316	Cu,Fe,Pb
S1	S1	1	1320	Cu,Fe,Pb
S2	S2	1	1324	Cu,Fe,Pb
S3	S3	1	1328	Cu,Fe,Pb
S4	S4	1	1333	Cu,Fe,Pb
S5	S5	1	1337	Cu,Fe,Pb
ICV01	ICV01	1	1421	Cu,Fe,Pb
LLICV01	LLICV01	1	1426	Cu,Fe,Pb
ICB01	ICB01	1	1430	Cu,Fe,Pb
CRI01	CRI01	1	1435	Cu,Fe,Pb
ICSA01	ICSA01	1	1439	Cu,Fe,Pb
ICSAB01	ICSAB01	1	1443	Cu,Fe,Pb
ICSA	ICSA	20	1448	Cu,Fe,Pb
ICSAB	ICSAB	20	1452	Cu,Fe,Pb
CCV01	CCV01	1	1456	Cu,Fe,Pb
CCB01	CCB01	1	1500	Cu,Fe,Pb
Q1689-01DUP	Q2 WASTEWATERDUP	10	1513	Cu,Fe,Pb
CCV02	CCV02	1	1523	Cu,Fe,Pb
CCB02	CCB02	1	1527	Cu,Fe,Pb
Q1689-01L	Q2 WASTEWATERL	50	1532	Cu,Fe,Pb
Q1689-01MS	Q2 WASTEWATERMS	10	1536	Cu,Fe,Pb
Q1689-01MSD	Q2 WASTEWATERMSD	10	1540	Cu,Fe,Pb
CCV03	CCV03	1	1626	Cu,Fe,Pb
CCB03	CCB03	1	1630	Cu,Fe,Pb
CCV04	CCV04	1	1723	Cu,Fe,Pb
CCB04	CCB04	1	1727	Cu,Fe,Pb
CCV05	CCV05	1	1809	Cu,Fe,Pb
CCB05	CCB05	1	1813	Cu,Fe,Pb
CCV06	CCV06	1	1836	Cu,Fe,Pb
CCB06	CCB06	1	1840	Cu,Fe,Pb



METAL RAW DATA

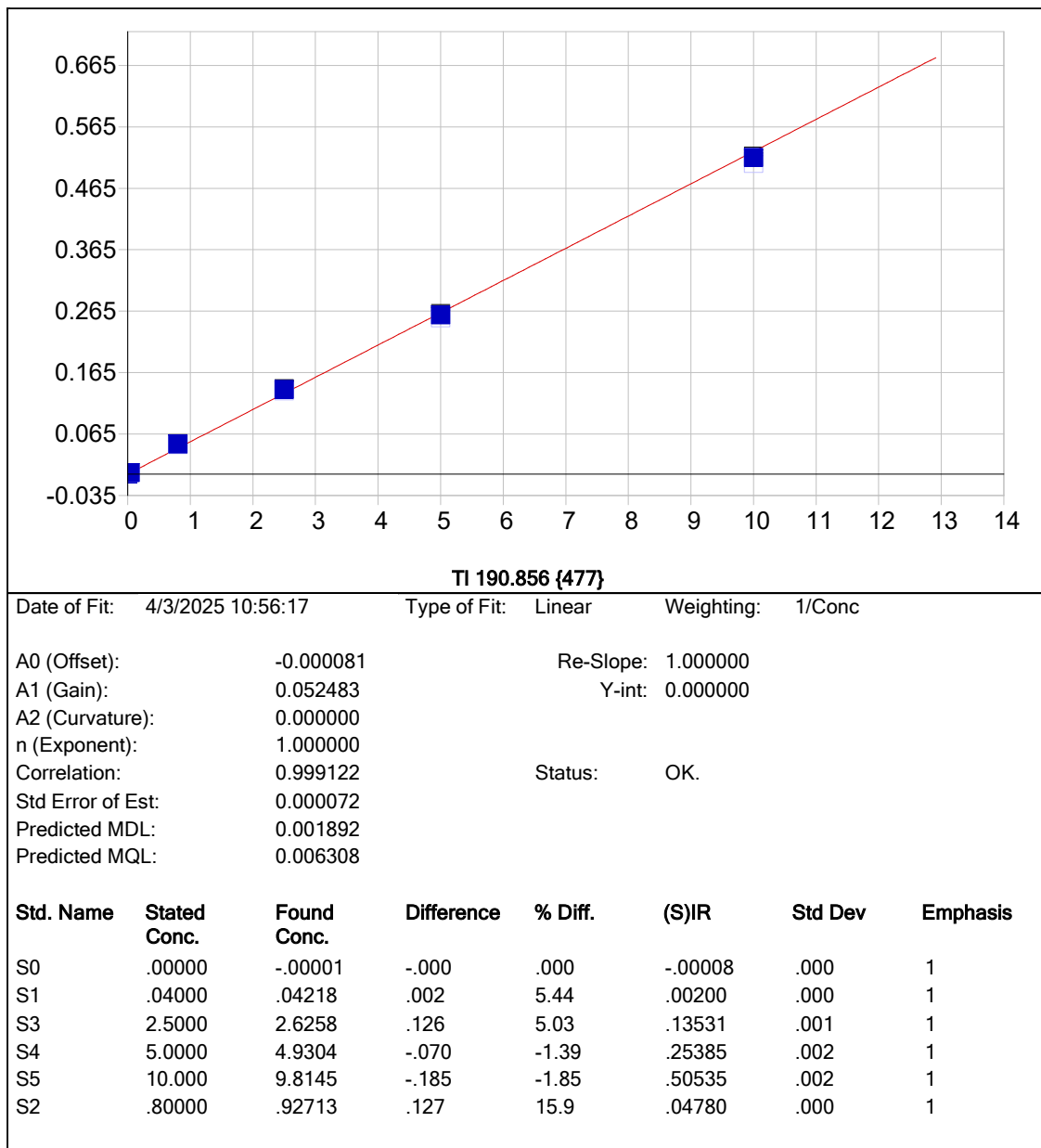


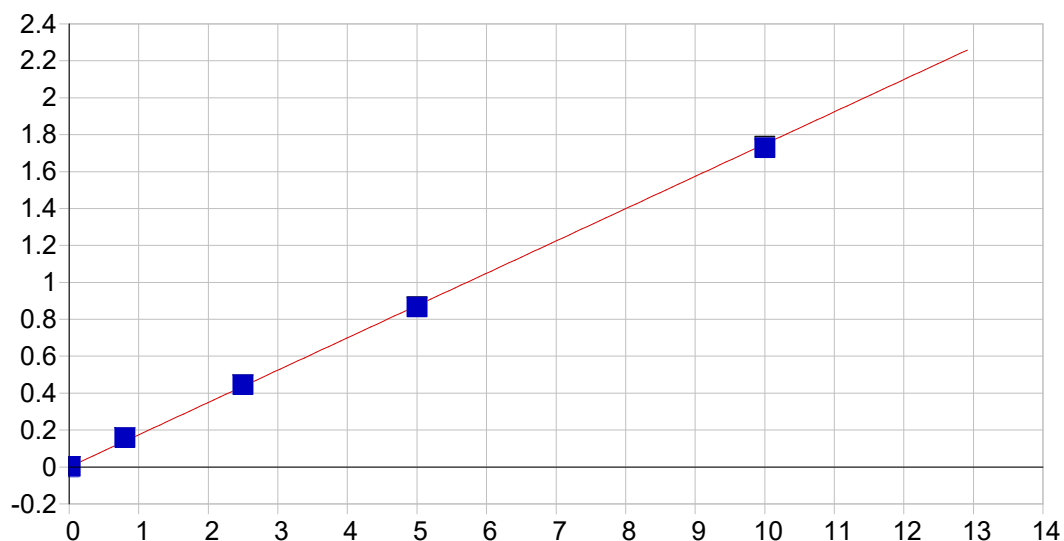
As 189.042 {479}

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A1 (Gain): 0.046708 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999659 Status: OK.
Std Error of Est: 0.000029
Predicted MDL: 0.002556
Predicted MQL: 0.008520

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00013	.000	1
S1	.02000	.02041	.000	2.07	.00081	.000	1
S3	2.5000	2.5323	.032	1.29	.11802	.001	1
S4	5.0000	4.9694	-.031	-.611	.23172	.001	1
S5	10.000	9.9042	-.096	-.958	.46196	.003	1
S2	.80000	.89359	.094	11.7	.04156	.000	1



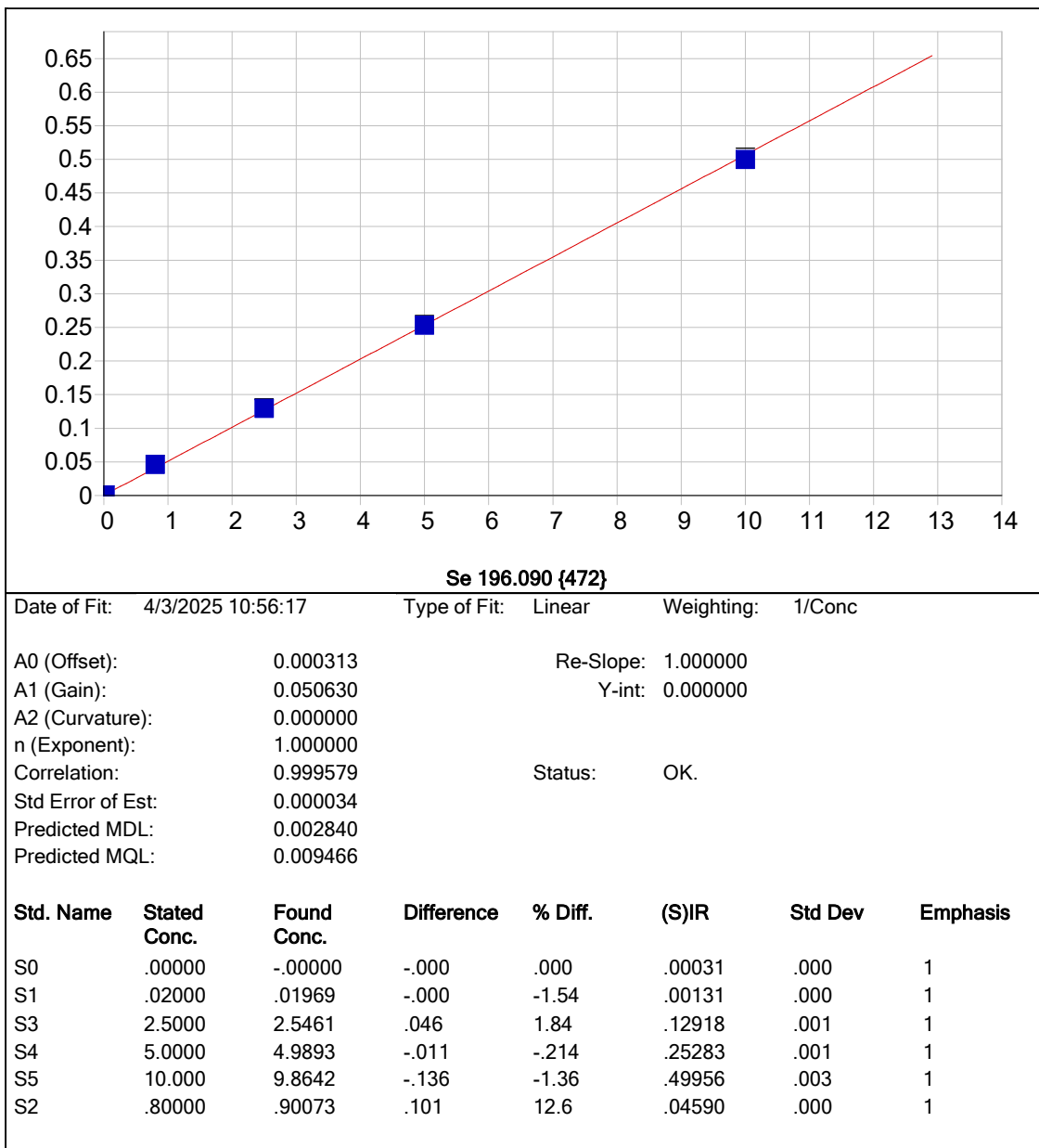


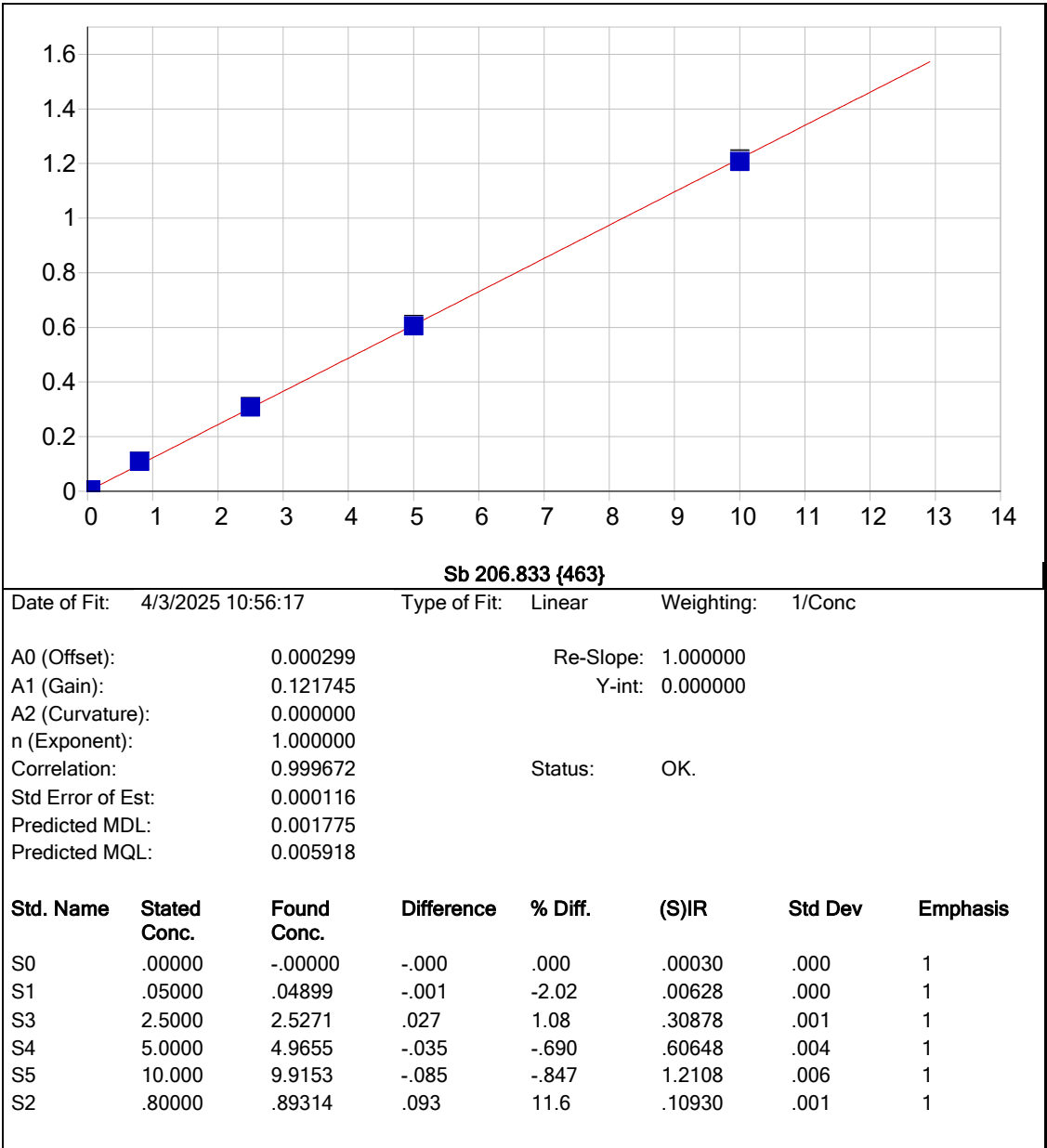
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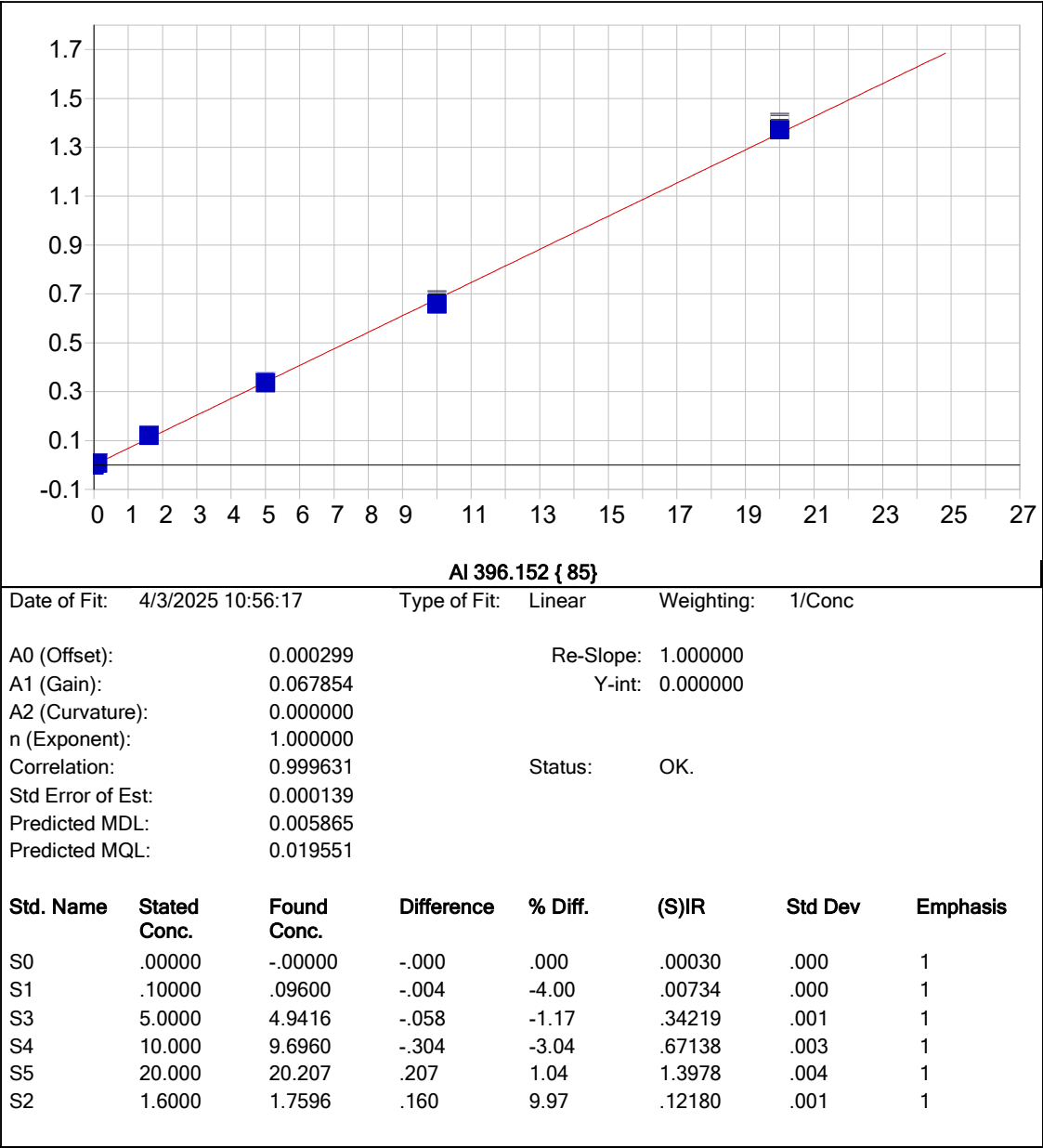
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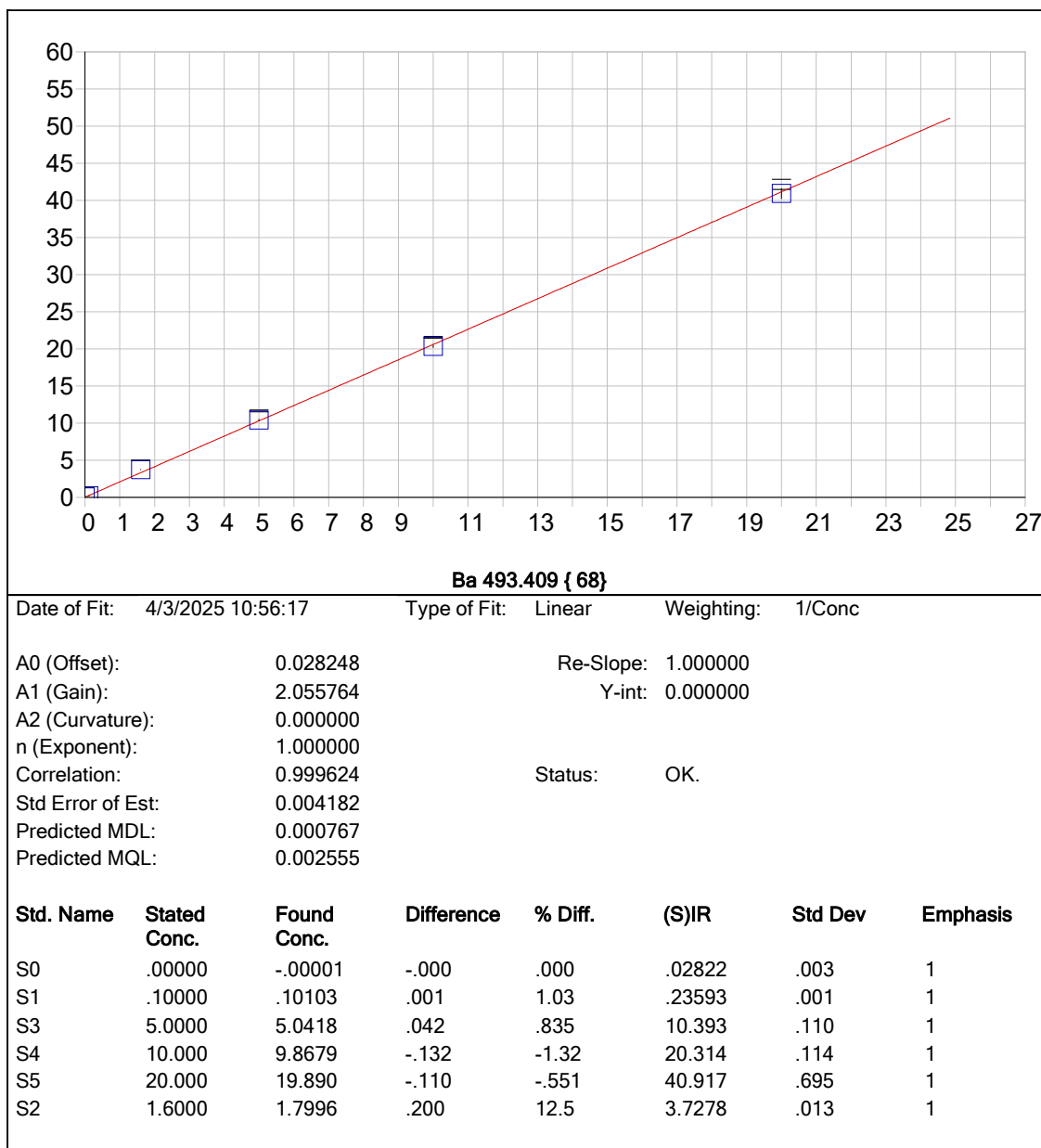
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A1 (Gain): 0.174907 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999510 Status: OK.
Std Error of Est: 0.000099
Predicted MDL: 0.001399
Predicted MQL: 0.004665

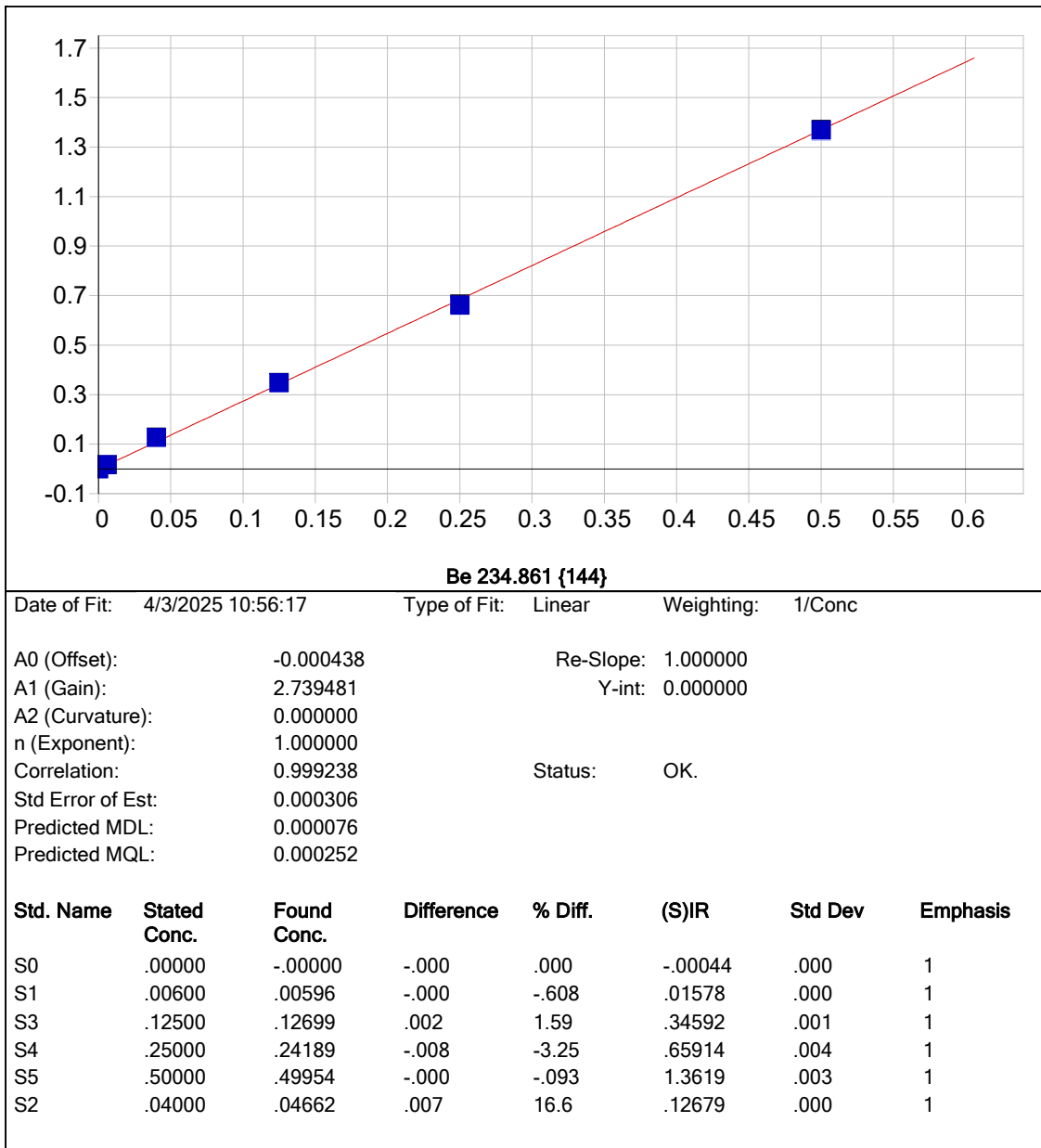
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00015	.000	1
S1	.01200	.01203	.000	.232	.00191	.000	1
S3	2.5000	2.5487	.049	1.95	.44515	.002	1
S4	5.0000	4.9537	-.046	-.925	.86533	.002	1
S5	10.000	9.8871	-.113	-1.13	1.7273	.008	1
S2	.80000	.91045	.110	13.8	.15894	.000	1

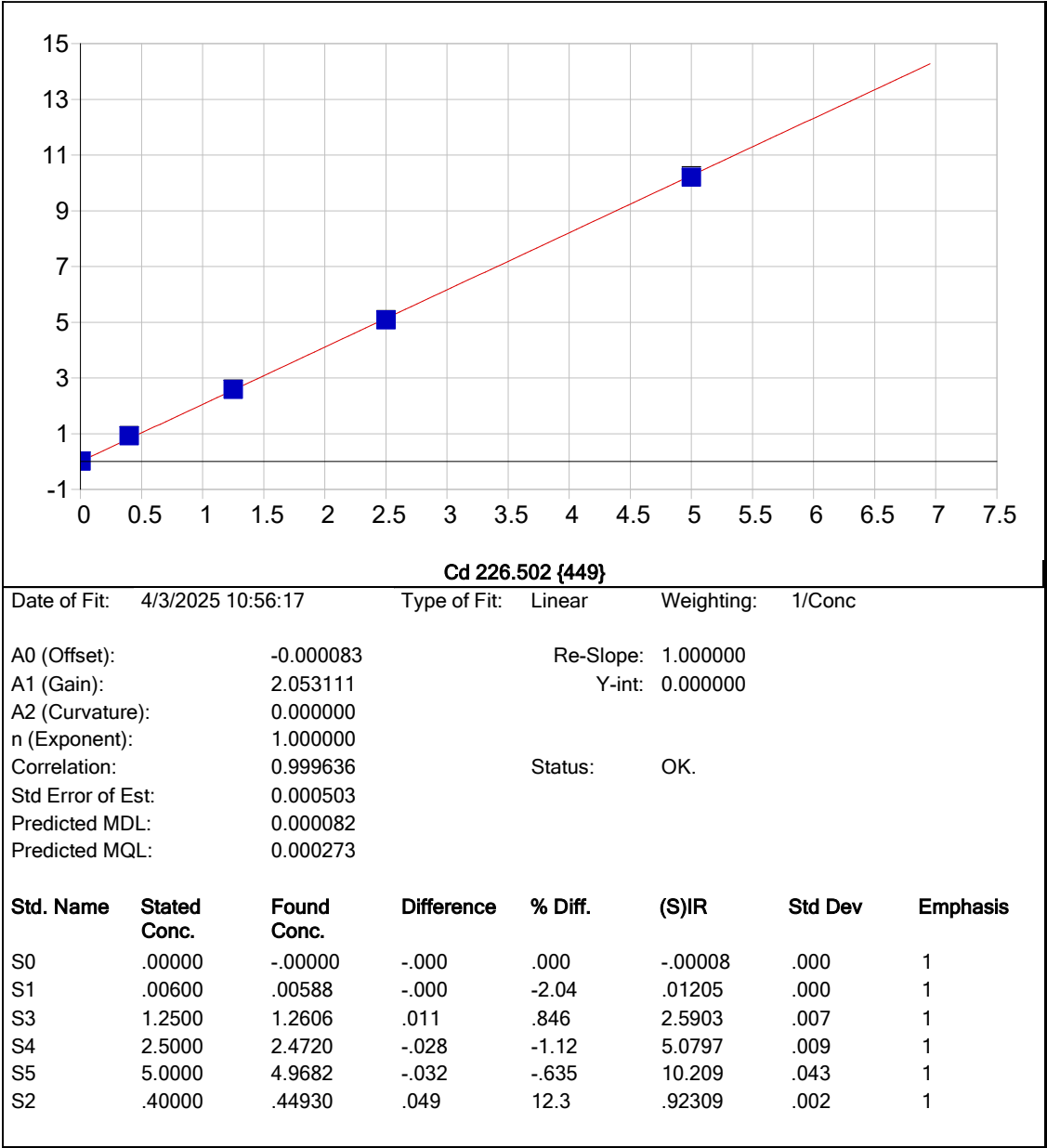


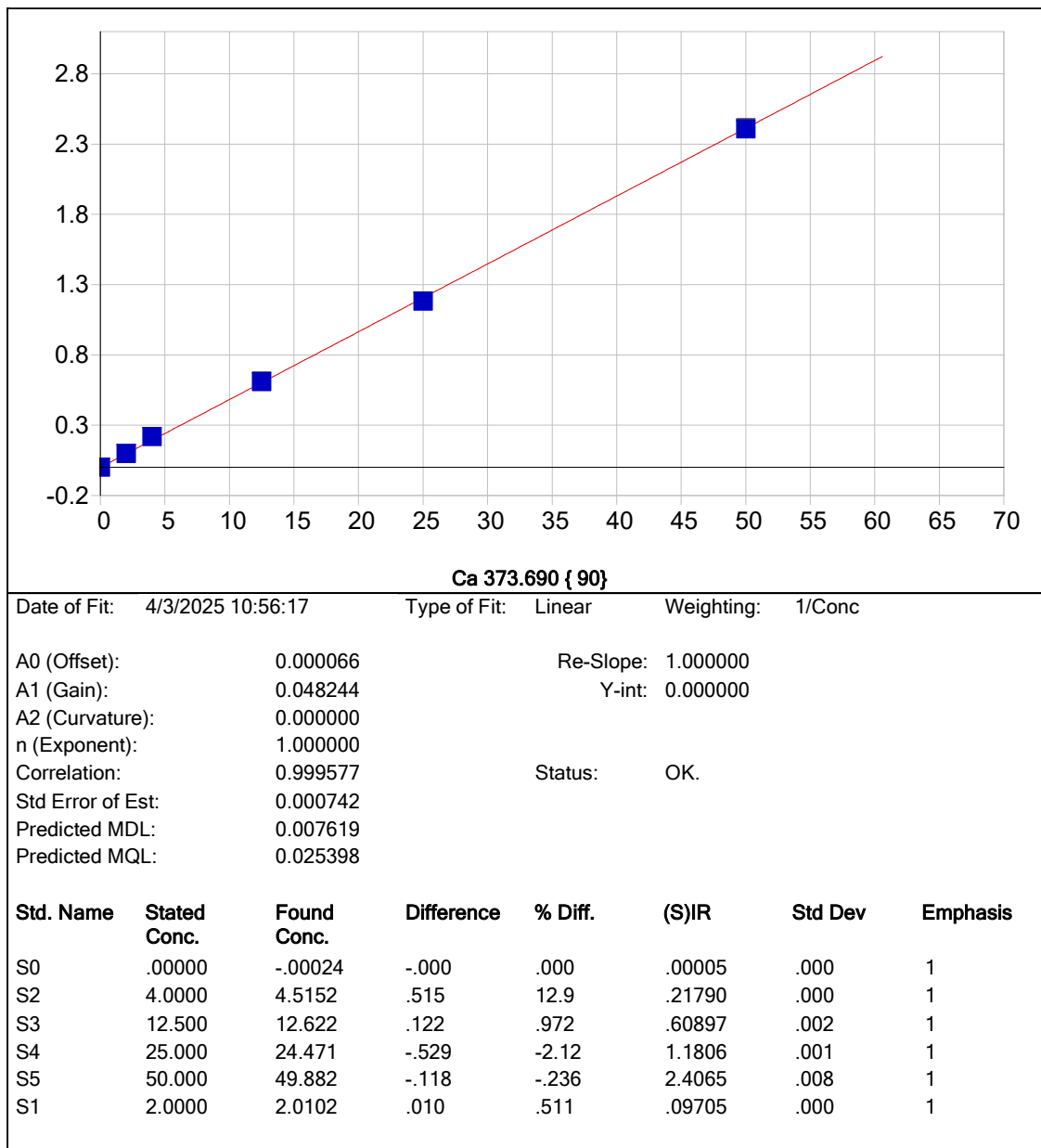


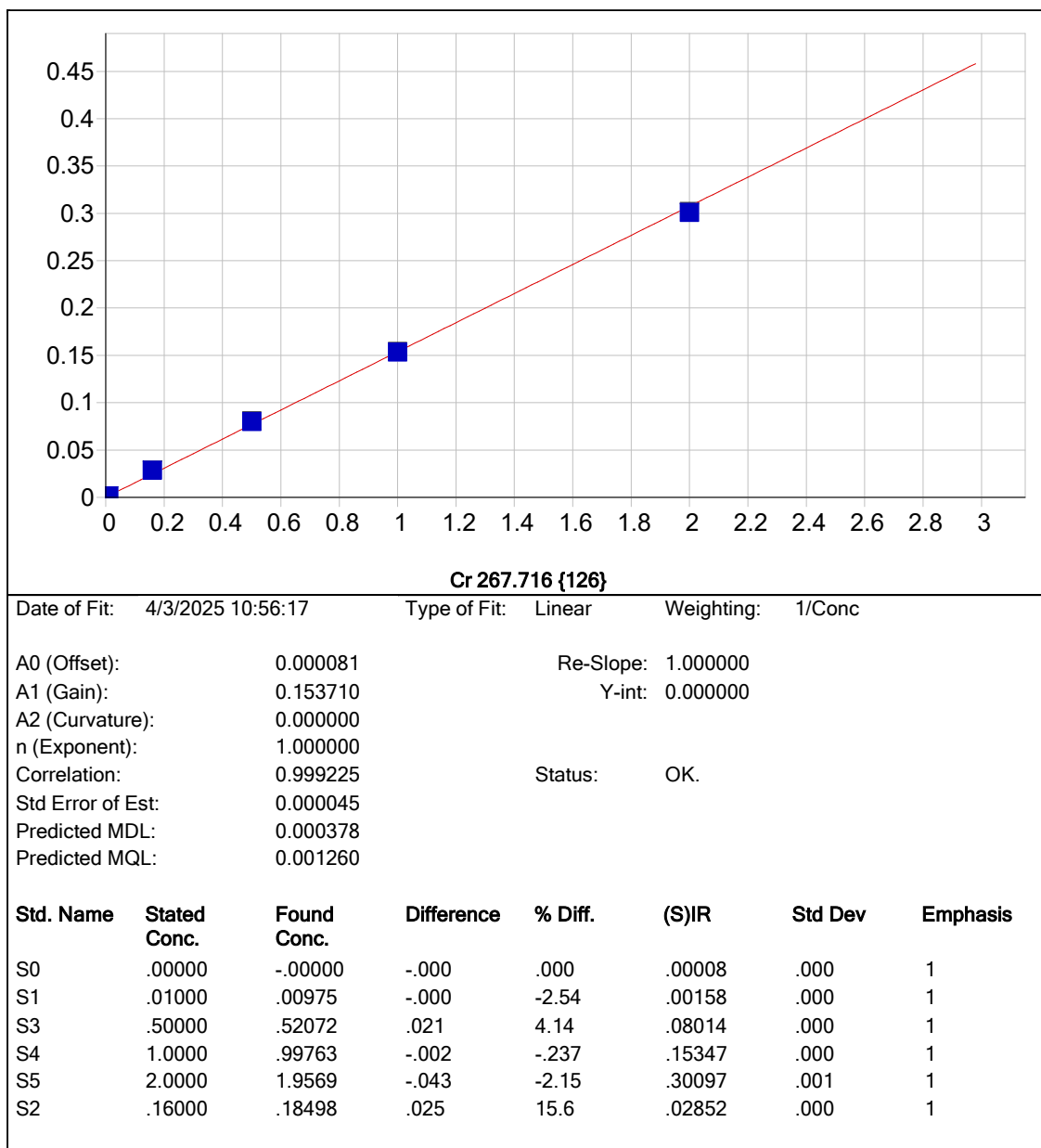


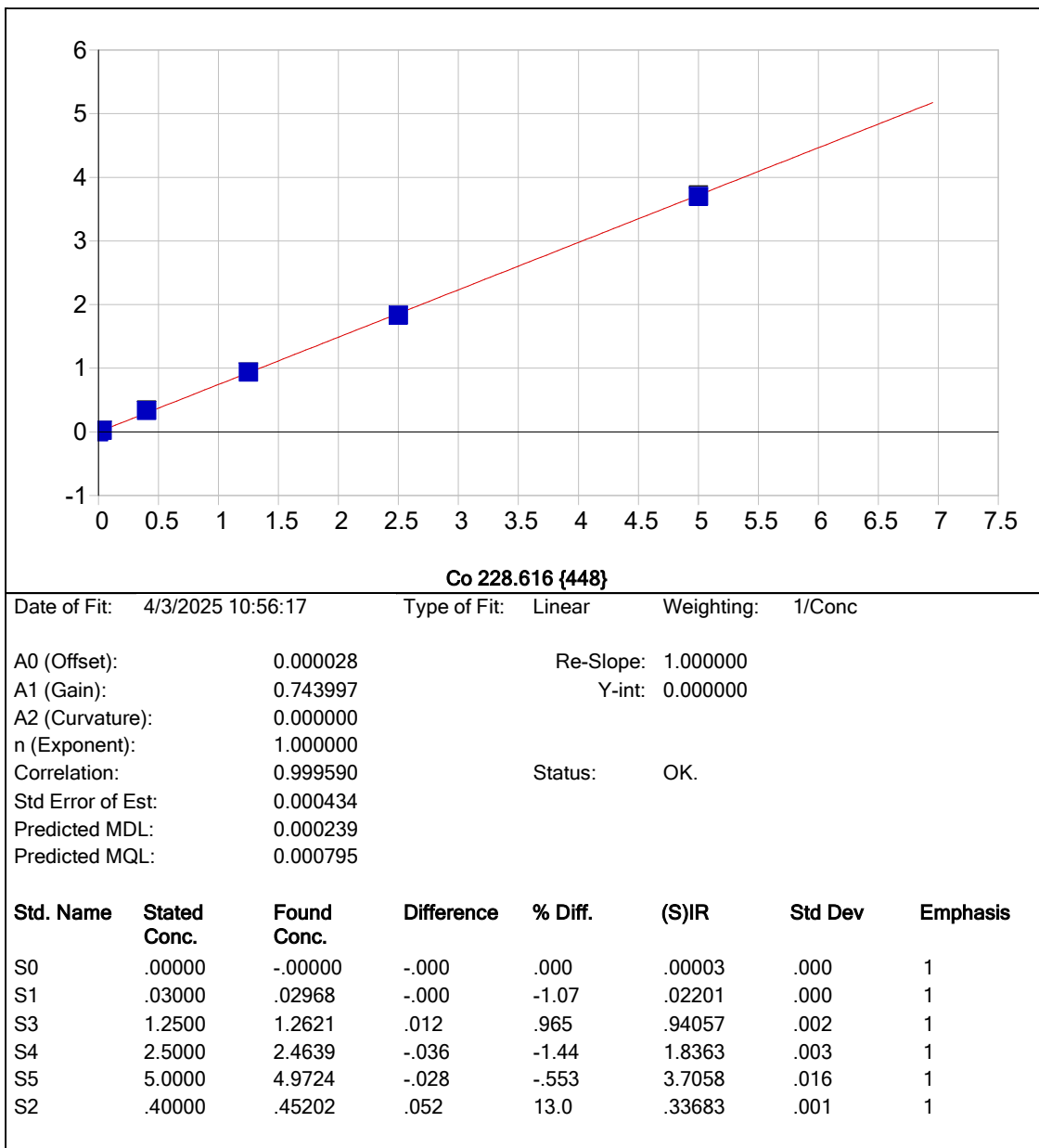


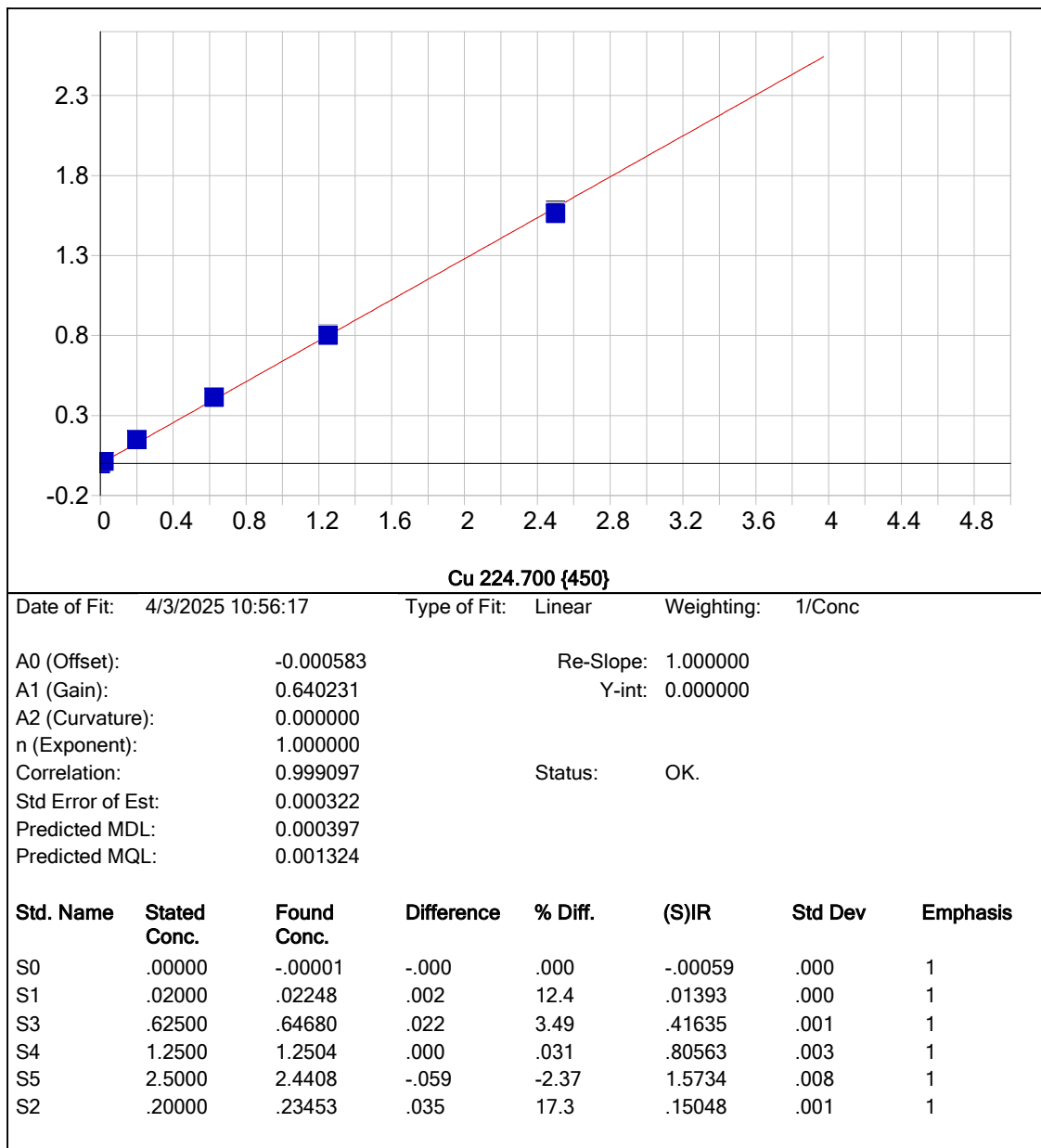


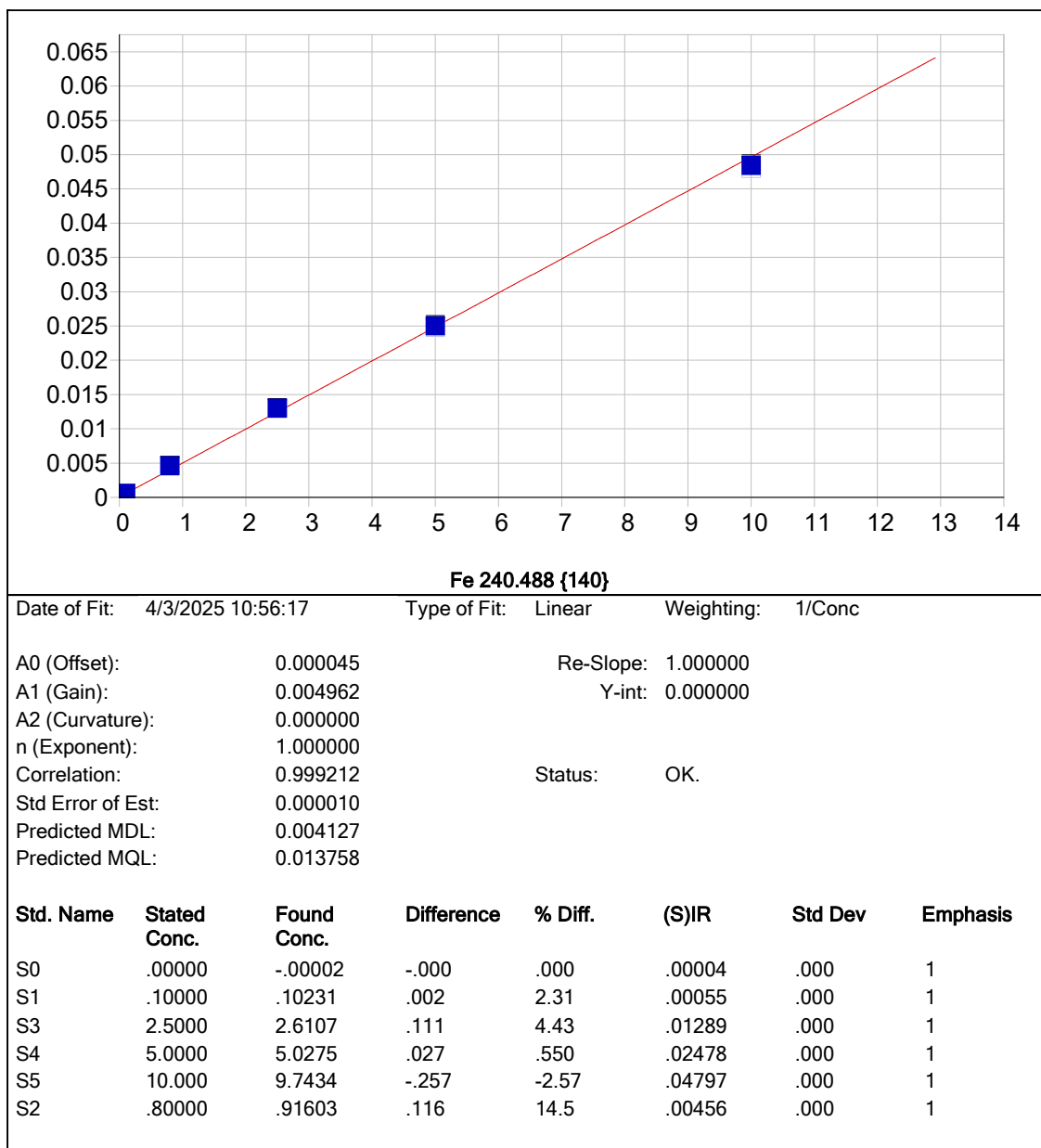


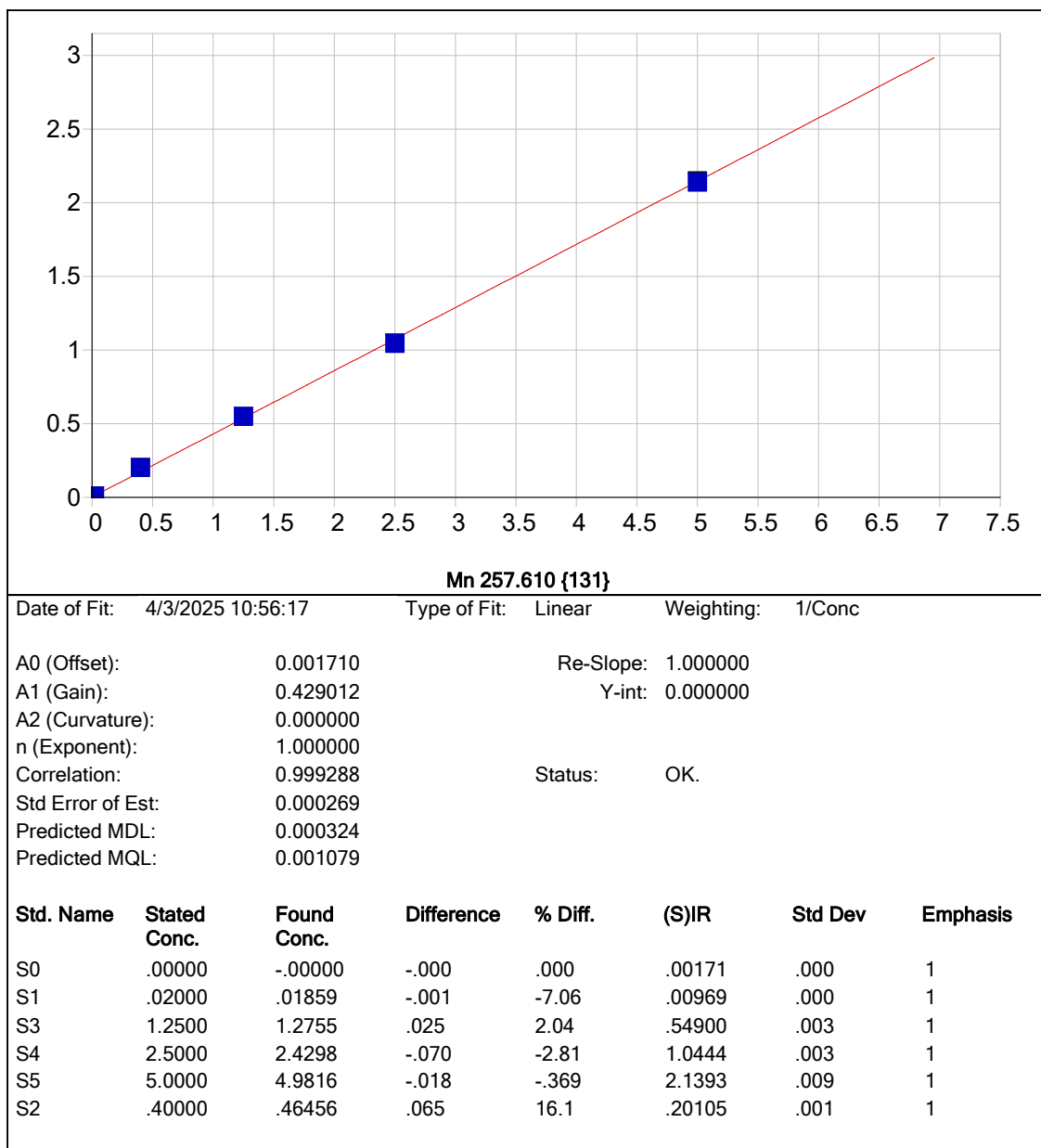


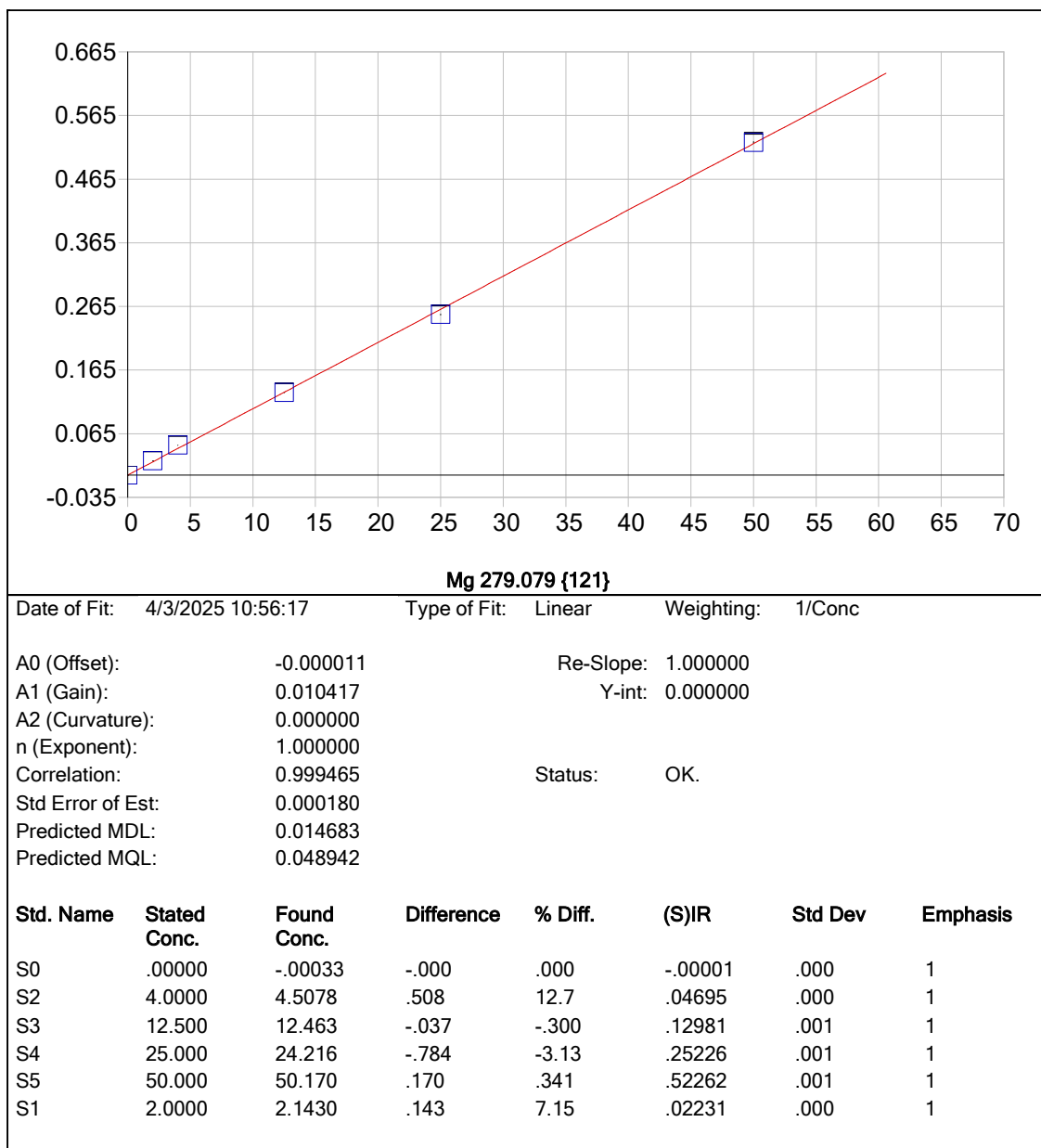


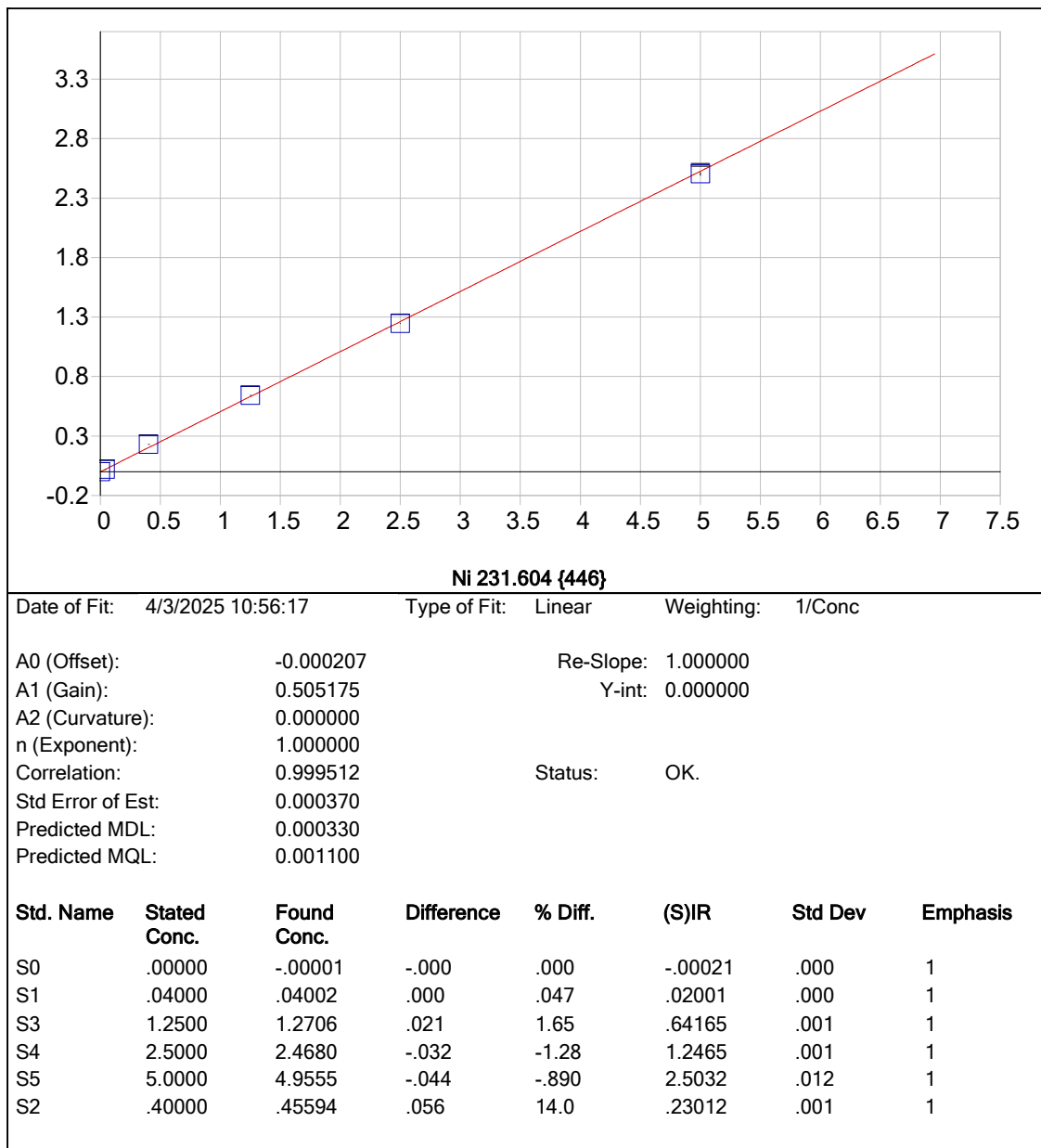


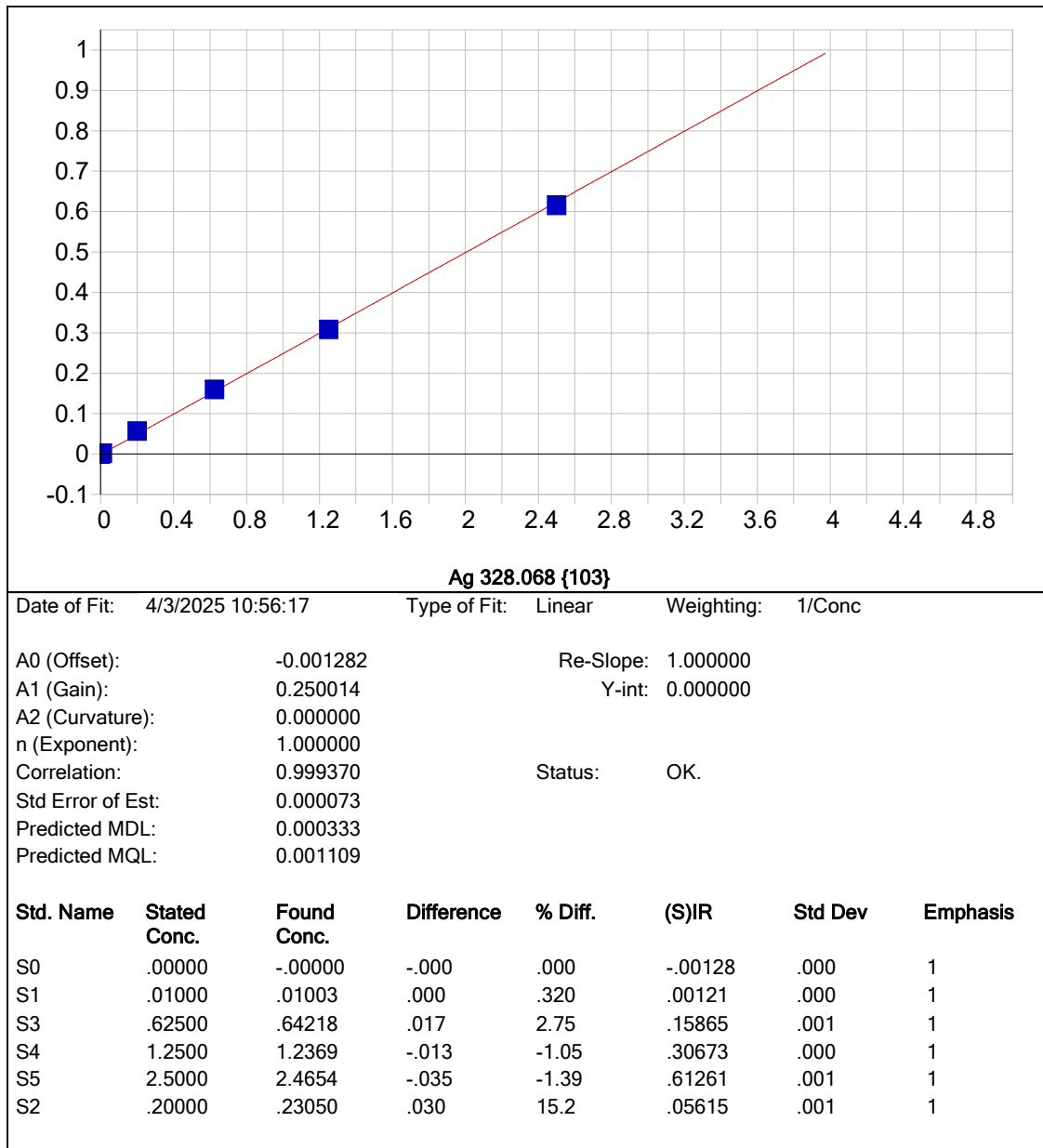


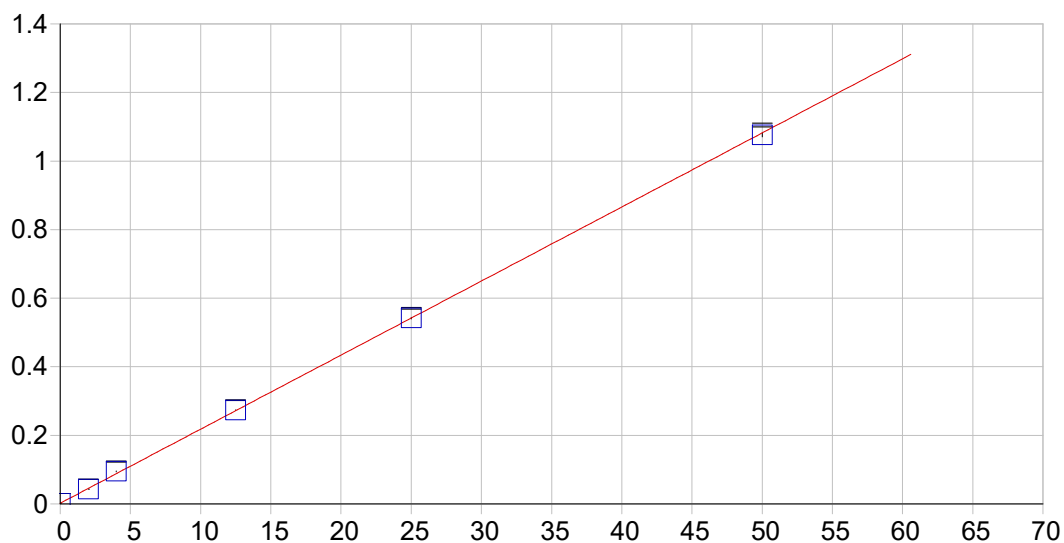










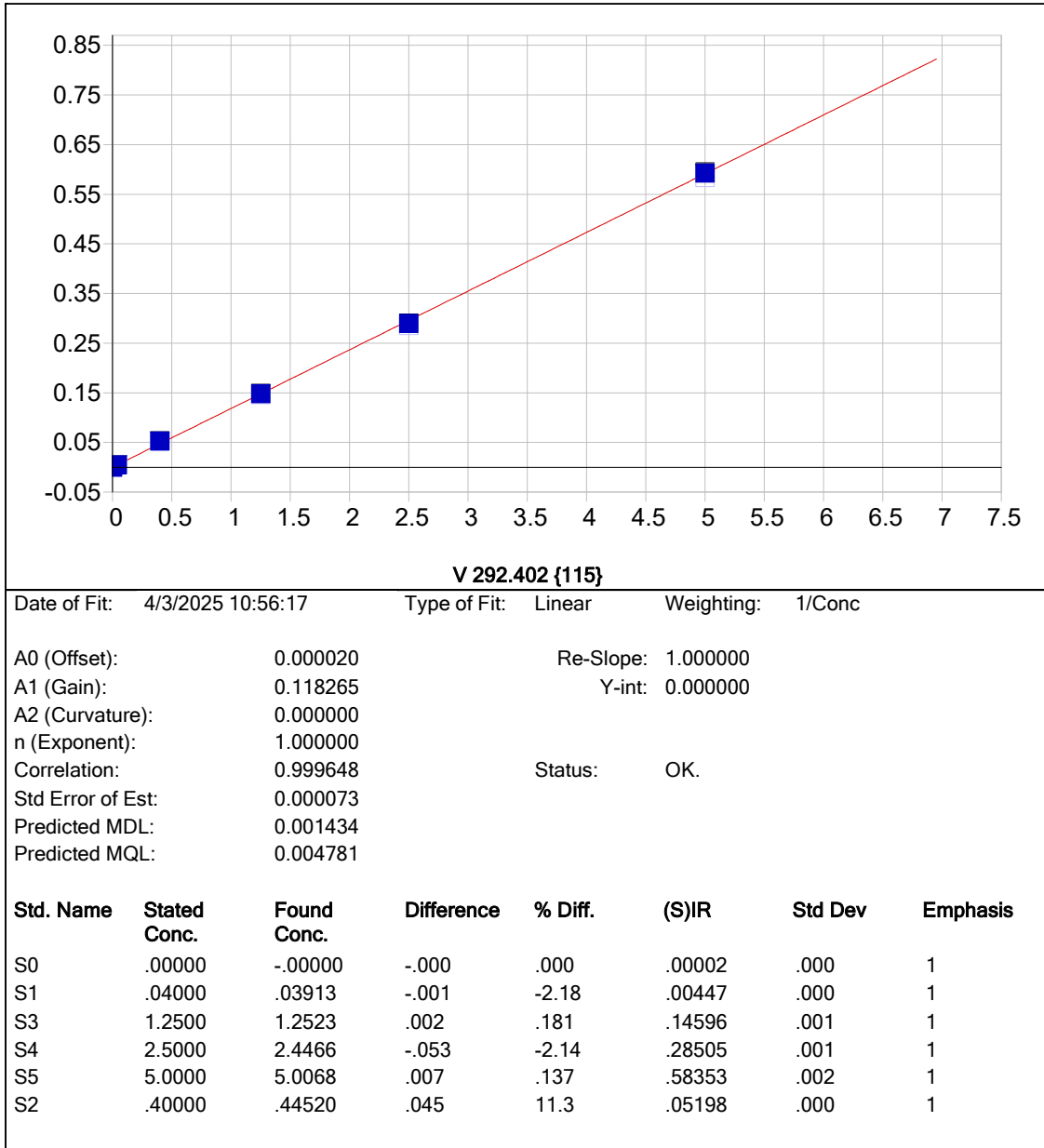


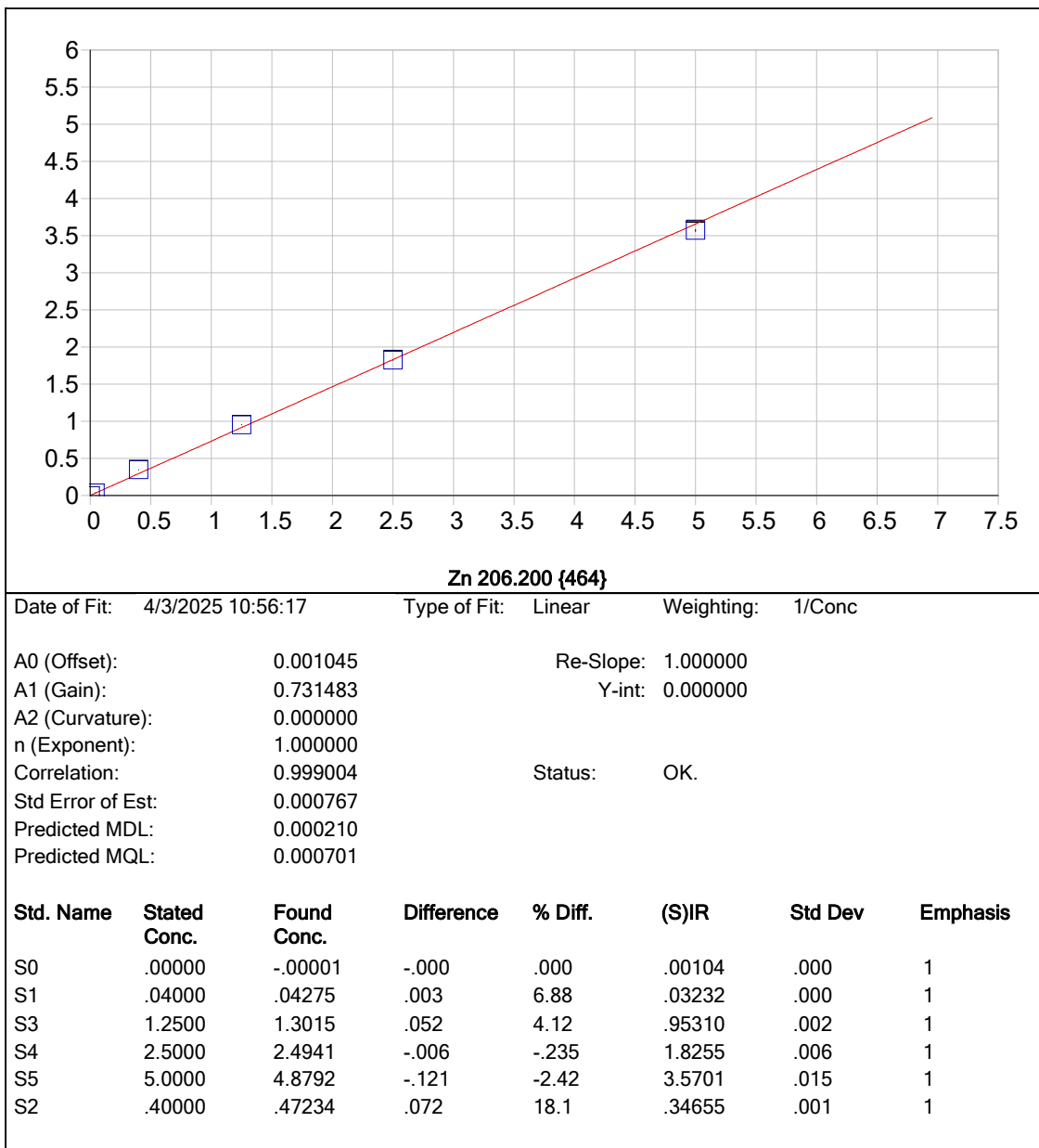
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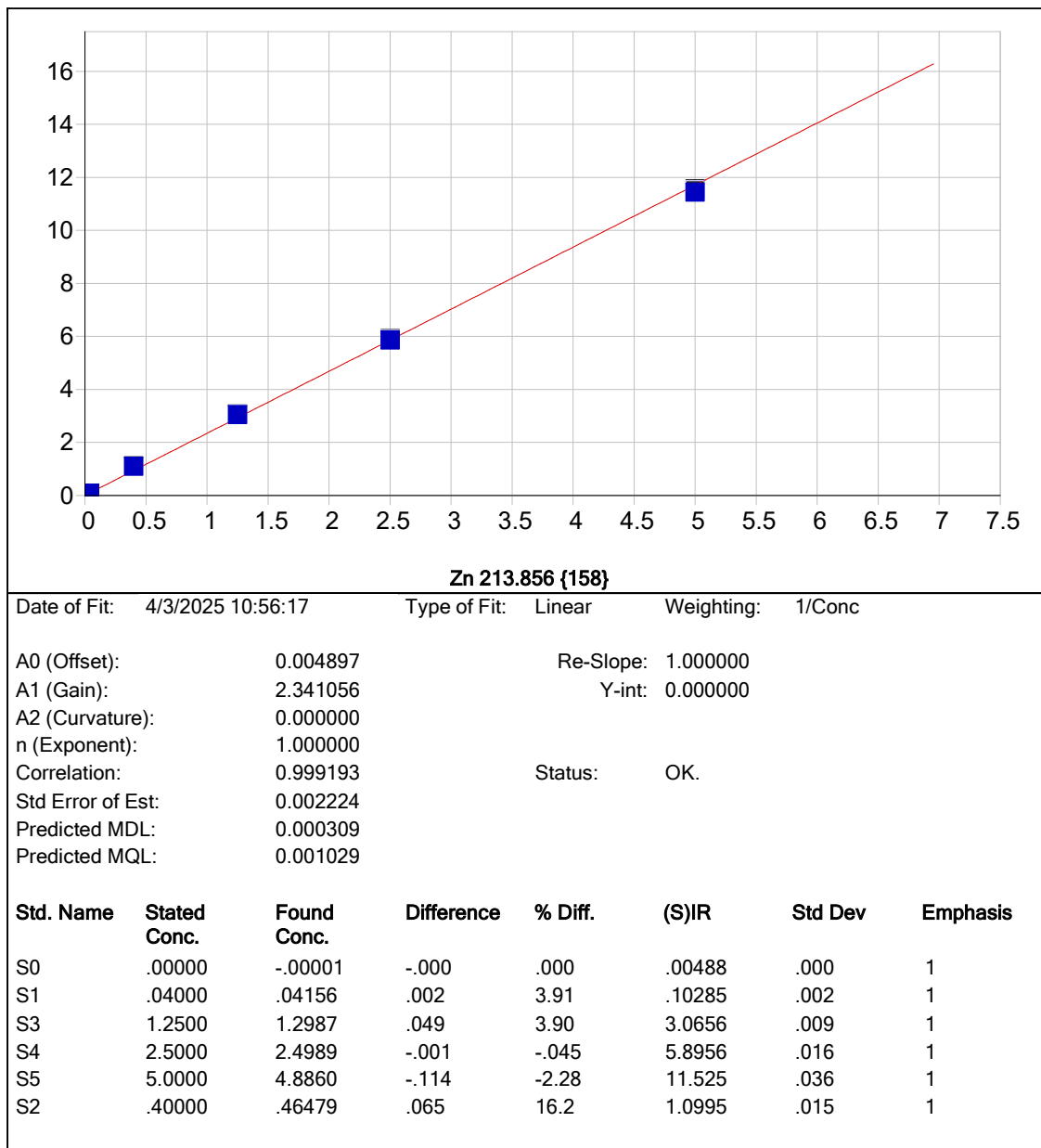
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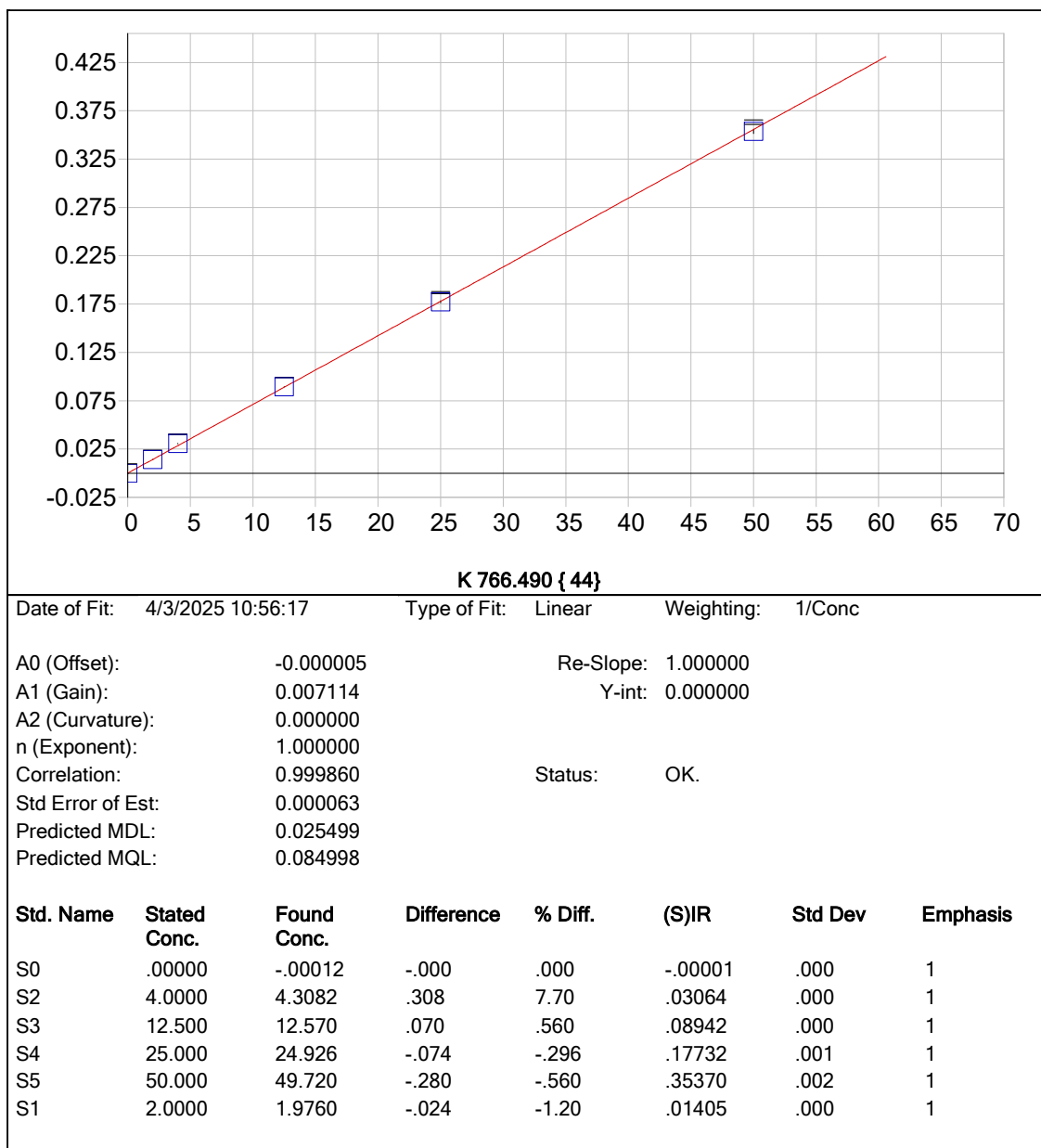
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A1 (Gain): 0.021601 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999838 Status: OK.
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Predicted MDL: 0.008036
Predicted MQL: 0.026786

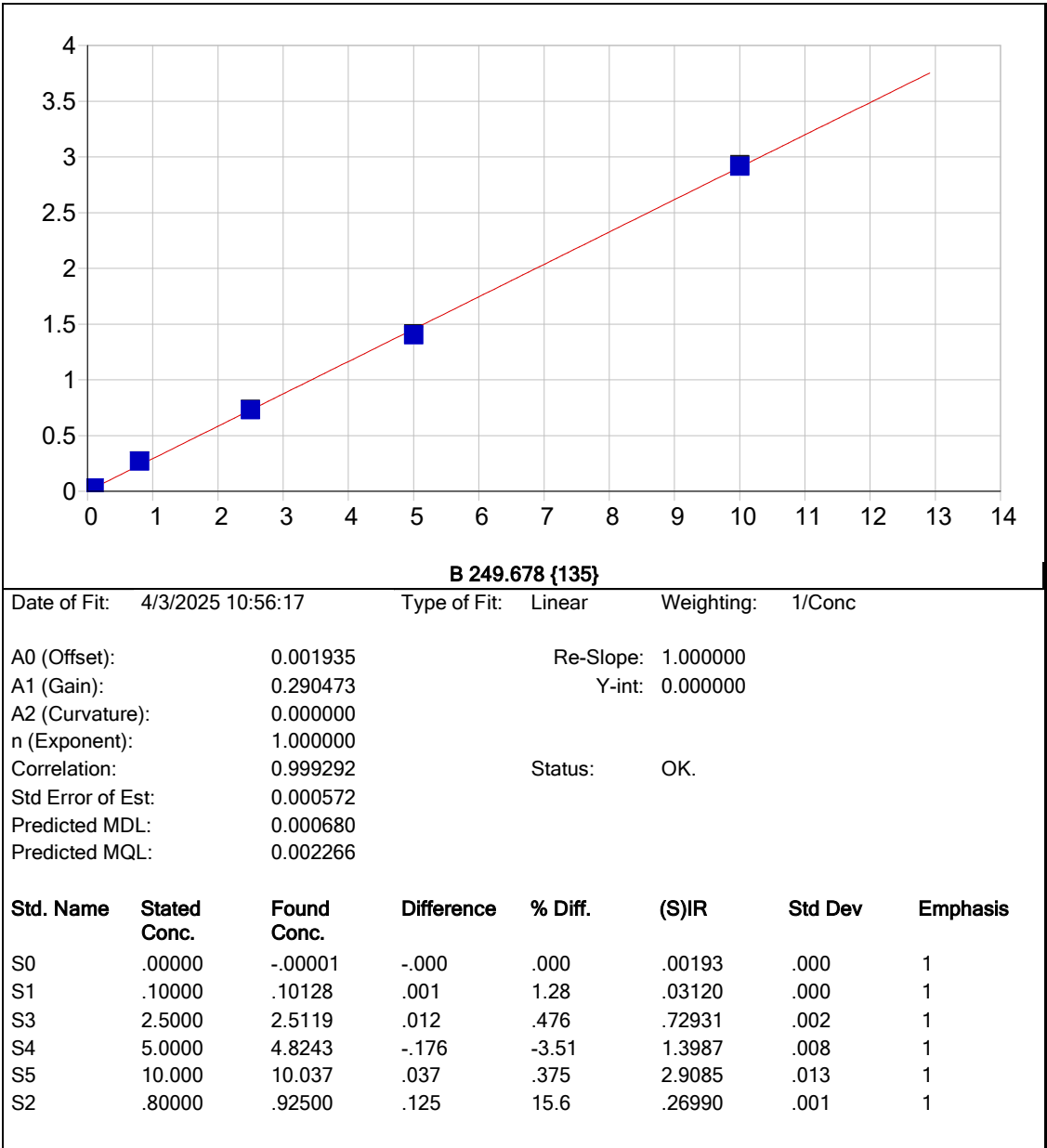
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00005	-.000	.000	.00198	.000	1
S2	4.0000	4.3048	.305	7.62	.09497	.001	1
S3	12.500	12.570	.070	.563	.27352	.001	1
S4	25.000	24.992	-.008	-.031	.54184	.003	1
S5	50.000	49.734	-.266	-.531	1.0763	.006	1
S1	2.0000	1.8982	-.102	-5.09	.04298	.000	1



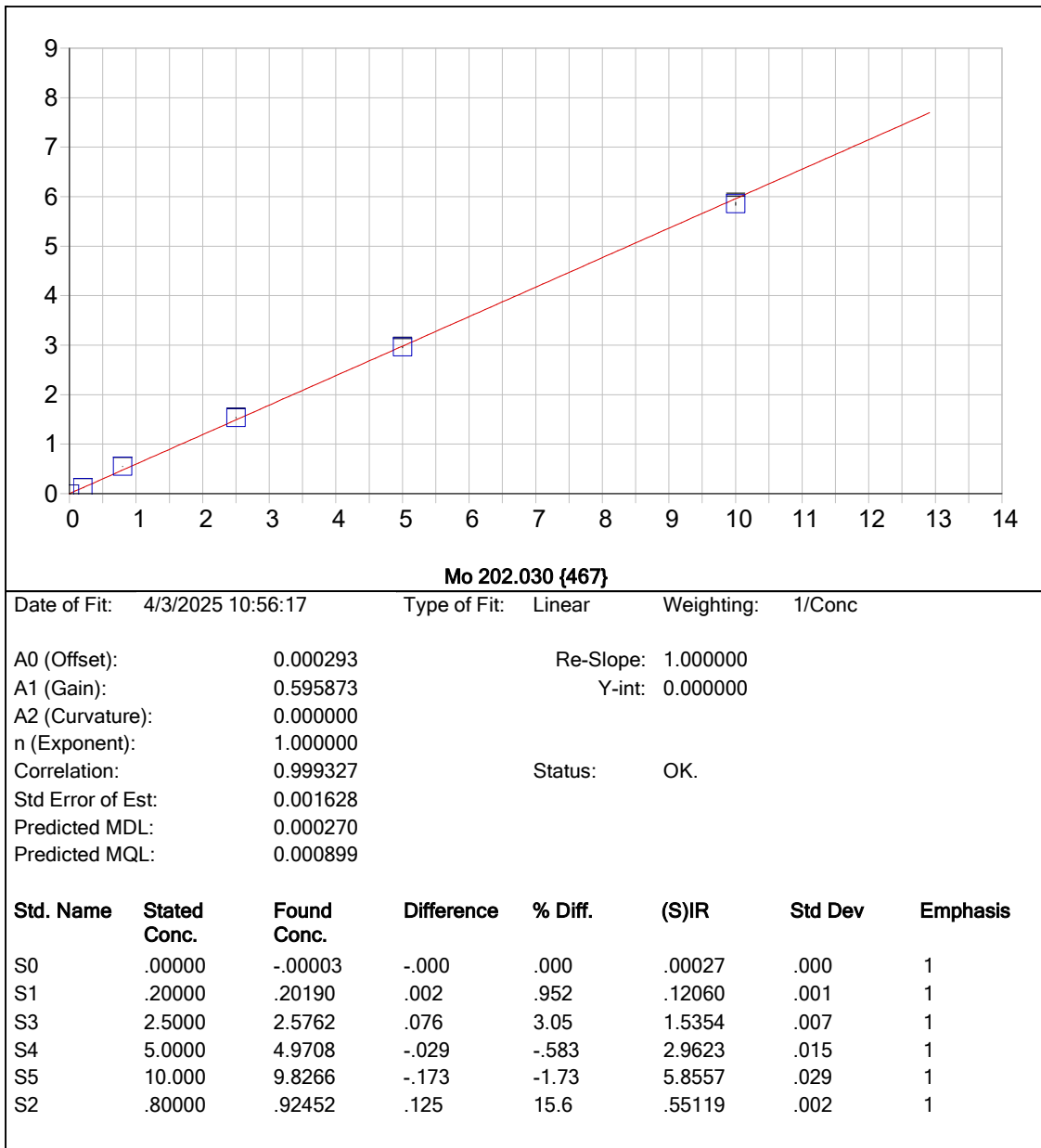


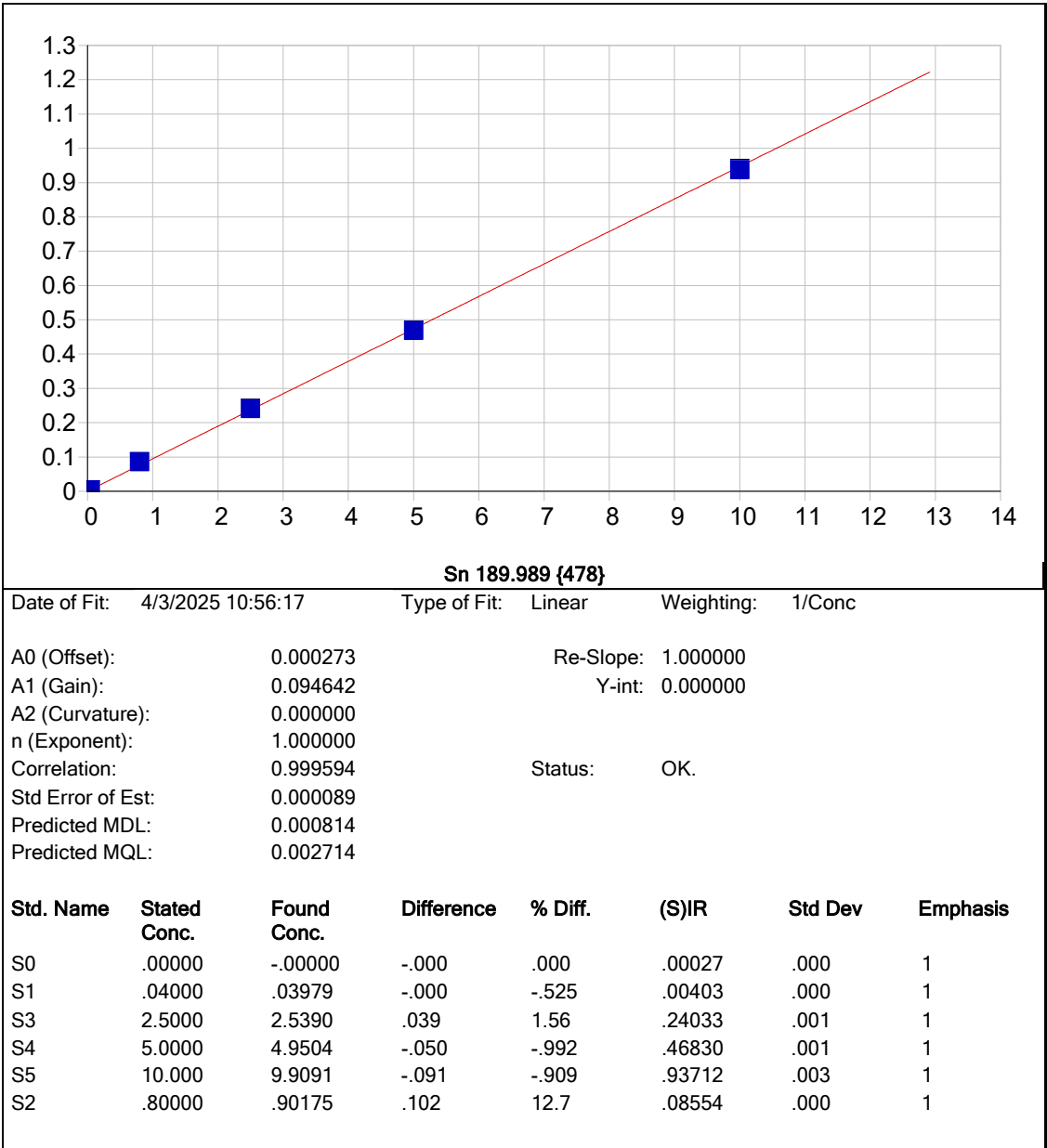


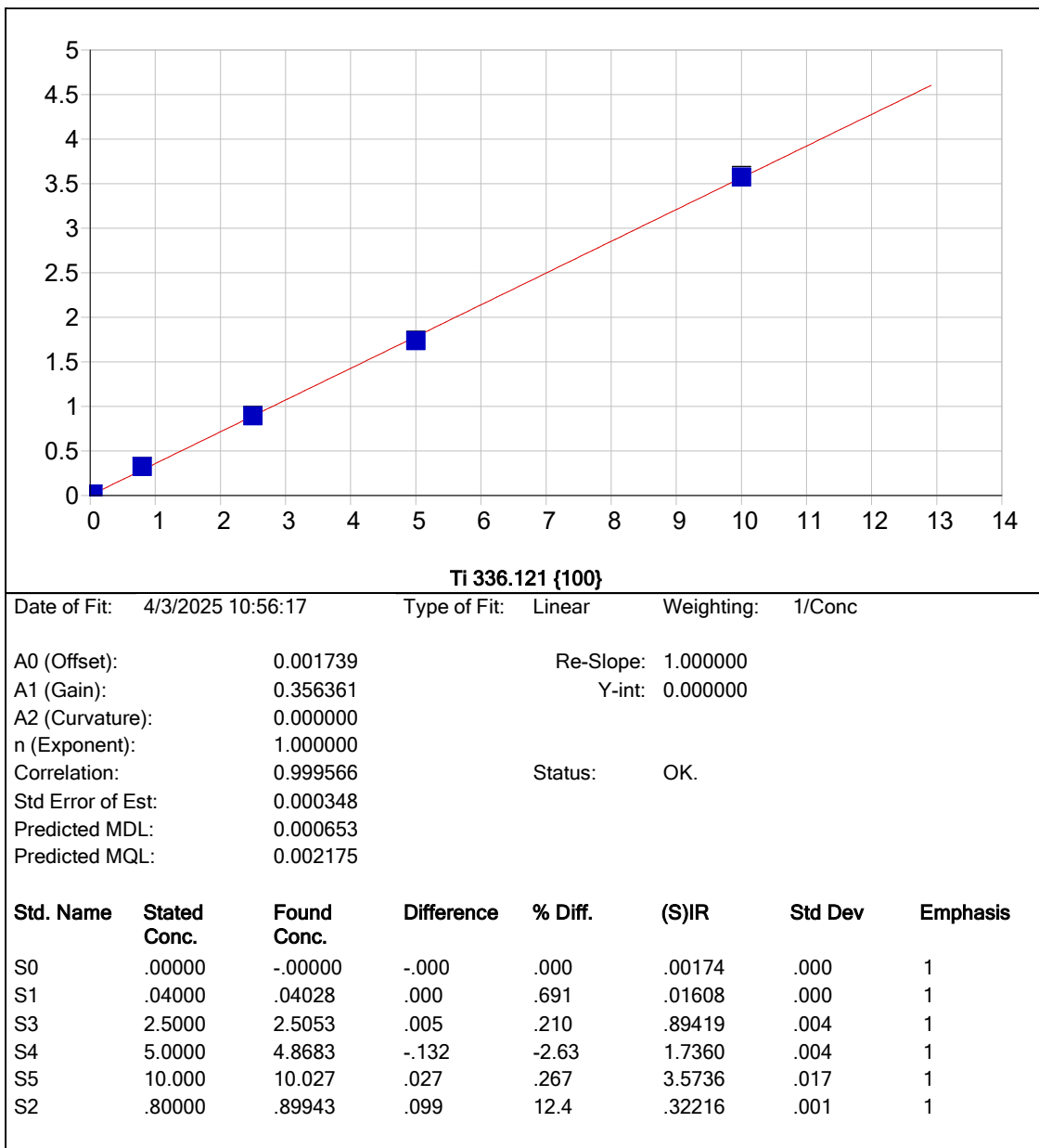


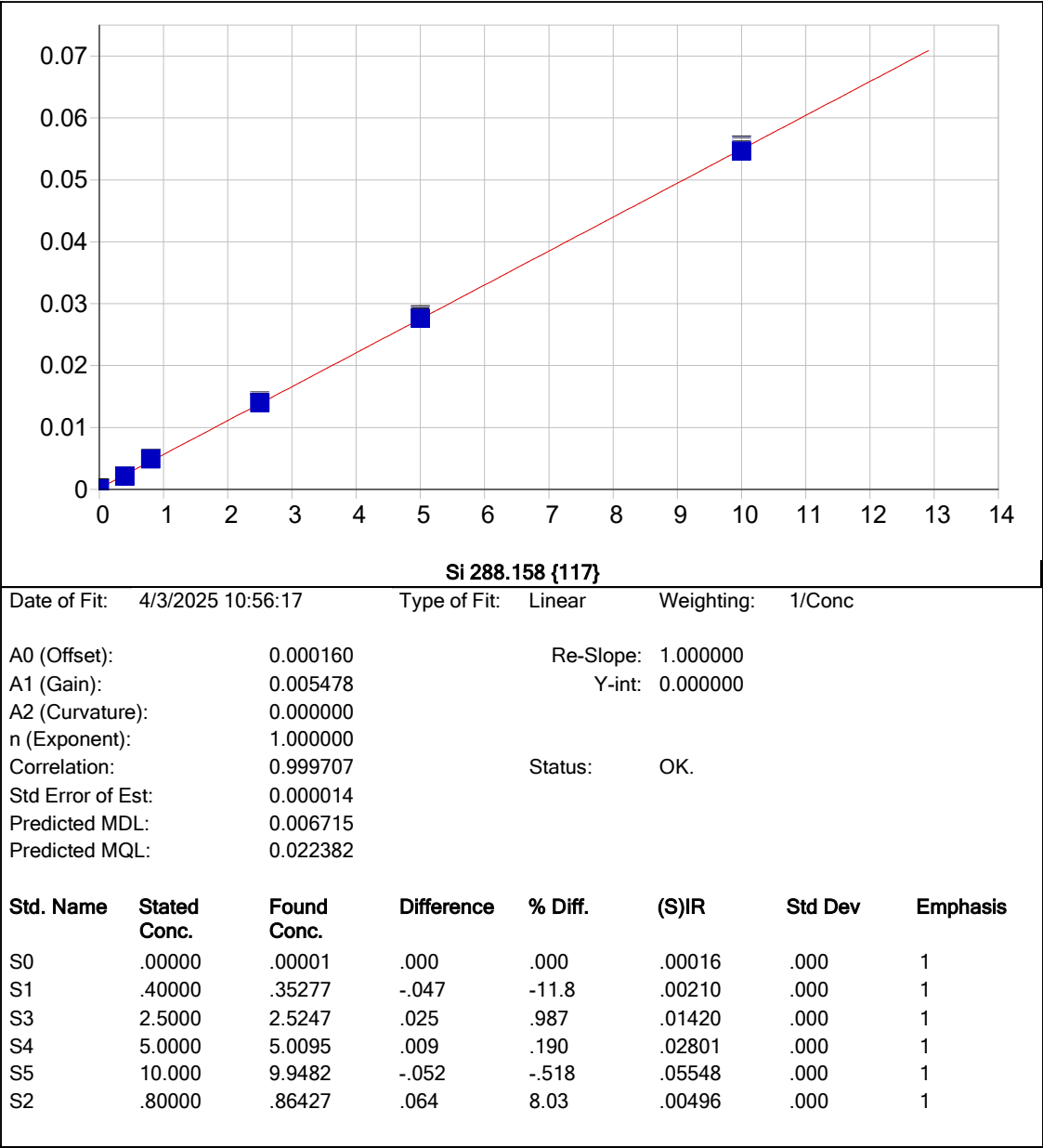


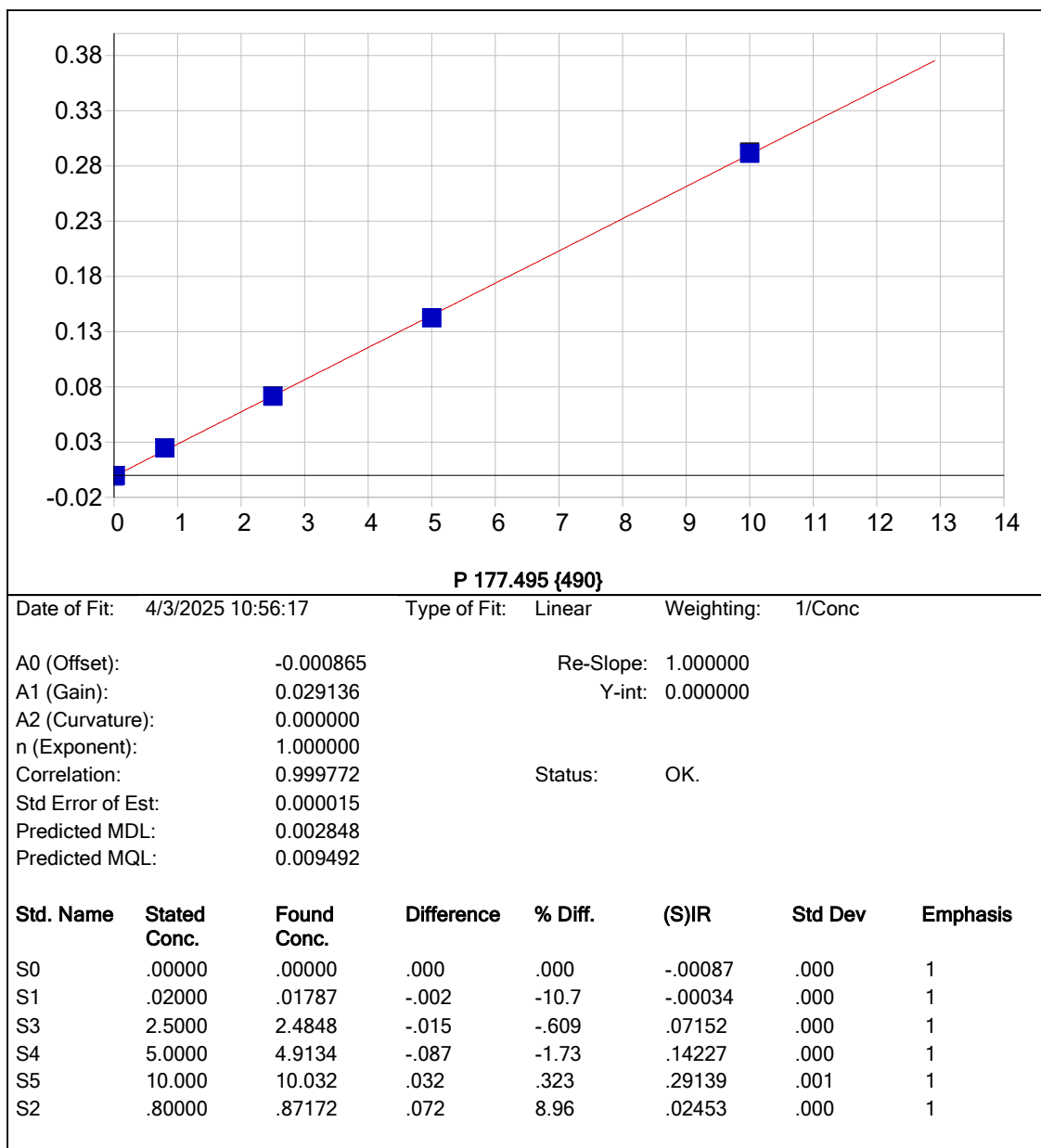
Date of Fit:	4/3/2025 10:56:17	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.001935	Re-Slope:	1.000000		
A1 (Gain):	0.290473	Y-int:	0.000000		
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999292	Status:	OK.		
Std Error of Est:	0.000572				
Predicted MDL:	0.000680				
Predicted MQL:	0.002266				

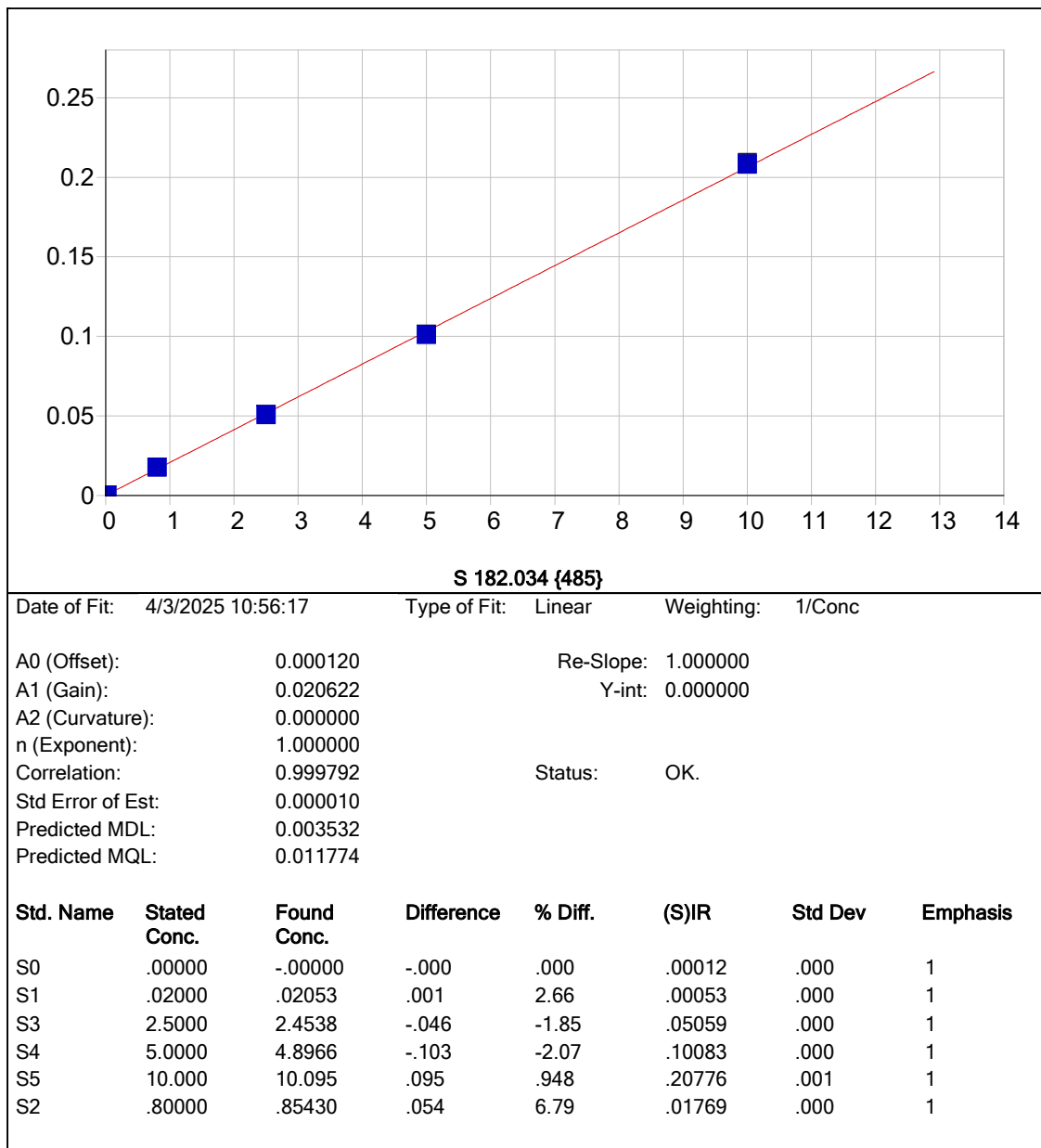


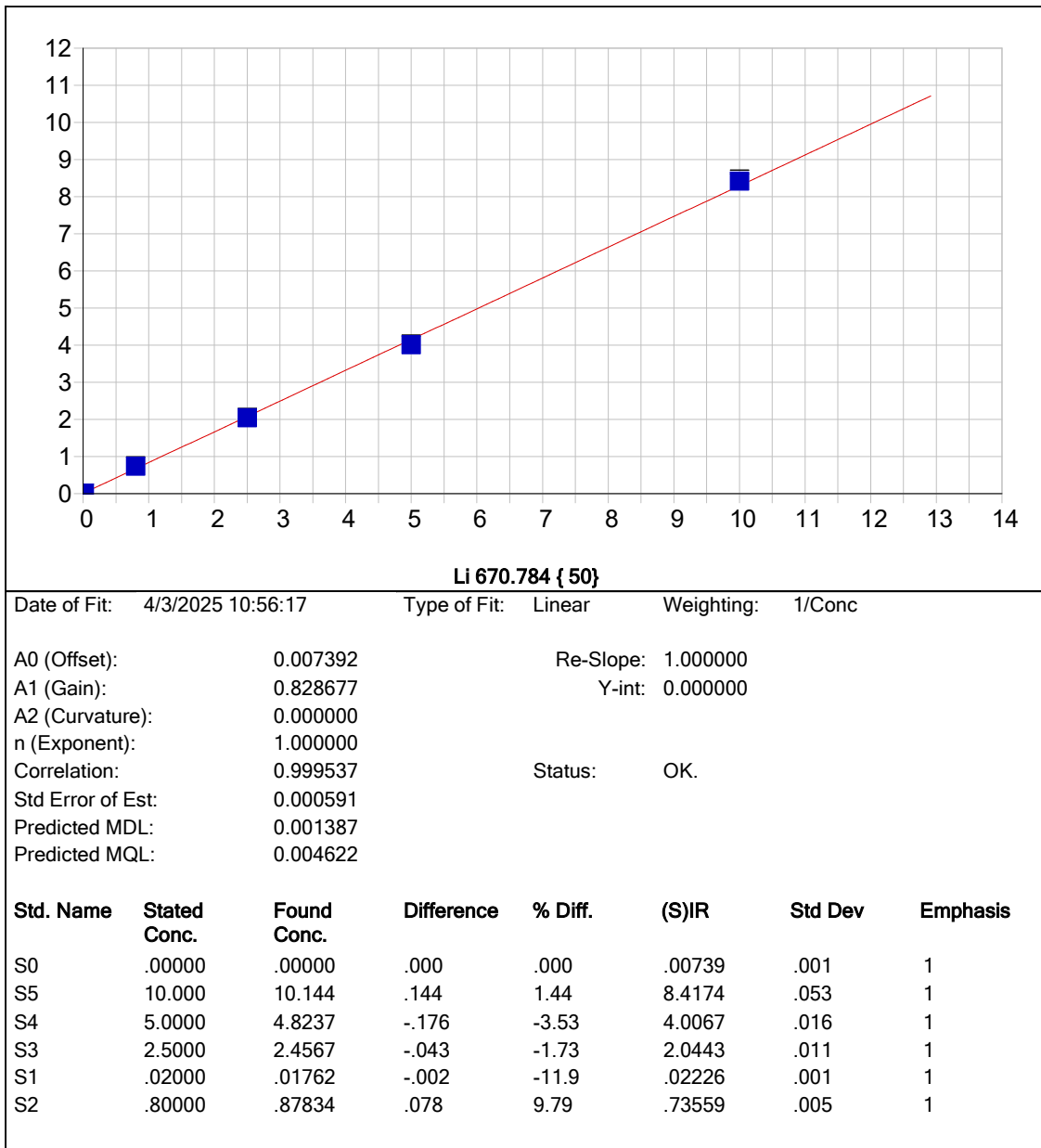


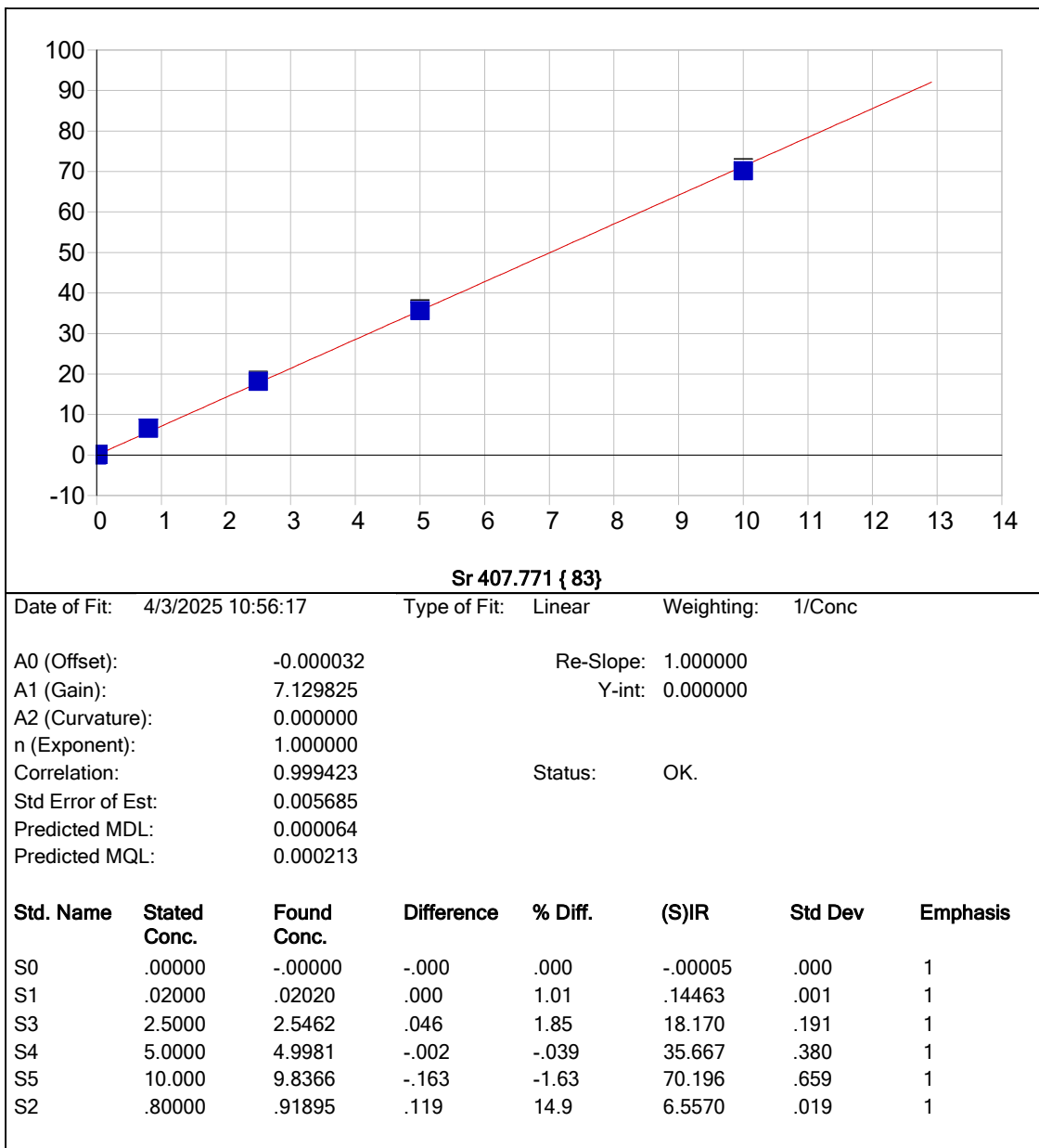


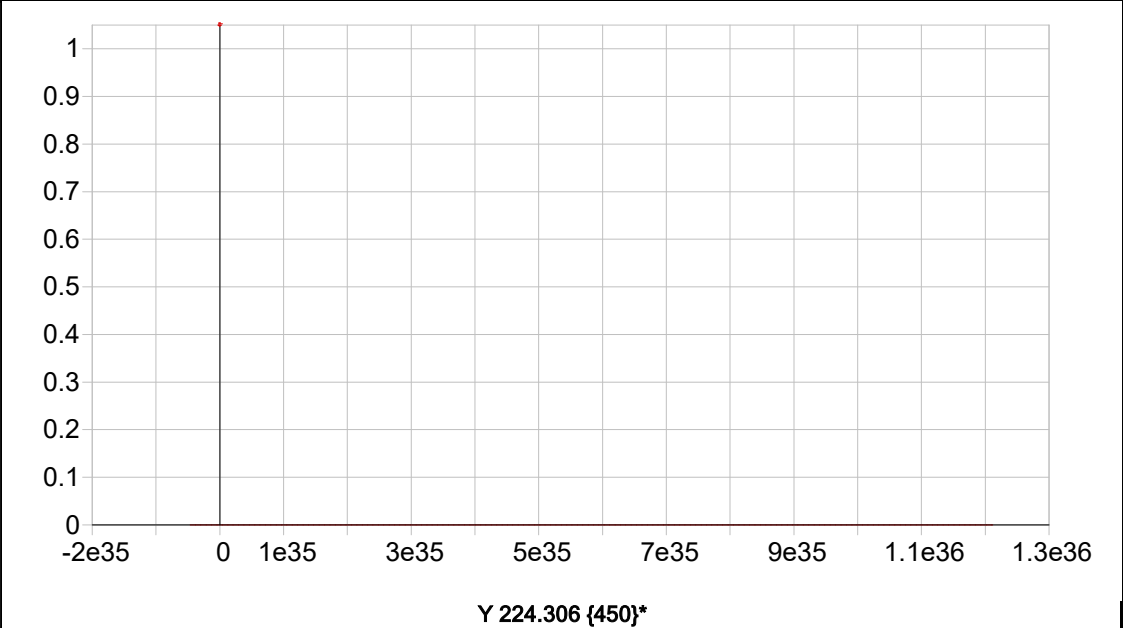








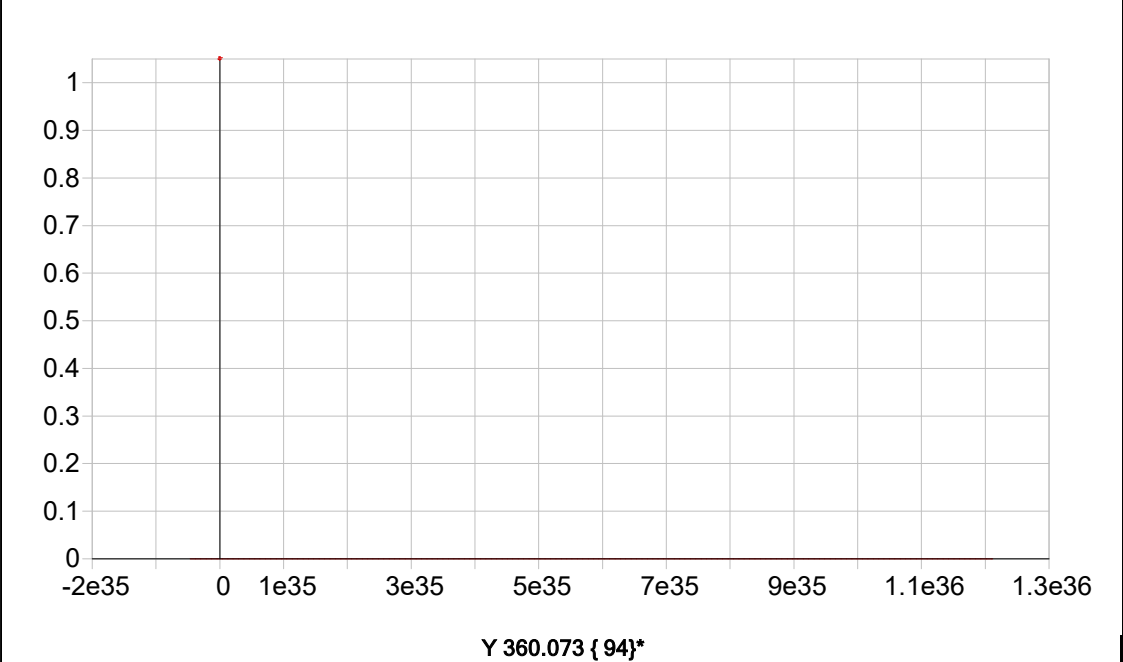




Date of Fit: 4/3/2025 10:56:17 Type of Fit: Linear Weighting: 1/Conc

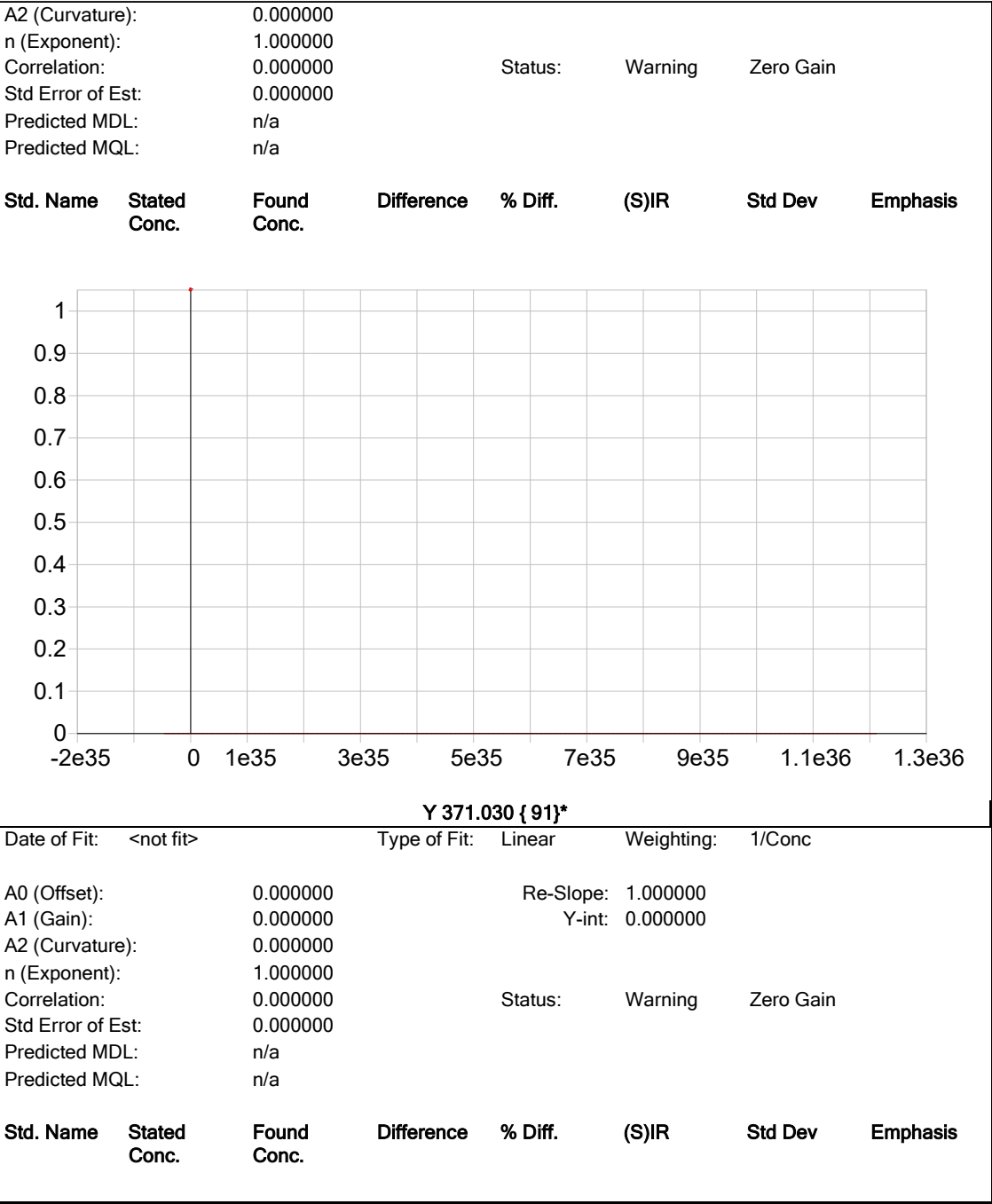
A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

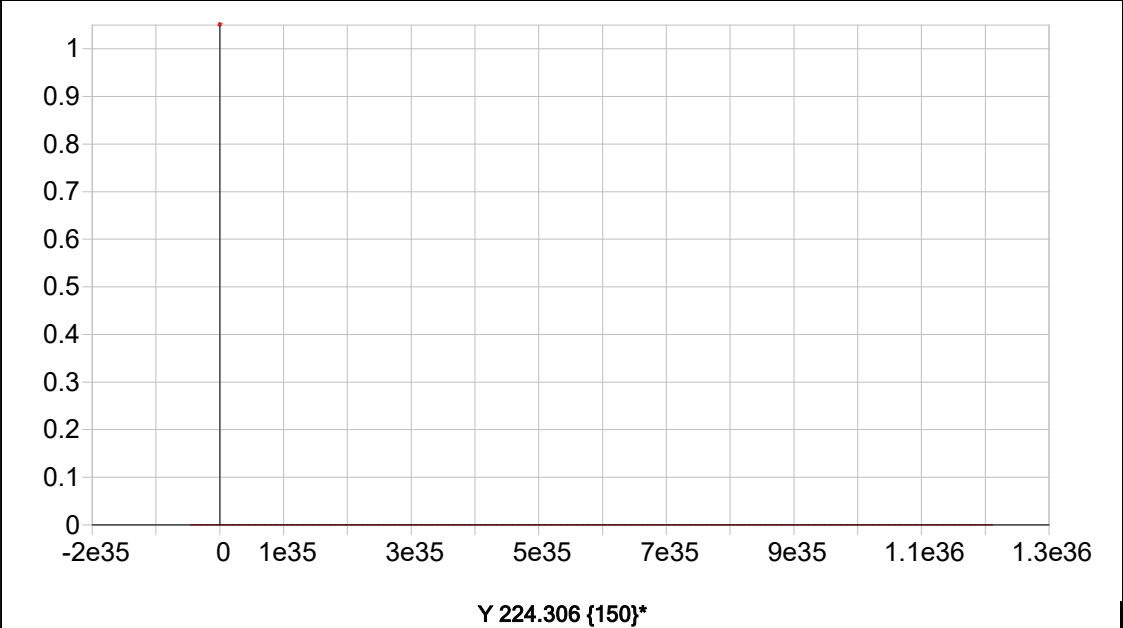
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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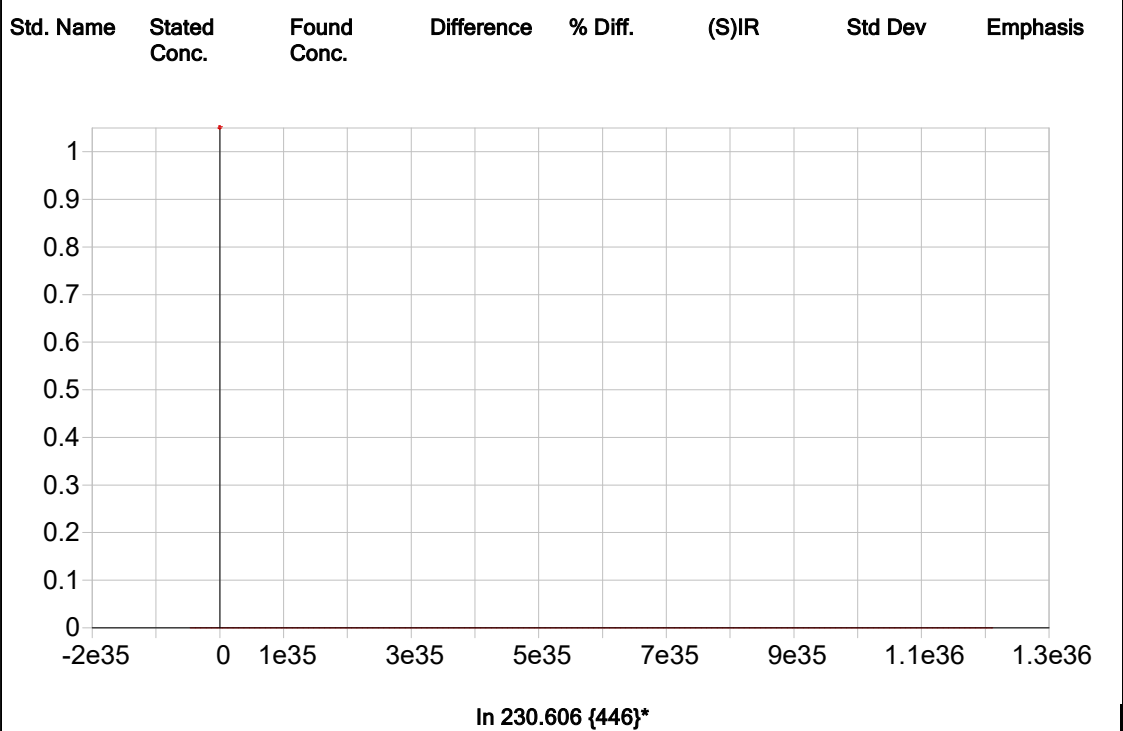
Date of Fit: <not fit> Type of Fit: Linear Weighting: 1/Conc

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





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				



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		Status:	Warning	Zero Gain	
n (Exponent):		1.000000					
Correlation:		0.000000					
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

Sample Name: S0 Acquired: 4/3/2025 10:22:12 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	-.00013	-.00008	-.00015	.00031	.00030	.00030	.02822	-.00044
Stddev	.00008	.00008	.00005	.00007	.00003	.00041	.00262	.00014
%RSD	57.596	101.09	31.607	21.589	10.839	138.65	9.2974	30.844
#1	-.00018	-.00018	-.00012	.00038	.00033	-.00017	.02679	-.00059
#2	-.00018	-.00004	-.00013	.00025	.00027	.00060	.02663	-.00033
#3	-.00005	-.00003	-.00021	.00030	.00030	.00047	.03125	-.00040
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	-.00008	.00005	.00008	.00003	-.00059	.00004	.00171	-.00001
Stddev	.00014	.00018	.00001	.00009	.00012	.00001	.00009	.00002
%RSD	167.70	328.49	14.650	362.78	20.188	14.294	5.3214	127.81
#1	.00002	-.00008	.00007	.00005	-.00045	.00004	.00171	-.00004
#2	-.00003	.00026	.00008	-.00008	-.00068	.00004	.00180	-.00001
#3	-.00025	-.00001	.00009	.00010	-.00062	.00005	.00162	-.00000
Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00021	-.00128	.00198	.00002	.00488	-.00001	.00193	.00027
Stddev	.00013	.00004	.00015	.00008	.00012	.00009	.00021	.00008
%RSD	59.946	2.9337	7.4225	381.60	2.3647	1603.0	10.656	28.470
#1	-.00023	-.00125	.00200	.00003	.00483	-.00007	.00201	.00035
#2	-.00008	-.00132	.00182	-.00006	.00479	.00010	.00208	.00027
#3	-.00033	-.00127	.00211	.00009	.00501	-.00005	.00170	.00020
Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	.00027	.00174	.00016	-.00087	.00012	.00739	-.00005	
Stddev	.00009	.00009	.00003	.00004	.00001	.00075	.00025	
%RSD	32.579	5.3931	18.769	5.0237	7.4864	10.196	450.78	
#1	.00018	.00170	.00014	-.00084	.00011	.00761	-.00033	
#2	.00028	.00167	.00019	-.00084	.00012	.00655	.00014	
#3	.00036	.00184	.00015	-.00092	.00013	.00801	.00003	

Sample Name: S0 Acquired: 4/3/2025 10:22:12 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	3484.8	80357.	16641.	2412.2	5519.2
Stddev	6.1	333.	193.	8.9	12.0
%RSD	.17471	.41463	1.1622	.36952	.21754
#1	3478.1	79980.	16799.	2402.7	5509.9
#2	3486.5	80481.	16426.	2413.3	5532.7
#3	3489.9	80611.	16700.	2420.4	5514.8

Sample Name: S1 Acquired: 4/3/2025 10:26:35 Type: Cal
Method: NON EPA-6010-200.7(v2880) Mode: IR Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934	Be2348
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00081	.00200	.00191	.00131	.00628	.00734	.23593	.01578
Stddev	.00002	.00004	.00012	.00015	.00015	.00033	.00095	.00016
%RSD	2.2796	2.2183	6.4457	11.740	2.4152	4.5050	.40425	1.0278
#1	.00082	.00196	.00184	.00135	.00640	.00714	.23703	.01561
#2	.00083	.00205	.00205	.00114	.00611	.00716	.23541	.01579
#3	.00079	.00198	.00184	.00144	.00632	.00772	.23535	.01593
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	.01205	.09705	.00158	.02201	.01393	.00055	.00969	.02231
Stddev	.00004	.00019	.00001	.00004	.00008	.00002	.00020	.00005
%RSD	.32294	.19464	.73363	.18614	.58987	3.0430	2.0847	.20825
#1	.01202	.09719	.00157	.02199	.01403	.00053	.00955	.02228
#2	.01203	.09683	.00159	.02206	.01388	.00055	.00992	.02237
#3	.01209	.09712	.00158	.02199	.01389	.00056	.00959	.02229
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	.02001	.00121	.04298	.00447	.10285	.01405	.03120	.12060
Stddev	.00003	.00008	.00022	.00005	.00153	.00015	.00023	.00079
%RSD	.17484	6.4665	.52022	1.0870	1.4890	1.0590	.74543	.65878
#1	.01997	.00129	.04273	.00442	.10129	.01396	.03137	.12034
#2	.02004	.00121	.04311	.00447	.10293	.01422	.03093	.11997
#3	.02002	.00113	.04311	.00452	.10435	.01398	.03129	.12150
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	.00403	.01608	.00210	-.00034	.00053	.02226	.14463	
Stddev	.00001	.00022	.00004	.00001	.00001	.00072	.00092	
%RSD	.21656	1.3393	1.9513	3.4652	2.3417	3.2309	.63405	
#1	.00404	.01624	.00206	-.00035	.00053	.02272	.14363	
#2	.00404	.01617	.00214	-.00033	.00051	.02263	.14483	
#3	.00403	.01584	.00208	-.00035	.00053	.02143	.14543	

Sample Name: S1 Acquired: 4/3/2025 10:26:35 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	3469.5	80773.	17036.	2399.9	5437.8
Stddev	20.2	125.	63.	.8	21.3
%RSD	.58331	.15441	.37188	.03379	.39235
#1	3473.5	80904.	16987.	2400.1	5445.1
#2	3487.4	80761.	17108.	2399.0	5454.6
#3	3447.5	80655.	17014.	2400.5	5413.8

Sample Name: S2 Acquired: 4/3/2025 10:30:52 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	.04156	.04780	.15894	.04590	.10930	.12180	3.7278	.12679
Stddev	.00032	.00030	.00039	.00018	.00066	.00056	.0131	.00035
%RSD	.76771	.62123	.24445	.40043	.60255	.46040	.35013	.27644
#1	.04128	.04752	.15921	.04570	.10873	.12147	3.7197	.12703
#2	.04150	.04778	.15849	.04606	.10915	.12245	3.7429	.12695
#3	.04191	.04811	.15911	.04595	.11002	.12148	3.7209	.12639
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	.92309	.21790	.02852	.33683	.15048	.00456	.20105	.04695
Stddev	.00211	.00014	.00036	.00132	.00079	.00006	.00065	.00008
%RSD	.22854	.06274	1.2592	.39096	.52390	1.2093	.32490	.17387
#1	.92309	.21798	.02875	.33730	.14975	.00457	.20030	.04686
#2	.92098	.21774	.02811	.33535	.15036	.00450	.20135	.04702
#3	.92520	.21797	.02871	.33785	.15131	.00461	.20149	.04696
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	.23012	.05615	.09497	.05198	1.0995	.03064	.26990	.55119
Stddev	.00050	.00065	.00127	.00009	.0149	.00042	.00075	.00231
%RSD	.21748	1.1621	1.3349	.16708	1.3549	1.3815	.27698	.41958
#1	.23021	.05651	.09503	.05188	1.1064	.03061	.27008	.54953
#2	.22958	.05539	.09367	.05205	1.0824	.03024	.27054	.55020
#3	.23057	.05654	.09620	.05201	1.1097	.03108	.26908	.55383
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	.08554	.32216	.00496	.02453	.01769	.73559	6.5570	
Stddev	.00032	.00093	.00002	.00009	.00004	.00477	.0194	
%RSD	.37337	.28809	.44144	.35978	.22373	.64834	.29536	
#1	.08549	.32182	.00497	.02463	.01767	.73285	6.5430	
#2	.08525	.32321	.00494	.02446	.01768	.74109	6.5791	
#3	.08588	.32144	.00498	.02450	.01774	.73282	6.5488	

Sample Name: S2 Acquired: 4/3/2025 10:30:52 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	3381.0	79033.	16488.	2301.6	5282.8
Stddev	11.0	1103.	22.	31.5	9.4
%RSD	.32648	1.3952	.13614	1.3691	.17856
#1	3392.6	78631.	16469.	2287.2	5289.5
#2	3379.8	80280.	16482.	2337.7	5286.8
#3	3370.7	78187.	16513.	2279.9	5272.0

Sample Name: S3 Acquired: 4/3/2025 10:34:56 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	.11802	.13531	.44515	.12918	.30878	.34219	10.393	.34592
Stddev	.00053	.00087	.00157	.00067	.00114	.00076	.110	.00094
%RSD	.44707	.64423	.35299	.51528	.36825	.22262	1.0600	.27038
#1	.11788	.13479	.44386	.12902	.30802	.34151	10.294	.34518
#2	.11757	.13484	.44470	.12860	.30824	.34301	10.512	.34697
#3	.11860	.13632	.44690	.12991	.31009	.34206	10.373	.34561
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	2.5903	.60897	.08014	.94057	.41635	.01289	.54900	.12981
Stddev	.0073	.00205	.00020	.00224	.00084	.00005	.00254	.00059
%RSD	.28179	.33629	.24601	.23782	.20217	.37813	.46197	.45306
#1	2.5834	.60762	.07993	.93847	.41589	.01285	.54865	.12949
#2	2.5895	.61133	.08019	.94032	.41584	.01289	.55169	.13049
#3	2.5979	.60797	.08031	.94292	.41733	.01295	.54666	.12946
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	.64165	.15865	.27352	.14596	3.0656	.08942	.72931	1.5354
Stddev	.00078	.00065	.00108	.00064	.0091	.00022	.00163	.0067
%RSD	.12099	.41123	.39494	.43765	.29529	.24784	.22401	.43559
#1	.64087	.15797	.27248	.14603	3.0706	.08916	.72806	1.5310
#2	.64167	.15871	.27343	.14657	3.0552	.08952	.73116	1.5320
#3	.64242	.15928	.27464	.14530	3.0712	.08956	.72872	1.5431
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	.24033	.89419	.01420	.07152	.05059	2.0443	18.170	
Stddev	.00076	.00361	.00006	.00026	.00011	.0110	.191	
%RSD	.31468	.40380	.44898	.36386	.21677	.53815	1.0501	
#1	.23952	.89409	.01412	.07152	.05071	2.0458	18.156	
#2	.24045	.89785	.01422	.07126	.05049	2.0544	18.367	
#3	.24102	.89063	.01425	.07178	.05057	2.0326	17.986	

Sample Name: S3 Acquired: 4/3/2025 10:34:56 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	3301.0	76436.	16664.	2192.7	5076.1
Stddev	11.3	244.	64.	7.4	12.2
%RSD	.34116	.31900	.38588	.33627	.24075
#1	3305.2	76715.	16678.	2189.7	5084.3
#2	3309.5	76330.	16594.	2201.2	5082.0
#3	3288.2	76263.	16721.	2187.4	5062.1

Sample Name: S4 Acquired: 4/3/2025 10:39:11 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	.23172	.25385	.86533	.25283	.60648	.67138	20.314	.65914
Stddev	.00128	.00216	.00244	.00096	.00386	.00301	.114	.00381
%RSD	.55353	.85067	.28163	.37953	.63666	.44840	.55992	.57757
#1	.23098	.25139	.86319	.25208	.60535	.66793	20.291	.65501
#2	.23098	.25541	.86482	.25251	.60330	.67272	20.214	.66250
#3	.23320	.25476	.86799	.25391	.61077	.67348	20.438	.65991
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.0797	1.1806	.15347	1.8363	.80563	.02478	1.0444	.25226
Stddev	.0089	.0010	.00037	.0029	.00331	.00016	.0025	.00086
%RSD	.17619	.08753	.23947	.15651	.41055	.65061	.24190	.34008
#1	5.0697	1.1795	.15367	1.8333	.80377	.02494	1.0432	.25212
#2	5.0827	1.1810	.15305	1.8365	.80367	.02462	1.0426	.25318
#3	5.0868	1.1815	.15370	1.8391	.80945	.02478	1.0472	.25148
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	1.2465	.30673	.54184	.28505	5.8956	.17732	1.3987	2.9623
Stddev	.0011	.00048	.00261	.00095	.0155	.00100	.0081	.0147
%RSD	.09107	.15759	.48215	.33489	.26343	.56275	.57991	.49578
#1	1.2452	.30687	.54276	.28396	5.8966	.17730	1.3897	2.9534
#2	1.2471	.30619	.53890	.28545	5.8796	.17633	1.4054	2.9543
#3	1.2473	.30712	.54387	.28575	5.9106	.17832	1.4011	2.9792
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	.46830	1.7360	.02801	.14227	.10083	4.0067	35.667	
Stddev	.00122	.0042	.00016	.00017	.00028	.0163	.380	
%RSD	.26091	.24107	.57342	.11770	.27837	.40625	1.0651	
#1	.46697	1.7321	.02807	.14221	.10051	3.9941	36.091	
#2	.46859	1.7354	.02783	.14214	.10094	4.0010	35.552	
#3	.46936	1.7404	.02813	.14246	.10103	4.0251	35.357	

Sample Name: S4 Acquired: 4/3/2025 10:39:11 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	3161.4	74679.	16460.	2108.7	4790.1
Stddev	17.4	244.	41.	11.0	16.9
%RSD	.55135	.32615	.24749	.52198	.35332
#1	3171.6	74431.	16489.	2102.8	4805.7
#2	3171.2	74918.	16413.	2121.4	4792.5
#3	3141.2	74690.	16477.	2101.9	4772.1

Sample Name: S5 Acquired: 4/3/2025 10:43:22 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	.46196	.50535	1.7273	.49956	1.2108	1.3978	40.917	1.3619
Stddev	.00258	.00219	.0080	.00321	.0064	.0035	.695	.0029
%RSD	.55842	.43292	.46131	.64312	.53188	.25231	1.6987	.21670
#1	.46492	.50553	1.7343	.50289	1.2160	1.4014	41.166	1.3596
#2	.46019	.50744	1.7186	.49647	1.2036	1.3944	40.131	1.3608
#3	.46078	.50308	1.7288	.49932	1.2127	1.3975	41.453	1.3652
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	10.209	2.4065	.30097	3.7058	1.5734	.04797	2.1393	.52262
Stddev	.043	.0077	.00072	.0158	.0083	.00023	.0087	.00148
%RSD	.42137	.31853	.24014	.42529	.52819	.47015	.40581	.28348
#1	10.249	2.4121	.30016	3.7188	1.5820	.04818	2.1461	.52310
#2	10.164	2.3978	.30155	3.6882	1.5654	.04773	2.1295	.52096
#3	10.215	2.4098	.30121	3.7103	1.5729	.04799	2.1423	.52381
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	2.5032	.61261	1.0763	.58353	11.525	.35370	2.9085	5.8557
Stddev	.0115	.00135	.0058	.00229	.036	.00221	.0130	.0290
%RSD	.46049	.22035	.53925	.39186	.31620	.62603	.44663	.49484
#1	2.5125	.61379	1.0829	.58527	11.551	.35625	2.9167	5.8857
#2	2.4903	.61114	1.0739	.58094	11.483	.35237	2.8935	5.8279
#3	2.5068	.61290	1.0721	.58438	11.540	.35246	2.9153	5.8535
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	.93712	3.5736	.05548	.29139	.20776	8.4174	70.196	
Stddev	.00306	.0167	.00013	.00114	.00102	.0533	.659	
%RSD	.32702	.46712	.22597	.39119	.48937	.63330	.93905	
#1	.94015	3.5903	.05559	.29207	.20863	8.4691	70.148	
#2	.93402	3.5569	.05550	.29008	.20664	8.3626	69.562	
#3	.93719	3.5736	.05534	.29203	.20801	8.4204	70.878	

Sample Name: S5 Acquired: 4/3/2025 10:43:22 Type: Cal
Method: NON EPA-6010-200.7(v2880) 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	3112.2	74003.	15457.	2062.9	4598.8
Stddev	14.5	71.	59.	11.2	18.6
%RSD	.46523	.09570	.38065	.54439	.40430
#1	3098.8	73941.	15471.	2055.6	4584.2
#2	3127.5	74080.	15508.	2075.8	4619.7
#3	3110.2	73989.	15392.	2057.3	4592.4

Sample Name: ICV01 Acquired: 4/3/2025 12:06:34 Type: Unk
Method: NON EPA-6010-200.7(v2881) 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	1.043948	1.098001	1.013116	1.047931	1.068526	2.604557
Stddev	.000577	.006043	.001403	.006175	.001715	.013889
%RSD	.0552800	.5503410	.1384441	.5892901	.1605125	.5332469
#1	1.043669	1.091896	1.013023	1.049244	1.068972	2.615708
#2	1.043564	1.098127	1.011762	1.053345	1.069975	2.588999
#3	1.044612	1.103979	1.014563	1.041205	1.066633	2.608963
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4946176	.4944679	.5110361	9.998329	.5293916	.5198204
Stddev	.0024051	.0018757	.0009343	.043028	.0008532	.0007445
%RSD	.4862447	.3793374	.1828294	.4303522	.1611566	.1432140
#1	.4962102	.4926405	.5108733	10.02502	.5298140	.5202349
#2	.4957916	.4943747	.5101939	10.02128	.5284096	.5189609
#3	.4918510	.4963885	.5120411	9.94869	.5299510	.5202652
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5156743	10.29508	.5007457	5.778889	.5490241	.2611828
Stddev	.0011288	.07292	.0021169	.025306	.0011471	.0019055
%RSD	.2189031	.7082887	.4227414	.4379124	.2089426	.7295718
#1	.5164335	10.35501	.5018026	5.791391	.5490442	.2632798
#2	.5143772	10.31633	.5021259	5.795511	.5478671	.2607114
#3	.5162123	10.21389	.4983085	5.749764	.5501611	.2595573
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.52316	.4972676	1.029737	10.17129	2.375974	2.638634
Stddev	.09510	.0024623	.002826	.11518	.004817	.001630
%RSD	.9037113	.4951613	.2743926	1.132362	.2027545	.0617746
#1	10.63098	.4993240	1.031176	10.29389	2.374121	2.637732
#2	10.48727	.4979397	1.026482	10.15462	2.372358	2.637654
#3	10.45122	.4945390	1.031553	10.06536	2.381443	2.640516

Sample Name: ICV01 Acquired: 4/3/2025 12:06:34 Type: Unk
Method: NON EPA-6010-200.7(v2881) 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	2.476959	2.429681	2.606325	F -.000165	F -.006675	F .0015750
Stddev	.005805	.008514	.015147	.002506	.003243	.0005152
%RSD	.2343636	.3504197	.5811628	1523.047	48.57417	32.70842
#1	2.473536	2.436920	2.622094	.001470	-.009832	.0009934
#2	2.473679	2.431823	2.591888	-.003050	-.003354	.0019740
#3	2.483661	2.420300	2.604994	.001087	-.006840	.0017574
Elem	Sr4077					
Units	ppm					
Avg	F -.007731					
Stddev	.000090					
%RSD	1.160595					
#1	-.007780					
#2	-.007786					
#3	-.007627					
Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306	
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	3150.234	73763.45	16769.10	2024.748	5036.616	
Stddev	5.963	275.83	22.77	8.406	4.851	
%RSD	.1892896	.3739378	.1357973	.4151523	.0963172	
#1	3144.182	73446.43	16795.35	2016.499	5031.758	
#2	3150.416	73895.44	16757.38	2024.443	5036.629	
#3	3156.104	73948.49	16754.58	2033.303	5041.460	

Sample Name: LLICV01 Acquired: 4/3/2025 12:11:26 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0206258	.0398237	.0111111	.0176337	.0506736	.1083144	.0889428
Stddev	.0011633	.0015286	.0006118	.0027369	.0013051	.0031677	.0000804
%RSD	5.639817	3.838436	5.506613	15.52064	2.575584	2.924533	.0903595
#1	.0208276	.0380718	.0104056	.0153056	.0521794	.1106574	.0889078
#2	.0216750	.0405136	.0114311	.0206485	.0498688	.1095755	.0888858
#3	.0193749	.0408858	.0114965	.0169469	.0499725	.1047104	.0890347
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0057763	.0057623	1.971922	.0097594	.0287188	.0227667	.1020014
Stddev	.0000481	.0000173	.017171	.0001856	.0000572	.0001958	.0035784
%RSD	.8330270	.3001972	.8707966	1.901420	.1993103	.8601613	3.508214
#1	.0058292	.0057612	1.957187	.0097386	.0287732	.0228420	.0995891
#2	.0057352	.0057455	1.967800	.0095851	.0287242	.0225444	.1003023
#3	.0057645	.0057801	1.990780	.0099545	.0286591	.0229137	.1061128
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0168441	2.009640	.0385655	.0104034	1.986810	.0392294	.0454473
Stddev	.0003470	.014596	.0002328	.0003374	.020206	.0020345	.0001891
%RSD	2.060086	.7263024	.6035977	3.243327	1.017024	5.186263	.4161542
#1	.0165563	1.995976	.0386104	.0100188	1.985836	.0387173	.0456258
#2	.0167466	2.007927	.0383135	.0105421	1.967108	.0374999	.0452491
#3	.0172294	2.025017	.0387725	.0106494	2.007486	.0414711	.0454671
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.901595	.0989791	.2061462	.0384499	.0393907	.3704675	.0180405
Stddev	.016187	.0001474	.0005998	.0003613	.0008745	.0073135	.0015425
%RSD	.8512240	.1489023	.2909739	.9397253	2.220160	1.974116	8.550021
#1	1.882944	.0988126	.2066283	.0382699	.0393504	.3765384	.0183776
#2	1.909857	.0990928	.2063358	.0382139	.0385370	.3725158	.0193865
#3	1.911984	.0990319	.2054745	.0388659	.0402847	.3623483	.0163573

Sample Name: LLICV01 Acquired: 4/3/2025 12:11:26 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0166215	.0174565	.0192183
Stddev	.0036918	.0010584	.0001693
%RSD	22.21119	6.063051	.8807304

#1	.0131383	.0164871	.0190245
#2	.0162348	.0172965	.0192932
#3	.0204915	.0185857	.0193372

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3235.666	75291.51	16782.81	2075.891	5262.014
Stddev	3.827	253.75	26.69	11.184	9.081
%RSD	.1182886	.3370279	.1590608	.5387722	.1725706

#1	3234.627	74999.31	16813.60	2068.074	5254.521
#2	3239.905	75418.70	16768.56	2070.896	5272.113
#3	3232.465	75456.51	16766.26	2088.702	5259.408

Sample Name: ICB01 Acquired: 4/3/2025 12:15:43 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0013080	.0006020	-.000275	-.001356	-.000693	-.001738	-.005019
Stddev	.0023310	.0013589	.000397	.001082	.000643	.002735	.000525
%RSD	178.2135	225.7218	144.6029	79.77962	92.70934	157.3548	10.45439
#1	-.000336	-.000847	.000068	-.001741	-.001122	.001008	-.004767
#2	.000284	.001848	-.000182	-.002193	-.001003	-.001761	-.005623
#3	.003976	.000805	-.000710	-.000134	.000046	-.004462	-.004669
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001320	.0000299	.0051263	-.000053	-.000193	-.000058	-.005261
Stddev	.0000594	.0000884	.0022277	.000155	.000068	.000278	.004812
%RSD	45.01882	295.6455	43.45575	294.8712	35.29261	475.1798	91.46054
#1	.0001968	-.000043	.0047042	-.000113	-.000255	.000209	-.004006
#2	.0000801	.000128	.0031399	-.000169	-.000120	-.000345	-.010576
#3	.0001190	.000005	.0075348	.000124	-.000204	-.000039	-.001201
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000628	-.007347	.0001608	.0005150	-.022918	-.000494	-.000417
Stddev	.000220	.005137	.0000591	.0001291	.007451	.001076	.000116
%RSD	35.11277	69.91880	36.73891	25.06450	32.51191	217.8960	27.73924
#1	-.000746	-.001819	.0001342	.0005106	-.026545	.000639	-.000442
#2	-.000764	-.011973	.0002284	.0006463	-.027862	-.001501	-.000518
#3	-.000374	-.008249	.0001196	.0003882	-.014348	-.000619	-.000291
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.047507	.0004997	-.000100	-.000002	.0011909	.0020893	-.001853
Stddev	.013776	.0005626	.000203	.001062	.0004284	.0032775	.000605
%RSD	28.99869	112.5970	202.7788	67619.43	35.97505	156.8706	32.63196
#1	-.049550	.0005178	-.000094	-.000115	.0008546	.0033173	-.002541
#2	-.032823	.0010530	-.000307	-.001002	.0016732	.0045755	-.001613
#3	-.060148	-.000072	.000100	.001113	.0010447	-.001625	-.001405

Sample Name: ICB01 Acquired: 4/3/2025 12:15:43 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.003448	-.001542	-.000015
Stddev	.000753	.001599	.000027
%RSD	21.83765	103.6865	181.7164

#1	-.003490	-.002739	.000007
#2	-.004179	-.002160	-.000044
#3	-.002675	.000274	-.000006

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3204.969	75067.28	15919.42	2068.158	5281.796
Stddev	9.494	845.52	112.34	23.934	6.610
%RSD	.2962143	1.126351	.7056777	1.157241	.1251501

#1	3213.876	74091.46	16037.77	2044.419	5288.689
#2	3206.051	75582.13	15906.25	2092.281	5275.511
#3	3194.981	75528.27	15814.25	2067.775	5281.187

Sample Name: CRI01 Acquired: 4/3/2025 12:20:03 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0209522	.0411480	.0115639	.0204245	.0525591	.1080914	.0828320
Stddev	.0014038	.0002639	.0005484	.0005423	.0001767	.0045212	.0005365
%RSD	6.699964	.6413505	4.742083	2.655261	.3360890	4.182796	.6477195
#1	.0213742	.0414458	.0109370	.0209530	.0526071	.1079858	.0833646
#2	.0193858	.0409432	.0118007	.0204512	.0523634	.1036239	.0822916
#3	.0220966	.0410549	.0119542	.0198693	.0527068	.1126646	.0828397
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0059076	.0057575	1.937373	.0099986	.0289276	.0227789	.1096297
Stddev	.0000502	.0000969	.008398	.0001297	.0003294	.0000892	.0015592
%RSD	.8504842	1.682869	.4334690	1.297579	1.138678	.3915807	1.422219
#1	.0059654	.0058693	1.931792	.0100375	.0285717	.0226781	.1109175
#2	.0058753	.0057026	1.933296	.0101044	.0292218	.0228475	.1100753
#3	.0058820	.0057005	1.947031	.0098538	.0289893	.0228111	.1078962
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0164008	2.016167	.0387039	.0106797	1.946443	.0385363	.0427616
Stddev	.0002451	.010516	.0004363	.0002887	.017691	.0008875	.0006197
%RSD	1.494459	.5216069	1.127258	2.703381	.9088940	2.302977	1.449216
#1	.0163541	2.025498	.0383599	.0104542	1.941908	.0377054	.0434047
#2	.0166658	2.004771	.0391947	.0110051	1.965960	.0384324	.0427119
#3	.0161823	2.018231	.0385573	.0105797	1.931460	.0394712	.0421683
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.849713	.0969204	.2108738	.0386745	.0390050	.3660412	.0153192
Stddev	.018735	.0010929	.0008438	.0007730	.0003222	.0050858	.0032879
%RSD	1.012880	1.127628	.4001267	1.998804	.8260620	1.389411	21.46250
#1	1.829240	.0977996	.2099067	.0378786	.0386432	.3680183	.0136688
#2	1.853895	.0956968	.2114598	.0394224	.0392611	.3698416	.0191054
#3	1.866004	.0972650	.2112549	.0387226	.0391107	.3602638	.0131835

Sample Name: CRI01 Acquired: 4/3/2025 12:20:03 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0175343	.0168689	.0186382
Stddev	.0036203	.0009636	.0000667
%RSD	20.64679	5.712141	.3579156

#1	.0145473	.0172518	.0187151
#2	.0164950	.0157727	.0186044
#3	.0215606	.0175821	.0185953

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3144.194	74332.21	16439.75	2015.975	5147.316
Stddev	2.789	239.09	82.06	4.624	10.557
%RSD	.0887148	.3216522	.4991860	.2293667	.2050999

#1	3147.282	74582.33	16423.86	2013.735	5151.059
#2	3141.858	74105.93	16528.59	2012.897	5135.398
#3	3143.441	74308.39	16366.79	2021.292	5155.493

Sample Name: ICSA01 Acquired: 4/3/2025 12:24:19 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0060229	.0083769	.0043618	-.013664	-.002315	246.8102
Stddev	.0014441	.0018797	.0019681	.000534	.001330	2.0591
%RSD	23.97604	22.43971	45.12065	3.904835	57.46291	.8343019
#1	.0076418	.0075300	.0063798	-.013279	-.003735	246.1652
#2	.0055594	.0070696	.0024477	-.014273	-.001097	249.1146
#3	.0048676	.0105311	.0042579	-.013439	-.002114	245.1508
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002751	.0012030	-.001357	225.0442	.0567925	.0017808
Stddev	.001394	.0000329	.000123	.7446	.0006406	.0004424
%RSD	50.65494	2.734078	9.099387	.3308653	1.127986	24.84242
#1	-.002571	.0012012	-.001498	225.1284	.0573008	.0021050
#2	-.001456	.0012367	-.001270	225.7431	.0560730	.0012768
#3	-.004226	.0011710	-.001301	224.2611	.0570038	.0019606
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039540	93.84948	.0007170	241.1219	.0011047	.0002354
Stddev	.0011077	.76853	.0001281	1.0509	.0004010	.0003589
%RSD	28.01514	.8188916	17.87025	.4358534	36.29495	152.4781
#1	.0026884	94.55601	.0006825	240.2518	.0008155	.0006202
#2	.0044265	93.03120	.0008589	242.2895	.0015624	-.000090
#3	.0047472	93.96123	.0006097	240.8244	.0009362	.000176
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0344981	.0028449	.0054433	.0013952	F .1497654	-.000598
Stddev	.0046570	.0005852	.0002554	.0318942	.0019701	.000240
%RSD	13.49917	20.57064	4.691681	2285.992	1.315429	40.11500
#1	.0335194	.0023230	.0054533	-.025480	.1517927	-.000681
#2	.0304082	.0034776	.0051830	-.006974	.1478581	-.000786
#3	.0395666	.0027341	.0056935	.036640	.1496455	-.000328

Sample Name: ICSA01 Acquired: 4/3/2025 12:24:19 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.005430	-.000422	.0122013	-.000148	-.014708	.0017032
Stddev	.001040	.000469	.0043092	.003916	.004146	.0008455
%RSD	19.15130	111.1272	35.31804	2647.192	28.18660	49.64385
#1	-.004239	-.000594	.0072958	.003904	-.012451	.0007518
#2	-.006153	-.000781	.0153763	-.003912	-.019493	.0023686
#3	-.005899	.000109	.0139318	-.000435	-.012181	.0019892

Elem	Sr4077
Units	ppm
Avg	.0086903
Stddev	.0004829
%RSD	5.556297
#1	.0082985
#2	.0092298
#3	.0085427

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2794.563	66176.02	15559.92	1808.301	4130.993
Stddev	9.182	413.56	58.04	14.806	11.799
%RSD	.3285573	.6249389	.3729863	.8187944	.2856121
#1	2794.123	65905.41	15603.25	1794.200	4129.360
#2	2803.956	66652.07	15493.98	1823.724	4143.523
#3	2785.609	65970.58	15582.52	1806.979	4120.096

Sample Name: ICSAB01 Acquired: 4/3/2025 12:28:44 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1100045	.1117876	.0551956	.0350335	.6379744	254.2891	.4754754
Stddev	.0025431	.0020601	.0006492	.0054888	.0028100	2.9639	.0048873
%RSD	2.311819	1.842903	1.176148	15.66733	.4404519	1.165569	1.027874
#1	.1096726	.1094254	.0551763	.0287774	.6382003	250.8680	.4698362
#2	.1126973	.1127255	.0545562	.0390407	.6406646	256.0818	.4784839
#3	.1076437	.1132119	.0558542	.0372824	.6350583	255.9176	.4781060
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4747909	1.002668	232.0476	.5725087	.5107409	.5117143	98.96097
Stddev	.0009967	.003297	1.3013	.0050466	.0024877	.0016889	.43674
%RSD	.2099323	.3287914	.5607947	.8814933	.4870669	.3300388	.4413303
#1	.4736452	1.004297	230.7620	.5738396	.5123487	.5097741	98.73918
#2	.4754580	.998874	233.3641	.5669300	.5078755	.5128547	98.67963
#3	.4752697	1.004834	232.0167	.5767565	.5119984	.5125142	99.46411
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4607696	248.4162	1.006782	.1913346	.0358357	.4714872	1.069475
Stddev	.0028035	.8711	.003300	.0009426	.0035000	.0048973	.004265
%RSD	.6084460	.3506605	.3277987	.4926229	9.766868	1.038684	.3988187
#1	.4578796	247.5106	1.007493	.1917419	.0336629	.4664724	1.069582
#2	.4634778	249.2481	1.003185	.1902569	.0339709	.4762578	1.065157
#3	.4609515	248.4900	1.009669	.1920050	.0398732	.4717314	1.073686
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.037163	1.050574	1.035623	1.008040	.9386555	.9199439	.9922243
Stddev	.016034	.007253	.001955	.002625	.0084763	.0041359	.0104196
%RSD	43.14458	.6903398	.1888109	.2603797	.9030242	.4495828	1.050120
#1	-.049746	1.044363	1.037683	1.009677	.9288679	.9153093	.9981076
#2	-.019110	1.048814	1.033792	1.005013	.9435389	.9212635	.9801937
#3	-.042633	1.058544	1.035394	1.009431	.9435595	.9232591	.9983714

Sample Name: ICSAB01 Acquired: 4/3/2025 12:28:44 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	1.013706	.9502850	.9291315
Stddev	.004970	.0144220	.0043395
%RSD	.4902935	1.517652	.4670486
#1	1.019022	.9337228	.9241212
#2	1.012922	.9600711	.9315747
#3	1.009176	.9570611	.9316985

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2820.484	67529.95	16218.65	1830.787	4156.910
Stddev	5.957	276.58	36.74	5.344	5.187
%RSD	.2112179	.4095718	.2265058	.2919110	.1247861
#1	2826.634	67394.25	16249.58	1825.454	4160.378
#2	2814.740	67848.17	16178.05	1836.142	4159.406
#3	2820.077	67347.42	16228.33	1830.766	4150.947

Sample Name: ICSADLX20 Acquired: 4/3/2025 12:33:02 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSADLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000108	.0003329	.0004346	-.004080	-.000604	11.79745	-.003777
Stddev	.000558	.0017272	.0005344	.000791	.000549	.02219	.000293
%RSD	516.5268	518.7531	122.9585	19.38860	90.96819	.1880903	7.764406
#1	-.000751	.0016762	-.000047	-.004307	-.001216	11.80676	-.003862
#2	.000181	-.001615	.001010	-.004733	-.000153	11.81348	-.004018
#3	.000246	.000938	.000341	-.003200	-.000442	11.77212	-.003450
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002562	-.000202	11.31132	.0026107	.0002217	.0005216	4.534560
Stddev	.0001054	.000056	.03997	.0000925	.0001072	.0003290	.017854
%RSD	41.13097	27.86160	.3533787	3.543835	48.35569	63.06823	.3937285
#1	.0003345	-.000248	11.35658	.0026966	.0003435	.0003564	4.524275
#2	.0001364	-.000139	11.29656	.0026227	.0001795	.0009004	4.524230
#3	.0002977	-.000220	11.28084	.0025127	.0001420	.0003080	4.555176
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001880	11.75037	-.000071	.0002488	-.020492	-.000232	-.000293
Stddev	.000253	.05322	.000462	.0002384	.003459	.000281	.000123
%RSD	13.48255	.4529465	651.6475	95.80961	16.87964	121.0296	41.88247
#1	-.002145	11.78773	-.000571	-.000018	-.024286	-.000115	-.000164
#2	-.001640	11.68943	.000340	.000324	-.019678	-.000552	-.000409
#3	-.001855	11.77394	.000019	.000440	-.017513	-.000029	-.000308
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.051390	.0060195	.0001436	-.002325	.0014887	.0043704	-.002114
Stddev	.019716	.0001240	.0000577	.000607	.0002549	.0040631	.001726
%RSD	38.36615	2.060613	40.18854	26.11971	17.12300	92.96912	81.65602
#1	-.057747	.0059521	.0002038	-.001626	.0013069	.0006988	-.001033
#2	-.067144	.0061626	.0001383	-.002619	.0017800	.0036767	-.001204
#3	-.029279	.0059437	.0000887	-.002729	.0013791	.0087358	-.004105

Sample Name: ICSADLX20 Acquired: 4/3/2025 12:33:02 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSADLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0001183	-.002038	.0006237
Stddev	.0007943	.001418	.0000446
%RSD	671.1789	69.58582	7.152458
#1	.0006825	-.000400	.0006323
#2	.0004626	-.002858	.0006634
#3	-.000790	-.002855	.0005755

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3186.960	73305.90	15866.65	2034.098	5080.015
Stddev	6.215	167.52	48.27	2.642	8.777
%RSD	.1950153	.2285231	.3042015	.1299057	.1727803
#1	3185.977	73342.82	15824.00	2031.827	5077.083
#2	3193.608	73123.00	15856.91	2036.998	5089.883
#3	3181.295	73451.89	15919.05	2033.468	5073.079

Sample Name: ICSABDLX20 Acquired: 4/3/2025 12:37:18 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSABDLX20 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0060059	.0053533	.0028021	-.003350	.0297238	12.40296	.0203049
Stddev	.0011954	.0007530	.0003766	.000921	.0021620	.02578	.0005238
%RSD	19.90387	14.06668	13.43948	27.49765	7.273758	.2078758	2.579572

#1	.0063567	.0061099	.0023673	-.003210	.0272500	12.40850	.0198327
#2	.0046743	.0053461	.0030132	-.004333	.0312515	12.42551	.0208683
#3	.0069867	.0046039	.0030259	-.002507	.0306700	12.37485	.0202138

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0249929	.0498579	12.04078	.0297824	.0252185	.0268845	5.096207
Stddev	.0000690	.0001991	.02617	.0004381	.0001812	.0002549	.035445
%RSD	.2762427	.3992564	.2173311	1.470978	.7185115	.9482654	.6955253

#1	.0250592	.0496580	12.04859	.0294599	.0253471	.0266551	5.055445
#2	.0249980	.0500561	12.06215	.0296061	.0252971	.0268394	5.113395
#3	.0249215	.0498596	12.01159	.0302812	.0250113	.0271589	5.119782

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0237176	12.29769	.0504926	.0095748	-.023298	.0244792	.0537408
Stddev	.0001555	.01417	.0004879	.0003098	.012486	.0009569	.0001268
%RSD	.6556698	.1152514	.9662181	3.235552	53.59222	3.909097	.2359541

#1	.0238962	12.31388	.0505390	.0092679	-.017200	.0245980	.0537215
#2	.0236118	12.29162	.0509556	.0095691	-.037660	.0234684	.0538762
#3	.0236449	12.28756	.0499831	.0098874	-.015032	.0253711	.0536248

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.077865	.0523669	.0526317	.0484047	.0488072	.0506016	.0411663
Stddev	.027376	.0002134	.0001577	.0009051	.0008168	.0010038	.0011633
%RSD	35.15779	.4075914	.2996713	1.869944	1.673586	1.983622	2.825924

#1	-.091937	.0525389	.0526776	.0473652	.0488458	.0515596	.0412964
#2	-.046316	.0521280	.0527615	.0490185	.0479718	.0495576	.0399435
#3	-.095343	.0524337	.0524562	.0488305	.0496041	.0506878	.0422592

Sample Name: ICSABDLX20 Acquired: 4/3/2025 12:37:18 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSABDLX20 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0443959	.0418351	.0469339
Stddev	.0041459	.0012663	.0002494
%RSD	9.338539	3.026798	.5313722
#1	.0459757	.0430675	.0467774
#2	.0475196	.0419003	.0472215
#3	.0396923	.0405375	.0468028

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3210.476	73838.81	16936.44	2049.884	5121.591
Stddev	4.851	198.83	48.52	5.176	10.432
%RSD	.1510958	.2692774	.2864557	.2524806	.2036820
#1	3207.470	74059.56	16887.60	2047.014	5123.300
#2	3207.885	73783.08	16937.10	2046.780	5110.410
#3	3216.072	73673.79	16984.62	2055.859	5131.063

Sample Name: CCV01 Acquired: 4/3/2025 12:41:32 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.052362	5.146393	4.929632	5.112991	5.130527	9.893718	9.399046
Stddev	.030802	.025235	.026491	.026342	.024370	.012783	.131071
%RSD	.6096606	.4903398	.5373851	.5151896	.4750088	.1292070	1.394519
#1	5.024816	5.142735	4.903861	5.090823	5.102440	9.907326	9.535511
#2	5.046649	5.123187	4.928246	5.106038	5.143062	9.881961	9.387494
#3	5.085621	5.173257	4.956789	5.142111	5.146078	9.891868	9.274133
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2403281	2.438255	23.87712	1.017182	2.438655	1.268887	4.867574
Stddev	.0012350	.012674	.07662	.000741	.013071	.005370	.003995
%RSD	.5138799	.5197892	.3209048	.0728849	.5359753	.4232206	.0820813
#1	.2414030	2.424473	23.92504	1.017965	2.424342	1.262927	4.863809
#2	.2406022	2.440884	23.91757	1.017089	2.441664	1.270386	4.867147
#3	.2389791	2.449408	23.78875	1.016491	2.449959	1.273349	4.871765
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.321706	23.61265	2.434102	1.257618	25.65750	2.410239	2.533025
Stddev	.008917	.09412	.012882	.003793	.10183	.006541	.006812
%RSD	.3840511	.3986175	.5292408	.3016355	.3968882	.2713981	.2689259
#1	2.323870	23.69248	2.419954	1.259535	25.54880	2.413389	2.528348
#2	2.329342	23.63660	2.437198	1.260070	25.67300	2.414609	2.540840
#3	2.311907	23.50886	2.445154	1.253248	25.75069	2.402719	2.529886
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.78580	4.761223	5.084761	4.931405	4.756782	5.050763	4.946510
Stddev	.12457	.030359	.017764	.024171	.009413	.017896	.019595
%RSD	.5025761	.6376352	.3493627	.4901515	.1978941	.3543132	.3961426
#1	24.64240	4.782121	5.065081	4.907986	4.754364	5.055933	4.924963
#2	24.84779	4.775149	5.089594	4.929964	4.767169	5.030852	4.951304
#3	24.86722	4.726399	5.099609	4.956265	4.748814	5.065505	4.963264

Sample Name: CCV01 Acquired: 4/3/2025 12:41:32 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	4.884928	4.788963	4.780440
Stddev	.026048	.010348	.056560
%RSD	.5332391	.2160840	1.183152

#1	4.865787	4.785954	4.822582
#2	4.874405	4.800483	4.802579
#3	4.914592	4.780453	4.716159

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3062.513	71858.78	16119.62	1957.206	4729.785
Stddev	11.911	116.14	85.54	7.622	20.247
%RSD	.3889303	.1616250	.5306610	.3894117	.4280769

#1	3076.081	71832.79	16074.80	1963.216	4753.164
#2	3053.780	71757.84	16065.81	1948.634	4718.012
#3	3057.676	71985.71	16218.26	1959.769	4718.179

Sample Name: CCB01 Acquired: 4/3/2025 12:47:21 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0011756	.0002739	-.001147	.0001082	-.000285	-.001776	-.006545
Stddev	.0007836	.0007893	.000478	.0005678	.001465	.001468	.000533
%RSD	66.65198	288.1578	41.71227	524.7004	514.8068	82.63111	8.150651

#1	.0014696	.0006868	-.001684	-.000547	.001294	-.000097	-.006579
#2	.0017698	-.000636	-.000765	.000437	-.001599	-.002816	-.005995
#3	.0002876	.000771	-.000992	.000435	-.000548	-.002414	-.007060

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001042	.0000360	.0111766	-.000067	-.000077	-.000007	-.005426
Stddev	.0000380	.0000134	.0041909	.000380	.000267	.000364	.001925
%RSD	36.45591	37.19236	37.49666	564.2245	346.6038	5541.583	35.47332

#1	.0000920	.0000423	.0128567	-.000122	-.000219	-.000407	-.007641
#2	.0000738	.0000206	.0064064	.000337	-.000243	.000082	-.004473
#3	.0001468	.0000451	.0142667	-.000418	.000231	.000306	-.004163

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002521	-.004694	-.000114	.0003652	-.029735	-.000861	-.000297
Stddev	.000101	.013392	.000083	.0000855	.003878	.000972	.000278
%RSD	4.020305	285.2992	73.09103	23.41295	13.04172	112.9174	93.77556

#1	-.002549	-.003259	-.000080	.0004629	-.034080	-.000086	-.000064
#2	-.002409	.007923	-.000053	.0003282	-.026625	-.000545	-.000221
#3	-.002606	-.018745	-.000209	.0003043	-.028500	-.001951	-.000605

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.092603	.0011465	-.000106	-.001483	.0014475	.0041220	-.002687
Stddev	.007298	.0005203	.000083	.000983	.0003249	.0020728	.000728
%RSD	7.881290	45.38611	78.22824	66.23197	22.44547	50.28676	27.10839

#1	-.086608	.0005484	-.000048	-.001099	.0014335	.0042942	-.002050
#2	-.100730	.0014953	-.000200	-.002600	.0011298	.0019685	-.003481
#3	-.090470	.0013957	-.000068	-.000752	.0017791	.0061034	-.002530

Sample Name: CCB01 Acquired: 4/3/2025 12:47:21 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.000965	-.002436	.0000471
Stddev	.002354	.000623	.0000006
%RSD	244.0013	25.59164	1.184854

#1	-.002002	-.002941	.0000468
#2	.001730	-.001739	.0000467
#3	-.002621	-.002627	.0000477

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3182.624	75421.55	16631.70	2046.948	5257.087
Stddev	1.008	98.06	97.46	5.903	5.460
%RSD	.0316628	.1300140	.5859846	.2883981	.1038622

#1	3182.916	75313.88	16631.26	2051.994	5258.046
#2	3183.452	75445.06	16534.46	2048.392	5262.004
#3	3181.502	75505.72	16729.38	2040.456	5251.211

Sample Name: Q1503-07 Acquired: 4/3/2025 12:51:41 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0027080	.0016281	-.001810	-.003586	-.001689	.0026447
Stddev	.0017435	.0004365	.000409	.003440	.001688	.0003393
%RSD	64.38280	26.81345	22.60025	95.94863	99.92895	12.82941
#1	.0022751	.0013497	-.001836	-.002130	-.002963	.0024237
#2	.0046271	.0014033	-.002206	-.007514	-.002328	.0024751
#3	.0012217	.0021312	-.001389	-.001112	.000225	.0030354
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004464	.0002129	.0004703	-.008339	-.000330	-.000979
Stddev	.000522	.0000654	.0000139	.002383	.000292	.000215
%RSD	11.68645	30.71315	2.953778	28.58165	88.46956	21.92319
#1	-.003937	.0001972	.0004637	-.005911	.000006	-.001214
#2	-.004980	.0001568	.0004863	-.008431	-.000479	-.000931
#3	-.004474	.0002847	.0004610	-.010675	-.000518	-.000793
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001301	-.003410	-.004163	-.006332	-.000253	.0005708
Stddev	.000185	.002943	.000130	.006090	.000168	.0002659
%RSD	14.22874	86.29743	3.130845	96.16536	66.55564	46.58194
#1	-.001130	-.005881	-.004161	-.007747	-.000391	.0007461
#2	-.001277	-.000154	-.004034	-.011590	-.000302	.0002649
#3	-.001497	-.004195	-.004295	.000340	-.000065	.0007014
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	165.5581	-.000113	-.000981	-.152993	.0009790	.0264555
Stddev	.7375	.000469	.000375	.008633	.0006424	.0008769
%RSD	.4454852	417.1734	38.23524	5.642955	65.62116	3.314566
#1	166.1093	.000203	-.000606	-.162615	.0002987	.0273799
#2	165.8446	-.000652	-.001357	-.150438	.0010631	.0263511
#3	164.7203	.000112	-.000981	-.145925	.0015752	.0256354

Sample Name: Q1503-07 Acquired: 4/3/2025 12:51:41 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.002077	.0048656	F 84.85260	.0000243	.0106334	-.004224
Stddev	.000292	.0002866	.27720	.0004834	.0031295	.000505
%RSD	14.06137	5.890456	.3266802	1993.225	29.43031	11.95131
#1	-.001941	.0051914	84.56462	.0004760	.0076413	-.004800
#2	-.002412	.0046525	85.11758	-.000486	.0103749	-.003862
#3	-.001878	.0047527	84.87560	.000082	.0138842	-.004009

Elem	Sr4077
Units	ppm
Avg	.0000857
Stddev	.0000342
%RSD	39.87012
#1	.0000464
#2	.0001027
#3	.0001081

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3182.622	73184.42	17021.50	2039.859	4900.429
Stddev	9.352	283.44	154.95	14.460	14.240
%RSD	.2938533	.3872941	.9102989	.7088692	.2905875
#1	3193.117	73499.55	16939.07	2056.552	4915.956
#2	3179.576	72950.32	17200.23	2031.208	4887.979
#3	3175.172	73103.39	16925.19	2031.816	4897.353

Sample Name: Q1680-01 Acquired: 4/3/2025 13:00:27 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0714187	.0132079	.3132243	-.033211	-.004335	135.7553
Stddev	.0033577	.0010240	.0020673	.001149	.002094	.1962
%RSD	4.701455	7.753221	.6600073	3.458679	48.29456	.1445522
#1	.0748537	.0143375	.3112995	-.034349	-.002666	135.6497
#2	.0712584	.0123402	.3129640	-.032052	-.003654	135.6344
#3	.0681440	.0129460	.3154095	-.033233	-.006684	135.9817
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.557589	.0106009	-.002762	18.58048	.2195087	.1340854
Stddev	.002903	.0000933	.000181	.00372	.0011029	.0004020
%RSD	.1863911	.8796377	6.560485	.0200055	.5024353	.2998405
#1	1.554874	.0106620	-.002728	18.58398	.2206318	.1341019
#2	1.560649	.0106471	-.002957	18.58088	.2184272	.1336753
#3	1.557244	.0104936	-.002600	18.57658	.2194670	.1344789
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1935765	271.0732	3.183736	47.90337	.2445611	.0017135
Stddev	.0005353	.5056	.004284	.13851	.0006367	.0002766
%RSD	.2765493	.1865172	.1345616	.2891381	.2603538	16.14217
#1	.1937087	271.6561	3.188549	48.01546	.2451236	.0018408
#2	.1929875	270.7534	3.182317	47.74853	.2438699	.0013962
#3	.1940333	270.8100	3.180341	47.94612	.2446898	.0019036
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.589792	.2986335	.6560278	14.56690	.4964951	.0019136
Stddev	.020996	.0027068	.0005289	.03191	.0011252	.0002442
%RSD	.3756188	.9063920	.0806272	.2190818	.2266325	12.75916
#1	5.566917	.3017357	.6555908	14.53025	.4977693	.0016411
#2	5.594273	.2967521	.6558767	14.58858	.4956380	.0019871
#3	5.608186	.2974128	.6566158	14.58186	.4960780	.0021125

Sample Name: Q1680-01 Acquired: 4/3/2025 13:00:27 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0136916	2.738981	5.156759	7.008271	F 20.90323	.3238207
Stddev	.0017576	.003366	.004064	.035074	.04854	.0009080
%RSD	12.83668	.1229005	.0788032	.5004685	.2322023	.2803868
#1	.0145780	2.740415	5.158144	7.038163	20.95403	.3235411
#2	.0148295	2.735136	5.159949	6.969660	20.85733	.3248356
#3	.0116674	2.741393	5.152184	7.016991	20.89831	.3230855

Elem	Sr4077
Units	ppm
Avg	-.081314
Stddev	.000556
%RSD	.6841096
#1	-.081879
#2	-.080767
#3	-.081295

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3476.110	82465.08	19697.85	2243.953	4576.555
Stddev	6.566	283.89	75.22	3.439	2.208
%RSD	.1889033	.3442489	.3818888	.1532487	.0482533
#1	3474.220	82206.21	19616.51	2240.608	4574.173
#2	3470.696	82768.67	19764.90	2247.479	4578.534
#3	3483.414	82420.35	19712.15	2243.773	4576.960

Sample Name: Q1680-01DUP Acquired: 4/3/2025 13:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0733525	.0116604	.3085101	-.037501	-.003583	134.5976
Stddev	.0027438	.0021207	.0032497	.006004	.001451	.1931
%RSD	3.740512	18.18763	1.053352	16.01119	40.49805	.1434314
#1	.0711327	.0112717	.3111328	-.042969	-.004604	134.6376
#2	.0725047	.0139486	.3048746	-.031075	-.004224	134.7675
#3	.0764201	.0097608	.3095229	-.038461	-.001922	134.3876
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.585176	.0101239	-.002945	18.48343	.2170814	.1327253
Stddev	.000699	.0001304	.000352	.05458	.0007618	.0010219
%RSD	.0441131	1.288092	11.93817	.2953018	.3509203	.7699430
#1	1.585971	.0102701	-.002544	18.50531	.2175144	.1336325
#2	1.584656	.0100817	-.003203	18.42131	.2175280	.1316182
#3	1.584901	.0100197	-.003087	18.52369	.2162018	.1329250
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1890157	272.6132	3.146959	46.92551	.2414021	.0024755
Stddev	.0015127	.5991	.013712	.16659	.0014104	.0003779
%RSD	.8002835	.2197712	.4357284	.3550069	.5842319	15.26399
#1	.1901700	272.1033	3.148171	47.00062	.2415456	.0021181
#2	.1873033	272.4633	3.132681	46.73458	.2399255	.0024375
#3	.1895738	273.2730	3.160025	47.04131	.2427353	.0028709
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.708340	.2981634	.6503075	14.94936	.5024856	.0019319
Stddev	.019764	.0008816	.0023551	.03113	.0011295	.0003047
%RSD	.3462273	.2956615	.3621547	.2082281	.2247889	15.77101
#1	5.687562	.2976473	.6486621	14.96171	.5014143	.0015993
#2	5.726902	.2976616	.6492550	14.97242	.5023768	.0021976
#3	5.710555	.2991813	.6530053	14.91395	.5036655	.0019988

Sample Name: Q1680-01DUP Acquired: 4/3/2025 13:05:10 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0140160	2.767488	6.137157	6.766613	F 20.47623	.3239689
Stddev	.0010557	.009162	.021274	.048320	.13767	.0003215
%RSD	7.532186	.3310757	.3466359	.7140970	.6723446	.0992283
#1	.0127997	2.769657	6.113443	6.796125	20.57661	.3240626
#2	.0145543	2.757435	6.143462	6.710849	20.31929	.3236110
#3	.0146941	2.775371	6.154565	6.792864	20.53279	.3242331

Elem	Sr4077
Units	ppm
Avg	-.081145
Stddev	.000829
%RSD	1.021163
#1	-.080456
#2	-.080915
#3	-.082065

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3491.486	83909.43	20549.90	2249.636	4613.130
Stddev	23.493	270.33	64.84	11.738	37.121
%RSD	.6728656	.3221660	.3155188	.5217944	.8046745
#1	3476.068	84209.41	20559.08	2251.284	4583.807
#2	3518.524	83834.19	20609.65	2260.464	4654.867
#3	3479.864	83684.70	20480.96	2237.161	4600.717

Sample Name: Q1680-01LX5 Acquired: 4/3/2025 13:09:13 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0172928	.0019488	.0646304	-.009375	-.000339	30.85456	.3481918
Stddev	.0008896	.0020042	.0003880	.002201	.000737	.07199	.0008252
%RSD	5.144395	102.8462	.6002806	23.47758	217.1265	.2333092	.2369839
#1	.0167925	.0026912	.0649343	-.007295	-.000692	30.78950	.3482874
#2	.0167661	-.000321	.0641934	-.009150	.000508	30.84229	.3489649
#3	.0183200	.003476	.0647635	-.011680	-.000834	30.93189	.3473229
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026004	-.002774	4.374142	.0507366	.0270093	.0466542	63.02967
Stddev	.0000925	.000044	.002772	.0001113	.0001478	.0002217	.24637
%RSD	3.555600	1.576215	.0633644	.2194219	.5472948	.4751631	.3908718
#1	.0026594	-.002751	4.370948	.0506081	.0271775	.0468221	63.23908
#2	.0026479	-.002824	4.375552	.0507988	.0269504	.0467375	63.09172
#3	.0024938	-.002745	4.375924	.0508030	.0269001	.0464029	62.75821
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7473831	10.96974	.0501421	.0009054	1.240718	.0691074	.1508644
Stddev	.0036285	.00806	.0002148	.0002206	.009093	.0003112	.0010897
%RSD	.4854908	.0735017	.4283065	24.36050	.7328994	.4503232	.7223261
#1	.7470974	10.96146	.0499351	.0011211	1.240703	.0692828	.1516205
#2	.7511460	10.97019	.0501272	.0009149	1.249819	.0692914	.1496153
#3	.7439059	10.97757	.0503639	.0006802	1.231633	.0687481	.1513575
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.162633	.1126267	.0000441	.0001660	.6461712	1.388043	1.383191
Stddev	.047871	.0007730	.0000739	.0007477	.0024928	.017160	.009856
%RSD	1.513651	.6863715	167.6219	450.3326	.3857749	1.236247	.7125860
#1	3.200671	.1134642	.0000150	-.000200	.6434388	1.388824	1.373258
#2	3.178347	.1124753	-.000011	-.000328	.6467538	1.404798	1.383345
#3	3.108879	.1119406	.000128	.001026	.6483211	1.370506	1.392969

Sample Name: Q1680-01LX5 Acquired: 4/3/2025 13:09:13 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.136835	.0735856	-.018957
Stddev	.010362	.0008625	.000285
%RSD	.2504823	1.172100	1.503557
#1	4.125842	.0726813	-.019165
#2	4.138238	.0743991	-.019074
#3	4.146424	.0736764	-.018632

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3239.864	76198.54	17987.17	2084.617	4982.128
Stddev	19.232	189.26	30.73	4.272	22.129
%RSD	.5936147	.2483767	.1708619	.2049193	.4441617
#1	3217.850	76083.92	18021.66	2079.783	4957.082
#2	3253.409	76094.72	17962.70	2086.184	4999.034
#3	3248.332	76416.99	17977.15	2087.884	4990.269

Sample Name: Q1680-01MS Acquired: 4/3/2025 13:17:38 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6536064	1.707616	1.110368	1.366527	.2871326	153.2637
Stddev	.0020526	.018171	.007517	.002736	.0014540	.1246
%RSD	.3140473	1.064091	.6769477	.2002372	.5063959	.0813023
#1	.6544014	1.720384	1.117702	1.364948	.2887802	153.2204
#2	.6551425	1.715650	1.110721	1.369686	.2860291	153.1665
#3	.6512751	1.686813	1.102681	1.364946	.2865886	153.4041
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.669302	.1456733	.1643745	24.88157	.5148633	.2927818
Stddev	.004228	.0008629	.0009715	.09528	.0015394	.0011866
%RSD	.2532569	.5923394	.5910267	.3829497	.2989993	.4052745
#1	1.673733	.1447460	.1654763	24.77166	.5164808	.2937854
#2	1.665313	.1458213	.1640060	24.94098	.5146930	.2930879
#3	1.668860	.1464527	.1636412	24.93206	.5134161	.2914722
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3890959	265.4693	4.152722	46.91820	.6603833	.0604586
Stddev	.0016086	.7183	.002736	.27722	.0040717	.0004010
%RSD	.4134256	.2705719	.0658902	.5908518	.6165735	.6633113
#1	.3904342	266.2610	4.150186	46.59947	.6649619	.0602860
#2	.3895423	265.2874	4.152358	47.05189	.6590196	.0609170
#3	.3873112	264.8594	4.155622	47.10323	.6571685	.0601727
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.670347	.5045327	.8359887	23.30436	.6391432	.3317459
Stddev	.055371	.0018545	.0019301	.15339	.0026981	.0010578
%RSD	.6386294	.3675642	.2308704	.6581928	.4221460	.3188609
#1	8.731248	.5063300	.8378292	23.46566	.6420020	.3327035
#2	8.656758	.5026259	.8361566	23.28705	.6387864	.3319238
#3	8.623035	.5046421	.8339801	23.16036	.6366413	.3306105

Sample Name: Q1680-01MS Acquired: 4/3/2025 13:17:38 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6400464	2.710081	6.447063	F 12.90575	F 17.26187	.4700127
Stddev	.0058289	.005954	.017801	.05808	.10877	.0016352
%RSD	.9106917	.2197105	.2761124	.4500041	.6301416	.3479041
#1	.6467402	2.707099	6.467428	12.95885	17.34919	.4713515
#2	.6360912	2.706208	6.434467	12.91466	17.29640	.4704965
#3	.6373078	2.716938	6.439293	12.84373	17.14003	.4681902

Elem	Sr4077
Units	ppm
Avg	.0892864
Stddev	.0003198
%RSD	.3582208
#1	.0890858
#2	.0891182
#3	.0896553

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3464.777	81920.08	19995.94	2229.876	4540.175
Stddev	9.103	69.25	80.62	7.676	21.842
%RSD	.2627422	.0845310	.4031586	.3442221	.4810755
#1	3455.906	81905.55	20086.21	2231.646	4516.997
#2	3464.329	81859.25	19970.48	2221.469	4543.152
#3	3474.097	81995.44	19931.13	2236.511	4560.375

Sample Name: Q1680-01MSD Acquired: 4/3/2025 13:28:41 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6546011	1.682031	1.101764	1.371667	.2850058	155.4819
Stddev	.0028601	.030158	.002553	.007738	.0037936	.4887
%RSD	.4369182	1.792941	.2316937	.5641152	1.331064	.3143445
#1	.6577715	1.713610	1.102880	1.377762	.2883477	155.5438
#2	.6522150	1.678951	1.098844	1.362962	.2857874	154.9652
#3	.6538167	1.653531	1.103570	1.374278	.2808823	155.9368
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.663636	.1476752	.1646270	25.00817	.5119992	.2910339
Stddev	.002050	.0013936	.0006402	.16512	.0011733	.0008558
%RSD	.1232198	.9436955	.3888626	.6602541	.2291600	.2940663
#1	1.664183	.1481594	.1653274	25.06797	.5117329	.2919998
#2	1.661368	.1461041	.1640721	24.82149	.5109819	.2903702
#3	1.665357	.1487621	.1644816	25.13506	.5132827	.2907316
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3881330	260.7056	4.164264	46.71455	.6554250	.0600903
Stddev	.0013681	1.4776	.018232	.22300	.0010880	.0002417
%RSD	.3524899	.5667535	.4378087	.4773693	.1660039	.4022135
#1	.3896925	259.0659	4.167965	46.82012	.6554689	.0598130
#2	.3871343	261.9339	4.144466	46.45837	.6543157	.0602560
#3	.3875724	261.1169	4.180362	46.86516	.6564904	.0602019
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.581196	.5072252	.8419250	22.98413	.6186769	.3324437
Stddev	.082340	.0015077	.0035687	.18980	.0035903	.0007839
%RSD	.9595363	.2972372	.4238742	.8258016	.5803237	.2357862
#1	8.498660	.5068767	.8402681	22.76970	.6147706	.3332585
#2	8.663338	.5059223	.8394858	23.13057	.6218326	.3323776
#3	8.581590	.5088766	.8460209	23.05214	.6194274	.3316949

Sample Name: Q1680-01MSD Acquired: 4/3/2025 13:28:41 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6339978	2.720355	6.447493	F 12.59409	F 17.03516	.4721714
Stddev	.0040609	.008079	.070947	.07757	.06335	.0011858
%RSD	.6405258	.2969659	1.100381	.6159337	.3718828	.2511435
#1	.6379427	2.721737	6.373215	12.68150	17.10767	.4710510
#2	.6298301	2.711674	6.514558	12.56729	16.99057	.4720501
#3	.6342205	2.727653	6.454707	12.53347	17.00723	.4734133

Elem	Sr4077
Units	ppm
Avg	.0934519
Stddev	.0018009
%RSD	1.927076
#1	.0950561
#2	.0915039
#3	.0937957

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3438.114	81955.93	19612.74	2197.080	4532.669
Stddev	3.847	417.03	171.29	12.499	4.290
%RSD	.1118921	.5088407	.8733365	.5688951	.0946524
#1	3433.852	82400.73	19544.09	2211.226	4529.860
#2	3441.329	81893.30	19807.70	2192.485	4537.608
#3	3439.161	81573.77	19486.42	2187.528	4530.540

Sample Name: Q1680-01A Acquired: 4/3/2025 13:32:40 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6534874	1.689369	1.106340	1.371274	.2760038	156.6436
Stddev	.0017931	.009484	.008675	.006325	.0003533	.5661
%RSD	.2743886	.5614164	.7841568	.4612712	.1279976	.3613953
#1	.6516301	1.678980	1.096439	1.366891	.2763888	157.1753
#2	.6552085	1.691562	1.109971	1.368405	.2756944	156.7071
#3	.6536237	1.697565	1.112610	1.378525	.2759282	156.0484
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.652769	.1516359	.1656004	25.38285	.5140105	.2921340
Stddev	.004665	.0007914	.0014633	.17845	.0016440	.0024995
%RSD	.2822299	.5218755	.8836300	.7030532	.3198315	.8556105
#1	1.657992	.1523319	.1639592	25.46903	.5122326	.2893349
#2	1.651297	.1518007	.1660728	25.50186	.5154756	.2929240
#3	1.649018	.1507752	.1667690	25.17766	.5143232	.2941431
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3920172	256.3534	4.181357	47.26541	.6596397	.0589836
Stddev	.0018215	.3755	.022335	.15013	.0043688	.0003299
%RSD	.4646379	.1464583	.5341459	.3176317	.6622961	.5593450
#1	.3904094	255.9890	4.193889	47.34446	.6548940	.0588002
#2	.3916467	256.7390	4.194611	47.35951	.6605309	.0593645
#3	.3939954	256.3323	4.155570	47.09228	.6634941	.0587862
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.389630	.5069973	.8423076	22.55969	.6131808	.3291769
Stddev	.051363	.0021719	.0007663	.11533	.0012894	.0018287
%RSD	.6122194	.4283781	.0909726	.5112081	.2102718	.5555225
#1	8.396904	.5081046	.8424838	22.50995	.6119888	.3270859
#2	8.335017	.5083923	.8414685	22.47759	.6145493	.3299680
#3	8.436967	.5044949	.8429703	22.69154	.6130044	.3304768

Sample Name: Q1680-01A Acquired: 4/3/2025 13:32:40 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6352993	2.790792	7.951289	F 12.79386	F 17.18317	.4716936
Stddev	.0049481	.017302	.012722	.09539	.10148	.0014961
%RSD	.7788571	.6199527	.1599957	.7456056	.5905912	.3171731
#1	.6296757	2.806259	7.945169	12.69784	17.06732	.4733787
#2	.6372364	2.794010	7.942784	12.79515	17.22580	.4705215
#3	.6389857	2.772107	7.965915	12.88861	17.25638	.4711805

Elem	Sr4077
Units	ppm
Avg	.0963124
Stddev	.0015002
%RSD	1.557680
#1	.0980217
#2	.0957019
#3	.0952137

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3446.000	81631.44	19036.95	2194.715	4523.341
Stddev	8.561	155.22	98.72	4.195	20.142
%RSD	.2484288	.1901443	.5185571	.1911408	.4452809
#1	3455.723	81808.93	18987.18	2196.190	4546.181
#2	3442.682	81564.27	18973.01	2189.981	4515.721
#3	3439.594	81521.12	19150.64	2197.973	4508.122

Sample Name: Q1681-01 Acquired: 4/3/2025 13:40:57 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0472637	.0107258	.1686680	-.037290	-.005335	106.3245	1.248532
Stddev	.0006667	.0021797	.0008712	.002156	.001420	.0893	.004147
%RSD	1.410676	20.32231	.5165076	5.782417	26.60750	.0839777	.3321865
#1	.0480267	.0091681	.1689121	-.034813	-.006401	106.4164	1.250444
#2	.0469715	.0097925	.1677008	-.038306	-.005881	106.2381	1.243774
#3	.0467930	.0132168	.1693911	-.038750	-.003724	106.3190	1.251379
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0115954	.0009957	25.84186	.2260825	.0921107	.2876200	224.8972
Stddev	.0000935	.0002617	.04399	.0012367	.0006985	.0007260	1.4038
%RSD	.8063694	26.28592	.1702153	.5470303	.7583619	.2524216	.6242108
#1	.0116867	.0007358	25.87706	.2268630	.0923665	.2881857	225.7022
#2	.0114999	.0012592	25.79255	.2246566	.0913203	.2868014	223.2762
#3	.0115995	.0009921	25.85596	.2267281	.0926453	.2878729	225.7132
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.291268	30.17455	.2032969	-.001819	7.180498	.2792101	.5097311
Stddev	.010703	.07684	.0008962	.000299	.045982	.0009043	.0024511
%RSD	.3251993	.2546431	.4408331	16.45674	.6403719	.3238686	.4808669
#1	3.295534	30.08583	.2029824	-.001503	7.212955	.2781933	.5097393
#2	3.279090	30.21865	.2026004	-.001856	7.127879	.2799243	.5072759
#3	3.299181	30.21919	.2043080	-.002098	7.200660	.2795125	.5121781
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.180188	.3743106	.0033339	.0014623	2.213095	6.136311	6.464187
Stddev	.055939	.0042510	.0003132	.0020086	.007158	.021659	.021464
%RSD	.6093404	1.135689	9.394111	137.3549	.3234583	.3529566	.3320481
#1	9.237800	.3764108	.0029723	.0014190	2.220787	6.144596	6.488862
#2	9.126088	.3694182	.0035186	.0034923	2.206629	6.111733	6.449833
#3	9.176677	.3771027	.0035107	-.000524	2.211867	6.152603	6.453866

Sample Name: Q1681-01 Acquired: 4/3/2025 13:40:57 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7532908	.2394258	-.064693
Stddev	.0043048	.0009061	.000888
%RSD	.5714638	.3784474	1.373208
#1	.7575481	.2389004	-.065387
#2	.7533844	.2389051	-.063692
#3	.7489400	.2404721	-.065001

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3608.152	85249.77	18397.69	2360.175	4681.309
Stddev	2.792	158.88	39.63	8.772	5.572
%RSD	.0773678	.1863646	.2154328	.3716798	.1190165
#1	3610.072	85139.41	18423.64	2360.753	4680.331
#2	3609.434	85431.87	18352.07	2368.644	4687.304
#3	3604.949	85178.04	18417.37	2351.128	4676.291

Sample Name: Q1503-07DLX10 Acquired: 4/3/2025 13:45:04 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0028650	.0011394	-.000283	-.000487	.0000939	.0136847	-.005589
Stddev	.0003061	.0010883	.001512	.000381	.0010022	.0031335	.001086
%RSD	10.68577	95.51325	535.2536	78.28389	1067.550	22.89778	19.42694
#1	.0028478	.0015378	.001395	-.000604	-.000431	.0111296	-.005651
#2	.0025678	.0019723	-.001541	-.000061	.001250	.0127436	-.004474
#3	.0031794	-.000092	-.000702	-.000796	-.000537	.0171808	-.006643
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001259	-.000008	.0045577	-.000193	-.000206	.0000266	.0261728
Stddev	.0000561	.000042	.0039531	.000164	.000161	.0004125	.0035987
%RSD	44.58310	553.1085	86.73364	84.78308	77.94084	1551.576	13.74962
#1	.0000854	-.000038	.0016380	-.000004	-.000027	-.000440	.0295913
#2	.0001900	-.000025	.0029790	-.000285	-.000337	.000179	.0265094
#3	.0001023	.000040	.0090562	-.000291	-.000255	.000342	.0224177
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001850	-.006408	-.000055	.0002938	16.09095	-.000467	-.000408
Stddev	.000379	.011694	.000113	.0001785	.04355	.000631	.000308
%RSD	20.50738	182.5101	206.6633	60.75183	.2706196	135.1372	75.55914
#1	-.001509	-.015415	.000045	.0003059	16.08646	-.000097	-.000738
#2	-.002258	-.010616	-.000032	.0001095	16.04982	-.001195	-.000361
#3	-.001783	.006809	-.000178	.0004659	16.13657	-.000109	-.000126
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.057796	-.002835	-.000241	-.001823	.0013201	9.298560	-.000963
Stddev	.018530	.000159	.000372	.000247	.0004105	.019454	.002267
%RSD	32.06079	5.609533	154.5333	13.52812	31.09491	.2092194	235.5066
#1	-.065674	-.002704	-.000187	-.001846	.0008642	9.312721	-.000598
#2	-.036629	-.002789	-.000636	-.001565	.0014356	9.276378	.001100
#3	-.071085	-.003012	.000102	-.002057	.0016605	9.306583	-.003391

Sample Name: Q1503-07DLX10 Acquired: 4/3/2025 13:45:04 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.000805	-.002608	.0000298
Stddev	.002631	.001024	.0000292
%RSD	326.8342	39.26737	98.11230
#1	-.001245	-.002554	.0000015
#2	-.003188	-.003657	.0000279
#3	.002018	-.001612	.0000599

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3226.536	75240.21	17547.43	2092.194	5225.906
Stddev	14.566	143.68	47.56	5.866	22.069
%RSD	.4514450	.1909683	.2710129	.2803899	.4223028
#1	3224.566	75380.89	17598.23	2094.101	5221.739
#2	3241.986	75246.04	17503.97	2096.869	5249.762
#3	3213.055	75093.70	17540.09	2085.611	5206.218

Sample Name: Q1688-01 Acquired: 4/3/2025 13:49:23 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0411453	-.004046	.3194873	-.027056	-.003616	117.5886	.6426014
Stddev	.0010174	.000829	.0009325	.002698	.001700	.0327	.0011029
%RSD	2.472605	20.49403	.2918878	9.973049	46.99679	.0277968	.1716258

#1	.0405828	-.003696	.3204830	-.029687	-.003354	117.6264	.6415700
#2	.0423197	-.004992	.3186344	-.024295	-.005432	117.5690	.6424702
#3	.0405334	-.003449	.3193447	-.027184	-.002063	117.5706	.6437640

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0070025	-.001653	40.63922	.2055266	.1158837	.3307252	226.6963
Stddev	.0002141	.000271	.05830	.0003989	.0004562	.0003093	.4944
%RSD	3.057488	16.39584	.1434552	.1941085	.3936911	.0935126	.2181103

#1	.0068263	-.001824	40.57987	.2052583	.1159155	.3305321	226.7470
#2	.0072407	-.001340	40.69641	.2053364	.1154124	.3305616	226.1784
#3	.0069403	-.001794	40.64138	.2059850	.1163231	.3310819	227.1634

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.837576	45.33457	.2025701	.0018564	8.204007	.3806409	.4912927
Stddev	.003140	.02241	.0003482	.0003285	.035699	.0007508	.0028012
%RSD	.1106661	.0494283	.1718948	17.69796	.4351384	.1972409	.5701582

#1	2.834348	45.32564	.2026925	.0014778	8.214651	.3814186	.4881553
#2	2.837758	45.36007	.2021773	.0020664	8.164197	.3805837	.4935427
#3	2.840621	45.31801	.2028407	.0020250	8.233174	.3799203	.4921800

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.60802	.4507834	.0029932	.0013918	4.432774	4.685610	6.289923
Stddev	.03423	.0008617	.0004227	.0010342	.006920	.038731	.024080
%RSD	.2949049	.1911564	14.12115	74.30747	.1561144	.8266041	.3828335

#1	11.61436	.4512526	.0025554	.0002966	4.424957	4.675344	6.266358
#2	11.57105	.4497889	.0030255	.0023517	4.435245	4.653046	6.288924
#3	11.63863	.4513086	.0033989	.0015272	4.438119	4.728441	6.314486

Sample Name: Q1688-01 Acquired: 4/3/2025 13:49:23 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	3.743573	.1965058	-.065303
Stddev	.012066	.0001325	.000401
%RSD	.3223199	.0674319	.6137148
#1	3.745418	.1965978	-.065488
#2	3.730691	.1963539	-.064843
#3	3.754611	.1965656	-.065577

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3420.953	82388.21	20313.30	2223.621	4505.805
Stddev	27.895	250.25	73.58	5.867	29.091
%RSD	.8154080	.3037505	.3622121	.2638423	.6456252
#1	3444.186	82107.30	20262.35	2217.380	4529.323
#2	3390.016	82587.37	20279.90	2224.460	4473.275
#3	3428.656	82469.96	20397.66	2229.023	4514.818

Sample Name: CCV02 Acquired: 4/3/2025 13:53:29 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	5.026586	5.011857	4.864521	5.060790	5.081995	9.620208	9.402689
Stddev	.034155	.060879	.009961	.019059	.019741	.158681	.132653
%RSD	.6794794	1.214709	.2047768	.3766003	.3884435	1.649453	1.410798
#1	5.023880	4.954013	4.856038	5.061926	5.085011	9.727131	9.478826
#2	4.993865	5.006184	4.862034	5.041189	5.060919	9.437885	9.249516
#3	5.062013	5.075375	4.875490	5.079256	5.100054	9.695606	9.479726
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2280278	2.413933	23.21983	.9948982	2.418769	1.261028	4.863199
Stddev	.0017528	.006389	.36667	.0020596	.006167	.003544	.026179
%RSD	.7686774	.2646851	1.579122	.2070152	.2549828	.2810142	.5383015
#1	.2286008	2.408340	23.42072	.9927613	2.412743	1.262167	4.889932
#2	.2260602	2.412561	22.79662	.9968706	2.418495	1.257055	4.837613
#3	.2294224	2.420896	23.44215	.9950627	2.425069	1.263862	4.862051
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.256655	22.85514	2.418725	1.230241	25.62590	2.354660	2.490359
Stddev	.040296	.27046	.007391	.001689	.24466	.037423	.006369
%RSD	1.785671	1.183371	.3055858	.1372908	.9547514	1.589320	.2557564
#1	2.285557	22.88767	2.413974	1.228899	25.87777	2.378384	2.483485
#2	2.210624	22.56988	2.414961	1.229687	25.38915	2.311519	2.491531
#3	2.273785	23.10786	2.427241	1.232137	25.61077	2.374077	2.496061
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.76801	4.546981	5.030336	4.868435	4.645497	5.076413	4.716265
Stddev	.22017	.038655	.017377	.018359	.083632	.028272	.027197
%RSD	.8889485	.8501231	.3454532	.3771044	1.800278	.5569246	.5766693
#1	24.97242	4.557251	5.022787	4.855286	4.705207	5.094701	4.693112
#2	24.53489	4.504228	5.018010	4.860607	4.549913	5.043850	4.709468
#3	24.79673	4.579464	5.050212	4.889410	4.681371	5.090687	4.746217

Sample Name: CCV02 Acquired: 4/3/2025 13:53:29 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV02 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.831397	4.666906	4.737870
Stddev	.024681	.095540	.055373
%RSD	.5108357	2.047173	1.168737
#1	4.814733	4.744391	4.774509
#2	4.819708	4.560157	4.674170
#3	4.859751	4.696169	4.764932

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3050.717	72491.96	16665.27	1950.642	4713.197
Stddev	11.357	234.49	214.43	12.921	15.693
%RSD	.3722820	.3234757	1.286696	.6624127	.3329509
#1	3047.859	72335.60	16567.13	1947.040	4715.694
#2	3063.231	72761.59	16911.21	1964.983	4727.491
#3	3041.063	72378.71	16517.48	1939.905	4696.405

Sample Name: CCB02 Acquired: 4/3/2025 13:57:40 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0004309	-.000545	.0008414	-.001939	-.000713	-.002661	-.006254
Stddev	.0010600	.001315	.0003947	.000549	.000435	.003509	.000767
%RSD	245.9840	241.0722	46.91210	28.31434	61.07519	131.8989	12.26930
#1	.0015389	-.002004	.0004724	-.002447	-.000698	.001385	-.005496
#2	-.000573	.000548	.0007943	-.001357	-.000285	-.004891	-.007030
#3	.000327	-.000181	.0012576	-.002012	-.001155	-.004476	-.006236
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000782	-.000012	.0033358	.0000167	-.000124	.0001232	-.001117
Stddev	.0000049	.000038	.0039604	.0004035	.000213	.0002780	.002651
%RSD	6.213901	319.6173	118.7237	2416.565	171.7083	225.6590	237.2909
#1	.0000836	-.000003	.0034734	-.000125	.000119	.0001451	.001933
#2	.0000768	-.000054	.0072257	-.000297	-.000279	-.000165	-.002413
#3	.0000742	.000021	-.000692	.000472	-.000212	.000390	-.002872
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002169	-.008849	-.000167	.0003341	-.002161	-.000281	-.000210
Stddev	.000129	.006881	.000105	.0001381	.003119	.000908	.000199
%RSD	5.967072	77.75362	62.67178	41.32797	144.3352	323.3777	94.93149
#1	-.002026	-.004279	-.000282	.0002936	.001394	.000710	-.000245
#2	-.002203	-.005506	-.000078	.0002208	-.003437	-.000480	.000005
#3	-.002279	-.016763	-.000142	.0004879	-.004438	-.001072	-.000389
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.023981	.0025070	.0003499	-.002192	.0011078	.0064603	.0000277
Stddev	.016122	.0004786	.0001180	.000106	.0003195	.0020633	.0002319
%RSD	67.22935	19.08857	33.72076	4.815799	28.84262	31.93811	837.1044
#1	-.032088	.0027793	.0004839	-.002084	.0008855	.0067427	-.000214
#2	-.034441	.0019545	.0003044	-.002295	.0014740	.0042704	.000249
#3	-.005414	.0027874	.0002615	-.002197	.0009639	.0083679	.000048

Sample Name: CCB02 Acquired: 4/3/2025 13:57:40 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.000971	-.002422	.0002405
Stddev	.003210	.000640	.0000085
%RSD	330.4602	26.43873	3.529501

#1	-.002592	-.003057	.0002457
#2	-.003049	-.002433	.0002450
#3	.002726	-.001776	.0002307

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3247.236	75140.84	17318.81	2066.573	5375.125
Stddev	16.217	80.34	70.77	6.125	23.967
%RSD	.4993957	.1069207	.4086376	.2963977	.4458927

#1	3239.967	75204.99	17268.92	2068.337	5356.878
#2	3235.926	75166.79	17287.70	2059.759	5366.230
#3	3265.816	75050.72	17399.81	2071.623	5402.269

Sample Name: PB167411BL Acquired: 4/3/2025 14:02:00 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.000050	.0000110	-.000270	-.001663	.0008745	-.003525	-.005582
Stddev	.000776	.0021572	.000216	.001761	.0006285	.002357	.000410
%RSD	1543.057	19522.89	80.19249	105.8895	71.87174	66.86029	7.343448
#1	.000416	.0024781	-.000291	-.003520	.0001516	-.002250	-.005602
#2	.000379	-.001520	-.000474	-.001452	.0012915	-.006244	-.005982
#3	-.000946	-.000925	-.000044	-.000017	.0011806	-.002080	-.005163
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000906	.0000433	.0046954	.0000191	-.000088	.0000982	-.001457
Stddev	.0000471	.0000411	.0026640	.0001997	.000056	.0001190	.001476
%RSD	51.93501	94.87135	56.73755	1045.143	64.18560	121.1548	101.2909
#1	.0001450	.0000861	.0062374	-.000054	-.000045	.0001101	-.002836
#2	.0000644	.0000394	.0016192	-.000134	-.000152	-.000026	.000100
#3	.0000626	.0000043	.0062295	.000245	-.000066	.000211	-.001636
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002201	-.014200	-.000230	.0001989	-.008799	.0000978	-.000331
Stddev	.000363	.005485	.000191	.0002860	.003425	.0013559	.000170
%RSD	16.47010	38.62827	83.00813	143.8088	38.92893	1386.764	51.20455
#1	-.002608	-.008026	-.000394	-.000066	-.012657	-.001468	-.000502
#2	-.002085	-.016063	-.000275	.000502	-.007623	.000855	-.000330
#3	-.001911	-.018511	-.000021	.000161	-.006116	.000906	-.000163
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.029306	-.000521	.0000347	-.001862	.0010203	-.003028	-.000169
Stddev	.006796	.000443	.0000105	.000285	.0003293	.005689	.001890
%RSD	23.18883	85.03104	30.10517	15.29823	32.27728	187.8641	1115.441
#1	-.037095	-.000109	.0000275	-.002102	.0010683	-.002887	-.001523
#2	-.024585	-.000990	.0000467	-.001936	.0006696	-.008787	.001990
#3	-.026238	-.000464	.0000300	-.001547	.0013230	.002589	-.000974

Sample Name: PB167411BL Acquired: 4/3/2025 14:02:00 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.001685	-.002799	.0000540
Stddev	.002976	.000402	.0000151
%RSD	176.6183	14.37757	27.89803

#1	-.001075	-.002541	.0000486
#2	-.004918	-.002595	.0000423
#3	.000939	-.003263	.0000710

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3240.007	76388.27	17085.81	2115.919	5322.499
Stddev	.388	57.26	143.47	7.419	3.887
%RSD	.0119902	.0749533	.8396996	.3506506	.0730389

#1	3239.896	76454.18	17068.76	2112.524	5322.819
#2	3240.439	76359.74	16951.63	2110.805	5318.461
#3	3239.686	76350.88	17237.05	2124.429	5326.217

Sample Name: PB167411BS Acquired: 4/3/2025 14:06:20 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7662961	2.014947	.9240744	1.946621	.7998838	1.833676
Stddev	.0036595	.019215	.0040909	.012311	.0066907	.007741
%RSD	.4775611	.9536398	.4427017	.6324235	.8364605	.4221415

#1	.7654456	2.010325	.9203335	1.944009	.7964889	1.825626
#2	.7631368	1.998464	.9234471	1.935825	.7955711	1.841065
#3	.7703060	2.036051	.9284428	1.960028	.8075914	1.834339

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1726690	.1822511	.1846346	.9074171	.3955154	.1877266
Stddev	.0009043	.0013422	.0010494	.0011726	.0013871	.0008504
%RSD	.5236949	.7364707	.5683432	.1292280	.3506965	.4529993

#1	.1729582	.1837388	.1841608	.9069508	.3970895	.1876510
#2	.1716555	.1811309	.1839056	.9087512	.3944720	.1869165
#3	.1733932	.1818837	.1858373	.9065494	.3949849	.1886123

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3060026	2.842975	.1795011	1.795036	.4725589	.0732096
Stddev	.0010934	.018325	.0009084	.006351	.0032254	.0006462
%RSD	.3573347	.6445720	.5060477	.3538217	.6825361	.8827167

#1	.3047484	2.834220	.1802845	1.802326	.4719363	.0739443
#2	.3065042	2.830669	.1785054	1.790696	.4696902	.0727290
#3	.3067553	2.864035	.1797135	1.792086	.4760502	.0729555

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.890326	.2773166	.1980561	9.178566	.2725695	.4001580
Stddev	.020304	.0013676	.0023277	.044299	.0031528	.0019457
%RSD	.7024880	.4931491	1.175258	.4826368	1.156683	.4862311

#1	2.870411	.2782948	.2003235	9.127551	.2760373	.3991587
#2	2.910998	.2757539	.1956725	9.207321	.2717951	.3989151
#3	2.889569	.2779011	.1981724	9.200826	.2698761	.4024003

Sample Name: PB167411BS Acquired: 4/3/2025 14:06:20 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6559194	.1814225	.7692706	5.391343	F -.010905	.1868618
Stddev	.0036699	.0008517	.0100660	.045082	.001163	.0005720
%RSD	.5595064	.4694318	1.308517	.8361871	10.66088	.3061023
#1	.6545929	.1821022	.7722301	5.359881	-.011917	.1873877
#2	.6530973	.1804672	.7580566	5.371158	-.011162	.1869448
#3	.6600682	.1816982	.7775251	5.442990	-.009635	.1862528

Elem	Sr4077
Units	ppm
Avg	.1807999
Stddev	.0004387
%RSD	.2426218
#1	.1809389
#2	.1811521
#3	.1803085

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3177.958	75602.14	16903.47	2062.831	5134.132
Stddev	15.644	389.45	141.80	15.333	21.241
%RSD	.4922661	.5151308	.8388609	.7433151	.4137241
#1	3194.547	75246.69	16763.29	2050.863	5156.774
#2	3163.472	76018.43	17046.83	2080.115	5114.645
#3	3175.857	75541.29	16900.30	2057.516	5130.977

Sample Name: Q1690-01 Acquired: 4/3/2025 14:10:23 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0032180	-.004843	.0604208	-.002774	.0040401	4.352180
Stddev	.0032598	.001793	.0013888	.001843	.0021639	.012197
%RSD	101.2981	37.01657	2.298589	66.43005	53.56076	.2802590
#1	-.000532	-.006804	.0591973	-.002793	.0020454	4.358263
#2	.005379	-.003289	.0619304	-.004607	.0063407	4.360140
#3	.004807	-.004436	.0601346	-.000922	.0037342	4.338138
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2581552	.0001946	.0002139	81.60582	.0121839	.0028118
Stddev	.0005577	.0001147	.0000281	.16969	.0003843	.0002681
%RSD	.2160344	58.92363	13.14993	.2079356	3.153827	9.533305
#1	.2576601	.0002375	.0001851	81.44180	.0117634	.0031205
#2	.2580462	.0002817	.0002153	81.59500	.0125168	.0026775
#3	.2587594	.0000647	.0002413	81.78065	.0122715	.0026375
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0502048	9.205765	.4777000	9.332732	.0129867	.0006781
Stddev	.0001396	.060669	.0015653	.013168	.0001717	.0000225
%RSD	.2780336	.6590375	.3276832	.1410935	1.321969	3.319109
#1	.0503553	9.137756	.4764545	9.319234	.0131698	.0006556
#2	.0500796	9.254324	.4771882	9.333419	.0128294	.0006782
#3	.0501796	9.225215	.4794571	9.345542	.0129608	.0007006
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	66.67770	.0140719	.1710246	5.217971	.1421999	.0044470
Stddev	.48757	.0013301	.0016397	.057850	.0012195	.0001205
%RSD	.7312401	9.452000	.9587807	1.108663	.8576057	2.710476
#1	66.17627	.0154726	.1691758	5.151955	.1407976	.0044665
#2	67.15012	.0139168	.1723031	5.259809	.1430120	.0043180
#3	66.70672	.0128261	.1715947	5.242149	.1427902	.0045567

Sample Name: Q1690-01 Acquired: 4/3/2025 14:10:23 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0018919	.1903323	F 14.09458	.6608882	6.018766	-.002352
Stddev	.0004872	.0003097	.09820	.0003034	.016826	.000934
%RSD	25.75047	.1627217	.6967121	.0459121	.2795507	39.73311
#1	.0024329	.1899926	13.98227	.6605664	5.999880	-.001924
#2	.0014880	.1904051	14.16427	.6611691	6.032156	-.001707
#3	.0017546	.1905991	14.13720	.6609291	6.024263	-.003423

Elem	Sr4077
Units	ppm
Avg	.3953450
Stddev	.0003472
%RSD	.0878177
#1	.3951124
#2	.3957441
#3	.3951786

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2976.051	71307.68	17404.05	1886.435	4742.406
Stddev	12.317	632.07	36.74	11.082	12.269
%RSD	.4138572	.8863992	.2111262	.5874314	.2587142
#1	2979.671	72011.90	17445.96	1891.462	4743.029
#2	2962.330	70789.53	17377.37	1873.731	4729.836
#3	2986.151	71121.62	17388.81	1894.112	4754.351

Sample Name: Q1707-01 Acquired: 4/3/2025 14:15:08 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0008410	-.000180	.0262646	-.004072	.0010474	2.392351
Stddev	.0013115	.000807	.0002390	.001936	.0021581	.015134
%RSD	155.9585	448.9085	.9098878	47.55719	206.0498	.6326170
#1	.0023489	.000317	.0263743	-.003264	.0032952	2.382189
#2	-.000034	-.001111	.0264291	-.002670	-.001008	2.409745
#3	.000208	.000255	.0259905	-.006281	.000855	2.385120
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0632400	.0004028	-.000305	F 99.20573	.0086469	.0032124
Stddev	.0008215	.0000300	.000038	.04470	.0001506	.0002921
%RSD	1.299102	7.437778	12.42426	.0450594	1.741618	9.091409
#1	.0631993	.0004098	-.000261	99.23888	.0086504	.0028923
#2	.0640812	.0004287	-.000324	99.22341	.0084946	.0034643
#3	.0624396	.0003700	-.000329	99.15489	.0087957	.0032806
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0534846	F 13.79537	.3699833	14.78816	.0112859	.0005467
Stddev	.0003174	.09899	.0014027	.06272	.0000376	.0001662
%RSD	.5933602	.7175437	.3791346	.4241506	.3332643	30.40135
#1	.0535038	13.71472	.3693409	14.72652	.0112514	.0005004
#2	.0531581	13.76554	.3715922	14.78605	.0113260	.0007311
#3	.0537920	13.90584	.3690169	14.85191	.0112802	.0004085
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 174.9272	.0069298	.3761746	13.48120	.0825258	.0031088
Stddev	1.3192	.0001100	.0061103	.10619	.0002231	.0001947
%RSD	.7541423	1.587501	1.624336	.7876787	.2703221	6.262194
#1	174.3445	.0068699	.3722366	13.36412	.0823960	.0032459
#2	173.9996	.0070568	.3730735	13.50817	.0823979	.0031946
#3	176.4374	.0068628	.3832137	13.57129	.0827834	.0028860

Sample Name: Q1707-01 Acquired: 4/3/2025 14:15:08 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.004467	.1394258	F 16.28223	1.424170	7.699593	.0018410
Stddev	.000645	.0005519	.14702	.011117	.026574	.0002789
%RSD	14.44466	.3958639	.9029729	.7805743	.3451399	15.14837
#1	-.005022	.1391035	16.12297	1.413764	7.701135	.0015287
#2	-.003759	.1391109	16.31093	1.422865	7.672281	.0019291
#3	-.004620	.1400631	16.41279	1.435882	7.725362	.0020653

Elem	Sr4077
Units	ppm
Avg	.3035555
Stddev	.0010528
%RSD	.3468193
#1	.3033960
#2	.3046789
#3	.3025915

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2895.829	70315.52	17314.93	1857.092	4463.251
Stddev	8.833	721.83	28.11	29.076	15.815
%RSD	.3050335	1.026552	.1623348	1.565675	.3543389
#1	2904.549	70858.54	17324.20	1879.634	4478.383
#2	2896.052	70591.63	17337.24	1867.369	4464.538
#3	2886.887	69496.40	17283.36	1824.273	4446.832

Sample Name: Q1707-02 Acquired: 4/3/2025 14:19:29 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0025748	-.000589	.0309719	-.002871	.0037500	2.667776
Stddev	.0014239	.000382	.0006629	.001123	.0008112	.005700
%RSD	55.29990	64.93988	2.140363	39.12432	21.63243	.2136491
#1	.0025842	-.000278	.0306532	-.004140	.0044907	2.665258
#2	.0039939	-.001016	.0317340	-.002005	.0038761	2.674301
#3	.0011463	-.000472	.0305286	-.002468	.0028831	2.663768
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0664808	.0002987	-.000445	102.7574	.0087848	.0034927
Stddev	.0007036	.0000378	.000037	.0093	.0002530	.0001588
%RSD	1.058393	12.66158	8.387324	.0090353	2.879334	4.547671
#1	.0661261	.0003115	-.000448	102.7467	.0090765	.0034139
#2	.0660251	.0002561	-.000481	102.7639	.0086257	.0033886
#3	.0672912	.0003285	-.000407	102.7614	.0086523	.0036755
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0615035	14.46481	.3643007	16.08134	.0110498	.0004770
Stddev	.0001849	.07043	.0007775	.03886	.0002515	.0002933
%RSD	.3005895	.4869297	.2134139	.2416664	2.275633	61.48429
#1	.0612914	14.40233	.3643283	16.04255	.0112581	.0001994
#2	.0615885	14.45095	.3650639	16.12028	.0111209	.0004479
#3	.0616305	14.54114	.3635097	16.08120	.0107705	.0007838
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	180.9879	.0073465	.3852765	14.18436	.0857289	.0033608
Stddev	1.1132	.0007891	.0022975	.09353	.0005306	.0001251
%RSD	.6150762	10.74151	.5963338	.6594019	.6189641	3.723617
#1	179.7147	.0064388	.3847848	14.08475	.0853806	.0034191
#2	181.4713	.0078700	.3832647	14.19800	.0863396	.0032172
#3	181.7776	.0077306	.3877801	14.27032	.0854665	.0034462

Sample Name: Q1707-02 Acquired: 4/3/2025 14:19:29 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.001882	.1590529	F 18.16552	1.498617	9.134591	.0042870
Stddev	.000782	.0064845	.12746	.008919	.049911	.0011847
%RSD	41.57362	4.076955	.7016432	.5951332	.5464001	27.63400
#1	-.001940	.1602808	18.08842	1.490276	9.102987	.0030685
#2	-.002634	.1648357	18.09549	1.497556	9.108656	.0043578
#3	-.001072	.1520422	18.31264	1.508019	9.192131	.0054347

Elem	Sr4077
Units	ppm
Avg	.3169124
Stddev	.0001689
%RSD	.0532812
#1	.3168737
#2	.3170973
#3	.3167663

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2875.978	69511.49	17186.59	1857.159	4423.343
Stddev	2.725	177.66	73.16	11.655	7.428
%RSD	.0947472	.2555823	.4256579	.6275571	.1679342
#1	2872.881	69714.50	17149.45	1869.375	4429.752
#2	2878.008	69384.40	17139.46	1855.940	4425.076
#3	2877.046	69435.59	17270.87	1846.161	4415.202

Sample Name: Q1690-01DUP Acquired: 4/3/2025 14:23:49 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0035818	-.004943	.0592382	-.002952	.0034724	4.603194
Stddev	.0022287	.001146	.0009607	.002179	.0017498	.007076
%RSD	62.22215	23.19140	1.621833	73.80409	50.39153	.1537300
#1	.0033062	-.005135	.0602280	-.000639	.0027648	4.603764
#2	.0059355	-.005981	.0591773	-.003250	.0021872	4.609968
#3	.0015038	-.003713	.0583094	-.004966	.0054651	4.595850
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2615078	.0002751	.0002756	81.28087	.0121997	.0028684
Stddev	.0007143	.0000333	.0000634	.40665	.0004324	.0003760
%RSD	.2731280	12.09410	22.99969	.5002973	3.544049	13.10726
#1	.2611886	.0003107	.0003414	80.91386	.0124988	.0032972
#2	.2623260	.0002698	.0002150	81.71803	.0117039	.0025953
#3	.2610089	.0002448	.0002705	81.21072	.0123963	.0027127
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0496556	9.065767	.4823826	9.363222	.0127369	.0003609
Stddev	.0002517	.072665	.0011444	.064740	.0000453	.0002286
%RSD	.5068982	.8015281	.2372334	.6914338	.3557753	63.33242
#1	.0498040	8.982871	.4812156	9.322105	.0127618	.0004024
#2	.0493649	9.095974	.4835030	9.437849	.0126846	.0001145
#3	.0497977	9.118456	.4824292	9.329712	.0127644	.0005659
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	64.45136	.0153046	.1708531	5.160783	.1427168	.0041673
Stddev	.28723	.0001697	.0021832	.035545	.0010862	.0003086
%RSD	.4456616	1.108719	1.277826	.6887566	.7611132	7.406128
#1	64.23801	.0154969	.1684393	5.128138	.1414934	.0042583
#2	64.33812	.0151758	.1714305	5.155560	.1430886	.0038234
#3	64.77795	.0152412	.1726897	5.198651	.1435682	.0044202

Sample Name: Q1690-01DUP Acquired: 4/3/2025 14:23:49 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0023004	.2121758	F 14.36773	.6642462	5.985055	-.002269
Stddev	.0008136	.0032827	.04009	.0041617	.009080	.000453
%RSD	35.36613	1.547151	.2790083	.6265295	.1517116	19.97450
#1	.0014812	.2095050	14.33413	.6645861	5.991337	-.002531
#2	.0031082	.2111818	14.35695	.6599250	5.989184	-.002531
#3	.0023119	.2158406	14.41210	.6682275	5.974644	-.001746

Elem	Sr4077
Units	ppm
Avg	.3963217
Stddev	.0010278
%RSD	.2593349
#1	.3951841
#2	.3965976
#3	.3971833

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3013.057	72729.77	17128.66	1918.084	4781.810
Stddev	8.045	163.83	90.28	14.804	12.107
%RSD	.2669922	.2252534	.5270637	.7718336	.2531968
#1	3004.253	72852.60	17114.74	1925.228	4767.860
#2	3014.895	72543.76	17046.15	1901.062	4789.578
#3	3020.025	72792.94	17225.09	1927.961	4787.994

Sample Name: Q1690-01LX5 Acquired: 4/3/2025 14:28:02 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0000820	-.001836	.0123281	-.000560	-.000138	.9592642	.0490643
Stddev	.0011187	.001830	.0007476	.001922	.001201	.0074538	.0012771
%RSD	1364.429	99.65485	6.064029	343.3144	869.7974	.7770300	2.602953
#1	.0011686	-.000595	.0125648	.001545	.001101	.9588778	.0498566
#2	.0001438	-.000976	.0114908	-.002220	-.001296	.9669036	.0475910
#3	-.001066	-.003937	.0129286	-.001004	-.000220	.9520111	.0497454
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001119	.0000587	16.91174	.0024568	.0003815	.0105572	1.911095
Stddev	.0000566	.0000010	.02849	.0003801	.0000391	.0003112	.010018
%RSD	50.57864	1.632319	.1684579	15.46951	10.24408	2.948041	.5242092
#1	.0000694	.0000586	16.94401	.0021531	.0003559	.0101978	1.919625
#2	.0000902	.0000578	16.89008	.0023343	.0004265	.0107306	1.900063
#3	.0001762	.0000597	16.90113	.0028830	.0003621	.0107430	1.913597
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0992659	1.964133	.0025765	.0003906	12.94429	.0023887	.0347529
Stddev	.0004538	.015744	.0000318	.0000803	.00947	.0017246	.0002181
%RSD	.4571621	.8015942	1.235515	20.54628	.0731395	72.19654	.6275186
#1	.0997509	1.961711	.0025476	.0003602	12.93682	.0028333	.0348616
#2	.0988516	1.980947	.0026106	.0004816	12.95494	.0004854	.0348954
#3	.0991953	1.949739	.0025712	.0003300	12.94111	.0038475	.0345019
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9905208	.0291876	.0006508	-.001563	.0447167	3.012234	.1373573
Stddev	.0194834	.0005512	.0002119	.001134	.0008784	.012522	.0035670
%RSD	1.966990	1.888619	32.56154	72.55548	1.964352	.4157066	2.596837
#1	1.008072	.0289922	.0006508	-.002765	.0457306	2.998155	.1335445
#2	.993935	.0287607	.0008627	-.001413	.0441845	3.022126	.1406127
#3	.969556	.0298100	.0004389	-.000512	.0442352	3.016421	.1379148

Sample Name: Q1690-01LX5 Acquired: 4/3/2025 14:28:02 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	1.267154	-.000561	.0799871
Stddev	.001545	.000497	.0002112
%RSD	.1219025	88.59373	.2640973
#1	1.265695	-.000945	.0801530
#2	1.266994	.000000	.0800589
#3	1.268772	-.000739	.0797493

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3136.688	73938.44	17381.22	2010.103	5037.409
Stddev	6.772	25.17	32.58	1.835	10.136
%RSD	.2158951	.0340407	.1874651	.0912677	.2012048
#1	3144.349	73909.37	17364.14	2008.052	5045.587
#2	3131.498	73953.17	17360.73	2011.587	5040.572
#3	3134.219	73952.76	17418.79	2010.669	5026.070

Sample Name: Q1692-01 Acquired: 4/3/2025 14:35:36 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.1102919	.0060026	.3812167	-.044155	-.004457	77.75448	.6776497
Stddev	.0015149	.0026127	.0013248	.002556	.002894	.25761	.0013617
%RSD	1.373579	43.52595	.3475260	5.789133	64.93108	.3313093	.2009511
#1	.1117396	.0079009	.3825018	-.046557	-.006129	77.52827	.6768172
#2	.1104184	.0030228	.3798554	-.044440	-.006126	77.70031	.6769107
#3	.1087177	.0070841	.3812930	-.041468	-.001115	78.03487	.6792212
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0079051	-.004092	145.5917	.2209553	.1044355	.2563260	277.9275
Stddev	.0001389	.000345	.5858	.0011395	.0002800	.0017510	1.0866
%RSD	1.757730	8.436801	.4023284	.5157192	.2681246	.6831161	.3909537
#1	.0080643	-.004379	145.1099	.2210681	.1041174	.2547020	278.3014
#2	.0078425	-.004188	145.4214	.2220342	.1046448	.2560949	278.7777
#3	.0078084	-.003709	146.2437	.2197636	.1045443	.2581811	276.7033
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.216238	77.34695	.1674606	.0012257	5.976269	.5189096	.5762558
Stddev	.009922	.26811	.0002846	.0002974	.033071	.0005845	.0027429
%RSD	.3084990	.3466355	.1699680	24.26029	.5533640	.1126414	.4759860
#1	3.208195	77.12682	.1674251	.0009888	5.958447	.5182416	.5794198
#2	3.213194	77.26849	.1671953	.0015594	6.014427	.5191596	.5747989
#3	3.227326	77.64554	.1677613	.0011289	5.955931	.5193275	.5745489
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.24021	.5321797	.0060728	.0074364	2.964168	6.378130	4.915546
Stddev	.05119	.0026284	.0001853	.0014014	.007910	.015787	.020120
%RSD	.3866607	.4938850	3.051090	18.84571	.2668633	.2475145	.4093046
#1	13.23107	.5328105	.0062707	.0083855	2.957524	6.359972	4.895254
#2	13.29535	.5344352	.0060442	.0058267	2.962061	6.385818	4.915895
#3	13.19419	.5292933	.0059035	.0080969	2.972918	6.388600	4.935489

Sample Name: Q1692-01 Acquired: 4/3/2025 14:35:36 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	5.369440	.2454172	.1062635
Stddev	.035384	.0009067	.0017484
%RSD	.6589818	.3694541	1.645302
#1	5.332313	.2454311	.1050079
#2	5.373230	.2463168	.1055222
#3	5.402775	.2445036	.1082604

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3210.775	77667.10	18825.15	2098.241	4389.330
Stddev	11.280	311.03	48.09	14.777	14.036
%RSD	.3513260	.4004654	.2554394	.7042611	.3197750
#1	3222.021	77487.46	18832.10	2081.311	4404.576
#2	3210.842	77487.58	18869.38	2104.860	4386.469
#3	3199.461	78026.24	18773.96	2108.551	4376.945

Sample Name: CCV03 Acquired: 4/3/2025 14:39:37 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	5.033493	5.201544	4.909182	5.077409	5.089616	9.766694	9.576879
Stddev	.018598	.025890	.009090	.020814	.025741	.044872	.046159
%RSD	.3694894	.4977405	.1851650	.4099296	.5057541	.4594378	.4819807

#1	5.017820	5.176365	4.902589	5.053917	5.065481	9.747302	9.525070
#2	5.028614	5.200175	4.919551	5.084763	5.086660	9.818001	9.613623
#3	5.054044	5.228091	4.905405	5.093549	5.116707	9.734780	9.591943

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2418184	2.441741	23.66938	1.006586	2.446034	1.272338	4.875425
Stddev	.0010372	.003688	.08721	.005932	.003974	.002915	.028382
%RSD	.4289262	.1510310	.3684560	.5893658	.1624578	.2290870	.5821428

#1	.2406212	2.438359	23.58032	.999752	2.442248	1.269549	4.866523
#2	.2423874	2.445673	23.75462	1.010411	2.450172	1.272100	4.907190
#3	.2424466	2.441192	23.67321	1.009595	2.445681	1.275364	4.852561

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.322938	23.89780	2.451844	1.249367	25.31449	2.409616	2.523161
Stddev	.008976	.11852	.003271	.005391	.21177	.006984	.016667
%RSD	.3863997	.4959344	.1334265	.4315370	.8365482	.2898468	.6605694

#1	2.317427	23.81865	2.449040	1.243781	25.25020	2.405998	2.506153
#2	2.333296	23.84071	2.455438	1.254540	25.55095	2.417667	2.539465
#3	2.318093	24.03406	2.451054	1.249782	25.14231	2.405184	2.523863

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.64349	4.795158	5.067990	4.934230	4.752821	5.065192	4.988206
Stddev	.22090	.021730	.018447	.008364	.027602	.034208	.005434
%RSD	.8964027	.4531569	.3639814	.1695026	.5807399	.6753448	.1089389

#1	24.64080	4.770069	5.050579	4.924628	4.744750	5.032554	4.991389
#2	24.86572	4.807998	5.066068	4.939925	4.783558	5.100778	4.991297
#3	24.42394	4.807407	5.087322	4.938137	4.730155	5.062245	4.981931

Sample Name: CCV03 Acquired: 4/3/2025 14:39:37 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.954749	4.800481	4.800381
Stddev	.004881	.046632	.014353
%RSD	.0985170	.9713928	.2989959
#1	4.950370	4.802317	4.809185
#2	4.960012	4.846168	4.783819
#3	4.953866	4.752959	4.808139

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3074.816	72261.47	16055.75	1983.966	4725.432
Stddev	10.631	206.23	26.36	7.731	8.413
%RSD	.3457419	.2853985	.1641881	.3896547	.1780374
#1	3084.415	72445.12	16085.96	1990.269	4734.587
#2	3076.643	72038.36	16037.37	1975.340	4723.669
#3	3063.390	72300.94	16043.94	1986.288	4718.040

Sample Name: CCB03 Acquired: 4/3/2025 14:43:48 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0012460	-.001010	.0010608	-.000773	-.000162	.0001522	-.005847
Stddev	.0005899	.002013	.0008889	.001260	.000800	.0048777	.000308
%RSD	47.34260	199.2096	83.79716	163.0537	494.1229	3204.208	5.267146
#1	.0017049	-.000540	.0010783	.000349	.000026	.0056105	-.005814
#2	.0014524	.000726	.0019408	-.000531	-.001039	-.001374	-.005557
#3	.0005806	-.003217	.0001632	-.002136	.000527	-.003780	-.006170
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001202	.0002570	.0124466	-.000026	.0002068	.0000141	.0016993
Stddev	.0000351	.0000565	.0020181	.000050	.0000828	.0002829	.0020176
%RSD	29.21399	21.97767	16.21443	191.4712	40.00888	2010.862	118.7276
#1	.0000866	.0003073	.0123623	-.000079	.0001218	.0002714	.0015091
#2	.0001174	.0002678	.0104719	-.000021	.0002871	.0000596	-.000216
#3	.0001567	.0001959	.0145055	.000021	.0002116	-.000289	.003805
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001614	-.004526	.0001034	.0003109	.0004473	.0011916	-.000074
Stddev	.000226	.004009	.0002823	.0002884	.0036774	.0001644	.000270
%RSD	14.03544	88.57215	272.9591	92.75435	822.1072	13.79534	363.9218
#1	-.001866	-.004697	.0000963	-.000004	.0038356	.0013782	.000221
#2	-.001427	-.000435	-.000175	.000375	-.003463	.0010684	-.000310
#3	-.001549	-.008447	.000389	.000562	.000970	.0011281	-.000134
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.023340	.0031903	.0007905	-.001829	.0028180	.0053736	-.000462
Stddev	.016961	.0004369	.0002685	.000193	.0000417	.0026398	.001240
%RSD	72.67121	13.69580	33.96993	10.54048	1.480498	49.12649	268.6615
#1	-.028201	.0031033	.0008604	-.002051	.0028662	.0080445	-.000941
#2	-.037340	.0028034	.0010172	-.001707	.0027937	.0027660	-.001391
#3	-.004479	.0036642	.0004940	-.001729	.0027942	.0053102	.000947

Sample Name: CCB03 Acquired: 4/3/2025 14:43:48 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0036889	-.000339	.0007154
Stddev	.0016854	.000382	.0001105
%RSD	45.68706	112.6383	15.44746

#1	.0019266	-.000060	.0008278
#2	.0052850	-.000774	.0007115
#3	.0038552	-.000183	.0006069

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3164.162	74262.06	16402.63	2014.861	5217.302
Stddev	13.952	320.34	39.34	13.286	26.969
%RSD	.4409372	.4313665	.2398231	.6594009	.5169170

#1	3168.998	73952.77	16375.86	1999.928	5226.144
#2	3175.053	74240.99	16447.80	2019.280	5238.740
#3	3148.436	74592.41	16384.24	2025.374	5187.021

Sample Name: Q1690-01MS Acquired: 4/3/2025 14:49:47 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7452875	1.770565	.8906585	1.803669	.7828944	5.841411
Stddev	.0040925	.006468	.0016476	.007198	.0013318	.006160
%RSD	.5491206	.3653320	.1849888	.3991019	.1701133	.1054536
#1	.7486000	1.777712	.8888495	1.805154	.7830090	5.843200
#2	.7465500	1.765113	.8910527	1.810009	.7841651	5.834555
#3	.7407125	1.768869	.8920732	1.795843	.7815089	5.846479
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4082534	.1691891	.1721841	77.59834	.3764604	.1803007
Stddev	.0006398	.0006288	.0003057	.06193	.0014134	.0005188
%RSD	.1567129	.3716539	.1775657	.0798096	.3754477	.2877646
#1	.4083585	.1684759	.1722390	77.54396	.3771279	.1799499
#2	.4075676	.1696637	.1718546	77.66575	.3748368	.1800554
#3	.4088342	.1694276	.1724586	77.58531	.3774164	.1808967
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3276472	10.40338	.6003347	10.41867	.4545330	.0673383
Stddev	.0005599	.07109	.0014553	.02293	.0008307	.0001321
%RSD	.1708828	.6833392	.2424107	.2200559	.1827559	.1961207
#1	.3271078	10.42601	.5986551	10.40062	.4539648	.0673635
#2	.3282255	10.32373	.6011282	10.44447	.4541478	.0671954
#3	.3276084	10.46040	.6012207	10.41092	.4554863	.0674559
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	61.58334	.2713357	.3436131	13.95328	.3771438	.4045288
Stddev	.40525	.0008149	.0016031	.08818	.0017318	.0008374
%RSD	.6580470	.3003345	.4665431	.6319637	.4591789	.2070032
#1	61.63585	.2706040	.3431885	13.95763	.3751442	.4047341
#2	61.15440	.2722140	.3422650	13.86301	.3781572	.4052444
#3	61.95978	.2711892	.3453857	14.03921	.3781300	.4036078

Sample Name: Q1690-01MS Acquired: 4/3/2025 14:49:47 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6222057	.3300447	F 13.17917	5.928501	5.822845	.1797210
Stddev	.0015302	.0014325	.07196	.026177	.011381	.0019382
%RSD	.2459261	.4340337	.5460284	.4415494	.1954540	1.078474
#1	.6217267	.3293565	13.17107	5.908514	5.823402	.1802342
#2	.6209723	.3290862	13.11161	5.918856	5.833937	.1775778
#3	.6239180	.3316915	13.25485	5.958132	5.811196	.1813510

Elem	Sr4077
Units	ppm
Avg	.5450250
Stddev	.0011773
%RSD	.2160139
#1	.5460678
#2	.5437483
#3	.5452590

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2924.402	71404.83	16457.13	1909.582	4598.863
Stddev	12.497	190.33	48.50	6.719	10.147
%RSD	.4273226	.2665510	.2946891	.3518418	.2206503
#1	2926.553	71359.66	16453.07	1902.164	4603.729
#2	2910.970	71613.67	16410.79	1915.259	4587.199
#3	2935.684	71241.14	16507.53	1911.323	4605.661

Sample Name: Q1690-01MSD Acquired: 4/3/2025 14:53:47 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7244232	1.752554	.8771640	1.750539	.7647972	5.785449
Stddev	.0011569	.005713	.0035741	.003460	.0005763	.004657
%RSD	.1597000	.3259986	.4074566	.1976607	.0753505	.0805028

#1	.7241498	1.746465	.8761145	1.750117	.7650210	5.790825
#2	.7234275	1.757798	.8742323	1.754191	.7641425	5.782644
#3	.7256924	1.753400	.8811454	1.747310	.7652279	5.782878

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4220881	.1633245	.1696733	77.60258	.3757197	.1790583
Stddev	.0007839	.0001794	.0005573	.04103	.0008563	.0005470
%RSD	.1857129	.1098146	.3284760	.0528744	.2278959	.3054878

#1	.4224211	.1635284	.1696676	77.56058	.3751720	.1791765
#2	.4211927	.1632538	.1691188	77.60459	.3767064	.1784619
#3	.4226505	.1631913	.1702334	77.64257	.3752806	.1795365

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3216597	10.88312	.6078425	10.35227	.4501901	.0677157
Stddev	.0006262	.03947	.0008538	.05110	.0018505	.0001983
%RSD	.1946891	.3626695	.1404585	.4936311	.4110371	.2928533

#1	.3214304	10.85207	.6072846	10.29469	.4498840	.0675452
#2	.3211803	10.86976	.6074176	10.36990	.4485117	.0679333
#3	.3223682	10.92753	.6088254	10.39222	.4521745	.0676686

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	63.17517	.2719714	.3442440	14.60836	.3676618	.4023517
Stddev	.04080	.0028092	.0012119	.02275	.0007875	.0020228
%RSD	.0645879	1.032896	.3520547	.1557232	.2141874	.5027358

#1	63.16353	.2734134	.3454903	14.62044	.3685539	.4007803
#2	63.22053	.2737668	.3441719	14.58212	.3670633	.4016408
#3	63.14145	.2687341	.3430697	14.62252	.3673681	.4046339

Sample Name: Q1690-01MSD Acquired: 4/3/2025 14:53:47 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6132213	.3343724	F 13.62431	5.800624	5.662411	.1818969
Stddev	.0013508	.0009399	.02913	.025037	.015495	.0010128
%RSD	.2202790	.2810941	.2138188	.4316270	.2736478	.5567850
#1	.6146709	.3333567	13.59207	5.775748	5.669046	.1824733
#2	.6129952	.3345493	13.64875	5.800306	5.644703	.1824899
#3	.6119979	.3352114	13.63212	5.825819	5.673483	.1807275

Elem	Sr4077
Units	ppm
Avg	.5529693
Stddev	.0011101
%RSD	.2007510
#1	.5542422
#2	.5524631
#3	.5522025

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3004.400	71650.72	17106.37	1931.860	4725.108
Stddev	5.892	168.90	25.73	7.851	11.857
%RSD	.1961050	.2357285	.1504300	.4064153	.2509368
#1	3009.446	71796.29	17104.27	1924.733	4729.376
#2	3005.829	71465.53	17081.75	1930.572	4734.239
#3	2997.925	71690.33	17133.09	1940.276	4711.707

Sample Name: Q1690-01A Acquired: 4/3/2025 14:57:47 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7353603	1.747667	.8903215	1.779492	.7739242	5.989738
Stddev	.0032013	.019391	.0028388	.000499	.0003052	.010544
%RSD	.4353367	1.109508	.3188480	.0280599	.0394344	.1760381
#1	.7386392	1.765424	.8919781	1.779450	.7738156	5.987273
#2	.7322427	1.750599	.8870436	1.780010	.7742688	5.980645
#3	.7351990	1.726977	.8919427	1.779014	.7736880	6.001296
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4295498	.1602500	.1720320	77.35848	.3721300	.1807148
Stddev	.0010866	.0009299	.0004995	.20860	.0006459	.0006375
%RSD	.2529728	.5802782	.2903553	.2696561	.1735621	.3527631
#1	.4307562	.1613193	.1722849	77.53524	.3723271	.1813676
#2	.4286478	.1598003	.1714567	77.41181	.3714085	.1800938
#3	.4292453	.1596305	.1723545	77.12839	.3726544	.1806830
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3261616	11.11981	.6084042	10.39379	.4562532	.0669565
Stddev	.0005111	.01934	.0009987	.03602	.0007826	.0005651
%RSD	.1566960	.1739127	.1641473	.3465264	.1715308	.8440449
#1	.3257357	11.10718	.6095048	10.42080	.4559473	.0675357
#2	.3260208	11.11018	.6075558	10.40766	.4556697	.0664066
#3	.3267283	11.14208	.6081518	10.35290	.4571426	.0669272
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	63.62944	.2734613	.3428292	14.87418	.3622185	.4030875
Stddev	.35825	.0014853	.0025379	.08322	.0006490	.0011925
%RSD	.5630268	.5431364	.7402723	.5595025	.1791736	.2958539
#1	63.41867	.2718230	.3450175	14.81764	.3627511	.4025649
#2	63.42656	.2747199	.3434230	14.83516	.3624087	.4044522
#3	64.04308	.2738408	.3400471	14.96974	.3614956	.4022455

Sample Name: Q1690-01A Acquired: 4/3/2025 14:57:47 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6267587	.3551728	F 14.52941	5.963276	5.855877	.1828254
Stddev	.0015883	.0033745	.07514	.022496	.010588	.0005965
%RSD	.2534166	.9500944	.5171547	.3772462	.1808164	.3262483
#1	.6279722	.3528095	14.49841	5.988811	5.867366	.1821715
#2	.6249610	.3536716	14.47473	5.946379	5.846511	.1829651
#3	.6273429	.3590374	14.61509	5.954638	5.853753	.1833396

Elem	Sr4077
Units	ppm
Avg	.5582381
Stddev	.0006899
%RSD	.1235801
#1	.5588806
#2	.5575090
#3	.5583247

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2968.017	72449.47	17456.33	1972.347	4638.043
Stddev	3.940	177.26	77.85	6.342	1.981
%RSD	.1327389	.2446606	.4459575	.3215256	.0427026
#1	2971.052	72349.71	17372.51	1965.030	4640.188
#2	2963.565	72654.13	17470.12	1975.759	4637.657
#3	2969.434	72344.58	17526.37	1976.252	4636.283

Sample Name: Q1657-04 Acquired: 4/3/2025 15:01:46 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.003915	-.007875	.0008942	.0040331	.0014486	.0311689	.4482422
Stddev	.002977	.001617	.0016215	.0028460	.0008149	.0047283	.0024314
%RSD	76.03721	20.52903	181.3480	70.56526	56.25277	15.17005	.5424409

#1	-.002814	-.008814	-.000123	.0065346	.0019504	.0260494	.4501773
#2	-.007286	-.006008	.000041	.0046281	.0018871	.0353720	.4455130
#3	-.001646	-.008802	.002764	.0009367	.0005084	.0320852	.4490364

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000389	.0005862	79.22853	.0007826	.0005398	.0041880	.0325579
Stddev	.0000777	.0000464	.19613	.0001379	.0000782	.0007447	.0007870
%RSD	199.7101	7.914682	.2475533	17.62591	14.48168	17.78189	2.417396

#1	.0000413	.0006204	79.35959	.0006289	.0005951	.0044548	.0321978
#2	-.000040	.0006047	79.00304	.0008956	.0004504	.0047625	.0334606
#3	.000115	.0005334	79.32294	.0008232	.0005740	.0033466	.0320154

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5315402	10.91992	.0069264	-.000202	401.0743	-.000437	.1915653
Stddev	.0036480	.02573	.0001953	.000428	2.6212	.002372	.0002583
%RSD	.6863012	.2355839	2.820235	212.1669	.6535387	542.6689	.1348163

#1	.5345408	10.89924	.0068862	-.000681	403.8634	.000829	.1914626
#2	.5274796	10.91179	.0067542	-.000066	400.6978	-.003174	.1913742
#3	.5326001	10.94873	.0071386	.000142	398.6618	.001034	.1918591

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.015123	.0592424	.0005767	-.003759	.0002793	3.966487	.0112511
Stddev	.006867	.0007170	.0001121	.000167	.0004961	.024658	.0071354
%RSD	.6764679	1.210248	19.43865	4.446120	177.6125	.6216546	63.41979

#1	1.022864	.0584961	.0006684	-.003949	.0007767	3.974152	.0192832
#2	1.012741	.0599259	.0004517	-.003693	-.000216	3.938907	.0088249
#3	1.009764	.0593052	.0006100	-.003635	.000277	3.986402	.0056451

Sample Name: Q1657-04 Acquired: 4/3/2025 15:01:46 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	2.241994	-.016018	.2536865
Stddev	.003555	.000732	.0010677
%RSD	.1585687	4.567554	.4208530
#1	2.242132	-.016571	.2547352
#2	2.238372	-.015188	.2526008
#3	2.245478	-.016294	.2537234

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2887.180	68481.42	16110.99	1878.548	4335.515
Stddev	8.388	186.39	23.96	7.875	8.448
%RSD	.2905222	.2721747	.1487284	.4191842	.1948539
#1	2887.050	68456.99	16083.45	1882.973	4337.397
#2	2895.632	68308.46	16122.49	1869.456	4342.864
#3	2878.858	68678.82	16127.04	1883.214	4326.285

Sample Name: PB167422BL Acquired: 4/3/2025 15:06:09 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0007482	.0015862	-.001145	-.001641	.0011320	-.003407	-.005805
Stddev	.0005285	.0001815	.000691	.002524	.0015695	.006155	.001069
%RSD	70.64328	11.44475	60.39863	153.8203	138.6570	180.6515	18.41430
#1	.0007489	.0013825	-.000349	-.000550	.0016192	-.003030	-.005090
#2	.0002193	.0016454	-.001487	-.004528	-.000623	-.009741	-.007034
#3	.0012764	.0017308	-.001597	.000154	.002400	.002551	-.005291
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000777	.0000097	.0225457	-.000079	-.000096	-.000223	-.001496
Stddev	.0000568	.0000063	.0056597	.000048	.000078	.000251	.006171
%RSD	73.08778	65.38472	25.10327	61.30234	80.93715	112.6527	412.6392
#1	.0000408	.0000148	.0218710	-.000034	-.000075	-.000450	-.007374
#2	.0001431	.0000026	.0172536	-.000130	-.000031	.000047	.004932
#3	.0000491	.0000116	.0285126	-.000072	-.000183	-.000266	-.002044
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001904	.0007108	-.000046	.0001362	.1428561	-.000118	.0008004
Stddev	.000155	.0017188	.000082	.0001058	.0155808	.001018	.0003167
%RSD	8.151727	241.8031	178.5699	77.69048	10.90665	859.4721	39.57533
#1	-.002065	.0009869	-.000014	.0000140	.1603155	.000414	.0009163
#2	-.001891	.0022748	-.000140	.0001997	.1378864	.000523	.0010428
#3	-.001755	-.001129	.000015	.0001949	.1303663	-.001292	.0004420
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0270965	-.002049	-.000280	-.001518	.0012613	.0003116	.0012462
Stddev	.0129018	.000495	.000222	.000233	.0003803	.0019109	.0025158
%RSD	47.61429	24.13876	79.22244	15.36310	30.15264	613.3467	201.8770
#1	.0134559	-.001606	-.000041	-.001650	.0012093	.0011627	.0010403
#2	.0391040	-.002583	-.000320	-.001655	.0016649	-.001877	-.001160
#3	.0287296	-.001957	-.000480	-.001248	.0009097	.001649	.003859

Sample Name: PB167422BL Acquired: 4/3/2025 15:06:09 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0021173	.0029264	.0000396
Stddev	.0040956	.0007903	.0000119
%RSD	193.4356	27.00738	30.19184

#1	.0043742	.0037136	.0000425
#2	-.002610	.0029327	.0000264
#3	.004588	.0021330	.0000498

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3260.274	76047.99	16737.02	2114.751	5326.702
Stddev	13.499	960.20	72.27	33.876	21.346
%RSD	.4140327	1.262630	.4317825	1.601889	.4007333

#1	3267.568	75369.75	16698.38	2095.513	5333.354
#2	3268.557	75627.52	16820.39	2094.874	5343.930
#3	3244.698	77146.71	16692.28	2153.866	5302.823

Sample Name: PB167422BS Acquired: 4/3/2025 15:10:28 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7746386	2.034645	.9346642	1.966564	.8061861	1.861433	.1741524
Stddev	.0082807	.028293	.0075524	.015769	.0071320	.030671	.0035806
%RSD	1.068975	1.390554	.8080332	.8018682	.8846587	1.647683	2.056006
#1	.7833309	2.040621	.9410014	1.975405	.8115853	1.848482	.1715333
#2	.7668424	2.003841	.9263073	1.948358	.7981012	1.839362	.1726913
#3	.7737423	2.059472	.9366839	1.975930	.8088719	1.896455	.1782324
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1856629	.1876388	.9056476	.4022230	.1910436	.3102429	2.881385
Stddev	.0022603	.0016404	.0072708	.0008192	.0016024	.0023200	.009471
%RSD	1.217416	.8742376	.8028339	.2036586	.8387732	.7477914	.3286987
#1	.1846571	.1888143	.9099521	.4013107	.1924716	.3115470	2.891135
#2	.1840800	.1857648	.8972528	.4024626	.1893106	.3075643	2.872220
#3	.1882515	.1883373	.9097378	.4028955	.1913484	.3116174	2.880799
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1807871	1.845068	.4814810	.0748779	2.998248	.2801881	.2025311
Stddev	.0023640	.027202	.0049536	.0003212	.012319	.0030147	.0004257
%RSD	1.307638	1.474285	1.028823	.4289933	.4108676	1.075947	.2101914
#1	.1800129	1.822150	.4853364	.0747723	2.995097	.2770795	.2030220
#2	.1789072	1.837927	.4758940	.0752387	2.987811	.2803858	.2023078
#3	.1834412	1.875128	.4832125	.0746228	3.011836	.2830991	.2022634
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.334650	.2748622	.4052499	.6638609	.1836498	.7798384	5.496157
Stddev	.042330	.0033213	.0035044	.0056953	.0020712	.0060312	.049209
%RSD	.4534707	1.208355	.8647401	.8579033	1.127811	.7733914	.8953341
#1	9.320288	.2726351	.4077215	.6671227	.1824012	.7742414	5.528246
#2	9.301370	.2732719	.4012394	.6572847	.1825076	.7790480	5.439502
#3	9.382293	.2786797	.4067888	.6671754	.1860407	.7862259	5.520723

Sample Name: PB167422BS Acquired: 4/3/2025 15:10:28 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.008048	.1905827	.1819750
Stddev	.001935	.0025921	.0026163
%RSD	24.03940	1.360073	1.437727
#1	-.009667	.1883767	.1808226
#2	-.005906	.1899338	.1801327
#3	-.008572	.1934376	.1849697

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3174.285	74427.64	16742.28	2024.539	5126.909
Stddev	22.117	78.19	200.38	5.376	38.091
%RSD	.6967474	.1050524	1.196836	.2655417	.7429571
#1	3163.136	74516.09	16876.92	2027.899	5103.999
#2	3199.757	74367.75	16837.93	2018.339	5170.879
#3	3159.962	74399.07	16512.00	2027.379	5105.848

Sample Name: Q1673-01 Acquired: 4/3/2025 15:14:31 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0079943	.0134433	.0126259	.2510303	.0026888	.0972777
Stddev	.0025275	.0019130	.0017228	.0040981	.0030236	.0097918
%RSD	31.61705	14.23033	13.64494	1.632511	112.4532	10.06578
#1	.0050881	.0149696	.0145170	.2557623	.0040066	.0919968
#2	.0096803	.0140631	.0122151	.2486426	-.000770	.0912601
#3	.0092143	.0112972	.0111457	.2486859	.004830	.1085763
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0348837	.0003996	.0015298	684.6650	.0016374	-.000059
Stddev	.0009794	.0000551	.0000242	5.7913	.0003029	.000335
%RSD	2.807741	13.78673	1.580210	.8458519	18.49782	566.1520
#1	.0339452	.0004271	.0015026	680.5474	.0017138	.000137
#2	.0348065	.0003362	.0015489	682.1605	.0018949	-.000446
#3	.0358995	.0004356	.0015378	691.2869	.0013037	.000132
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0117016	.0119394	.0522837	173.4952	.0196130	-.000532
Stddev	.0004339	.0026201	.0004738	1.5929	.0006502	.000027
%RSD	3.707646	21.94502	.9062367	.9181430	3.314997	5.055036
#1	.0112104	.0126815	.0518272	172.2281	.0197439	-.000503
#2	.0118616	.0090283	.0522507	172.9739	.0189074	-.000557
#3	.0120327	.0141085	.0527731	175.2834	.0201878	-.000536
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	144.8040	.0427988	.0357952	321.2538	.4587480	2.985018
Stddev	1.5635	.0013348	.0003832	3.9678	.0049766	.008549
%RSD	1.079747	3.118836	1.070439	1.235099	1.084825	.2863916
#1	143.8697	.0412782	.0356073	325.5970	.4538491	2.978552
#2	146.6091	.0433405	.0355422	320.3455	.4585961	2.994710
#3	143.9334	.0437775	.0362360	317.8189	.4637989	2.981791

Sample Name: Q1673-01 Acquired: 4/3/2025 15:14:31 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0207220	-.014689	.6184188	.0044932	F 772.7709	1.034608
Stddev	.0007792	.000252	.0010788	.0022319	4.2033	.007125
%RSD	3.760344	1.716306	.1744377	49.67121	.5439275	.6886211
#1	.0216206	-.014839	.6189012	.0061886	768.0458	1.042167
#2	.0203126	-.014831	.6171830	.0019646	776.0941	1.033640
#3	.0202329	-.014398	.6191722	.0053265	774.1728	1.028016

Elem	Sr4077
Units	ppm
Avg	1.049276
Stddev	.015213
%RSD	1.449820
#1	1.031718
#2	1.058533
#3	1.057575

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2894.148	72063.13	17800.98	1882.209	3756.440
Stddev	9.602	140.03	173.32	13.043	16.839
%RSD	.3317886	.1943142	.9736490	.6929477	.4482785
#1	2896.926	71901.53	17981.88	1870.507	3771.476
#2	2883.463	72148.58	17784.67	1879.851	3738.245
#3	2902.056	72139.29	17636.39	1896.270	3759.599

Sample Name: Q1673-02 Acquired: 4/3/2025 15:19:10 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0091607	.0308186	.0075671	.6309467	.0088398	.1447861
Stddev	.0011899	.0012559	.0015132	.0032843	.0042585	.0030701
%RSD	12.98950	4.075212	19.99732	.5205386	48.17437	2.120413
#1	.0093282	.0305765	.0079870	.6295534	.0056625	.1483299
#2	.0102580	.0297014	.0058883	.6285887	.0071782	.1429333
#3	.0078959	.0321779	.0088262	.6346980	.0136785	.1430952
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0882616	.0001976	-.000431	1189.457	.0034064	.0192586
Stddev	.0005124	.0000643	.000163	2.601	.0001509	.0004647
%RSD	.5805758	32.55852	37.93078	.2186672	4.430368	2.413012
#1	.0887793	.0001660	-.000617	1187.512	.0034268	.0190329
#2	.0877546	.0001551	-.000366	1192.411	.0035462	.0197931
#3	.0882509	.0002716	-.000310	1188.446	.0032464	.0189499
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0020806	1.847194	4.668579	309.0074	.0351073	-.001039
Stddev	.0003340	.001920	.011058	1.2650	.0002901	.000312
%RSD	16.05378	.1039169	.2368564	.4093689	.8263168	30.06437
#1	.0020954	1.848446	4.657812	307.9811	.0347749	-.001400
#2	.0017394	1.844984	4.679907	310.4207	.0353099	-.000867
#3	.0024069	1.848151	4.668019	308.6206	.0352370	-.000851
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	577.3958	.0672695	.1537758	709.2519	.8097898	4.967211
Stddev	1.7172	.0001039	.0006610	4.3706	.0009438	.022321
%RSD	.2973975	.1544962	.4298659	.6162321	.1165530	.4493707
#1	578.6125	.0673422	.1541435	713.8266	.8087410	4.952840
#2	575.4316	.0671505	.1541713	708.8105	.8100576	4.955866
#3	578.1434	.0673160	.1530127	705.1188	.8105708	4.992926

Sample Name: Q1673-02 Acquired: 4/3/2025 15:19:10 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0204874	-.026399	1.229288	F 23.68561	F 1124.966	1.919784
Stddev	.0010759	.000434	.005392	.14747	5.095	.007908
%RSD	5.251407	1.642805	.4385993	.6225943	.4528783	.4119082
#1	.0192455	-.026747	1.234852	23.63291	1125.245	1.919981
#2	.0211366	-.025913	1.224087	23.57174	1119.738	1.911779
#3	.0210800	-.026538	1.228925	23.85218	1129.916	1.927591

Elem	Sr4077
Units	ppm
Avg	1.982177
Stddev	.021531
%RSD	1.086216
#1	1.958742
#2	2.001083
#3	1.986706

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2358.790	59621.77	15045.44	1546.710	3406.264
Stddev	10.923	161.36	24.46	2.420	11.148
%RSD	.4630920	.2706415	.1625636	.1564663	.3272927
#1	2362.932	59438.37	15047.75	1546.755	3408.884
#2	2367.036	59685.00	15019.91	1544.267	3415.869
#3	2346.401	59741.95	15068.66	1549.107	3394.039

Sample Name: Q1684-01 Acquired: 4/3/2025 15:23:57 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0420619	-.004880	.1656881	-.037740	-.009638	151.0103	.6045182
Stddev	.0003177	.004549	.0014990	.004052	.002226	.3258	.0027801
%RSD	.7554121	93.21070	.9046822	10.73532	23.09691	.2157722	.4598922

#1	.0420998	-.006924	.1639602	-.040692	-.011990	151.1449	.6038772
#2	.0417268	.000332	.1666402	-.033121	-.007563	151.2474	.6075629
#3	.0423589	-.008049	.1664638	-.039408	-.009362	150.6388	.6021146

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086022	-.005304	13.77252	.3908793	.1568263	.3158057	287.5087
Stddev	.0000699	.000284	.03789	.0013006	.0006608	.0014863	.9540
%RSD	.8126406	5.351909	.2751278	.3327292	.4213544	.4706346	.3318206

#1	.0086694	-.004988	13.81622	.3902112	.1575836	.3174518	286.6992
#2	.0086073	-.005387	13.74874	.3923781	.1563672	.3145621	288.5605
#3	.0085299	-.005537	13.75260	.3900485	.1565280	.3154032	287.2663

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.628681	33.41915	.2603313	-.000087	9.883071	.5436233	.3937037
Stddev	.011726	.19212	.0007819	.000105	.052248	.0006545	.0008849
%RSD	.2083285	.5748816	.3003591	120.3207	.5286589	.1203998	.2247736

#1	5.634594	33.53982	.2606487	-.000208	9.869381	.5442131	.3944969
#2	5.636274	33.19760	.2609046	-.000042	9.940801	.5437378	.3927492
#3	5.615176	33.52001	.2594405	-.000012	9.839031	.5429192	.3938650

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.475876	.5100626	.0017856	-.003563	6.692482	4.598078	4.042064
Stddev	.031814	.0026702	.0003500	.000772	.009607	.013490	.010339
%RSD	.5809770	.5235130	19.59970	21.67246	.1435452	.2933924	.2557854

#1	5.495468	.5073372	.0019030	-.002976	6.697093	4.604683	4.052642
#2	5.492992	.5126740	.0020618	-.003275	6.698914	4.582558	4.041568
#3	5.439169	.5101766	.0013920	-.004438	6.681439	4.606994	4.031981

Sample Name: Q1684-01 Acquired: 4/3/2025 15:23:57 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	1.106675	.2081052	-.173758
Stddev	.028119	.0002565	.000652
%RSD	2.540889	.1232664	.3750902
#1	1.133334	.2080457	-.173076
#2	1.109397	.2083863	-.174374
#3	1.077293	.2078838	-.173825

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3468.175	79937.69	18662.08	2232.424	4615.680
Stddev	2.801	203.05	77.18	4.556	5.899
%RSD	.0807752	.2540106	.4135609	.2040903	.1278033
#1	3465.329	79869.69	18574.48	2227.188	4611.524
#2	3468.266	79777.38	18691.73	2235.490	4613.085
#3	3470.930	80166.02	18720.05	2234.593	4622.432

Sample Name: Q1685-01 Acquired: 4/3/2025 15:28:02 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0854239	.0078494	.1343783	-.054481	-.008918	184.6350	.4790404
Stddev	.0020612	.0029646	.0034328	.005279	.001423	1.5378	.0010567
%RSD	2.412913	37.76821	2.554564	9.689063	15.95253	.8328709	.2205889
#1	.0861322	.0062077	.1310230	-.055229	-.008063	183.9458	.4798999
#2	.0870376	.0060688	.1378837	-.059346	-.010560	183.5624	.4778606
#3	.0831019	.0112717	.1342281	-.048868	-.008130	186.3968	.4793606
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0138104	-.001501	21.82833	.2552987	.1562748	.4074480	399.8088
Stddev	.0001269	.000336	.10863	.0021111	.0003918	.0012740	.5947
%RSD	.9187375	22.36644	.4976459	.8269199	.2506771	.3126772	.1487445
#1	.0139404	-.001455	21.91425	.2576658	.1558865	.4072600	399.8061
#2	.0136869	-.001858	21.70623	.2546194	.1562681	.4062784	400.4049
#3	.0138041	-.001191	21.86451	.2536108	.1566699	.4088055	399.2155
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.194939	24.88036	.2236967	-.001330	5.265655	.6835094	.6052667
Stddev	.009507	.20206	.0016324	.000681	.019308	.0035257	.0068943
%RSD	.4331465	.8121321	.7297473	51.15993	.3666729	.5158268	1.139048
#1	2.203912	24.92968	.2236147	-.001766	5.276263	.6837848	.6078979
#2	2.184975	24.65820	.2221068	-.001679	5.277332	.6798541	.6104580
#3	2.195931	25.05319	.2253685	-.000546	5.243368	.6868894	.5974443
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.707188	.7296660	.0021631	.0026194	3.098178	3.815216	4.051276
Stddev	.023289	.0021013	.0003030	.0007931	.015740	.030092	.026930
%RSD	.8602594	.2879836	14.00721	30.27719	.5080430	.7887287	.6647350
#1	2.710641	.7291726	.0024521	.0017055	3.105781	3.842482	4.039152
#2	2.728558	.7319701	.0018478	.0030256	3.080080	3.820236	4.032539
#3	2.682365	.7278553	.0021895	.0031272	3.108673	3.782930	4.082137

Sample Name: Q1685-01 Acquired: 4/3/2025 15:28:02 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.9988944	.1919734	-.245237
Stddev	.0060225	.0004765	.000852
%RSD	.6029211	.2482061	.3472780
#1	1.000774	.1925151	-.244945
#2	.992156	.1917861	-.246196
#3	1.003753	.1916190	-.244569

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3608.972	86490.70	20888.81	2392.037	4454.592
Stddev	7.584	474.76	123.19	23.999	17.676
%RSD	.2101319	.5489174	.5897484	1.003301	.3968119
#1	3603.402	86315.16	20823.06	2386.050	4456.342
#2	3617.609	86128.71	21030.93	2371.599	4471.328
#3	3605.906	87028.24	20812.46	2418.463	4436.106

Sample Name: CCV04 Acquired: 4/3/2025 15:32:23 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.886269	5.109738	4.847181	4.896256	4.904260	9.362722	9.575773
Stddev	.016953	.024186	.031698	.030010	.027967	.003321	.066611
%RSD	.3469506	.4733231	.6539413	.6129095	.5702642	.0354754	.6956232
#1	4.866787	5.085118	4.810586	4.863356	4.872046	9.366455	9.530299
#2	4.894359	5.133464	4.866104	4.903285	4.918405	9.360094	9.544787
#3	4.897662	5.110633	4.864851	4.922128	4.922328	9.361617	9.652233
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2313453	2.431863	23.10675	.9897294	2.443872	1.249254	4.972161
Stddev	.0011058	.014572	.12074	.0014378	.015492	.006228	.030453
%RSD	.4779892	.5992288	.5225412	.1452722	.6339307	.4985015	.6124732
#1	.2304168	2.415093	23.02764	.9913862	2.426029	1.242345	5.006572
#2	.2325686	2.441442	23.24573	.9889931	2.453898	1.250982	4.961225
#3	.2310504	2.439055	23.04689	.9888088	2.451690	1.254435	4.948686
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.295932	23.74759	2.466476	1.227463	25.20218	2.387542	2.457011
Stddev	.009061	.13759	.016242	.002297	.15383	.010684	.007582
%RSD	.3946535	.5793978	.6585115	.1871294	.6103850	.4474885	.3085687
#1	2.290109	23.67937	2.447818	1.230094	25.36701	2.380540	2.465700
#2	2.306372	23.90596	2.477454	1.226441	25.06243	2.399839	2.451741
#3	2.291316	23.65744	2.474156	1.225855	25.17709	2.382246	2.453591
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.97331	4.597701	4.961209	4.892316	4.709097	5.045678	4.906341
Stddev	.14552	.027120	.022203	.031197	.006117	.009123	.027309
%RSD	.5826997	.5898601	.4475397	.6376818	.1299073	.1808064	.5566013
#1	25.10196	4.570882	4.935646	4.856529	4.703564	5.055665	4.874840
#2	24.81538	4.625113	4.972293	4.913780	4.715667	5.037782	4.920871
#3	25.00260	4.597108	4.975689	4.906638	4.708060	5.043587	4.923314

Sample Name: CCV04 Acquired: 4/3/2025 15:32:23 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.947839	4.713903	4.737006
Stddev	.026783	.001958	.030377
%RSD	.5412992	.0415461	.6412755

#1	4.916918	4.715713	4.712621
#2	4.963777	4.711824	4.727361
#3	4.962823	4.714173	4.771034

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3119.796	73293.65	16637.06	2054.725	4726.065
Stddev	8.957	183.94	69.91	7.511	18.187
%RSD	.2871160	.2509652	.4202321	.3655436	.3848315

#1	3126.020	73084.19	16690.23	2046.330	4743.268
#2	3123.838	73428.86	16557.87	2060.808	4727.896
#3	3109.530	73367.91	16663.08	2057.038	4707.032

Sample Name: CCB04 Acquired: 4/3/2025 15:36:34 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008333	.0008842	-.000501	-.002662	.0002209	.0107936
Stddev	.0014813	.0015424	.001522	.002557	.0014458	.0027990
%RSD	177.7588	174.4300	303.6749	96.06621	654.4360	25.93242
#1	.0024693	.0000788	-.002257	-.001293	.0006342	.0124621
#2	-.000417	-.000089	.000314	-.005612	-.001386	.0123565
#3	.000448	.002663	.000439	-.001081	.001415	.0075621
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002460	.0001319	.0001532	.0206304	-.000134	.0001818
Stddev	.000386	.0000574	.0000465	.0045876	.000202	.0001638
%RSD	15.68411	43.49651	30.34531	22.23720	151.0435	90.14260
#1	-.002902	.0001831	.0001063	.0186992	.000014	.0002486
#2	-.002286	.0000699	.0001992	.0258680	-.000051	-.000005
#3	-.002192	.0001429	.0001540	.0173241	-.000364	.000302
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000594	.0242521	-.001331	-.006344	.0002637	-.000139
Stddev	.0007646	.0046186	.000134	.005576	.0000395	.000392
%RSD	1287.384	19.04405	10.09371	87.88984	14.98066	282.7805
#1	.0004930	.0295534	-.001270	-.010210	.0002733	-.000110
#2	-.000823	.0221053	-.001485	-.008871	.0002975	.000238
#3	.000509	.0210977	-.001238	.000048	.0002203	-.000545
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0571808	-.000443	-.000275	.1003560	.0025591	.0005272
Stddev	.0060193	.000449	.000253	.0361317	.0004477	.0003491
%RSD	10.52684	101.3570	91.99003	36.00353	17.49497	66.21082
#1	.0508549	-.000816	-.000307	.0619176	.0026718	.0007597
#2	.0628377	-.000568	-.000511	.1336240	.0020658	.0006962
#3	.0578499	.000055	-.000008	.1055265	.0029397	.0001258

Sample Name: CCB04 Acquired: 4/3/2025 15:36:34 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001253	.0018356	.0013893	-.002287	F .0295119	.0008878
Stddev	.000896	.0008900	.0029401	.000321	.0010884	.0006801
%RSD	71.47786	48.48226	211.6237	14.01672	3.687866	76.60299
#1	-.001846	.0012199	.0027807	-.001976	.0303536	.0001427
#2	-.001691	.0028560	.0033754	-.002616	.0298993	.0010455
#3	-.000223	.0014310	-.001988	-.002268	.0282829	.0014752

Elem	Sr4077
Units	ppm
Avg	.0006298
Stddev	.0000675
%RSD	10.71584
#1	.0006717
#2	.0006658
#3	.0005520

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3196.010	75406.93	17064.26	2090.575	5168.604
Stddev	19.282	20.25	37.08	6.856	32.592
%RSD	.6033219	.0268495	.2172770	.3279556	.6305771
#1	3202.858	75400.10	17021.45	2095.529	5166.615
#2	3210.934	75429.71	17085.43	2082.751	5202.144
#3	3174.238	75390.99	17085.89	2093.447	5137.052

Sample Name: Q1685-01DUP Acquired: 4/3/2025 15:40:53 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0843916	.0064230	.1336689	-.060573	-.007419	191.9756	.4825871
Stddev	.0057613	.0010255	.0005787	.001431	.001031	1.7166	.0029751
%RSD	6.826896	15.96551	.4329212	2.361802	13.88983	.8941659	.6164805
#1	.0907603	.0066232	.1332727	-.062120	-.007542	192.7272	.4859589
#2	.0828724	.0053122	.1334009	-.060302	-.006333	193.1881	.4814708
#3	.0795421	.0073336	.1343329	-.059297	-.008383	190.0114	.4803317
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0141446	.0010053	21.94444	.2600861	.1559200	.4015473	394.3737
Stddev	.0001931	.0003133	.12352	.0006599	.0006326	.0019969	2.0983
%RSD	1.364948	31.16696	.5628554	.2537394	.4056937	.4973032	.5320487
#1	.0142649	.0013342	22.08082	.2596616	.1553331	.4014469	392.0720
#2	.0142469	.0007102	21.84010	.2597504	.1558369	.3996025	394.8692
#3	.0139219	.0009716	21.91241	.2608464	.1565900	.4035925	396.1799
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.174762	25.04342	.2210197	-.002399	5.297703	.6854430	.6186993
Stddev	.013868	.13325	.0006765	.000433	.038669	.0037850	.0008147
%RSD	.6376581	.5320926	.3060737	18.02835	.7299281	.5521967	.1316781
#1	2.190594	25.19728	.2214881	-.002853	5.253366	.6895345	.6189672
#2	2.168922	24.96836	.2202442	-.002352	5.324452	.6820665	.6177843
#3	2.164769	24.96463	.2213269	-.001992	5.315290	.6847280	.6193462
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.692402	.7089008	.0018976	.0034252	3.181428	6.167868	3.934574
Stddev	.012632	.0074892	.0003681	.0005216	.009827	.037186	.008491
%RSD	.4691865	1.056445	19.39668	15.22718	.3088913	.6028962	.2157939
#1	2.684938	.7002940	.0019685	.0030036	3.191937	6.149128	3.932913
#2	2.706987	.7124763	.0022250	.0032636	3.179881	6.143781	3.927038
#3	2.685281	.7139321	.0014992	.0040085	3.172467	6.210696	3.943773

Sample Name: Q1685-01DUP Acquired: 4/3/2025 15:40:53 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.9328913	.1903999	-.241446
Stddev	.0007369	.0009997	.002354
%RSD	.0789876	.5250485	.9750856
#1	.9326311	.1894165	-.238827
#2	.9323199	.1903681	-.242123
#3	.9337230	.1914151	-.243388

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3621.774	84501.36	20331.98	2297.727	4499.724
Stddev	14.322	110.36	124.57	8.987	19.361
%RSD	.3954492	.1306072	.6126980	.3911240	.4302781
#1	3624.089	84562.19	20189.15	2295.378	4501.355
#2	3634.797	84373.97	20388.68	2290.147	4518.218
#3	3606.435	84567.93	20418.13	2307.655	4479.598

Sample Name: Q1685-01LX5 Acquired: 4/3/2025 15:45:14 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0213903	.0044828	.0293402	-.013793	-.003885	46.76088	.1184499
Stddev	.0008293	.0028444	.0006116	.001221	.002448	.08945	.0012094
%RSD	3.877234	63.45178	2.084406	8.855772	63.00193	.1912966	1.021018
#1	.0205484	.0011983	.0295326	-.013574	-.006173	46.82432	.1186875
#2	.0214158	.0061307	.0286555	-.012696	-.001304	46.79974	.1195228
#3	.0222065	.0061192	.0298324	-.015109	-.004179	46.65857	.1171393
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0035976	-.004593	5.644515	.0662304	.0335396	.1059107	103.7967
Stddev	.0000986	.000334	.063537	.0002576	.0003554	.0013215	.6289
%RSD	2.742093	7.261671	1.125638	.3889252	1.059749	1.247788	.6058813
#1	.0036196	-.004556	5.626452	.0660359	.0332374	.1056724	103.1414
#2	.0036833	-.004944	5.715127	.0661327	.0334502	.1047245	104.3954
#3	.0034897	-.004280	5.591965	.0665225	.0339312	.1073352	103.8531
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5648321	6.356967	.0486882	-.000054	1.284775	.1735936	.1545008
Stddev	.0056404	.074175	.0003816	.000091	.012364	.0021937	.0006752
%RSD	.9986007	1.166827	.7837709	167.1055	.9623847	1.263714	.4370269
#1	.5648628	6.325034	.0482940	-.000123	1.276599	.1751718	.1551581
#2	.5704571	6.441760	.0487147	.000048	1.278727	.1745205	.1538090
#3	.5591764	6.304106	.0490558	-.000088	1.298999	.1710886	.1545353
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6444722	.1893082	.0000371	-.001341	.8211044	1.575900	.8243297
Stddev	.0361263	.0018349	.0001918	.000612	.0021935	.011190	.0104885
%RSD	5.605559	.9692869	517.4179	45.59272	.2671401	.7100960	1.272373
#1	.6034553	.1872257	.0002237	-.001423	.8202835	1.571748	.8294285
#2	.6583986	.1906877	-.000159	-.000693	.8235899	1.567379	.8122666
#3	.6715625	.1900113	.000047	-.001908	.8194397	1.588573	.8312941

Sample Name: Q1685-01LX5 Acquired: 4/3/2025 15:45:14 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.2040764	.0487179	-.064259
Stddev	.0060882	.0004577	.000618
%RSD	2.983316	.9394958	.9620519
#1	.1988813	.0488331	-.063627
#2	.2025722	.0482136	-.064862
#3	.2107758	.0491070	-.064290

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3319.081	76571.61	18117.18	2127.878	4934.283
Stddev	31.414	226.81	169.12	16.915	40.968
%RSD	.9464626	.2962053	.9335007	.7949373	.8302756
#1	3316.362	76358.48	17983.74	2111.836	4942.602
#2	3351.766	76809.98	18060.42	2145.549	4970.453
#3	3289.115	76546.36	18307.38	2126.249	4889.794

Sample Name: Q1685-01A Acquired: 4/3/2025 15:58:03 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7002036	1.800158	1.006155	1.435310	.6286157	186.3148	.6371911
Stddev	.0048392	.009335	.001316	.004745	.0021360	1.2109	.0003449
%RSD	.6911059	.5185655	.1307792	.3305663	.3398004	.6499276	.0541225
#1	.6978388	1.806135	1.007669	1.433988	.6265769	185.3592	.6372615
#2	.6970016	1.789401	1.005285	1.431367	.6284330	187.6765	.6374953
#3	.7057704	1.804939	1.005511	1.440576	.6308372	185.9085	.6368164
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1606172	.1842446	22.29035	.5699805	.3426333	.6281477	387.8002
Stddev	.0006111	.0007426	.04533	.0047175	.0000345	.0022912	3.9309
%RSD	.3804902	.4030259	.2033695	.8276611	.0100686	.3647530	1.013638
#1	.1606484	.1849656	22.30874	.5646993	.3426639	.6290153	384.0545
#2	.1612121	.1834822	22.23871	.5714653	.3425959	.6255494	391.8933
#3	.1599911	.1842861	22.32359	.5737770	.3426400	.6298784	387.4529
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.318482	26.19265	.6913934	.0589737	7.617341	.8984655	.7594793
Stddev	.001142	.01583	.0003244	.0006195	.075595	.0023495	.0084989
%RSD	.0492749	.0604192	.0469226	1.050443	.9924072	.2614996	1.119046
#1	2.319488	26.20668	.6911685	.0585486	7.530845	.9008836	.7501299
#2	2.317240	26.19577	.6912464	.0596845	7.670761	.8961912	.7667372
#3	2.318717	26.17550	.6917653	.0586880	7.650416	.8983218	.7615709
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.89082	.9002623	.3272563	.6533031	3.326195	6.911923	9.234890
Stddev	.10200	.0090204	.0008446	.0016638	.002170	.089141	.013310
%RSD	.9365625	1.001972	.2580728	.2546686	.0652458	1.289669	.1441267
#1	10.77396	.8914083	.3273351	.6538135	3.323695	6.810152	9.228763
#2	10.93655	.9094404	.3263751	.6514439	3.327285	6.949462	9.225748
#3	10.96195	.8999381	.3280587	.6546519	3.327603	6.976155	9.250160

Sample Name: Q1685-01A Acquired: 4/3/2025 15:58:03 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.8948757	.3447206	-.085180
Stddev	.0057412	.0007600	.003528
%RSD	.6415623	.2204767	4.141520
#1	.9015015	.3444947	-.081717
#2	.8917509	.3455680	-.088769
#3	.8913749	.3440991	-.085055

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3635.481	85424.36	20061.54	2369.853	4506.771
Stddev	8.067	662.06	27.61	21.712	6.776
%RSD	.2218852	.7750243	.1376176	.9161566	.1503589
#1	3640.973	86183.61	20038.55	2394.386	4510.173
#2	3639.250	84967.38	20053.90	2353.115	4511.173
#3	3626.220	85122.10	20092.16	2362.057	4498.968

Sample Name: Q1693-01 Acquired: 4/3/2025 16:02:18 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.1076350	.0145126	.4083919	-.064588	-.009506	193.0175	1.789574
Stddev	.0025424	.0024295	.0017832	.002225	.001124	1.8721	.002173
%RSD	2.362082	16.74047	.4366353	3.444203	11.82060	.9699124	.1214334
#1	.1090086	.0119154	.4065587	-.063380	-.009596	192.7024	1.791315
#2	.1091952	.0167294	.4084965	-.063228	-.010581	195.0272	1.787139
#3	.1047013	.0148930	.4101205	-.067155	-.008339	191.3230	1.790269
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0140080	.0092137	102.1143	.3587084	.2664094	.4682050	398.9386
Stddev	.0001164	.0010335	.3483	.0011856	.0018013	.0029881	3.2348
%RSD	.8310702	11.21664	.3410641	.3305257	.6761412	.6381965	.8108564
#1	.0141067	.0087470	102.4110	.3600759	.2647628	.4670152	400.1029
#2	.0138796	.0084959	101.7309	.3580809	.2661322	.4659951	401.4301
#3	.0140377	.0103982	102.2010	.3579685	.2683332	.4716047	395.2828
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.957312	109.5904	.5390643	-.001846	9.803258	.4814467	1.161033
Stddev	.027869	.3929	.0041770	.000953	.012518	.0013774	.002782
%RSD	.3111261	.3585258	.7748530	51.63949	.1276896	.2861005	.2395855
#1	8.987165	109.9885	.5354645	-.001521	9.800117	.4826293	1.160826
#2	8.931980	109.2029	.5380842	-.001098	9.792610	.4799344	1.163913
#3	8.952790	109.5798	.5436441	-.002919	9.817047	.4817766	1.158361
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	36.47014	.7657156	.0031208	.0233018	3.877360	5.985243	9.078846
Stddev	.01890	.0086492	.0002249	.0027869	.009829	.013049	.085290
%RSD	.0518200	1.129553	7.205802	11.95988	.2535091	.2180188	.9394358
#1	36.45750	.7674879	.0028657	.0250018	3.887171	5.998253	9.004545
#2	36.49187	.7733414	.0032066	.0200855	3.867512	5.985320	9.060015
#3	36.46106	.7563176	.0032902	.0248179	3.877397	5.972156	9.171978

Sample Name: Q1693-01 Acquired: 4/3/2025 16:02:18 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	9.437195	.5537475	-.053506
Stddev	.064295	.0004844	.003150
%RSD	.6812888	.0874729	5.886755
#1	9.381974	.5538671	-.054035
#2	9.421832	.5541608	-.056358
#3	9.507779	.5532145	-.050125

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3608.260	85851.87	21347.26	2340.152	4207.817
Stddev	4.467	44.99	33.38	6.516	18.805
%RSD	.1238077	.0524050	.1563689	.2784445	.4468945
#1	3610.135	85845.26	21317.79	2347.674	4221.965
#2	3611.483	85810.55	21383.51	2336.246	4215.008
#3	3603.160	85899.80	21340.48	2336.536	4186.478

Sample Name: Q1685-01MS Acquired: 4/3/2025 16:06:37 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7175974	1.816020	1.027175	1.473667	.6398502	183.4474	.6488528
Stddev	.0029878	.020943	.002498	.007905	.0031149	.6828	.0042396
%RSD	.4163659	1.153250	.2431514	.5363965	.4868108	.3721887	.6533945
#1	.7160539	1.795436	1.028908	1.468910	.6394911	183.4266	.6520348
#2	.7156971	1.815320	1.024312	1.469299	.6369304	182.7752	.6504836
#3	.7210413	1.837305	1.028304	1.482792	.6431290	184.1403	.6440400
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1537203	.1842303	22.12154	.5706331	.3471881	.6390946	402.2965
Stddev	.0007338	.0006722	.09763	.0021953	.0009418	.0013885	1.2710
%RSD	.4773771	.3648736	.4413362	.3847088	.2712710	.2172577	.3159306
#1	.1545297	.1846923	22.23276	.5731135	.3470003	.6400621	401.3865
#2	.1530985	.1834591	22.04999	.5689401	.3463544	.6375037	401.7544
#3	.1535327	.1845395	22.08188	.5698456	.3482097	.6397181	403.7487
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.315546	26.01768	.7020755	.0611614	7.794949	.9028652	.7579309
Stddev	.010317	.07604	.0013739	.0004296	.012577	.0044262	.0021788
%RSD	.4455648	.2922784	.1956896	.7023454	.1613511	.4902407	.2874633
#1	2.326327	26.10496	.7012333	.0606731	7.792704	.9058865	.7593399
#2	2.314545	25.98231	.7013323	.0613302	7.808498	.9049246	.7554214
#3	2.305765	25.96575	.7036609	.0614810	7.783646	.8977845	.7590315
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.19619	.9351877	.3295347	.6651847	3.337768	7.072663	9.520434
Stddev	.03945	.0034406	.0008832	.0024501	.015211	.006491	.025979
%RSD	.3523925	.3678997	.2680174	.3683291	.4557238	.0917720	.2728714
#1	11.22413	.9332681	.3296024	.6649421	3.352479	7.065169	9.527051
#2	11.21337	.9331351	.3286196	.6628649	3.338723	7.076339	9.491787
#3	11.15105	.9391597	.3303821	.6677470	3.322102	7.076483	9.542465

Sample Name: Q1685-01MS Acquired: 4/3/2025 16:06:37 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.9227275	.3494861	-.095156
Stddev	.0031313	.0007393	.002368
%RSD	.3393526	.2115533	2.488766
#1	.9191819	.3495967	-.093609
#2	.9238871	.3486976	-.093977
#3	.9251137	.3501639	-.097882

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3553.939	85753.89	20839.41	2372.320	4401.401
Stddev	5.891	73.10	75.90	4.695	5.126
%RSD	.1657504	.0852489	.3641945	.1978905	.1164685
#1	3547.400	85679.33	20751.92	2367.333	4396.921
#2	3558.829	85825.44	20887.57	2376.655	4406.992
#3	3555.588	85756.90	20878.74	2372.970	4400.290

Sample Name: Q1685-01MSD Acquired: 4/3/2025 16:10:53 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7024478	1.814689	1.015709	1.445181	.6291194	189.0086	.6490777
Stddev	.0043645	.007758	.012276	.014005	.0034852	.4256	.0016940
%RSD	.6213279	.4275305	1.208611	.9690556	.5539760	.2251544	.2609804
#1	.7022380	1.820331	1.009856	1.439615	.6299157	188.8568	.6499566
#2	.7069134	1.817895	1.029816	1.461113	.6321374	189.4893	.6501516
#3	.6981920	1.805841	1.007454	1.434815	.6253049	188.6798	.6471249
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1639989	.1868001	22.36742	.5725475	.3453208	.6328881	385.6500
Stddev	.0011548	.0028946	.05513	.0005749	.0050559	.0065283	2.9455
%RSD	.7041463	1.549556	.2464807	.1004121	1.464125	1.031510	.7637645
#1	.1653040	.1854298	22.39035	.5730528	.3425795	.6315339	382.3527
#2	.1635833	.1901254	22.40739	.5719220	.3511553	.6399873	388.0208
#3	.1631095	.1848452	22.30453	.5726677	.3422275	.6271431	386.5765
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.334473	26.57691	.6969349	.0582144	7.559541	.9086857	.7650987
Stddev	.003356	.05369	.0093590	.0007836	.023807	.0027810	.0008973
%RSD	.1437577	.2020298	1.342874	1.346008	.3149319	.3060458	.1172733
#1	2.335473	26.59163	.6917473	.0574531	7.533085	.9118096	.7661035
#2	2.337215	26.62170	.7077388	.0590185	7.566300	.9064795	.7648150
#3	2.330731	26.51739	.6913185	.0581717	7.579239	.9077681	.7643776
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.80717	.8950290	.3286759	.6562114	3.414893	8.733479	9.327415
Stddev	.04088	.0078595	.0026102	.0106288	.008432	.033581	.100714
%RSD	.3782935	.8781340	.7941467	1.619717	.2469272	.3845070	1.079761
#1	10.76087	.8861839	.3274689	.6488045	3.422274	8.696707	9.270359
#2	10.83831	.9012110	.3316712	.6683898	3.416702	8.741211	9.443703
#3	10.82233	.8976922	.3268877	.6514400	3.405703	8.762520	9.268184

Sample Name: Q1685-01MSD Acquired: 4/3/2025 16:10:53 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.9011005	.3464100	-.080896
Stddev	.0111465	.0015122	.002468
%RSD	1.236984	.4365463	3.051358
#1	.9050612	.3449160	-.078052
#2	.9097258	.3479398	-.082486
#3	.8885146	.3463741	-.082150

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3621.167	85220.47	19664.06	2358.175	4484.306
Stddev	17.353	119.20	85.39	8.362	41.428
%RSD	.4792148	.1398771	.4342550	.3545834	.9238401
#1	3626.697	85330.01	19571.66	2367.691	4507.802
#2	3601.722	85093.52	19680.44	2352.002	4436.472
#3	3635.081	85237.87	19740.07	2354.832	4508.644

Sample Name: Q1693-05 Acquired: 4/3/2025 16:15:09 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.2061379	.0176105	.6810765	-.050313	-.010374	134.4867
Stddev	.0036598	.0004137	.0046604	.002821	.003720	.2038
%RSD	1.775427	2.349076	.6842752	5.607423	35.85866	.1515168

#1	.2067664	.0171637	.6790751	-.050287	-.006671	134.2894
#2	.2094427	.0179803	.6864034	-.053147	-.014111	134.4745
#3	.2022045	.0176876	.6777511	-.047505	-.010339	134.6963

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.514808	.0111851	.0034928	92.61690	.6896461	.1765084
Stddev	.003098	.0000820	.0004166	.04290	.0028255	.0009432
%RSD	.2045198	.7332960	11.92721	.0463251	.4097084	.5343607

#1	1.512245	.0112747	.0030119	92.60918	.6926839	.1763111
#2	1.518251	.0111137	.0037219	92.57838	.6891581	.1775347
#3	1.513929	.0111669	.0037445	92.66314	.6870964	.1756795

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5374603	323.7259	6.452126	77.45989	.3672895	-.000765
Stddev	.0023812	1.1577	.004322	.14854	.0026677	.000068
%RSD	.4430407	.3576240	.0669800	.1917613	.7263182	8.886863

#1	.5352576	324.3977	6.451225	77.28840	.3660953	-.000690
#2	.5399868	324.3909	6.448326	77.54829	.3703456	-.000784
#3	.5371366	322.3891	6.456827	77.54297	.3654275	-.000822

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.23591	.3222131	.9447049	21.50947	.6154281	.0046670
Stddev	.05588	.0003944	.0009992	.09196	.0027653	.0003273
%RSD	.4566978	.1223930	.1057715	.4275428	.4493365	7.012224

#1	12.25787	.3221687	.9447604	21.56023	.6166524	.0044455
#2	12.27747	.3226278	.9436790	21.56486	.6173700	.0050429
#3	12.17238	.3218429	.9456752	21.40331	.6122620	.0045127

Sample Name: Q1693-05 Acquired: 4/3/2025 16:15:09 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.1682483	2.285302	4.276585	9.782792	F 80.25610	.3973141
Stddev	.0006526	.002990	.057859	.042129	.38076	.0017739
%RSD	.3878734	.1308241	1.352924	.4306408	.4744342	.4464609
#1	.1675234	2.281994	4.335391	9.741711	79.88795	.3961665
#2	.1687889	2.286102	4.274643	9.825895	80.64833	.3964187
#3	.1684328	2.287811	4.219722	9.780771	80.23202	.3993572

Elem	Sr4077
Units	ppm
Avg	.0248273
Stddev	.0012662
%RSD	5.099939
#1	.0237174
#2	.0245581
#3	.0262064

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3408.817	83386.43	19639.50	2263.834	4280.797
Stddev	14.074	373.26	30.17	10.147	17.823
%RSD	.4128633	.4476217	.1536344	.4482342	.4163442
#1	3422.905	83291.55	19666.58	2266.374	4297.260
#2	3394.758	83069.76	19606.97	2252.657	4261.871
#3	3408.789	83797.96	19644.95	2272.469	4283.261

Sample Name: Q1693-09 Acquired: 4/3/2025 16:19:12 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.1517003	.0311941	.3400515	-.083426	-.014054	210.7342
Stddev	.0017849	.0058170	.0033977	.003055	.001400	1.1681
%RSD	1.176616	18.64789	.9991847	3.662002	9.964489	.5543118
#1	.1510092	.0248199	.3399414	-.083718	-.014756	211.6220
#2	.1537274	.0325469	.3367101	-.086325	-.012441	211.1697
#3	.1503642	.0362156	.3435029	-.080236	-.014964	209.4109
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.609174	.0162332	.0141973	55.81050	.3616377	.3416442
Stddev	.008902	.0000243	.0007794	.08090	.0004104	.0016897
%RSD	.5531733	.1498642	5.489684	.1449581	.1134858	.4945665
#1	1.619373	.0162431	.0136087	55.88310	.3617137	.3405391
#2	1.605185	.0162055	.0150812	55.82511	.3611946	.3408044
#3	1.602965	.0162510	.0139020	55.72329	.3620048	.3435893
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5303774	514.0062	9.594132	113.9018	.6705659	-.005667
Stddev	.0016142	5.4670	.030317	.1489	.0034985	.000730
%RSD	.3043493	1.063597	.3159935	.1307174	.5217193	12.87578
#1	.5286842	513.4229	9.627843	114.0697	.6680201	-.005975
#2	.5305493	508.8542	9.585449	113.8502	.6691225	-.006193
#3	.5318988	519.7414	9.569104	113.7856	.6745552	-.004834
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.097911	.4406987	1.207013	25.03779	.9531472	.0014445
Stddev	.085295	.0022610	.002236	.18811	.0150615	.0001807
%RSD	.9375248	.5130544	.1852506	.7513046	1.580190	12.51053
#1	9.190482	.4433083	1.207391	25.25115	.9528889	.0013217
#2	9.022502	.4394638	1.204613	24.89583	.9382165	.0013598
#3	9.080750	.4393240	1.209037	24.96639	.9683363	.0016520

Sample Name: Q1693-09 Acquired: 4/3/2025 16:19:12 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0043748	3.033580	3.250494	F 10.80983	5.104951	.6470089
Stddev	.0015025	.013808	.027583	.07443	.026746	.0038604
%RSD	34.34448	.4551777	.8485938	.6885856	.5239305	.5966547
#1	.0029278	3.048349	3.265332	10.74589	5.077899	.6501642
#2	.0059272	3.031398	3.218668	10.79205	5.105572	.6427044
#3	.0042693	3.020992	3.267482	10.89154	5.131381	.6481583

Elem	Sr4077
Units	ppm
Avg	-.163684
Stddev	.005382
%RSD	3.288277
#1	-.161387
#2	-.159832
#3	-.169834

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3719.903	89155.15	22148.75	2433.598	4196.797
Stddev	12.246	338.88	15.99	11.037	18.003
%RSD	.3292127	.3801000	.0721874	.4535235	.4289788
#1	3728.292	88915.58	22162.25	2431.065	4210.569
#2	3725.568	89542.88	22131.09	2445.681	4203.398
#3	3705.850	89006.99	22152.90	2424.048	4176.425

Sample Name: Q1694-01 Acquired: 4/3/2025 16:23:31 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0421020	.0068471	.2370599	-.027639	-.006881	98.92982	1.729527
Stddev	.0004888	.0028808	.0006949	.002091	.001651	.04231	.005748
%RSD	1.161037	42.07316	.2931539	7.563722	23.99593	.0427722	.3323599
#1	.0419893	.0088997	.2373161	-.026623	-.005319	98.97435	1.723410
#2	.0416794	.0035538	.2375904	-.030043	-.008609	98.89014	1.730355
#3	.0426374	.0080876	.2362732	-.026251	-.006715	98.92496	1.734817
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0094006	-.003623	28.53486	.1897038	.0884302	.2276268	199.5791
Stddev	.0000515	.000194	.05844	.0006057	.0001650	.0007649	.4783
%RSD	.5478296	5.343315	.2047991	.3192719	.1866363	.3360519	.2396429
#1	.0094459	-.003693	28.49307	.1896623	.0883483	.2269065	199.2050
#2	.0093446	-.003772	28.60164	.1903291	.0883221	.2275442	200.1180
#3	.0094113	-.003405	28.50987	.1891199	.0886202	.2284297	199.4143
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.578944	22.56422	.1784473	.0000746	12.43740	.2550646	.4120087
Stddev	.013311	.07516	.0003196	.0004398	.01389	.0013933	.0006936
%RSD	.2906929	.3330791	.1791258	589.7342	.1116441	.5462490	.1683488
#1	4.563655	22.60160	.1788163	-.000154	12.45273	.2562393	.4113009
#2	4.587950	22.61336	.1782705	.000582	12.43378	.2554292	.4120381
#3	4.585227	22.47771	.1782552	-.000204	12.42568	.2535252	.4126872
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.168897	.3653318	.0012047	.0020901	1.595375	5.190181	5.275148
Stddev	.012473	.0011467	.0004543	.0009727	.001903	.053709	.010206
%RSD	.1739837	.3138751	37.70625	46.54070	.1192963	1.034827	.1934754
#1	7.172646	.3649273	.0014681	.0019925	1.594062	5.130030	5.281945
#2	7.154980	.3666259	.0014659	.0011698	1.597558	5.207172	5.280087
#3	7.179065	.3644422	.0006802	.0031079	1.594506	5.233339	5.263412

Sample Name: Q1694-01 Acquired: 4/3/2025 16:23:31 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.9893568	.1783814	-.020899
Stddev	.0036677	.0006084	.000491
%RSD	.3707189	.3410420	2.351436
#1	.9901392	.1777534	-.020896
#2	.9853610	.1784227	-.021393
#3	.9925701	.1789680	-.020410

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3506.887	83408.42	19816.76	2292.277	4621.381
Stddev	7.271	102.72	16.18	8.164	11.503
%RSD	.2073240	.1231481	.0816601	.3561323	.2489045
#1	3512.478	83429.29	19827.04	2283.383	4633.445
#2	3509.514	83296.87	19798.10	2299.430	4620.159
#3	3498.668	83499.10	19825.12	2294.017	4610.537

Sample Name: Q1695-01 Acquired: 4/3/2025 16:27:37 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.1186657	-.005163	9.869893	-.062742	.0166007	90.67927
Stddev	.0028185	.004222	.023277	.002688	.0010890	.04907
%RSD	2.375182	81.76473	.2358432	4.283473	6.560170	.0541122

#1	.1218380	-.008798	9.871805	-.059641	.0154569	90.73101
#2	.1177089	-.006159	9.845718	-.064191	.0167199	90.63340
#3	.1164500	-.000533	9.892155	-.064394	.0176252	90.67340

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.480828	.0130754	.0387439	610.8515	.4396328	.1977733
Stddev	.011251	.0001039	.0002807	2.6912	.0014719	.0009457
%RSD	.3232284	.7949085	.7245466	.4405696	.3347899	.4781569

#1	3.486458	.0131954	.0388813	610.6228	.4387672	.1974442
#2	3.488152	.0130135	.0384209	613.6497	.4387990	.1970361
#3	3.467873	.0130172	.0389294	608.2819	.4413322	.1988395

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.210796	313.7687	5.080250	233.5079	.6314948	.0050233
Stddev	.005387	.2560	.010808	.9136	.0001596	.0001908
%RSD	.2436714	.0815889	.2127474	.3912565	.0252788	3.797725

#1	2.208264	313.9391	5.085554	233.0599	.6316481	.0049397
#2	2.207143	313.8927	5.087381	234.5591	.6315069	.0052416
#3	2.216983	313.4743	5.067814	232.9048	.6313295	.0048887

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.675285	.5435485	8.713998	12.04847	.7102025	.0404272
Stddev	.023221	.0014190	.038102	.04345	.0015234	.0007477
%RSD	.3025379	.2610607	.4372549	.3605976	.2145072	1.849479

#1	7.687825	.5437646	8.718081	12.06135	.7118320	.0399288
#2	7.648491	.5448471	8.674018	12.00004	.7088139	.0400658
#3	7.689540	.5420339	8.749894	12.08402	.7099615	.0412869

Sample Name: Q1695-01 Acquired: 4/3/2025 16:27:37 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.5389643	4.911534	F 15.17909	F 12.17717	F 10.10600	.1712113
Stddev	.0010110	.011206	.08772	.01006	.03917	.0009741
%RSD	.1875845	.2281501	.5778757	.0826111	.3876222	.5689420
#1	.5384441	4.917721	15.12157	12.18317	10.13937	.1713749
#2	.5383193	4.918282	15.13565	12.16555	10.06287	.1701658
#3	.5401295	4.898599	15.28005	12.18278	10.11575	.1720932

Elem	Sr4077
Units	ppm
Avg	1.438690
Stddev	.014028
%RSD	.9750314
#1	1.443307
#2	1.449828
#3	1.422936

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3168.758	76886.97	19815.75	2052.437	3821.997
Stddev	13.683	41.88	49.11	7.494	15.938
%RSD	.4318186	.0544689	.2478105	.3651391	.4170191
#1	3181.174	76931.33	19824.83	2052.179	3834.081
#2	3171.014	76848.11	19762.74	2060.057	3827.976
#3	3154.088	76881.48	19859.68	2045.075	3803.934

Sample Name: CCV05 Acquired: 4/3/2025 16:36:20 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.901438	5.061378	4.860822	4.899564	4.939605	9.303608	9.613087
Stddev	.015900	.008783	.009234	.011839	.012928	.033871	.104262
%RSD	.3243899	.1735387	.1899625	.2416299	.2617311	.3640591	1.084582
#1	4.894281	5.069149	4.869401	4.888316	4.930168	9.267593	9.724887
#2	4.890375	5.063137	4.851049	4.898459	4.934307	9.308409	9.595866
#3	4.919659	5.051848	4.862017	4.911916	4.954342	9.334822	9.518508
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2271678	2.439669	22.96122	.9935523	2.453617	1.252728	4.899615
Stddev	.0012660	.005668	.15880	.0023745	.004917	.004227	.005397
%RSD	.5573137	.2323294	.6915950	.2389914	.2004052	.3373897	.1101570
#1	.2257220	2.444102	22.77831	.9928432	2.456274	1.253931	4.905843
#2	.2277035	2.433282	23.06385	.9916131	2.447943	1.248030	4.896323
#3	.2280779	2.441622	23.04150	.9962006	2.456635	1.256222	4.896677
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.264156	23.71455	2.477412	1.220641	25.07412	2.381679	2.442867
Stddev	.010270	.13223	.007267	.001809	.05803	.007477	.005695
%RSD	.4535708	.5576065	.2933386	.1482087	.2314279	.3139583	.2331131
#1	2.252454	23.56192	2.482483	1.221325	25.07818	2.373092	2.448448
#2	2.271670	23.79475	2.469087	1.222009	25.13001	2.385188	2.443088
#3	2.268344	23.78697	2.480667	1.218590	25.01417	2.386757	2.437065
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.68707	4.522564	5.000780	4.912094	4.685577	5.174684	4.829861
Stddev	.05657	.025287	.012319	.014083	.020779	.020260	.004843
%RSD	.2291281	.5591386	.2463321	.2867020	.4434665	.3915232	.1002804
#1	24.67436	4.494291	4.994396	4.924658	4.661748	5.166878	4.830086
#2	24.74891	4.543018	4.992964	4.896871	4.699921	5.197686	4.824909
#3	24.63794	4.530384	5.014980	4.914753	4.695063	5.159489	4.834588

Sample Name: CCV05 Acquired: 4/3/2025 16:36:20 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	4.879513	4.643719	4.748874
Stddev	.018491	.016022	.058653
%RSD	.3789560	.3450145	1.235093

#1	4.886475	4.626672	4.681155
#2	4.858551	4.658466	4.783618
#3	4.893512	4.646020	4.781849

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3111.513	73949.84	16853.75	2020.331	4730.791
Stddev	11.099	92.28	99.54	6.390	15.786
%RSD	.3567219	.1247870	.5906334	.3163063	.3336853

#1	3114.519	74056.19	16963.61	2012.996	4727.914
#2	3120.800	73902.50	16828.10	2023.301	4747.817
#3	3099.220	73890.85	16769.54	2024.697	4716.641

Sample Name: CCB05 Acquired: 4/3/2025 16:40:30 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0014944	.0015531	.0011199	-.001546	.0016701	.0071061	-.002351
Stddev	.0018070	.0012714	.0005509	.001760	.0020499	.0072938	.001713
%RSD	120.9184	81.86228	49.19225	113.8425	122.7426	102.6424	72.85355
#1	.0030492	.0030019	.0015136	-.001572	-.000661	.0016369	-.001494
#2	-.000488	.0010345	.0013558	.000227	.002482	.0042940	-.004323
#3	.001922	.0006230	.0004903	-.003292	.003189	.0153874	-.001236
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001579	.0003811	.0334665	.0003032	.0003307	.0003156	.0284628
Stddev	.0000127	.0000901	.0083049	.0000084	.0000535	.0000646	.0081154
%RSD	8.032729	23.65083	24.81567	2.756531	16.17568	20.45219	28.51237
#1	.0001478	.0004095	.0307060	.0002936	.0003194	.0003009	.0211096
#2	.0001539	.0004537	.0268933	.0003071	.0003889	.0002597	.0271088
#3	.0001721	.0002802	.0428001	.0003089	.0002837	.0003863	.0371701
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001115	-.000405	.0004464	.0006121	.0181199	.0007524	.0005431
Stddev	.000361	.007954	.0003003	.0002605	.0005539	.0004573	.0001574
%RSD	32.39098	1964.063	67.27346	42.56174	3.056887	60.77991	28.97867
#1	-.001530	-.007966	.0004105	.0005635	.0175915	.0012455	.0007222
#2	-.000947	-.001139	.0007632	.0008934	.0186962	.0003422	.0004269
#3	-.000868	.007890	.0001657	.0003792	.0180721	.0006695	.0004802
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.019243	.0036524	.0007287	-.000933	.0028589	.0127597	.0006489
Stddev	.023054	.0005126	.0001754	.000403	.0007436	.0029992	.0011994
%RSD	119.8063	14.03491	24.07744	43.12834	26.01001	23.50535	184.8396
#1	-.026497	.0041134	.0008528	-.001331	.0026026	.0132496	-.000703
#2	-.037798	.0037436	.0008053	-.000942	.0022774	.0095457	.001587
#3	.006566	.0031004	.0005280	-.000526	.0036968	.0154838	.001063

Sample Name: CCB05 Acquired: 4/3/2025 16:40:30 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0062517	-.000548	.0013075
Stddev	.0022453	.000847	.0003284
%RSD	35.91457	154.5914	25.11807

#1	.0055575	-.001126	.0011380
#2	.0087621	-.000943	.0010985
#3	.0044355	.000425	.0016861

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3190.491	75697.94	17785.89	2042.327	5203.576
Stddev	12.855	1032.03	209.06	25.117	9.983
%RSD	.4029176	1.363353	1.175414	1.229814	.1918494

#1	3193.132	74566.72	17687.60	2013.738	5199.993
#2	3176.520	75938.97	17644.09	2052.395	5195.878
#3	3201.820	76588.12	18025.98	2060.848	5214.856

Sample Name: LR1 Acquired: 4/3/2025 16:46:21 Type: Unk
Method: NON EPA-6010-200.7(v2882) 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	.0685884	.0854176	.0074985	-.092726	-.000860	1999.128	.0089875
Stddev	.0062529	.0009244	.0015693	.005441	.011873	6.575	.0005486
%RSD	9.116546	1.082273	20.92759	5.867933	1381.319	.3288868	6.104552
#1	.0721944	.0864250	.0090742	-.098423	.012601	1999.147	.0085496
#2	.0722026	.0846081	.0059357	-.087582	-.009846	1992.543	.0088099
#3	.0613682	.0852197	.0074857	-.092174	-.005334	2005.693	.0096029
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0069313	-.025523	1903.962	.0237782	.0272435	-.040257	1094.850
Stddev	.0002080	.000929	4.189	.0009097	.0006438	.001034	5.399
%RSD	3.001186	3.640195	.2199971	3.825727	2.362984	2.567598	.4930958
#1	.0069941	-.025586	1902.078	.0227283	.0267720	-.039204	1089.371
#2	.0066992	-.026419	1908.762	.0243335	.0279769	-.041271	1100.165
#3	.0071008	-.024564	1901.046	.0242727	.0269815	-.040297	1095.013
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0107011	1652.941	.0099573	.0190191	2106.928	.0149171	.1427495
Stddev	.0004421	7.369	.0004565	.0001102	8.900	.0031945	.0027943
%RSD	4.131248	.4458376	4.584946	.5795921	.4224126	21.41508	1.957454
#1	.0104474	1659.621	.0103419	.0188925	2106.588	.0116435	.1430652
#2	.0112116	1645.036	.0094528	.0190936	2098.203	.0180262	.1398108
#3	.0104443	1654.166	.0100773	.0190714	2115.994	.0150817	.1453725
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1293.084	2.075883	-.008654	-.002767	-.033126	.1655382	.0670572
Stddev	11.114	.013000	.001905	.003294	.001079	.0070966	.0063997
%RSD	.8595175	.6262327	22.01670	119.0342	3.256639	4.286986	9.543604
#1	1286.373	2.063325	-.010720	.001024	-.032507	.1732878	.0731312
#2	1305.913	2.089284	-.008277	-.004399	-.032499	.1593571	.0676651
#3	1286.966	2.075038	-.006965	-.004926	-.034372	.1639695	.0603752

Sample Name: LR1 Acquired: 4/3/2025 16:46:21 Type: Unk
Method: NON EPA-6010-200.7(v2882) 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	-.235886	.1411499	-.951980
Stddev	.008555	.0018023	.004728
%RSD	3.626888	1.276851	.4966748
#1	-.245688	.1391257	-.947210
#2	-.232048	.1417435	-.956666
#3	-.229922	.1425806	-.952062

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2092.033	50972.04	14147.45	1350.748	2723.954
Stddev	9.337	131.88	25.49	3.585	11.245
%RSD	.4463140	.2587223	.1801738	.2653742	.4128327
#1	2102.253	51114.01	14119.01	1347.385	2736.051
#2	2089.898	50853.36	14168.23	1350.339	2721.993
#3	2083.949	50948.74	14155.12	1354.519	2713.818

Sample Name: LR2 Acquired: 4/3/2025 16:51:18 Type: Unk
Method: NON EPA-6010-200.7(v2882) 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	.0090669	-.016622	252.4226	.0012333	-.004777	.5929337	^F *****
Stddev	.0014353	.002206	2.0236	.0020618	.001927	.0127585	----
%RSD	15.83039	13.27281	.8016754	167.1841	40.34259	2.151752	----
#1	.0100674	-.016040	253.3445	.0035643	-.006622	.5954552	^ ----
#2	.0097110	-.014765	250.1021	-.000352	-.004933	.6042432	^ ----
#3	.0074224	-.019061	253.8210	.000487	-.002777	.5791028	^ ----
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001260	-.002881	.7602776	.0081822	.0044452	248.3136	.2792496
Stddev	.000063	.000094	.0129887	.0001928	.0002954	2.5812	.0112233
%RSD	5.011883	3.253974	1.708418	2.356492	6.645300	1.039473	4.019074
#1	-.001257	-.002840	.7718807	.0083789	.0045858	248.8119	.2870430
#2	-.001198	-.002814	.7627060	.0079936	.0041057	245.5196	.2843201
#3	-.001324	-.002988	.7462460	.0081742	.0046439	250.6092	.2663858
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	45.19739	.2944981	47.53251	.0004436	.6182666	-.010506	32.19782
Stddev	.33617	.0098549	.39230	.0002802	.0192757	.001395	.11896
%RSD	.7437795	3.346342	.8253377	63.16735	3.117707	13.27654	.3694510
#1	44.82166	.3058720	47.75355	.0004224	.6335574	-.009267	32.33293
#2	45.30082	.2891200	47.07956	.0001745	.6246283	-.010233	32.15171
#3	45.46968	.2885024	47.76442	.0007337	.5966141	-.012017	32.10883
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4787597	-.003053	-.005537	-.006323	-.034595	-.006266	.1647110
Stddev	.0235632	.000748	.000130	.000507	.000515	.002707	.0065128
%RSD	4.921720	24.49987	2.344663	8.018040	1.489439	43.20134	3.954061
#1	.5051191	-.003845	-.005428	-.006198	-.035083	-.008951	.1700341
#2	.4714206	-.002359	-.005680	-.005890	-.034645	-.003538	.1574490
#3	.4597395	-.002954	-.005501	-.006881	-.034057	-.006310	.1666500

Sample Name: LR2 Acquired: 4/3/2025 16:51:18 Type: Unk
Method: NON EPA-6010-200.7(v2882) 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	-.007405	-.001113	.0012773
Stddev	.004529	.000980	.0000793
%RSD	61.15631	88.08233	6.207642
#1	-.002476	-.002205	.0013618
#2	-.008359	-.000825	.0012045
#3	-.011381	-.000309	.0012658

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2838.448	75392.06	16997.45	1993.391	4844.885
Stddev	26.427	156.18	59.23	1.380	36.283
%RSD	.9310501	.2071534	.3484451	.0692051	.7488851
#1	2821.643	75565.57	16949.09	1994.781	4824.448
#2	2868.910	75262.74	16979.76	1992.023	4886.776
#3	2824.792	75347.87	17063.51	1993.369	4823.430

Sample Name: Q1695-05 Acquired: 4/3/2025 16:55:24 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0678769	-.021523	1.256620	-.038423	.0118807	93.13383
Stddev	.0023454	.001932	.009770	.001431	.0036031	.07413
%RSD	3.455415	8.974548	.7774503	3.723417	30.32756	.0795934
#1	.0687323	-.019595	1.265874	-.037908	.0123730	93.07491
#2	.0652238	-.023458	1.257578	-.037321	.0152124	93.10951
#3	.0696745	-.021515	1.246406	-.040040	.0080568	93.21706
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6846341	.0057548	.0033859	109.5881	.2624085	.1565115
Stddev	.0014677	.0000942	.0007097	.3501	.0037731	.0006938
%RSD	.2143779	1.636703	20.96127	.3195051	1.437853	.4432635
#1	.6842421	.0058514	.0040652	109.2823	.2602537	.1569369
#2	.6862580	.0056632	.0034432	109.9700	.2602067	.1568866
#3	.6834021	.0057498	.0026493	109.5120	.2667652	.1557109
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7291901	235.2560	2.929844	68.54732	.2821171	-.000680
Stddev	.0068367	2.9342	.012495	.21671	.0022274	.000396
%RSD	.9375784	1.247232	.4264796	.3161415	.7895259	58.25573
#1	.7361389	232.5615	2.918360	68.32568	.2841762	-.001095
#2	.7289602	234.8244	2.943150	68.75874	.2824223	-.000305
#3	.7224712	238.3821	2.928021	68.55755	.2797529	-.000641
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.992546	.3981615	.5159169	29.00617	.5222908	.0208522
Stddev	.057616	.0006253	.0045332	.31455	.0066449	.0002687
%RSD	1.443085	.1570383	.8786635	1.084424	1.272260	1.288390
#1	3.971979	.3985999	.5121713	28.82403	.5163035	.0206754
#2	3.948035	.3984391	.5146231	28.82511	.5211288	.0207198
#3	4.057622	.3974455	.5209563	29.36939	.5294400	.0211613

Sample Name: Q1695-05 Acquired: 4/3/2025 16:55:24 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.1134800	7.452273	4.286601	8.905120	F 12.22389	.2018588
Stddev	.0019136	.019289	.040174	.050248	.08127	.0016186
%RSD	1.686255	.2588366	.9372079	.5642617	.6648479	.8018693
#1	.1152654	7.437837	4.259963	8.944163	12.31541	.2001878
#2	.1137146	7.474180	4.267028	8.922768	12.19612	.2019693
#3	.1114599	7.444802	4.332810	8.848429	12.16015	.2034194

Elem	Sr4077
Units	ppm
Avg	.1492883
Stddev	.0025044
%RSD	1.677558
#1	.1508430
#2	.1506227
#3	.1463993

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3644.260	87902.60	21016.43	2403.539	4302.156
Stddev	17.225	773.63	82.58	24.660	22.635
%RSD	.4726729	.8801035	.3929246	1.025984	.5261278
#1	3624.679	88459.43	21014.25	2425.065	4280.571
#2	3651.025	88229.14	20934.96	2408.918	4300.185
#3	3657.076	87019.24	21100.08	2376.633	4325.712

Sample Name: PB167421BS Acquired: 4/3/2025 17:03:48 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.7511335	2.009610	.9229142	1.894940	.7782675	1.778953
Stddev	.0009951	.007455	.0010407	.005267	.0034099	.008697
%RSD	.1324815	.3709780	.1127582	.2779302	.4381388	.4888868

#1	.7522494	2.001163	.9220004	1.893873	.7785841	1.770047
#2	.7508126	2.012397	.9226953	1.890289	.7747103	1.787425
#3	.7503384	2.015270	.9240469	1.900658	.7815080	1.779388

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1804587	.1797610	.1856152	.9102291	.3911605	.1901877
Stddev	.0013793	.0007609	.0002858	.0045407	.0010905	.0002540
%RSD	.7643472	.4232600	.1539985	.4988540	.2787801	.1335439

#1	.1790629	.1788827	.1858420	.9055451	.3901990	.1902644
#2	.1818209	.1802175	.1852941	.9105306	.3909370	.1899042
#3	.1804922	.1801829	.1857096	.9146115	.3923454	.1903944

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3062585	2.836642	.1788332	1.822384	.4827973	.0724685
Stddev	.0008670	.016508	.0011451	.015022	.0008736	.0001649
%RSD	.2830976	.5819583	.6403035	.8242911	.1809459	.2275368

#1	.3061906	2.830831	.1776079	1.806668	.4832506	.0725086
#2	.3054274	2.855269	.1790155	1.836599	.4817902	.0722873
#3	.3071575	2.823825	.1798762	1.823886	.4833510	.0726097

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.970037	.2777175	.1939200	9.340918	.2694937	.3977156
Stddev	.018243	.0027542	.0010723	.061352	.0012806	.0002110
%RSD	.6142336	.9917166	.5529751	.6568040	.4752071	.0530459

#1	2.949533	.2755412	.1933097	9.276018	.2682924	.3979152
#2	2.976105	.2808140	.1932922	9.397965	.2708411	.3974948
#3	2.984472	.2767975	.1951582	9.348771	.2693476	.3977368

Sample Name: PB167421BS Acquired: 4/3/2025 17:03:48 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.6572699	.1810541	.7554695	5.220309	F -.005009	.1862550
Stddev	.0023762	.0020314	.0060511	.016532	.002659	.0012168
%RSD	.3615245	1.121966	.8009706	.3166832	53.08050	.6533029
#1	.6587125	.1788765	.7515961	5.207292	-.007136	.1862581
#2	.6545273	.1813880	.7523700	5.214725	-.002028	.1850366
#3	.6585697	.1828979	.7624424	5.238910	-.005862	.1874703

Elem	Sr4077
Units	ppm
Avg	.1817716
Stddev	.0006067
%RSD	.3337723
#1	.1811024
#2	.1822858
#3	.1819267

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3239.906	77099.98	17148.55	2130.265	5179.654
Stddev	11.009	177.70	108.04	4.925	10.596
%RSD	.3397955	.2304754	.6300275	.2312134	.2045701
#1	3234.849	77301.70	17271.79	2127.073	5175.906
#2	3252.535	77031.66	17103.71	2135.937	5191.615
#3	3232.334	76966.59	17070.15	2127.784	5171.441

Sample Name: PB167421BL Acquired: 4/3/2025 17:09:26 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.000601	.0005919	.0020043	-.002237	-.000187	.0044790	-.005192
Stddev	.003454	.0018574	.0018079	.001213	.002411	.0006049	.000688
%RSD	574.2845	313.7957	90.20347	54.19805	1288.744	13.50537	13.25579
#1	-.000742	-.001325	.0040902	-.001209	-.002969	.0048656	-.005537
#2	.002921	.002384	.0008879	-.001929	.001116	.0037819	-.005639
#3	-.003983	.000716	.0010348	-.003575	.001292	.0047894	-.004399
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001433	-.000005	.0137123	.0000273	-.000020	.0014947	.0030157
Stddev	.0000631	.000018	.0052772	.0004614	.000154	.0003986	.0005371
%RSD	44.00636	343.6628	38.48536	1687.782	751.0072	26.66905	17.80840
#1	.0001735	-.000024	.0158526	-.000336	.000153	.0018869	.0035068
#2	.0001856	.000011	.0175832	.000546	-.000077	.0010900	.0030982
#3	.0000708	-.000003	.0077012	-.000128	-.000138	.0015072	.0024422
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001507	-.012733	.0000830	.0000650	.0830803	-.000175	-.000250
Stddev	.000025	.010866	.0000331	.0000975	.0073414	.001411	.000182
%RSD	1.633217	85.33998	39.86786	149.8656	8.836462	806.0695	72.68321
#1	-.001489	-.009381	.0001197	-.000046	.0760062	-.001700	-.000314
#2	-.001535	-.024880	.0000742	.000137	.0825722	.001083	-.000391
#3	-.001496	-.003938	.0000553	.000104	.0906625	.000093	-.000045
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0569380	-.003694	-.000288	-.001246	.0012741	-.000358	.0030491
Stddev	.0065433	.000560	.000090	.000419	.0004751	.002579	.0011568
%RSD	11.49192	15.15511	31.20755	33.61676	37.29357	719.9608	37.93753
#1	.0625047	-.003282	-.000186	-.000913	.0007332	.002396	.0034502
#2	.0497305	-.003469	-.000354	-.001717	.0014644	-.000755	.0039519
#3	.0585789	-.004331	-.000324	-.001110	.0016245	-.002716	.0017452

Sample Name: PB167421BL Acquired: 4/3/2025 17:09:26 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0034406	-.003176	.0000386
Stddev	.0008440	.000889	.0000414
%RSD	24.53158	27.99685	107.2625

#1	.0029403	-.002518	.0000712
#2	.0029664	-.004187	-.000008
#3	.0044151	-.002822	.000053

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3232.776	77559.31	17338.32	2118.084	5269.086
Stddev	32.429	166.55	72.58	8.350	46.539
%RSD	1.003135	.2147402	.4186028	.3942256	.8832453

#1	3268.749	77369.98	17318.18	2120.267	5322.398
#2	3223.798	77624.72	17277.95	2108.859	5248.285
#3	3205.783	77683.22	17418.85	2125.126	5236.576

Sample Name: Q1689-01 Acquired: 4/3/2025 17:13:45 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.015791	-.015594	-.035478	.0262408	.0164091	.3550346
Stddev	.005734	.012794	.005221	.0106230	.0012289	.0162739
%RSD	36.30967	82.04288	14.71740	40.48282	7.489168	4.583756
#1	-.017938	-.021877	-.030207	.0354011	.0157908	.3712615
#2	-.020141	-.024032	-.040648	.0145956	.0156121	.3551284
#3	-.009294	-.000874	-.035577	.0287257	.0178244	.3387140
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0153389	.0005671	-.002833	F 283.8787	.1941788	.8054327
Stddev	.0005153	.0001063	.000101	.9889	.0010168	.0031916
%RSD	3.359192	18.74500	3.580829	.3483598	.5236665	.3962559
#1	.0158167	.0006451	-.002723	282.9677	.1932357	.8066810
#2	.0154069	.0006101	-.002924	284.9305	.1952560	.8018057
#3	.0147930	.0004460	-.002852	283.7380	.1940446	.8078115
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.012526	.1293275	.0004693	15.09833	2.489037	.0127252
Stddev	.002699	.0072724	.0002119	.07478	.030280	.0004649
%RSD	21.54490	5.623279	45.16185	.4952615	1.216547	3.652958
#1	-.012545	.1332136	.0006640	15.01652	2.503384	.0125833
#2	-.015216	.1209376	.0005004	15.16315	2.454250	.0123478
#3	-.009818	.1338313	.0002435	15.11534	2.509477	.0132445
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	^ *****	-.001787	.3530528	F 492.1591	.1692727	3.824413
Stddev	-----	.001099	.0032719	44.4248	.0018801	.016278
%RSD	-----	61.49893	.9267363	9.026515	1.110716	.4256232
#1	^ -----	-.002776	.3519146	443.0324	.1698068	3.816544
#2	^ -----	-.000604	.3567418	503.9362	.1671833	3.843129
#3	^ -----	-.001980	.3505021	529.5087	.1708280	3.813564

Sample Name: Q1689-01 Acquired: 4/3/2025 17:13:45 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.024424	.0166897	2.057825	.0016050	F 4768.070	.0164488
Stddev	.004571	.0003857	.050477	.0153965	69.798	.0020348
%RSD	18.71406	2.310927	2.452917	959.2847	1.463854	12.37070
#1	-.028714	.0162531	1.999542	-.001611	4769.147	.0141915
#2	-.019617	.0168319	2.087484	.018356	4697.740	.0170128
#3	-.024941	.0169841	2.086449	-.011929	4837.323	.0181421

Elem	Sr4077
Units	ppm
Avg	.5726837
Stddev	.0034831
%RSD	.6081993
#1	.5693683
#2	.5723695
#3	.5763132

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	876.9580	22630.13	8217.535	587.7013	924.4798
Stddev	27.8016	213.28	65.547	6.3668	34.1694
%RSD	3.170236	.9424391	.7976502	1.083344	3.696066
#1	884.2545	22854.69	8158.253	593.3581	930.5313
#2	846.2357	22430.29	8287.927	580.8063	887.6889
#3	900.3837	22605.40	8206.423	588.9393	955.2191

Sample Name: Q1689-01DUP Acquired: 4/3/2025 17:18:03 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.009339	-.013237	-.038355	.0219091	.0113411	.2599649
Stddev	.003709	.008101	.007568	.0074317	.0046544	.0124231
%RSD	39.71366	61.20099	19.73153	33.92061	41.04014	4.778758
#1	-.010269	-.006888	-.046742	.0230366	.0060601	.2581037
#2	-.005253	-.010463	-.036289	.0139781	.0148458	.2485774
#3	-.012494	-.022362	-.032034	.0287126	.0131174	.2732136
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0155157	.0005411	-.002682	290.9919	.1953157	.8091294
Stddev	.0012325	.0001213	.000488	2.6065	.0026606	.0023273
%RSD	7.943831	22.42705	18.20433	.8957157	1.362223	.2876335
#1	.0167851	.0004610	-.002350	293.2543	.1926263	.8064493
#2	.0143236	.0004815	-.002453	291.5796	.1953741	.8106396
#3	.0154384	.0006807	-.003242	288.1418	.1979467	.8102994
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008331	.0979786	-.000161	15.79160	2.527671	.0119390
Stddev	.001245	.0028578	.000534	.23429	.016905	.0005447
%RSD	14.94915	2.916796	332.4548	1.483661	.6687992	4.562448
#1	-.009645	.0948100	.000453	15.97426	2.508212	.0118252
#2	-.007168	.0987647	-.000517	15.87310	2.538745	.0114601
#3	-.008179	.1003611	-.000418	15.52744	2.536055	.0125316
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	^ *****	-.003156	.3401921	571.8304	.1712082	3.778222
Stddev	-----	.002352	.0003300	3.4026	.0050949	.005538
%RSD	-----	74.52093	.0970141	.5950424	2.975851	.1465865
#1	^ -----	-.000998	.3399332	569.6391	.1722992	3.782070
#2	^ -----	-.002806	.3400794	575.7503	.1656562	3.771875
#3	^ -----	-.005662	.3405637	570.1017	.1756693	3.780723

Sample Name: Q1689-01DUP Acquired: 4/3/2025 17:18:03 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.023857	.0187258	1.796163	-.003535	F 4955.061	.0185858
Stddev	.004714	.0010294	.025979	.019588	70.706	.0040786
%RSD	19.75882	5.497090	1.446371	554.1094	1.426936	21.94479
#1	-.019238	.0198201	1.781407	-.016095	4883.735	.0155402
#2	-.023672	.0185805	1.780922	-.013547	5025.130	.0169975
#3	-.028660	.0177768	1.826160	.019036	4956.319	.0232196

Elem	Sr4077
Units	ppm
Avg	.5577953
Stddev	.0076982
%RSD	1.380107
#1	.5609765
#2	.5490164
#3	.5633931

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	925.3046	22793.46	7969.338	600.3785	983.3822
Stddev	13.6775	317.36	90.928	12.8317	15.3206
%RSD	1.478157	1.392317	1.140976	2.137273	1.557955
#1	909.9264	22710.11	7875.579	598.4639	967.7038
#2	936.1090	22526.10	8057.143	588.6117	998.3181
#3	929.8785	23144.18	7975.292	614.0600	984.1246

Sample Name: Q1689-01LX5 Acquired: 4/3/2025 17:22:20 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0001646	.0018923	-.008896	.0004658	.0024923	.0321104
Stddev	.0054808	.0039071	.003587	.0065952	.0036934	.0027993
%RSD	3329.646	206.4695	40.32605	1415.923	148.1904	8.717705
#1	.0059464	.0020394	-.010122	.0071548	-.001764	.0340118
#2	-.000498	.0057238	-.011709	.0002739	.004385	.0288960
#3	-.004955	-.002086	-.004856	-.006031	.004855	.0334235
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.004636	.0002326	-.000721	74.85457	.0540850	.1919994
Stddev	.001413	.0000757	.000175	.53666	.0005485	.0021454
%RSD	30.48438	32.55409	24.21965	.7169407	1.014044	1.117418
#1	-.003547	.0002969	-.000521	74.80258	.0542423	.1938328
#2	-.006234	.0002516	-.000799	74.34579	.0534751	.1925255
#3	-.004128	.0001491	-.000843	75.41533	.0545375	.1896398
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040171	.0223757	-.001615	4.413915	.6296888	.0011059
Stddev	.0009688	.0079176	.000216	.030850	.0106457	.0005189
%RSD	24.11641	35.38478	13.37627	.6989350	1.690636	46.92326
#1	.0050757	.0200100	-.001538	4.395597	.6394816	.0011462
#2	.0031748	.0312064	-.001448	4.396614	.6312271	.0005680
#3	.0038006	.0159106	-.001859	4.449533	.6183575	.0016035
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	^ *****	-.002039	.0488749	80.19985	.0322122	.9276608
Stddev	-----	.000101	.0006891	2.63335	.0007504	.0035688
%RSD	-----	4.977520	1.410014	3.283491	2.329494	.3847082
#1	^ -----	-.002030	.0480814	77.66814	.0313616	.9238296
#2	^ -----	-.001941	.0493234	80.00713	.0327802	.9282619
#3	^ -----	-.002144	.0492200	82.92427	.0324950	.9308908

Sample Name: Q1689-01LX5 Acquired: 4/3/2025 17:22:20 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.006057	.0061628	.2536671	.0014559	F 2426.692	-.005067
Stddev	.001025	.0007516	.0052868	.0048585	63.799	.002091
%RSD	16.91398	12.19559	2.084157	333.7079	2.629053	41.27385
#1	-.006328	.0067063	.2586162	-.003296	2490.116	-.006994
#2	-.004925	.0053051	.2480973	.006415	2427.436	-.005362
#3	-.006920	.0064770	.2542878	.001249	2362.524	-.002843

Elem	Sr4077
Units	ppm
Avg	.1164523
Stddev	.0006311
%RSD	.5419034
#1	.1157281
#2	.1167444
#3	.1168845

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1691.634	39541.26	11537.00	1127.690	2110.936
Stddev	38.463	272.34	32.39	14.274	30.912
%RSD	2.273690	.6887503	.2807065	1.265730	1.464358
#1	1728.381	39791.73	11572.00	1144.101	2140.941
#2	1694.864	39580.70	11508.10	1120.808	2112.675
#3	1651.659	39251.35	11530.88	1118.162	2079.191

Sample Name: Q1689-01MS Acquired: 4/3/2025 17:26:39 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.176898	1.486816	.7267959	3.524481	1.349680	3.169197
Stddev	.022323	.016113	.0013766	.027153	.012500	.145784
%RSD	1.896733	1.083701	.1894072	.7704135	.9261773	4.600043

#1	1.151122	1.498573	.7252794	3.495282	1.337495	3.285812
#2	1.189639	1.468449	.7279668	3.548973	1.362473	3.005752
#3	1.189932	1.493424	.7271414	3.529186	1.349071	3.216028

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1934060	.2206827	.1567298	281.5418	.4316446	.9398397
Stddev	.0003504	.0045679	.0016250	6.8902	.0099224	.0058681
%RSD	.1811960	2.069903	1.036786	2.447324	2.298748	.6243684

#1	.1937790	.2156646	.1579034	274.7041	.4427233	.9412432
#2	.1930836	.2217847	.1548751	288.4834	.4235751	.9333972
#3	.1933555	.2245988	.1574108	281.4380	.4286354	.9448788

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1380582	3.003522	.1292011	16.36717	2.810122	.1852015
Stddev	.0016293	.060027	.0031603	.43860	.021196	.0032937
%RSD	1.180168	1.998564	2.446046	2.679732	.7542808	1.778427

#1	.1398778	2.980730	.1259470	15.95155	2.824382	.1814158
#2	.1367344	3.071607	.1322584	16.82560	2.785765	.1874102
#3	.1375624	2.958229	.1293980	16.32438	2.820217	.1867785

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	^ *****	.2129789	.6872977	558.4862	.3962211	3.912136
Stddev	-----	.0013899	.0113649	7.5907	.0074865	.007874
%RSD	-----	.6526194	1.653567	1.359160	1.889467	.2012823

#1	^ -----	.2114041	.6744594	562.6209	.3880446	3.906046
#2	^ -----	.2134981	.6913624	549.7258	.3978794	3.909335
#3	^ -----	.2140345	.6960714	563.1120	.4027395	3.921029

Sample Name: Q1689-01MS Acquired: 4/3/2025 17:26:39 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.5684385	.1742554	3.531171	F 12.71703	F 4761.543	.4755914
Stddev	.0080201	.0022036	.128408	.12198	64.471	.0198265
%RSD	1.410908	1.264592	3.636403	.9591691	1.353997	4.168812
#1	.5729915	.1717157	3.658309	12.57782	4825.862	.4889926
#2	.5591780	.1756599	3.401530	12.80520	4696.920	.4528161
#3	.5731458	.1753907	3.533674	12.76806	4761.846	.4849655

Elem	Sr4077
Units	ppm
Avg	.7119115
Stddev	.0048828
%RSD	.6858714
#1	.7089823
#2	.7092040
#3	.7175482

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	952.6786	24007.94	8199.887	630.2906	994.5858
Stddev	7.1449	207.54	117.004	9.1842	8.6311
%RSD	.7499807	.8644829	1.426894	1.457143	.8678085
#1	955.6053	24005.25	8330.816	639.4508	1000.728
#2	944.5351	23801.75	8105.558	621.0825	984.718
#3	957.8956	24216.82	8163.288	630.3384	998.312

Sample Name: Q1689-01MSD Acquired: 4/3/2025 17:30:52 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.194205	1.485003	.7199755	3.611336	1.397035	3.171883
Stddev	.011543	.019072	.0191176	.073127	.024604	.192914
%RSD	.9665664	1.284320	2.655317	2.024937	1.761185	6.082018
#1	1.194289	1.465150	.6979014	3.609579	1.408057	3.237468
#2	1.205706	1.503184	.7312023	3.685326	1.414201	3.323454
#3	1.182620	1.486674	.7308227	3.539103	1.368846	2.954727
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1924412	.2264242	.1560553	280.4507	.4425321	.9386848
Stddev	.0045393	.0017463	.0018386	5.2726	.0148565	.0114037
%RSD	2.358786	.7712477	1.178160	1.880039	3.357148	1.214863
#1	.1954344	.2260135	.1539724	284.4582	.4596686	.9256828
#2	.1946709	.2249198	.1567413	274.4777	.4346496	.9469902
#3	.1872182	.2283392	.1574523	282.4162	.4332781	.9433814
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1342797	3.067805	.1289677	16.29165	2.802761	.1931740
Stddev	.0050468	.082468	.0021545	.36845	.033913	.0029965
%RSD	3.758419	2.688186	1.670555	2.261619	1.210000	1.551215
#1	.1314559	3.153132	.1309981	16.46719	2.763732	.1910959
#2	.1312768	3.061754	.1267076	15.86825	2.825046	.1966090
#3	.1401063	2.988529	.1291976	16.53951	2.819506	.1918171
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	^ *****	.2139541	.7134466	555.2875	.4030048	3.951103
Stddev	-----	.0031222	.0031540	18.6075	.0038544	.034123
%RSD	-----	1.459281	.4420868	3.350973	.9564176	.8636407
#1	^ -----	.2175150	.7128485	561.6794	.4034112	3.922623
#2	^ -----	.2116859	.7168569	569.8565	.3989633	3.988924
#3	^ -----	.2126613	.7106344	534.3264	.4066399	3.941761

Sample Name: Q1689-01MSD Acquired: 4/3/2025 17:30:52 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.5698531	.1731669	3.632108	F 12.95670	F 4720.733	.4939752
Stddev	.0044929	.0023384	.197251	.19355	65.459	.0286922
%RSD	.7884273	1.350383	5.430746	1.493821	1.386618	5.808427
#1	.5647471	.1756789	3.726919	12.95313	4645.149	.5042130
#2	.5716107	.1710532	3.764053	13.15202	4758.306	.5161444
#3	.5732015	.1727686	3.405354	12.76497	4758.745	.4615684

Elem	Sr4077
Units	ppm
Avg	.7162142
Stddev	.0144768
%RSD	2.021289
#1	.7283655
#2	.7200801
#3	.7001969

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	929.4210	23449.07	8128.330	610.3717	970.4107
Stddev	21.1718	202.00	101.453	2.2533	26.2100
%RSD	2.277956	.8614223	1.248139	.3691612	2.700917
#1	928.1088	23217.54	8118.759	612.9060	970.1073
#2	908.9359	23540.43	8234.229	608.5943	944.3537
#3	951.2185	23589.24	8032.001	609.6149	996.7711

Sample Name: CCV06 Acquired: 4/3/2025 17:48:06 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	5.009572	5.222170	4.936416	5.021222	5.049636	9.567602	9.638699
Stddev	.044759	.008586	.043366	.035091	.040986	.008504	.074730
%RSD	.8934738	.1644225	.8784905	.6988462	.8116607	.0888783	.7753106

#1	5.032861	5.231438	4.973118	5.031652	5.077691	9.576116	9.664140
#2	5.037885	5.220586	4.947566	5.049915	5.068617	9.567582	9.697386
#3	4.957970	5.214485	4.888564	4.982099	5.002601	9.559109	9.554570

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2390954	2.476961	23.59500	1.013055	2.494292	1.282045	4.881944
Stddev	.0012775	.021984	.04031	.002550	.021219	.012511	.026962
%RSD	.5343059	.8875279	.1708489	.2517463	.8506957	.9758769	.5522824

#1	.2404212	2.494969	23.64089	1.012497	2.512528	1.290981	4.852396
#2	.2378725	2.483451	23.56531	1.015837	2.499345	1.287409	4.888223
#3	.2389924	2.452463	23.57879	1.010829	2.471003	1.267746	4.905212

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.308069	24.14295	2.515312	1.248304	27.01087	2.432474	2.527904
Stddev	.004660	.06601	.022317	.001072	.19241	.003548	.006835
%RSD	.2018998	.2734083	.8872432	.0858813	.7123520	.1458451	.2703774

#1	2.311236	24.21911	2.534019	1.247148	26.79616	2.436271	2.535740
#2	2.302718	24.10231	2.521307	1.249265	27.16769	2.431907	2.524800
#3	2.310252	24.10743	2.490610	1.248499	27.06876	2.429244	2.523172

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.30795	4.749989	5.091794	4.982773	4.750622	5.193646	4.799193
Stddev	.22215	.032816	.040725	.042748	.006540	.035926	.036063
%RSD	.8777761	.6908729	.7998187	.8579237	.1376761	.6917368	.7514286

#1	25.05380	4.786597	5.119944	5.015882	4.750269	5.154711	4.820086
#2	25.46510	4.723211	5.110340	4.997924	4.757331	5.200712	4.819941
#3	25.40496	4.740160	5.045096	4.934513	4.744264	5.225514	4.757551

Sample Name: CCV06 Acquired: 4/3/2025 17:48:06 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	5.016721	4.617818	4.816128
Stddev	.033815	.006881	.024174
%RSD	.6740377	.1490003	.5019429

#1	5.047779	4.611620	4.793378
#2	5.021686	4.625222	4.841511
#3	4.980699	4.616613	4.813494

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3062.781	72561.72	16171.39	1980.062	4669.261
Stddev	24.988	131.89	94.85	3.853	40.121
%RSD	.8158670	.1817595	.5865044	.1946038	.8592566

#1	3042.625	72714.01	16067.99	1976.581	4632.208
#2	3054.978	72485.16	16254.34	1984.202	4663.703
#3	3090.739	72486.00	16191.84	1979.402	4711.870

Sample Name: CCB06 Acquired: 4/3/2025 18:00:40 Type: Unk
Method: NON EPA-6010-200.7(v2883) 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	.0012102	.0001681	-.001179	-.001527	.0005169	-.000706
Stddev	.0025923	.0020693	.000846	.000721	.0004909	.001166
%RSD	214.2059	1231.213	71.71828	47.17734	94.97636	165.2050
#1	.0041505	.0000874	-.001558	-.002359	.0001144	-.001690
#2	.0002254	.0022765	-.001769	-.001118	.0010638	.000582
#3	-.000745	-.001860	-.000210	-.001105	.0003724	-.001010
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.005708	.0001222	.0000103	.0033171	.0000723	.0000809
Stddev	.000241	.0000606	.0000183	.0052120	.0000806	.0001090
%RSD	4.215838	49.61603	176.5346	157.1255	111.5328	134.7240
#1	-.005534	.0001238	-.000001	-.002130	.0001504	.0001870
#2	-.005982	.0001820	.000031	.008257	-.000011	-.000031
#3	-.005607	.0000608	.000001	.003825	.000077	.000087
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001173	-.005623	-.001821	-.010343	-.000031	-.000224
Stddev	.0003759	.002386	.000253	.008074	.000262	.000191
%RSD	320.5396	42.43147	13.87674	78.06819	831.6702	85.20888
#1	-.000062	-.003483	-.002073	-.019253	-.000301	-.000004
#2	-.000136	-.005191	-.001822	-.003509	.000222	-.000343
#3	.000549	-.008196	-.001568	-.008266	-.000015	-.000324
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6239735	.0009195	-.000536	.5527732	-.002203	.0002158
Stddev	.0187237	.0006834	.000286	.0237448	.000404	.0001234
%RSD	3.000712	74.32405	53.38111	4.295581	18.35080	57.17298
#1	.6046577	.0011918	-.000739	.5292651	-.001883	.0001868
#2	.6252201	.0001419	-.000209	.5523066	-.002657	.0003512
#3	.6420427	.0014248	-.000661	.5767479	-.002070	.0001095

Sample Name: CCB06 Acquired: 4/3/2025 18:00:40 Type: Unk
Method: NON EPA-6010-200.7(v2883) 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	-.001685	.0016373	.0047291	.0012092	F .0356530	-.002718
Stddev	.000386	.0003296	.0025394	.0007038	.0046991	.000265
%RSD	22.91138	20.13057	53.69710	58.20329	13.18003	9.760885
#1	-.001241	.0020154	.0018687	.0020023	.0321587	-.002978
#2	-.001874	.0014108	.0067179	.0009665	.0409951	-.002448
#3	-.001941	.0014856	.0056006	.0006590	.0338051	-.002727

Elem	Sr4077
Units	ppm
Avg	.0001219
Stddev	.0000510
%RSD	41.87396
#1	.0001800
#2	.0001015
#3	.0000842

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3178.579	73810.08	15655.70	2052.382	5164.739
Stddev	7.078	164.62	20.21	11.329	5.373
%RSD	.2226885	.2230262	.1291195	.5519849	.1040325
#1	3185.499	73911.69	15653.87	2051.713	5169.743
#2	3178.886	73898.40	15676.76	2064.031	5159.060
#3	3171.353	73620.15	15636.45	2041.403	5165.413

Sample Name: Q1689-01A Acquired: 4/3/2025 18:04:36 Type: Unk
Method: NON EPA-6010-200.7(v2880) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.109023	1.482261	.7339262	3.320142	1.252978	3.016075
Stddev	.025131	.020033	.0181148	.072594	.035658	.115816
%RSD	2.266019	1.351494	2.468209	2.186476	2.845836	3.839969

#1	1.080054	1.503550	.7547376	3.236346	1.213238	2.952152
#2	1.122055	1.479451	.7253400	3.363951	1.263520	3.149766
#3	1.124962	1.463782	.7217010	3.360128	1.282176	2.946308

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1950502	.2215911	.1587331	294.7703	.4695632	.9407483
Stddev	.0007031	.0023726	.0028533	4.2880	.0057643	.0110903
%RSD	.3604588	1.070730	1.797546	1.454677	1.227583	1.178882

#1	.1951056	.2242810	.1620120	297.0863	.4649130	.9535502
#2	.1957239	.2206964	.1573732	289.8223	.4677640	.9340679
#3	.1943210	.2197958	.1568142	297.4022	.4760124	.9346267

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1519651	3.153275	.1333489	17.16092	2.837849	.1777899
Stddev	.0068712	.104046	.0010320	.32051	.046596	.0021210
%RSD	4.521584	3.299608	.7738931	1.867666	1.641947	1.192961

#1	.1594942	3.118682	.1338591	17.31857	2.891557	.1763883
#2	.1460329	3.070932	.1321612	16.79212	2.808208	.1767513
#3	.1503684	3.270211	.1340264	17.37207	2.813781	.1802299

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	^ *****	.2154289	.6678906	468.2218	.4008492	3.881514
Stddev	-----	.0011821	.0125719	14.9431	.0046953	.013073
%RSD	-----	.5487002	1.882332	3.191456	1.171334	.3368060

#1	^ -----	.2140887	.6602255	451.8922	.4061085	3.892263
#2	^ -----	.2158753	.6610466	471.5594	.3970792	3.866961
#3	^ -----	.2163228	.6823997	481.2140	.3993600	3.885318

Sample Name: Q1689-01A Acquired: 4/3/2025 18:04:36 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.5720939	.1768819	3.407597	F 12.07904	F 4985.747	.4501074
Stddev	.0047343	.0013810	.105631	.22582	143.914	.0177311
%RSD	.8275466	.7807446	3.099857	1.869542	2.886512	3.939300
#1	.5769788	.1764797	3.293948	11.82094	5151.558	.4438380
#2	.5717767	.1757466	3.502773	12.24023	4893.280	.4701215
#3	.5675261	.1784193	3.426069	12.17595	4912.404	.4363628

Elem	Sr4077
Units	ppm
Avg	.7113966
Stddev	.0062499
%RSD	.8785432
#1	.7061605
#2	.7183157
#3	.7097137

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	977.2288	23152.97	7919.606	628.2057	1045.829
Stddev	11.6757	548.32	99.834	17.4712	14.729
%RSD	1.194776	2.368236	1.260593	2.781129	1.408366
#1	987.0469	23414.49	7871.099	638.0199	1060.935
#2	980.3213	23521.56	8034.425	638.5631	1045.044
#3	964.3181	22522.85	7853.294	608.0341	1031.508

Sample Name: Q1703-02 Acquired: 4/3/2025 18:08:49 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.000110	.0019461	.0563242	-.000074	.0336910	1.988049
Stddev	.000696	.0016133	.0025428	.000205	.0011776	.001929
%RSD	631.1324	82.89761	4.514547	278.9199	3.495177	.0970083
#1	.000170	.0022295	.0586938	-.000298	.0350502	1.989538
#2	-.000902	.0033989	.0566410	.000105	.0330455	1.988738
#3	.000401	.0002099	.0536379	-.000028	.0329773	1.985870
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1153579	.0004339	.0028835	18.20505	.0365793	.0035577
Stddev	.0008491	.0000394	.0001057	.00196	.0004838	.0002744
%RSD	.7360948	9.089034	3.666199	.0107821	1.322596	7.711901
#1	.1148037	.0004179	.0027876	18.20279	.0371251	.0032985
#2	.1149346	.0004788	.0028662	18.20594	.0364096	.0035295
#3	.1163355	.0004049	.0029969	18.20641	.0362032	.0038451
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2885421	12.06395	.1419991	4.460695	.0365785	.0018291
Stddev	.0012709	.04883	.0004891	.012010	.0006824	.0001682
%RSD	.4404382	.4047734	.3444220	.2692501	1.865699	9.195532
#1	.2875788	12.01502	.1418589	4.470654	.0365599	.0016356
#2	.2880651	12.11268	.1425429	4.447357	.0359056	.0019113
#3	.2899825	12.06415	.1415954	4.464074	.0372701	.0019404
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	695.2001	.0048667	1.158634	19.19375	.1650294	.0280224
Stddev	4.3673	.0009542	.003683	.07880	.0005755	.0003699
%RSD	.6282140	19.60598	.3179134	.4105451	.3487153	1.320003
#1	691.2593	.0050081	1.154710	19.11192	.1656743	.0284434
#2	699.8956	.0057422	1.162017	19.26912	.1648456	.0278739
#3	694.4453	.0038497	1.159176	19.20021	.1645683	.0277498

Sample Name: Q1703-02 Acquired: 4/3/2025 18:08:49 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0200409	.0835764	F 23.96687	8.303331	F 214.0887	.0294886
Stddev	.0005380	.0010814	.10209	.026679	.7013	.0014854
%RSD	2.684581	1.293954	.4259779	.3213107	.3275890	5.037046
#1	.0194697	.0847349	23.85628	8.287818	213.9051	.0277823
#2	.0205379	.0825936	24.05753	8.288038	213.4975	.0304918
#3	.0201153	.0834006	23.98680	8.334138	214.8636	.0301919

Elem	Sr4077
Units	ppm
Avg	.1517489
Stddev	.0004712
%RSD	.3105213
#1	.1512481
#2	.1518151
#3	.1521835

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2865.970	65779.04	15930.84	1897.017	4090.963
Stddev	14.204	391.38	66.05	20.448	16.167
%RSD	.4955938	.5949902	.4146319	1.077888	.3951999
#1	2874.667	66165.21	15945.87	1919.162	4094.329
#2	2873.664	65789.23	15988.09	1893.039	4105.182
#3	2849.580	65382.66	15858.57	1878.852	4073.377

Sample Name: Q1704-01 Acquired: 4/3/2025 18:13:08 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	.0005343	.0008474	-.000293	-.003543	.0005201	.0588013
Stddev	.0017318	.0013288	.000316	.000523	.0014375	.0033002
%RSD	324.1251	156.8106	108.0031	14.75838	276.3819	5.612423
#1	.0006443	-.000685	-.000546	-.003366	.0006027	.0553228
#2	-.001250	.001543	.000062	-.004131	.0019146	.0591929
#3	.002209	.001684	-.000395	-.003131	-.000957	.0618882
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1599521	.0003124	.0000388	118.1977	.0008648	-.000289
Stddev	.0007908	.0000070	.0000685	.4928	.0002843	.000107
%RSD	.4944133	2.247011	176.5319	.4168871	32.87953	36.94377
#1	.1606860	.0003195	.0000700	118.7666	.0005856	-.000239
#2	.1591146	.0003055	-.000040	117.9214	.0008548	-.000217
#3	.1600558	.0003121	.000086	117.9050	.0011540	-.000412
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005932	.0423216	.0035236	29.51828	.0087479	-.000283
Stddev	.0002118	.0008682	.0000715	.09574	.0000869	.000325
%RSD	35.70081	2.051360	2.028803	.3243546	.9930962	114.6820
#1	.0007466	.0415548	.0036018	29.60085	.0087045	-.000593
#2	.0003516	.0421458	.0035076	29.54067	.0088479	-.000311
#3	.0006816	.0432642	.0034615	29.41333	.0086913	.000055
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	290.2296	.0024376	.0282071	20.20120	.2543337	.0076107
Stddev	2.1841	.0009658	.0002534	.00643	.0011967	.0001326
%RSD	.7525486	39.61946	.8985146	.0318465	.4705107	1.742614
#1	290.6609	.0027855	.0281022	20.19378	.2533844	.0074877
#2	287.8620	.0013461	.0284961	20.20450	.2539388	.0075931
#3	292.1659	.0031812	.0280229	20.20530	.2556779	.0077512

Sample Name: Q1704-01 Acquired: 4/3/2025 18:13:08 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	-.005597	-.000740	F 11.10479	.0502464	F 37.06520	-.014470
Stddev	.001096	.000601	.01695	.0012197	.04689	.000494
%RSD	19.57862	81.21317	.1526752	2.427413	.1264959	3.413821
#1	-.005705	-.000977	11.12427	.0490410	37.10244	-.014342
#2	-.004451	-.000057	11.09337	.0502183	37.08063	-.015015
#3	-.006635	-.001187	11.09673	.0514799	37.01255	-.014052

Elem	Sr4077
Units	ppm
Avg	1.217139
Stddev	.009218
%RSD	.7573578
#1	1.215630
#2	1.208768
#3	1.227018

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2902.162	67573.97	16051.23	1892.296	4285.709
Stddev	6.624	100.41	14.94	4.514	10.927
%RSD	.2282376	.1485893	.0930594	.2385597	.2549578
#1	2907.467	67683.40	16067.71	1888.596	4293.423
#2	2894.738	67486.08	16047.40	1890.967	4273.205
#3	2904.283	67552.42	16038.58	1897.326	4290.498

Sample Name: PB167442BL Acquired: 4/3/2025 18:21:52 Type: Unk
Method: NON EPA-6010-200.7(v2884) 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	.0009612	-.000526	-.000675	-.002693	-.000609	-.000402
Stddev	.0010636	.001174	.000910	.002611	.001367	.003845
%RSD	110.6458	223.0198	134.7778	96.96629	224.5182	955.6813
#1	.0021625	-.000792	-.001479	-.000214	-.000293	-.003493
#2	.0001393	-.001544	-.000860	-.005418	-.002107	-.001617
#3	.0005820	.000757	.000313	-.002446	.000573	.003903
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002715	.0001378	-.000006	.0069354	-.000144	.0000347
Stddev	.000963	.0000376	.000042	.0029092	.000082	.0001670
%RSD	35.47459	27.27412	690.3084	41.94747	57.06140	481.7249
#1	-.003418	.0001379	.000032	.0102083	-.000157	.0002171
#2	-.001617	.0001753	.000000	.0059546	-.000220	-.000111
#3	-.003108	.0001001	-.000051	.0046433	-.000056	-.000003
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002736	-.006749	-.002074	-.014266	-.000028	-.000012
Stddev	.0004144	.002437	.000230	.015681	.000152	.000199
%RSD	151.4748	36.10516	11.10803	109.9198	532.8597	1688.512
#1	.0000762	-.004997	-.002174	.003171	.000142	.000217
#2	.0007498	-.009531	-.002237	-.027212	-.000149	-.000133
#3	-.000005	-.005718	-.001810	-.018757	-.000078	-.000120
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9891230	-.000243	-.000354	.6919893	-.003316	.0000512
Stddev	.0124328	.001990	.000289	.0220903	.000556	.0000572
%RSD	1.256953	820.0781	81.65197	3.192292	16.75152	111.6388
#1	.9747885	.000014	-.000688	.6778449	-.002739	-.000000
#2	.9956079	-.002348	-.000194	.6806786	-.003362	.000113
#3	.9969727	.001607	-.000181	.7174445	-.003847	.000041

Sample Name: PB167442BL Acquired: 4/3/2025 18:21:52 Type: Unk
Method: NON EPA-6010-200.7(v2884) 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	-.001249	.0010217	.0035975	.0019576	F .0562771	-.003500
Stddev	.000169	.0002934	.0069638	.0010549	.0061483	.000808
%RSD	13.56524	28.71728	193.5729	53.88759	10.92498	23.08972
#1	-.001088	.0010270	-.000760	.0030645	.0614476	-.002776
#2	-.001232	.0007256	-.000077	.0009639	.0494787	-.003351
#3	-.001426	.0013123	.011629	.0018444	.0579050	-.004372

Elem	Sr4077
Units	ppm
Avg	.0000801
Stddev	.0000070
%RSD	8.743932
#1	.0000757
#2	.0000882
#3	.0000765

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3152.326	71982.29	16096.22	2033.354	5062.225
Stddev	7.193	238.81	37.80	5.235	10.430
%RSD	.2281678	.3317687	.2348557	.2574631	.2060355
#1	3144.204	72152.09	16108.28	2038.166	5050.235
#2	3157.892	71709.22	16053.86	2027.779	5067.238
#3	3154.881	72085.56	16126.52	2034.117	5069.202

Sample Name: PB167442BS Acquired: 4/3/2025 18:25:49 Type: Unk
Method: NON EPA-6010-200.7(v2885) 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	.7897234	2.083532	.9561715	1.993430	.8048715	1.841914
Stddev	.0035612	.004227	.0021006	.008330	.0010009	.006449
%RSD	.4509439	.2028524	.2196861	.4178700	.1243512	.3501266
#1	.7893748	2.078666	.9543633	2.000370	.8051868	1.841131
#2	.7934461	2.085646	.9584757	1.995729	.8037510	1.848719
#3	.7863493	2.086285	.9556756	1.984192	.8056768	1.835892
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1790075	.1890788	.1943033	.9328689	.4116671	.1972758
Stddev	.0009492	.0011534	.0001399	.0017734	.0008207	.0006251
%RSD	.5302415	.6100163	.0719890	.1901049	.1993487	.3168852
#1	.1787021	.1890435	.1943851	.9331593	.4109502	.1974760
#2	.1800718	.1902494	.1943831	.9309682	.4125623	.1977762
#3	.1782486	.1879434	.1941418	.9344792	.4114889	.1965750
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3162079	2.965648	.1823481	1.828444	.4984551	.0758131
Stddev	.0019390	.025612	.0007106	.008574	.0017965	.0000775
%RSD	.6131917	.8636371	.3897025	.4689375	.3604047	.1021782
#1	.3175592	2.937204	.1823112	1.818544	.4997353	.0758178
#2	.3170782	2.972858	.1830764	1.833472	.4992285	.0758882
#3	.3139862	2.986883	.1816566	1.833317	.4964015	.0757335
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 6.954590	.2836122	.2057153	11.23511	.2770105	.4044064
Stddev	.024336	.0020470	.0009946	.08476	.0028042	.0010343
%RSD	.3499257	.7217439	.4834876	.7544621	1.012325	.2557477
#1	6.974517	.2816963	.2045897	11.16512	.2771755	.4055658
#2	6.927468	.2857689	.2060808	11.21086	.2797286	.4040749
#3	6.961785	.2833715	.2064755	11.32936	.2741274	.4035786

Sample Name: PB167442BS Acquired: 4/3/2025 18:25:49 Type: Unk
Method: NON EPA-6010-200.7(v2885) 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	.6839204	.1836860	.7973192	5.643922	F .0368824	.1826218
Stddev	.0023930	.0005564	.0113867	.014223	.0012213	.0012155
%RSD	.3498944	.3029071	1.428118	.2519970	3.311272	.6655760
#1	.6834277	.1835275	.7844000	5.654741	.0382562	.1834930
#2	.6865215	.1843044	.8058948	5.649214	.0359198	.1812332
#3	.6818122	.1832260	.8016627	5.627813	.0364710	.1831391

Elem	Sr4077
Units	ppm
Avg	.1829194
Stddev	.0006031
%RSD	.3297230
#1	.1834436
#2	.1830544
#3	.1822602

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3076.133	71341.26	16321.42	2006.454	4863.897
Stddev	7.378	144.35	97.99	6.929	12.873
%RSD	.2398477	.2023355	.6003639	.3453586	.2646671
#1	3070.831	71492.11	16333.84	2009.385	4860.240
#2	3073.009	71204.44	16217.81	2011.436	4853.248
#3	3084.559	71327.24	16412.60	1998.541	4878.203

Sample Name: CCV07 Acquired: 4/3/2025 18:29:24 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	5.020559	5.305520	4.981135	5.010017	5.053382	9.838640	9.622148
Stddev	.009900	.009606	.006152	.012670	.010459	.029410	.128599
%RSD	.1971925	.1810478	.1235063	.2528958	.2069633	.2989246	1.336494
#1	5.009438	5.295514	4.987120	5.001023	5.054045	9.804683	9.642115
#2	5.028411	5.306379	4.981456	5.024507	5.063494	9.856020	9.484733
#3	5.023828	5.314668	4.974828	5.004522	5.042608	9.855216	9.739596
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2528131	2.494611	24.21230	1.045481	2.504598	1.282541	4.964459
Stddev	.0004465	.002603	.03054	.002890	.001816	.001168	.013852
%RSD	.1766323	.1043470	.1261513	.2764031	.0724990	.0910968	.2790223
#1	.2532201	2.497510	24.17723	1.042381	2.505957	1.283097	4.948992
#2	.2528838	2.492474	24.23304	1.045962	2.502536	1.283328	4.968666
#3	.2523354	2.493850	24.22665	1.048100	2.505301	1.281199	4.975720
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.359729	24.67520	2.515309	1.289976	26.62897	2.469220	2.586418
Stddev	.001644	.05629	.001001	.001260	.13732	.007881	.001365
%RSD	.0696851	.2281205	.0397779	.0977051	.5156728	.3191517	.0527637
#1	2.358127	24.62665	2.515345	1.289179	26.48012	2.461576	2.585319
#2	2.359648	24.66206	2.516291	1.289320	26.65605	2.468765	2.585989
#3	2.361413	24.73690	2.514291	1.291429	26.75073	2.477318	2.587946
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.31647	4.957703	5.121537	5.026340	4.799703	5.185612	4.863375
Stddev	.09330	.011390	.001070	.003574	.002851	.024217	.007596
%RSD	.3685521	.2297458	.0208873	.0711124	.0593992	.4670097	.1561933
#1	25.22186	4.970650	5.122032	5.030030	4.796519	5.159306	4.869298
#2	25.31913	4.953237	5.120309	5.022894	4.802020	5.190552	4.854811
#3	25.40841	4.949223	5.122270	5.026096	4.800571	5.206978	4.866017

Sample Name: CCV07 Acquired: 4/3/2025 18:29:24 Type: Unk
Method: NON EPA-6010-200.7(v2880) 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	4.990506	4.640847	4.824296
Stddev	.013583	.002069	.019316
%RSD	.2721779	.0445895	.4003801
#1	4.985348	4.643101	4.843778
#2	5.005913	4.639034	4.823959
#3	4.980258	4.640405	4.805151

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3050.007	68934.72	15341.92	1928.805	4645.425
Stddev	2.843	130.57	26.27	4.380	3.814
%RSD	.0932270	.1894060	.1712446	.2271024	.0821078
#1	3052.615	69059.88	15311.75	1933.462	4648.196
#2	3046.976	68944.93	15359.80	1928.185	4641.075
#3	3050.429	68799.35	15354.21	1924.768	4647.004

Sample Name: CCB07 Acquired: 4/3/2025 18:33:11 Type: Unk
Method: NON EPA-6010-200.7(v2886) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

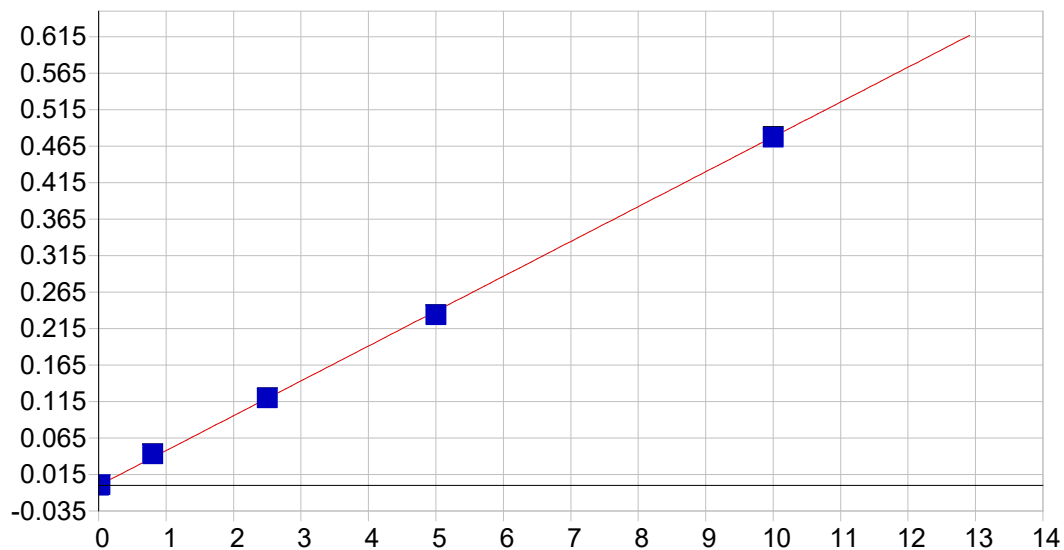
Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005314	.0002398	.0008700	.0002275	-.000258	-.000787
Stddev	.0020445	.0013837	.0003844	.0002427	.001166	.000771
%RSD	384.7221	577.1275	44.18725	106.6909	452.4690	98.03385
#1	.0017107	.0014210	.0010438	.0003843	.000700	-.001352
#2	-.001829	.0005810	.0004293	-.000052	.000084	-.001100
#3	.001713	-.001283	.0011368	.000350	-.001557	.000092
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001815	.0001439	.0002316	.0059197	-.000135	.0004098
Stddev	.000485	.0000247	.0000549	.0051781	.000334	.0000481
%RSD	26.72630	17.17621	23.71086	87.47261	247.3761	11.73003
#1	-.001309	.0001722	.0002403	.0092862	-.000234	.0003561
#2	-.002275	.0001334	.0001729	-.000043	.000237	.0004487
#3	-.001860	.0001262	.0002817	.008516	-.000409	.0004247
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000015	-.005735	-.001540	-.014098	.0000246	.0001833
Stddev	.000118	.002999	.000075	.006743	.0001403	.0001851
%RSD	803.6635	52.29940	4.852505	47.82564	570.9227	101.0027
#1	.000113	-.002314	-.001456	-.006912	.0000081	.0001532
#2	-.000038	-.006976	-.001563	-.015098	-.000107	.0000151
#3	-.000119	-.007914	-.001600	-.020285	.000172	.0003816
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4408841	-.000919	.0000530	.5908405	.0016062	.0006633
Stddev	.0212188	.000545	.0001970	.0274623	.0003429	.0000493
%RSD	4.812780	59.31653	371.6521	4.648004	21.34589	7.432425
#1	.4204967	-.000290	.0002003	.5632383	.0015944	.0006065
#2	.4393092	-.001229	.0001296	.5911226	.0019549	.0006953
#3	.4628465	-.001238	-.000171	.6181607	.0012695	.0006881

Sample Name: CCB07 Acquired: 4/3/2025 18:33:11 Type: Unk
Method: NON EPA-6010-200.7(v2886) 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	-.000933	.0021727	.0128759	.0019134	F .0357493	-.003891
Stddev	.000134	.0005806	.0024741	.0017496	.0027181	.000408
%RSD	14.37959	26.72134	19.21479	91.43966	7.603110	10.49568
#1	-.000778	.0015355	.0100369	-.000097	.0378807	-.003959
#2	-.001019	.0023110	.0145716	.002748	.0366788	-.003453
#3	-.001002	.0026716	.0140192	.003089	.0326885	-.004262

Elem	Sr4077
Units	ppm
Avg	.0008130
Stddev	.0000727
%RSD	8.944216
#1	.0008797
#2	.0008238
#3	.0007355

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3150.037	72167.75	15797.77	2008.100	5116.823
Stddev	7.099	287.72	45.80	7.043	7.345
%RSD	.2253616	.3986884	.2899159	.3507433	.1435403
#1	3147.451	72332.32	15787.61	2009.353	5115.660
#2	3144.594	72335.40	15757.90	2014.432	5110.129
#3	3158.067	71835.51	15847.79	2000.514	5124.680

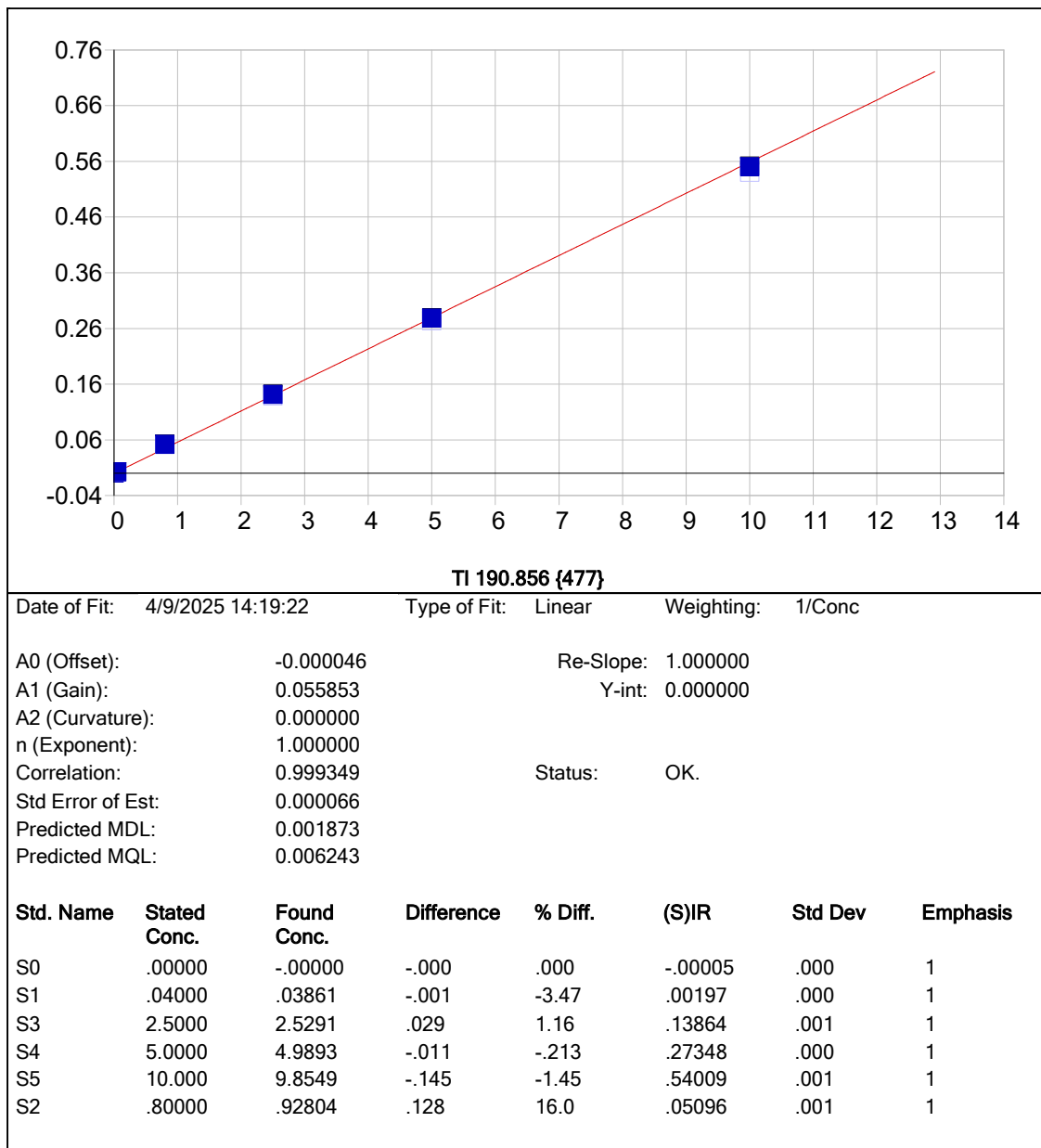


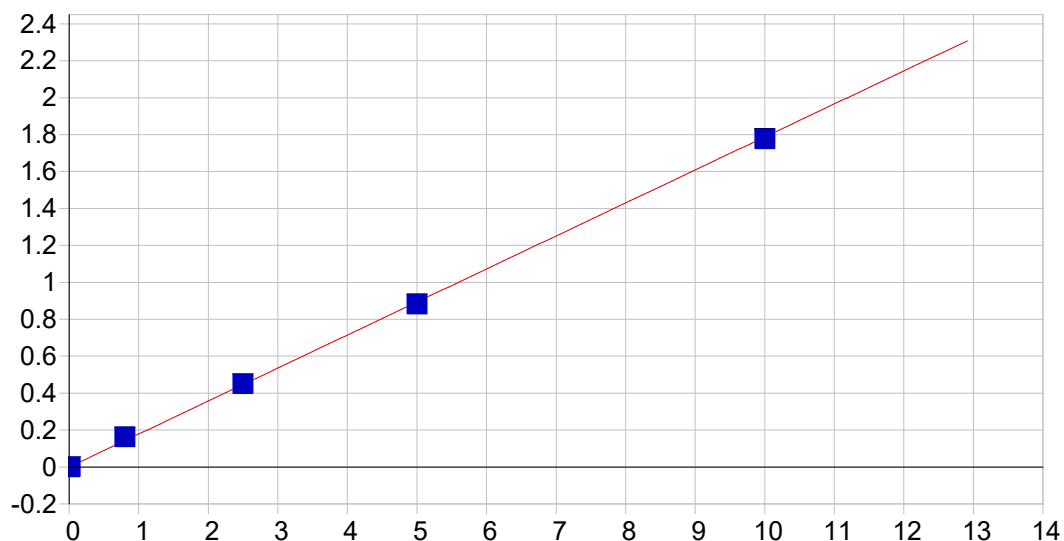
As 189.042 {479}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000055 Re-Slope: 1.000000
A1 (Gain): 0.047772 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999549 Status: OK.
Std Error of Est: 0.000034
Predicted MDL: 0.002694
Predicted MQL: 0.008981

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00005	.000	1
S1	.02000	.01940	-.001	-2.99	.00087	.000	1
S3	2.5000	2.5119	.012	.475	.11981	.000	1
S4	5.0000	4.8948	-.105	-2.10	.23352	.000	1
S5	10.000	9.9874	-.013	-.126	.47655	.001	1
S2	.80000	.90656	.107	13.3	.04321	.000	1



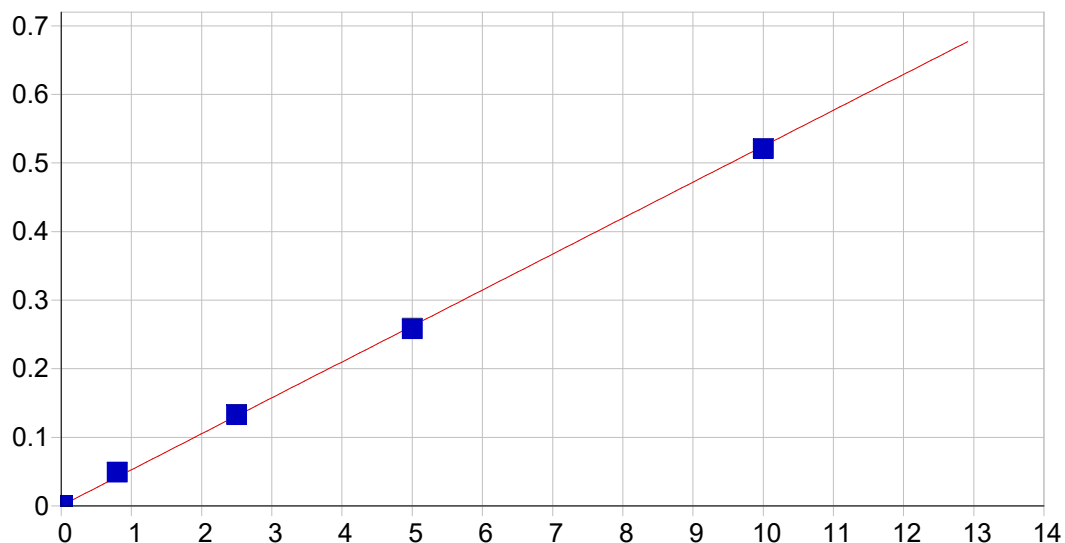


Pb 220.353 {453}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000216 Re-Slope: 1.000000
A1 (Gain): 0.178771 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999582 Status: OK.
Std Error of Est: 0.000094
Predicted MDL: 0.001422
Predicted MQL: 0.004741

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00022	.000	1
S1	.01200	.01175	-.000	-2.12	.00184	.000	1
S3	2.5000	2.5213	.021	.852	.45003	.001	1
S4	5.0000	4.9335	-.066	-1.33	.88077	.001	1
S5	10.000	9.9402	-.060	-.598	1.7748	.002	1
S2	.80000	.90524	.105	13.2	.16146	.001	1

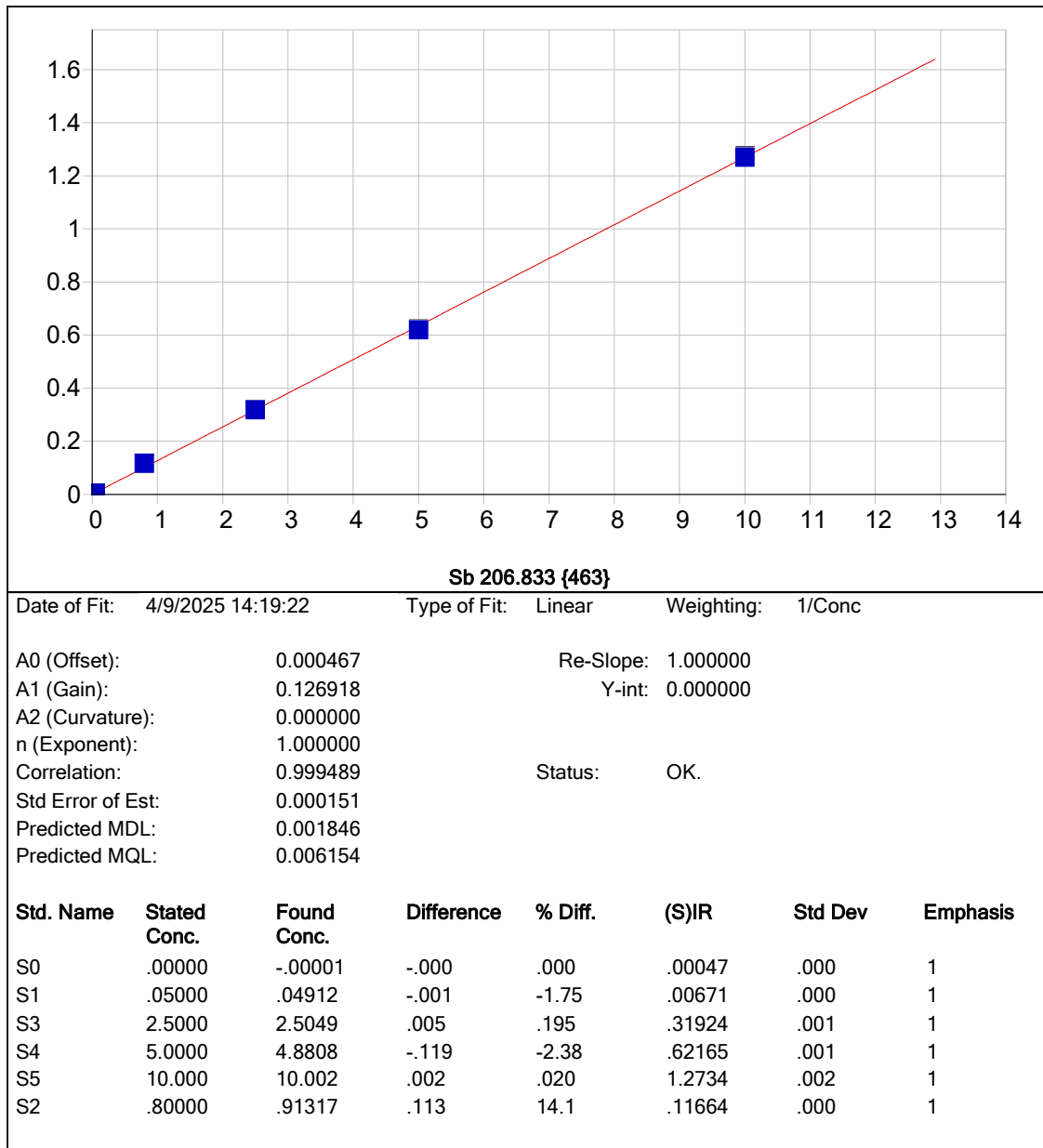


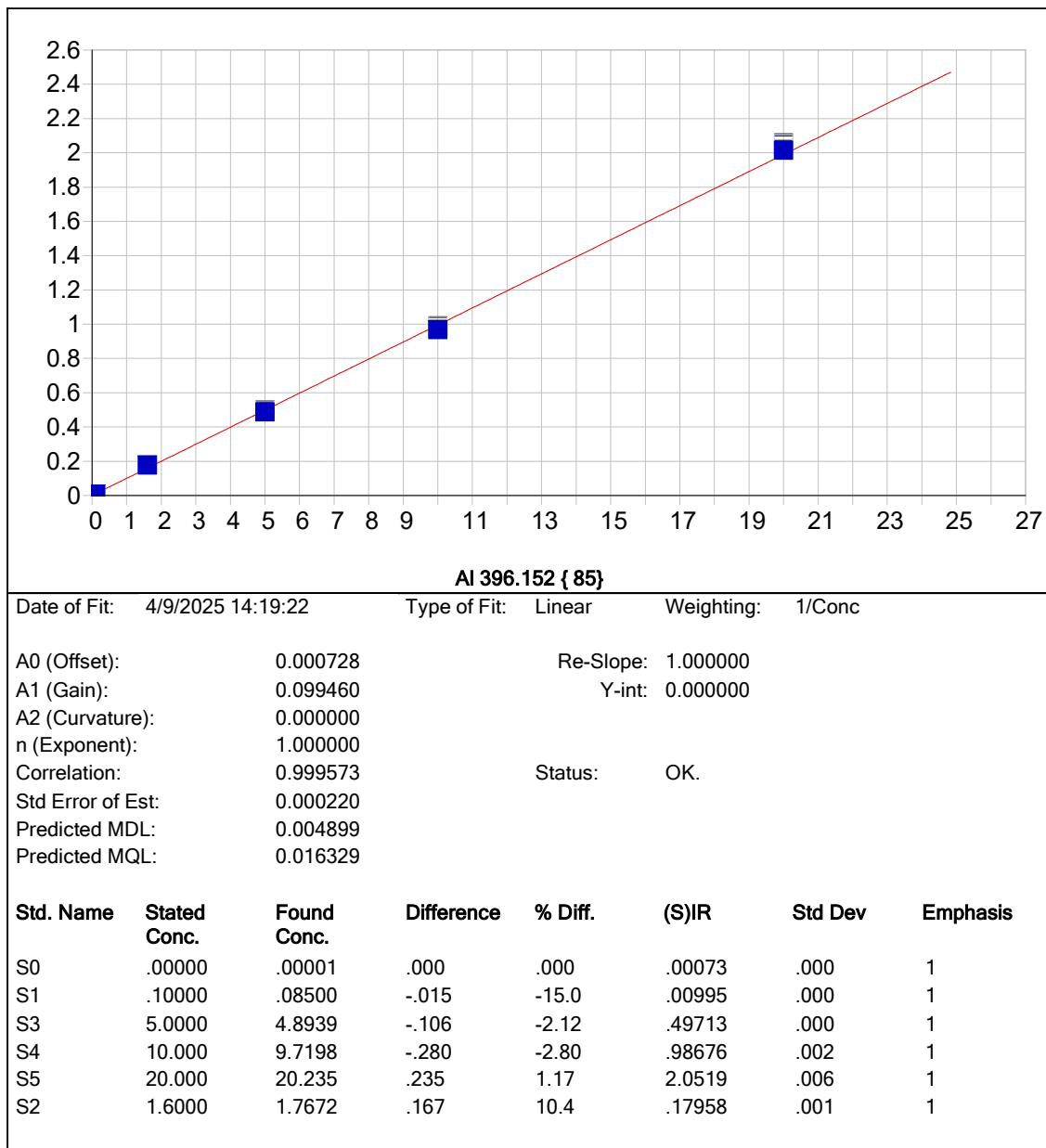
Se 196.090 {472}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000319	Re-Slope:	1.000000
A1 (Gain):	0.052410	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999401	Status:	OK.
Std Error of Est:	0.000042		
Predicted MDL:	0.002963		
Predicted MQL:	0.009878		

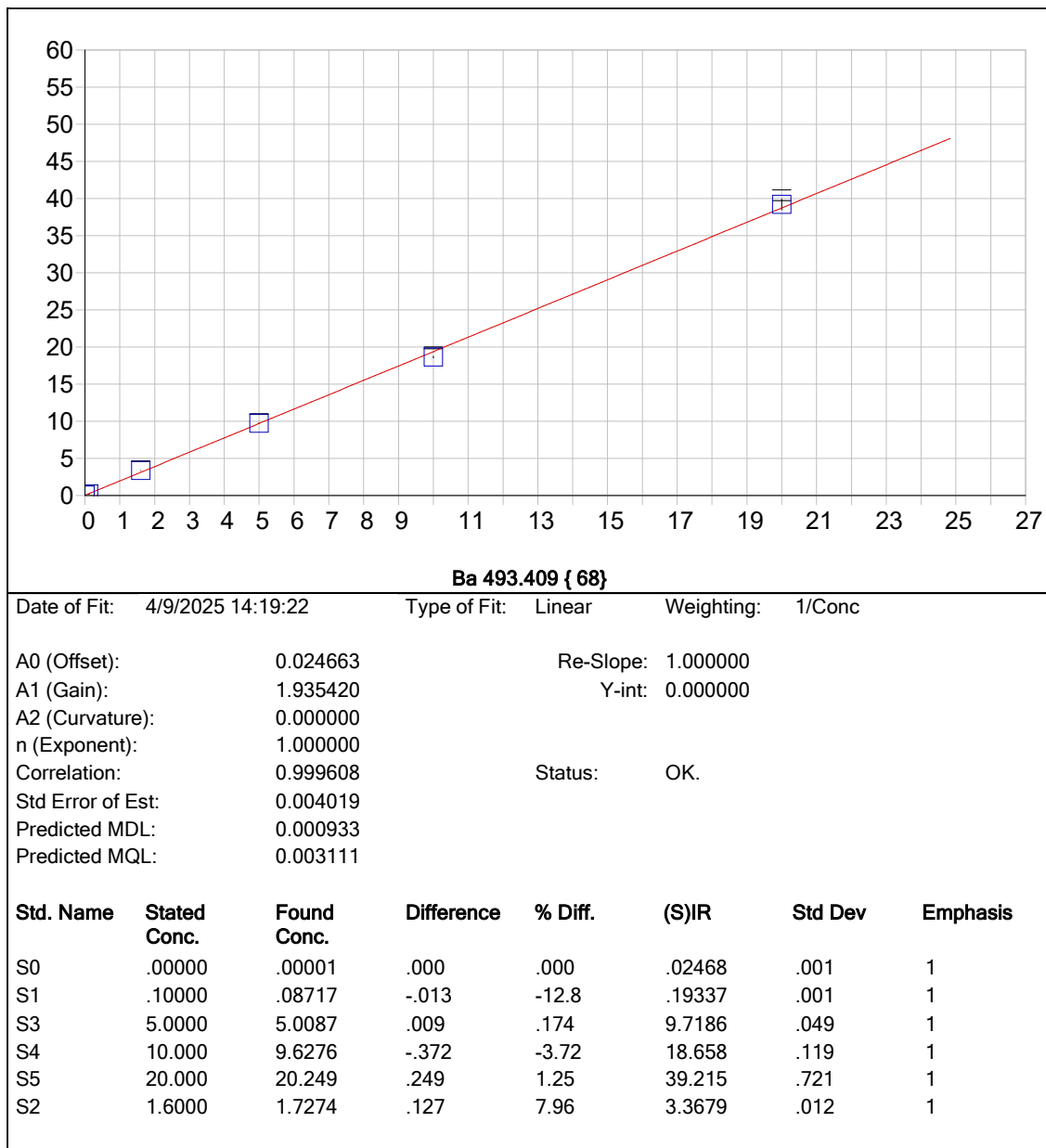
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00032	.000	1
S1	.02000	.01756	-.002	-12.2	.00124	.000	1
S3	2.5000	2.5277	.028	1.11	.13275	.000	1
S4	5.0000	4.9176	-.082	-1.65	.25796	.001	1
S5	10.000	9.9322	-.068	-.678	.52068	.001	1
S2	.80000	.92495	.125	15.6	.04878	.000	1

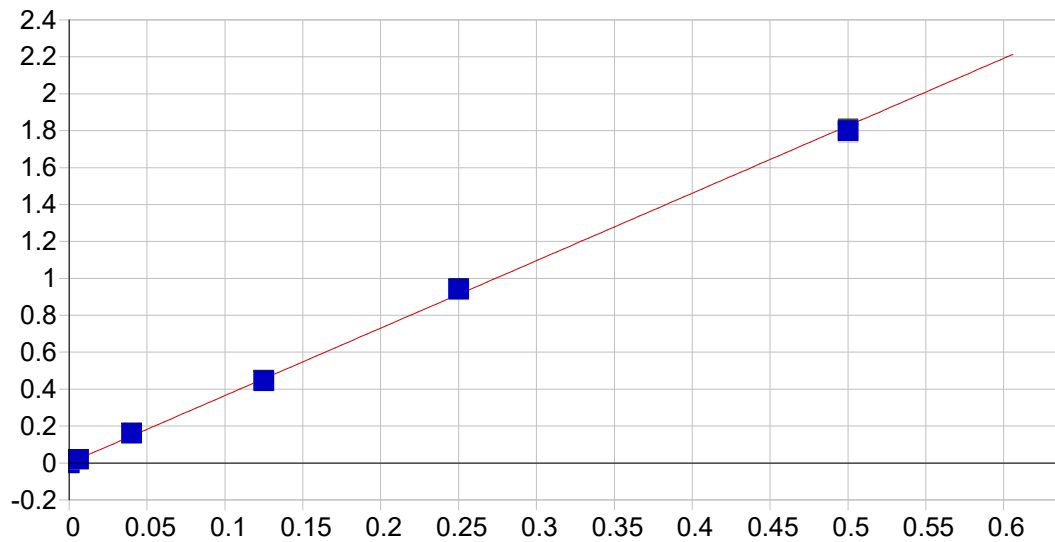




Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000728 Re-Slope: 1.000000
A1 (Gain): 0.099460 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999573 Status: OK.
Std Error of Est: 0.000220
Predicted MDL: 0.004899
Predicted MQL: 0.016329



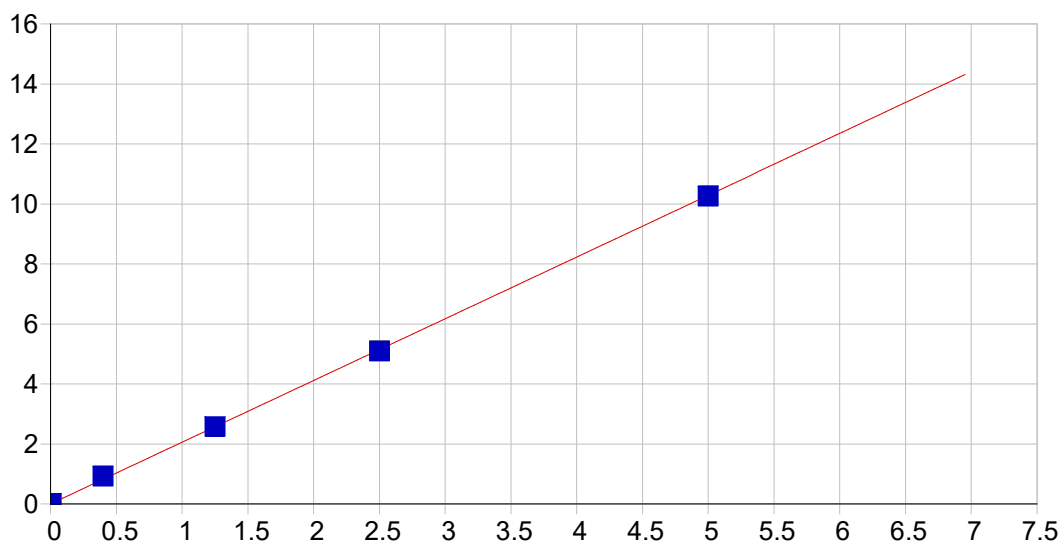


Be 234.861 {144}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000037 Re-Slope: 1.000000
A1 (Gain): 3.653067 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999519 Status: OK.
Std Error of Est: 0.000325
Predicted MDL: 0.000048
Predicted MQL: 0.000161

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00004	.000	1
S1	.00600	.00536	-.001	-10.6	.01939	.000	1
S3	.12500	.12197	-.003	-2.42	.44348	.003	1
S4	.25000	.25759	.008	3.03	.93685	.003	1
S5	.50000	.49216	-.008	-1.57	1.7897	.011	1
S2	.04000	.04392	.004	9.81	.15976	.001	1

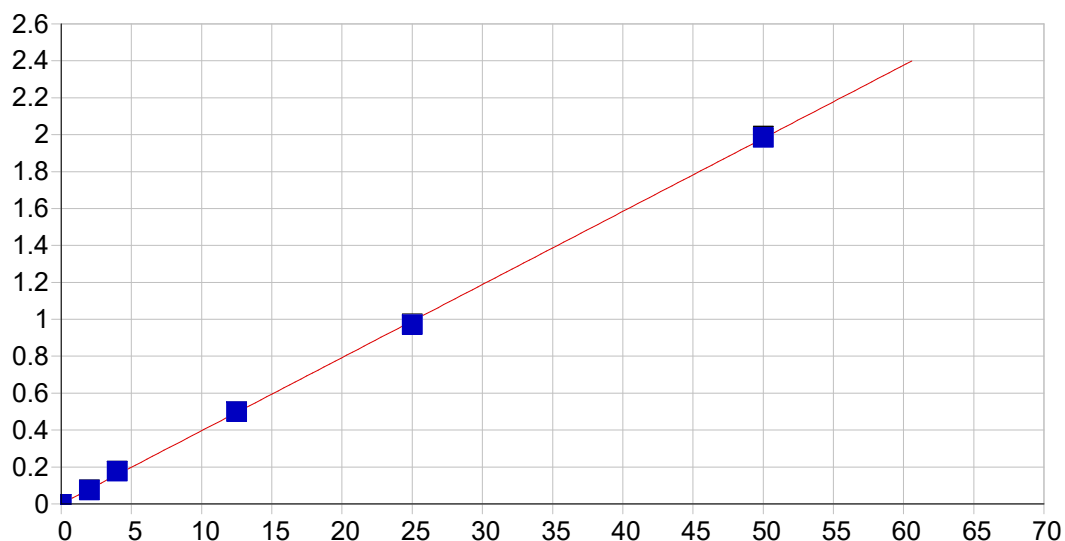


Cd 226.502 {449}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000206 Re-Slope: 1.000000
A1 (Gain): 2.058102 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999663 Status: OK.
Std Error of Est: 0.000485
Predicted MDL: 0.000085
Predicted MQL: 0.000282

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00021	.000	1
S1	.00600	.00547	-.001	-8.79	.01153	.000	1
S3	1.2500	1.2506	.001	.051	2.5764	.000	1
S4	2.5000	2.4726	-.027	-1.10	5.0935	.004	1
S5	5.0000	4.9794	-.021	-.412	10.257	.011	1
S2	.40000	.44794	.048	12.0	.92283	.002	1

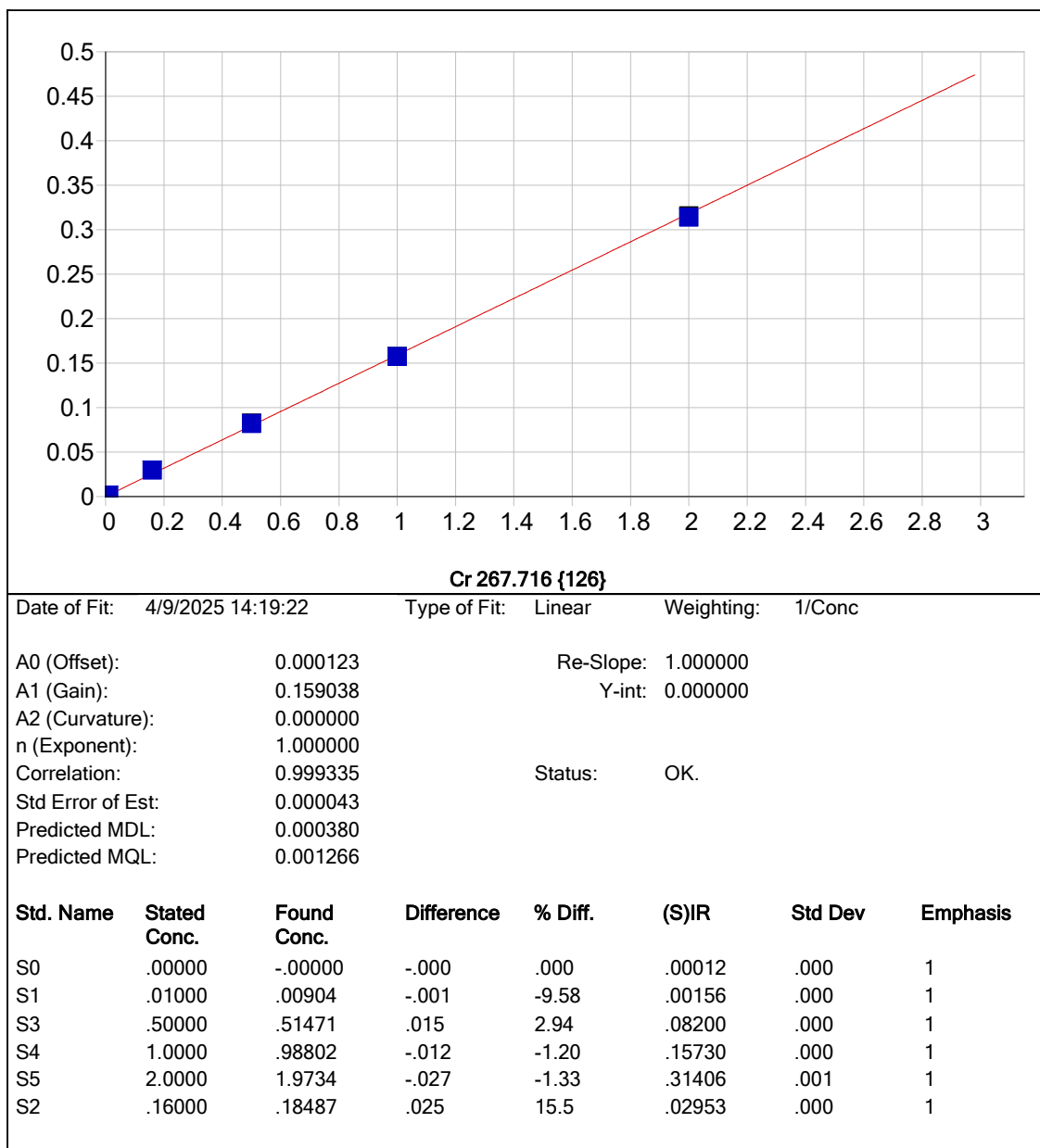


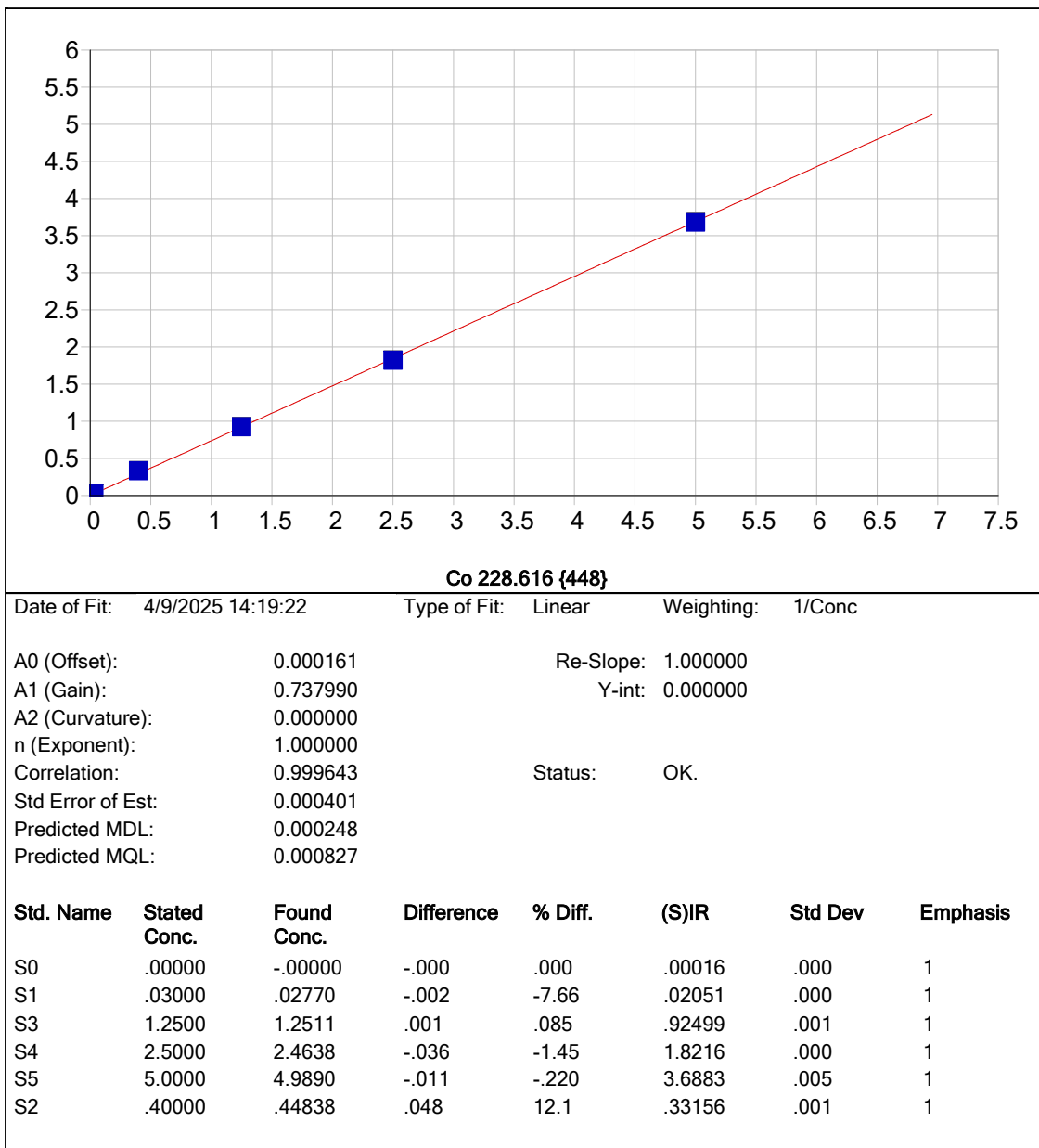
Ca 373.690 { 90}

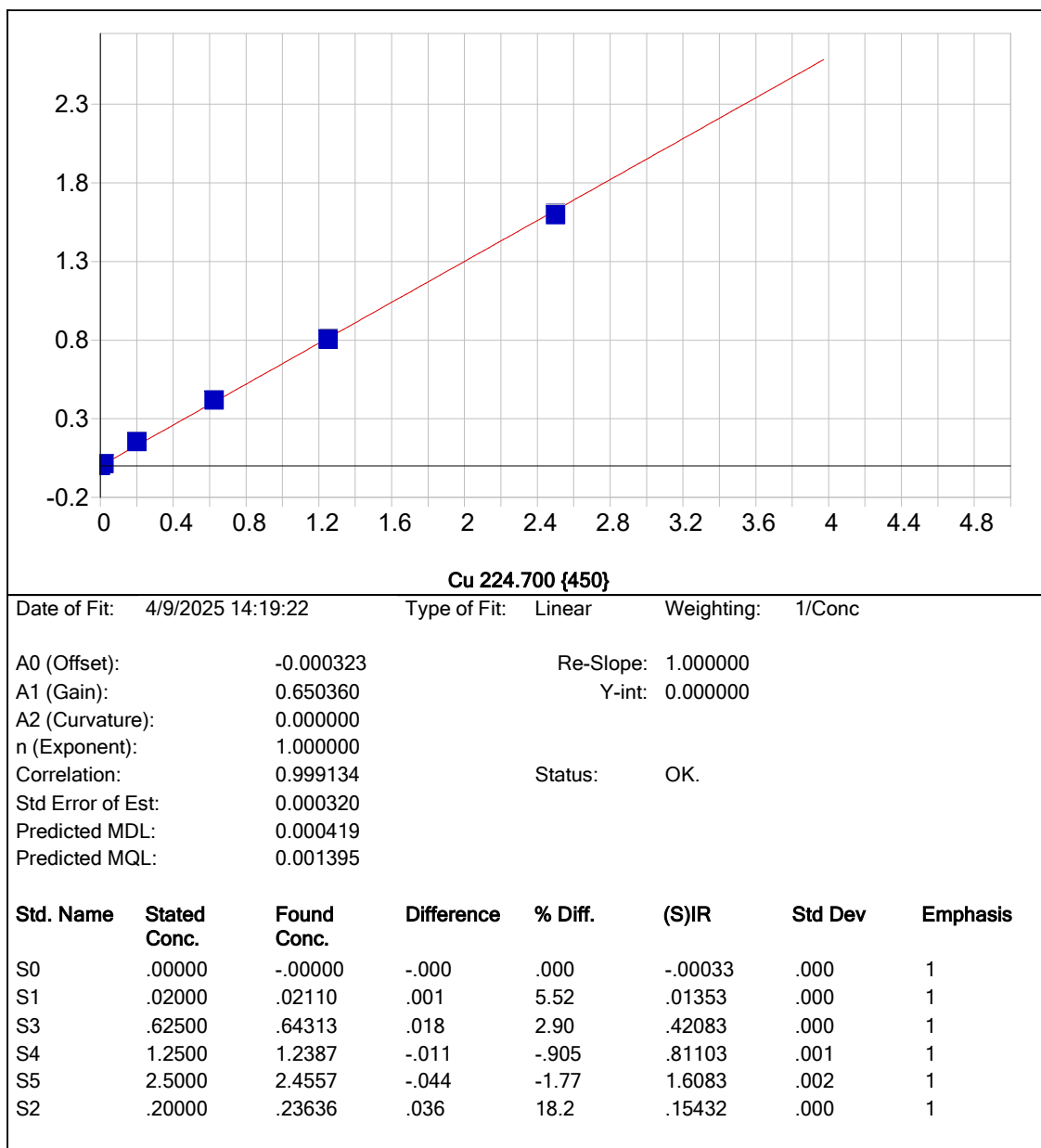
Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

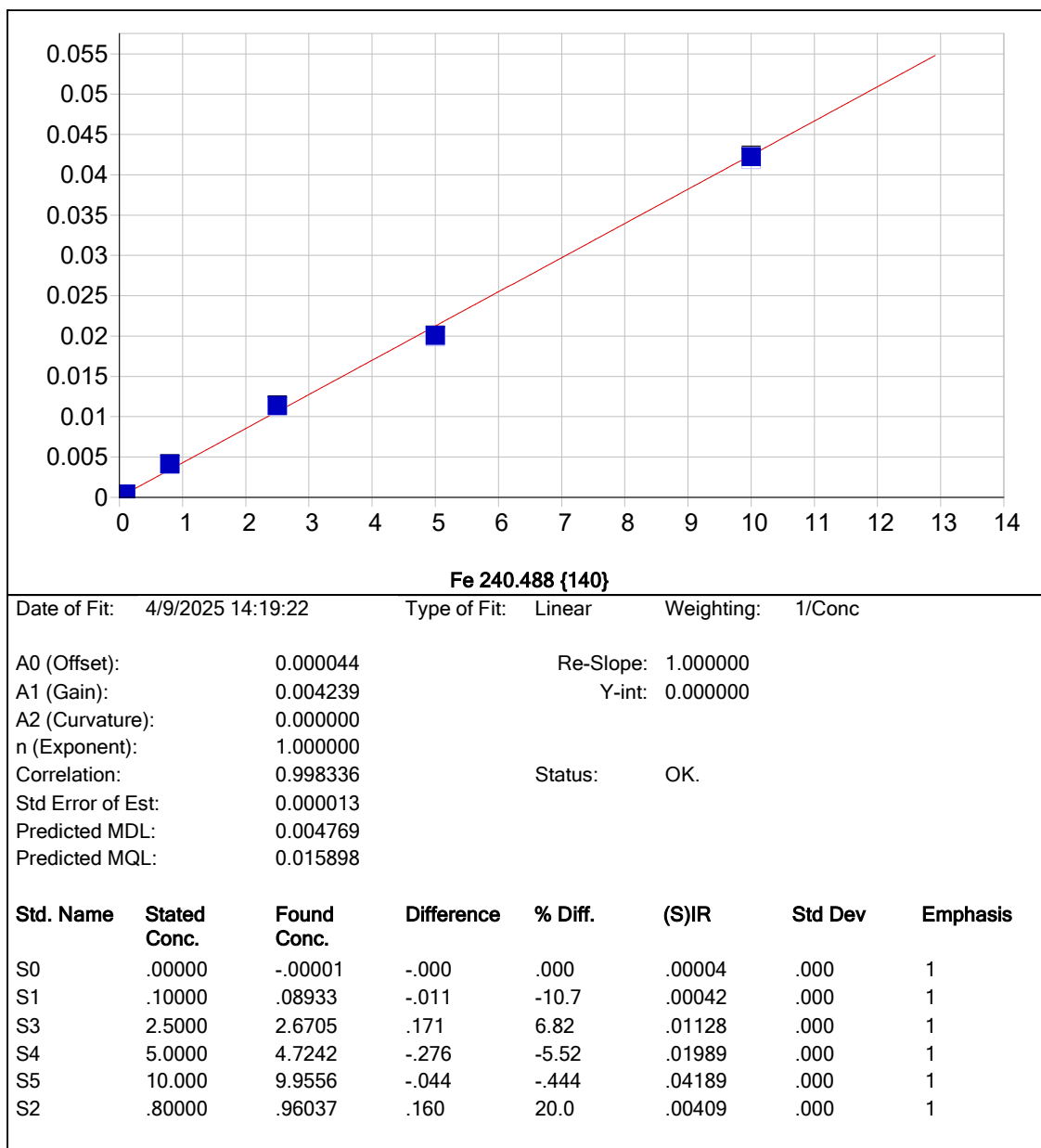
A0 (Offset): 0.000549 Re-Slope: 1.000000
A1 (Gain): 0.039593 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999647 Status: OK.
Std Error of Est: 0.000556
Predicted MDL: 0.009377
Predicted MQL: 0.031255

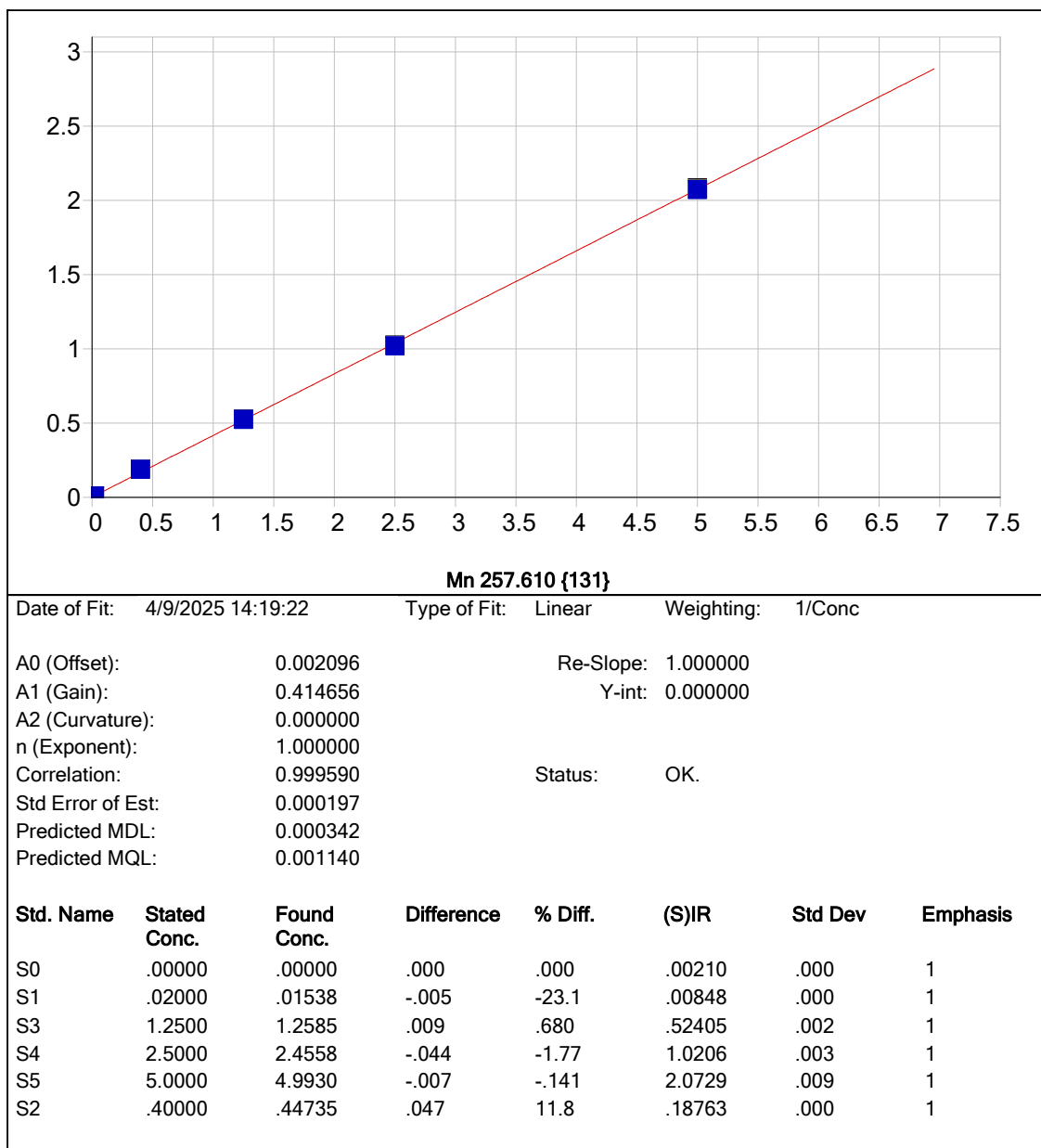
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00006	-.000	.000	.00055	.000	1
S2	4.0000	4.4332	.433	10.8	.17607	.000	1
S3	12.500	12.573	.073	.588	.49837	.001	1
S4	25.000	24.509	-.491	-1.96	.97092	.003	1
S5	50.000	50.116	.116	.232	1.9848	.007	1
S1	2.0000	1.8684	-.132	-6.58	.07453	.000	1

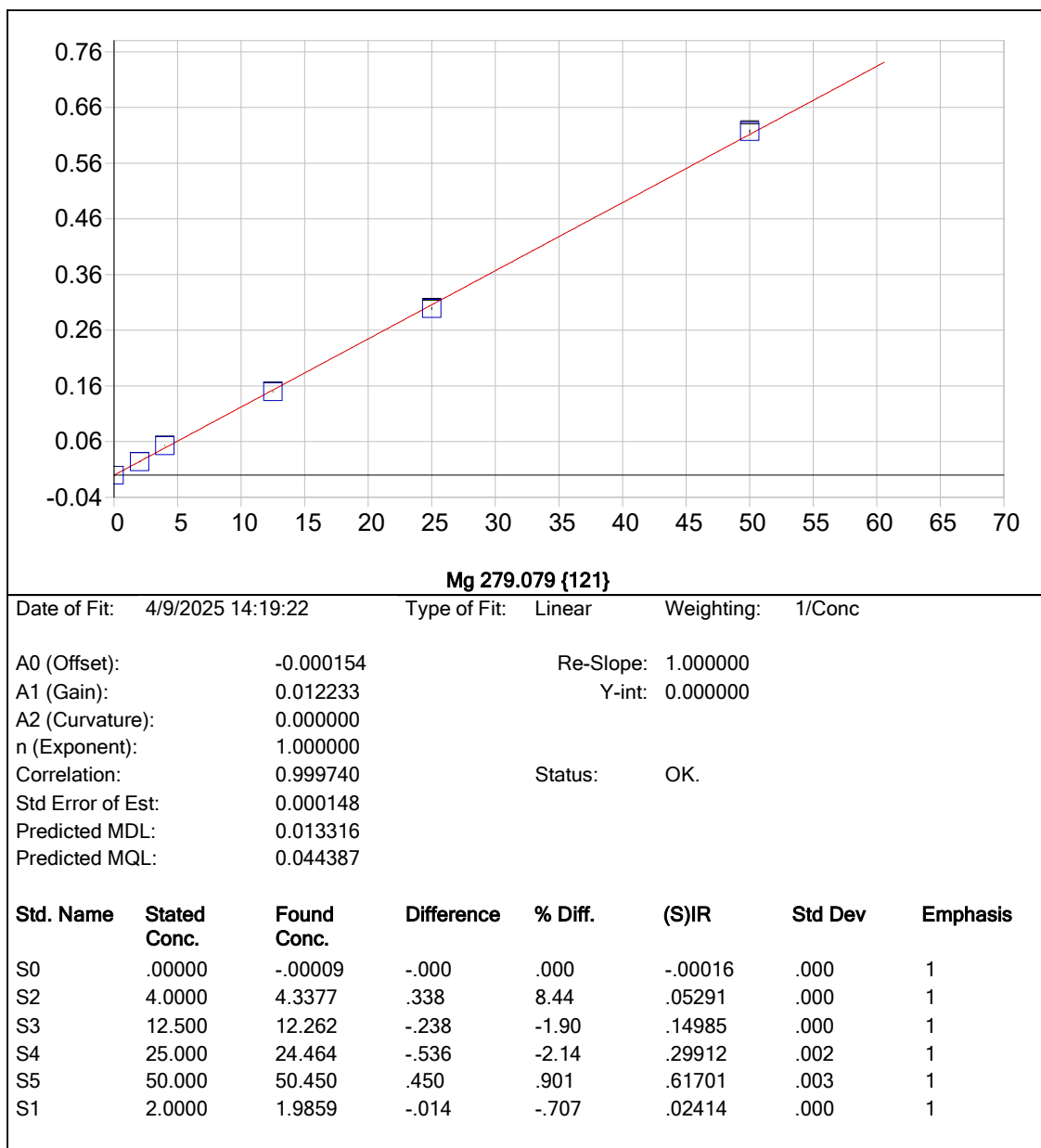


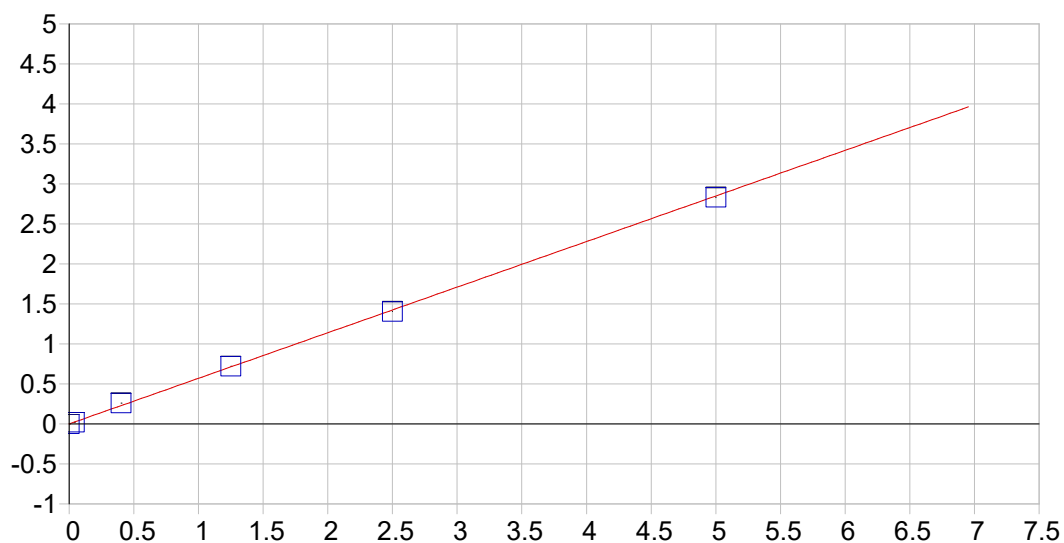










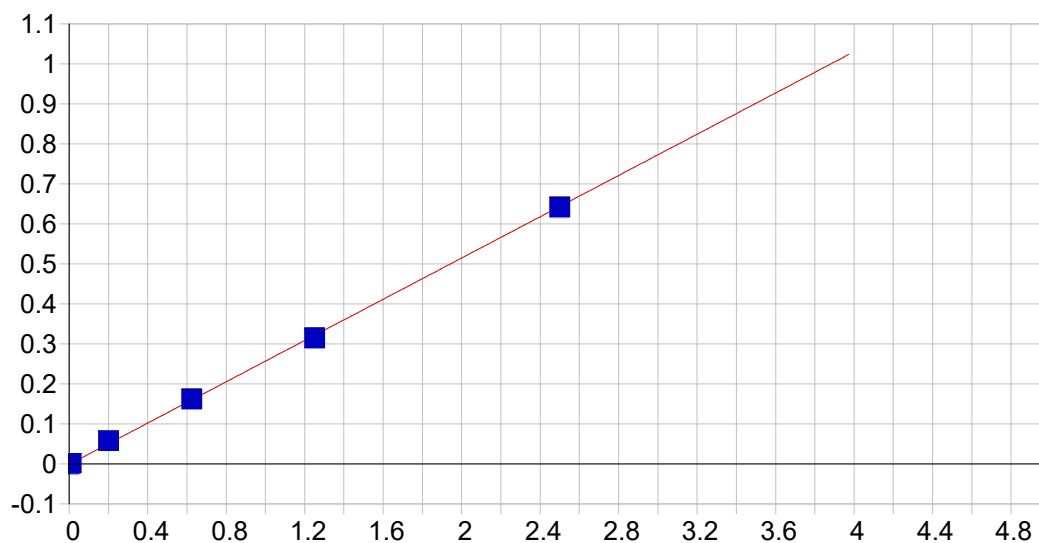


Ni 231.604 {446}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.000094 Re-Slope: 1.000000
A1 (Gain): 0.569917 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999537 Status: OK.
Std Error of Est: 0.000407
Predicted MDL: 0.000300
Predicted MQL: 0.001001

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00010	.000	1
S1	.04000	.03761	-.002	-5.96	.02134	.000	1
S3	1.2500	1.2613	.011	.904	.71874	.001	1
S4	2.5000	2.4663	-.034	-1.35	1.4055	.002	1
S5	5.0000	4.9696	-.030	-.609	2.8321	.003	1
S2	.40000	.45527	.055	13.8	.25937	.001	1

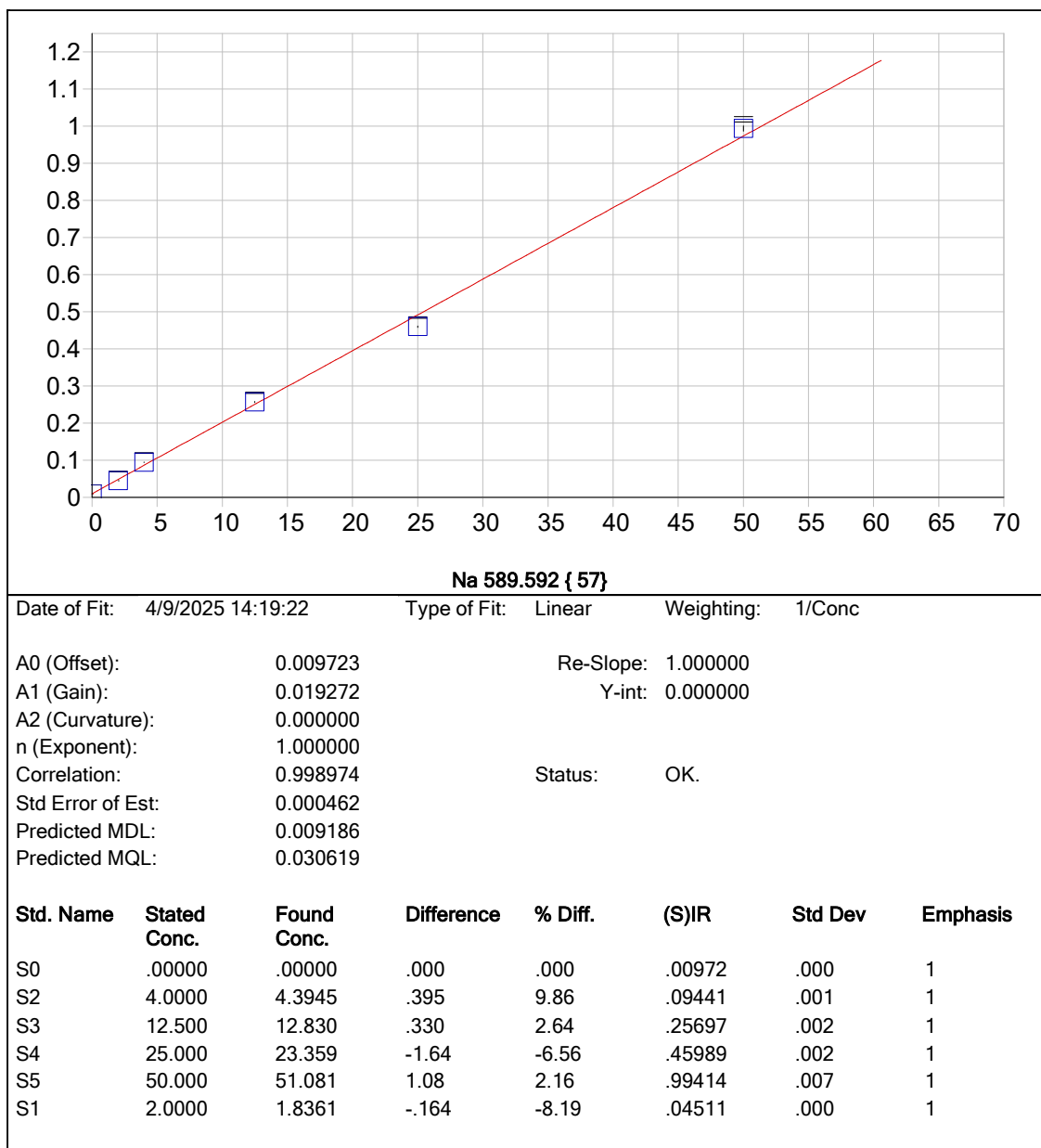


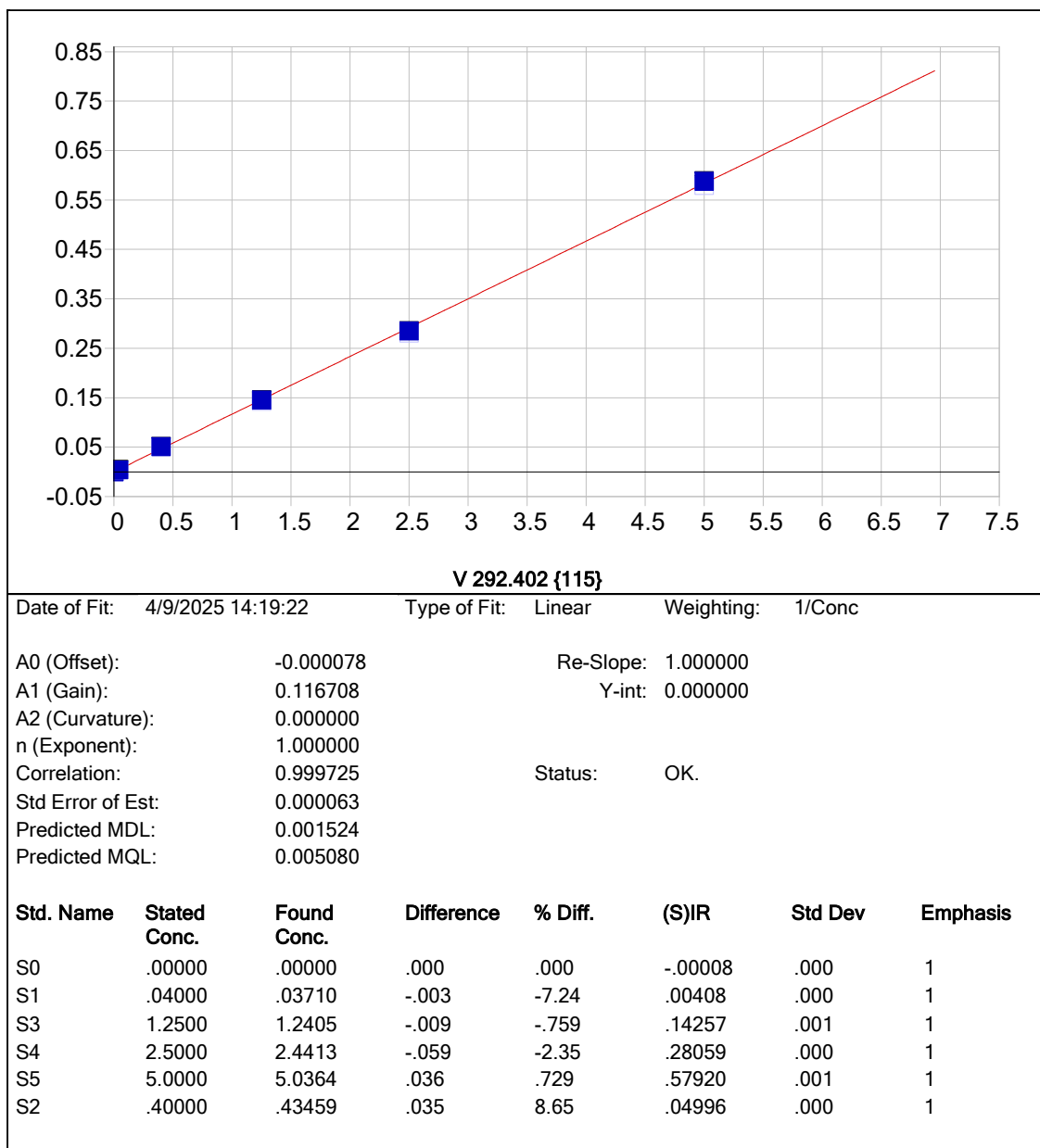
Ag 328.068 {103}

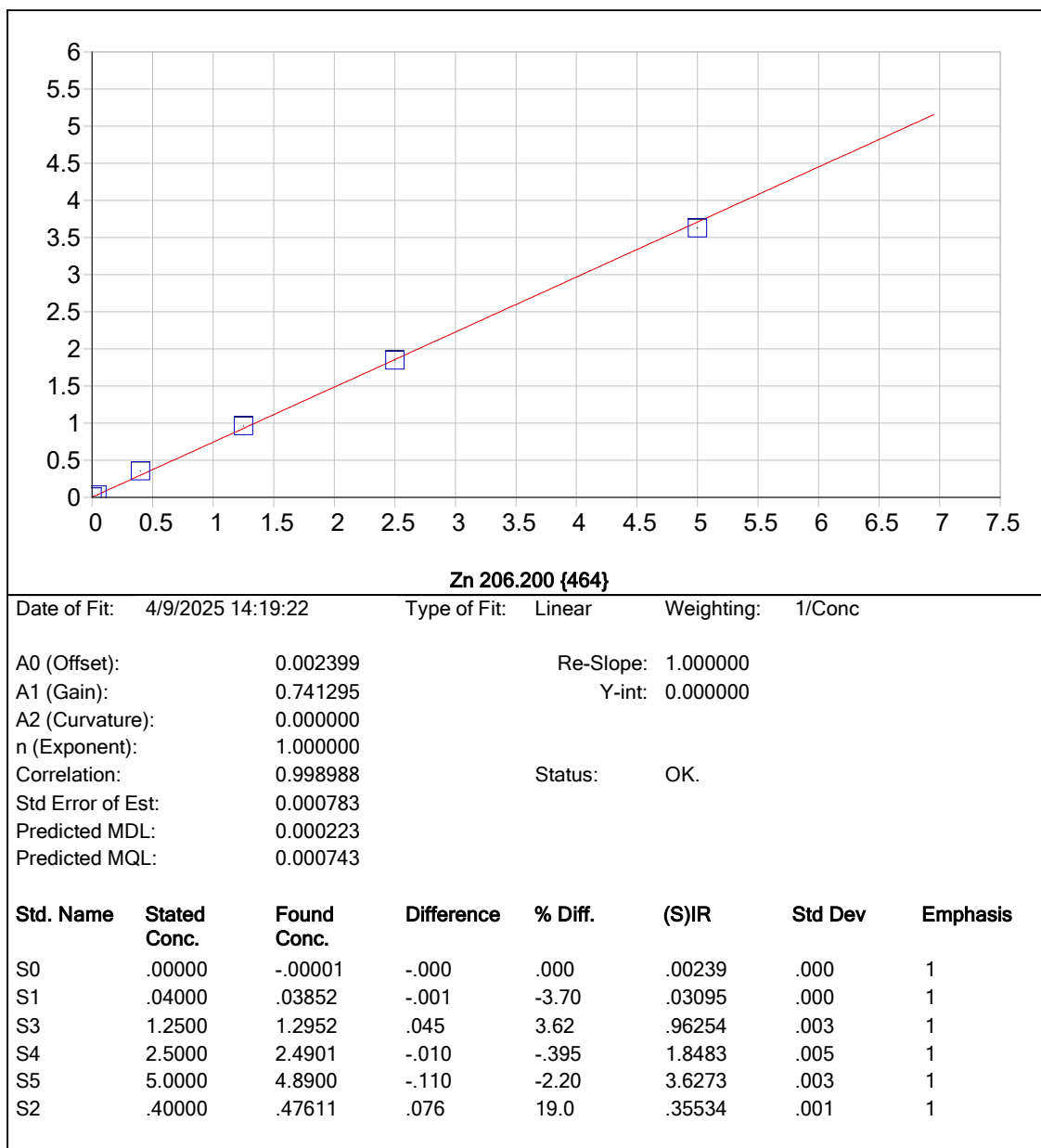
Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

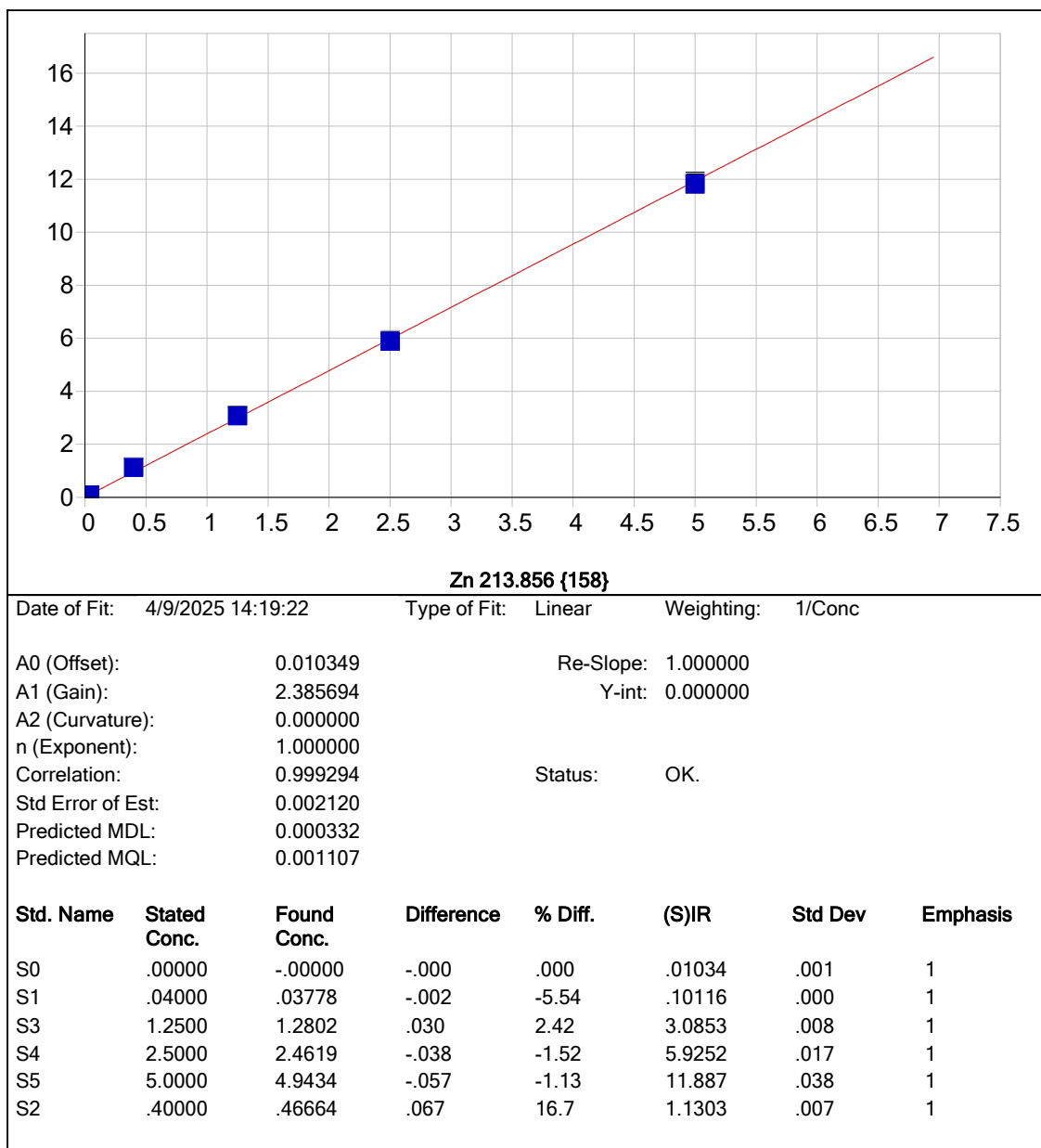
A0 (Offset): -0.001061 Re-Slope: 1.000000
A1 (Gain): 0.257902 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999483 Status: OK.
Std Error of Est: 0.000069
Predicted MDL: 0.000327
Predicted MQL: 0.001091

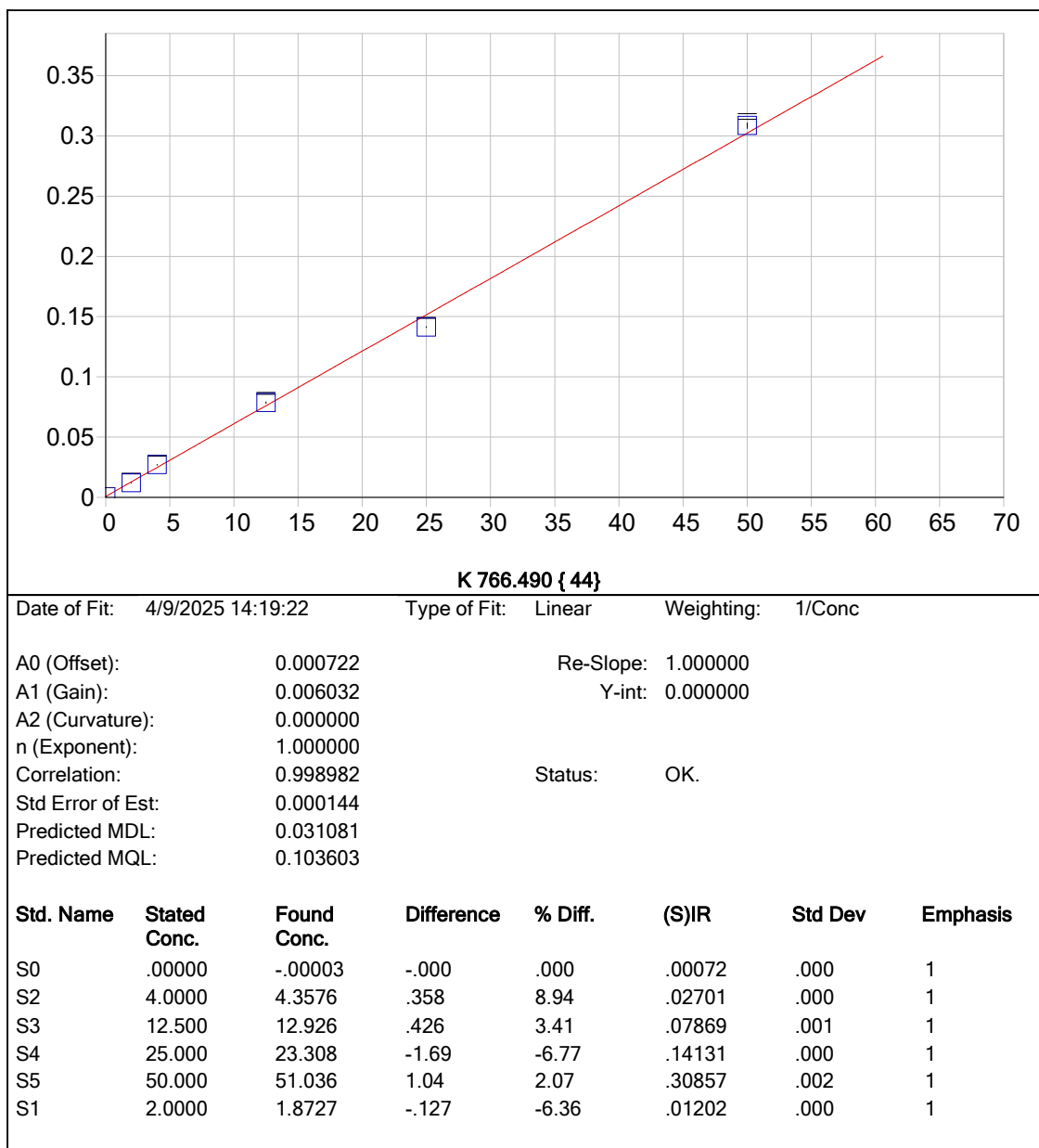
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00106	.000	1
S1	.01000	.00937	-.001	-6.31	.00134	.000	1
S3	.62500	.63211	.007	1.14	.16132	.000	1
S4	1.2500	1.2224	-.028	-2.21	.31292	.001	1
S5	2.5000	2.4930	-.007	-.281	.63932	.000	1
S2	.20000	.22815	.028	14.1	.05757	.000	1

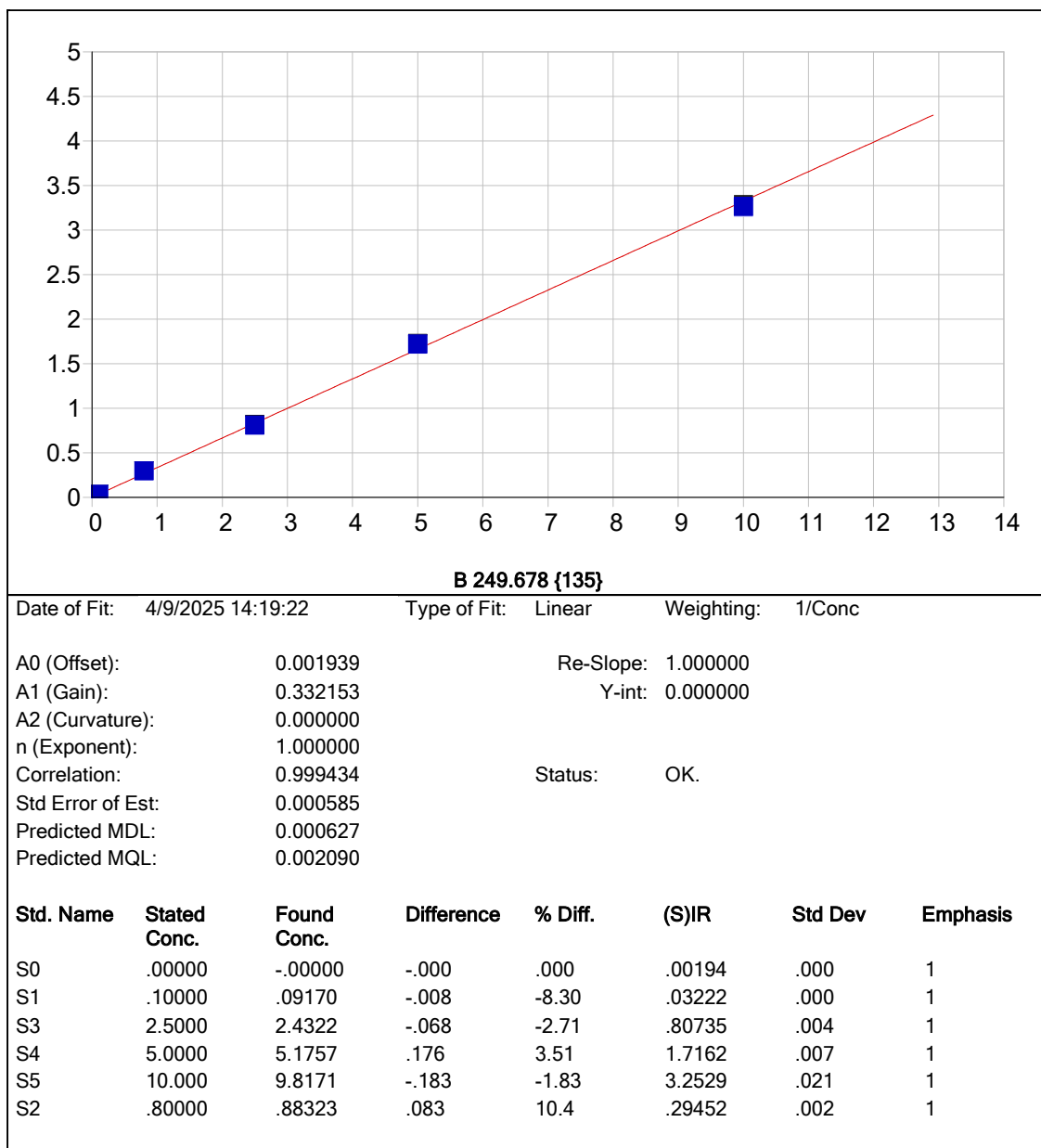


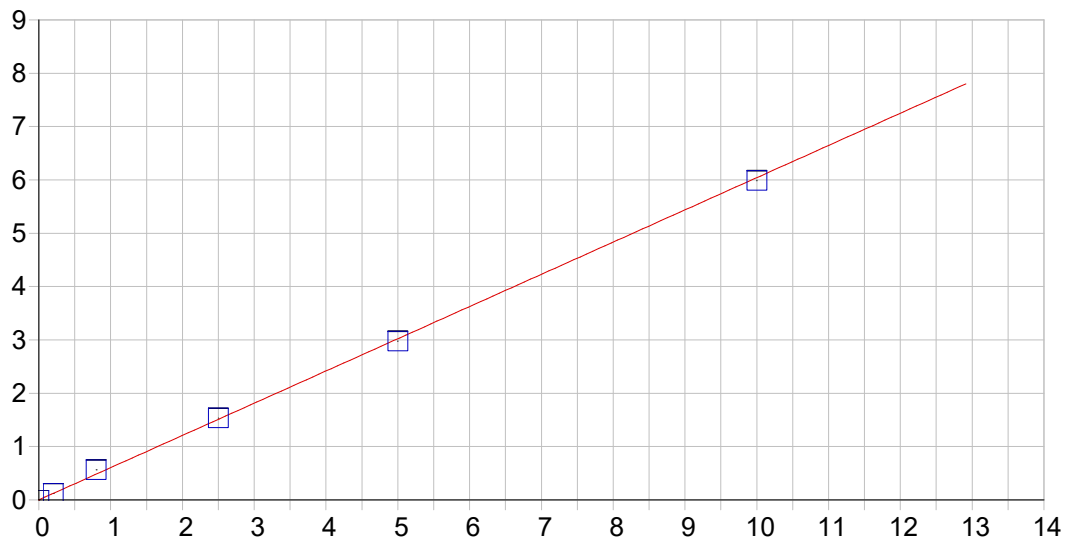










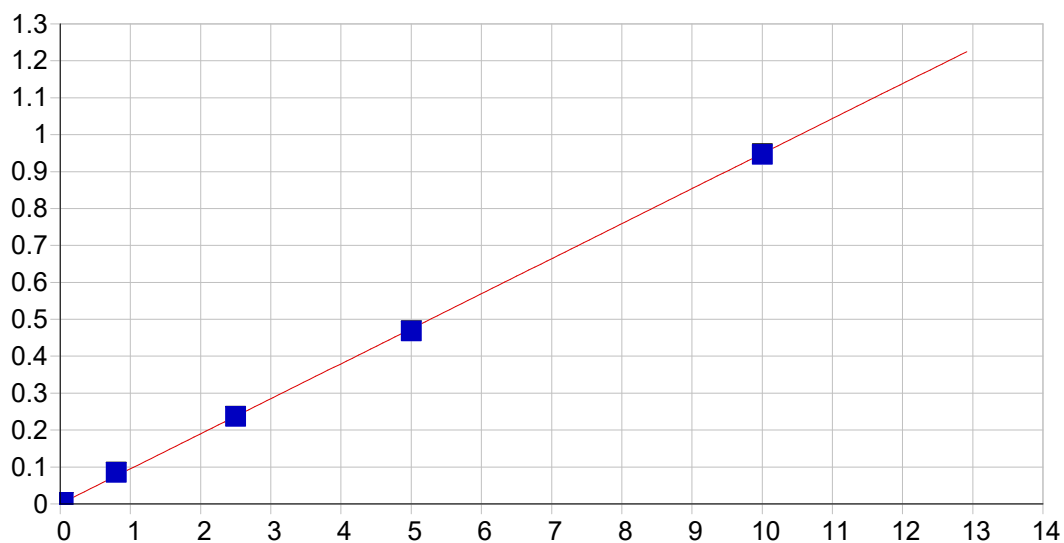


Mo 202.030 {467}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000671 Re-Slope: 1.000000
A1 (Gain): 0.604158 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999341 Status: OK.
Std Error of Est: 0.001633
Predicted MDL: 0.000288
Predicted MQL: 0.000961

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00003	-.000	.000	.00065	.000	1
S1	.20000	.19645	-.004	-1.77	.11936	.000	1
S3	2.5000	2.5403	.040	1.61	1.5354	.003	1
S4	5.0000	4.9227	-.077	-1.55	2.9747	.007	1
S5	10.000	9.9090	-.091	-.910	5.9873	.005	1
S2	.80000	.93161	.132	16.5	.56351	.002	1

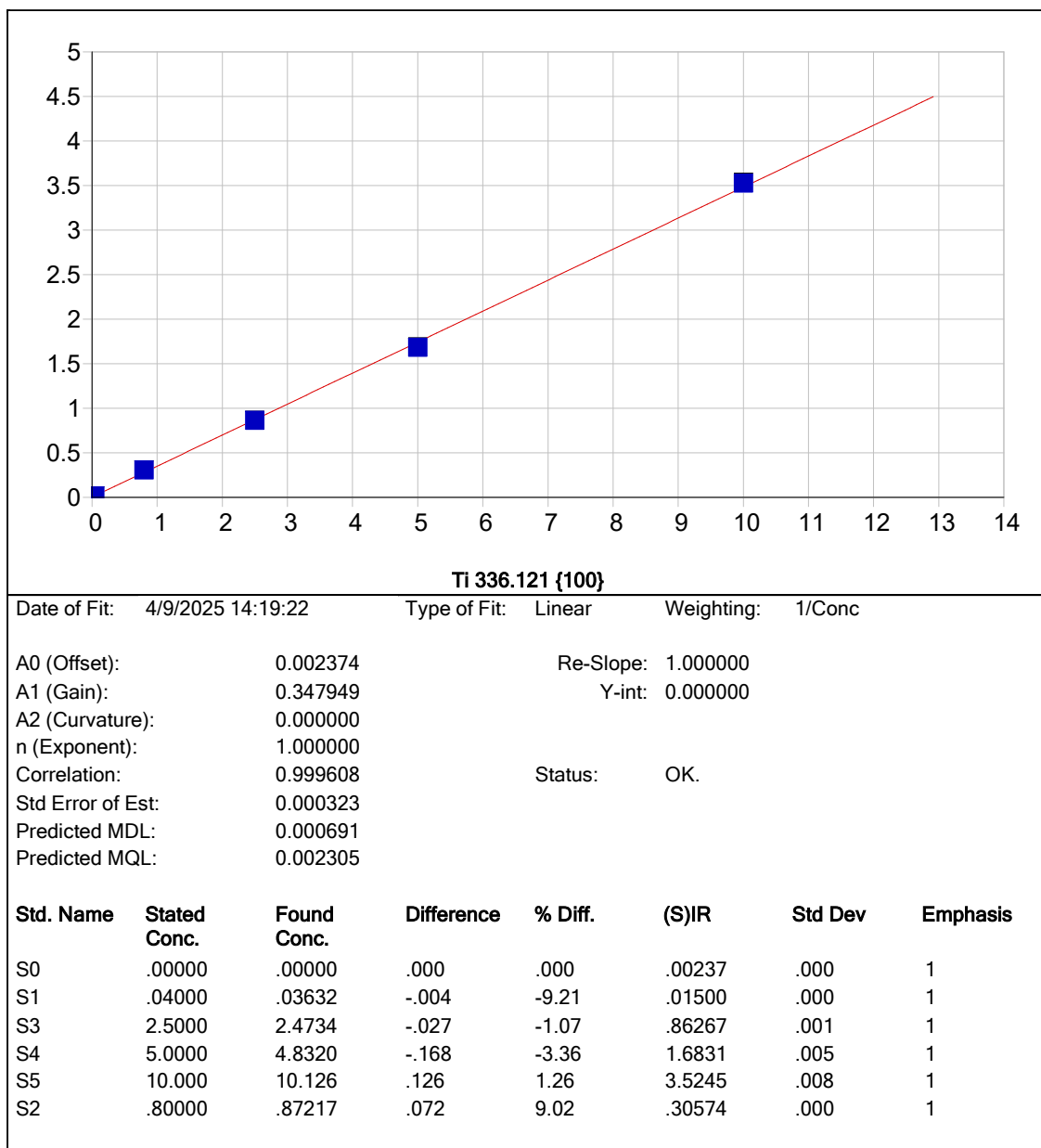


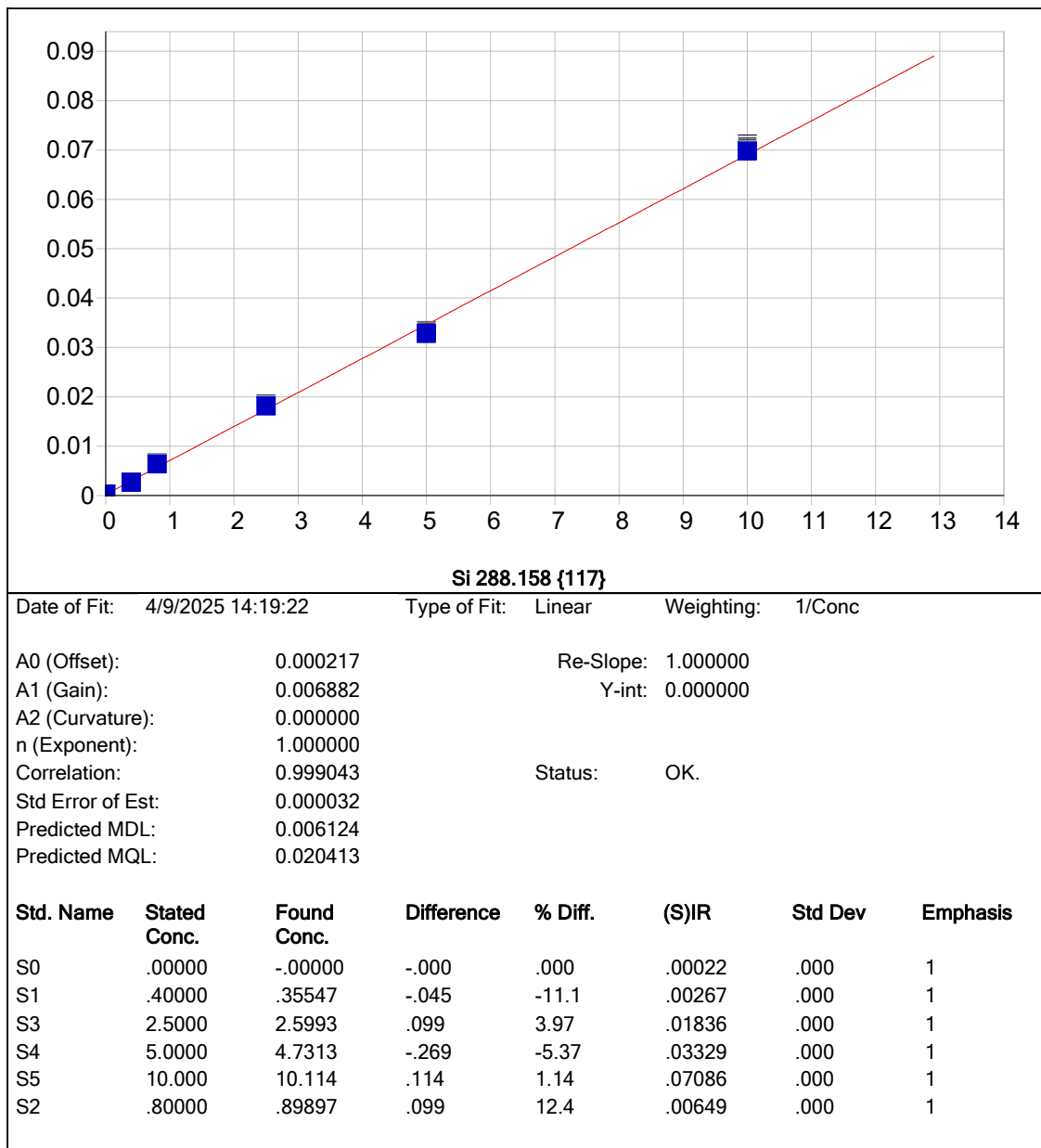
Sn 189.989 {478}

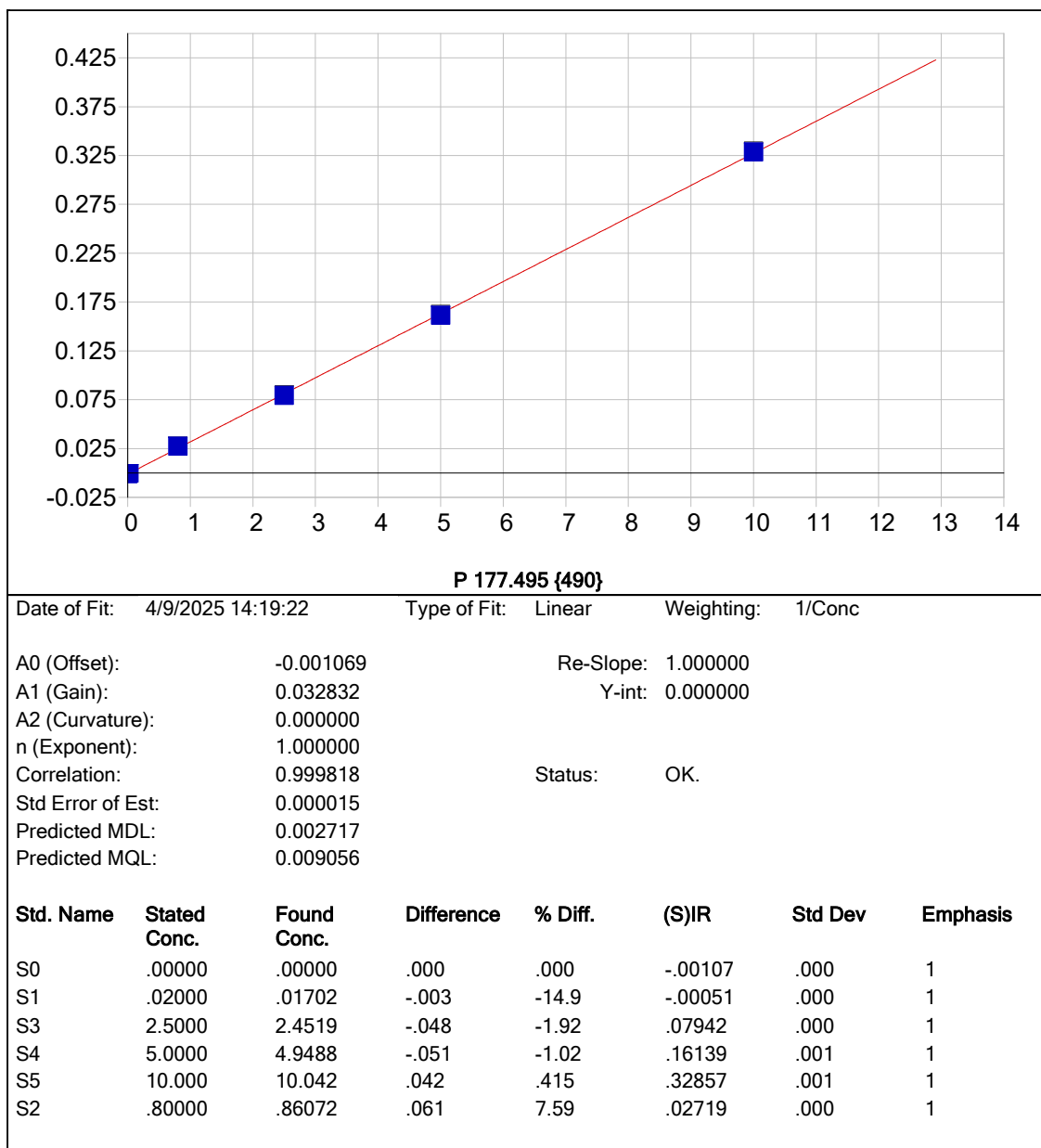
Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

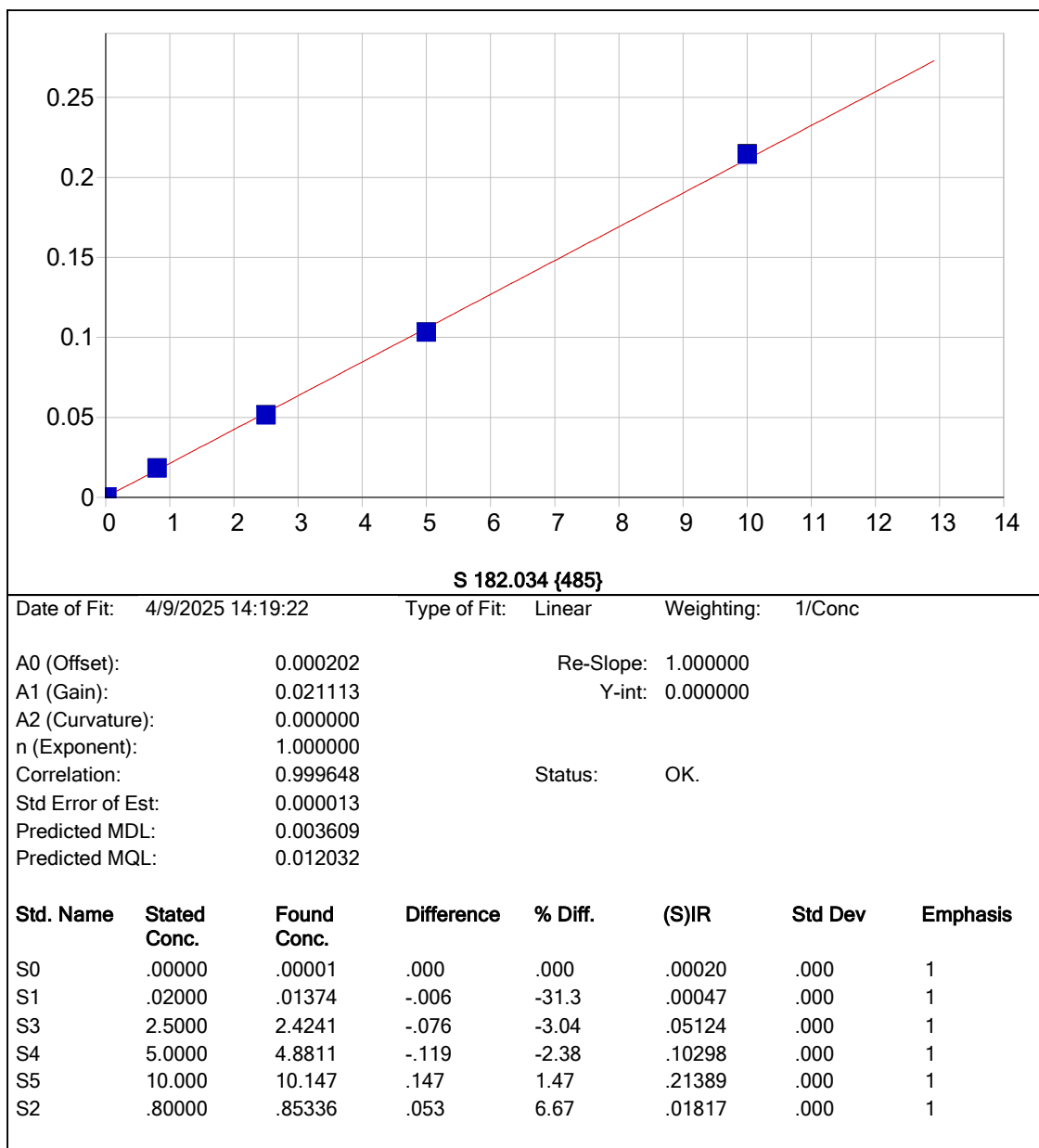
A0 (Offset): 0.000158 Re-Slope: 1.000000
A1 (Gain): 0.094847 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999652 Status: OK.
Std Error of Est: 0.000083
Predicted MDL: 0.000851
Predicted MQL: 0.002837

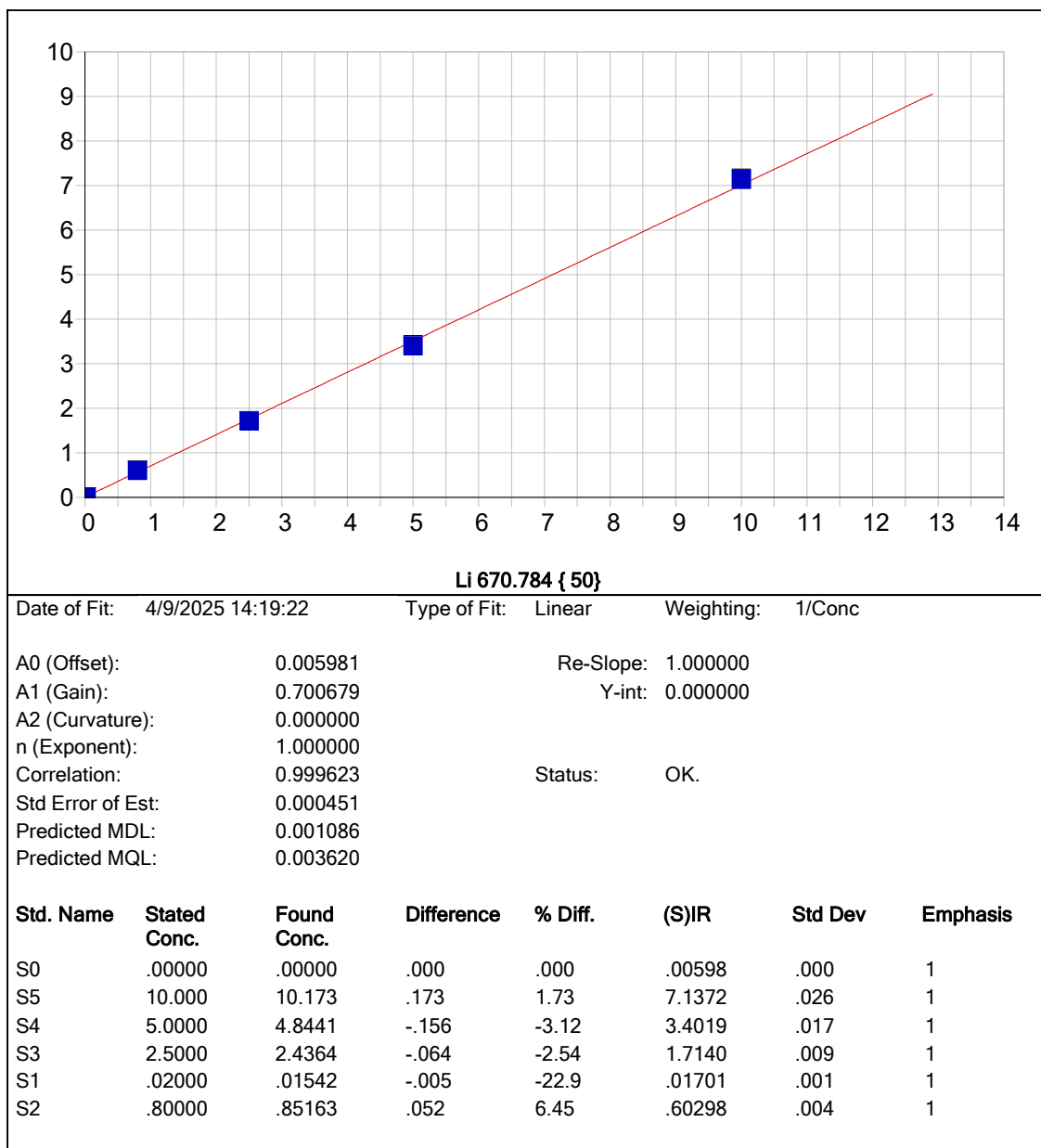
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00016	.000	1
S1	.04000	.03679	-.003	-8.03	.00364	.000	1
S3	2.5000	2.4954	-.005	-.184	.23659	.000	1
S4	5.0000	4.9356	-.064	-1.29	.46780	.000	1
S5	10.000	9.9759	-.024	-.241	.94537	.002	1
S2	.80000	.89631	.096	12.0	.08509	.000	1

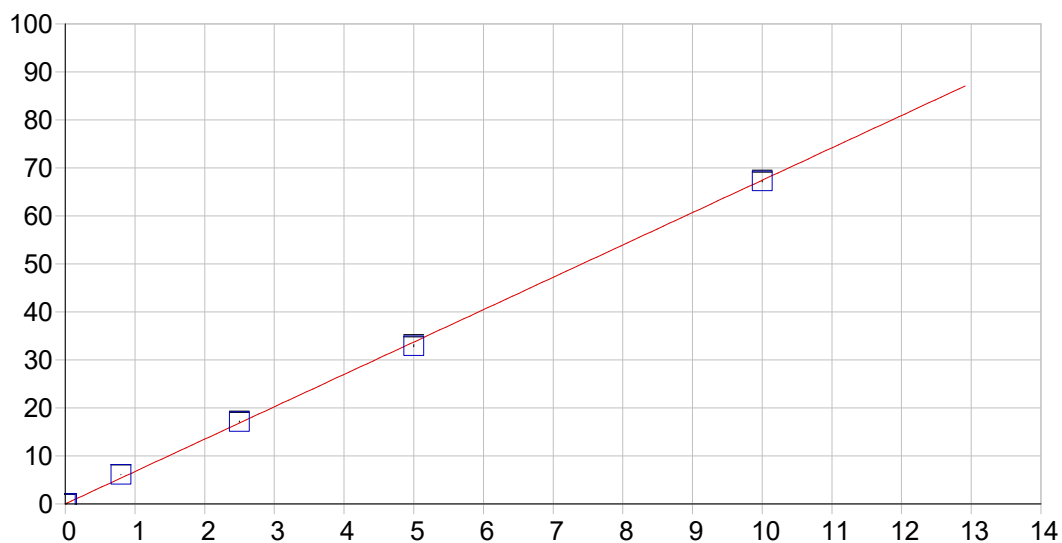










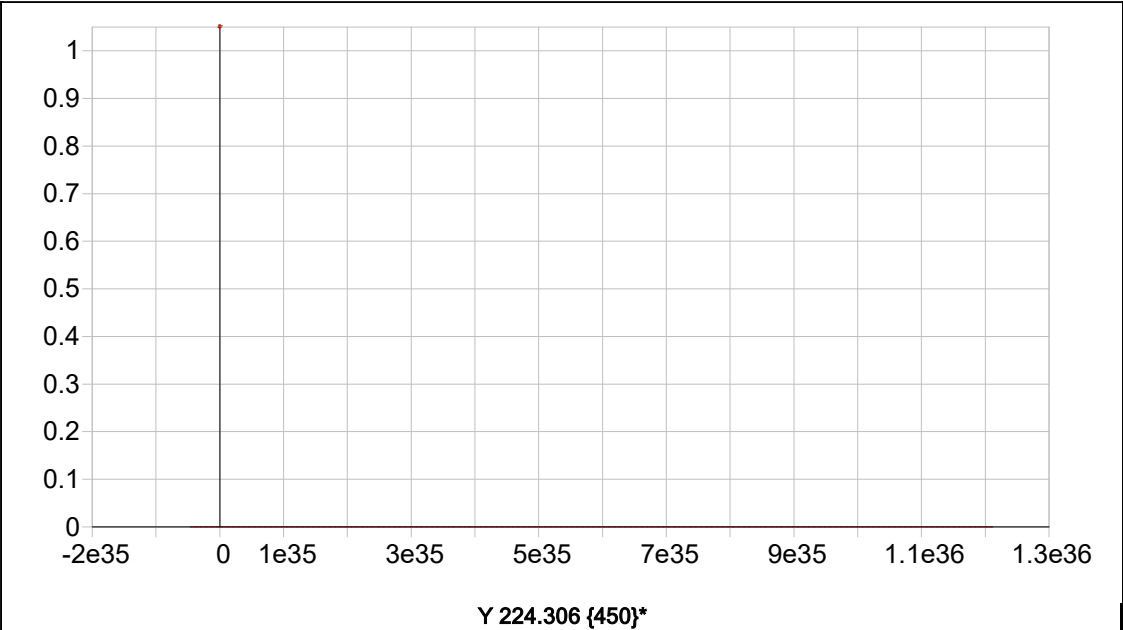


Sr 407.771 { 83}

Date of Fit: 4/9/2025 14:19:22 Type of Fit: Linear Weighting: 1/Conc

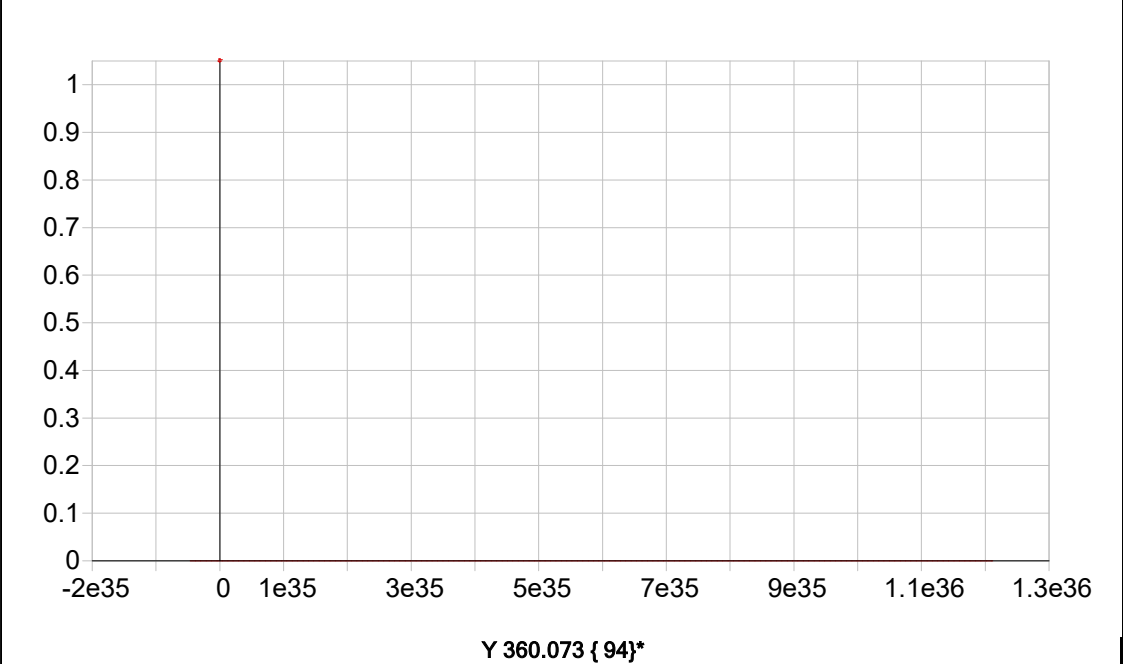
A0 (Offset):	0.003172	Re-Slope:	1.000000
A1 (Gain):	6.742894	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999533	Status:	OK.
Std Error of Est:	0.004828		
Predicted MDL:	0.000071		
Predicted MQL:	0.000237		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00317	.000	1
S1	.02000	.01809	-.002	-9.53	.12518	.000	1
S3	2.5000	2.5389	.039	1.56	17.123	.126	1
S4	5.0000	4.8852	-.115	-2.30	32.943	.228	1
S5	10.000	9.9735	-.027	-.265	67.253	.188	1
S2	.80000	.90435	.104	13.0	6.1011	.017	1

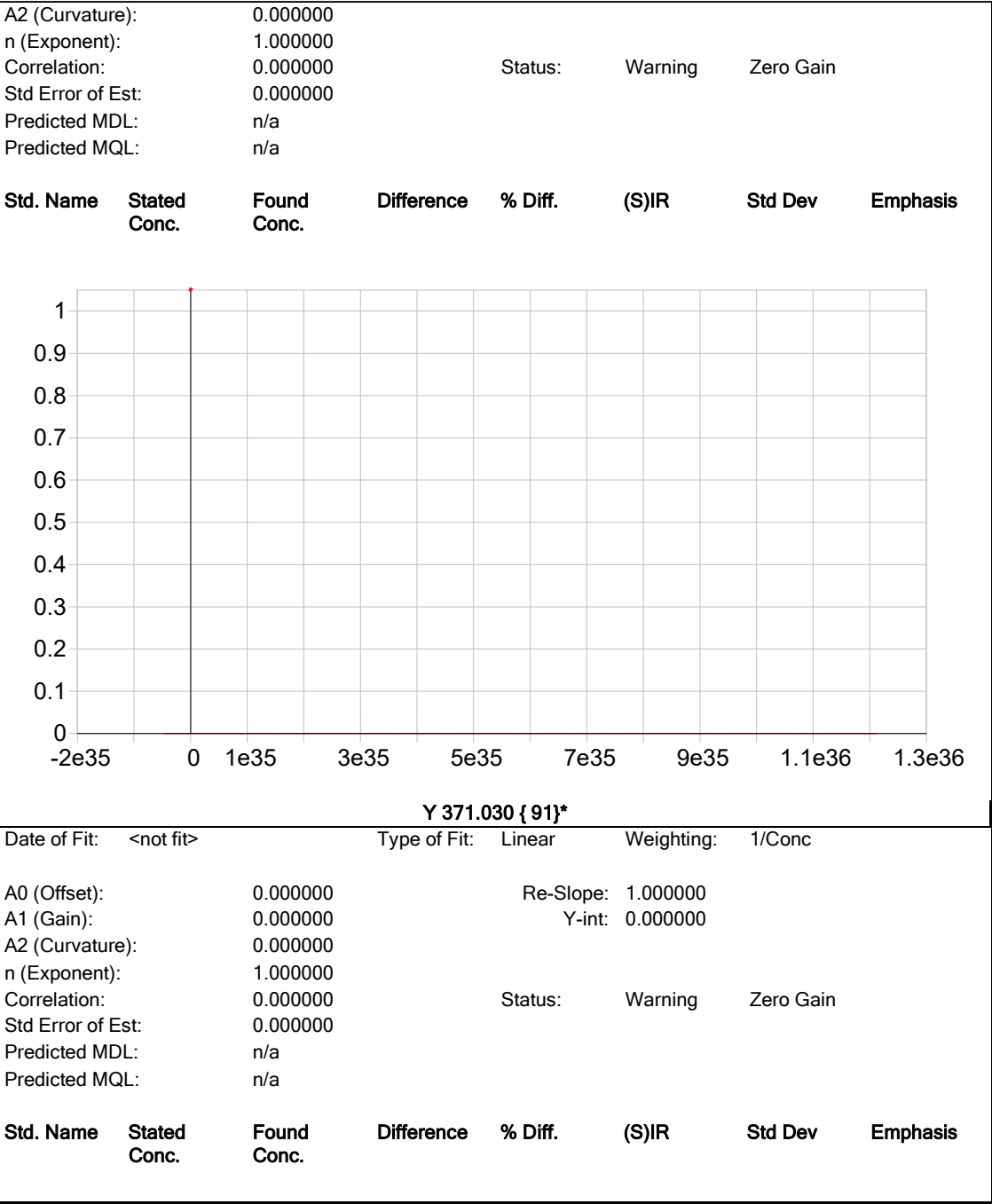


Date of Fit:	4/9/2025 14:19:22	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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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		Status:	Warning	Zero Gain	
n (Exponent):		1.000000					
Correlation:		0.000000					
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

SOP ID : M200.7-Trace Elements-22

SDG No : N/A

Matrix : WATER

Pipette 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: 04/03/2025 Time : 09:10 Temp : 96 °C

End Digest Date: 04/03/2025 Time : 11:15 Temp : 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: *[Signature]*

Supervisor Signature: *[Signature]*

Temp : 1. 96°C 2. N/A

Standardized Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6003
LFS-2	0.25	M6012
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
1:1 HNO3	1.00	MP84041
1:1 HCL	0.50	MP84720
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 CELL # 55 : 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
04/03/25 12:15	<i>[Signature]</i> met. dig	<i>[Signature]</i> met. lab
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
PB167442BL	PBW442	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	1
PB167442BS	LCS442	<2	50	25	Colorless	Colorless	Clear	Clear	M6003,M6012	2
Q1689-01MS	Q2 WASTEWATERMS	<2	50	25	Colorless	Colorless	Clear	Clear	M6003,M6012	5
Q1689-01MSD	Q2 WASTEWATERMSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6003,M6012	6
Q1689-01DUP	Q2 WASTEWATERDUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	4
Q1689-01	Q2 WASTEWATER	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	3
Q1703-02	COMP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	7
Q1704-01	402	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	8
Q1707-01	001-WILLETS-PT-BLVD(MAR)	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	9
Q1707-02	002-35TH-AVE(MAR)	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	10

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB167442

Worklist ID : 188703

Department : Digestion

Date : 04-03-2025 08:33:44

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1689-01	Q2 WASTEWATER	Water	Metals Group5	1:1 HNO3 to pH < 2	METE01	F11	04/01/2025	200.7
Q1703-02	COMP	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	ARAM01	L11	04/02/2025	200.7
Q1704-01	402	Water	Metals Group3	1:1 HNO3 to pH < 2	PSEG04	L12	04/02/2025	200.7
Q1707-01	001-WILLETTS-PT-BLVD(MAR)	Water	Metals Group3	1:1 HNO3 to pH < 2	TULL01	L12	04/01/2025	200.7
Q1707-02	002-35TH-AVE(MAR)	Water	Metals Group3	1:1 HNO3 to pH < 2	TULL01	L12	04/01/2025	200.7

Date/Time

04/03/25

08:55

Raw Sample Received by:

SLB, met.d12

Raw Sample Relinquished by:

SLB

Date/Time

04/03/25

9:55

Raw Sample Received by:

SLB, met.d12

Raw Sample Relinquished by:

SLB, met.d12

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135289

Review By	kareem	Review On	4/4/2025 10:20:46 AM
Supervise By	mohan	Supervise On	4/4/2025 5:07:26 PM

STD. NAME	STD REF.#
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022
ICV Standard	MP85023
CCV Standard	MP85026
ICSA Standard	MP85024,MP85025
CRI Standard	MP85022
LCS Standard	
Chk Standard	MP85030,MP85031

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	04/03/25 10:22		Kareem	OK
2	S1	S1	CAL2	04/03/25 10:26		Kareem	OK
3	S2	S2	CAL3	04/03/25 10:30		Kareem	OK
4	S3	S3	CAL4	04/03/25 10:34		Kareem	OK
5	S4	S4	CAL5	04/03/25 10:39		Kareem	OK
6	S5	S5	CAL6	04/03/25 10:43		Kareem	OK
7	ICV01	ICV01	ICV	04/03/25 12:06	ICV fail for Sb,Na,Tl (200.7) (95-105)	Kareem	OK
8	LLICV01	LLICV01	LLICV	04/03/25 12:11		Kareem	OK
9	ICB01	ICB01	ICB	04/03/25 12:15		Kareem	OK
10	CRI01	CRI01	CRDL	04/03/25 12:20		Kareem	OK
11	ICSA01	ICSA01	ICSA	04/03/25 12:24		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	04/03/25 12:28		Kareem	OK
13	ICSADL	ICSADL	ICSA	04/03/25 12:33		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	04/03/25 12:37		Kareem	OK
15	CCV01	CCV01	CCV	04/03/25 12:41		Kareem	OK
16	CCB01	CCB01	CCB	04/03/25 12:47		Kareem	OK
17	Q1503-07	PT-SIO2-WP	SAM	04/03/25 12:51	Si high	Kareem	Dilution
18	Q1680-01	TP-4	SAM	04/03/25 13:00		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135289

Review By	kareem	Review On	4/4/2025 10:20:46 AM
Supervise By	mohan	Supervise On	4/4/2025 5:07:26 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

19	Q1680-01DUP	TP-4DUP	DUP	04/03/25 13:05		Kareem	OK
20	Q1680-01L	TP-4L	SD	04/03/25 13:09		Kareem	OK
21	Q1680-01MS	TP-4MS	MS	04/03/25 13:17	0.1 ML OF M6013 AND M6004	Kareem	OK
22	Q1680-01MSD	TP-4MSD	MSD	04/03/25 13:28	0.1 ML OF M6013 AND M6004	Kareem	OK
23	Q1680-01A	TP-4A	PS	04/03/25 13:32	0.1 ML OF M6013 AND M6004	Kareem	OK
24	Q1681-01	TP-12	SAM	04/03/25 13:40		Kareem	OK
25	Q1503-07DL	PT-SIO2-WPDL	SAM	04/03/25 13:45	10x for Si	Kareem	Confirms
26	Q1688-01	OR-02-040125	SAM	04/03/25 13:49		Kareem	OK
27	CCV02	CCV02	CCV	04/03/25 13:53		Kareem	OK
28	CCB02	CCB02	CCB	04/03/25 13:57		Kareem	OK
29	PB167411BL	PB167411BL	MB	04/03/25 14:02		Kareem	OK
30	PB167411BS	PB167411BS	LCS	04/03/25 14:06	0.1 ML OF M6013 AND M6004	Kareem	OK
31	Q1690-01	MW112010	SAM	04/03/25 14:10		Kareem	OK
32	Q1707-01	001-WILLETS-PT-BL	SAM	04/03/25 14:15		Kareem	OK
33	Q1707-02	002-35TH-AVE(MAR)	SAM	04/03/25 14:19		Kareem	OK
34	Q1690-01DUP	MW112010DUP	DUP	04/03/25 14:23		Kareem	OK
35	Q1690-01L	MW112010L	SD	04/03/25 14:28		Kareem	OK
36	Q1692-01	NB-08-04012025	SAM	04/03/25 14:35		Kareem	OK
37	CCV03	CCV03	CCV	04/03/25 14:39		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135289

Review By	kareem	Review On	4/4/2025 10:20:46 AM
Supervise By	mohan	Supervise On	4/4/2025 5:07:26 PM

STD. NAME	STD REF.#
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022
ICV Standard	MP85023
CCV Standard	MP85026
ICSA Standard	MP85024,MP85025
CRI Standard	MP85022
LCS Standard	
Chk Standard	MP85030,MP85031

38	CCB03	CCB03	CCB	04/03/25 14:43		Kareem	OK
39	Q1690-01MS	MW112010MS	MS	04/03/25 14:49	0.1 ML OF M6013 AND M6004	Kareem	OK
40	Q1690-01MSD	MW112010MSD	MSD	04/03/25 14:53	0.1 ML OF M6013 AND M6004	Kareem	OK
41	Q1690-01A	MW112010A	PS	04/03/25 14:57	0.1 ML OF M6013 AND M6004	Kareem	OK
42	Q1657-04	72-11998	SAM	04/03/25 15:01		Kareem	OK
43	PB167422BL	PB167422BL	MB	04/03/25 15:06		Kareem	OK
44	PB167422BS	PB167422BS	LCS	04/03/25 15:10	0.1 ML OF M6013 AND M6004	Kareem	OK
45	Q1673-01	GW-CONTROL	SAM	04/03/25 15:14		Kareem	OK
46	Q1673-02	SDC9	SAM	04/03/25 15:19		Kareem	OK
47	Q1684-01	SU-04-040125	SAM	04/03/25 15:23		Kareem	OK
48	Q1685-01	HR-02-040125	SAM	04/03/25 15:28		Kareem	OK
49	CCV04	CCV04	CCV	04/03/25 15:32		Kareem	OK
50	CCB04	CCB04	CCB	04/03/25 15:36		Kareem	OK
51	Q1685-01DUP	HR-02-040125DUP	DUP	04/03/25 15:40		Kareem	OK
52	Q1685-01L	HR-02-040125L	SD	04/03/25 15:45		Kareem	OK
53	Q1685-01A	HR-02-040125A	PS	04/03/25 15:58	0.1 ML OF M6013 AND M6004	Kareem	OK
54	Q1693-01	WCS-TP-3	SAM	04/03/25 16:02		Kareem	OK
55	Q1685-01MS	HR-02-040125MS	MS	04/03/25 16:06		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135289

Review By	kareem	Review On	4/4/2025 10:20:46 AM
Supervise By	mohan	Supervise On	4/4/2025 5:07:26 PM

STD. NAME	STD REF.#
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022
ICV Standard	MP85023
CCV Standard	MP85026
ICSA Standard	MP85024,MP85025
CRI Standard	MP85022
LCS Standard	
Chk Standard	MP85030,MP85031

56	Q1685-01MSD	HR-02-040125MSD	MSD	04/03/25 16:10		Kareem	OK
57	Q1693-05	WCS-TP-2	SAM	04/03/25 16:15		Kareem	OK
58	Q1693-09	WCS-TP-1	SAM	04/03/25 16:19		Kareem	OK
59	Q1694-01	TP-18	SAM	04/03/25 16:23		Kareem	OK
60	Q1695-01	TT-2	SAM	04/03/25 16:27		Kareem	OK
61	CCV05	CCV05	CCV	04/03/25 16:36		Kareem	OK
62	CCB05	CCB05	CCB	04/03/25 16:40		Kareem	OK
63	LR1	LR1	HIGH STD	04/03/25 16:46		Kareem	OK
64	LR2	LR2	HIGH STD	04/03/25 16:51		Kareem	OK
65	Q1695-05	TT-3	SAM	04/03/25 16:55		Kareem	OK
66	PB167421BS	PB167421BS	LCS	04/03/25 17:03	0.1 ML OF M6013 AND M6004	Kareem	OK
67	PB167421BL	PB167421BL	MB	04/03/25 17:09		Kareem	OK
68	Q1689-01	Q2 WASTEWATER	SAM	04/03/25 17:13	MS/MS fail for more than 50% parameter	Kareem	Not Ok
69	Q1689-01DUP	Q2 WASTEWATERDUP	DUP	04/03/25 17:18	MS/MS fail for more than 50% parameter	Kareem	Not Ok
70	Q1689-01L	Q2 WASTEWATERL	SD	04/03/25 17:22	MS/MS fail for more than 50% parameter	Kareem	Not Ok
71	Q1689-01MS	Q2 WASTEWATERMS	MS	04/03/25 17:26	MS/MS fail for more than 50% parameter	Kareem	Not Ok
72	Q1689-01MSD	Q2 WASTEWATERMSD	MSD	04/03/25 17:30	MS/MS fail for more than 50% parameter	Kareem	Not Ok
73	CCV06	CCV06	CCV	04/03/25 17:48		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135289

Review By	kareem	Review On	4/4/2025 10:20:46 AM
Supervise By	mohan	Supervise On	4/4/2025 5:07:26 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

74	CCB06	CCB06	CCB	04/03/25 18:00		Kareem	OK
75	Q1689-01A	Q2 WASTEWATERA	PS	04/03/25 18:04	MS/MS fail for more than 50% parameter	Kareem	Not Ok
76	Q1703-02	COMP	SAM	04/03/25 18:08		Kareem	OK
77	Q1704-01	402	SAM	04/03/25 18:13		Kareem	OK
78	PB167442BL	PB167442BL	MB	04/03/25 18:21		Kareem	OK
79	PB167442BS	PB167442BS	LCS	04/03/25 18:25	0.1 ML OF M6013 AND M6004	Kareem	OK
80	CCV07	CCV07	CCV	04/03/25 18:29		Kareem	OK
81	CCB07	CCB07	CCB	04/03/25 18:33		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135361

Review By	kareem	Review On	4/10/2025 12:50:51 PM
Supervise By	mohan	Supervise On	4/10/2025 3:53:35 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	04/09/25 13:16		Kareem	OK
2	S1	S1	CAL2	04/09/25 13:20		Kareem	OK
3	S2	S2	CAL3	04/09/25 13:24		Kareem	OK
4	S3	S3	CAL4	04/09/25 13:28		Kareem	OK
5	S4	S4	CAL5	04/09/25 13:33		Kareem	OK
6	S5	S5	CAL6	04/09/25 13:37		Kareem	OK
7	ICV01	ICV01	ICV	04/09/25 14:21	ICV01 Fail for Be,Ca,Co,Mg,Mn,K,Na (200.7)	Kareem	OK
8	LLICV01	LLICV01	LLICV	04/09/25 14:26		Kareem	OK
9	ICB01	ICB01	ICB	04/09/25 14:30		Kareem	OK
10	CRI01	CRI01	CRDL	04/09/25 14:35		Kareem	OK
11	ICSA01	ICSA01	ICSA	04/09/25 14:39		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	04/09/25 14:43		Kareem	OK
13	ICSADL	ICSADL	ICSA	04/09/25 14:48		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	04/09/25 14:52		Kareem	OK
15	CCV01	CCV01	CCV	04/09/25 14:56		Kareem	OK
16	CCB01	CCB01	CCB	04/09/25 15:00		Kareem	OK
17	Q1735-01	50660-50661-50662-5	SAM	04/09/25 15:05		Kareem	OK
18	Q1689-01DL	Q2 WASTEWATERDL	SAM	04/09/25 15:09		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135361

Review By	kareem	Review On	4/10/2025 12:50:51 PM
Supervise By	mohan	Supervise On	4/10/2025 3:53:35 PM

STD. NAME	STD REF.#
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022
ICV Standard	MP85023
CCV Standard	MP85026
ICSA Standard	MP85024,MP85025
CRI Standard	MP85022
LCS Standard	
Chk Standard	MP85030,MP85031

19	Q1689-01DUPDL	Q2 WASTEWATERDUP	DUP	04/09/25 15:13		Kareem	OK
20	CCV02	CCV02	CCV	04/09/25 15:23		Kareem	OK
21	CCB02	CCB02	CCB	04/09/25 15:27		Kareem	OK
22	Q1689-01LDL	Q2 WASTEWATERLD	SD	04/09/25 15:32		Kareem	OK
23	Q1689-01MSDL	Q2 WASTEWATERMS	MS	04/09/25 15:36	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
24	Q1689-01MSDDL	Q2 WASTEWATERMS	MSD	04/09/25 15:40	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
25	Q1689-01ADL	Q2 WASTEWATERAD	PS	04/09/25 15:45	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
26	Q1747-01	ARS20-0008	SAM	04/09/25 15:49		Kareem	OK
27	Q1747-01DUP	ARS20-0008DUP	DUP	04/09/25 15:55		Kareem	OK
28	Q1747-01L	ARS20-0008L	SD	04/09/25 15:59		Kareem	OK
29	Q1747-01A	ARS20-0008A	PS	04/09/25 16:11	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
30	Q1747-01MS	ARS20-0008MS	MS	04/09/25 16:18	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
31	Q1747-01MSD	ARS20-0008MSD	MSD	04/09/25 16:22	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
32	CCV03	CCV03	CCV	04/09/25 16:26		Kareem	OK
33	CCB03	CCB03	CCB	04/09/25 16:30		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135361

Review By	kareem	Review On	4/10/2025 12:50:51 PM
Supervise By	mohan	Supervise On	4/10/2025 3:53:35 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

34	PBW	PBW	MB	04/09/25 16:35		Kareem	OK
35	PBS	PBS	MB	04/09/25 16:39		Kareem	OK
36	LCSW	LCSW	SAM	04/09/25 16:49	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
37	LCSS	LCSS	SAM	04/09/25 16:53		Kareem	OK
38	WATER BLANK-2	WATER BLANK-2	MB	04/09/25 16:57		Kareem	OK
39	WATER BLANK-3	WATER BLANK-3	MB	04/09/25 17:01		Kareem	OK
40	SOIL BLANK-2	SOIL BLANK-2	MB	04/09/25 17:06		Kareem	OK
41	SOIL BLANK-3	SOIL BLANK-3	MB	04/09/25 17:10		Kareem	OK
42	WATER MDL-1	WATER MDL-1	SAM	04/09/25 17:14		Kareem	OK
43	WATER MDL-2	WATER MDL-2	SAM	04/09/25 17:19		Kareem	OK
44	CCV04	CCV04	CCV	04/09/25 17:23		Kareem	OK
45	CCB04	CCB04	CCB	04/09/25 17:27		Kareem	OK
46	WATER MDL-01	WATER MDL-01	SAM	04/09/25 17:38		Kareem	OK
47	WATER MDL-3	WATER MDL-3	SAM	04/09/25 17:47		Kareem	OK
48	WATER MDL-02	WATER MDL-02	SAM	04/09/25 17:51		Kareem	OK
49	SOIL MDL-1	SOIL MDL-1	SAM	04/09/25 17:56		Kareem	OK
50	SOIL MDL-2	SOIL MDL-2	SAM	04/09/25 18:01		Kareem	OK
51	SOIL MDL-3	SOIL MDL-3	SAM	04/09/25 18:05		Kareem	OK
52	CCV05	CCV05	CCV	04/09/25 18:09		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135361

Review By	kareem	Review On	4/10/2025 12:50:51 PM
Supervise By	mohan	Supervise On	4/10/2025 3:53:35 PM
STD. NAME	STD REF.#		
ICAL Standard	MP85016,MP85017,MP85018,MP85019,MP85020,MP85022		
ICV Standard	MP85023		
CCV Standard	MP85026		
ICSA Standard	MP85024,MP85025		
CRI Standard	MP85022		
LCS Standard			
Chk Standard	MP85030,MP85031		

53	CCB05	CCB05	CCB	04/09/25 18:13		Kareem	OK
54	LR1	LR1	HIGH STD	04/09/25 18:23		Kareem	OK
55	LR2	LR2	HIGH STD	04/09/25 18:28		Kareem	OK
56	CCV06	CCV06	CCV	04/09/25 18:36		Kareem	OK
57	CCB06	CCB06	CCB	04/09/25 18:40		Kareem	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1707

Test : Metals Group3

Prepbatch ID : PB167442,

Sequence ID/Qc Batch ID: LB135289, LB135289, LB135289, LB135361,

Standard ID :

MP84041, MP84720, MP85016, MP85017, MP85018, MP85019, MP85020, MP85021, MP85022, MP85023, MP85024, MP85025, MP85026, MP85030, MP85031,

Chemical ID :

M4883, M4891, M5020, M5288, M5387, M5395, M5429, M5466, M5472, M5496, M5497, M5516, M5521, M5658, M5747, M5748, M5768, M5789, M5798, M5799, M5800, M5801, M5811, M5814, M5816, M5817, M5820, M5875, M5959, M5970, M5978, M5985, M6003, M6012, M6021, M6023, M6028, M6030, M6058, M6076, M6126, M6128, M6137, M6150, M6151, M6152, M6155, M6156, M6160, W3112,

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
169	1:1HNO3	MP84041	01/14/2025	07/14/2025	Eman Mughal	None	None	Sarabjit Jaswal
								01/16/2025

FROM 1250.00000ml of M6126 + 1250.00000ml of W3112 = Final Quantity: 2500.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
170	1:1HCL	MP84720	03/03/2025	04/04/2025	Sagar Kanani	None	METALS_PIPETTE_1 (ICP A)	Sarabjit Jaswal
								03/03/2025

FROM 1000.00000ml of M6151 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
902	ICP AES CAL BLK (SO/ICB/CCB)	MP85016	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 125.00000ml of M6151 + 2350.00000ml of W3112 + 25.00000ml of M5789 = Final Quantity: 2500.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
907	ICP AES STD S (S5)	MP85017	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 5.00000ml of M5395 + 5.00000ml of M5466 + 5.00000ml of M5472 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M6076 + 5.00000ml of M6160 + 455.00000ml of MP85016 = Final Quantity: 500.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
910	ICP AES STD S4	MP85018	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 50.00000ml of MP85016 + 50.00000ml of MP85017 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
909	ICP AES STD S3	MP85019	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 25.00000ml of MP85017 + 75.00000ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3913	ICP AES STD S2	MP85020	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 16.00000ml of MP85017 + 184.00000ml of MP85016 = Final Quantity: 200.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2950	ICP AES S1/CRI STOCK STD	MP85021	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5496 + 0.05000ml of M5658 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.06000ml of M5747 + 0.10000ml of M4883 + 0.10000ml of M5472 + 0.10000ml of M5521 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5970 + 0.10000ml of M6128 + 0.15000ml of M5800 + 0.20000ml of M4891 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5466 + 0.25000ml of M6160 + 0.50000ml of M5387 + 0.50000ml of M5814 + 1.00000ml of M5288 + 1.00000ml of M5497 + 1.00000ml of M5516 + 1.00000ml of M5768 + 1.00000ml of M5978 + 1.00000ml of M6156 + 2.00000ml of M5816 + 77.68000ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2951	ICP AES S1/CRI WORK STD	MP85022	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 2.00000ml of MP85021 + 98.00000ml of MP85016 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
912	ICP AES ICV SOLN	MP85023	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 0.02500ml of M5020 + 0.02500ml of M5429 + 0.02500ml of M5817 + 0.10000ml of M5466 + 0.25000ml of M5472 + 0.25000ml of M6058 + 10.00000ml of M6150 + 89.77500ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
904	ICP AES ICSA SOLN	MP85024	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 25.00000ml of M6152 + 225.00000ml of MP85016 = Final Quantity: 250.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3494	ICP AES ICSAB SOLN-1	MP85025	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 0.01000ml of M5020 + 0.01000ml of M5817 + 0.10000ml of M5472 + 0.10000ml of M5970 + 0.10000ml of M6076 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.50000ml of MP85016 = Final Quantity: 100.000 ml

Metals STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
911	ICP AES CCV SOLN	MP85026	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 50.00000ml of MP85016 + 50.00000ml of MP85017 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
919	ICP AES INTERNAL STD	MP85030	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								04/07/2025

FROM 1.00000ml of M5959 + 10.00000ml of M5985 + 1969.00000ml of W3112 + 20.00000ml of M5789 = Final Quantity: 2000.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
513	RINSE SOLN	MP85031	03/26/2025	04/26/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 04/07/2025
<u>FROM</u> 200.00000ml of M5789 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	070221	09/07/2025	08/06/2021 / jaswal	08/05/2021 / jaswal	M4883

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	031921	05/19/2025	08/25/2021 / bin	08/05/2021 / jaswal	M4891

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	032921	05/17/2025	12/13/2021 / bin	12/09/2021 / bin	M5020

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58119 / K, 10000 PPM, 500 ml	071122	07/11/2025	09/01/2022 / jaswal	07/21/2022 / jaswal	M5288

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	11/01/2022 / jaswal	09/18/2022 / jaswal	M5387

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	01/30/2024 / bin	09/19/2022 / bin	M5395

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57103 / Li, 10000 PPM, 125 ml	070622	07/06/2025	01/30/2023 / bin	01/26/2023 / bin	M5429

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	061322	06/13/2025	03/06/2023 / bin	03/01/2023 / bin	M5466

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	082922	08/29/2025	01/14/2025 / Jaswal	03/16/2023 / jaswal	M5472

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5496

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	03/18/2023 / bin	03/17/2023 / bin	M5497

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	022123	11/06/2025	11/06/2024 / kareem	03/17/2023 / bin	M5516

CHEMICAL RECEIPT LOG BOOK

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	102622	10/26/2025	11/21/2022 / bin	11/20/2022 / bin	M5521

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58024 / Chromium, Cr, 500 ml, 1000 PPM	060523	06/05/2026	08/28/2023 / jaswal	08/25/2023 / jaswal	M5658

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Lead (Pb) 1000PPM	100923	10/09/2026	05/20/2024 / Jaswal	12/20/2023 / jaswal	M5747

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	01/08/2024 / bin	01/03/2024 / bin	M5768

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	23G1262003	07/30/2025	02/08/2024 / Al-Terek	06/26/2023 / Al-Terek	M5789

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57004 / Be, 1000 PPM, 125 ml	102523	10/25/2026	02/09/2024 / bin	02/09/2024 / bin	M5798

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57050 / Sn, 1000 PPM, 125 ml	071123	07/11/2026	02/09/2024 / bin	02/09/2024 / bin	M5799

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57027 / CO, 1000 PPM, 125 ml	091923	09/19/2026	05/31/2024 / bin	02/09/2024 / bin	M5800

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57033 / As, 1000 PPM, 125 ml	111323	11/13/2026	02/09/2024 / bin	02/09/2024 / bin	M5801

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	051523	05/15/2026	02/06/2025 / kareem	01/03/2024 / jaswal	M5811

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57005 / B, 1000 PPM, 125 ml	071123	07/11/2026	03/26/2024 / Sohil	01/03/2024 / jaswal	M5814

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57016 / S, 1000 PPM, 125 ml	122923	12/29/2026	05/20/2024 / Jaswal	02/09/2024 / jaswal	M5816

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57116 / S, 10000 PPM, 125 ml	071123	07/11/2026	03/01/2024 / jaswal	02/09/2024 / jaswal	M5817

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	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 #
Inorganic Ventures	CGY10-1 / YTTRIUM 125mL 10,000ug/mL	V2-Y740548	02/20/2029	07/01/2024 / Jaswal	06/14/2024 / Jaswal	M5959

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57003 / Li, 1000 PPM, 125 ml	061224	06/21/2027	07/01/2024 / Jaswal	07/01/2024 / Jaswal	M5970

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGTI1-1 / TITANIUM 125mL 1000ug/mL	T2-TI719972	06/17/2027	08/07/2024 / jaswal	02/22/2024 / Jaswal	M5978

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGIN10-5 / INDIUM 1 x 500 ml	U2-IN729349	02/21/2028	10/08/2024 / Jaswal	06/14/2024 / Jaswal	M5985

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/26/2025	02/26/2025 / Eman	05/14/2024 / Jaswal	M6003

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	09/17/2025	03/17/2025 / Eman	05/14/2024 / Jaswal	M6012

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 / TI, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6028

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57047 / Ag, 1000 PPM, 125 ml	122823	12/28/2026	08/05/2024 / kareem	08/05/2024 / Jaswal	M6030

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	V2-MEB746173	01/29/2026	01/29/2025 / JANVI	08/22/2024 / Jaswal	M6058

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	01/01/2026	01/01/2025 / kareem	09/19/2024 / kareem	M6076

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	06/03/2025	12/03/2024 / Janvi	11/12/2024 / Janvi	M6126

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	101124	10/11/2027	01/13/2025 / kareem	01/13/2025 / kareem	M6128

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CGSI1-1 / SILICON 125mL 1000ug/mL	V2-SI744713	07/10/2029	01/14/2025 / Jaswal	10/03/2024 / Jaswal	M6137

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV1-1014	07/07/2025	02/07/2025 / JANVI	04/20/2021 / JANVI	M6150

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	08/18/2025	02/18/2025 / Sagar	01/15/2025 / Sagar	M6151

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART A / ICSA (ICP) STOCK SOLN	ICSA-1211	08/24/2025	02/24/2025 / kareem	04/20/2021 / kareem	M6152

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	PART B / ICSAB (ICP) STOCK SOLN	ICSB-0710	06/20/2025	02/10/2025 / kareem	02/09/2024 / kareem	M6155

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	032123	03/21/2026	11/06/2024 / JANVI	06/12/2024 / JANVI	M6156

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	03/24/2026	03/24/2025 / kareem	10/18/2024 / kareem	M6160

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 / lwona	07/03/2024 / lwona	W3112



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57048
070124
Cadmium (Cd)

Solvent: 24002546 Nitric Acid

Lot #

R: 815/24

2% 40.0 Nitric Acid (mL)

Expiration Date: 070127

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6UTB

SE-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.07 0.100 Flask Uncertainty

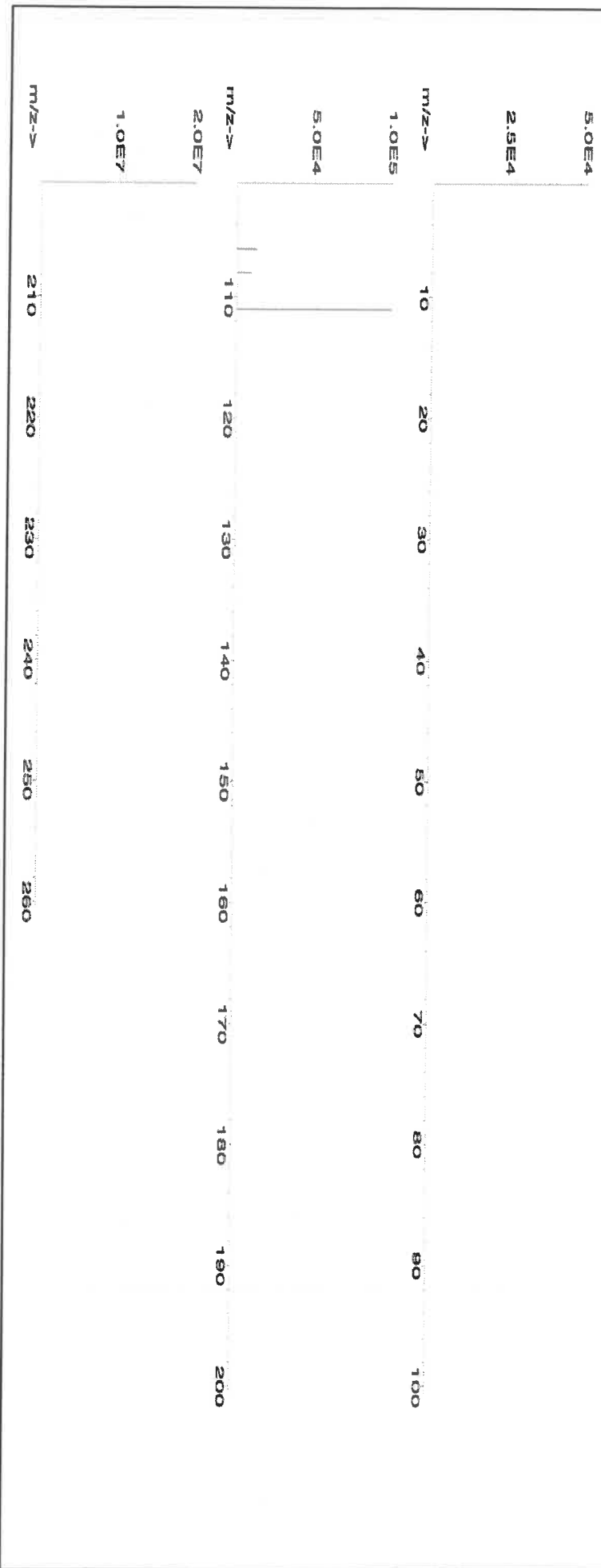
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Cadmium nitrate tetrahydrate (Cd) IN024 CDM09221A1 1000 99.999 0.10 36.5 5.4797 5.4804 1000.1 2.0 10022-68-1 0.01 mg/m3 or-rat 60.2mg/kg 3108

[1] Spectrum No.1 [12.514 sec]:\$8148.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.2	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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	Ba	<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	Cd	<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	Pr	<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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



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Certificate of Analysis

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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).



2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution	
Catalog Number:	CLPP-CAL-1	
Lot Number:	T2-MEB714417	
Matrix:	5% (v/v) HNO ₃	
Value / Analyte(s):	5 000 µg/mL ea:	Potassium, Sodium,
	Calcium, Magnesium,	
	2 000 µg/mL ea:	Barium,
	Aluminum,	
	1 000 µg/mL ea:	
	Iron,	
	500 µg/mL ea:	Vanadium, Cobalt,
	Nickel, Zinc, Manganese,	
	250 µg/mL ea:	Copper,
	Silver,	
	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 °C)

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, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum(1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k(u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum(w_i)^2(u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a)(u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k(u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

<https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver>

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- January 27, 2027

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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).



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 °C)

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, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum(1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum(w_i)^2 (u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

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Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a)(u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

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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.

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- 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

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10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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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





CERTIFIED WEIGHT REPORT:

Part Number: 58126
Lot Number: 051523
Description: Iron (Fe)

Solvent: 21110221 Nitric Acid

Lot #

Expiration Date: 051526

5.0% 250.0 Nitric Acid (mL)

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 5000.1 0.12 Flask Uncertainty

Giovanni Esposito

Formulated By: Giovanni Esposito 051523

Pedro L. Renias

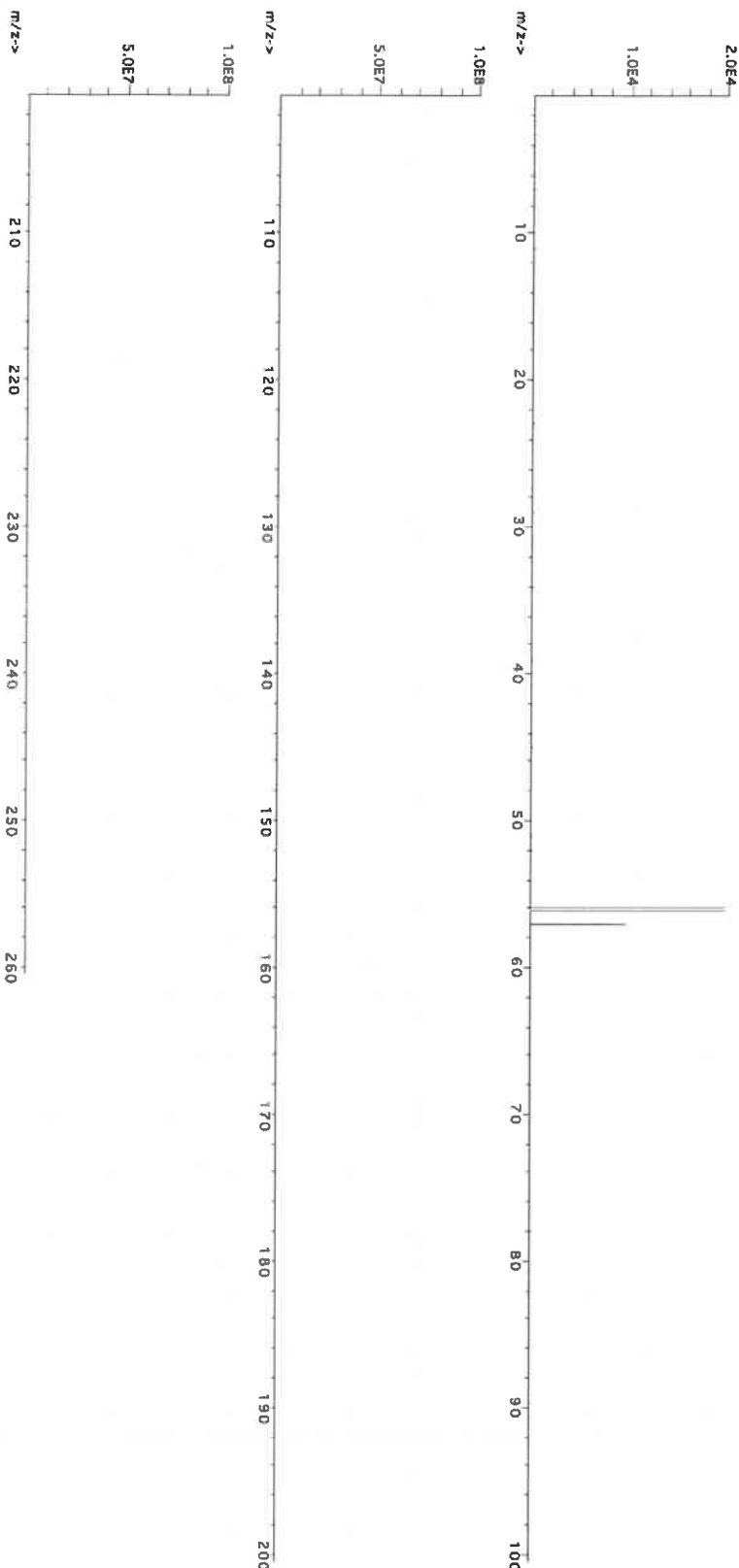
Reviewed By: Pedro L. Renias 051523

SDS Information

Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Uncertainty	(Solvent Safety Info. On Attached pg.)			NIST
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM

1. Iron (Fe) IN346 2302010-500 10000 99.995 0.10 100.0 50.0034 50.0111 10001.5 20.0 7439-89-6 5 mg/m3 or-rel 7500mg/kg 3126a

[1] Spectrum No.1 [30.763 sec]:58126.D# [Count] [Linear]





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	Pt	<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	Rb	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.10	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.10
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Tl	<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 certified (+/-) 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).



Refine your results. Redefine your industry. RD:05/14/2024

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	WW-LFS-1
Lot Number:	T2-MEB723367
Matrix:	5% (v/v) HNO ₃

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,	Aluminum,
	Cerium,	Selenium,
	Thallium,	
	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,	Boron,
	Vanadium,	
	20 µg/mL ea:	
	Zinc,	Strontium,
	Barium,	Beryllium,
	Cadmium,	Cobalt,
	Manganese,	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 $k = 2$.

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Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum (1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty (z)} = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{ts}}^2 + u_{\text{ts}}^2)^{1/2}$$

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X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

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- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com; inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- August 30, 2026

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

RD:05/14/2024

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).



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, SiO ₂	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
SiO ₂	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, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum (1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (z) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{ITS}}^2 + u_{\text{TS}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum (w_i)^2 (u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ITS} = long term stability standard uncertainty (storage)

u_{TS} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (z) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{ITS}}^2 + u_{\text{TS}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ITS} = 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; 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





CERTIFIED WEIGHT REPORT:

Part Number: **57034**
 Lot Number: **070221**
 Description: **Selenium (Se)**

Lot # 20370011
 Solvent: Nitric Acid

2.0% 40.0
 (mL) Nitric Acid

Expiration Date: 070224

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): **1000**

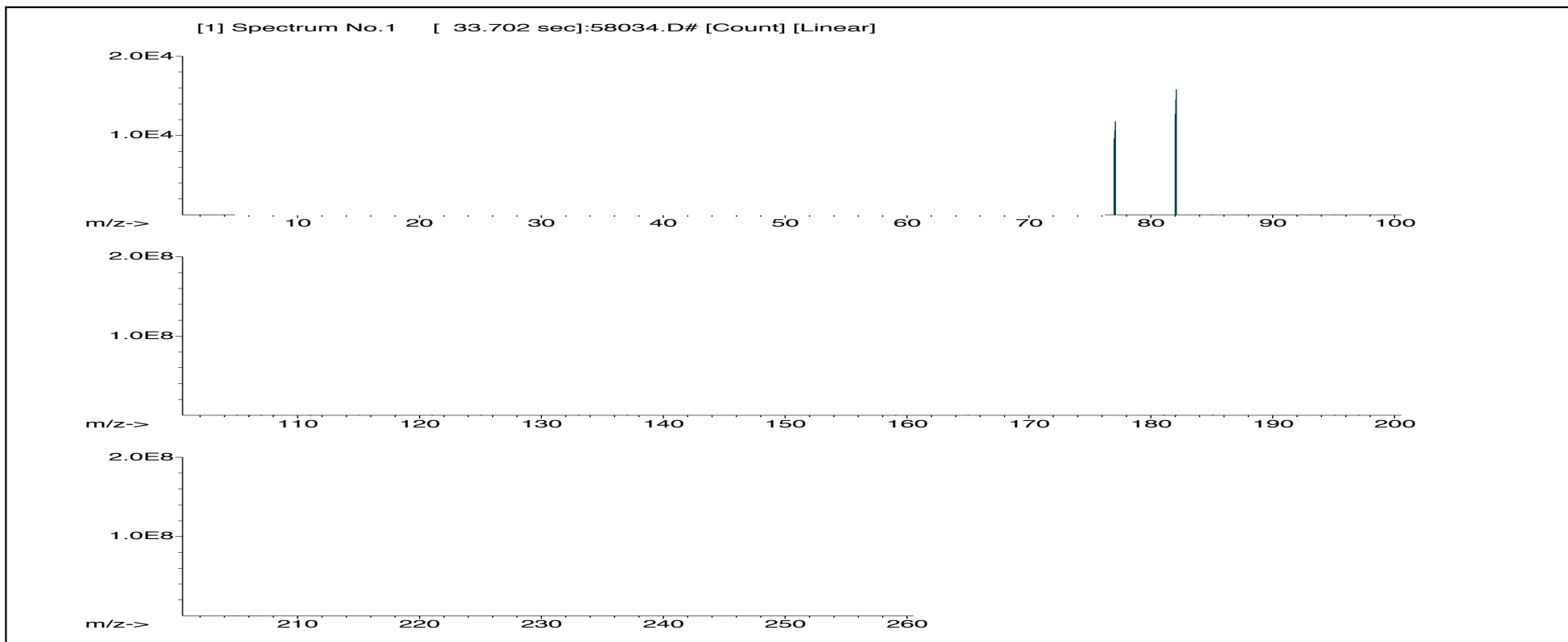
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

<i>Giovanni Esposito</i>		
Formulated By:	Giovanni Esposito	070221
<i>Pedro L. Rentas</i>		
Reviewed By:	Pedro L. Rentas	070221

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded	SDS Information			NIST SRM
									Uncertainty	(Solvent Safety Info. On Attached pg.)			
									+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	
Selenium(IV) oxide (Se)	58134	021621	0.1000	200.0	0.084	1000	10000.2	1000.0	2.2	7446-08-4	0.2 mg/m3	orl-rat 68 mg/kg	3149





Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: **58030**
Lot Number: **031921**
Description: **Zinc (Zn)**

Lot # 20370011
Solvent: Nitric Acid

2.0% 40.0
(mL) Nitric Acid

Expiration Date: 031924
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): **1000**

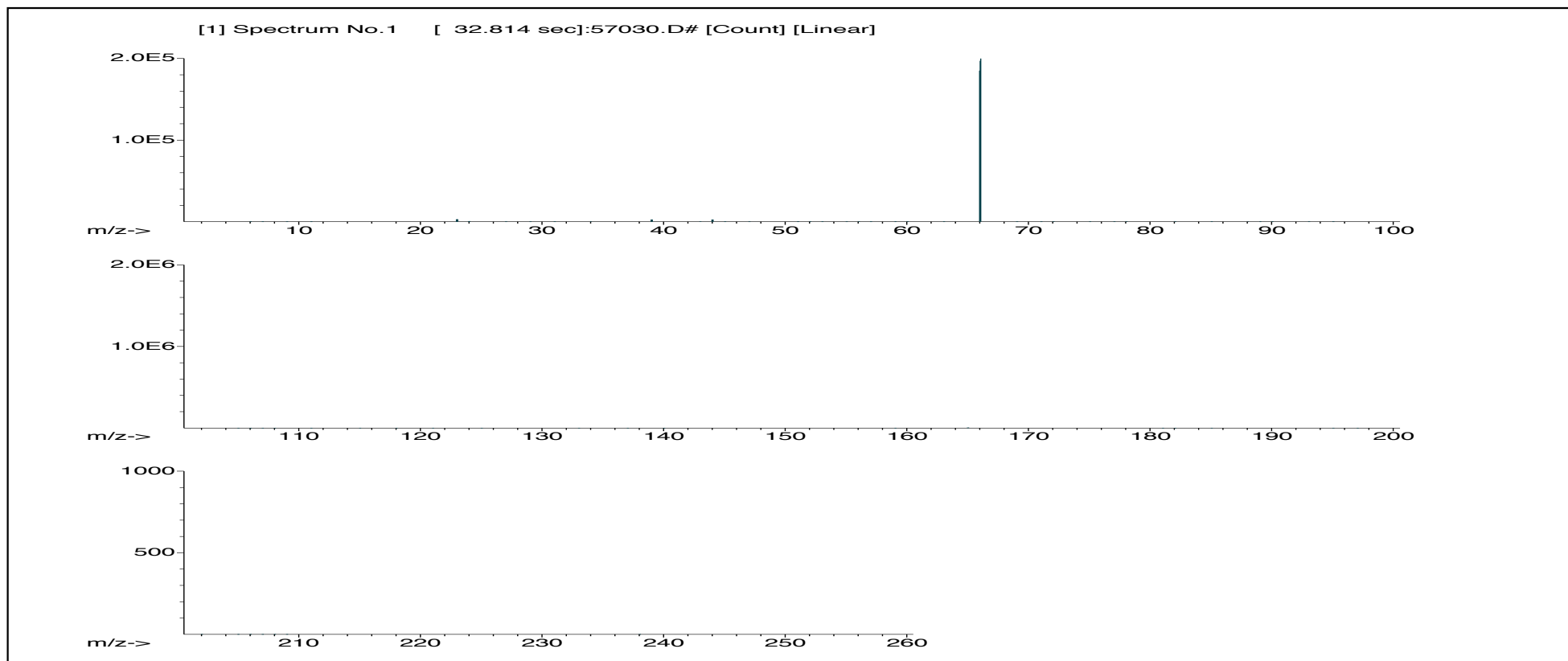
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

<i>Giovanni Esposito</i>		
Formulated By:	Giovanni Esposito	031921
<i>Pedro L. Rentas</i>		
Reviewed By:	Pedro L. Rentas	031921

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)			NIST SRM
										CAS#	OSHA PEL (TWA)	LD50	
1. Zinc nitrate hexahydrate (Zn)	58130	082020	0.1000	200.0	0.084	1000	10000.3	1000.0	2.2	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168





Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	T
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 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).



Certified Reference Material CRM

34

MSD



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57115
Lot Number: 032921
Description: Phosphorous (P)

Lot #
Solvent: 20370011 Nitric Acid

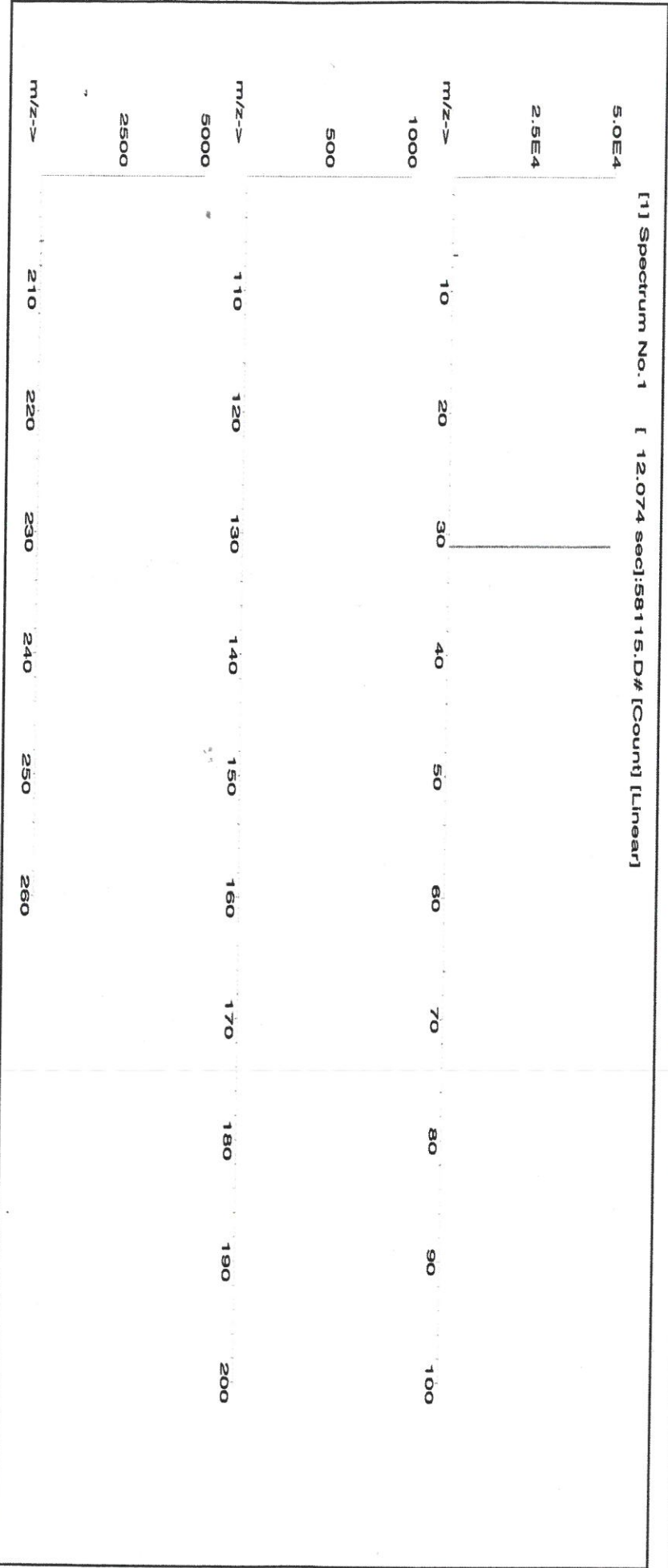
Expiration Date: 032924
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.41
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Lawrence Barry		032921
Reviewed By: Pedro L. Rientas		032921

Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST

1. Ammonium dihydrogen phosphate (P)	IN008	PV65201841	10000	99.999	0.10	27.3	109.9063	109.9093	10000.3	20.0	7722-76-1	5 mg/m3	NA	3186
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectroscopy (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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:

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 certified (+/-) 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
www.absolutestandards.com


Certified Reference Material CRM

M5288 R: 07/21/2022 SA



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58119
Lot Number: 071122
Description: Potassium (K)

Lot #
Solvent: 20510011 Nitric Acid

2% 40.0 Nitric Acid
(mL)

Expiration Date: 071125
Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

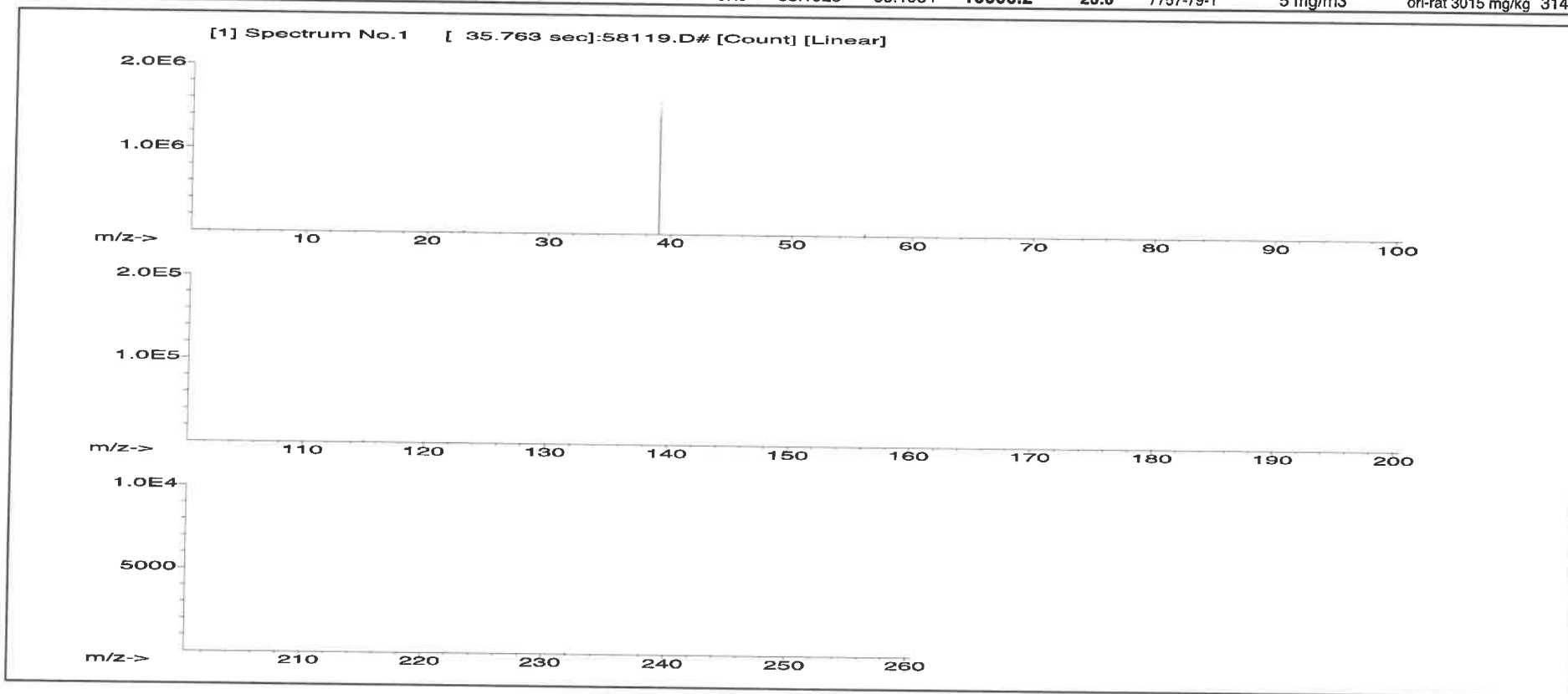
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

Formulated By:	Lawrence Barry	071122
Reviewed By:	Pedro L. Rentas	071122

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information			NIST SRM
											(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	
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 ($\mu\text{g/mL}$)																			
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:

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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



R-09/18/22 **(B1)**

Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

Part Number: 57056
Lot Number: 072122
Description: Barium (Ba)

Solvent: 20510011 Nitric Acid

Lot #

Expiration Date: 072125
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2% 40.0 (mL) Nitric Acid

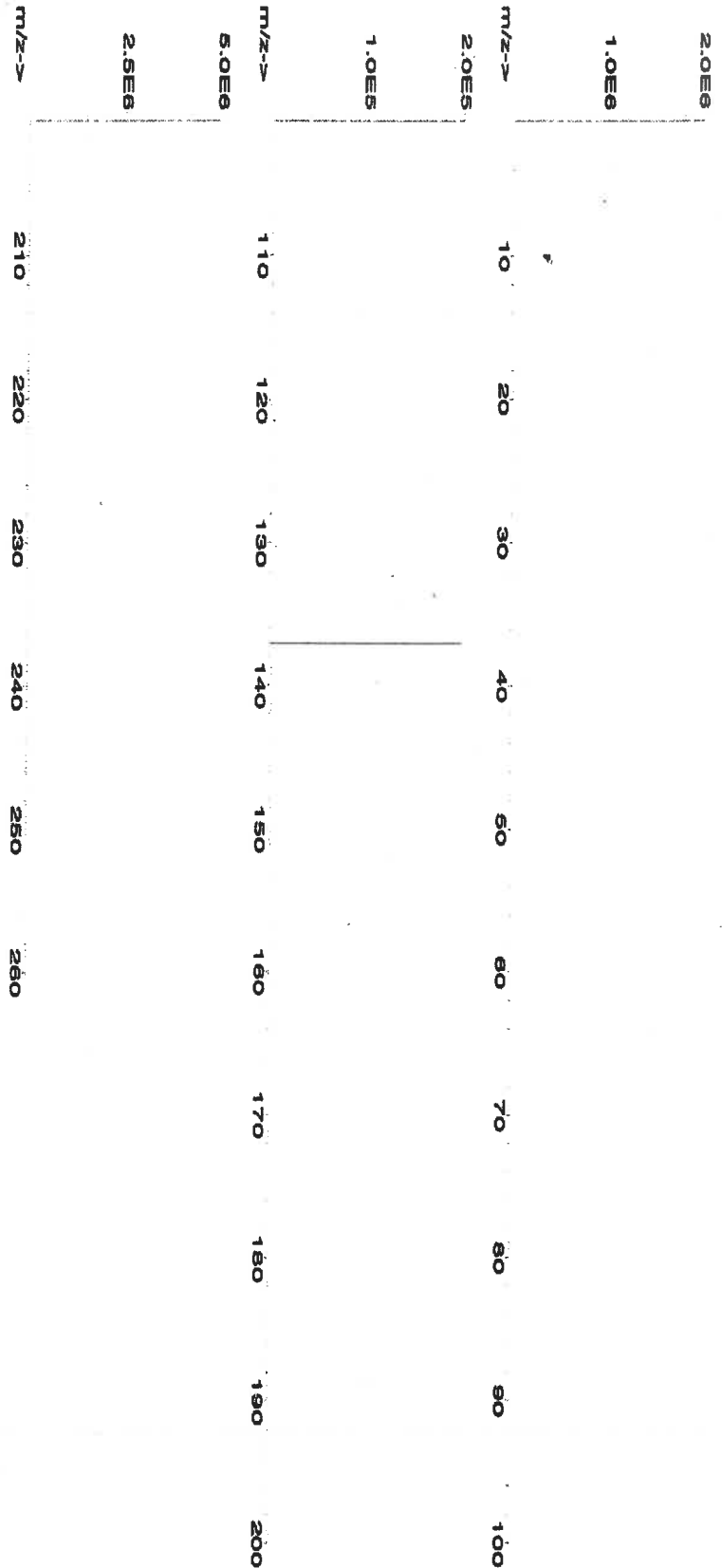
Weight shown below was diluted to (mL): 2000.02 0.058 Balance Uncertainty Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Renteria</i>
	072122

SDS Information									
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
1. Barium nitrate (Ba)	IN023 BA022019A1	1000	99.899	0.10	52.3	3.82417	3.82426	1000.0	2.0

1. Barium nitrate (Ba) IN023 BA022019A1 1000 99.899 0.10 52.3 3.82417 3.82426 1000.0 2.0 10022-31-8 0.5 mg/m3 or-al 355 mg/kg 31046

[1] Spectrum No. 1 [12.514 sec]:58156.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

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	<0.02	Er	<0.2	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	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	T	Cs	<0.02	Cd	<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	<0.02	Hg	<0.2	P	<0.2	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	<0.2	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:

Ben. P. R.

- * 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 certified (+/-) 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).



Certified Reference Material CRM

M5429 R1 0126/23 (B)

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

Solvent: 20510011 Nitric Acid

57103
070622
Lithium (Li)

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:

2% 20.0 Nitric Acid (mL)

5E-05 Balance Uncertainty
0.058 Flask Uncertainty
1000.12
6UTB

Weight shown below was diluted to (mL):

Lot #

Formulated By:	Lawrence Barry	070622
Reviewed By:	Pedro L. Rentas	070622

SDS Information

Expanded Uncertainty (Solvent Safety Info. On Attached pg.)
+/- (µg/mL) CAS# OSHA PEL (TWA) LD50 NIST SRM

20.0 7790-69-4 5 mg/m3 of-rat 1426 mg/kg NA

Actual Weight (g) Actual Conc. (µg/mL)

Target Weight (g)

Assay Purity (%) Uncertainty (%)

Nominal Conc. (µg/mL)

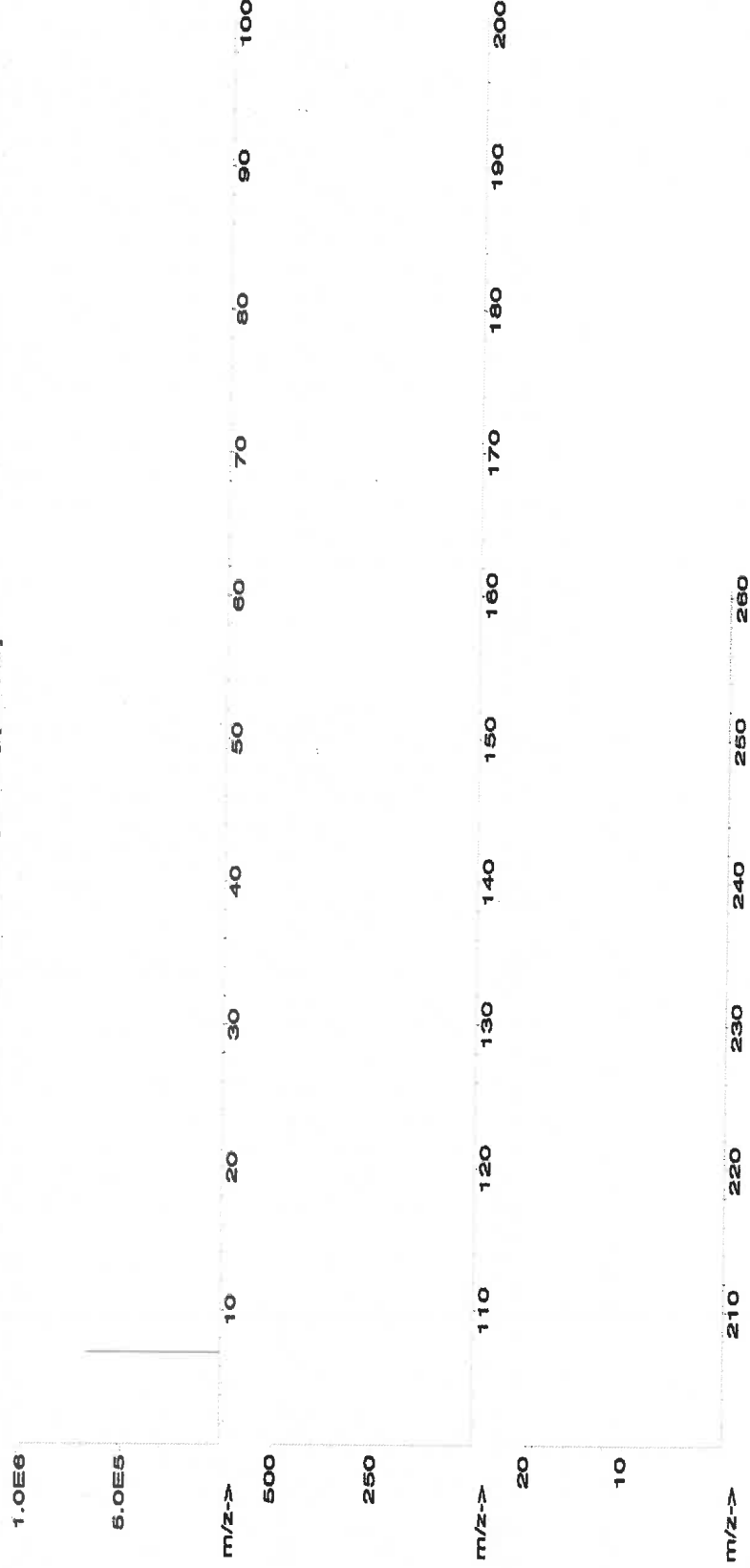
Lot Number

RM#

Compound

1. Lithium nitrate (Li)	INO19	L2042019A1	10000	99.999	0.10	10.0	100.0134	100.0173	10000.4	20.0	7790-69-4	5 mg/m3	of-rat 1426 mg/kg	NA
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[1] Spectrum No.1 [9.619 sec]:58103.D# [Count] [Linear]





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	<0.02	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.2	Ho	<0.02	La	<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	<0.02	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	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 certified (+/-) 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).



AN 5466

Certified Reference Material CRM



ANAB ISO 17034 Accredited
AFR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57058
061322
Cerium (Ce)

Solvent: 20510011 Nitric Acid

Lot #

Expiration Date:

061325

2% 20.0 Nitric Acid (mL)

Recommended Storage:
Nominal Concentration (µg/mL):

Ambient (20 °C)
1000

NIST Test Number:

6UTB

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 1000.12 0.058 Flask Uncertainty

Compound

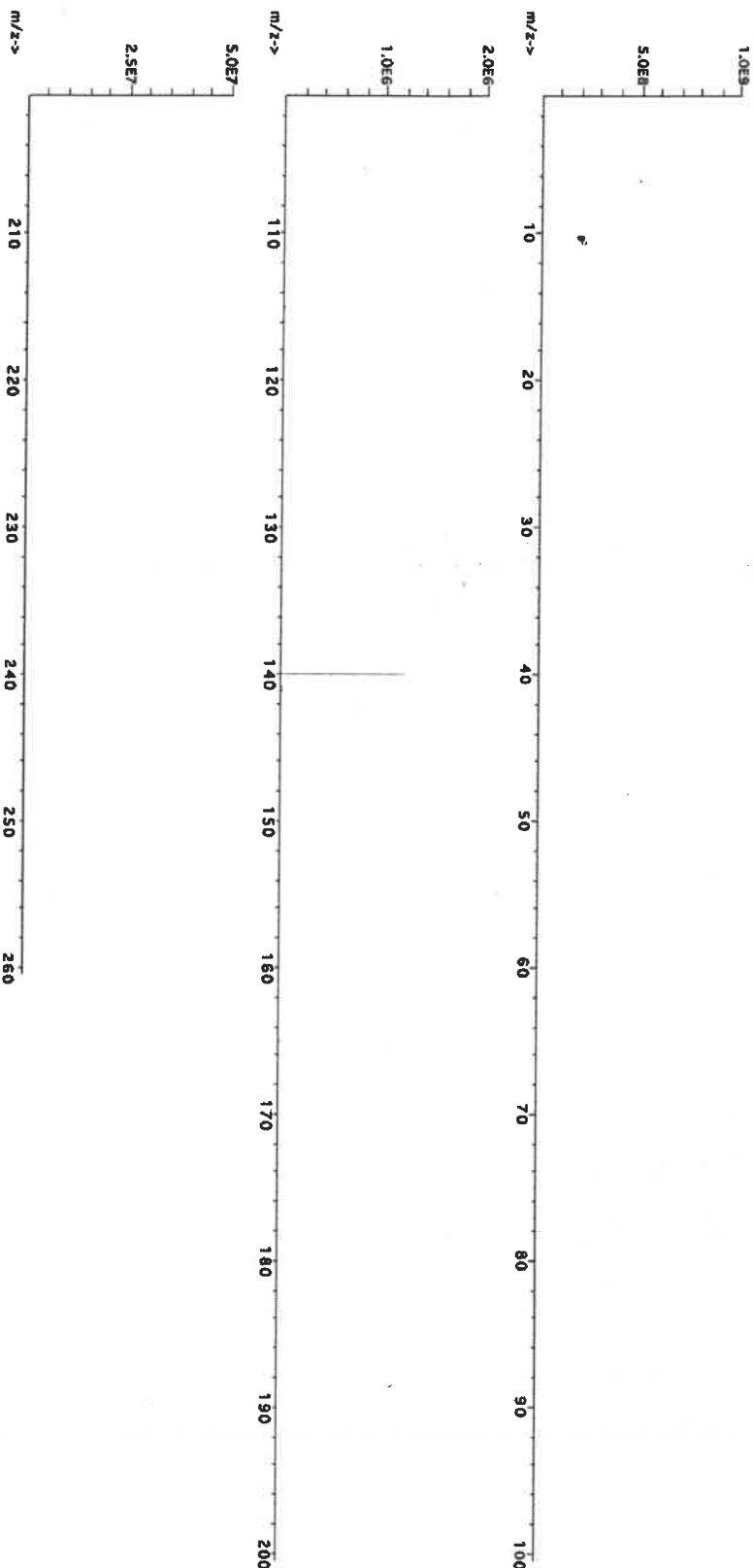
RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04923	1000.0	2.0	10294-41-4	NA	NA
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SDS Information

Formulated By:	Lawrence Barry
	061322
Reviewed By:	Pedro L. Renteria
	061322

[1] Spectrum No.1 [43.472 sec:158.00e [Count] [Linear]





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	Rc	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	T	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * 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 certified (+/-) 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).



Lot

Solvent: 20510011 Nitric Acid

58113
011623

2%	40.0	Nitric Acid
	(mL)	

40.0 Nitric Acid
(mL)

10000

5E-05 Balance Uncertainty

Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

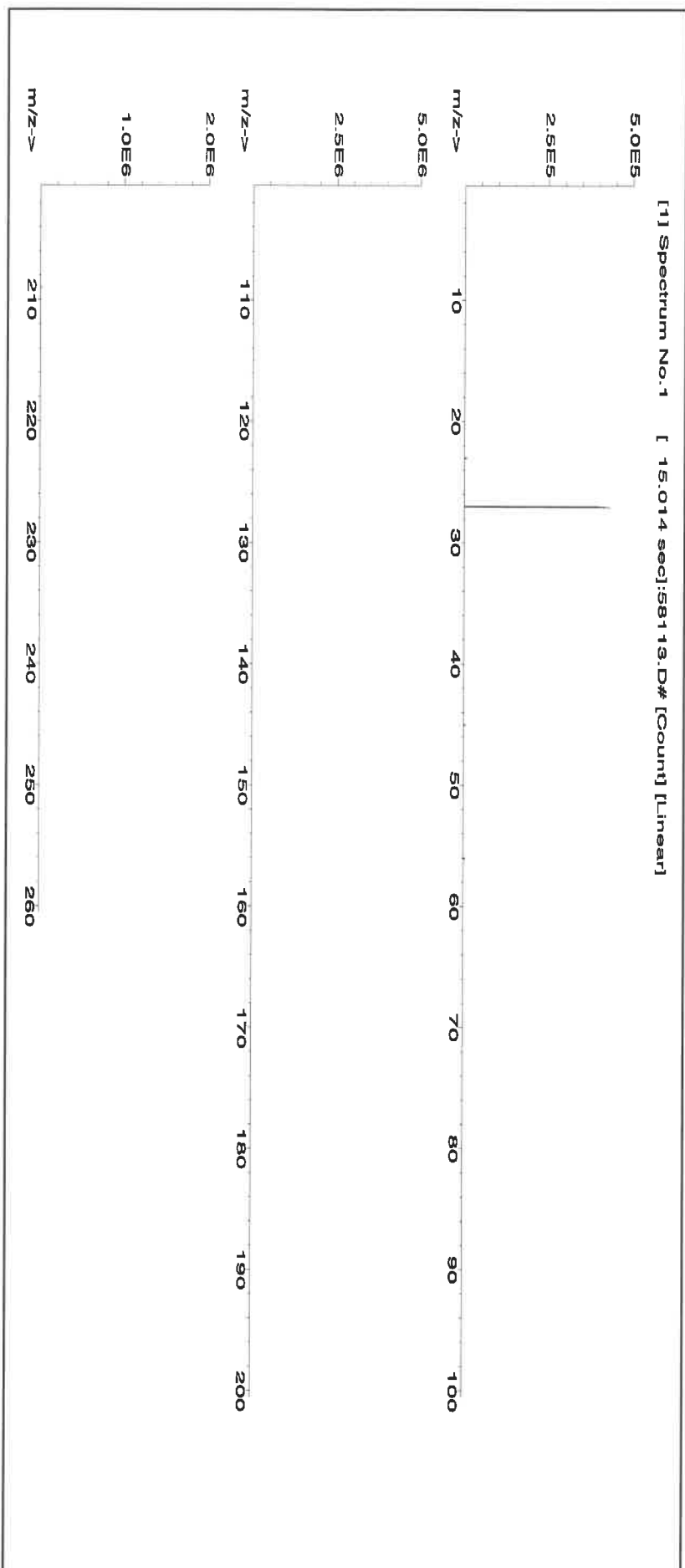
[illegible]

SDS Information

(Solvent Safety Info. On Attached pg.)	
CAS#	OSHA PEL (TWA) LD50

LD50	SRM	NIST
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1. Aluminum nitrate nonahydrate (Al)	IN022	ALUM112021A1	10000	99.999	0.10	7.30	273.9779	274.0078	10001.1	20.0	7784-27-2	2 mg/m3	or-hat 3671 mg/kg	3101a
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15497-15498 R203/17/23(2)

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58120
031523
Calcium (Ca)

Solvent: 21110221 Nitric Acid

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:

031526
Ambient (20 °C)
10000
6UTB
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

2%
60.0
Nitric Acid
(mL)

Weight shown below was diluted to (mL): 3000.41

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito 031523
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas 031523

SDS Information

(Solvent Safety Info. On Attached pg.)
NIST
SRM

Expanded
Uncertainty

Actual
Conc. (µg/mL)

Actual
Weight (g)

Target
Weight (g)

Assay
(%)

Purity
(%)

Nominal
Conc. (µg/mL)

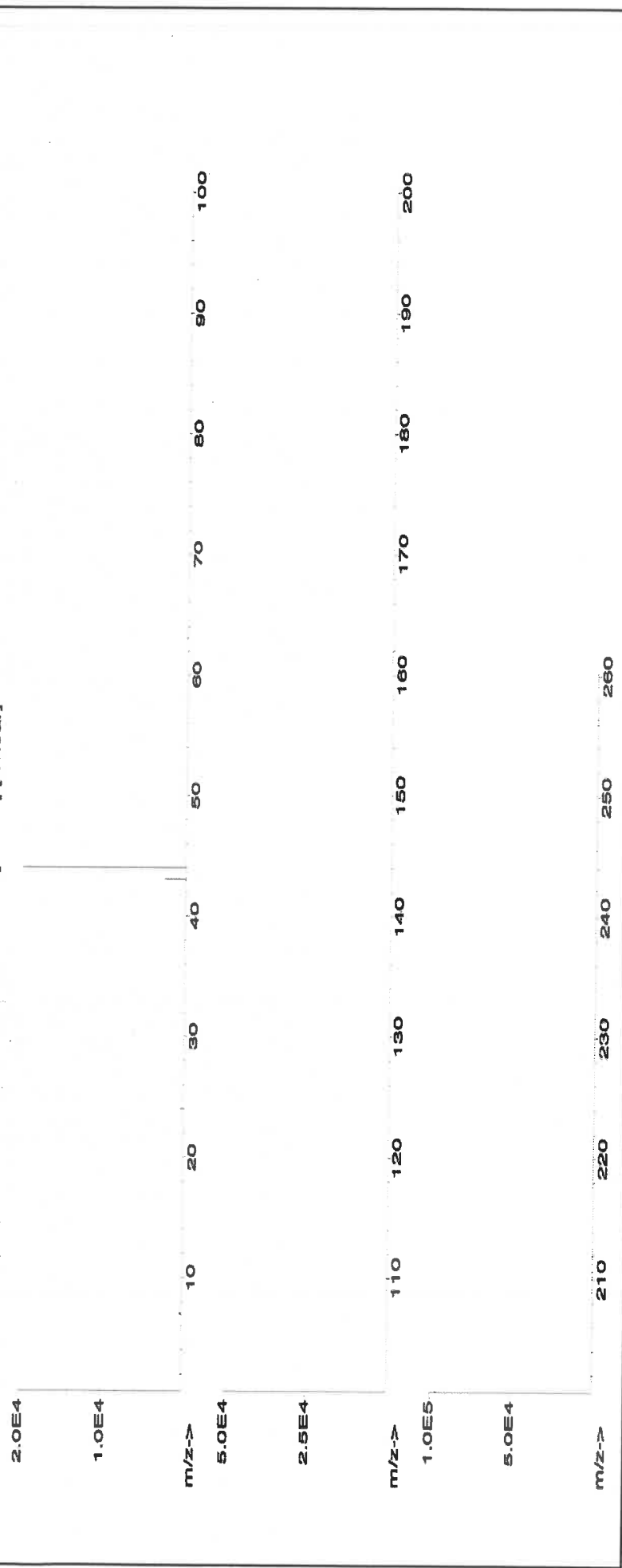
Lot
Number

RM#

Compound

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	or:rat >2000mg/kg	3109a
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[1] Spectrum No.1 [12.514 sec]:58120.D# [Count] [Linear]





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.02	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Ti	<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	<0.2	Fe	<0.02	Hg	<0.2	P	<0.2	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	<0.2	Ta	<0.02	Tl	<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).



Certified Reference Material CRM



M516 M517 R:03/17/22

CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 022123
Description: Sodium (Na)

Solvent: 21110221 Nitric Acid

Expiration Date: 022126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

Weight shown below was diluted to (mL): 3000.41

2% 60.0 Nitric Acid (mL)

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Formulated By:	Lawrence Barry 022123
Reviewed By:	Pedro L. Rentas 022123

SDS Information

Expanded Uncertainty (Solvent Safety Info. On Attached pg.) NIST SRM
CAS# OSHA PEL (TWA) LD50

Actual Weight (g) Actual Conc. (µg/mL)

Target Weight (g)

Assay (%) Purity (%)

Nominal Conc. (µg/mL)

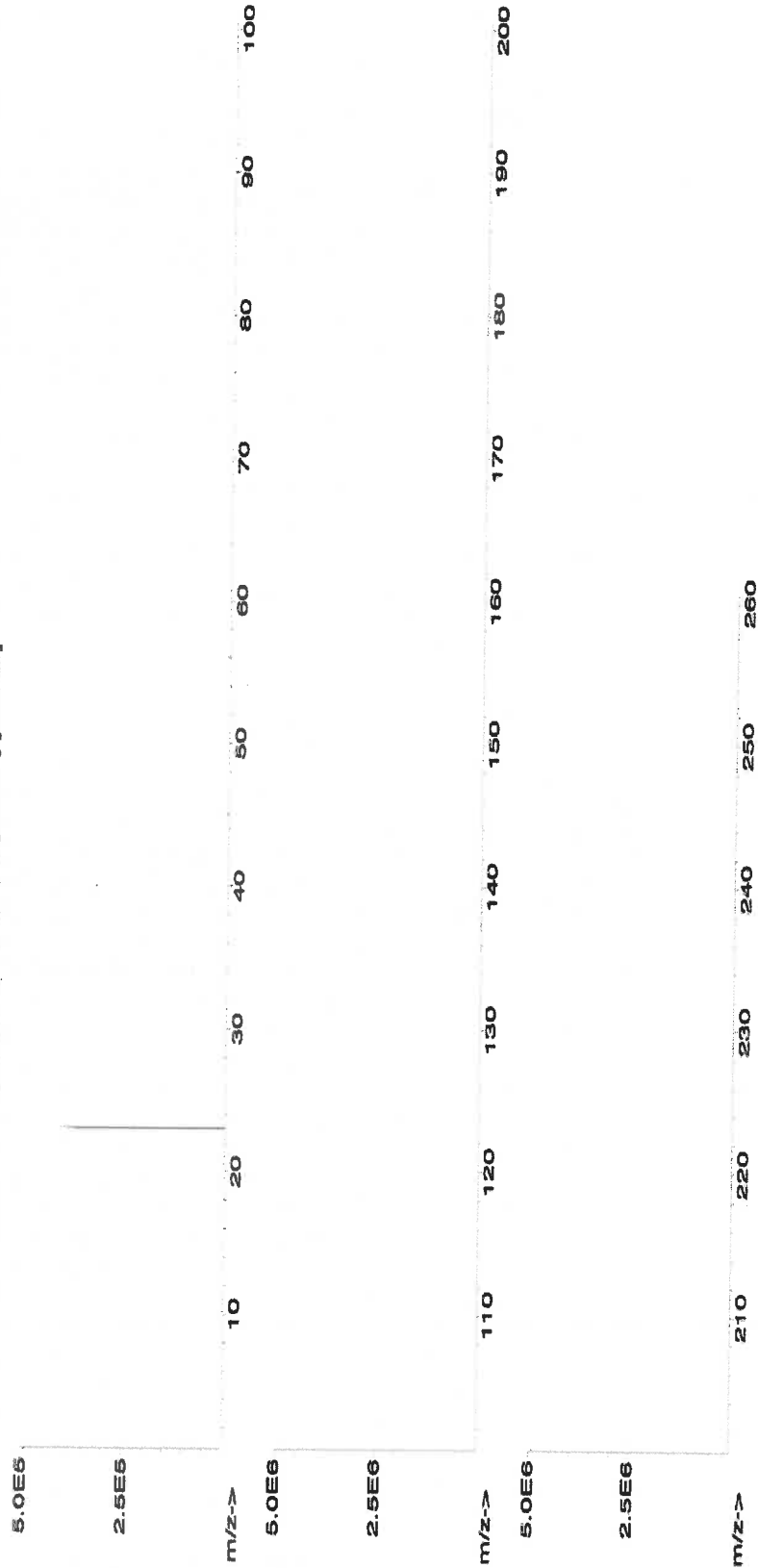
Lot Number

RM#

Compound

1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.998 0.10 26.9 111.5406 111.5410 10000.0 20.0 7631-99-4 5 mg/m3 orl-rat 3430 mg/kg 3152a

[1] Spectrum No.1 [8.935 sec]:58111.D# [Count] [Linear]





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	Pt	<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	Tc	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Ti	<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	<0.02	Hg	<0.2	P	<0.2	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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: **58029**
Lot Number: **102622**
Description: **Copper (Cu)**

Lot # 20510011
Solvent: Nitric Acid

2.0% 40.0
(mL) Nitric Acid

Expiration Date: 102625
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): **1000**

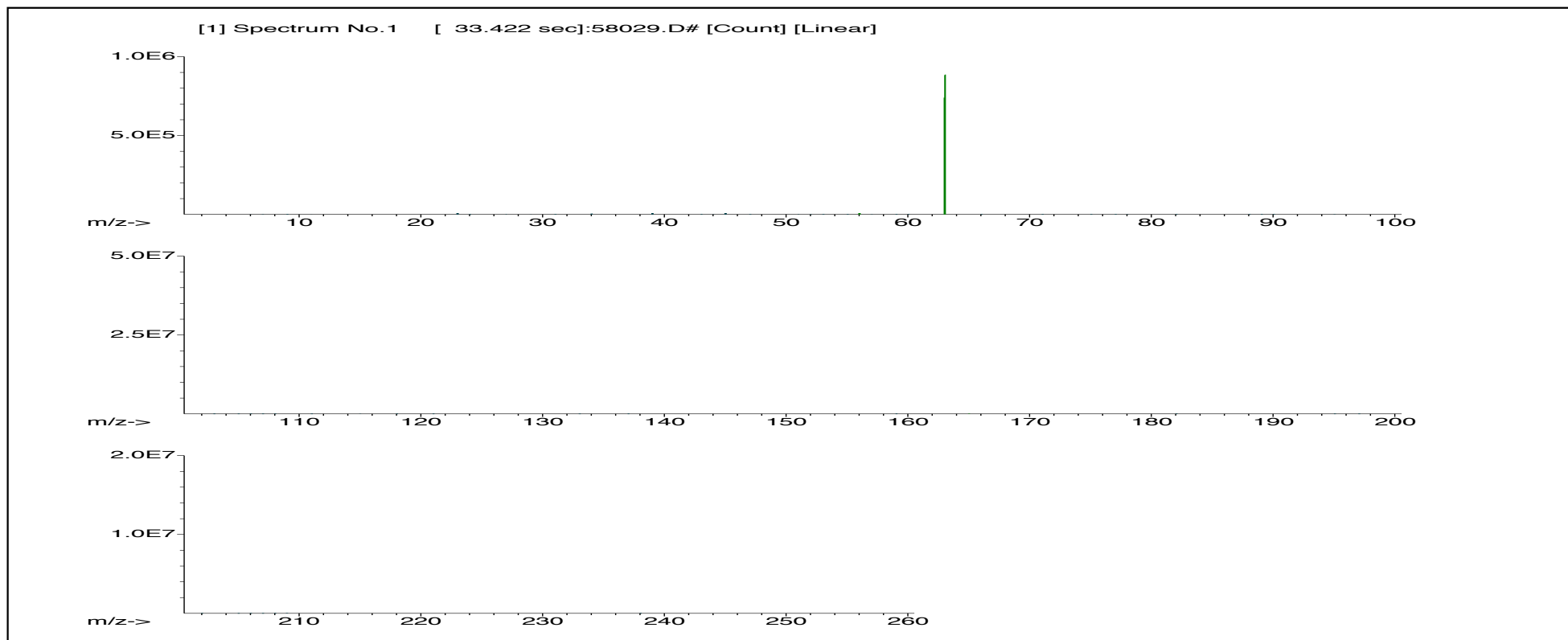
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

<i>Eli Aliaga</i>		
Formulated By:	Eli Aliaga	102622
<i>Pedro L. Rentas</i>		
Reviewed By:	Pedro L. Rentas	102622

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.)			NIST SRM
										CAS#	OSHA PEL (TWA)	LD50	
1. Copper(II) nitrate trihydrate (Cu)	58129	021422	0.1000	200.0	0.084	1000	10000.8	1000.0	2.2	10031-43-3	1 mg/m3	ori-rat 794 mg/kg	3114





Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	T	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * 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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: **58024**
Lot Number: **060523**
Description: **Chromium (Cr)**

Lot #: **2110221**
Solvent: **Nitric Acid**

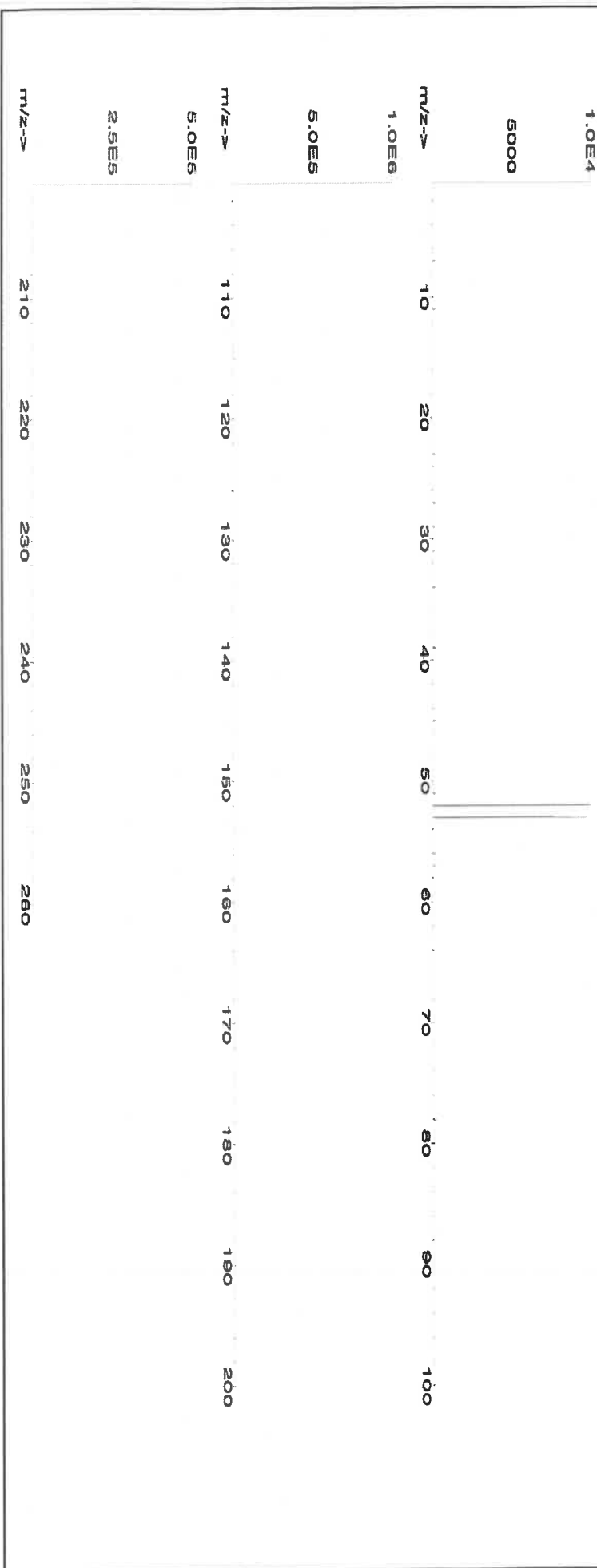
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

Expiration Date: 060526
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.02 0.058 Balance Uncertainty
Flask Uncertainty

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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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 or rat 3250 mg/kg 3112a

[1] Spectrum No.1 [31.393 sec]:57024.D# [Count] [Linear]





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:

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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: 57082
Lot Number: 100923
Description: Lead (Pb)

Solvent: 24002546 Nitric Acid

Lot #

R: 12/20/23 MS747

Formulated By:	Lawrence Barry
	100923
Reviewed By:	Pedro L. Rentas
	100923

Expiration Date: 100926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

2% 60.0 Nitric Acid
(mL)

Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

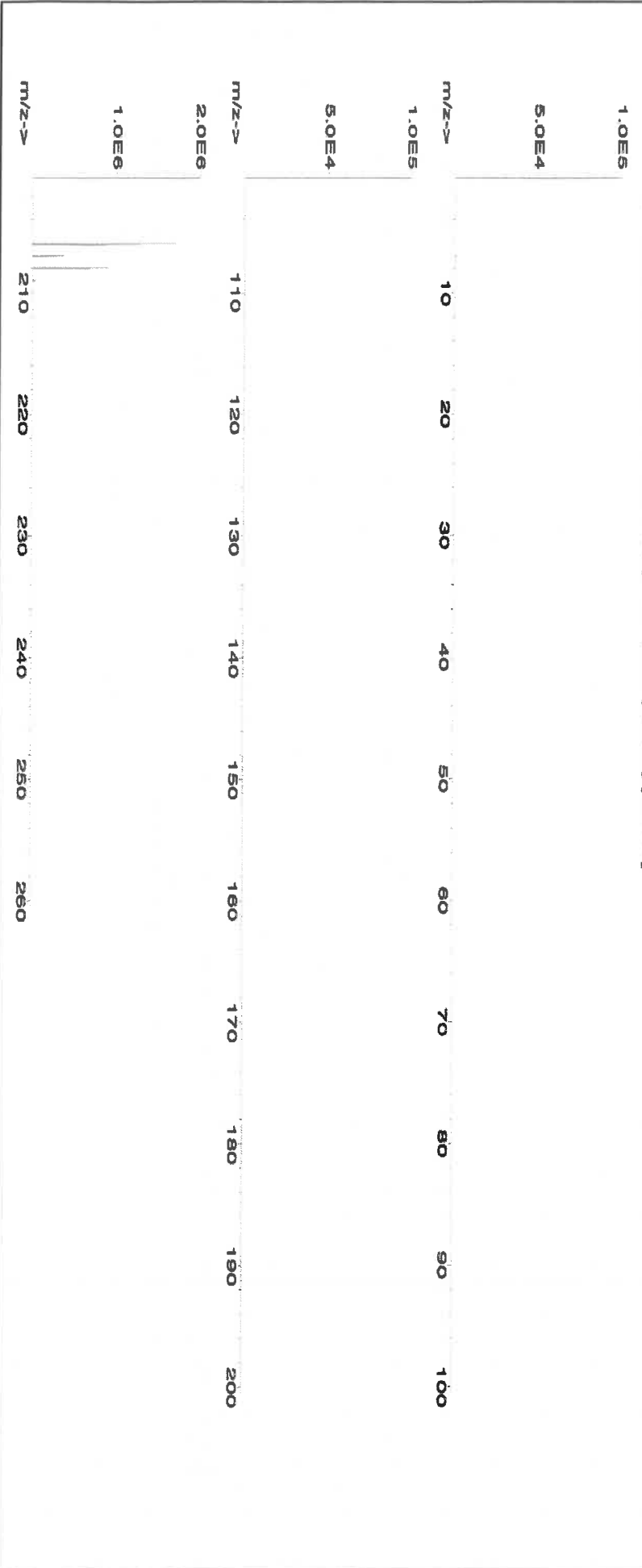
Compound

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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SDS Information

1. Lead(II) nitrate (Pb)	IN029	PB0122016A1	1000	99.999	0.10	62.5	4.80071	4.80077	1000.0	2.0	10099-74-8	0.05 mg/m3	Intvms-ret 89 mg/kg 3128
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[1] Spectrum No. 1 [14.144 sec]:58082.D# [Count] [Linear]





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	Ba	<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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: **57028**
Lot Number: **091223**
Description: **Nickel (NI)**

Lot # **24002546** Solvent: **Nitric Acid**

Expiration Date: **091226**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**

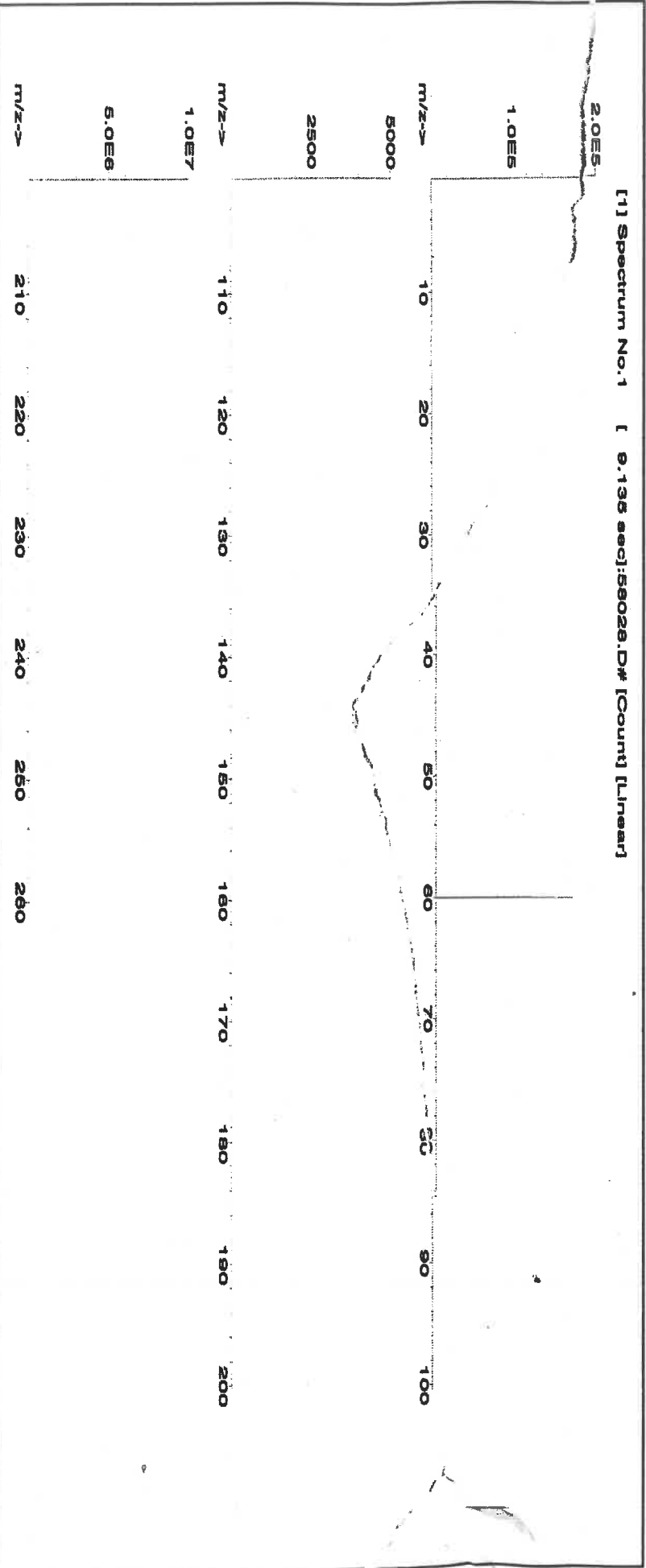
2.0% 40.0 (mL) Nitric Acid

Formulated By:	<i>Lawrence Barry</i>	091223
Reviewed By:	<i>Pedro L. Renteria</i>	091223

NIST Test Number: **6U7B**
Volume shown below was diluted to (mL): **2000.02** Balance Uncertainty **5E-05** Flask Uncertainty **0.056**

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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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 or-rel 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	Tb	<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 certified (+/-) 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).



M5768 M5769
Certified Reference Material CRM
R: 1/13/24



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 58112
Lot Number: 091823
Description: Magnesium (Mg)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date: 091826

2% 40.0 (mL) Nitric Acid

Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

M5768 M5769

BP R: 1/13/24

Weight shown below was diluted to (mL): 2000.02 0.058 Flask Uncertainty

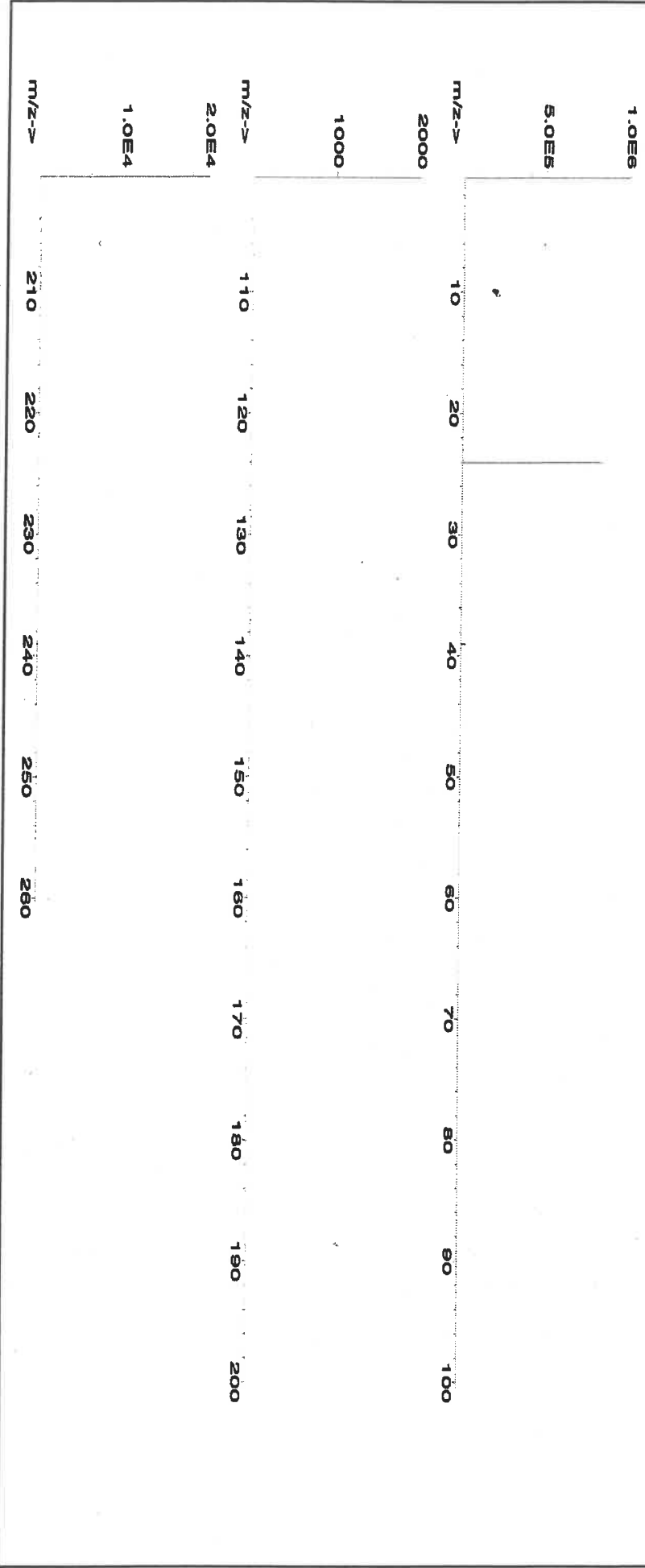
Formulated By: <i>Lawrence Barry</i>		091823
Reviewed By: <i>Pedro L. Rentas</i>		091823

Compound

Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information	NIST
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	SRM

1. Magnesium nitrate hexahydrate (Mg) IN030 M500222A1 10000 99.999 0.10 8.51 234.9118 234.9126 10000.0 20.0 13446-18-9 NA or-rat 5440 mg/kg 3131a

[1] Spectrum No. 1 [19.923 sec]: 58112.D# [Count] [Linear]





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:

- * 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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: 57004
Lot Number: 102523
Description: Beryllium (Be)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date:

102526

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage:
Nominal Concentration (µg/mL):

Ambient (20 °C)

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

5E-05

Balance Uncertainty

0.058

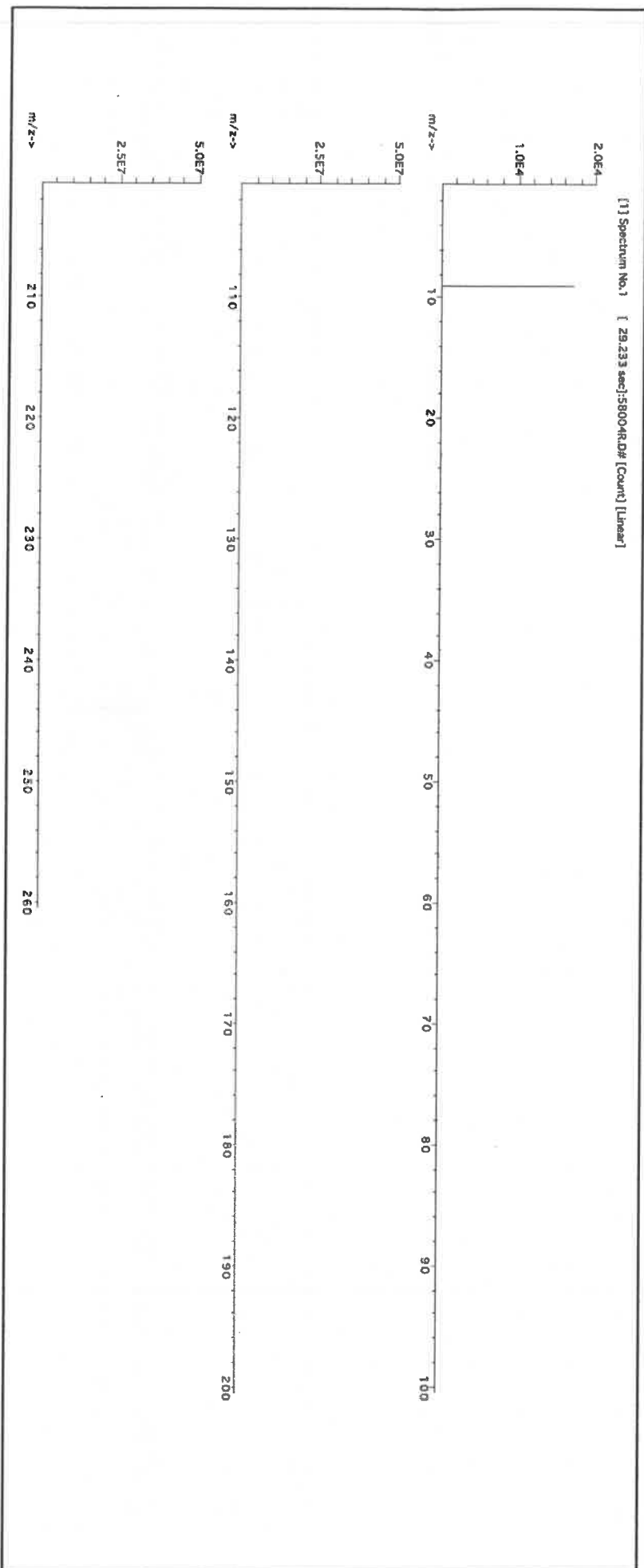
Flask Uncertainty

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

SDS Information

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-rat 3.16mg/kg	NA
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS ($\mu\text{g/mL}$)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<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	Tc	<0.02	U	<0.02
As	<0.02	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<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	<0.02	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	<0.02	Sc	<0.02	Ta	<0.02	Tl	<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 certified (+/-) 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).



Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

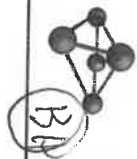
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R-02509124

M599



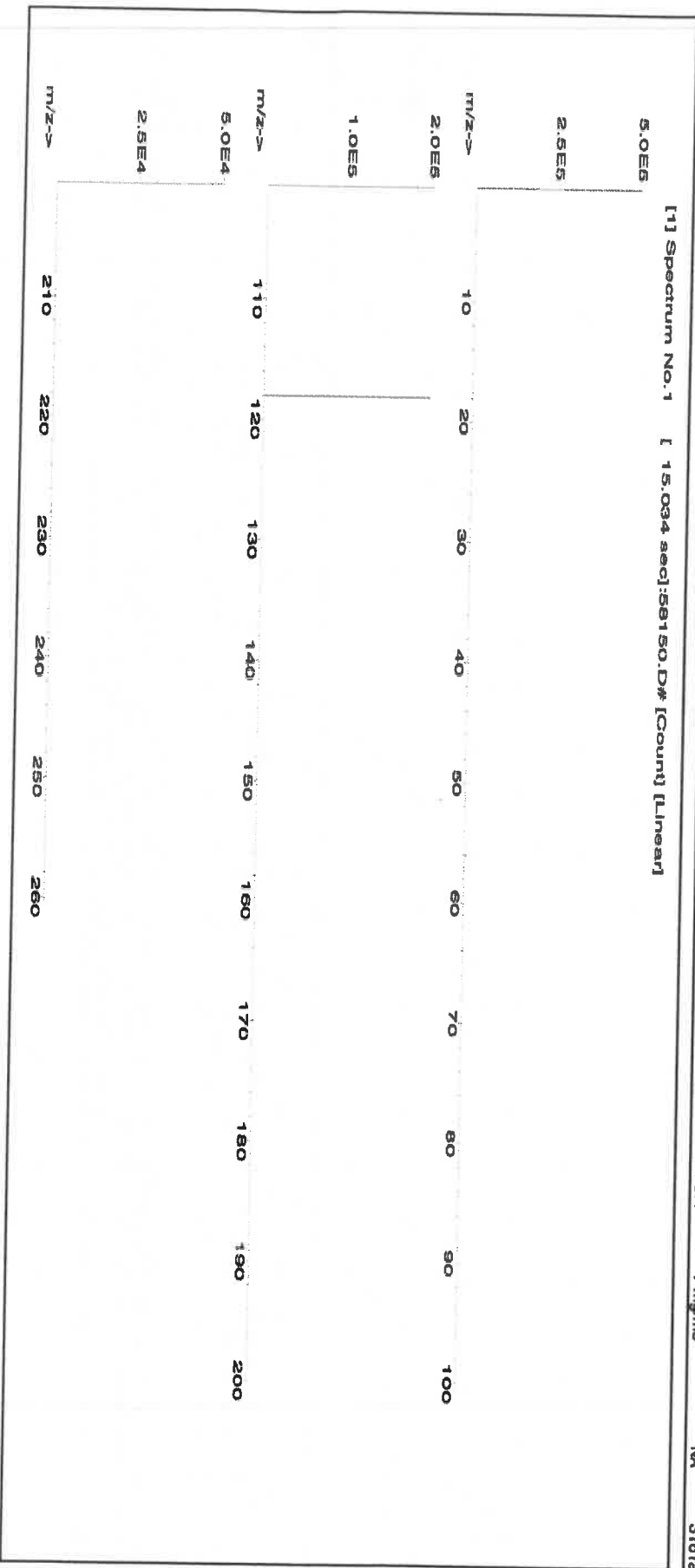
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Benson Chan	
071123	
Reviewed By: Pedro L. Rientas	
071123	

SDS Information														NIST				
Compound		Lot		Nominal		Purity		Uncertainty		Assay		Target			Actual		Expanded	
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	(%)	(Solvent Safety Info. On Attached pg.)

1. Ammonium hexafluoroantimonate(V) (Sn) INO10 SMD042023A1 1000 99.999 0.10 44.2 1.13107 1.13286 1001.6 2.0 16919-24-7 7 mg/m3 NA 3161a

[1] Spectrum No. 1 [15.034 sec]:56150.D# [Count] [Linear]





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	Ti	<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	Ta	<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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



R: 02/09/24 115800 (54)

CERTIFIED WEIGHT REPORT:

Part Number: 57027
Lot Number: 091923
Description: Cobalt (Co)

Expiration Date: 091926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 2000.02

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lot # 24002546
Solvent: Nitric Acid

2.0% Nitric Acid
40.0 (mL)

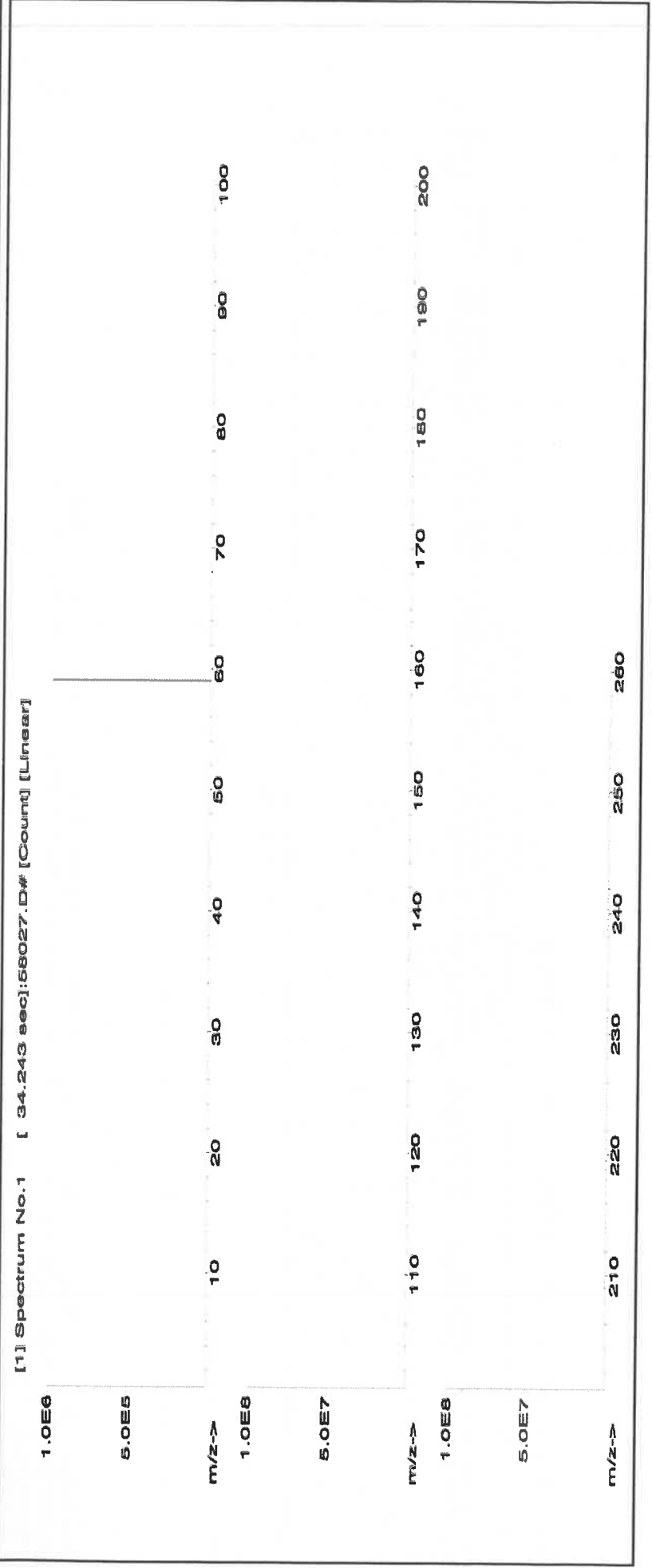
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

SDS Information

Expanded Uncertainty +/- (µg/mL)
Final Conc. (µg/mL)
Initial Conc. (µg/mL)
Nominal Conc. (µg/mL)
Pipette (mL)
Initial Vol. (mL)
Dilution Factor
Part Number
Lot Number

(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	<0.02	Os	<0.01	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	<0.2	Na	<0.02	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	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	<0.2	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57033
111323
Arsenic (As)

Lot #
Solvent:

24002546
Nitric Acid

Expiration Date:

111326

2.0%
80.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL):

4000.0

5E-05 Balance Uncertainty
0.06 Flask Uncertainty

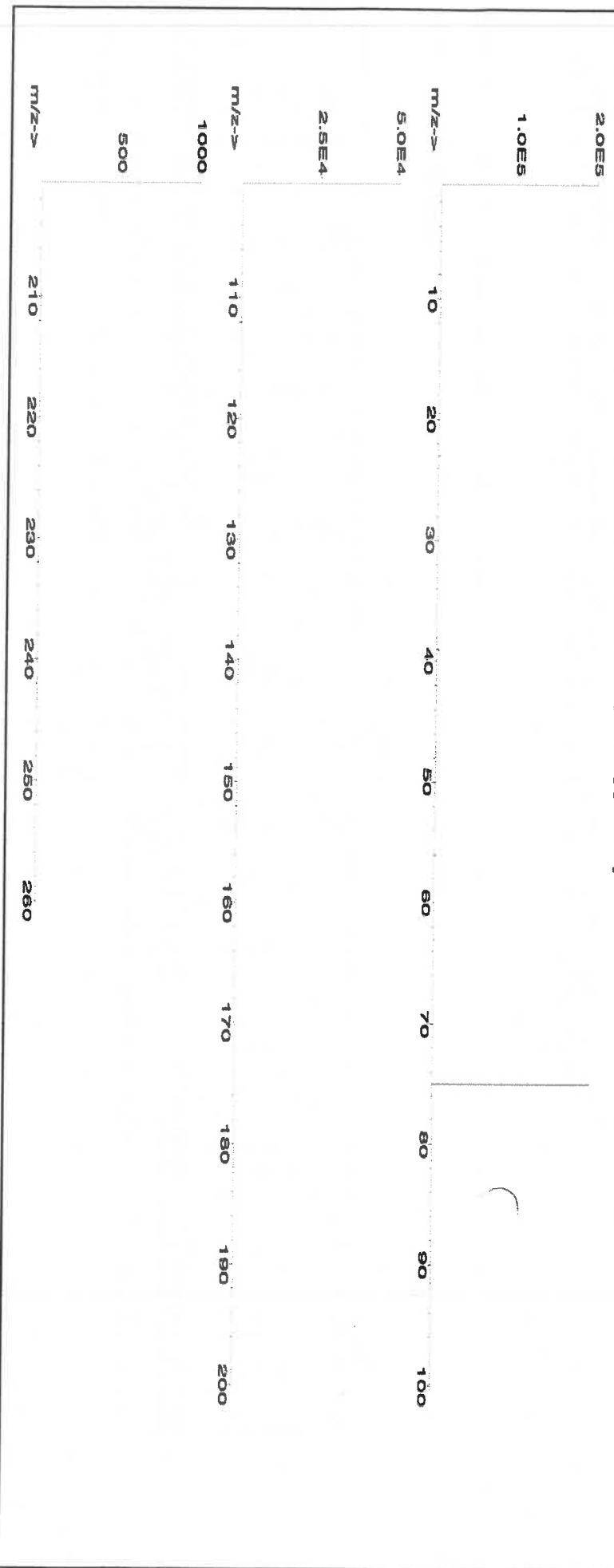
Formulated By:	Lawrence Barry
Reviewed By:	
	Pedro L. Rendas
	111323

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)	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	or-rat 500 mg/kg	3103a
-----------------	-------	--------	--------	-------	-------	------	---------	--------	-----	-----------	-----------	------------------	-------

[1] Spectrum No.1 [34.433 sec]:57033.D# [Count] [Linear]





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	Tl _h	<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	Sa	<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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number: **57005**
Lot Number: **071123**
Description: **Boron (B)**

Solvent: MKB0857V Ammonium hydroxide

Lot #

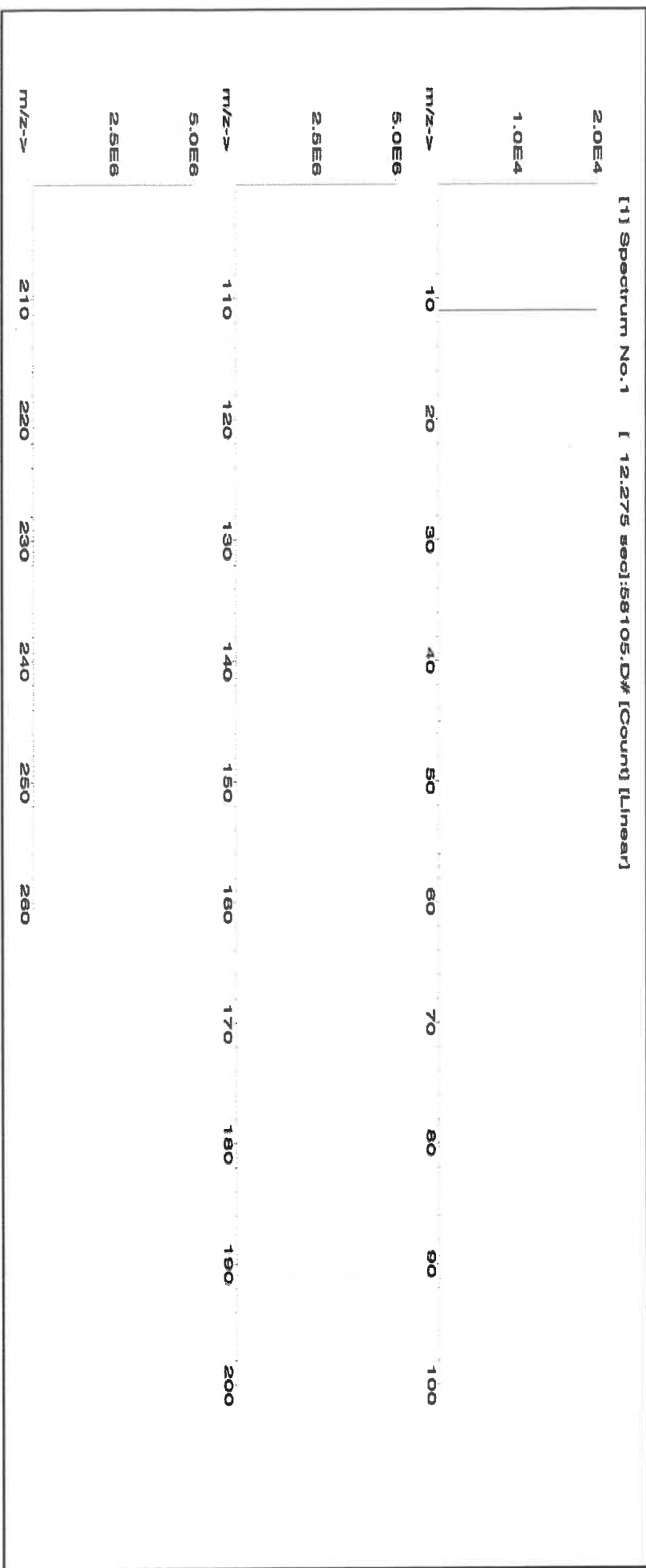
AI: 021009124 M5814

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48 0.058 Balance Uncertainty
2.0% 40.0 Ammonium hydroxide (mL)

Formulated By:	Benson Chan
071123	
Reviewed By:	Pedro L. Rientas
071123	

SDS Information									
Compound	Lot	Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded
	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)
									(Solvent Safety Info. On Attached pg.)
									OSHA PEL (TWA)
									LD50
									NIST SRM

1. Boric acid (B) IN018 BV082018A1 1000 99.9999 0.10 17.3 11.55772 11.56201 1000.4 2.0 10043-35-3 2 mg/m3 or-nat 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	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	T	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * 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 certified (+/-) 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).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57016
122923
Sulfur (S)

Lot #

ASTM Type 1 Water

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
122923	

Expiration Date:

122926

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6L7B

Weight shown below was diluted to (mL):

4000.0

SE-05 Balance Uncertainty
0.06 Flask Uncertainty

Compound

RM#

Lot Number

Nominal Conc. (µg/mL)

Purity (%)

Uncertainty (%)

Assay (%)

Target Weight (g)

Actual Weight (g)

Actual Conc. (µg/mL)

Expanded Uncertainty +/- (µg/mL)

CAS#

OSHA PEL (TWA)

LD50

NIST SRM

SDS Information

1. Ammonium sulfate (S)

IN117 SLBR725v

1000

99.9

0.10

24.3

16.4979

16.4980

1000.0

2.0

7783-20-2

NA

off-rel 4250mg/kg

3181

[1] Spectrum No. 1 [33.603 sec]:57016.D# [Count] [Linear]





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	La	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Ba	<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	Ru	<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	S	<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	Ta	<0.02	Ti	<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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- * 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).



CERTIFIED WEIGHT REPORT:

Part Number: **57116**
Lot Number: **071123**
Description: **Sulfur (S)**

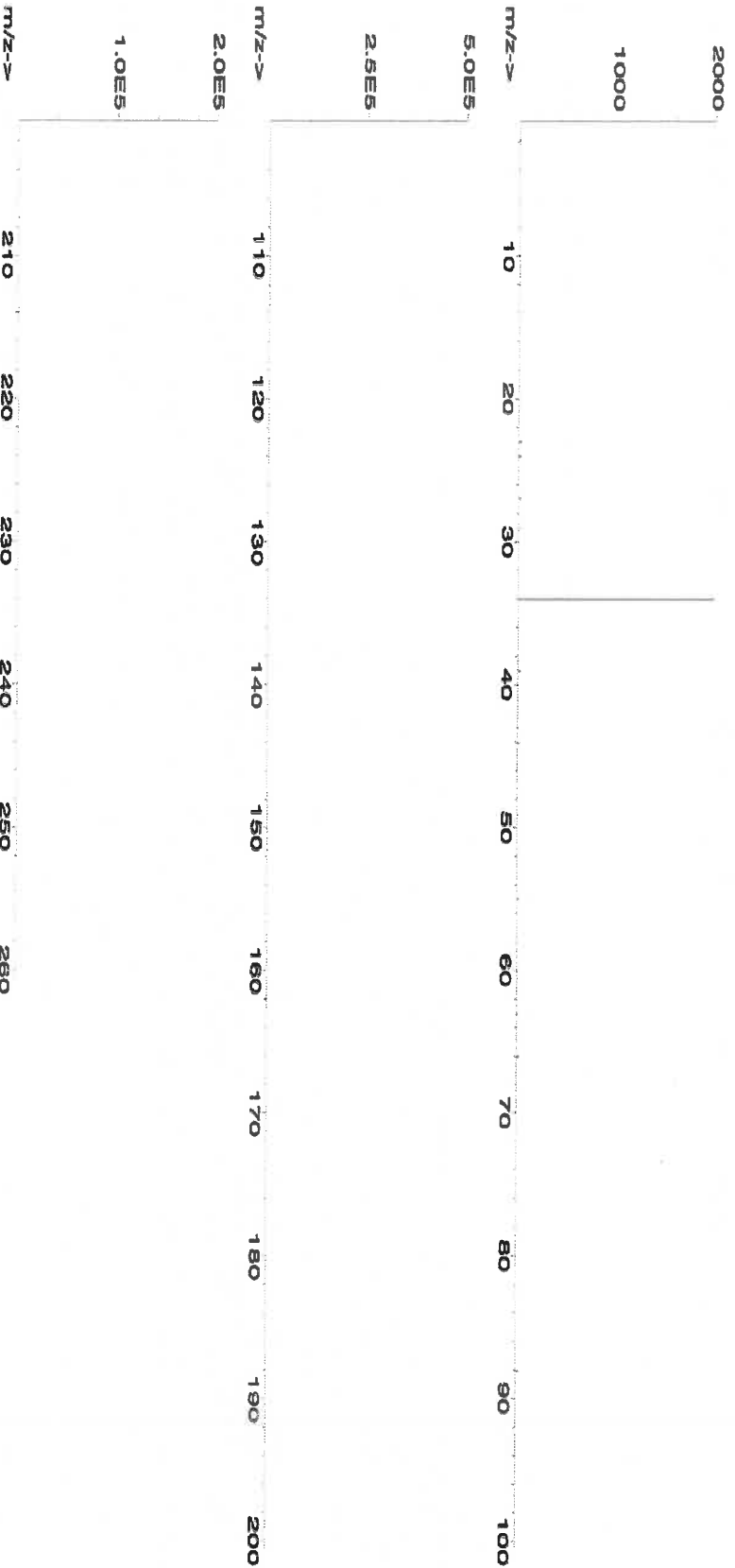
Lot #
Solvent: 071123
ASTM Type 1 Water

Formulated By:	Lawrence Barry
Reviewed By:	
Pedro L. Rentas	
071123	

Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 1999.48
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

SDS Information									
Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
Ammonium sulfate (S)	IN117 SLBR725V	10000	99.9	0.10	24.3	82.4675	82.4692	10000.1	20.0
						7763-20-2	NA	oralal 4250mg/kg	3181

[1] Spectrum No. 1 [24.004 sec]:58116.D# [Count] [Linear]





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	Pt	<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

Physical Characterization:

(T)= Target analyte

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).



CERTIFIED WEIGHT REPORT:

Part Number: 57015
Lot Number: 091123
Description: Phosphorous (P)

Solvent: 24002546 Nitric Acid

Lot #

R: 02109124 M5820

Lawrence Barry
Formulated By: Lawrence Barry
Reviewed By: Pedro L. Rentas

091123

2% 40.0 (mL) Nitric Acid

Expiration Date: 091126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LJB

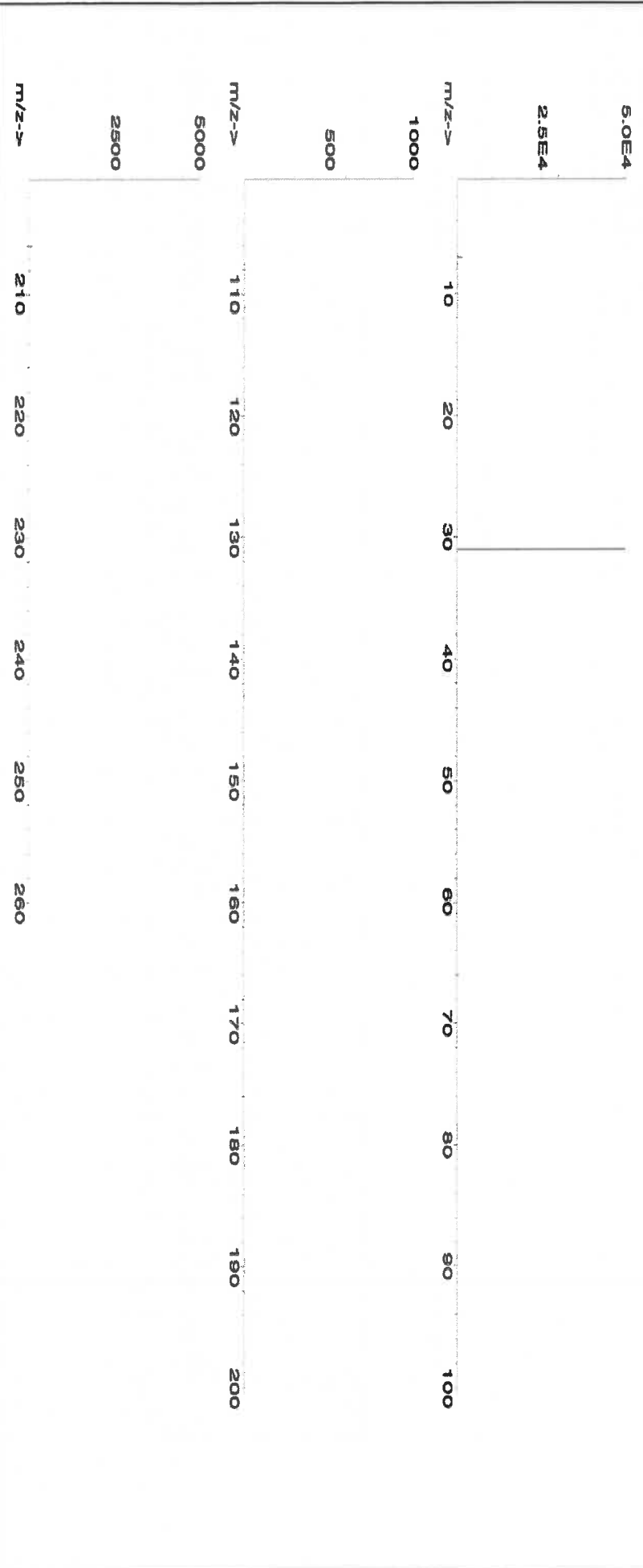
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

SDS Information

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)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium dihydrogen phosphate (P) IN008 PVO62019A1 1000 99.999 0.10 27.5 7.2729 7.2730 1000.0 2.0 7722-76-1 5 mg/m3 xH-rat >2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.D# [Count] [Linear]





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	Tc	<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	Sa	<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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



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Certificate of Analysis

M5959 R: 6/14/24

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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).



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:

$$X_{CRM/RM} = \sum(w_i)(X_i)$$

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:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k(u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2(u_{char i}^2)]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k(u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag <	0.004600	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 PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H₂O / HCl or HNO₃).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	73Ge16O, 178Hf+2
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 20, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 20, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com



Certified Reference Material CRM

M5970 M5971

R. 710124

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT:

Part Number: 57003
Lot Number: 062124
Description: Lithium (Li)
Expiration Date: 06/127
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 250.11
SE-05 Balance Uncertainty
0.016 Flask Uncertainty

Lot # 24002546
Solvent: Nitric Acid

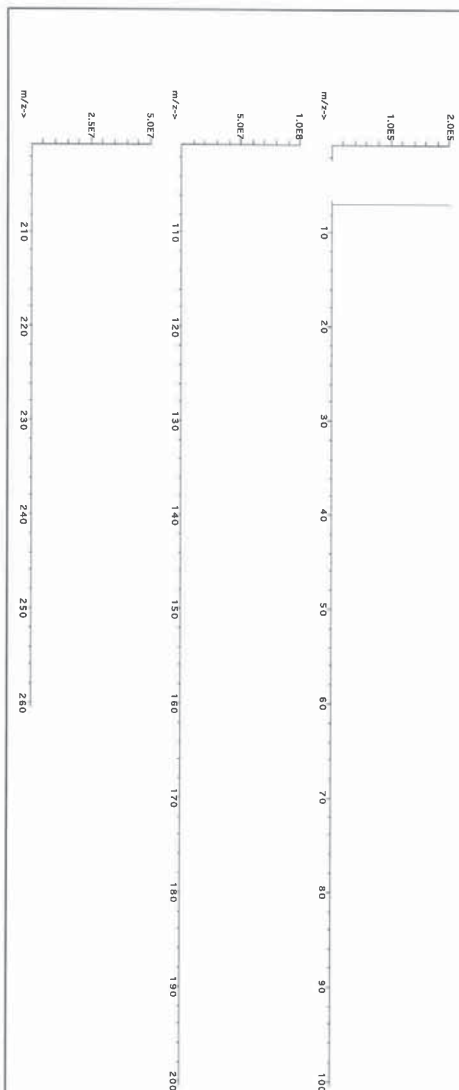
2.0% 5.0 (mL) Nitric Acid

Microvial Capable	
Formulated By:	062124
Giovanni Esposito	
Reviewed By: <i>[Signature]</i>	
Pietro L. Parias	062124

Compound		Part		Lot		Dilution		Initial		Uncertainty		Nominal		Initial		Final		Expanded		SDS Information		NIST	
Number	Factor	Number	Factor	Number	Factor	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Vol. (mL)	Pipette (mL)	Conc. (µg/mL)	Conc. (µg/mL)	Uncertainty	± (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SM

1. Lithium nitrate (Li) 58103 070622 0.1000 25.0 0.004 1000 10000.4 10000.4 2.0 7790-68-4 5 mg/m3 or-hal 1428 mg/kg NA

[1] Spectrum No. 1 [32.093 sec; 15000.0Hz Count [Lines]



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MS978, MS979



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Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

1.0 ACCREDITATION / REGISTRATION

2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution

Catalog Number: CGT1

Lot Number: T2-T1719972

Matrix: 2% (v/v) HNO₃

Value / Analyte(s): tr. HF

Starting Material: 1 000 µg/mL ea.

Starting Material: Titanium

Starting Material Lot#: T1 Metal

Starting Material Purity: 2094

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

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:

$X_{CRM/RM} = (X_p / U_{CRM})$

X_p = mean of Assay Method A with

U_{CRM} = the standard uncertainty of characterization Method A

$U_{CRM} = (U_{CRM1}^2 / 2) + (U_{CRM2}^2 / 2) + \dots + (U_{CRMn}^2 / 2)$

$U_{CRM1} = (U_{CRM1}^2 / 2) + (U_{CRM2}^2 / 2) + \dots + (U_{CRMn}^2 / 2)$

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$U_{CRM1} = (U_{CRM1}^2 / 2) + (U_{CRM2}^2 / 2) + \dots + (U_{CRMn}^2 / 2)$

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 UHPA-filtered Clean Room. An UHPA-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	<	0.000986			
O B	<	0.008929	M Ge	<	0.002146	M Os	<	0.000269	O Sr	<	0.000986			
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 Th	<	0.001341			
O Ca	<	0.000676	M In	<	0.002683	M Pr	<	0.000268	M Tl	<	0.053663			
M Cd	<	0.000268	M Ir	<	0.000269	M Pt	<	0.000536	S Ti	<				
M Co	<	0.000268	M K	<	0.001172	M Rb	<	0.000268	M Tl	<	0.000268			
M Cr	<	0.000752	O Li	<	0.000268	M Re	<	0.000268	M Tm	<	0.000268			
M Cs	<	0.000268	M Lu	<	0.000268	M Rh	<	0.000268	M U	<	0.000268			
O Cu	<	0.010890	O Mg	<	0.005445	I S	<	0.006976	M Y	<	0.002146			
M Dy	<	0.000268	O Mn	<	0.003267	M Sb	<	0.004900	M Yb	<	0.000536			
M Er	<	0.000268	M Mo	<	0.000774	O Sc	<							

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 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); K₂SiO₇ - no KF if silica not present); Organic Matrices (Dry ash at 450EC in P10 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 crystaline form).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	14 ppt
ICP-MS 48 amu	N/A	
ICP-OES 323.452 nm	0.0054 / 0.00092 µg/mL	1
ICP-OES 334.941 nm	0.0038 / 0.00028 µg/mL	1
ICP-OES 336.121 nm	0.0053 / 0.00034 µg/mL	1

HF Note: This standard should not be prepared or stored in glass.

W, Mo, Co
Nb, Ta, Cr, U
Ce, Ar, Ni
Ru
(where X = Zr, Mo,
48Ca, [96X=2
14N17N2, 36Ar12C,
14N16O18O,
32S16O, 32S14N,
N/A

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: 800.868.6786; 540.565.3030; Fax: 540.565.3030; Email: 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 Kozlikowski
Manager, Quality Control

TD978L

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul Gaines

Certificate of Analysis

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Christiansburg, VA 24073 USA
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M5985
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).



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:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

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:

$$w_i = (1/u_{char\ i}^2) / (\sum (1/u_{char\ i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char\ i})^2]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char\ a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000760	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 PtO followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 115 amu	1 ppt	n/a	115Sn, 99Ru16O
ICP-OES 158.583 nm	0.05 / 0.002 µg/mL	1	
ICP-OES 230.606 nm	0.1 / 0.03 µg/mL	1	Ni, Os
ICP-OES 325.609 nm	0.2 / 0.05 µg/mL	1	Mn, Mo, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; Info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 21, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 21, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Certificate of Analysis

R: 08/22/24 M6058, M6059

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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).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CHEM-CLP-4
Lot Number: V2-MEB746172
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum(1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$$u_{\text{char}} = [\sum(w_i)^2 (u_{\text{char } i})^2]^{1/2} \text{ where } u_{\text{char } i} \text{ are the errors from each characterization method}$$

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a)(u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{its} = 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).

<https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 12, 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

- **August 12, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





Refine your results. Redefine your industry.

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Christiansburg, VA 24073 USA
inorganicventures.com

Certificate of Analysis

M6074
M6075
M6076
M6077

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EXP: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: CHEM-CLP-4
Lot Number: V2-MEB746762
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 5 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 000 ± 6 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	190605
B	Calculated		See Sec. 4.2
Mo	ICP Assay	traceable to 3134	U2-MO739068
Si	ICP Assay	Traceable to 3150	S2-SI702546
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	traceable to 3162a	T2-TI725816

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum (1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum (w_i)^2 (u_{\text{char } i}^2)]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale. <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 06, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 06, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Joseph Burns
Custom VS Manager



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Nitric Acid 69%
CMOS



R → 11/12/24

M6126

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

 **avantor**TM



Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
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For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak
Director Quality Operations, Bioscience Production



CERTIFIED WEIGHT REPORT:

Part Number: **58025**
Lot Number: **101124**
Description: **Manganese (Mn)**

R-71113128

Lot #: **24002546**
Solvent: **Nitric Acid**

Expiration Date: **101127**

Recommended Storage: **Ambient (20 °C)**

Nominal Concentration (µg/mL): **1000**

NIST Test Number: **6UTB**

Weight shown below was diluted to (mL): **4000.2**

0.10 Flask Uncertainty

2% **80.0** **Nitric Acid**
(mL)

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Renteria</i>
	Pedro L. Renteria
	101124

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Manganese(II) nitrate hydrate (Mn) IN031 MNM02020A1 1000 99.999 0.10 20.8 19.2322 19.2344 1000.1 2.0 15710-66-4 5 mg/m3 or-rel >300mg/kg 3132

[1] Spectrum No.1 [34.243 sec]:57025.D# [Count] [Linear]

5.0E6	m/z->	10	20	30	40	50	60	70	80	90	100
2.5E6	m/z->	10	20	30	40	50	60	70	80	90	100
1.0E6	m/z->	10	20	30	40	50	60	70	80	90	100
5.0E7	m/z->	10	20	30	40	50	60	70	80	90	100
1.0E6	m/z->	110	120	130	140	150	160	170	180	190	200
5.0E7	m/z->	210	220	230	240	250	260				



Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pr	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	T	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the 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 certified (+/-) 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).

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

M6137
R-71013124

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).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGSI1
Lot Number: V2-SI744713
Matrix: tr. HNO₃
tr. HF
Value / Analyte(s): 1 000 µg/mL ea:
Silicon
Starting Material: Silica
Starting Material Lot#: 1771
Starting Material Purity: 99.9981%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL
Density: 1.003 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	999 ± 5 µg/mL ICP Assay NIST SRM Traceable to 3150 Lot Number: S2-SI702546
Assay Method #2	1000 ± 7 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

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:

$$w_i = (1/u_{char\ i})^2 / (\sum (1/u_{char\ i})^2)$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char\ i})^2]^{1/2}$ 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

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char\ a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	O	Na	0.001656	M	Se	<	0.022000	M	Zn	<	0.002500	
M	Al		0.010787	M	Fe	<	0.027000	M	Nb	<	0.001300	s	Si	<		O	Zr	<	0.001900
M	As	<	0.001900	M	Ga	<	0.001300	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	M	Ni	<	0.005500	M	Sn		0.000096				
M	B		0.016180	M	Ge	<	0.001900	M	Os	<	0.000610	O	Sr		0.000092				
M	Ba		0.000096	M	Hf		0.000423	i	P	<		M	Ta		0.002542				
O	Be	<	0.000570	M	Hg	<	0.000610	M	Pb	<	0.000310	M	Tb	<	0.000310				
M	Bi	<	0.000310	M	Ho	<	0.000610	M	Pd	<	0.000610	M	Te	<	0.000910				
O	Ca		0.011557	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.001900				
M	Cd	<	0.000310	M	Ir	<	0.000310	M	Pt	<	0.000310	M	Ti		0.001078				
M	Ce	<	0.000610	O	K		0.000577	M	Rb	<	0.009100	M	Tl	<	0.000310				
M	Co	<	0.001600	M	La	<	0.000310	M	Re	<	0.000310	M	Tm	<	0.000310				
M	Cr	<	0.010000	O	Li	<	0.000460	M	Rh	<	0.000310	M	U	<	0.000310				
M	Cs	<	0.000310	M	Lu	<	0.000310	M	Ru	<	0.000310	O	V	<	0.001300				
M	Cu	<	0.002500	O	Mg		0.001348	O	S	<	0.570000	M	W	<	0.001900				
M	Dy	<	0.000310	M	Mn	<	0.002500	M	Sb	<	0.000310	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000310	O	Sc	<	0.000590	M	Yb	<	0.000310				

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 28.09 +4 6 Si(OH)x(F)y2-

Chemical Compatibility -Soluble in HCl, HF, H3PO4 H2SO4 and HNO3 as the Si(OH)x(F)y2-. Avoid neutral to basic media. Unstable at ppm levels with metals that would pull F- away (i.e. Do not mix with Alkaline or Rare Earths, or high levels of transition elements unless they are fluorinated. Stable with most inorganic anions with a tendency to hydrolyze forming silicic acid (silicic acid is soluble up to ∼100 ppm in water) in all dilute acids except HF.

Stability - 2-100 ppb levels - stability unknown - (alone or mixed with all other metals) as the Si(OH)x(F)y2-. 1-10,000 ppm single element solutions as the Si(OH)x(F)y2- chemically stable for years in 2-5 % HNO3 / trace HF in a LDPE container.

Si Containing Samples (Preparation and Solution) -Metal (Soluble in 1:1:1 H2O / HF / HNO3); Oxide - SiO2, amorphous (dissolve by heating in 1:1:1 H2O / HF / HNO3); Oxide - quartz (fuse in Pt0 with Na2CO3); Geological Samples(fuse in Pt0with Na2CO3 followed by HCl solution of the fuseate); Organic Matrices containing silicates and non volatile silicon compounds (dry ash at 4500C in Pt0 and dissolve by gently warming with 1:1:1 H2O / HF / H2SO4 or fuse / ash with Na2CO3 and dissolve fuseate with HCl / H2O); Silicone Oils - dimethyl silicones depolymerize to form volatile monomer units when heated (Measure directly in alcoholic KOH / xylene mixture where sample is treated first with the KOH at 60-1000C to "unzip" the Si- O-Si polymeric structure or digest with conc. H2SO4 / H2O2 followed by cooling and dissolution of the dehydrated silica with HF.) Note that the direct analysis of silicone oils in an organic solvent will result in false high results due to high vapor pressure of volatile monomer units like hexamethylcyclotrisiloxane. The KOH forms the K2+Si(CH3)2O= salt which is not volatile at room temperature.

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 28 amu	4000 - 8000 ppt	N/A	N2, 12C16O
ICP-OES 212.412 nm	0.02/0.01 µg/mL	1	Hf, Os, Mo, Ta
ICP-OES 251.611 nm	0.012/0.003 µg/mL	1	Ta, U, Zn, Th
ICP-OES 288.158 nm	0.03/0.004 µg/mL	1	Ta, Ce, Cr, Cd, Th

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; info@inorganicventures.com;

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 10, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 10, 2029

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Custom Processing Supervisor



Certificate Approved By:

Muzzammil Khan
Stock Laboratory Supervisor



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

R: 4/20/21

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

MG180

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or
Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) ANALYSIS OF SAMPLES

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





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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) K₂Cr₂O₇ 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 K₃Fe(CN)₆, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (µg/L) (after 10-fold dilution)	Concentration (µg/L) (after 50-fold dilution)
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	Concentration (µg/L) (after 100-fold dilution)	Analyte	Concentration (µg/L) (after 100-fold dilution)
Hg	4.0	CN ⁻	99

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

 **avantor™**



M6151

R → 11/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl ₂)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO ₃)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH ₄)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

 **avantorsm**



Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA–ANALYZED® Reagent
For Trace Metal Analysis

 **avantor**™

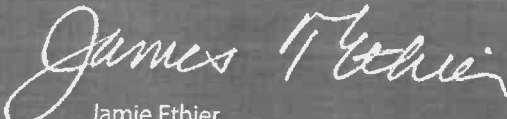


Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
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For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC


Jamie Ethier
Vice President Global Quality



M6156

Certified Reference Material CRM

R → 6/12/24



CERTIFIED WEIGHT REPORT:

Part Number: **57042**
Lot Number: **032123**
Description: **Molybdenum (Mo)**

Lot # MKBQ8597V Solvent: Ammonium hydroxide

0.5% 15.0 (mL) Ammonium hydroxide

Expiration Date: 032126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000

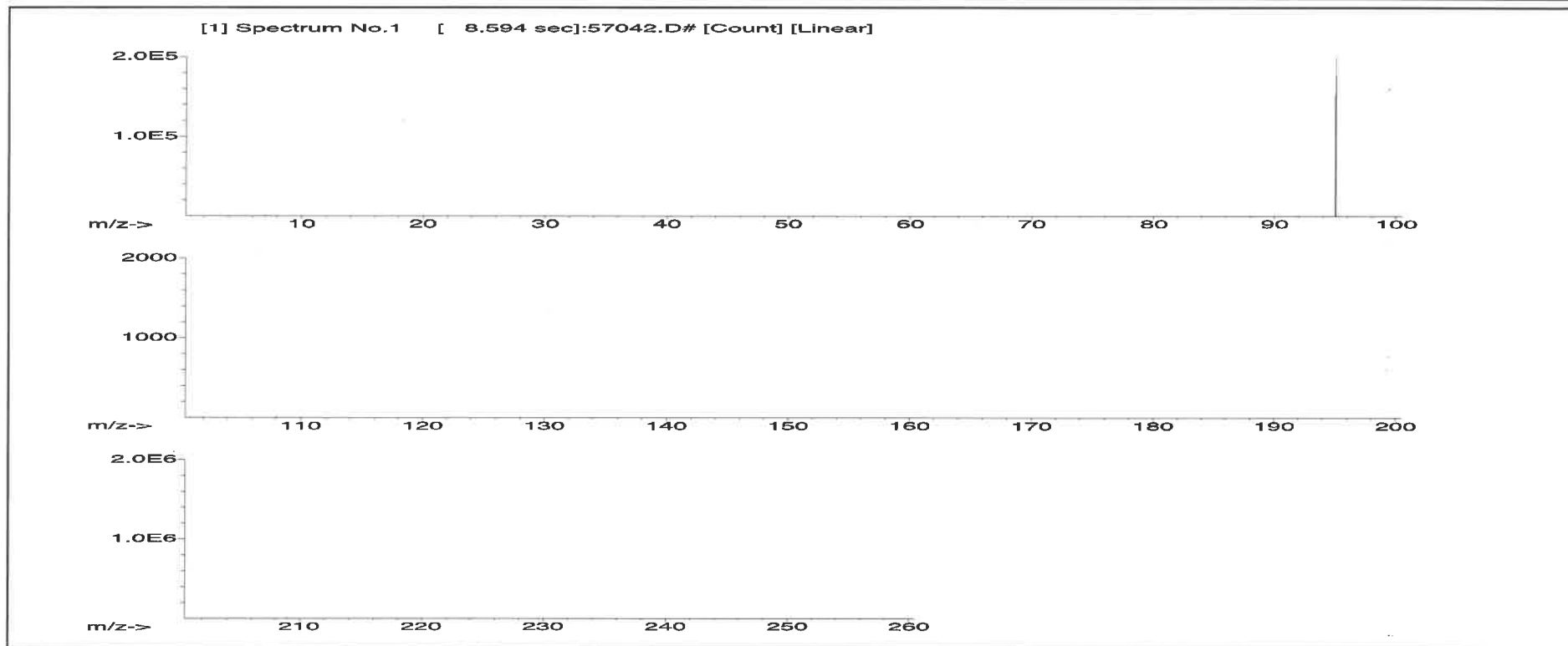
NIST Test Number: 6UTB

5E-05 Balance Uncertainty

Volume shown below was diluted to (mL): 3000.41 0.058 Flask Uncertainty

Formulated By: *Lawrence Barry* 032123
Reviewed By: *Pedro L. Rentas* 032123

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.)			NIST SRM
										CAS#	OSHA PEL (TWA)	LD50	
1. Ammonium molybdate (Mo)	58142	112322	0.1000	300.0	0.084	1000	10001.4	1000.0	2.1	13106-76-8	5 mg(Mo)/m3	ori-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	Tc	<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:

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 certified (+/-) 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).



M6030



CERTIFIED WEIGHT REPORT:

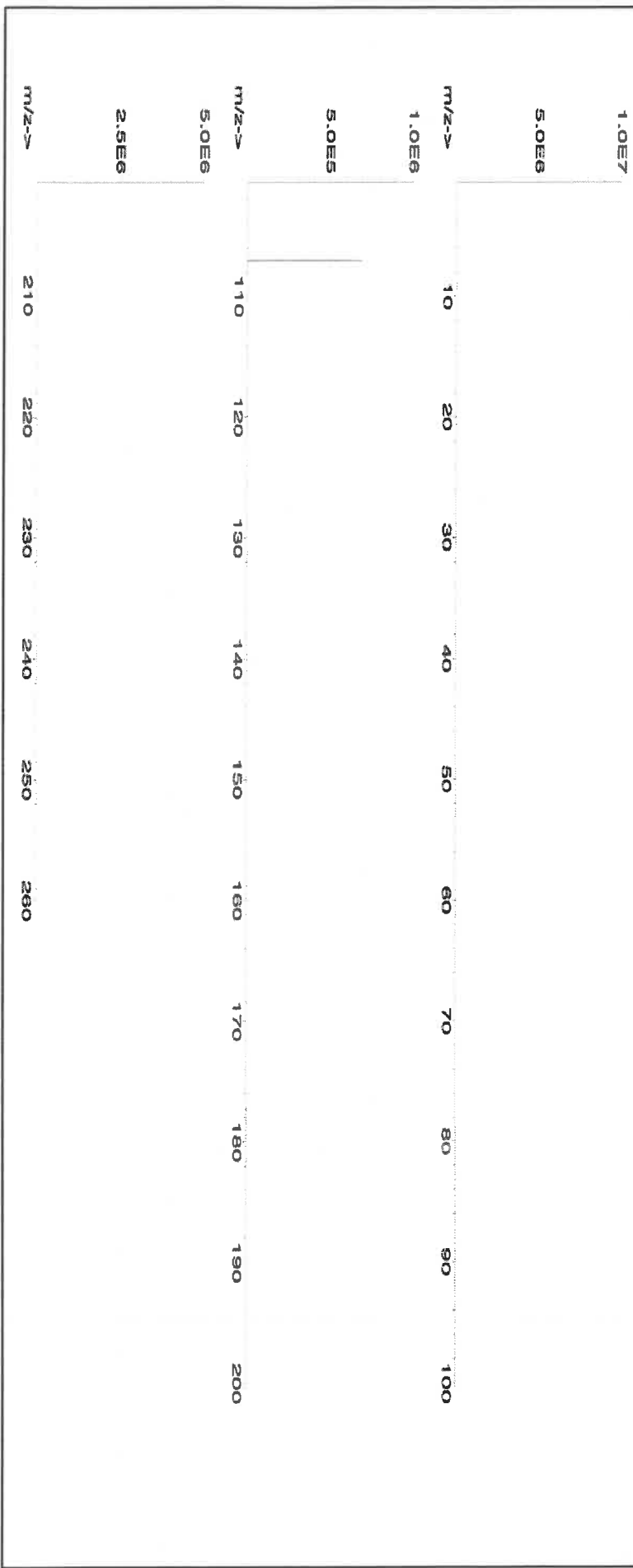
Part Number: 57047
Lot Number: 122823
Description: Silver (Ag)
Solvent: 24002546 Nitric Acid

Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 4000.30
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Rentas
	122823

SDS Information									
Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)
1. Silver nitrate (Ag)	IN035	J0612AGA1	1000.0	99.9996	0.10	63.7	6.27992	6.27998	1000.0
							2.0	7761-88-8	10 µg/mL
									NA
									3151

[1] Spectrum No. 1 [14.044 sec]:58147.D# [Count] [Linear]





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	Pt	<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 meghm 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 certified (+/-) 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).



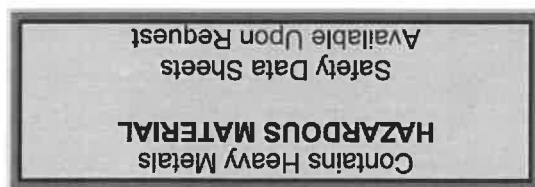
QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

M6152



(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) interfering elements: Al, Ca, Fe, and Mg. The ICSB solution contains the analytes: Ag, As, Sb, Ba, Be,





Instructions for QATS Reference Material: ICP-AES ICS
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 HNO₃. 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 HNO₃. 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 (µg/L) +Part B	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value $\pm$ 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value $\pm$ 15 percent of the listed certified value.



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

R : 04/20/21

Instructions for QATS Reference Material: ICP-AES ICS

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.



M6155

(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,





QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

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Instructions for QATS Reference Material: ICP-AES ICS

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 HNO₃. 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 HNO₃. Analyze this ICSAB solution by ICP-AES.

(D) "CERTIFIED VALUE" CONCENTRATIONS OF QATS ICP-AES ICS SOLUTION(S)

The "Certified Value" concentrations of the elements, listed in Table 1 below, were derived from statistically pooled analysis results from the following sources, if available: QATS Laboratory, CLP laboratories, Quarterly Blind (QB)/Proficiency Testing (PT) events, CLP pre-award events, and external referee laboratories.

Table 1. "CERTIFIED VALUES" FOR INTERFERENCE CHECK SAMPLE ICP-AES ICSA-1211, AND ICSA-1211 MIXED WITH ICSB-0710

Element	CRQL	Part A (µg/L)	Low Limit (µg/L)	High Limit (µg/L)	Part A +Part B (µg/L)	Low Limit (µg/L)	High Limit (µg/L)
Al	200	255000	216000	294000	247000	209000	285000
Sb	60	(0.0)	-60.0	60.0	618	525	711
As	10	(0.0)	-10.0	10.0	104	88.4	120
Ba	200	(6.0)	-194	206	(537)	337	737
Be	5.0	(0.0)	-5.0	5.0	495	420	570
Cd	5.0	(1.0)	-4.0	6.0	972	826	1120
Ca	5000	245000	208000	282000	235000	199000	271000
Cr	10	(52.0)	42.0	62.0	542	460	624
Co	50	(0.0)	-50.0	50.0	476	404	548
Cu	25	(2.0)	-23.0	27.0	511	434	588
Fe	100	101000	85600	116500	99300	84400	114500
Pb	10	(0.0)	-10.0	10.0	(49.0)	39.0	59.0
Mg	5000	255000	216000	294000	248000	210000	286000
Mn	15	(7.0)	-8.0	22.0	507	430	584
Ni	40	(2.0)	-38.0	42.0	954	810	1100
Se	35	(0.0)	-35.0	35.0	(46.0)	11.0	81.0
Ag	10	(0.0)	-10.0	10.0	201	170	232
Tl	25	(0.0)	-25.0	25.0	(108)	83.0	133
V	50	(0.0)	-50.0	50.0	491	417	565
Zn	60	(0.0)	-60.0	60.0	952	809	1095

The acceptance ranges for all analytes in parentheses in the above table were determined using the listed certified value ± 1 times the associated CLP SOW CRQL. The acceptance ranges for all other analytes were determined using the certified value ± 15 percent of the listed certified value.



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57051
071724
Antimony (Sb)

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test Number:

071727
Ambient (20 °C)
1000
6UTB

Volume shown below was diluted to (mL):

2000.26

126160

Lot #
24002546

Solvent:
Nitric Acid

2.0%
Nitric Acid
(mL)

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas

071724

071724

SDS Information

Expanded

(Solvent Safety Info. On Attached pg.)
NIST
SRM

Uncertainty
+/- (µg/mL)

Final
Conc. (µg/mL)

Initial
Conc. (µg/mL)

Nominal
Conc. (µg/mL)

Uncertainty
Pipette (mL)

Initial
Vol. (mL)

Dilution
Factor

Part
Number

Lot
Number

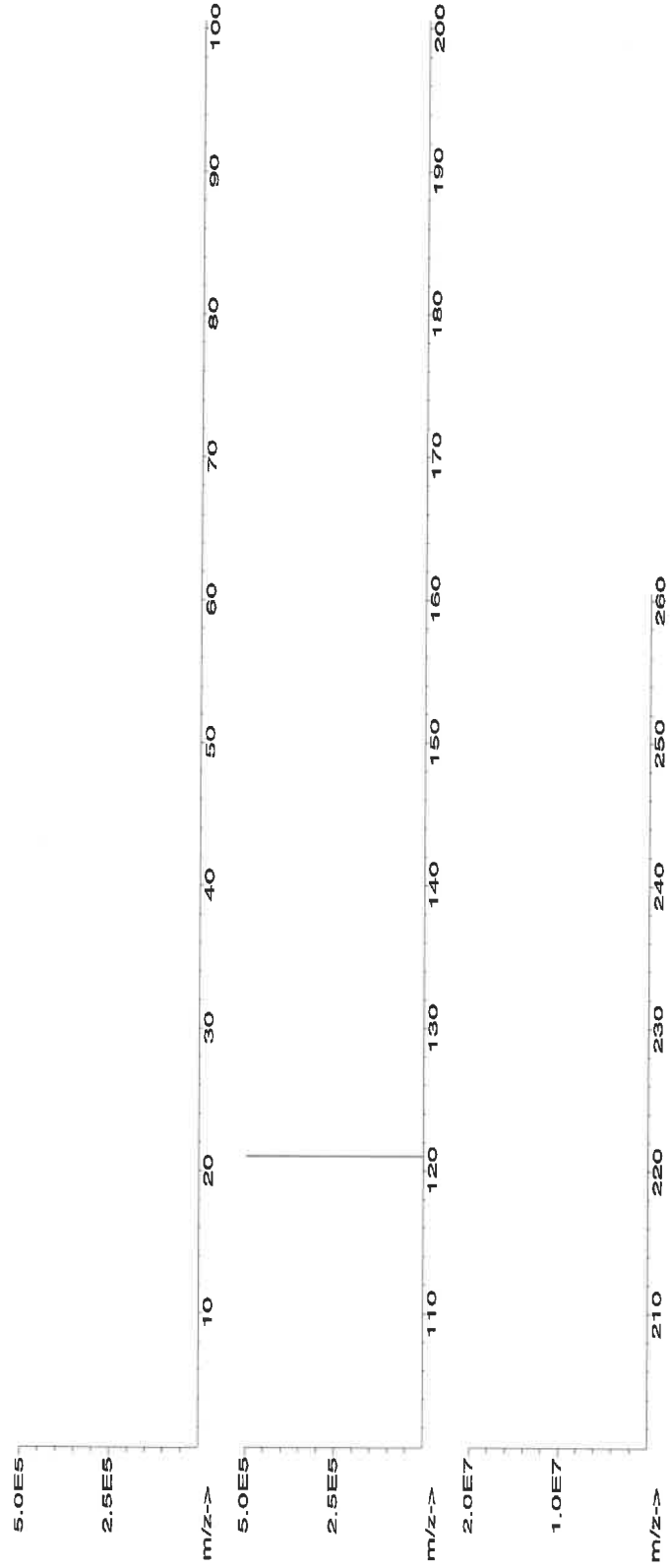
Conc. (µg/mL)

Conc. (µg/mL)

Conc. (µg/mL)

1. Antimony (Sb) 58151 060324 0.1000 200.0 0.084 1000 10001.4 1000.0 2.2 7440-36-0 0.5 mg/m3 or-rat 7000 mg/kg 3102a

[1] Spectrum No.1 [17.964 sec]:58051.D# [Count] [Linear]





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	<0.02	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	Tc	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Ti	<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	<0.02	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	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	Pr	<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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

R: 8/5/24

M6019

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).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGSR1
Lot Number: U2-SR730227
Matrix: 0.1% (v/v) HNO₃
Value / Analyte(s): 1 000 µg/mL ea:
Strontium
Starting Material: SrCO₃
Starting Material Lot#: M2-2192
Starting Material Purity: 99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 3 µg/mL
Density: 1.000 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	998 ± 4 µg/mL ICP Assay NIST SRM Traceable to 3153a Lot Number: K2-SR650985
Assay Method #2	1001 ± 3 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	1001 ± 2 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

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:

$$w_i = (1/u_{char\ i})^2 / (\sum (1/u_{char\ i})^2)$$

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{ts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i)^2 (u_{char\ i})^2]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = 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

$$CRM/RM \text{ Expanded Uncertainty } (k) = U_{CRM/RM} = k (u_{char\ a}^2 + u_{bb}^2 + u_{ts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001980	M	Eu	<	0.000495	O	Na	0.000200	M	Se	<	0.013862	O	Zn	0.000143
O	Al	0.000370	O	Fe	0.000410	M	Nb	<	0.000495	i	Si	<		M	Zr	<	0.000495
M	As	<	0.000495	M	Ga	<	0.000495	M	Nd	<	0.000495	M	Sm	<	0.000495		
M	Au	<	0.000989	M	Gd	<	0.000495	O	Ni	<	0.007631	M	Sn	<	0.000990		
M	B	<	0.039606	M	Ge	<	0.000495	M	Os	<	0.000494	s	Sr	<			
M	Ba	0.006486	M	Hf	<	0.000495	i	P	<		M	Ta	<	0.000495			
M	Be	<	0.000990	M	Hg	<	0.000989	M	Pb	<	0.002970	M	Tb	<	0.000495		
M	Bi	<	0.000495	M	Ho	<	0.000495	M	Pd	<	0.003957	M	Te	<	0.027724		
O	Ca	0.004255	M	In	<	0.000495	M	Pr	<	0.000495	M	Th	<	0.000990			
M	Cd	0.001339	M	Ir	<	0.000494	M	Pt	<	0.002970	M	Ti	<	0.005940			
M	Ce	<	0.004950	O	K	<	0.008184	M	Rb	<	0.002970	M	Tl	<	0.000495		
M	Co	<	0.000495	M	La	<	0.000495	M	Re	<	0.000495	M	Tm	<	0.000495		
O	Cr	<	0.003207	O	Li	<	0.000884	O	Rh	<	0.012829	M	U	<	0.001485		
M	Cs	<	0.000990	M	Lu	<	0.002970	M	Ru	<	0.000989	M	V	<	0.001980		
M	Cu	0.000099	O	Mg	0.000064	i	S	<		M	W	<	0.003960				
M	Dy	<	0.000495	O	Mn	0.000066	M	Sb	<	0.014852	O	Y	<	0.000995			
M	Er	<	0.000495	M	Mo	<	0.001980	M	Sc	<	0.001980	M	Yb	<	0.000495		

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

6.0 INTENDED USE

6.1 This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

6.2 For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, <https://www.inorganicventures.com/terms-and-conditions-sale>. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 87.62 +2 6 Sr(H₂O)₆+2

Chemical Compatibility - Soluble in HCl, and HNO₃. Avoid H₂SO₄, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate and tungstate in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1 - 3.5% HNO₃ / LDPE container.

Sr Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO₃); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 88 amu	1200 ppt	N/A	72Ge16O, 176Yb+2, 176Lu+2 , 176Hf+2
ICP-OES 407.771 nm	0.0004 / 0.00006 µg/mL	1	U, Ce
ICP-OES 421.552 nm	0.0008 / 0.00004 µg/mL	1	Rb
ICP-OES 460.733 nm	0.07 / 0.003 µg/mL	1	Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 03, 2023

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- March 03, 2028

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number: 57081
Lot Number: 062724
Description: Thallium (TI)

Lot #

Solvent: 24002546 Nitric Acid

2% 40.0 Nitric Acid (mL)

Expiration Date:

062727

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Weight shown below was diluted to (mL): 2000.1

5E-05 Balance Uncertainty
0.10 Flask Uncertainty

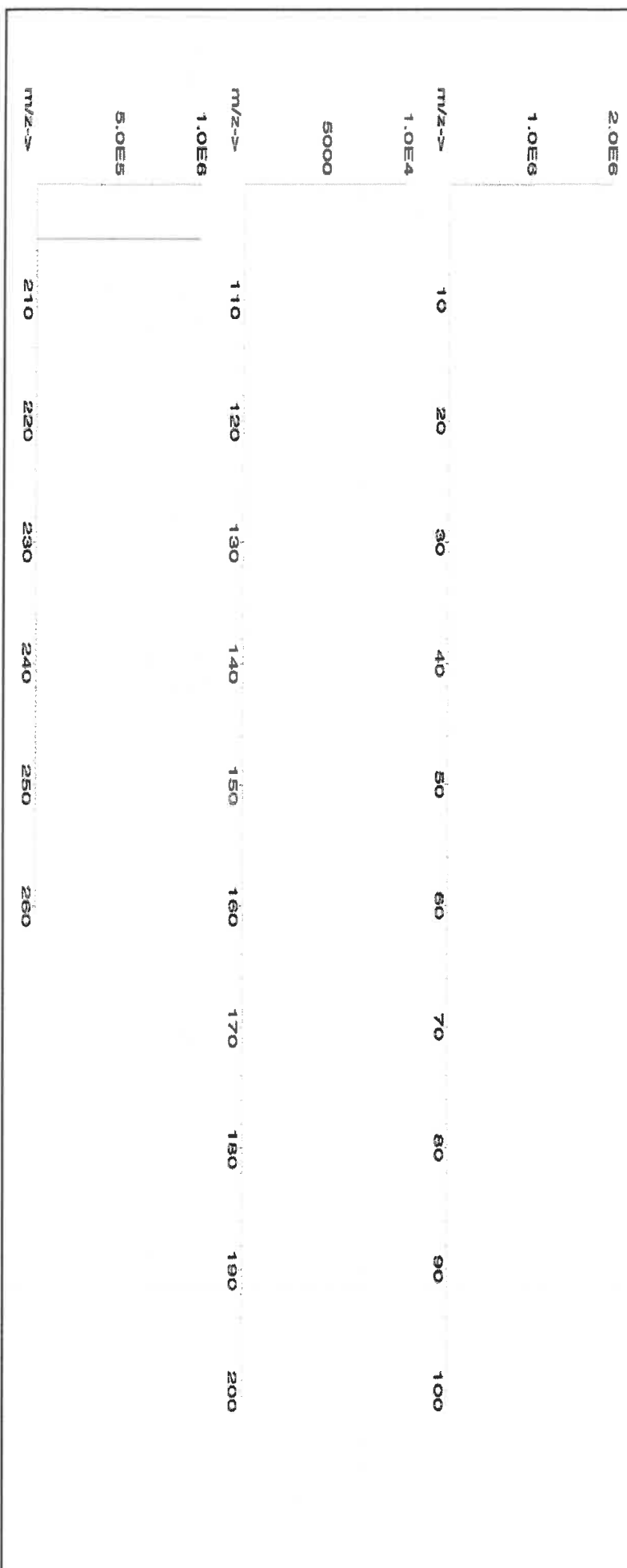
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Renias</i>
	Pedro L. Renias
	062724

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
----------	------------	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

1. Thallium nitrate (TI) 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

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





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	Pt	<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	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	Tm	<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	Sn	<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	Ti	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Se	<0.02	Ta	<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 certified (+/-) 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).



Certified Reference Material CRM

M6021



ANAB ISO 17034 Accredited
AR-1539 Certificate Number
<https://absolutestandards.com>

CERTIFIED WEIGHT REPORT:

Part Number: **57023**
Lot Number: **062424**
Description: **Vanadium (V)**

Lot # **24002546**
Solvent: **Nitric Acid**

<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
Reviewed By:	Pedro L. Rantas
	062424

Expiration Date: **062427**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**

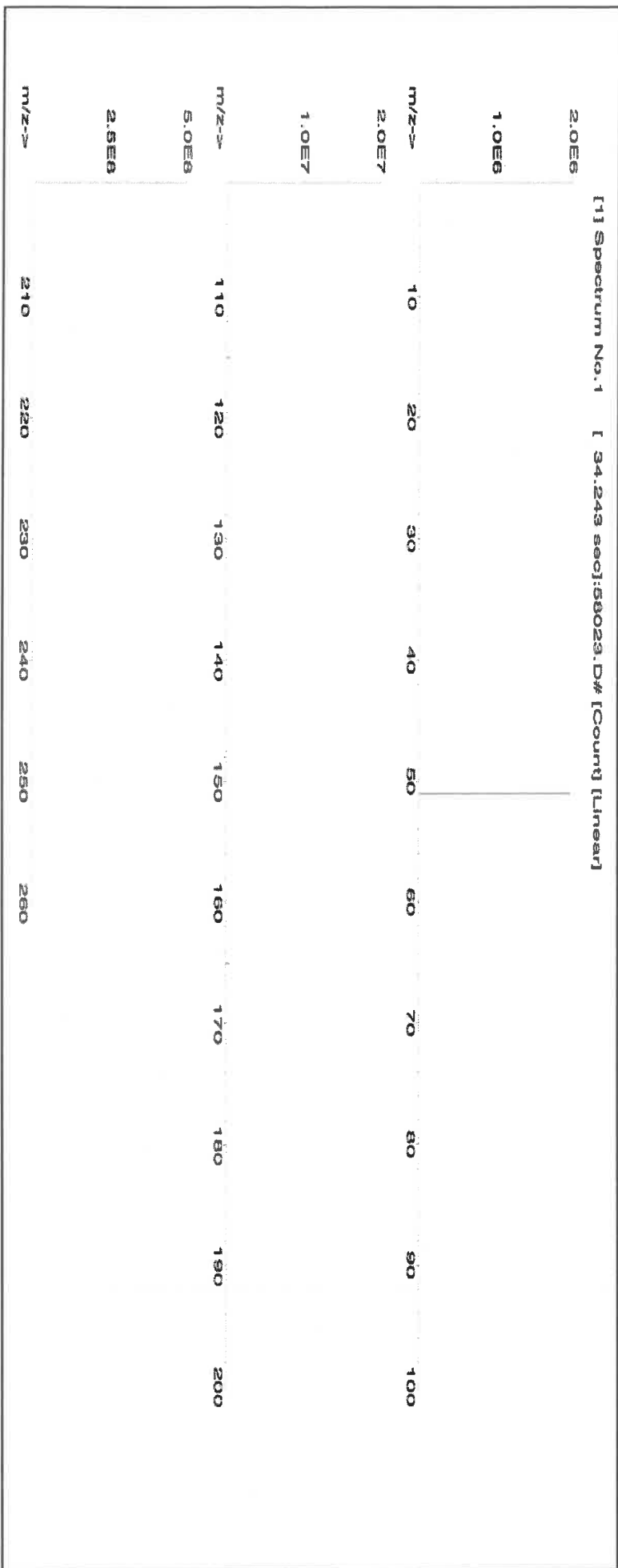
Volume shown below was diluted to (mL): **2000.3**
5E-05 Balance Uncertainty
0.06 Flask Uncertainty

Volume shown below was diluted to (mL): **2000.3**

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	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 or-at 58.1mg/kg 3165

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]





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	Pt	<0.02	Se	<0.2
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<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
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Ru	<0.02	Na	<0.2
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Sr	<0.02	S	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pr	<0.02	Sm	<0.02	Ta	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ti	<0.02
														Tb	<0.02
														Te	<0.02
														Tl	<0.02
														Th	<0.02
														Tm	<0.02
														Sn	<0.02
														Ti	<0.02
														W	<0.02
														U	<0.02
														V	T
														Yb	<0.02
														Y	<0.02
														Zn	<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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



SHIPPING DOCUMENTS

CLIENT INFORMATION

CLIENT PROJECT INFORMATION

CLIENT BILLING INFORMATION

REPORT TO BE SENT TO:

COMPANY: Tully Environmental Inc
ADDRESS: 57 Seaview Blvd
CITY: Pt Washington STATE: NY ZIP: 10520
ATTENTION: D Dene
PHONE: 718 446 2000 FAX:

PROJECT NAME: Transfer Station SPOB
PROJECT NO.: 252113 LOCATION:
PROJECT MANAGER:
e-mail:
PHONE: FAX:

BILL TO: Same PO#:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☐ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other
☐ EDD FORMAT

1	2	3	4	5	6	7	8	9
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PRESERVATIVES

COMMENTS

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9	
1.	001 Willets Pt Blvd (Mar)	W		X	4/1	2pm	2	X	X								PH 1.3 # 80AD441
2.	002 35th Ave (Mar)	W		X	4/1	2pm	2	X	X								PH 1.3 # 80AD441
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER: 1. D Dene	DATE/TIME: 4/1/25	RECEIVED BY: CR 4/2/25	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.2 °C
RELINQUISHED BY SAMPLER: 2.	DATE/TIME:	RECEIVED BY:	Comments: "Temp Adjust factor +17"
RELINQUISHED BY SAMPLER: 3.	DATE/TIME:	RECEIVED BY:	Page ____ of CLIENT: ☐ Hand Delivered ☐ Other Shipment Complete ☐ YES ☐ NO

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