

Cover Page

Order ID : Q1628

Project ID : Transfer Station - SPDES 2025

Client : Tully Environmental, Inc

Lab Sample Number

Q1628-01
Q1628-02

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: 3/25/2025

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 #: Q1628

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 Custody

✓

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: 03/25/2025

LAB CHRONICLE

OrderID:	Q1628	OrderDate:	3/21/2025 1:37:00 PM
Client:	Tully Environmental, Inc	Project:	Transfer Station - SPDES 2025
Contact:	Dean Devoe	Location:	I31

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1628-01	001-WILLETS-PT-BLV D(MAR)	Water			03/20/25			03/21/25
			Metals Group3	200.7		03/21/25	03/24/25	
Q1628-02	002-35TH-AVE(MAR)	Water			03/20/25			03/21/25
			Metals Group3	200.7		03/21/25	03/24/25	



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

Hit Summary Sheet
SW-846

SDG No.: Q1628

Order ID: Q1628

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)								
Q1628-01	001-WILLETS-PT-BLVD(MAR)	Water	Copper	51.5		1.52	10.0	ug/L
Q1628-01	001-WILLETS-PT-BLVD(MAR)	Water	Iron	7540		12.4	50.0	ug/L
Q1628-01	001-WILLETS-PT-BLVD(MAR)	Water	Lead	10.1		1.57	6.00	ug/L
Client ID : 002-35TH-AVE(MAR)								
Q1628-02	002-35TH-AVE(MAR)	Water	Copper	45.6		1.52	10.0	ug/L
Q1628-02	002-35TH-AVE(MAR)	Water	Iron	8920		12.4	50.0	ug/L
Q1628-02	002-35TH-AVE(MAR)	Water	Lead	10.7		1.57	6.00	ug/L



SAMPLE DATA

Report of Analysis

Client:	Tully Environmental, Inc	Date Collected:	03/20/25
Project:	Transfer Station - SPDES 2025	Date Received:	03/21/25
Client Sample ID:	001-WILLETS-PT-BLVD(MAR)	SDG No.:	Q1628
Lab Sample ID:	Q1628-01	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	51.5		1	1.52	10.0	ug/L	03/21/25 15:25	03/24/25 11:30	EPA 200.7	
7439-89-6	Iron	7540		1	12.4	50.0	ug/L	03/21/25 15:25	03/24/25 11:30	EPA 200.7	
7439-92-1	Lead	10.1		1	1.57	6.00	ug/L	03/21/25 15:25	03/24/25 11:30	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:	03/20/25
Project:	Transfer Station - SPDES 2025	Date Received:	03/21/25
Client Sample ID:	002-35TH-AVE(MAR)	SDG No.:	Q1628
Lab Sample ID:	Q1628-02	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	45.6		1	1.52	10.0	ug/L	03/21/25 15:25	03/24/25 11:35	EPA 200.7	
7439-89-6	Iron	8920		1	12.4	50.0	ug/L	03/21/25 15:25	03/24/25 11:35	EPA 200.7	
7439-92-1	Lead	10.7		1	1.57	6.00	ug/L	03/21/25 15:25	03/24/25 11:35	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.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
Initial Calibration Source: EPA
Continuing Calibration Source: Inorganic Ventures

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV01	Copper	532	510	104	95 - 105	P	03/24/2025	10:33	LB135158
	Iron	9820	10000	98	95 - 105	P	03/24/2025	10:33	LB135158
	Lead	982	1000	98	95 - 105	P	03/24/2025	10:33	LB135158

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
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	22.5	20.0	112	80 - 120	P	03/24/2025	10:45	LB135158
	Iron	95.8	100	96	80 - 120	P	03/24/2025	10:45	LB135158
	Lead	11.7	12.0	97	80 - 120	P	03/24/2025	10:45	LB135158

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Tully Environmental, Inc **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
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	03/24/2025	11:21	LB135158
	Iron	4870	5000	98	90 - 110	P	03/24/2025	11:21	LB135158
	Lead	4920	5000	98	90 - 110	P	03/24/2025	11:21	LB135158
CCV02	Copper	1260	1250	101	90 - 110	P	03/24/2025	12:12	LB135158
	Iron	4710	5000	94	90 - 110	P	03/24/2025	12:12	LB135158
	Lead	4830	5000	97	90 - 110	P	03/24/2025	12:12	LB135158
CCV03	Copper	1250	1250	100	90 - 110	P	03/24/2025	13:07	LB135158
	Iron	4840	5000	97	90 - 110	P	03/24/2025	13:07	LB135158
	Lead	4800	5000	96	90 - 110	P	03/24/2025	13:07	LB135158
CCV04	Copper	1230	1250	98	90 - 110	P	03/24/2025	14:06	LB135158
	Iron	4610	5000	92	90 - 110	P	03/24/2025	14:06	LB135158
	Lead	4680	5000	94	90 - 110	P	03/24/2025	14:06	LB135158
CCV05	Copper	1220	1250	98	90 - 110	P	03/24/2025	15:30	LB135158
	Iron	4640	5000	93	90 - 110	P	03/24/2025	15:30	LB135158
	Lead	4640	5000	93	90 - 110	P	03/24/2025	15:30	LB135158
CCV06	Copper	1190	1250	95	90 - 110	P	03/24/2025	16:39	LB135158
	Iron	4580	5000	92	90 - 110	P	03/24/2025	16:39	LB135158
	Lead	4510	5000	90	90 - 110	P	03/24/2025	16:39	LB135158
CCV07	Copper	1190	1250	96	90 - 110	P	03/24/2025	17:29	LB135158
	Iron	4630	5000	93	90 - 110	P	03/24/2025	17:29	LB135158
	Lead	4550	5000	91	90 - 110	P	03/24/2025	17:29	LB135158
CCV08	Copper	1200	1250	96	90 - 110	P	03/24/2025	18:01	LB135158
	Iron	4530	5000	91	90 - 110	P	03/24/2025	18:01	LB135158
	Lead	4550	5000	91	90 - 110	P	03/24/2025	18:01	LB135158



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

Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: Tully Environmental, Inc **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
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	22.5	20.0	113	40 - 160	P	03/24/2025	10:54	LB135158
	Iron	95.4	100	95	40 - 160	P	03/24/2025	10:54	LB135158
	Lead	12.7	12.0	106	40 - 160	P	03/24/2025	10:54	LB135158



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

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628

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	03/24/2025	10:49	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	10:49	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	10:49	LB135158

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc SDG No.: Q1628
Contract: TULL01 Lab Code: CHEM Case No.: Q1628 SAS No.: Q1628

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	03/24/2025	11:26	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	11:26	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	11:26	LB135158
CCB02	Copper	20.0	+/-20.0	U	20.0	P	03/24/2025	12:17	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	12:17	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	12:17	LB135158
CCB03	Copper	20.0	+/-20.0	U	20.0	P	03/24/2025	13:11	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	13:11	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	13:11	LB135158
CCB04	Copper	20.0	+/-20.0	U	20.0	P	03/24/2025	14:11	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	14:11	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	14:11	LB135158
CCB05	Copper	20.0	+/-20.0	U	20.0	P	03/24/2025	15:34	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	15:34	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	15:34	LB135158
CCB06	Copper	20.0	+/-20.0	U	20.0	P	03/24/2025	16:43	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	16:43	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	16:43	LB135158
CCB07	Copper	20.0	+/-20.0	U	20.0	P	03/24/2025	17:33	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	17:33	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	17:33	LB135158
CCB08	Copper	20.0	+/-20.0	U	20.0	P	03/24/2025	18:08	LB135158
	Iron	100	+/-100	U	100	P	03/24/2025	18:08	LB135158
	Lead	12.0	+/-12.0	U	12.0	P	03/24/2025	18:08	LB135158

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Tully Environmental, Inc

SDG No.: Q1628

Contract: TULL01

Lab Code: CHEM

Case No.: Q1628

SAS No.: Q1628

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

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: Tully Environmental, Inc

SDG No.: Q1628

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB167266BL	WATER			Batch Number:	PB167266		Prep Date:	03/21/2025	
	Copper	10.0	<10.0	U	10.0	P	03/24/2025	13:28	LB135158
	Iron	50.0	<50.0	U	50.0	P	03/24/2025	13:28	LB135158
	Lead	6.00	<6.00	U	6.00	P	03/24/2025	13:28	LB135158

Metals

- 4 -

INTERFERENCE CHECK SAMPLE

Client: Tully Environmental, Inc **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
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	13.0	2.0	650	-18	22	03/24/2025	10:58	LB135158
	Iron	97400	101000	96	85600	116500	03/24/2025	10:58	LB135158
	Lead	5.40			-12	12	03/24/2025	10:58	LB135158
ICSAB01	Copper	520	511	102	434	588	03/24/2025	11:02	LB135158
	Iron	98300	99300	99	84400	114500	03/24/2025	11:02	LB135158
	Lead	54.7	49.0	112	37	61	03/24/2025	11:02	LB135158
ICSA	Copper	514	2.0	25700	-18	22	03/24/2025	11:13	LB135158
	Iron	88000	101000	87	85600	116500	03/24/2025	11:13	LB135158
	Lead	70.9			-12	12	03/24/2025	11:13	LB135158
ICSAB	Copper	549	511	107	434	588	03/24/2025	11:17	LB135158
	Iron	95900	99300	97	84400	114500	03/24/2025	11:17	LB135158
	Lead	59.8	49.0	122	37	61	03/24/2025	11:17	LB135158



METAL

QC

DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client: <u>Tully Environmental, Inc</u>	level: <u>low</u>	sdg no.: <u>Q1628</u>
contract: <u>TULL01</u>	lab code: <u>CHEM</u>	case no.: <u>Q1628</u> sas no.: <u>Q1628</u>
matrix: <u>Water</u>	sample id: <u>Q1595-02</u>	client id: <u>SPRING-2025MS</u>
Percent Solids for Sample: NA	Spiked ID: Q1595-02MS	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	457		308		150	99		P
Iron	ug/L	75 - 125	1540		172		1500	91		P
Lead	ug/L	75 - 125	420		6.00	U	500	84		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>Tully Environmental, Inc</u>	level: <u>low</u>	sdg no.: <u>Q1628</u>
contract: <u>TULL01</u>	lab code: <u>CHEM</u>	case no.: <u>Q1628</u> sas no.: <u>Q1628</u>
matrix: <u>Water</u>	sample id: <u>Q1595-02</u>	client id: <u>SPRING-2025MSD</u>
Percent Solids for Sample: NA	Spiked ID: Q1595-02MSD	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	455		308		150	98		P
Iron	ug/L	75 - 125	1540		172		1500	91		P
Lead	ug/L	75 - 125	419		6.00	U	500	84		P

Metals
- 5b -

Client: Tully Environmental, Inc **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
Matrix: **Level:** LOW **Client ID:**
Sample ID: **Spiked ID:**

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

.....

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Tully Environmental, Inc **Level:** LOW **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
Matrix: Water **Sample ID:** Q1595-02 **Client ID:** SPRING-2025DUP
Percent Solids for Sample: NA **Duplicate ID** Q1595-02DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Copper	ug/L	20	308		308		0		P
Iron	ug/L	20	172		162		6		P
Lead	ug/L	20	6.00	U	6.00	U			P

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: Tully Environmental, Inc **Level:** LOW **SDG No.:** Q1628
Contract: TULL01 **Lab Code:** CHEM **Case No.:** Q1628 **SAS No.:** Q1628
Matrix: Water **Sample ID:** Q1595-02MS **Client ID:** SPRING-2025MSD
Percent Solids for Sample: NA **Duplicate ID** Q1595-02MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Copper	ug/L	20	457		455		0		P
Iron	ug/L	20	1540		1540		0		P
Lead	ug/L	20	420		419		0		P

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: Tully Environmental, Inc

SDG No.: Q1628

Contract: TULL01

Lab Code: CHEM

Case No.: Q1628

SAS No.: Q1628

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB167266BS							
Copper	ug/L	150	150		100	85 - 115	P
Iron	ug/L	1500	1380		92	85 - 115	P
Lead	ug/L	500	445		89	85 - 115	P

Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

SPRING-2025L

Lab Name: Chemtech Consulting Group

Contract: TULL01

Lab Code: CHEM **Lb No.:** lb135158 **Lab Sample ID :** Q1595-02L **SDG No.:** Q1628

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)		C	Serial Dilution Result (S)		C	% Differ- ence	Q	M
Copper		308			330		7		P
Iron		172			150	J	12		P
Lead		6.00	U		30.0	U			P



METAL PREPARATION & INSTRUMENT DATA

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1628

Contract: TULL01

Lab Code: CHEM

Case No.: Q1628

SAS No.: Q1628

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

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1628

Contract: TULL01

Lab Code: CHEM

Case No.: Q1628

SAS No.: Q1628

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



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

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1628

Contract: TULL01

Lab Code: CHEM

Case No.: Q1628

SAS No.: Q1628

Instrument ID:

Date:

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interement 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

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1628

Contract: TULL01

Lab Code: CHEM

Case No.: Q1628

SAS No.: Q1628

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

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: Tully Environmental, Inc

SDG No.: Q1628

Contract: TULL01

Lab Code: CHEM

Case No.: Q1628

SAS No.: Q1628

Instrument ID: _____

Date: _____

Interelement 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

- 13 -

SAMPLE PREPARATION SUMMARY

Client:	<u>Tully Environmental, Inc</u>	SDG No.:	<u>Q1628</u>
Contract:	<u>TULL01</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>Q1628</u>
		SAS No.:	<u>Q1628</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB167266							
PB167266BL	PB167266BL	MB	WATER	03/21/2025	50.0	25.0	
PB167266BS	PB167266BS	LCS	WATER	03/21/2025	50.0	25.0	
Q1595-02DUP	SPRING-2025DUP	DUP	WATER	03/21/2025	50.0	25.0	
Q1595-02MS	SPRING-2025MS	MS	WATER	03/21/2025	50.0	25.0	
Q1595-02MSD	SPRING-2025MSD	MSD	WATER	03/21/2025	50.0	25.0	
Q1628-01	001-WILLETS-PT-BLVD(MAR)	SAM	WATER	03/21/2025	50.0	25.0	
Q1628-02	002-35TH-AVE(MAR)	SAM	WATER	03/21/2025	50.0	25.0	

metals
- 14 -
ANALYSIS RUN LOG

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

Lab code: CHEM **Case no.:** Q1628 **Sas no.:** Q1628 **Sdg no.:** Q1628

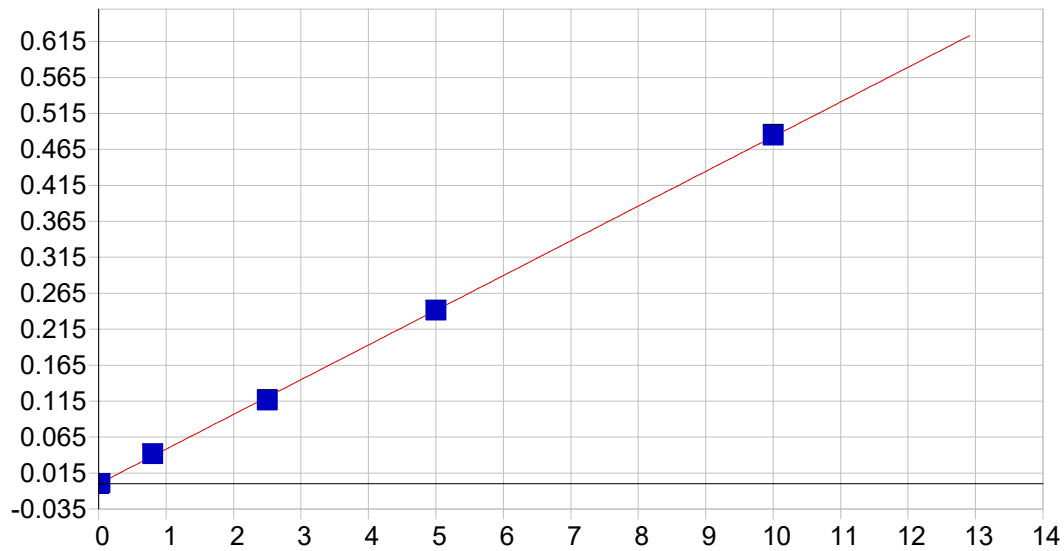
Instrument id number: **Method:** **Run number:** LB135158

Start date: 03/24/2025 **End date:** 03/24/2025

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1001	Cu,Fe,Pb
S1	S1	1	1005	Cu,Fe,Pb
S2	S2	1	1010	Cu,Fe,Pb
S3	S3	1	1014	Cu,Fe,Pb
S4	S4	1	1018	Cu,Fe,Pb
S5	S5	1	1022	Cu,Fe,Pb
ICV01	ICV01	1	1033	Cu,Fe,Pb
LLICV01	LLICV01	1	1045	Cu,Fe,Pb
ICB01	ICB01	1	1049	Cu,Fe,Pb
CRI01	CRI01	1	1054	Cu,Fe,Pb
ICSA01	ICSA01	1	1058	Cu,Fe,Pb
ICSAB01	ICSAB01	1	1102	Cu,Fe,Pb
ICSA	ICSA	20	1113	Cu,Fe,Pb
ICSAB	ICSAB	20	1117	Cu,Fe,Pb
CCV01	CCV01	1	1121	Cu,Fe,Pb
CCB01	CCB01	1	1126	Cu,Fe,Pb
Q1628-01	001-WILLETS-PT-BLVD(MAR	1	1130	Cu,Fe,Pb
Q1628-02	002-35TH-AVE(MAR)	1	1135	Cu,Fe,Pb
CCV02	CCV02	1	1212	Cu,Fe,Pb
CCB02	CCB02	1	1217	Cu,Fe,Pb
Q1595-02DUP	SPRING-2025DUP	1	1258	Cu,Fe,Pb
Q1595-02L	SPRING-2025L	5	1302	Cu,Fe,Pb
CCV03	CCV03	1	1307	Cu,Fe,Pb
CCB03	CCB03	1	1311	Cu,Fe,Pb
Q1595-02MS	SPRING-2025MS	1	1315	Cu,Fe,Pb
Q1595-02MSD	SPRING-2025MSD	1	1320	Cu,Fe,Pb
PB167266BL	PB167266BL	1	1328	Cu,Fe,Pb
PB167266BS	PB167266BS	1	1332	Cu,Fe,Pb
CCV04	CCV04	1	1406	Cu,Fe,Pb
CCB04	CCB04	1	1411	Cu,Fe,Pb
CCV05	CCV05	1	1530	Cu,Fe,Pb
CCB05	CCB05	1	1534	Cu,Fe,Pb
CCV06	CCV06	1	1639	Cu,Fe,Pb
CCB06	CCB06	1	1643	Cu,Fe,Pb
CCV07	CCV07	1	1729	Cu,Fe,Pb
CCB07	CCB07	1	1733	Cu,Fe,Pb
CCV08	CCV08	1	1801	Cu,Fe,Pb
CCB08	CCB08	1	1808	Cu,Fe,Pb



METAL RAW DATA

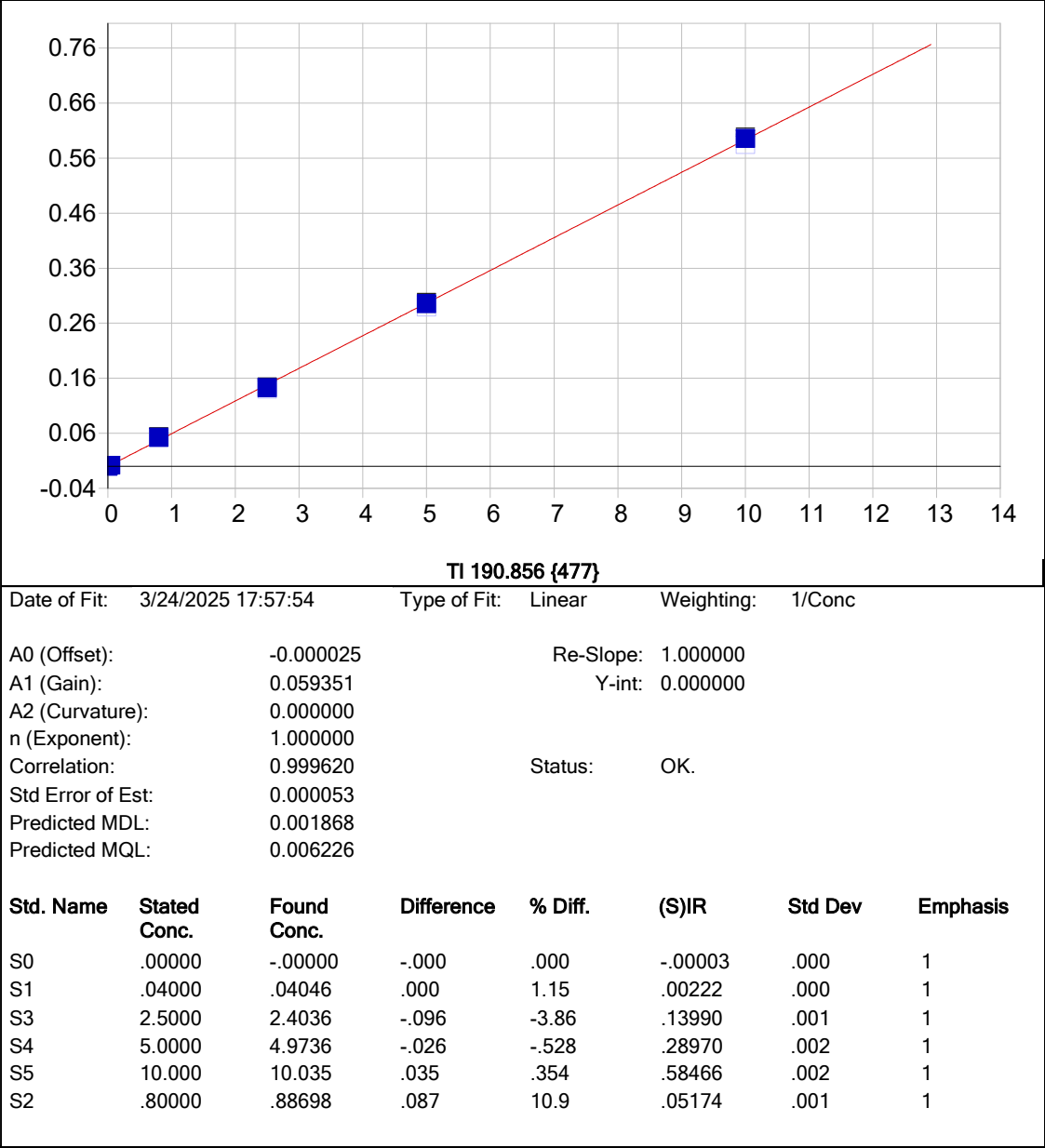


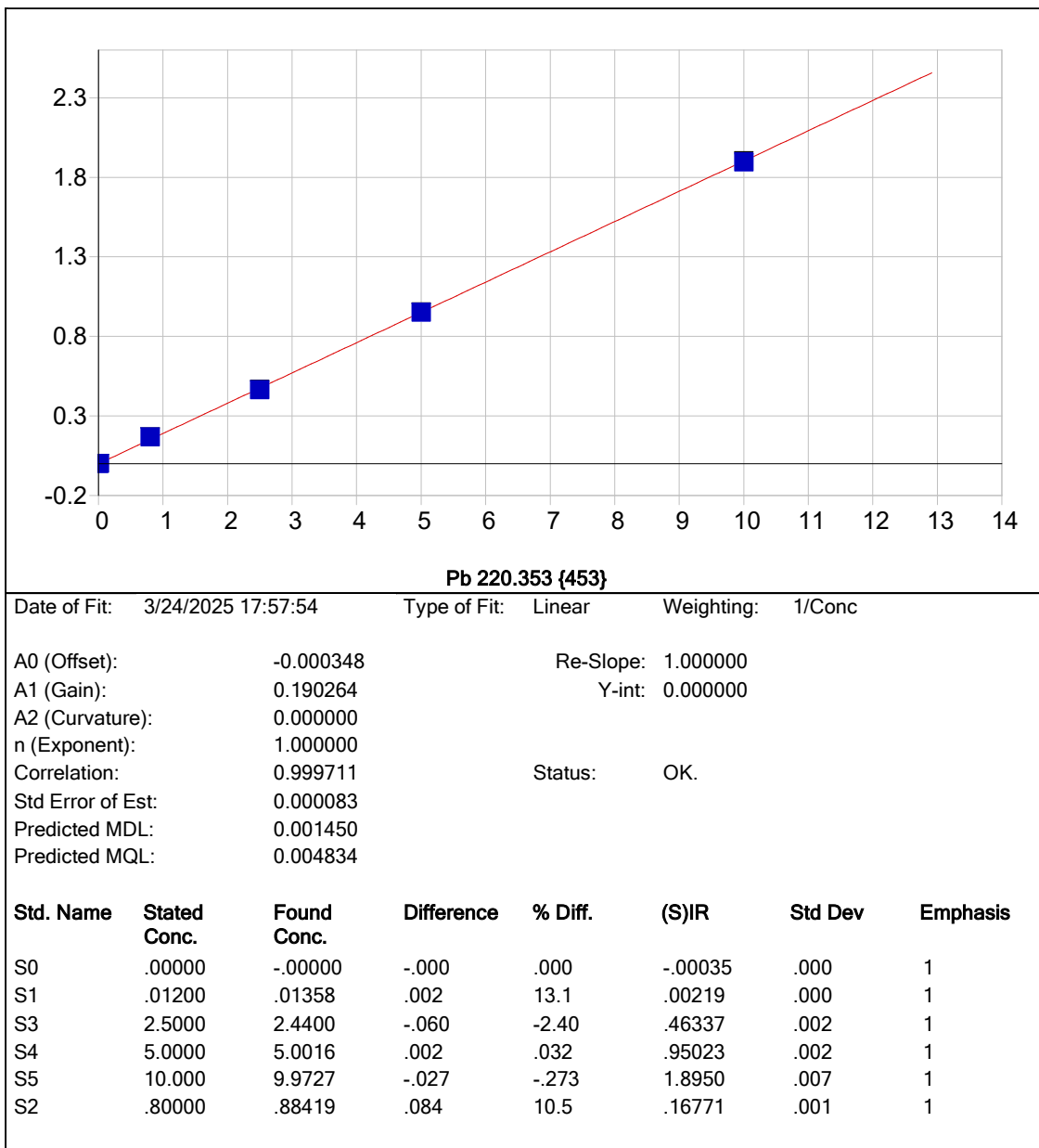
As 189.042 {479}

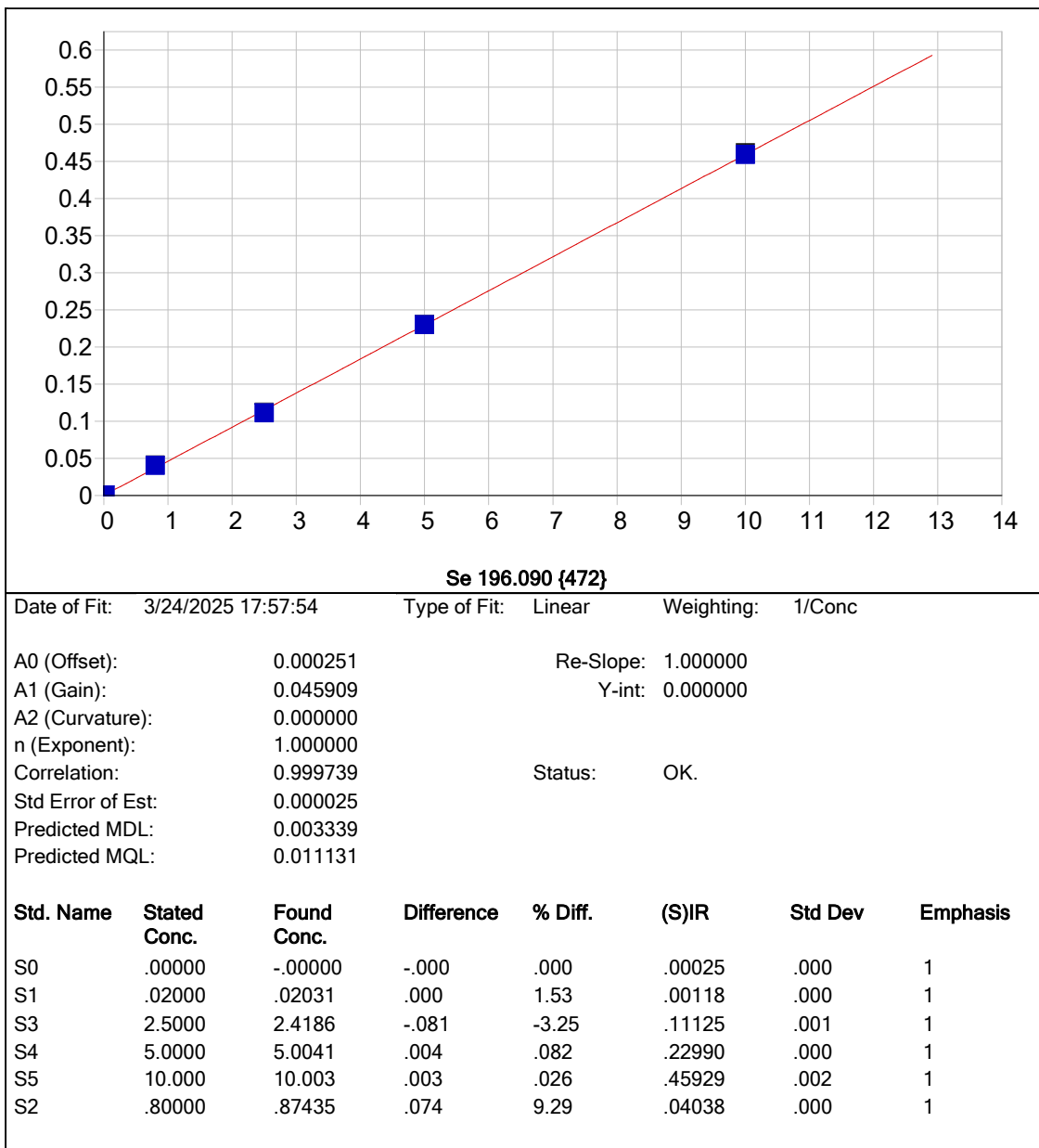
Date of Fit: 3/24/2025 17:57:54 Type of Fit: Linear Weighting: 1/Conc

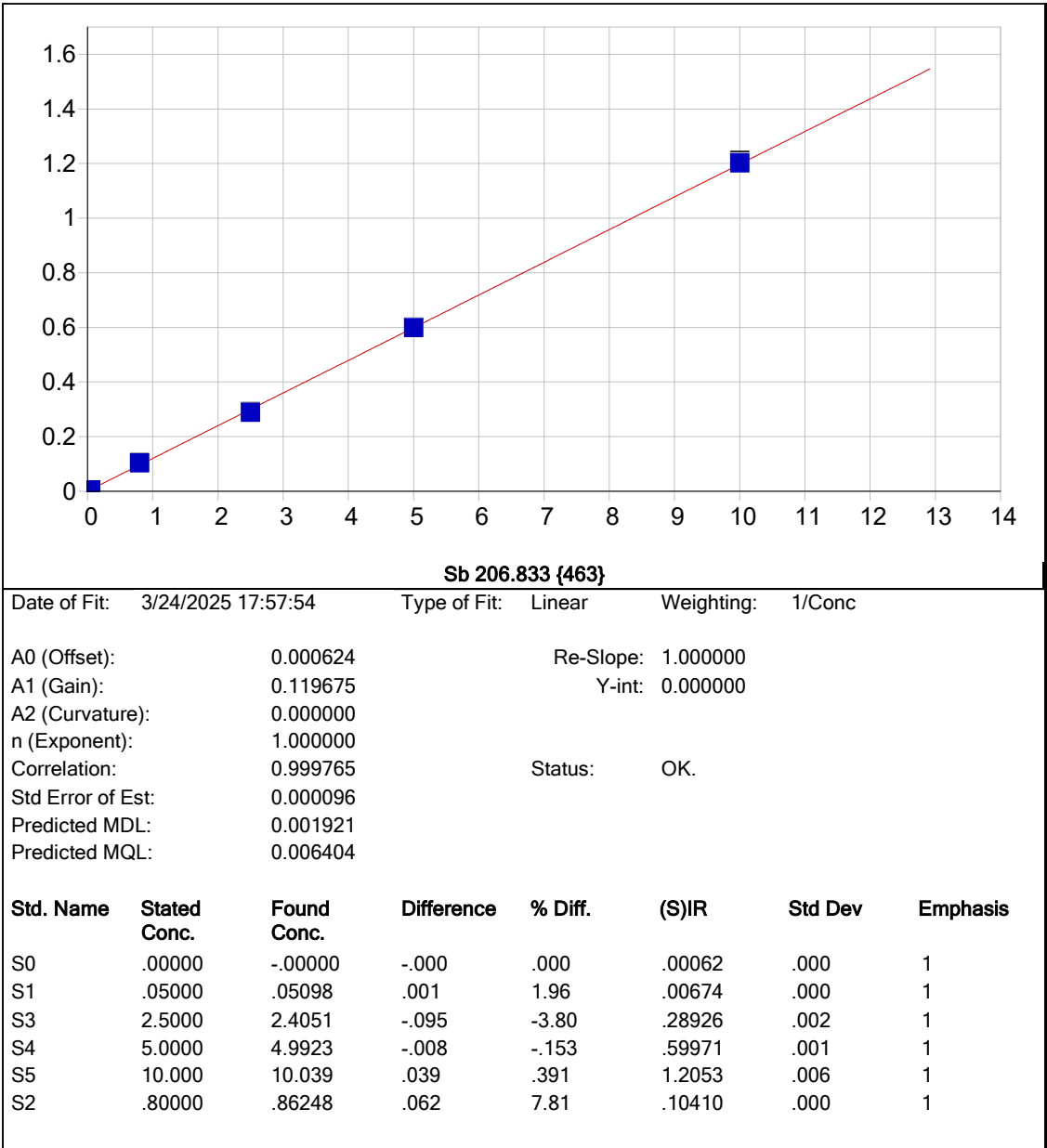
A0 (Offset): -0.000015 Re-Slope: 1.000000
A1 (Gain): 0.048264 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999775 Status: OK.
Std Error of Est: 0.000024
Predicted MDL: 0.002599
Predicted MQL: 0.008664

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	-.00001	.000	1
S1	.02000	.01847	-.002	-7.66	.00087	.000	1
S3	2.5000	2.4057	-.094	-3.77	.11596	.001	1
S4	5.0000	4.9969	-.003	-.062	.24089	.000	1
S5	10.000	10.040	.040	.397	.48402	.002	1
S2	.80000	.85922	.059	7.40	.04141	.000	1



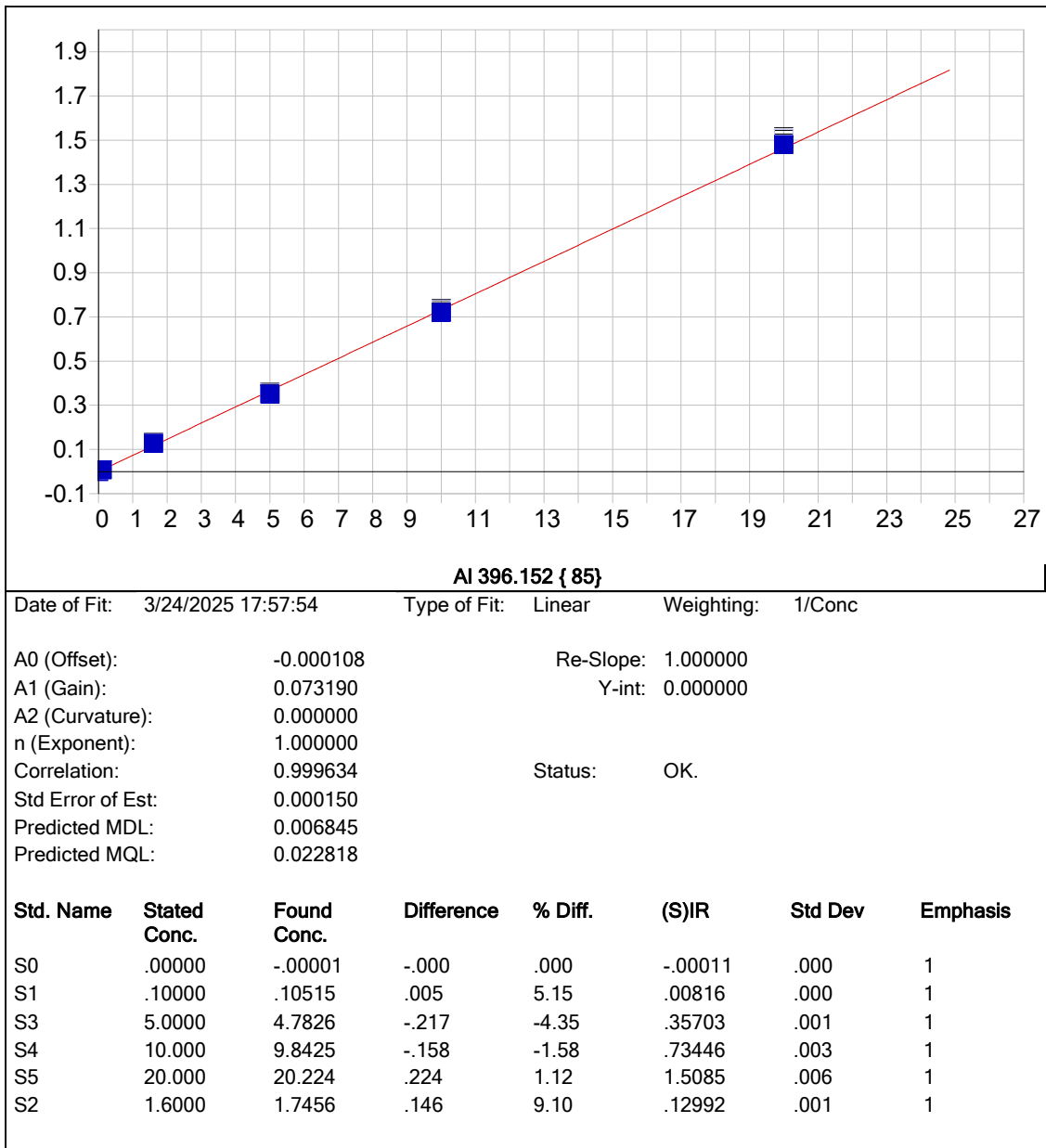


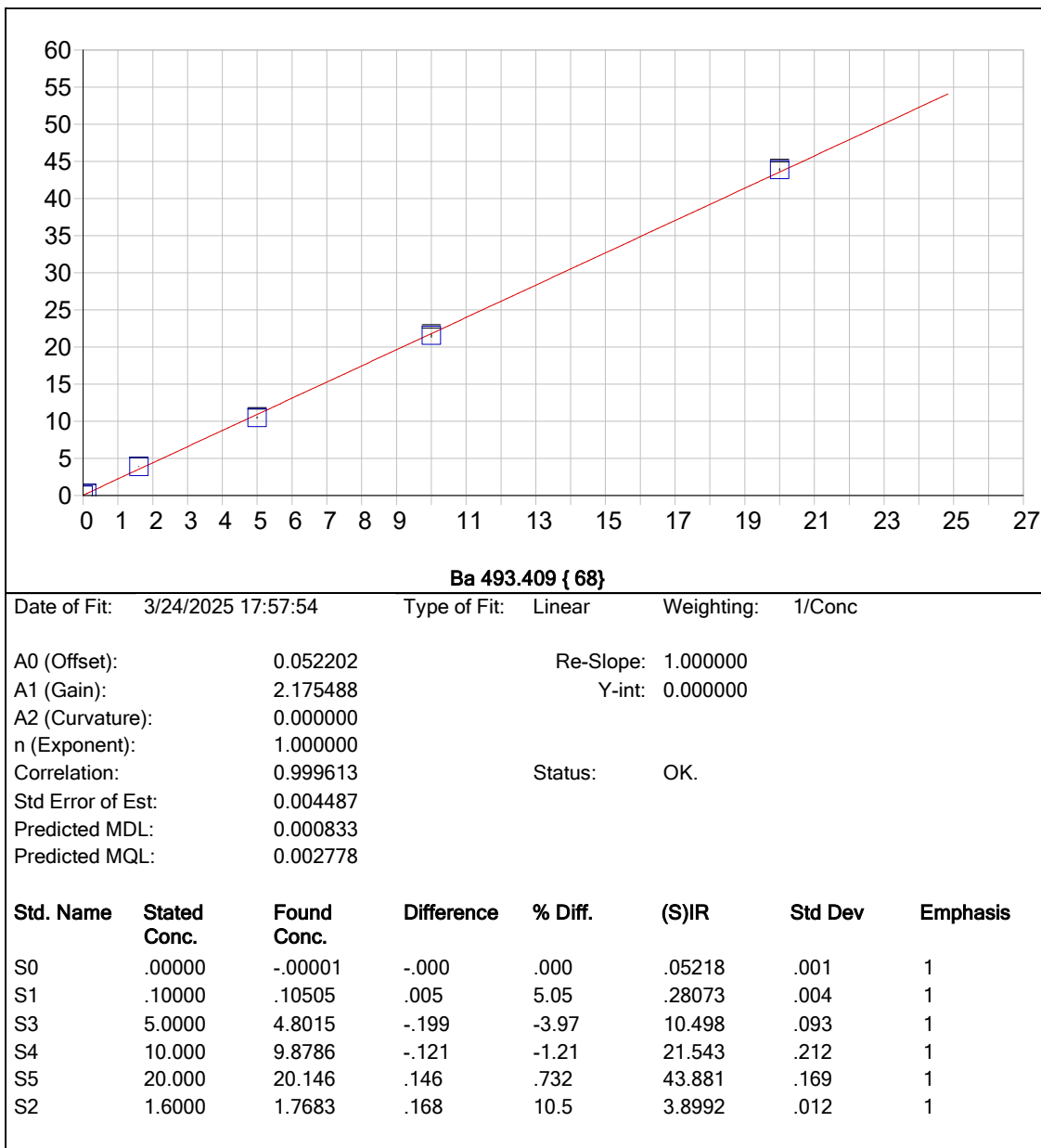


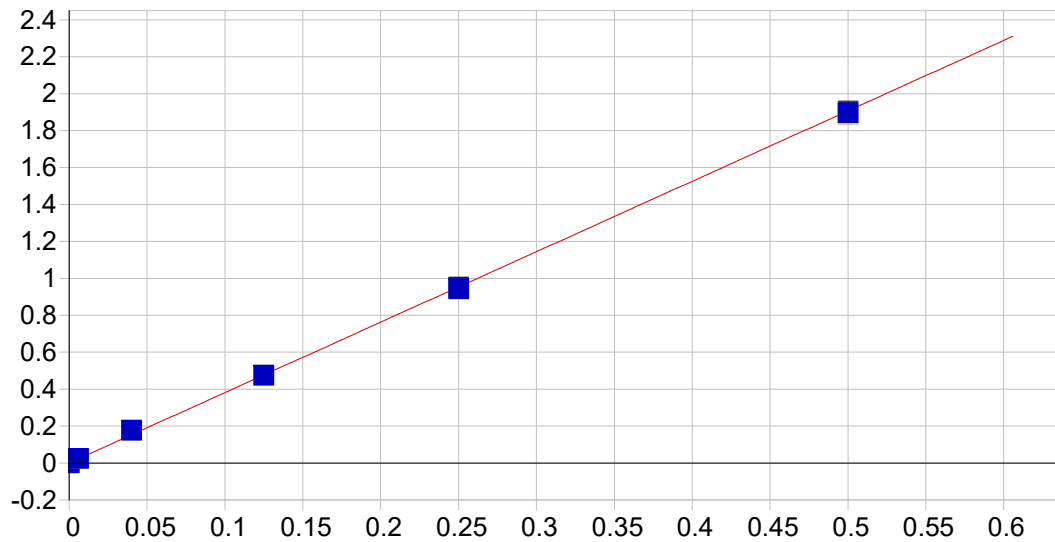


Date of Fit: 3/24/2025 17:57:54 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.000624 Re-Slope: 1.000000
A1 (Gain): 0.119675 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999765 Status: OK.
Std Error of Est: 0.000096
Predicted MDL: 0.001921
Predicted MQL: 0.006404





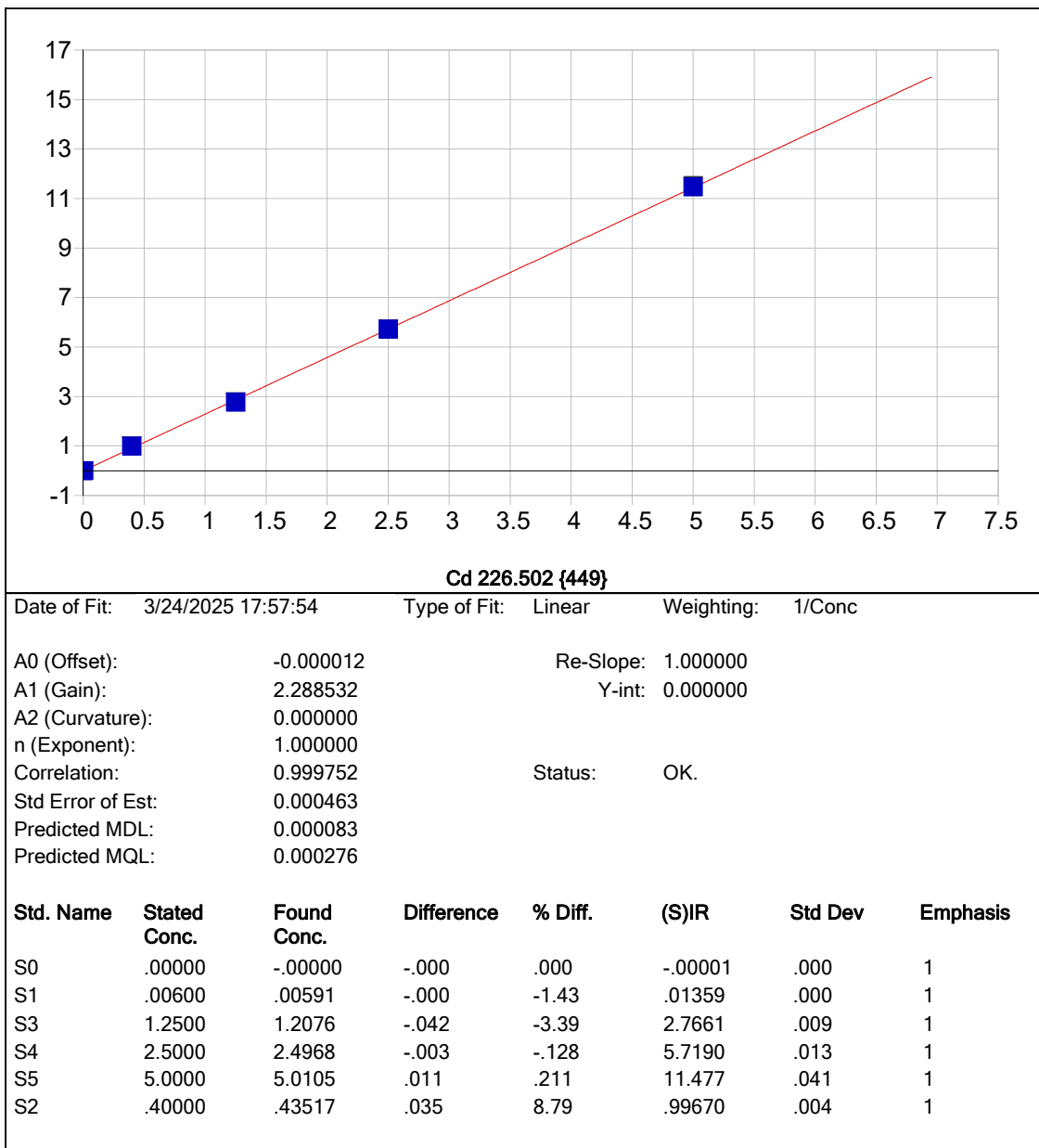


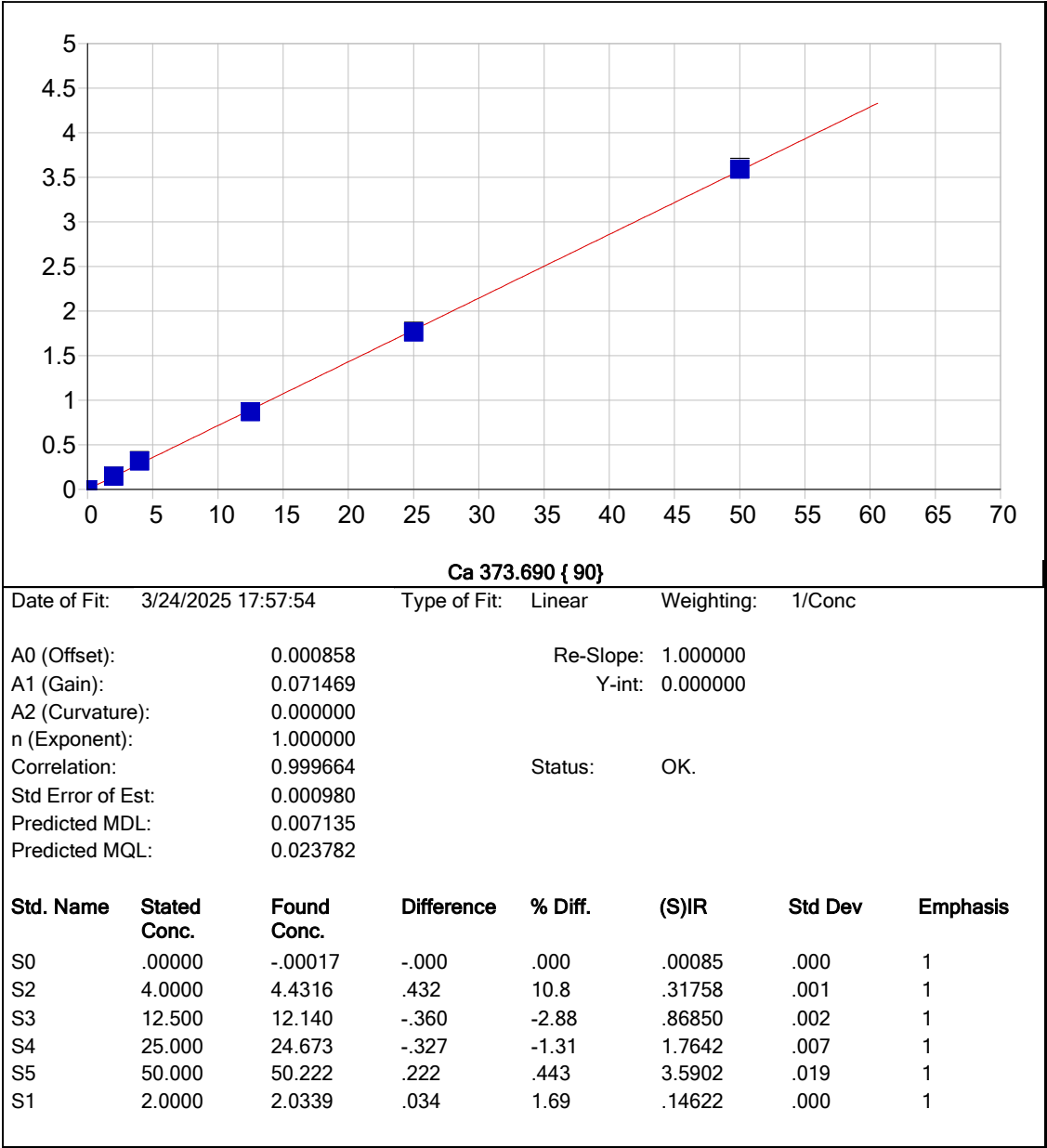
Be 234.861 {144}

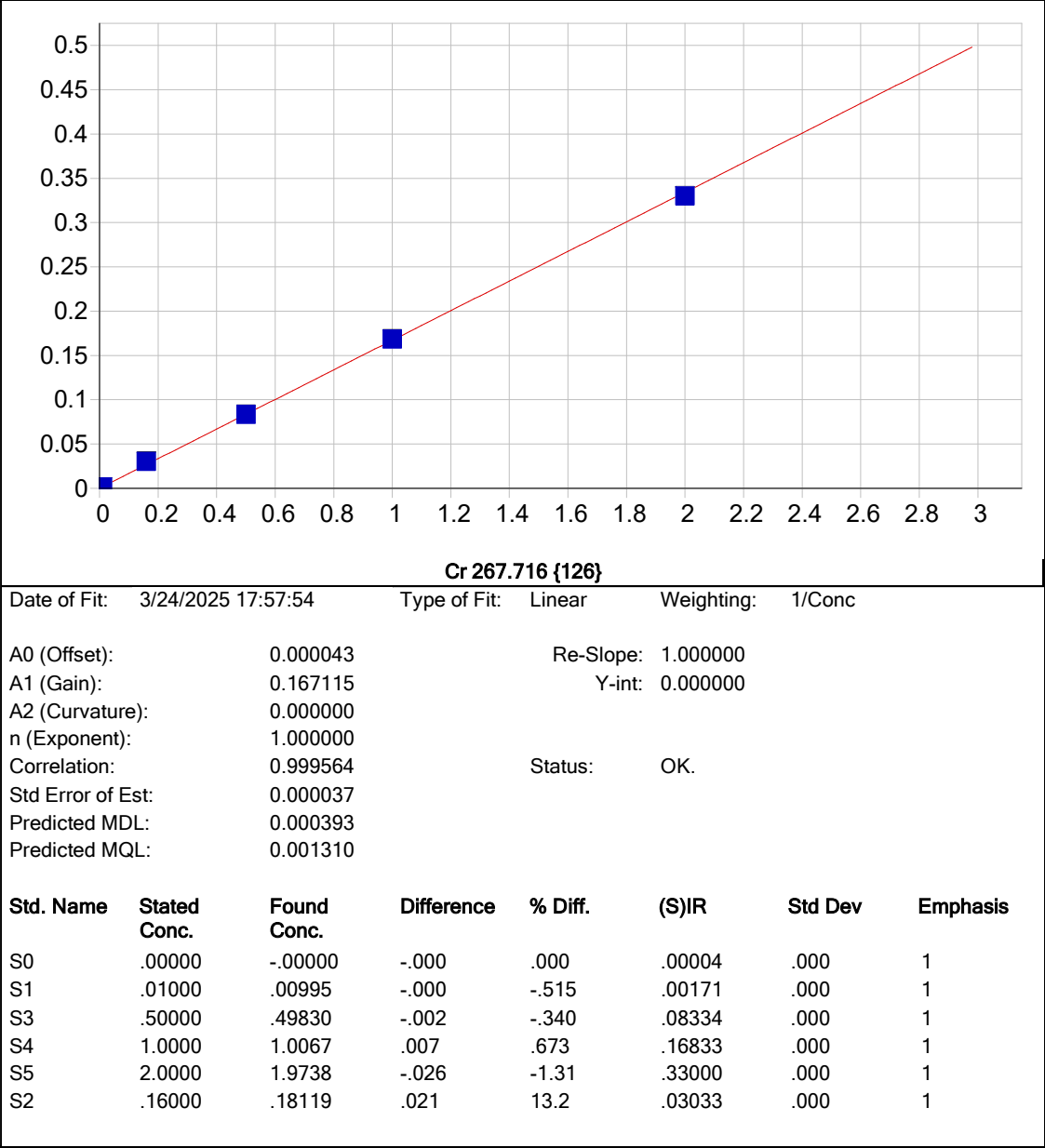
Date of Fit: 3/24/2025 17:57:54 Type of Fit: Linear Weighting: 1/Conc

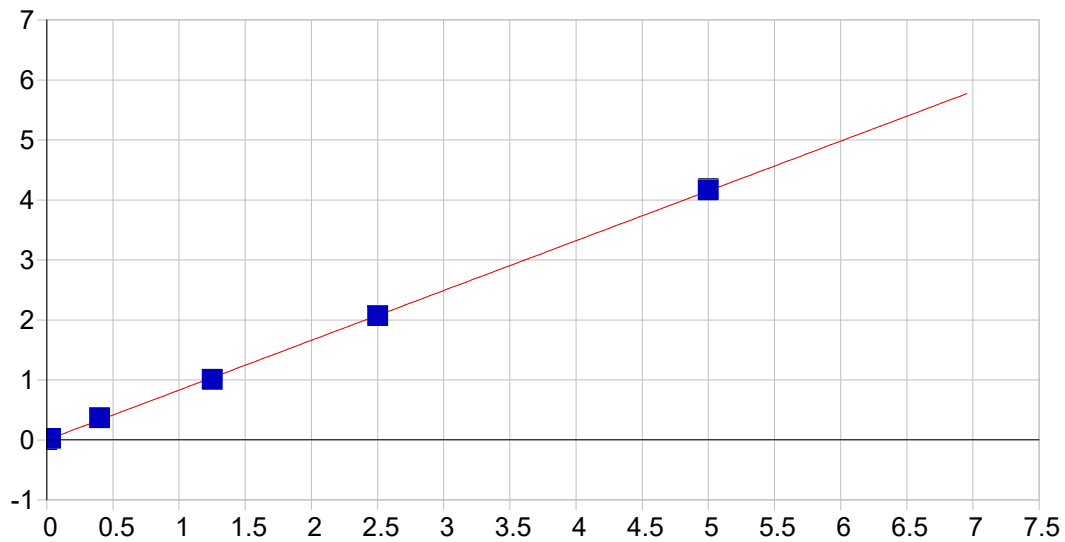
A0 (Offset): -0.000175 Re-Slope: 1.000000
A1 (Gain): 3.814518 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999424 Status: OK.
Std Error of Est: 0.000371
Predicted MDL: 0.000069
Predicted MQL: 0.000229

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00018	.000	1
S1	.00600	.00629	.000	4.87	.02366	.000	1
S3	.12500	.12441	-.001	-.469	.47227	.002	1
S4	.25000	.24728	-.003	-1.09	.93881	.009	1
S5	.50000	.49674	-.003	-.653	1.8861	.011	1
S2	.04000	.04628	.006	15.7	.17566	.001	1







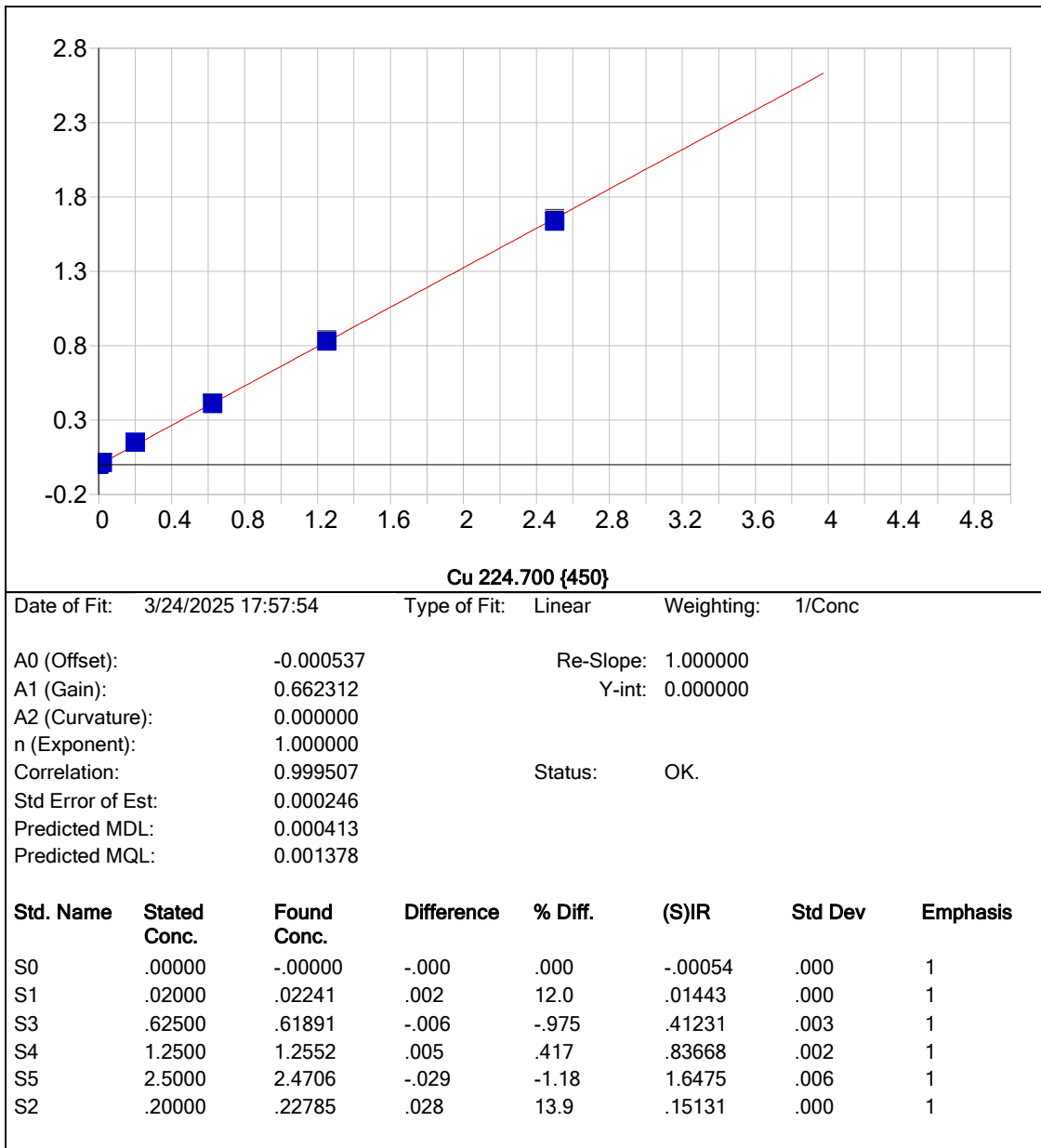


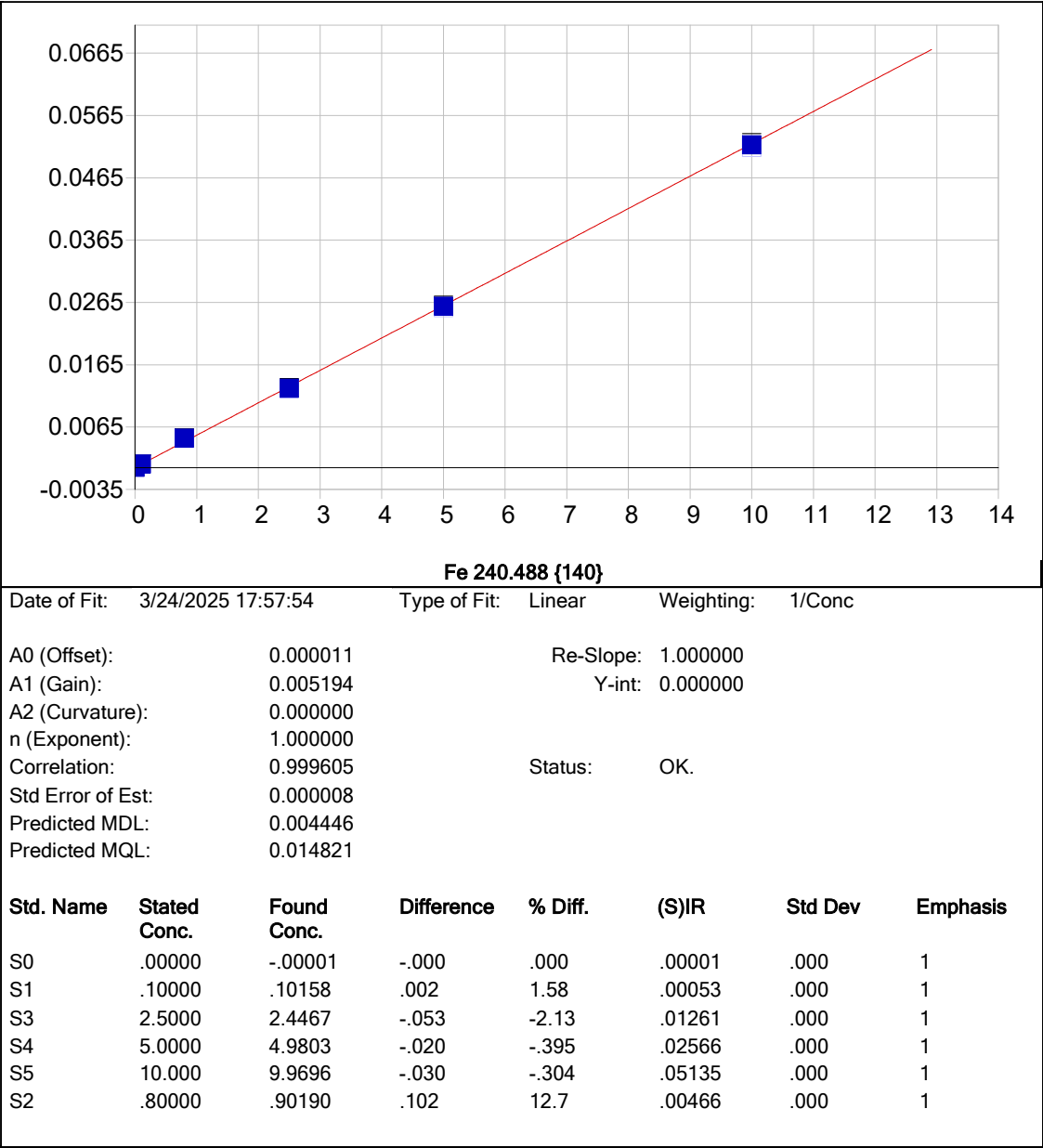
Co 228.616 {448}

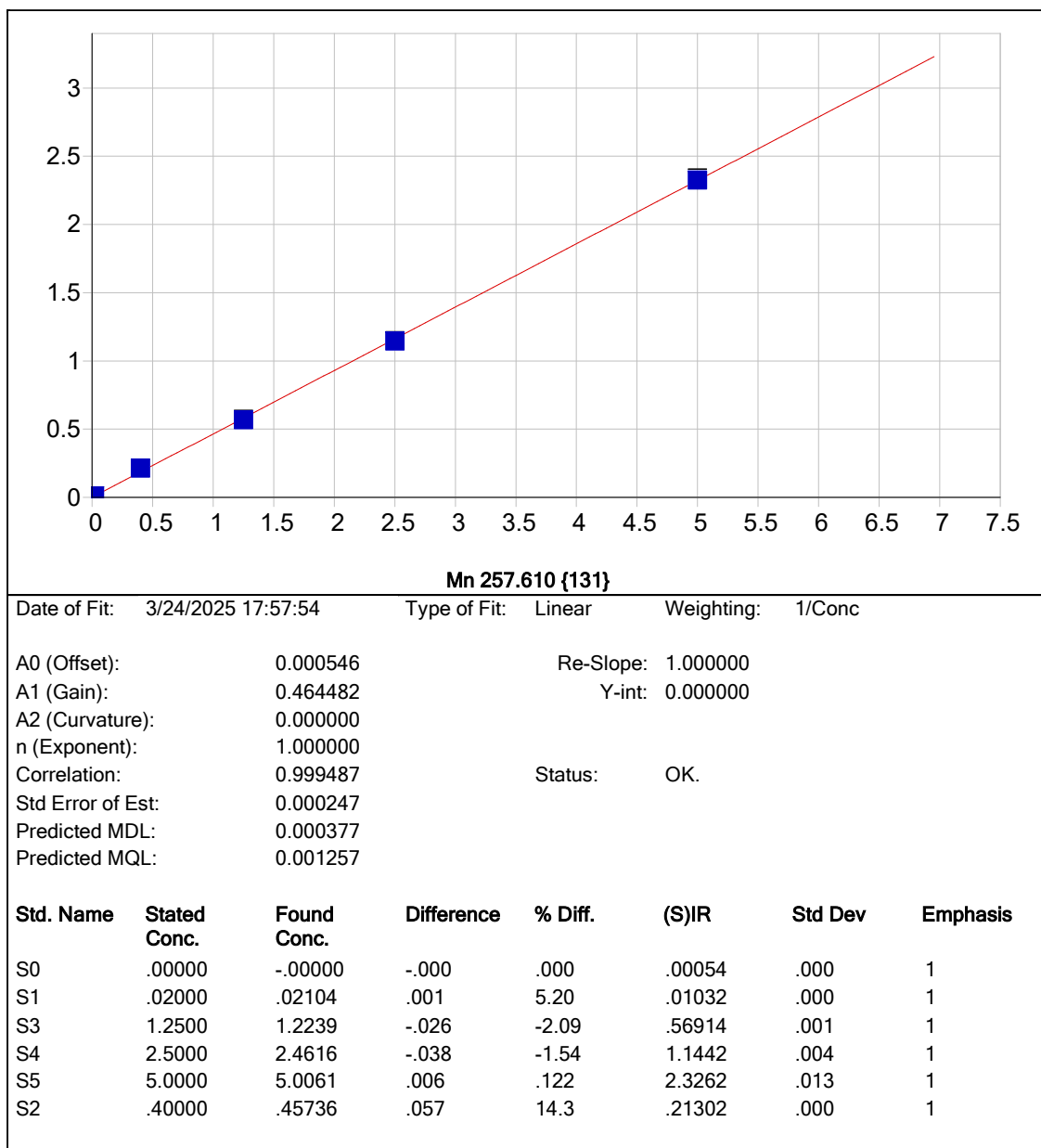
Date of Fit: 3/24/2025 17:57:54 Type of Fit: Linear Weighting: 1/Conc

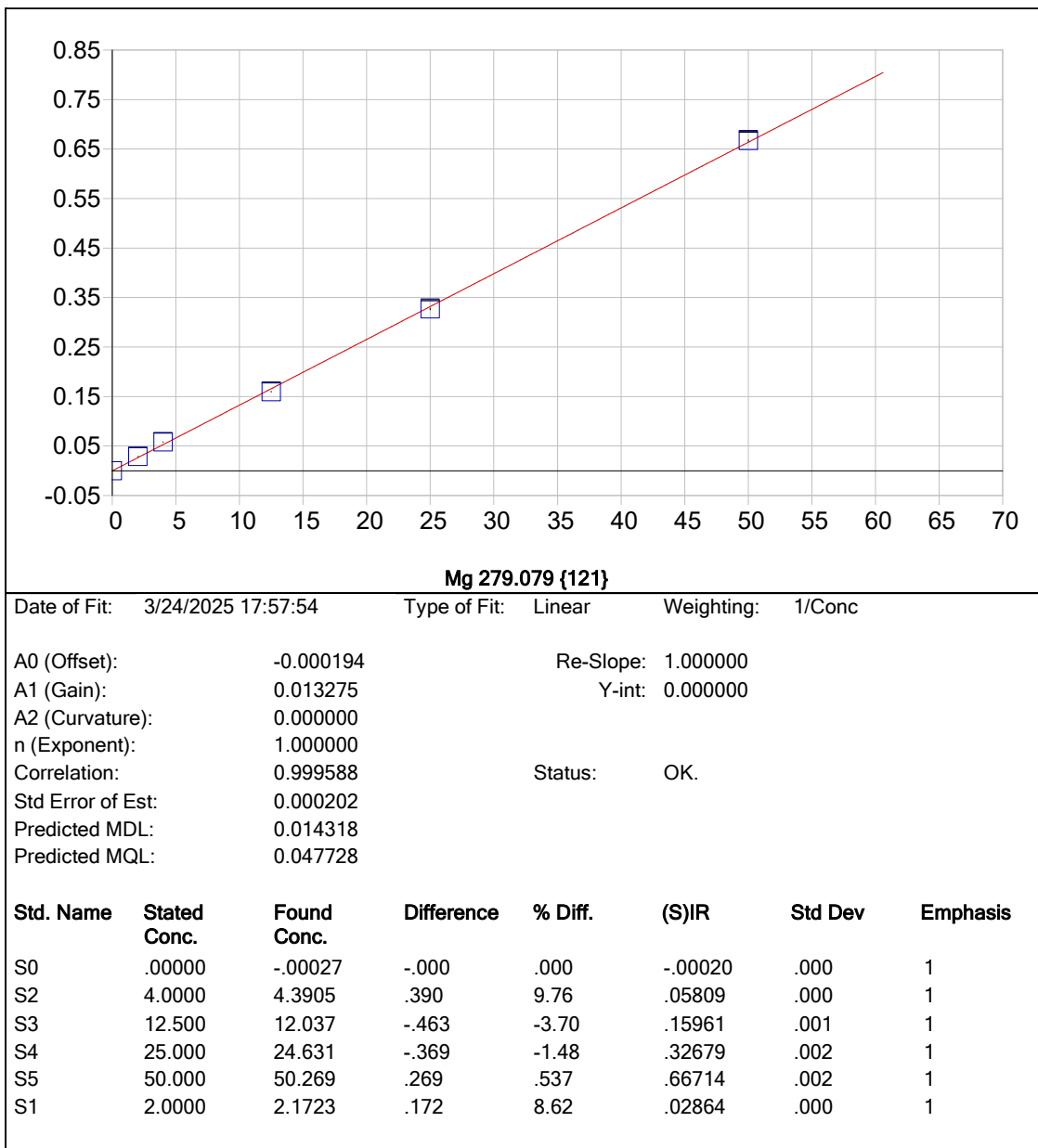
A0 (Offset): 0.000030 Re-Slope: 1.000000
A1 (Gain): 0.829951 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999729 Status: OK.
Std Error of Est: 0.000393
Predicted MDL: 0.000242
Predicted MQL: 0.000807

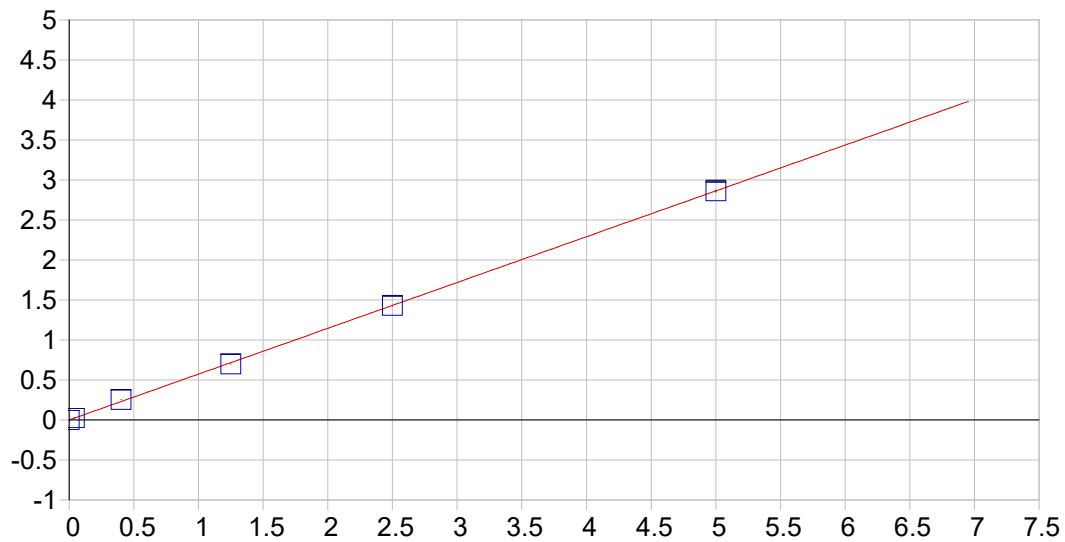
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	.00003	.000	1
S1	.03000	.02986	-.000	-.451	.02471	.000	1
S3	1.2500	1.2096	-.040	-3.23	1.0057	.002	1
S4	2.5000	2.4879	-.012	-.485	2.0684	.005	1
S5	5.0000	5.0148	.015	.296	4.1691	.015	1
S2	.40000	.43785	.038	9.46	.36398	.001	1









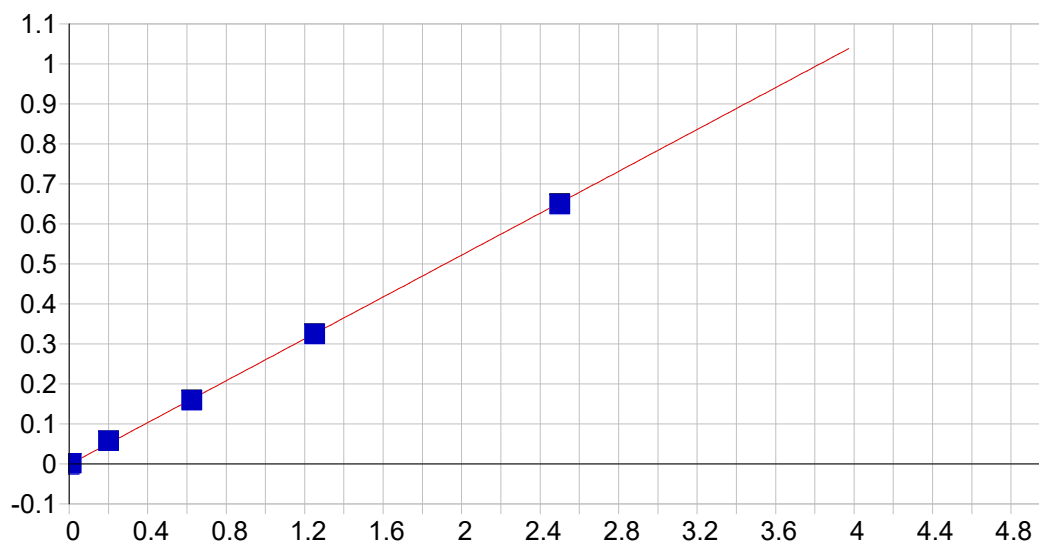


Ni 231.604 {446}

Date of Fit: 3/24/2025 17:57:54 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000219	Re-Slope:	1.000000
A1 (Gain):	0.572615	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999707	Status:	OK.
Std Error of Est:	0.000325		
Predicted MDL:	0.000329		
Predicted MQL:	0.001096		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00022	.000	1
S1	.04000	.04019	.000	.487	.02280	.000	1
S3	1.2500	1.2167	-.033	-2.67	.69647	.002	1
S4	2.5000	2.4967	-.003	-.131	1.4294	.004	1
S5	5.0000	4.9941	-.006	-.119	2.8595	.011	1
S2	.40000	.44235	.042	10.6	.25308	.001	1

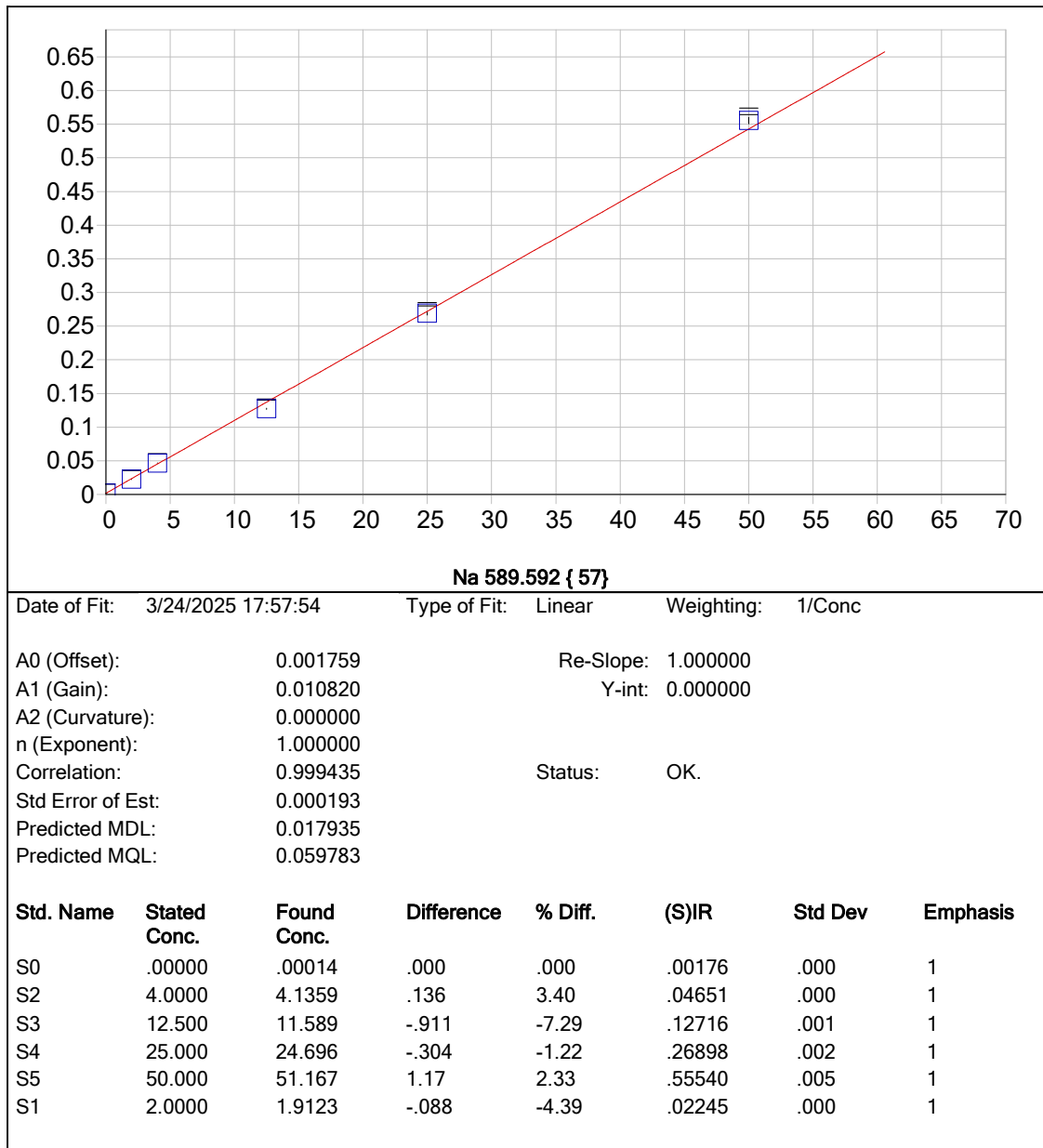


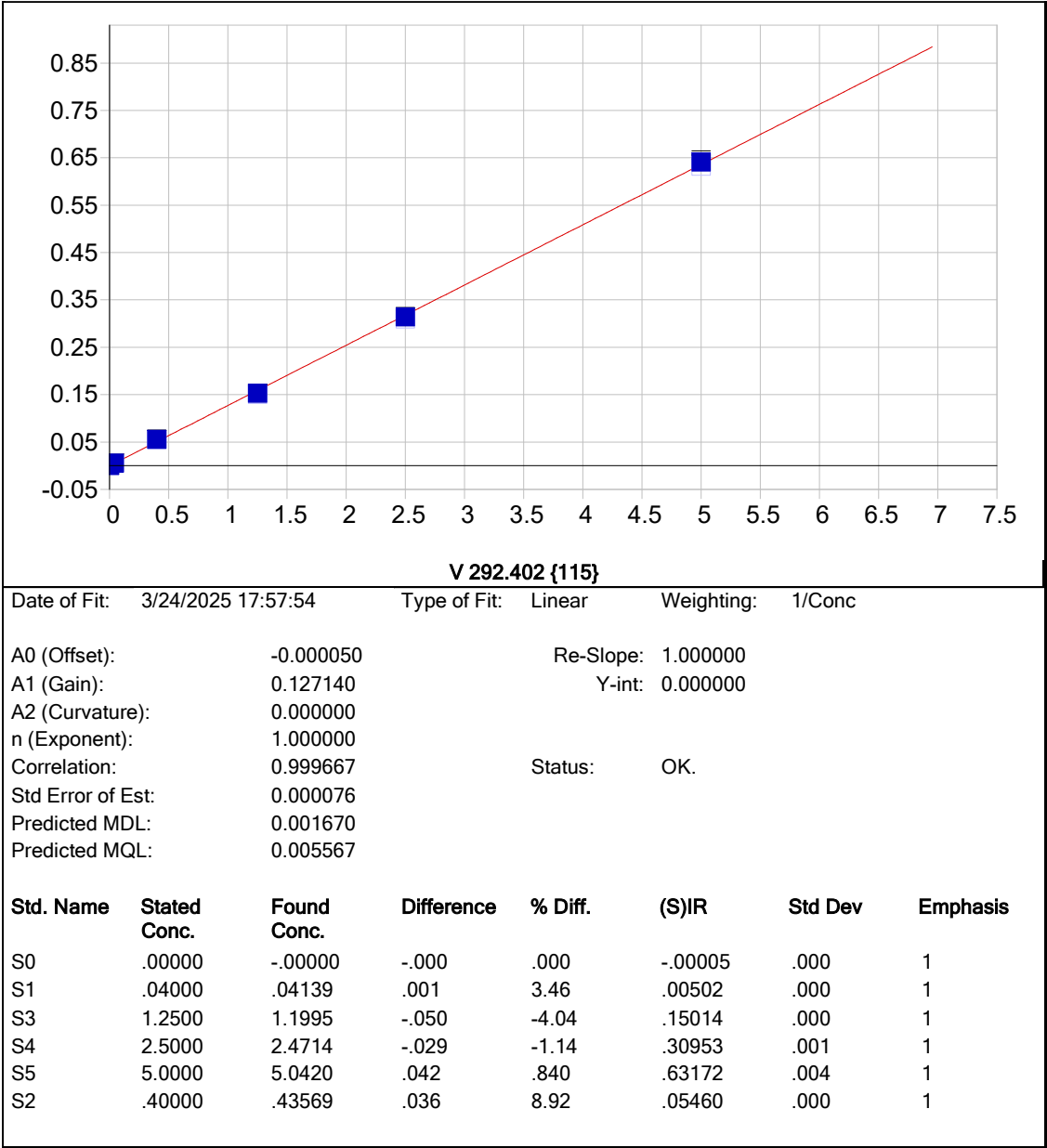
Ag 328.068 {103}

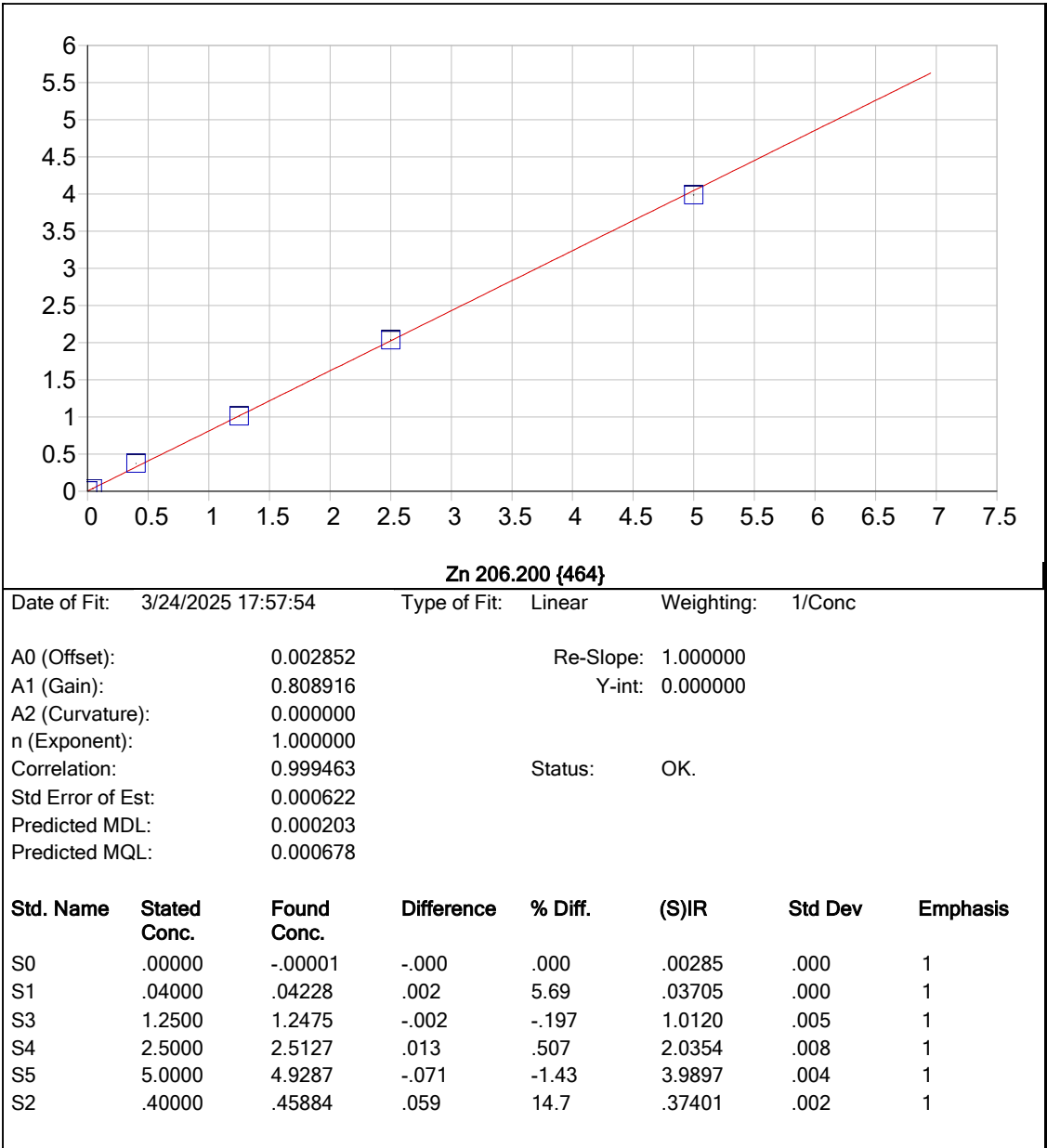
Date of Fit: 3/24/2025 17:57:54 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): -0.001497 Re-Slope: 1.000000
A1 (Gain): 0.261729 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999583 Status: OK.
Std Error of Est: 0.000062
Predicted MDL: 0.000365
Predicted MQL: 0.001215

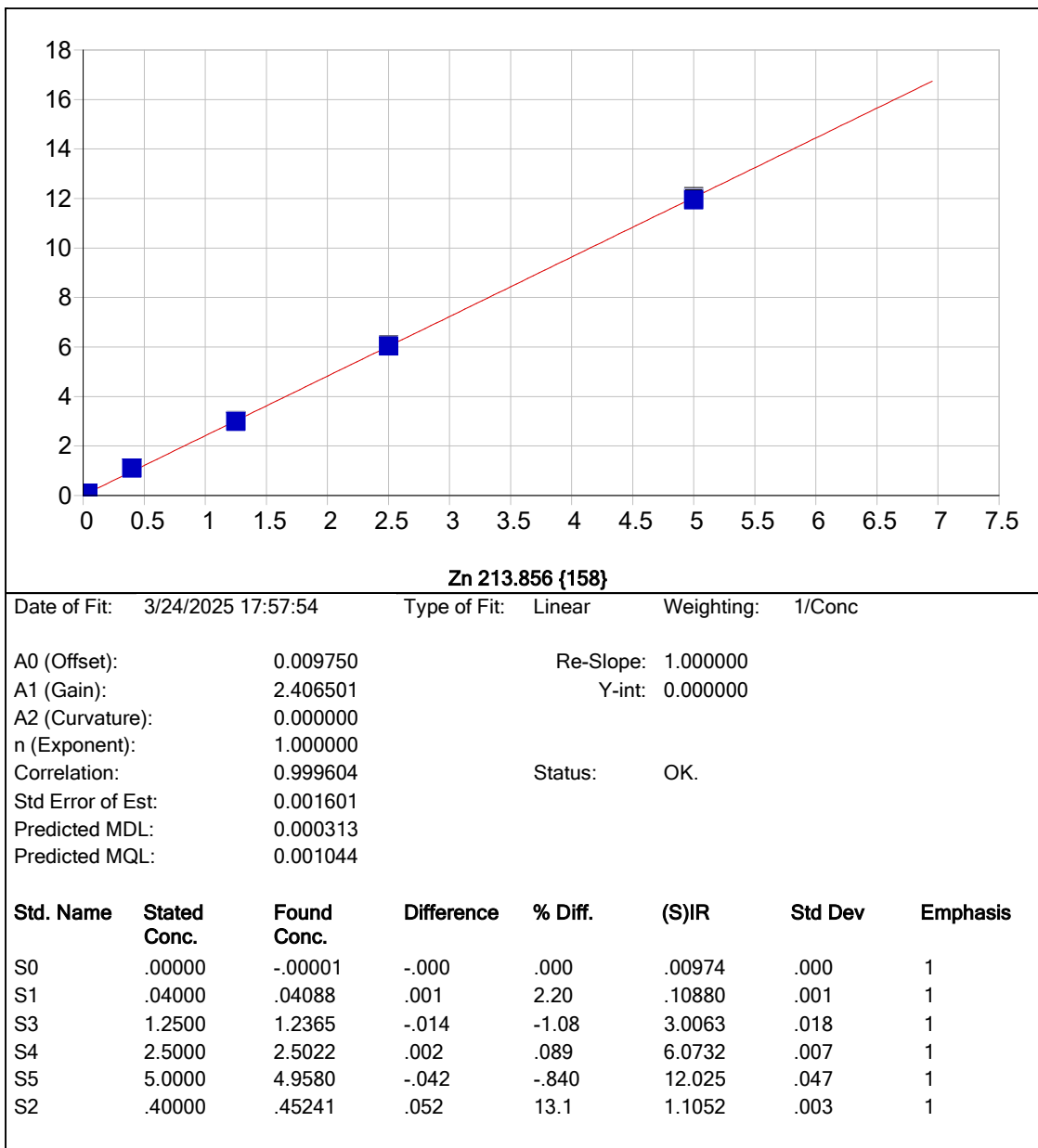
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00000	-.000	.000	-.00150	.000	1
S1	.01000	.01046	.000	4.58	.00122	.000	1
S3	.62500	.61388	-.011	-1.78	.15852	.000	1
S4	1.2500	1.2458	-.004	-.333	.32327	.000	1
S5	2.5000	2.4884	-.012	-.466	.64718	.000	1
S2	.20000	.22648	.026	13.2	.05757	.000	1

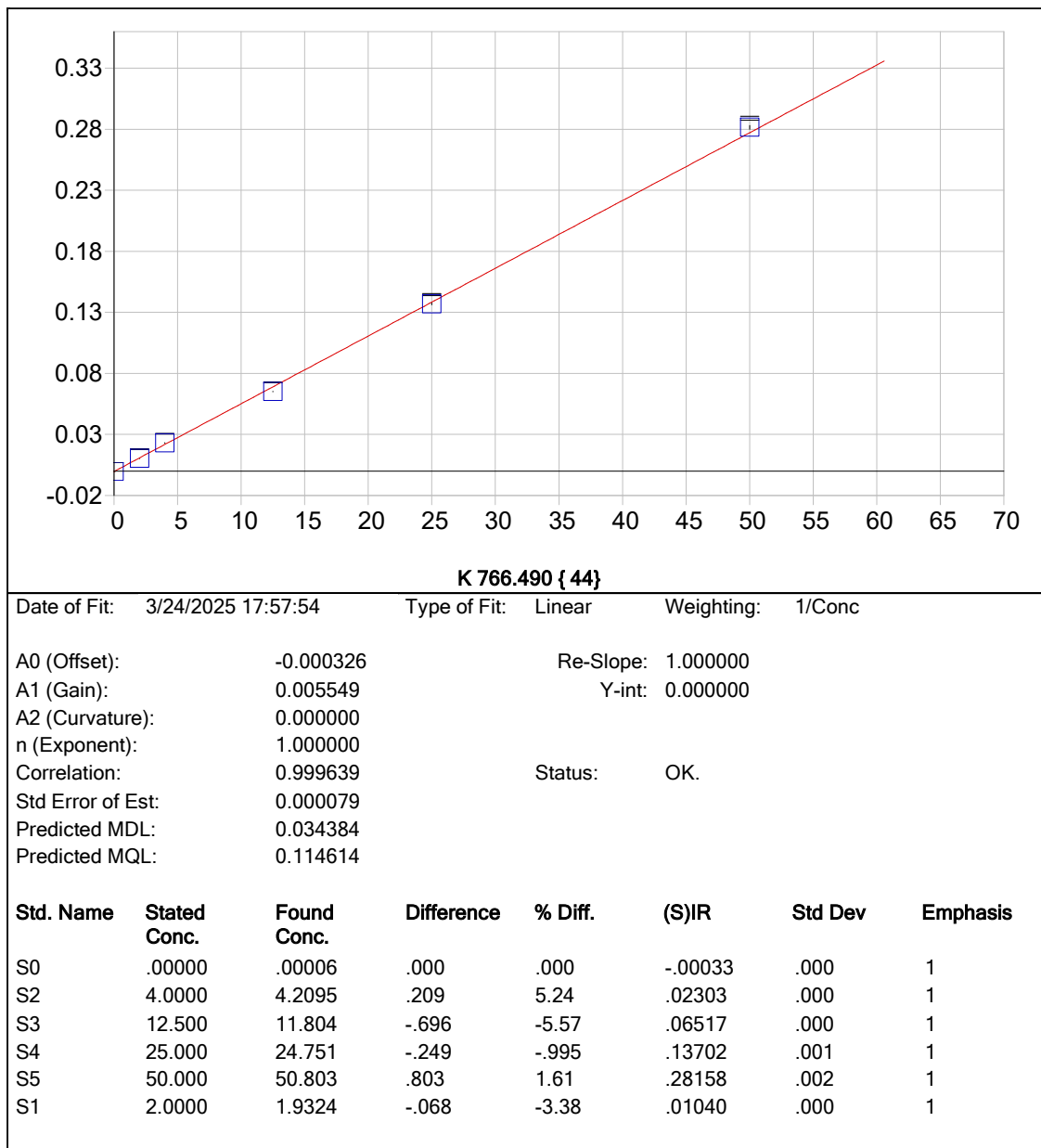


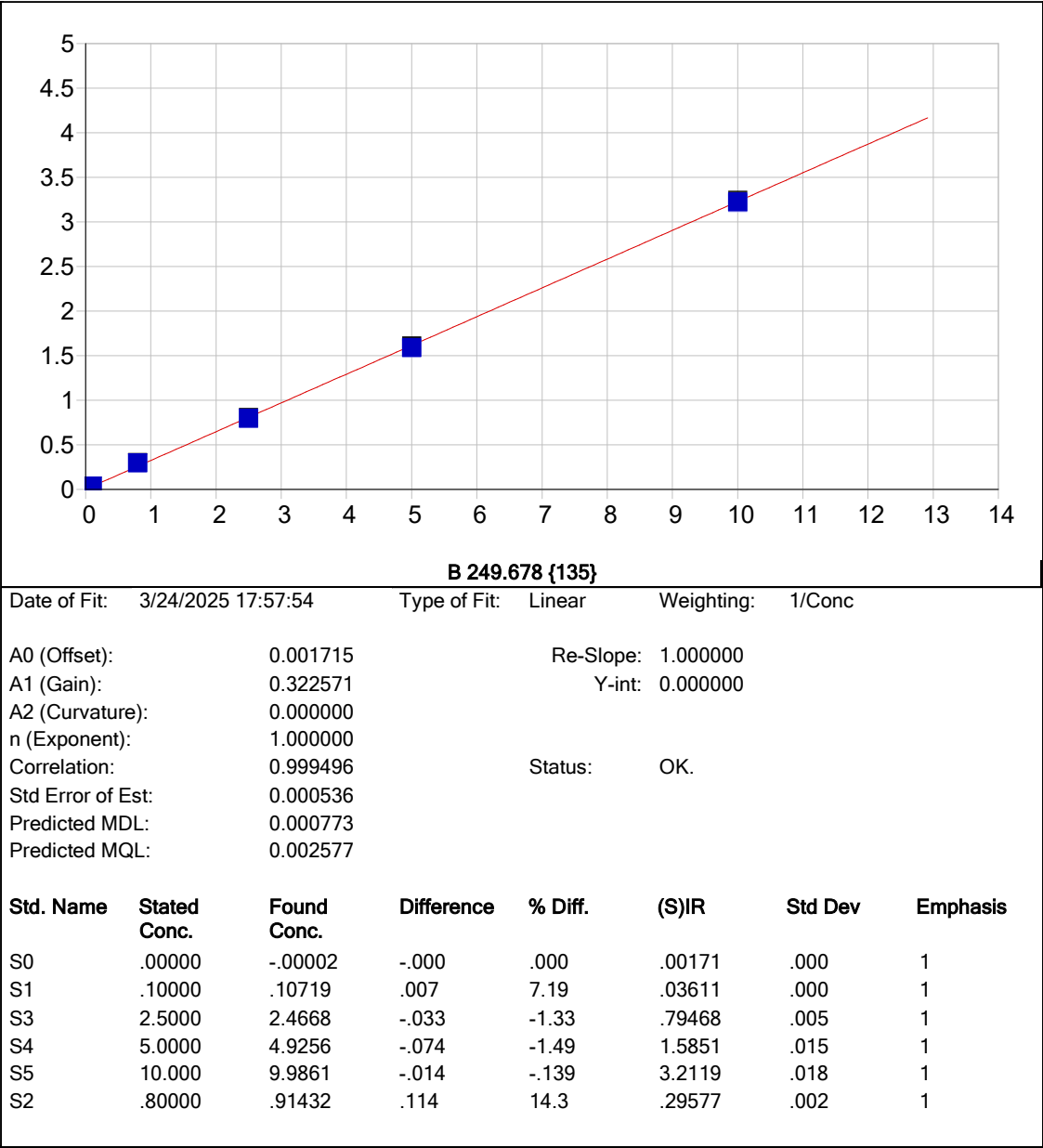


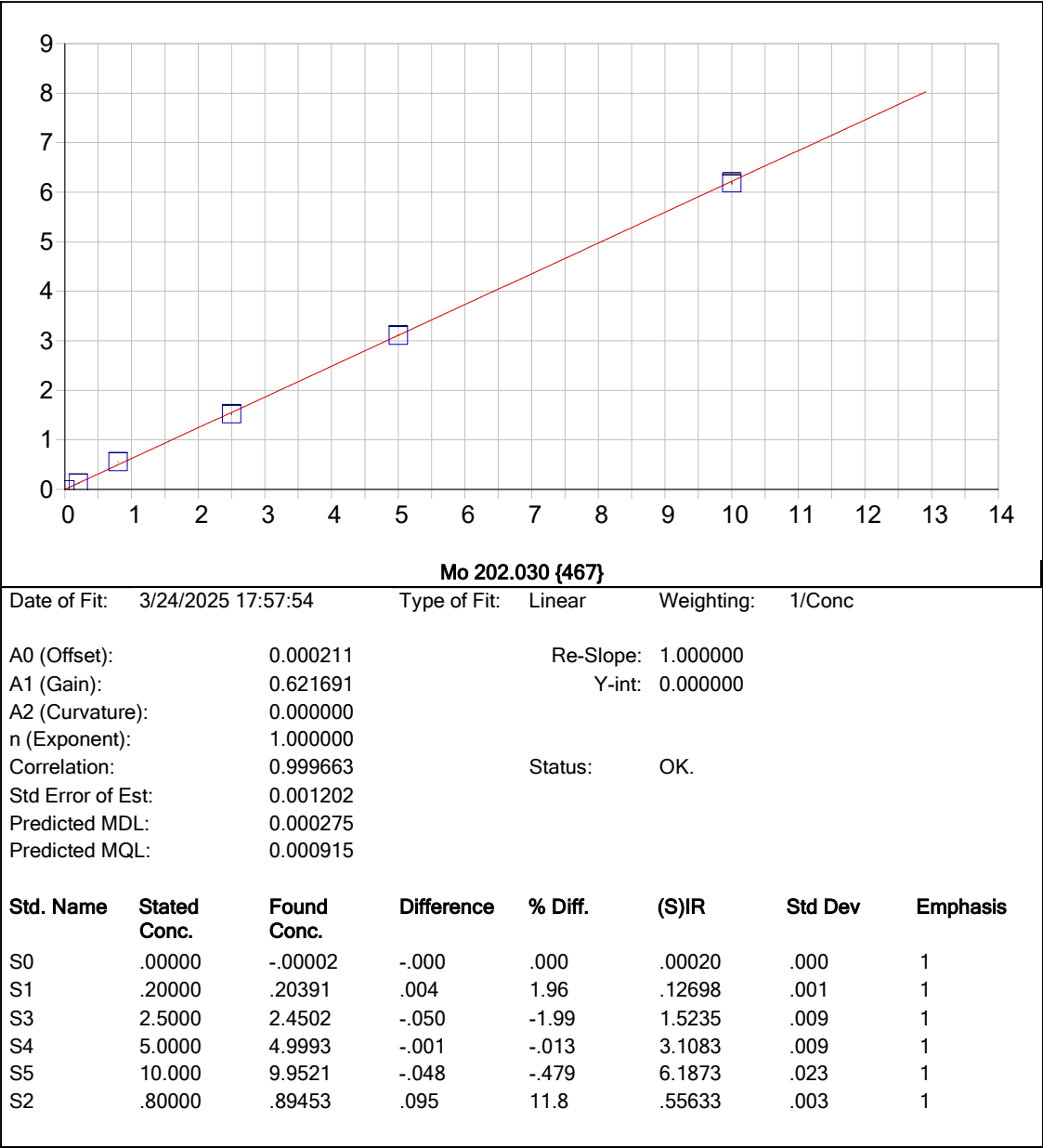


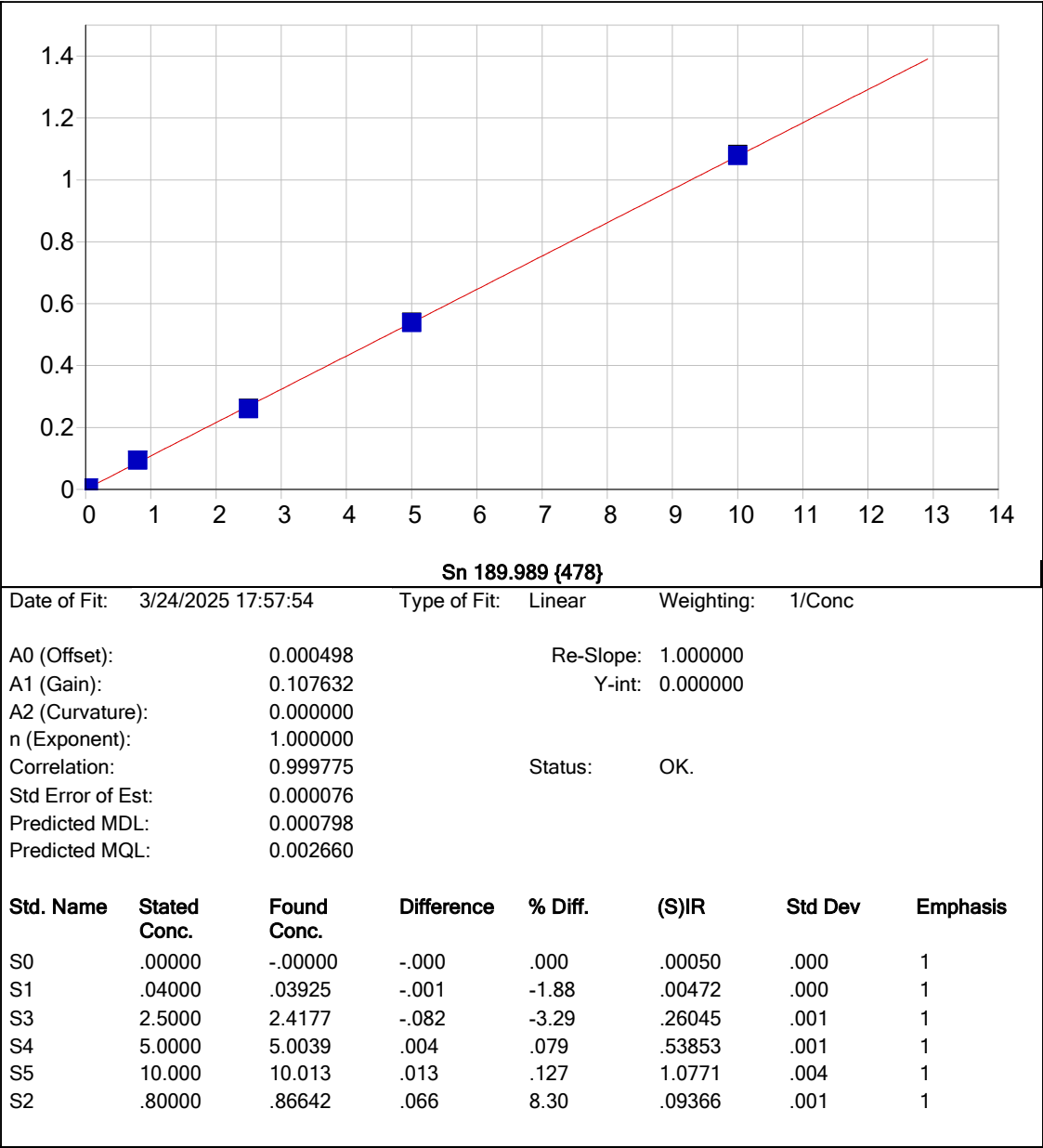
Date of Fit: 3/24/2025 17:57:54		Type of Fit: Linear		Weighting: 1/Conc			
A0 (Offset): 0.002852		Re-Slope: 1.000000					
A1 (Gain): 0.808916		Y-int: 0.000000					
A2 (Curvature): 0.000000							
n (Exponent): 1.000000							
Correlation: 0.999463		Status: OK.					
Std Error of Est: 0.000622							
Predicted MDL: 0.000203							
Predicted MQL: 0.000678							
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	-.00001	-.000	.000	.00285	.000	1
S1	.04000	.04228	.002	5.69	.03705	.000	1
S3	1.2500	1.2475	-.002	-.197	1.0120	.005	1
S4	2.5000	2.5127	.013	.507	2.0354	.008	1
S5	5.0000	4.9287	-.071	-1.43	3.9897	.004	1
S2	.40000	.45884	.059	14.7	.37401	.002	1

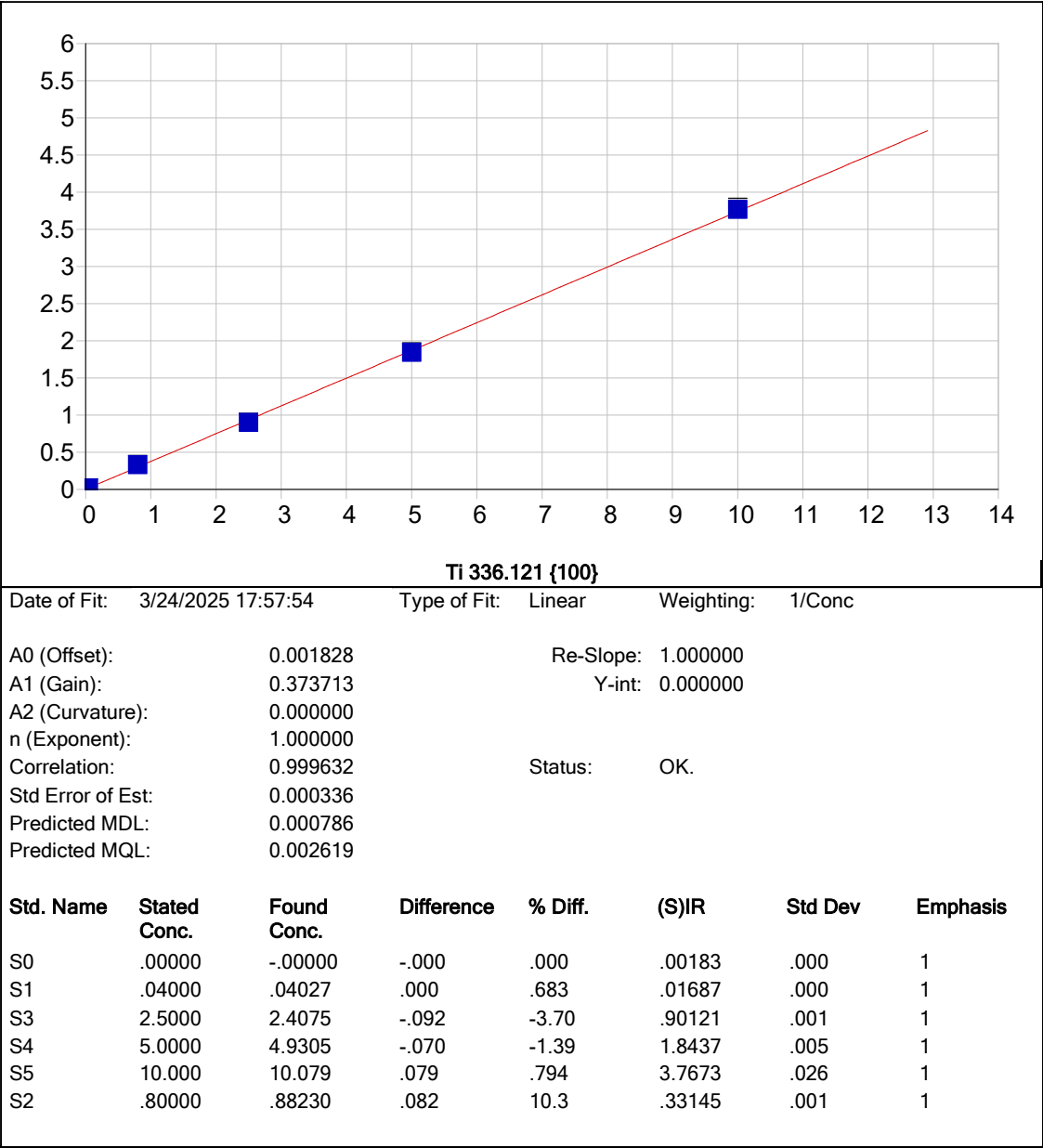


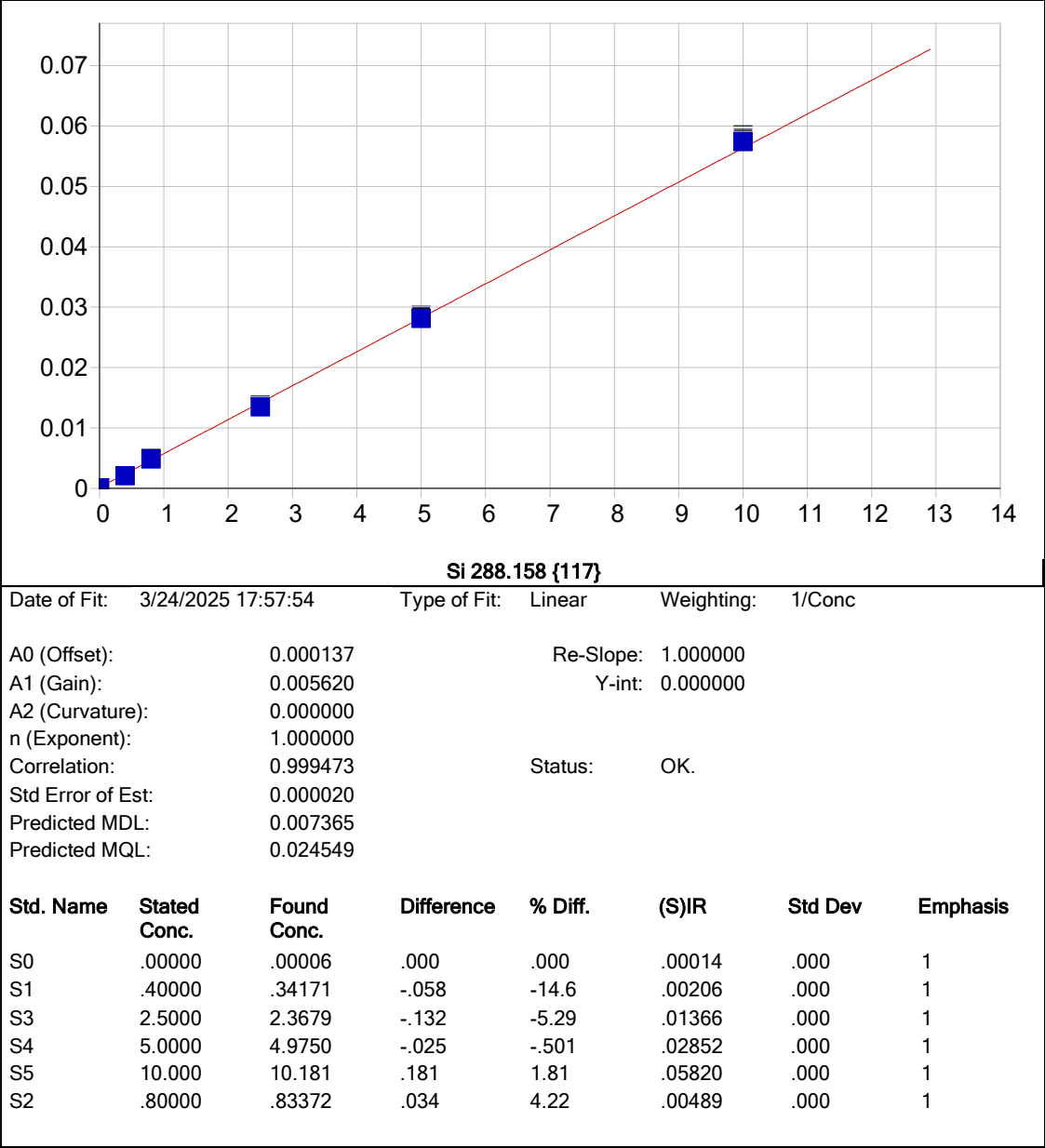


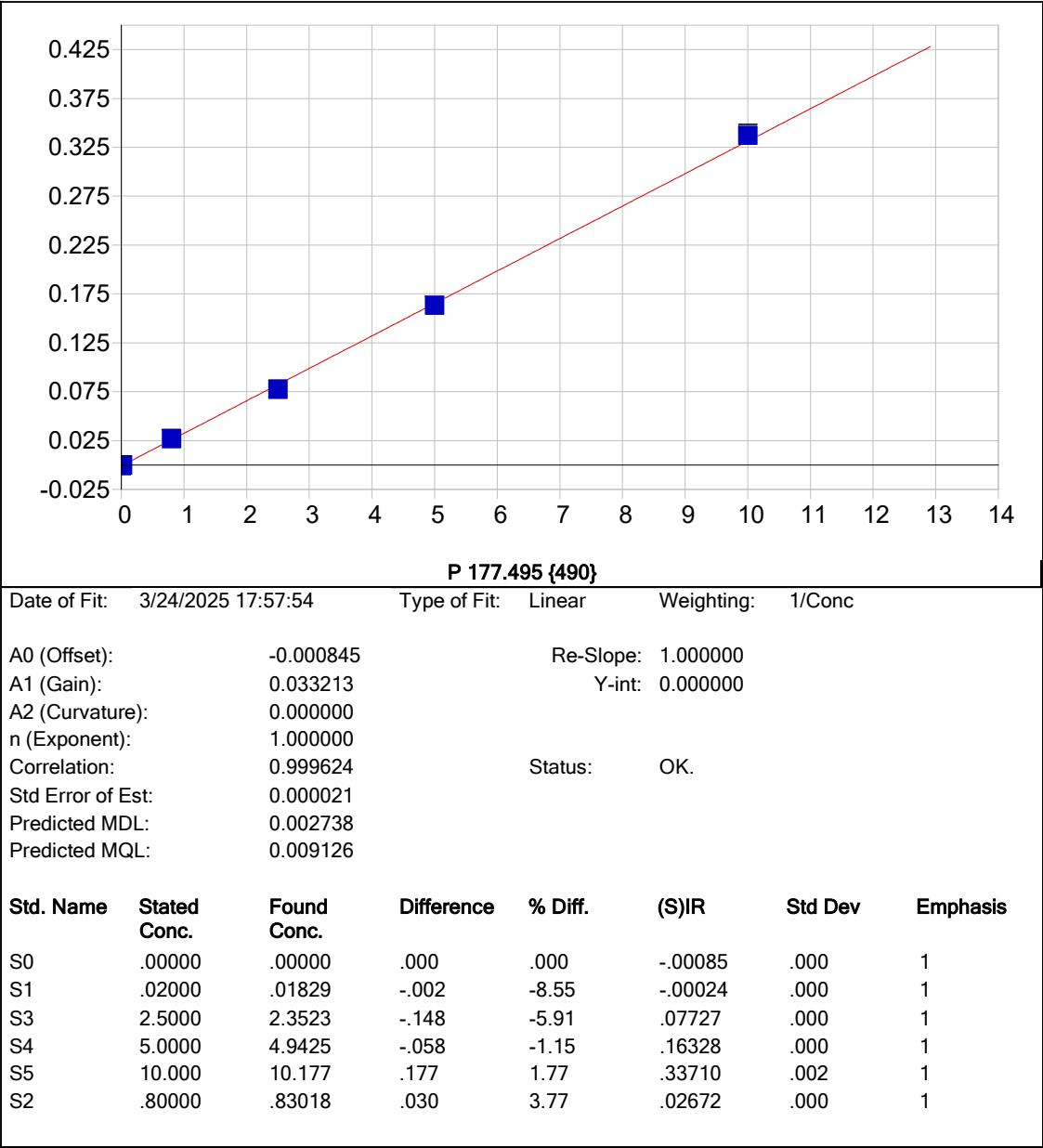


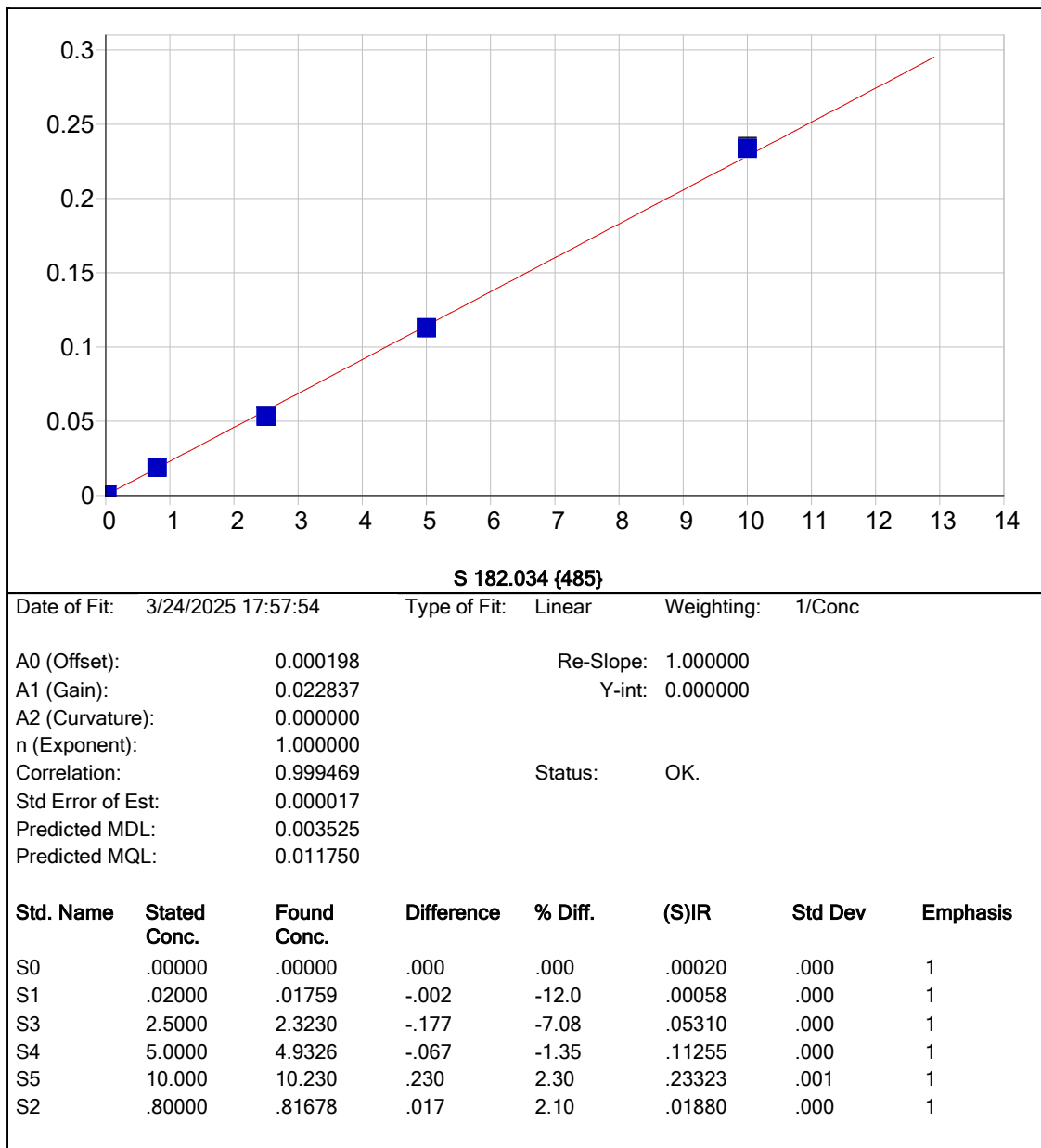


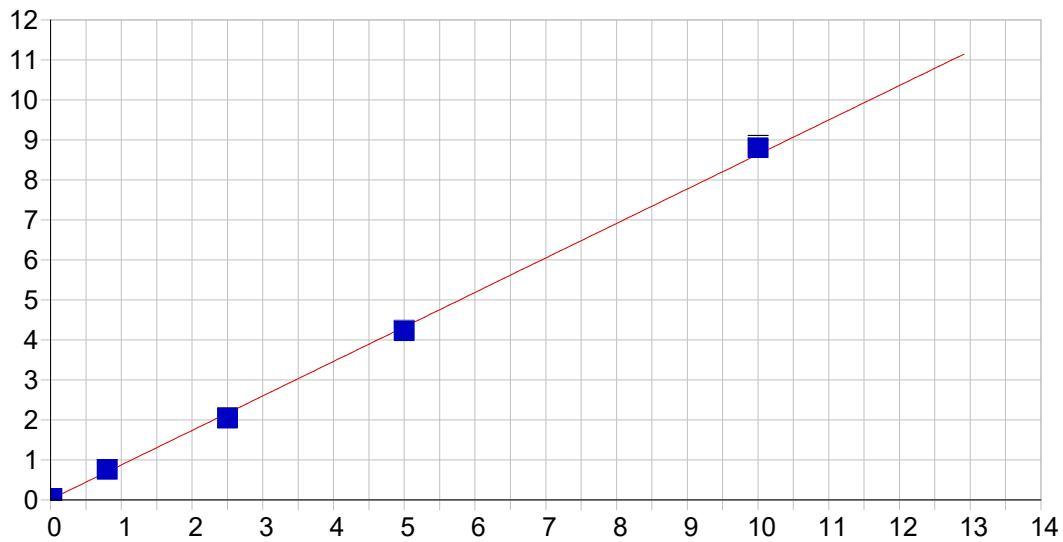










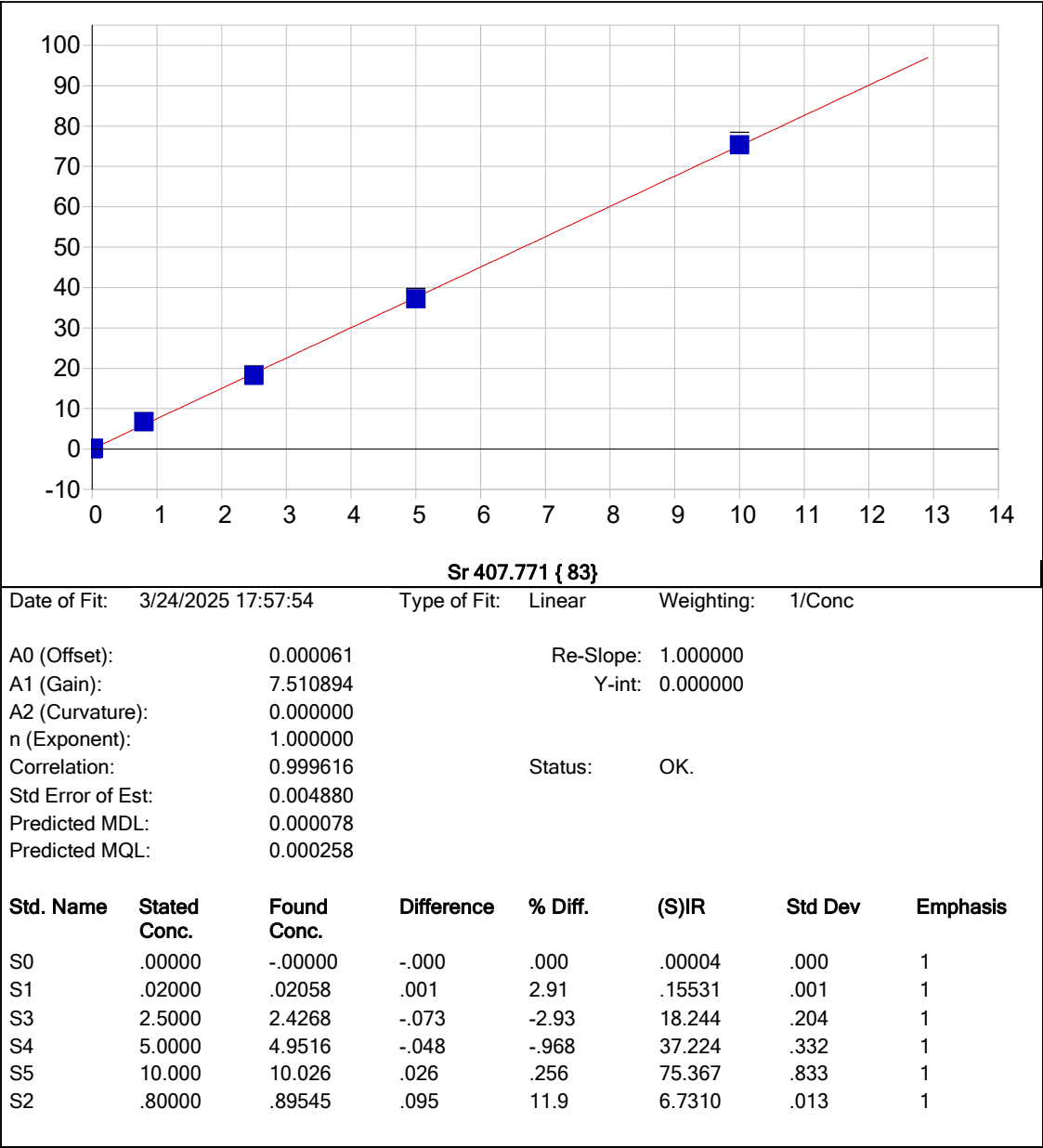


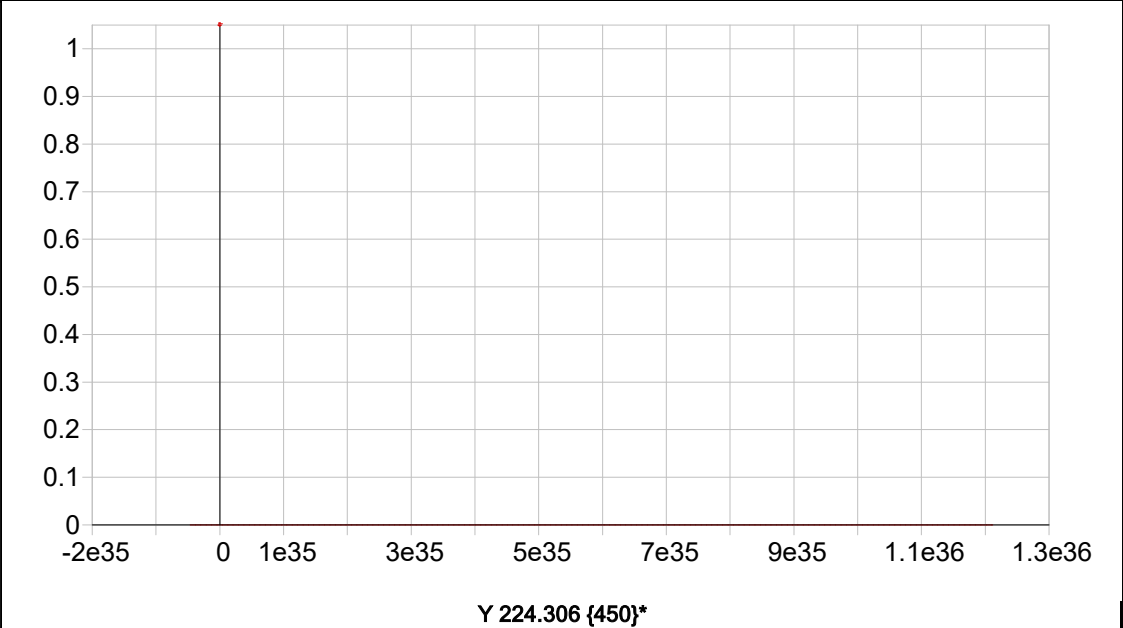
Li 670.784 { 50}

Date of Fit: 3/24/2025 17:57:54 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset): 0.012460 Re-Slope: 1.000000
A1 (Gain): 0.862316 Y-int: 0.000000
A2 (Curvature): 0.000000
n (Exponent): 1.000000
Correlation: 0.999441 Status: OK.
Std Error of Est: 0.000676
Predicted MDL: 0.001673
Predicted MQL: 0.005577

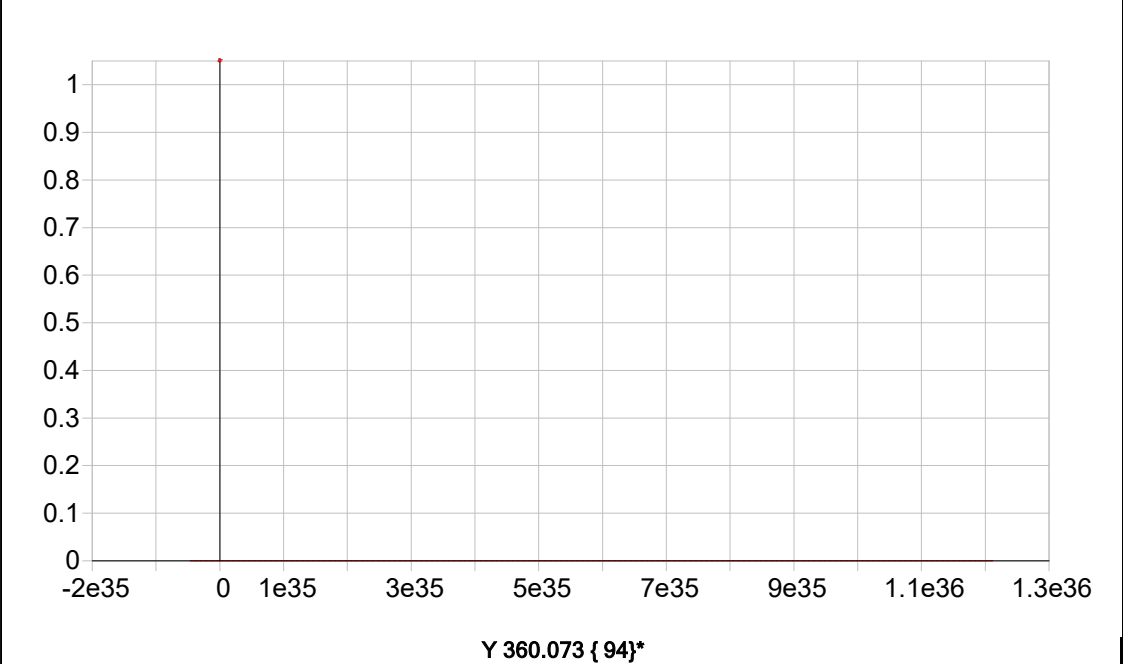
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
S0	.00000	.00000	.000	.000	.01246	.000	1
S5	10.000	10.194	.194	1.94	8.8070	.061	1
S4	5.0000	4.8876	-.112	-2.25	4.2293	.015	1
S3	2.5000	2.3531	-.147	-5.88	2.0426	.004	1
S1	.02000	.01894	-.001	-5.30	.02907	.001	1
S2	.80000	.86668	.067	8.34	.76016	.001	1



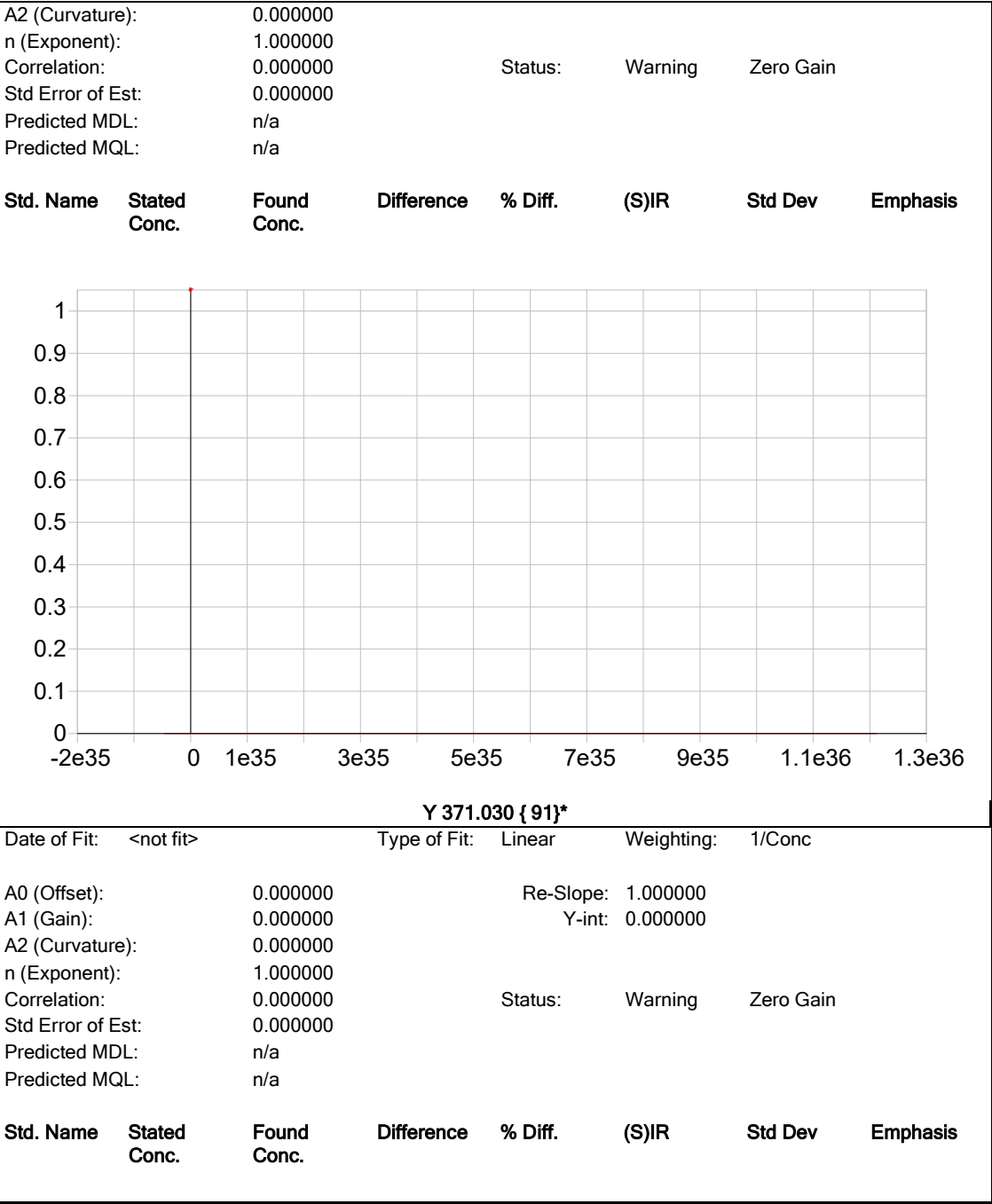


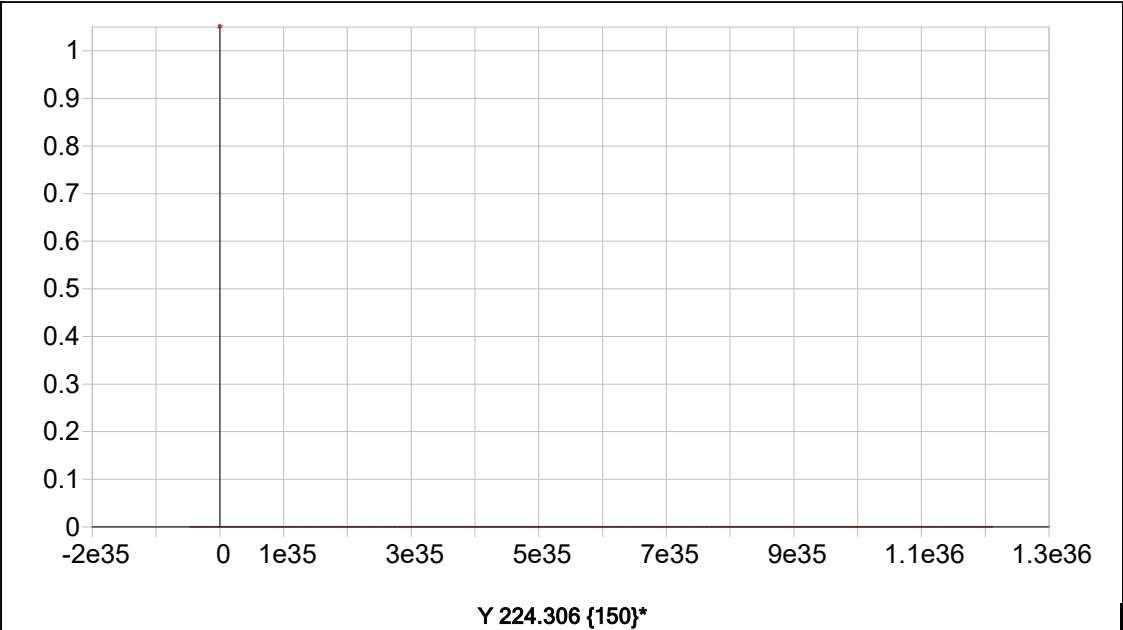
Date of Fit:	3/24/2025 17:57:54	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000	Status:	Warning	Zero Gain	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

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

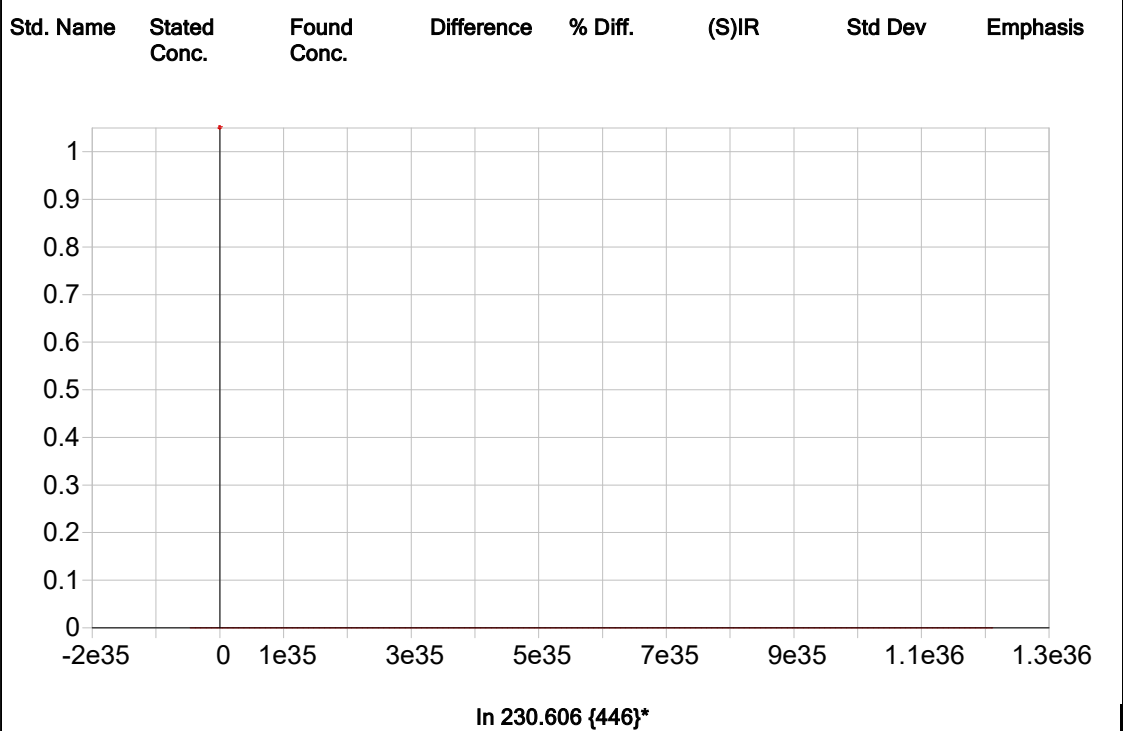


Date of Fit:	<not fit>	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000	Re-Slope:	1.000000		
A1 (Gain):	0.000000	Y-int:	0.000000		





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: 3/24/2025 10:01:24 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	-.00001	-.00003	-.00035	.00025	.00062	-.00011	.05218	-.00018
Stddev	.00003	.00004	.00001	.00008	.00014	.00019	.00086	.00023
%RSD	216.19	152.72	1.5350	31.136	22.862	172.82	1.6491	130.32
#1	-.00002	-.00003	-.00034	.00025	.00048	-.00011	.05290	.00008
#2	-.00004	-.00006	-.00035	.00033	.00062	-.00030	.05123	-.00025
#3	.00002	.00002	-.00035	.00017	.00077	.00008	.05240	-.00037
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	-.00001	.00085	.00004	.00003	-.00054	.00001	.00054	-.00020
Stddev	.00013	.00012	.00004	.00006	.00032	.00001	.00011	.00015
%RSD	1035.1	13.681	91.859	194.72	59.610	127.24	19.611	75.582
#1	.00012	.00091	.00002	.00009	-.00072	.00003	.00065	-.00005
#2	-.00002	.00092	.00009	-.00002	-.00074	.00000	.00055	-.00020
#3	-.00013	.00071	.00002	.00002	-.00017	.00001	.00044	-.00035
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	-.00022	-.00150	.00176	-.00005	.00974	-.00033	.00171	.00020
Stddev	.00008	.00006	.00001	.00008	.00033	.00001	.00011	.00011
%RSD	35.121	3.9003	.64687	153.20	3.4318	3.4104	6.6325	57.172
#1	-.00031	-.00143	.00176	-.00010	.00952	-.00033	.00167	.00013
#2	-.00020	-.00155	.00175	.00004	.01012	-.00033	.00184	.00033
#3	-.00016	-.00151	.00177	-.00009	.00957	-.00031	.00162	.00013
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	.00050	.00183	.00014	-.00085	.00020	.01246	.00004	
Stddev	.00005	.00030	.00001	.00004	.00004	.00009	.00020	
%RSD	9.5246	16.632	9.6570	4.7445	21.782	.73257	462.39	
#1	.00053	.00211	.00015	-.00080	.00015	.01255	.00028	
#2	.00044	.00186	.00012	-.00088	.00022	.01237	-.00009	
#3	.00052	.00151	.00014	-.00085	.00023	.01246	-.00006	

Sample Name: S0 Acquired: 3/24/2025 10:01:24 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	3413.1	75611.	14011.	2475.8	5140.1
Stddev	8.8	329.	62.	12.5	10.7
%RSD	.25782	.43482	.44232	.50643	.20848
#1	3420.4	75277.	13950.	2463.6	5146.3
#2	3415.7	75934.	14074.	2488.7	5146.4
#3	3403.3	75622.	14010.	2475.2	5127.8

Sample Name: S1 Acquired: 3/24/2025 10:05:48 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	.00087	.00222	.00219	.00118	.00674	.00816	.28073	.02366
Stddev	.00007	.00006	.00021	.00010	.00003	.00045	.00371	.00011
%RSD	8.3812	2.8892	9.4946	8.6201	.51615	5.5446	1.3232	.45685
#1	.00080	.00216	.00221	.00106	.00676	.00765	.28501	.02356
#2	.00095	.00229	.00197	.00124	.00670	.00853	.27830	.02377
#3	.00086	.00222	.00238	.00124	.00675	.00828	.27889	.02364
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	.01359	.14622	.00171	.02471	.01443	.00053	.01032	.02864
Stddev	.00011	.00021	.00004	.00026	.00022	.00005	.00021	.00010
%RSD	.77431	.14544	2.5558	1.0533	1.5096	9.1148	2.0251	.36402
#1	.01371	.14637	.00174	.02483	.01446	.00048	.01051	.02876
#2	.01356	.14597	.00173	.02441	.01463	.00053	.01010	.02862
#3	.01351	.14630	.00166	.02489	.01420	.00058	.01035	.02855
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	.02280	.00122	.02245	.00502	.10880	.01040	.03611	.12698
Stddev	.00017	.00002	.00016	.00008	.00055	.00015	.00014	.00076
%RSD	.74088	2.0168	.69218	1.5933	.50233	1.4678	.38742	.60124
#1	.02293	.00121	.02233	.00507	.10943	.01031	.03626	.12626
#2	.02285	.00120	.02239	.00493	.10851	.01031	.03607	.12690
#3	.02261	.00125	.02263	.00507	.10847	.01057	.03599	.12778
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	.00472	.01687	.00206	-.00024	.00058	.02907	.15531	
Stddev	.00010	.00007	.00002	.00004	.00008	.00123	.00123	
%RSD	2.0329	.40695	1.1725	16.081	13.382	4.2250	.79357	
#1	.00465	.01681	.00207	-.00021	.00055	.02955	.15622	
#2	.00467	.01685	.00208	-.00022	.00052	.02767	.15391	
#3	.00483	.01694	.00203	-.00028	.00067	.02998	.15581	

Sample Name: S1 Acquired: 3/24/2025 10:05:48 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	3365.6	74987.	14135.	2409.1	5046.1
Stddev	9.0	213.	98.	11.4	9.4
%RSD	.26802	.28353	.69223	.47282	.18658
#1	3371.4	74937.	14074.	2399.6	5044.8
#2	3370.1	75220.	14248.	2421.7	5056.1
#3	3355.2	74804.	14084.	2405.9	5037.3

Sample Name: S2 Acquired: 3/24/2025 10:10:11 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	.04141	.05174	.16771	.04038	.10410	.12992	3.8992	.17566
Stddev	.00044	.00053	.00071	.00026	.00048	.00076	.0125	.00115
%RSD	1.0633	1.0203	.42496	.63748	.46360	.58779	.31972	.65394
#1	.04103	.05124	.16729	.04016	.10356	.12982	3.9123	.17697
#2	.04132	.05170	.16732	.04031	.10424	.12921	3.8978	.17521
#3	.04189	.05229	.16854	.04066	.10450	.13073	3.8875	.17481
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	.99670	.31758	.03033	.36398	.15131	.00466	.21302	.05809
Stddev	.00396	.00078	.00013	.00109	.00041	.00001	.00040	.00039
%RSD	.39736	.24715	.43227	.30069	.27277	.29966	.18911	.67657
#1	.99493	.31838	.03021	.36335	.15128	.00465	.21307	.05842
#2	.99394	.31755	.03047	.36335	.15092	.00467	.21339	.05819
#3	1.0012	.31681	.03032	.36525	.15174	.00466	.21259	.05766
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	.25308	.05757	.04651	.05460	1.1052	.02303	.29577	.55633
Stddev	.00093	.00015	.00031	.00005	.0031	.00018	.00208	.00325
%RSD	.36937	.26608	.67244	.09656	.28104	.77147	.70353	.58382
#1	.25255	.05760	.04624	.05464	1.1082	.02292	.29810	.55392
#2	.25252	.05740	.04685	.05454	1.1054	.02294	.29411	.55505
#3	.25416	.05770	.04644	.05463	1.1020	.02324	.29509	.56002
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	.09366	.33145	.00489	.02672	.01880	.76016	6.7310	
Stddev	.00058	.00109	.00006	.00026	.00019	.00078	.0133	
%RSD	.62453	.32777	1.1663	.95738	1.0151	.10264	.19819	
#1	.09331	.33265	.00488	.02659	.01865	.76056	6.7454	
#2	.09335	.33114	.00495	.02656	.01875	.76066	6.7286	
#3	.09434	.33055	.00484	.02702	.01902	.75926	6.7190	

Sample Name: S2 Acquired: 3/24/2025 10:10:11 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	3299.5	73002.	14008.	2285.7	4906.5
Stddev	11.0	267.	84.	8.7	16.4
%RSD	.33267	.36579	.60087	.38266	.33518
#1	3306.8	73235.	13918.	2278.6	4911.3
#2	3304.8	72711.	14022.	2283.1	4920.1
#3	3286.9	73062.	14084.	2295.5	4888.2

Sample Name: S3 Acquired: 3/24/2025 10:14:16 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	.11596	.13990	.46337	.11125	.28926	.35703	10.498	.47227
Stddev	.00057	.00138	.00180	.00075	.00225	.00090	.093	.00204
%RSD	.49251	.98605	.38937	.67819	.77756	.25107	.88287	.43268
#1	.11600	.14106	.46363	.11079	.28879	.35668	10.581	.47036
#2	.11537	.13837	.46145	.11083	.28729	.35636	10.398	.47201
#3	.11651	.14026	.46504	.11212	.29171	.35805	10.514	.47442
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	2.7661	.86850	.08334	1.0057	.41231	.01261	.56914	.15961
Stddev	.0086	.00198	.00018	.0023	.00269	.00008	.00071	.00080
%RSD	.31221	.22781	.21873	.23051	.65315	.59729	.12467	.50205
#1	2.7616	.86622	.08353	1.0039	.41035	.01269	.56837	.15904
#2	2.7606	.86950	.08316	1.0049	.41119	.01259	.56931	.15926
#3	2.7760	.86978	.08334	1.0083	.41538	.01254	.56976	.16052
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	.69647	.15852	.12716	.15014	3.0063	.06517	.79468	1.5235
Stddev	.00163	.00032	.00092	.00005	.0177	.00027	.00508	.0088
%RSD	.23417	.20010	.71972	.03063	.58879	.41100	.63895	.57530
#1	.69588	.15888	.12799	.15010	3.0093	.06544	.78882	1.5212
#2	.69521	.15828	.12731	.15013	2.9873	.06517	.79742	1.5160
#3	.69831	.15841	.12618	.15019	3.0223	.06491	.79779	1.5331
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	.26045	.90121	.01366	.07727	.05310	2.0426	18.244	
Stddev	.00057	.00099	.00009	.00022	.00021	.0039	.204	
%RSD	.21804	.11021	.62670	.28802	.39643	.18881	1.1157	
#1	.25996	.90093	.01375	.07742	.05333	2.0393	18.197	
#2	.26032	.90039	.01359	.07701	.05293	2.0469	18.068	
#3	.26107	.90231	.01362	.07737	.05304	2.0416	18.467	

Sample Name: S3 Acquired: 3/24/2025 10:14:16 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	3238.3	71758.	14204.	2218.5	4728.6
Stddev	11.1	360.	36.	16.7	8.0
%RSD	.34144	.50120	.25057	.75341	.16915
#1	3245.0	71356.	14223.	2207.5	4736.3
#2	3244.2	72050.	14226.	2237.8	4729.2
#3	3225.5	71869.	14163.	2210.4	4720.3

Sample Name: S4 Acquired: 3/24/2025 10:18:30 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	.24089	.28970	.95023	.22990	.59971	.73446	21.543	.93881
Stddev	.00038	.00236	.00196	.00044	.00128	.00250	.212	.00913
%RSD	.15579	.81476	.20651	.19221	.21286	.34046	.98327	.97287

#1	.24115	.29161	.95176	.23024	.60099	.73317	21.315	.93034
#2	.24046	.29042	.94801	.22940	.59843	.73734	21.581	.94849
#3	.24107	.28706	.95090	.23006	.59970	.73286	21.734	.93761

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	5.7190	1.7642	.16833	2.0684	.83668	.02566	1.1442	.32679
Stddev	.0134	.0071	.00039	.0048	.00176	.00015	.0037	.00203
%RSD	.23441	.40170	.23353	.23275	.20994	.58179	.32613	.62203

#1	5.7265	1.7574	.16870	2.0682	.83745	.02579	1.1421	.32462
#2	5.7036	1.7715	.16838	2.0636	.83467	.02550	1.1485	.32865
#3	5.7271	1.7638	.16792	2.0732	.83791	.02568	1.1419	.32711

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	1.4294	.32327	.26898	.30953	6.0732	.13702	1.5851	3.1083
Stddev	.0037	.00006	.00238	.00059	.0074	.00086	.0146	.0088
%RSD	.26222	.01831	.88443	.19175	.12142	.62766	.91832	.28308

#1	1.4305	.32333	.27157	.30898	6.0731	.13781	1.5725	3.1177
#2	1.4253	.32328	.26690	.31016	6.0659	.13610	1.6010	3.1003
#3	1.4325	.32321	.26847	.30945	6.0806	.13714	1.5817	3.1069

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	.53853	1.8437	.02852	.16328	.11255	4.2293	37.224	
Stddev	.00084	.0054	.00014	.00030	.00010	.0147	.332	
%RSD	.15596	.29505	.49657	.18330	.09163	.34730	.89112	

#1	.53918	1.8431	.02859	.16363	.11244	4.2436	37.062	
#2	.53758	1.8495	.02836	.16310	.11257	4.2300	37.004	
#3	.53882	1.8386	.02861	.16312	.11264	4.2143	37.606	

Sample Name: S4 Acquired: 3/24/2025 10:18:30 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	3152.1	70683.	14230.	2149.1	4516.0
Stddev	9.5	104.	92.	6.0	10.3
%RSD	.30171	.14688	.64658	.27932	.22788
#1	3141.9	70569.	14301.	2148.8	4508.9
#2	3160.8	70772.	14126.	2155.2	4527.8
#3	3153.5	70707.	14264.	2143.2	4511.3

Sample Name: S5 Acquired: 3/24/2025 10:22:43 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	.48402	.58466	1.8950	.45929	1.2053	1.5085	43.881	1.8861
Stddev	.00159	.00209	.0071	.00191	.0060	.0064	.169	.0113
%RSD	.32854	.35757	.37580	.41638	.50148	.42318	.38533	.59753

#1	.48346	.58374	1.8979	.45899	1.2035	1.5157	43.998	1.8908
#2	.48279	.58318	1.8869	.45755	1.2004	1.5059	43.957	1.8943
#3	.48581	.58705	1.9002	.46134	1.2121	1.5038	43.687	1.8732

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.477	3.5902	.33000	4.1691	1.6475	.05135	2.3262	.66714
Stddev	.041	.0185	.00033	.0154	.0056	.00033	.0129	.00169
%RSD	.35459	.51540	.09947	.36848	.34137	.64804	.55613	.25394

#1	11.486	3.6097	.32996	4.1713	1.6469	.05132	2.3412	.66903
#2	11.432	3.5878	.33035	4.1528	1.6422	.05103	2.3190	.66664
#3	11.512	3.5729	.32969	4.1833	1.6534	.05169	2.3185	.66576

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	2.8595	.64718	.55540	.63172	12.025	.28158	3.2119	6.1873
Stddev	.0107	.00047	.00477	.00416	.047	.00152	.0181	.0232
%RSD	.37250	.07205	.85928	.65912	.38956	.54080	.56340	.37434

#1	2.8616	.64756	.55951	.63647	12.075	.28278	3.2208	6.1788
#2	2.8479	.64666	.55017	.62869	12.018	.27987	3.2239	6.1696
#3	2.8688	.64731	.55653	.63000	11.982	.28209	3.1911	6.2135

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707	Sr4077
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.0771	3.7673	.05820	.33710	.23323	8.8070	75.367
Stddev	.0037	.0255	.00029	.00176	.00125	.0607	.833
%RSD	.33923	.67765	.50645	.52072	.53466	.68933	1.1054

#1	1.0779	3.7966	.05805	.33634	.23335	8.8737	75.541
#2	1.0731	3.7496	.05801	.33585	.23193	8.7551	76.100
#3	1.0802	3.7557	.05854	.33911	.23441	8.7922	74.461

Sample Name: S5 Acquired: 3/24/2025 10:22:43 Type: Cal
Method: NON EPA-6010-200.7(v2835) 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	3052.5	69117.	13717.	2078.8	4281.3
Stddev	11.3	63.	85.	13.3	20.1
%RSD	.36908	.09162	.62071	.64101	.46916
#1	3052.1	69144.	13681.	2063.5	4275.1
#2	3064.0	69045.	13657.	2085.2	4303.7
#3	3041.5	69162.	13815.	2087.7	4265.0

Sample Name: ICV01 Acquired: 3/24/2025 10:33:23 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.9994035	1.013929	.9819009	1.026884	1.024042	2.504794
Stddev	.0043575	.010884	.0019381	.002726	.001911	.003228
%RSD	.4360060	1.073428	.1973810	.2654891	.1865665	.1288909
#1	1.002997	1.024824	.9812896	1.025780	1.026103	2.504476
#2	.994557	1.003057	.9803422	1.024883	1.022330	2.501737
#3	1.000657	1.013907	.9840709	1.029989	1.023694	2.508170
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4816597	.4898377	.4940200	9.754969	.5290482	.5038327
Stddev	.0020167	.0011212	.0014227	.007496	.0031732	.0017024
%RSD	.4186931	.2289004	.2879837	.0768411	.5997893	.3378807
#1	.4801737	.4890604	.4951159	9.758697	.5278617	.5049343
#2	.4808500	.4911231	.4924122	9.759870	.5266394	.5018719
#3	.4839554	.4893297	.4945321	9.746340	.5326437	.5046917
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5317490	9.819177	.4946701	5.831963	.5058649	.2579904
Stddev	.0023857	.078590	.0017850	.013300	.0021361	.0009243
%RSD	.4486454	.8003690	.3608518	.2280581	.4222716	.3582790
#1	.5319022	9.772517	.4955620	5.835632	.5072440	.2569993
#2	.5292904	9.775102	.4926150	5.843044	.5034043	.2581428
#3	.5340544	9.909912	.4958335	5.817214	.5069465	.2588290
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.225152	.4828108	1.039281	9.607038	2.301002	2.493437
Stddev	.108068	.0019351	.008144	.074463	.006844	.010289
%RSD	1.171455	.4008040	.7836032	.7750912	.2974493	.4126398
#1	9.191561	.4822987	1.030630	9.551245	2.296414	2.496822
#2	9.137868	.4811832	1.040412	9.578276	2.308869	2.481883
#3	9.346027	.4849504	1.046800	9.691593	2.297722	2.501608

Sample Name: ICV01 Acquired: 3/24/2025 10:33:23 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	2.364790	2.341166	F 1.999383	F -.001536	F -.002665	F -.000647
Stddev	.012819	.003382	.018474	.000634	.003865	.001412
%RSD	.5420801	.1444490	.9239888	41.25491	145.0459	218.3431
#1	2.375949	2.339546	1.991193	-.002157	.000329	-.002066
#2	2.350788	2.338900	1.986420	-.001562	-.001296	.000757
#3	2.367633	2.345053	2.020536	-.000890	-.007029	-.000631

Elem	Sr4077
Units	ppm
Avg	F -.007379
Stddev	.000094
%RSD	1.269984
#1	-.007317
#2	-.007333
#3	-.007487

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3205.337	71871.66	14757.62	2140.976	4846.720
Stddev	11.071	510.06	10.92	12.405	13.561
%RSD	.3454032	.7096854	.0739675	.5793981	.2798011
#1	3201.678	71937.84	14758.03	2144.431	4835.032
#2	3217.775	72345.39	14768.32	2151.287	4861.589
#3	3196.558	71331.73	14746.50	2127.210	4843.540

Sample Name: LLICV01 Acquired: 3/24/2025 10:45:23 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0181949	.0397574	.0116573	.0183054	.0504470	.1004518
Stddev	.0030456	.0018179	.0003220	.0012397	.0012030	.0010902
%RSD	16.73896	4.572374	2.762217	6.772523	2.384676	1.085242

#1	.0209553	.0377530	.0120079	.0196000	.0491575	.0991933
#2	.0187017	.0402201	.0115890	.0181871	.0506444	.1010578
#3	.0149276	.0412993	.0113749	.0171290	.0515391	.1011044

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0893955	.0058392	.0056408	1.943738	.0097963	.0287761
Stddev	.0005100	.0000591	.0000253	.011959	.0000988	.0001306
%RSD	.5705114	1.011460	.4479121	.6152413	1.008215	.4537861

#1	.0888144	.0057894	.0056430	1.956327	.0098015	.0288464
#2	.0896034	.0059045	.0056144	1.932529	.0096951	.0286255
#3	.0897687	.0058237	.0056648	1.942359	.0098924	.0288565

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0224577	.0957587	.0183016	2.071881	.0385339	.0105950
Stddev	.0002219	.0033553	.0002578	.015772	.0003952	.0002065
%RSD	.9880501	3.503951	1.408658	.7612391	1.025515	1.949320

#1	.0224723	.0996274	.0184419	2.074823	.0389224	.0105914
#2	.0226719	.0936430	.0180041	2.054845	.0381324	.0103903
#3	.0222288	.0940056	.0184588	2.085975	.0385470	.0108033

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.733760	.0390865	.0418625	1.872942	.0978200	.2074100
Stddev	.009575	.0012179	.0004876	.011763	.0005845	.0006203
%RSD	.5522698	3.115994	1.164828	.6280582	.5975422	.2990673

#1	1.744706	.0397380	.0418222	1.880174	.0972064	.2069192
#2	1.729635	.0376814	.0413963	1.879283	.0978834	.2072035
#3	1.726939	.0398401	.0423691	1.859369	.0983702	.2081071

Sample Name: LLICV01 Acquired: 3/24/2025 10:45:23 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0375788	.0388096	.3547249	.0169436	.0177190	F .0127468
Stddev	.0001509	.0002734	.0085134	.0008859	.0037895	.0013048
%RSD	.4015558	.7043613	2.399996	5.228718	21.38683	10.23641
#1	.0374067	.0390040	.3486702	.0179304	.0177720	.0139069
#2	.0376884	.0389279	.3644592	.0166838	.0214818	.0113342
#3	.0376413	.0384971	.3510453	.0162167	.0139032	.0129992

Elem	Sr4077
Units	ppm
Avg	.0189592
Stddev	.0001236
%RSD	.6519762
#1	.0190614
#2	.0188218
#3	.0189944

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3303.038	74866.26	15258.27	2203.668	5130.585
Stddev	4.169	262.55	71.59	15.996	10.883
%RSD	.1262233	.3506933	.4692045	.7258617	.2121115
#1	3304.768	74570.56	15212.80	2190.847	5132.496
#2	3306.063	75072.02	15340.79	2221.592	5140.386
#3	3298.282	74956.21	15221.22	2198.563	5118.874

Sample Name: ICB01 Acquired: 3/24/2025 10:49:40 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.002754	-.001970	.0010483	-.000990	-.002462	.0001987	-.003749
Stddev	.000256	.001401	.0011804	.001302	.001433	.0063069	.000367
%RSD	9.287677	71.09412	112.6004	131.5059	58.18098	3173.703	9.795278
#1	-.002553	-.003504	-.000260	-.000334	-.001674	.0031980	-.003368
#2	-.003042	-.000760	.001370	-.002489	-.004116	-.007048	-.003778
#3	-.002666	-.001646	.002034	-.000146	-.001597	.004446	-.004101
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000022	-.000080	-.002136	.0000095	.0000209	-.000035	.0010014
Stddev	.000007	.000020	.002095	.0001979	.0001306	.000254	.0029661
%RSD	30.49509	24.80233	98.08493	2086.418	625.7641	730.2398	296.1903
#1	-.000023	-.000058	-.000638	.0001862	-.000095	.000229	-.002135
#2	-.000028	-.000086	-.004530	.0000467	.000162	-.000054	.001377
#3	-.000015	-.000097	-.001239	-.000204	-.000005	-.000279	.003762
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000666	-.001372	.0002631	.0003056	-.078873	.0013104	-.000472
Stddev	.000040	.005043	.0002734	.0002141	.007863	.0003976	.000466
%RSD	6.009800	367.4509	103.8849	70.04344	9.968750	30.34154	98.89384
#1	-.000668	-.006885	-.000053	.0001198	-.086124	.0013462	-.000725
#2	-.000704	.003009	.000423	.0002573	-.079980	.0008961	.000067
#3	-.000624	-.000241	.000419	.0005397	-.070516	.0016888	-.000757
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.106072	-.001647	-.000295	-.000343	.0005832	.0005991	-.000880
Stddev	.031896	.000347	.000269	.000600	.0003316	.0044635	.001019
%RSD	30.07051	21.05265	91.29569	174.6582	56.86316	745.0297	115.6891
#1	-.116074	-.002021	-.000466	.000198	.0002066	.0053576	.000289
#2	-.131768	-.001336	.000015	-.000988	.0008314	-.000065	-.001576
#3	-.070373	-.001583	-.000435	-.000240	.0007115	-.003495	-.001354

Sample Name: ICB01 Acquired: 3/24/2025 10:49:40 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.000808	-.006590	.0000539
Stddev	.004112	.000806	.0000607
%RSD	508.6463	12.22943	112.7170
#1	-.001062	-.005712	.0000453
#2	-.004787	-.007296	-.000002
#3	.003424	-.006761	.000118

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3333.338	74633.49	15223.45	2216.825	5222.309
Stddev	6.494	157.14	98.69	4.889	8.275
%RSD	.1948296	.2105461	.6482908	.2205229	.1584576
#1	3337.499	74553.21	15166.75	2218.253	5227.744
#2	3336.660	74532.71	15166.19	2211.381	5226.399
#3	3325.854	74814.55	15337.41	2220.840	5212.786

Sample Name: CRI01 Acquired: 3/24/2025 10:54:00 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0186131	.0381791	.0126793	.0192065	.0506334	.1038442
Stddev	.0002091	.0019472	.0006027	.0013326	.0005544	.0027167
%RSD	1.123299	5.100110	4.753729	6.938201	1.094939	2.616122

#1	.0188017	.0365347	.0119834	.0180788	.0502752	.1007378
#2	.0183883	.0403293	.0130161	.0206770	.0512720	.1057753
#3	.0186495	.0376734	.0130383	.0188637	.0503531	.1050197

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0867366	.0059182	.0055728	1.917639	.0099352	.0285630
Stddev	.0004244	.0000318	.0000435	.002518	.0002881	.0000861
%RSD	.4893145	.5375393	.7811711	.1313059	2.899640	.3014644

#1	.0871940	.0058815	.0056208	1.918931	.0098087	.0286473
#2	.0866603	.0059377	.0055617	1.919248	.0102649	.0285665
#3	.0863555	.0059354	.0055358	1.914737	.0097320	.0284752

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0225125	.0954149	.0181773	2.077672	.0380717	.0105726
Stddev	.0001681	.0028737	.0005380	.019077	.0000226	.0002468
%RSD	.7465915	3.011787	2.959862	.9182013	.0594525	2.334621

#1	.0223186	.0982102	.0187838	2.076668	.0380814	.0104406
#2	.0226009	.0924688	.0179905	2.097232	.0380878	.0104199
#3	.0226178	.0955658	.0177575	2.059117	.0380458	.0108574

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.627495	.0393707	.0417535	1.752188	.0990747	.2074671
Stddev	.021398	.0009373	.0001176	.011929	.0002417	.0003533
%RSD	1.314779	2.380832	.2815313	.6808319	.2439221	.1703095

#1	1.651757	.0404327	.0418777	1.750758	.0988601	.2075007
#2	1.619414	.0390208	.0417391	1.741037	.0990275	.2070982
#3	1.611315	.0386586	.0416439	1.764767	.0993365	.2078025

Sample Name: CRI01 Acquired: 3/24/2025 10:54:00 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0371224	.0386040	.3525795	.0166109	.0173119	F .0117973
Stddev	.0006236	.0005105	.0047800	.0004721	.0009962	.0006512
%RSD	1.679854	1.322470	1.355711	2.841809	5.754668	5.519794
#1	.0365728	.0381359	.3578390	.0161803	.0168438	.0116026
#2	.0378001	.0391483	.3513996	.0171156	.0166360	.0112657
#3	.0369943	.0385278	.3485000	.0165367	.0184560	.0125236

Elem	Sr4077
Units	ppm
Avg	.0185630
Stddev	.0001370
%RSD	.7380436
#1	.0186425
#2	.0186417
#3	.0184048

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3290.878	73898.59	14710.17	2174.379	5144.017
Stddev	14.085	256.35	54.60	11.645	15.541
%RSD	.4280109	.3468955	.3711632	.5355681	.3021191
#1	3299.263	73904.03	14768.06	2183.791	5153.473
#2	3298.754	74152.17	14702.85	2177.990	5152.498
#3	3274.616	73639.56	14659.60	2161.356	5126.081

Sample Name: ICSA01 Acquired: 3/24/2025 10:58:17 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034839	.0066806	.0053985	.0038320	-.004307	245.8547	-.000677
Stddev	.0033118	.0039210	.0003301	.0011273	.001108	3.1758	.000818
%RSD	95.06229	58.69296	6.114922	29.41873	25.72552	1.291747	120.8157
#1	.0066917	.0104631	.0054630	.0044191	-.003652	242.7796	-.001383
#2	.0036829	.0069443	.0056916	.0045446	-.005586	245.6618	.000219
#3	.0000770	.0026344	.0050409	.0025323	-.003683	249.1225	-.000868
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008998	-.003412	225.7496	.0576071	.0017512	.0129936	97.35574
Stddev	.0000138	.000483	.4701	.0006195	.0002827	.0009571	1.92415
%RSD	1.537116	14.15471	.2082493	1.075310	16.14456	7.365921	1.976412
#1	.0008960	-.003970	225.2341	.0581986	.0018171	.0122056	99.57530
#2	.0009151	-.003137	226.1547	.0569630	.0019952	.0127165	96.15922
#3	.0008883	-.003129	225.8600	.0576598	.0014414	.0140586	96.33270
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018462	244.6457	.0017873	-.001121	-.020565	.0045087	.0051685
Stddev	.0003016	.6234	.0006973	.000250	.012066	.0016454	.0007364
%RSD	16.33719	.2548292	39.01264	22.26692	58.67241	36.49466	14.24723
#1	.0015057	243.9259	.0010094	-.001406	-.033686	.0063810	.0059409
#2	.0020801	245.0010	.0023560	-.001015	-.018062	.0038527	.0044745
#3	.0019528	245.0103	.0019967	-.000942	-.009947	.0032925	.0050901
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.098995	-.055138	-.000074	-.004604	.0000061	.0247474	.0014946
Stddev	.003621	.006191	.000109	.000131	.0004043	.0054103	.0009718
%RSD	3.658196	11.22779	147.4436	2.837621	6605.872	21.86228	65.02080
#1	-.099616	-.048058	-.000196	-.004454	-.000218	.0254673	.0006490
#2	-.102266	-.057822	-.000037	-.004691	-.000236	.0190131	.0012786
#3	-.095103	-.059534	.000012	-.004666	.000473	.0297617	.0025563

Sample Name: ICSA01 Acquired: 3/24/2025 10:58:17 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.016028	-.001930	.0058579
Stddev	.001644	.000731	.0015776
%RSD	10.25572	37.88773	26.93124
#1	-.017925	-.001839	.0040541
#2	-.015020	-.002702	.0069802
#3	-.015139	-.001248	.0065394

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2898.548	64303.75	14654.39	1875.488	4069.238
Stddev	9.122	798.90	109.50	26.671	17.317
%RSD	.3147089	1.242381	.7471865	1.422070	.4255578
#1	2901.227	63385.22	14780.19	1844.699	4076.424
#2	2906.030	64836.92	14602.42	1891.498	4081.804
#3	2888.386	64689.12	14580.56	1890.266	4049.484

Sample Name: ICSAB01 Acquired: 3/24/2025 11:02:42 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.1122870	.1075531	.0547154	.0529084	.6461183	244.0872	.4736972
Stddev	.0024163	.0029434	.0024119	.0064018	.0010469	1.8066	.0017522
%RSD	2.151883	2.736679	4.408046	12.09973	.1620275	.7401397	.3699011

#1	.1096046	.1107437	.0560112	.0590082	.6463544	244.7082	.4752094
#2	.1129634	.1069717	.0519326	.0534747	.6470269	242.0521	.4741053
#3	.1142930	.1049437	.0562023	.0462423	.6449735	245.5015	.4717769

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4724374	.9945043	226.9149	.5729202	.5073261	.5202568	98.28832
Stddev	.0012544	.0009231	.4484	.0002862	.0011712	.0005493	.04521
%RSD	.2655207	.0928160	.1976139	.0499486	.2308569	.1055877	.0459946

#1	.4720589	.9939866	227.1239	.5726216	.5059749	.5208894	98.33281
#2	.4738375	.9939563	227.2206	.5729470	.5079521	.5199800	98.28971
#3	.4714158	.9955700	226.4001	.5731921	.5080512	.5199008	98.24243

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4638690	243.5855	.9990859	.2063822	-.027706	.4730513	1.091425
Stddev	.0021818	.3796	.0016732	.0013305	.005559	.0013107	.006806
%RSD	.4703550	.1558413	.1674690	.6446858	20.06427	.2770766	.6235920

#1	.4644829	243.6589	.9980138	.2052440	-.026092	.4726451	1.089297
#2	.4656781	243.9231	.9982300	.2060575	-.033894	.4719917	1.099041
#3	.4614460	243.1746	1.001014	.2078450	-.023133	.4745170	1.085938

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.115936	.8913199	1.098902	1.065942	1.004291	.9842263	1.045447
Stddev	.034752	.0025484	.000877	.002394	.001257	.0073713	.004883
%RSD	29.97528	.2859111	.0797748	.2245920	.1251186	.7489450	.4670337

#1	-.129278	.8921612	1.098077	1.064541	1.005545	.9853207	1.046647
#2	-.076490	.8933413	1.098806	1.068707	1.004297	.9763690	1.049618
#3	-.142040	.8884573	1.099823	1.064579	1.003032	.9909892	1.040076

Sample Name: ICSAB01 Acquired: 3/24/2025 11:02:42 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	1.030501	.9791287	.9489378
Stddev	.005919	.0036242	.0025697
%RSD	.5744187	.3701495	.2708005
#1	1.031145	.9829245	.9517076
#2	1.036072	.9757046	.9484749
#3	1.024286	.9787570	.9466311

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2890.484	65274.73	15016.38	1903.435	4061.846
Stddev	5.198	109.54	25.70	9.471	1.923
%RSD	.1798414	.1678089	.1711646	.4975692	.0473549
#1	2887.481	65168.42	14988.90	1894.929	4062.850
#2	2896.487	65387.23	15020.42	1901.736	4063.059
#3	2887.485	65268.54	15039.83	1913.641	4059.628

Sample Name: ICSADLX20 Acquired: 3/24/2025 11:13:07 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0044519	.0036602	.0035456	.0009466	.0287096	11.34378	.0166981
Stddev	.0029171	.0018954	.0009342	.0029107	.0007862	.00946	.0008929
%RSD	65.52440	51.78402	26.34641	307.4991	2.738494	.0833854	5.347018

#1	.0010936	.0021772	.0025479	.0042601	.0294452	11.35447	.0174424
#2	.0063560	.0030078	.0036895	-.001198	.0278811	11.34037	.0157082
#3	.0059061	.0057957	.0043995	-.000222	.0288025	11.33649	.0169438

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0231333	.0455557	10.95905	.0270127	.0230047	.0257175	4.401776
Stddev	.0002763	.0000757	.03335	.0002064	.0003658	.0003461	.005282
%RSD	1.194488	.1661876	.3043054	.7641270	1.590088	1.345827	.1199987

#1	.0234214	.0456074	10.99755	.0271210	.0226154	.0260787	4.400282
#2	.0228705	.0454688	10.94052	.0271424	.0230574	.0253887	4.397403
#3	.0231079	.0455910	10.93909	.0267747	.0233412	.0256852	4.407645

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0215589	11.35438	.0461409	.0091736	-.100167	.0242576	.0495123
Stddev	.0002819	.04488	.0001060	.0000424	.016248	.0009272	.0004639
%RSD	1.307709	.3952279	.2297674	.4620930	16.22061	3.822320	.9368414

#1	.0218431	11.39538	.0460915	.0091373	-.103558	.0237972	.0489767
#2	.0212793	11.30644	.0460685	.0091632	-.114451	.0236507	.0497867
#3	.0215542	11.36133	.0462626	.0092202	-.082491	.0253249	.0497734

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.157062	-.006223	-.000240	-.001048	.0007092	.0055642	-.002124
Stddev	.011561	.001044	.000094	.000197	.0005222	.0040020	.001814
%RSD	7.360495	16.77271	39.27485	18.83423	73.63775	71.92346	85.38726

#1	-.168664	-.005792	-.000147	-.001092	.0003109	.0101841	-.004145
#2	-.145544	-.007413	-.000237	-.000832	.0013004	.0033421	-.001593
#3	-.156978	-.005463	-.000336	-.001220	.0005162	.0031663	-.000636

Sample Name: ICSADLX20 Acquired: 3/24/2025 11:13:07 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.003910	-.007088	.0005947
Stddev	.003605	.000709	.0000246
%RSD	92.19477	9.999354	4.134400

#1	-.001034	-.006463	.0005664
#2	-.002743	-.007858	.0006103
#3	-.007955	-.006944	.0006075

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3252.343	74887.38	15243.02	2149.552	4997.024
Stddev	7.620	202.92	106.93	5.263	10.518
%RSD	.2342932	.2709719	.7015241	.2448229	.2104932

#1	3252.265	74666.07	15119.61	2153.257	4999.740
#2	3260.001	75064.70	15301.24	2143.529	5005.918
#3	3244.762	74931.37	15308.21	2151.871	4985.414

Sample Name: ICSABDLX20 Acquired: 3/24/2025 11:17:21 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0045458	.0030069	.0029877	.0052418	.0302102	12.02422	.0170719
Stddev	.0032244	.0008788	.0009068	.0019680	.0004078	.04906	.0005548
%RSD	70.93056	29.22771	30.34991	37.54352	1.349818	.4080290	3.249836
#1	.0035917	.0034542	.0038358	.0036504	.0306727	12.06865	.0173333
#2	.0019061	.0035720	.0030955	.0074423	.0300554	12.03246	.0174478
#3	.0081395	.0019944	.0020319	.0046328	.0299024	11.97157	.0164347
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0244904	.0482424	11.60408	.0289016	.0244439	.0274497	4.793592
Stddev	.0000253	.0000151	.02377	.0002571	.0002430	.0002445	.026077
%RSD	.1032156	.0312229	.2048744	.8897108	.9939852	.8907086	.5439938
#1	.0244963	.0482598	11.59093	.0286147	.0241695	.0274864	4.823370
#2	.0244627	.0482337	11.63152	.0289786	.0246316	.0276739	4.782573
#3	.0245122	.0482338	11.58979	.0291114	.0245306	.0271890	4.774834
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0228803	12.06860	.0489885	.0100651	-.099045	.0242199	.0534057
Stddev	.0002530	.02030	.0000783	.0002134	.015950	.0011381	.0005572
%RSD	1.105846	.1681872	.1598964	2.120041	16.10356	4.699075	1.043405
#1	.0228637	12.06813	.0488984	.0099581	-.113971	.0240320	.0527751
#2	.0231412	12.08913	.0490268	.0103108	-.082238	.0254403	.0538318
#3	.0226360	12.04854	.0490404	.0099263	-.100926	.0231875	.0536103
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.187217	-.006875	-.000110	-.001640	.0006002	.0062535	-.000543
Stddev	.018905	.000664	.000075	.000618	.0005566	.0034798	.002001
%RSD	10.09797	9.655989	68.08311	37.65501	92.74613	55.64566	368.8151
#1	-.190596	-.006618	-.000141	-.002025	.0008893	.0035981	-.001615
#2	-.204204	-.006378	-.000025	-.000928	-.000042	.0101929	-.001778
#3	-.166850	-.007629	-.000164	-.001969	.000953	.0049696	.001766

Sample Name: ICSABDLX20 Acquired: 3/24/2025 11:17:21 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.003623	-.007523	.0004468
Stddev	.002573	.001348	.0000331
%RSD	71.03288	17.91302	7.412565
#1	-.000748	-.006053	.0004768
#2	-.005710	-.007818	.0004525
#3	-.004411	-.008699	.0004112

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3223.449	71868.38	15287.22	2088.967	4966.849
Stddev	2.321	254.76	56.70	2.856	5.300
%RSD	.0720151	.3544843	.3709284	.1367421	.1067125
#1	3225.809	71731.43	15279.05	2090.566	4961.137
#2	3223.369	71711.38	15235.04	2085.669	4971.609
#3	3221.169	72162.32	15347.56	2090.666	4967.801

Sample Name: CCV01 Acquired: 3/24/2025 11:21:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	5.096666	4.839132	4.924112	5.075765	5.219991	9.953297	9.427356
Stddev	.031050	.034403	.015993	.033914	.029180	.012813	.125155
%RSD	.6092305	.7109300	.3247951	.6681633	.5590112	.1287349	1.327575

#1	5.087828	4.872406	4.916677	5.066060	5.204310	9.951716	9.299670
#2	5.070993	4.803702	4.913190	5.047760	5.202005	9.941347	9.432582
#3	5.131177	4.841286	4.942469	5.113473	5.253660	9.966827	9.549817

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2375259	2.437145	24.00717	1.016956	2.441527	1.271302	4.872749
Stddev	.0004478	.009266	.04884	.002561	.008988	.006561	.022371
%RSD	.1885402	.3801910	.2034286	.2518244	.3681173	.5160489	.4591138

#1	.2373287	2.433163	23.97925	1.019873	2.438251	1.268372	4.881790
#2	.2372105	2.430537	23.97870	1.015921	2.434636	1.266717	4.889184
#3	.2380385	2.447737	24.06356	1.015076	2.451693	1.278817	4.847271

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.328694	24.05470	2.436486	1.257928	24.10507	2.431518	2.544763
Stddev	.002993	.05783	.010163	.001535	.06540	.006795	.012382
%RSD	.1285219	.2404270	.4171358	.1220351	.2713217	.2794482	.4865741

#1	2.327005	24.06118	2.434471	1.259537	24.09899	2.428580	2.555553
#2	2.326926	23.99389	2.427480	1.256479	24.17330	2.426687	2.531244
#3	2.332149	24.10901	2.447505	1.257768	24.04292	2.439288	2.547493

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.01168	4.743498	5.125159	4.913137	4.816016	5.081149	4.948989
Stddev	.01859	.008831	.021264	.018425	.003785	.019940	.023042
%RSD	.0743444	.1861605	.4148976	.3750088	.0785997	.3924362	.4655999

#1	25.00594	4.739069	5.117215	4.908176	4.817937	5.079769	4.941395
#2	25.03246	4.737758	5.109011	4.897700	4.811655	5.101744	4.930702
#3	24.99662	4.753666	5.149252	4.933534	4.818455	5.061935	4.974870

Sample Name: CCV01 Acquired: 3/24/2025 11:21:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.860076	4.799683	4.804016
Stddev	.016641	.003843	.053490
%RSD	.3423971	.0800739	1.113439
#1	4.862004	4.798109	4.765172
#2	4.842555	4.804064	4.781851
#3	4.875668	4.796876	4.865026

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3095.981	69916.45	14700.25	2018.454	4556.269
Stddev	12.377	78.09	26.33	9.862	15.106
%RSD	.3997666	.1116839	.1790883	.4885739	.3315349
#1	3098.432	69831.34	14689.84	2007.573	4557.357
#2	3106.949	69933.23	14730.18	2026.803	4570.801
#3	3082.562	69984.79	14680.71	2020.984	4540.648

Sample Name: CCB01 Acquired: 3/24/2025 11:26:34 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.002545	-.001231	.0007854	-.002038	-.000726	.0074606	-.005854
Stddev	.002450	.001093	.0004869	.001705	.000889	.0012655	.000962
%RSD	96.29075	88.74799	61.99413	83.65036	122.5229	16.96222	16.42650

#1	-.005267	-.000916	.0006811	-.003155	-.001056	.0066346	-.006508
#2	-.001854	-.000331	.0013160	-.002885	-.001402	.0068296	-.006303
#3	-.000514	-.002447	.0003591	-.000076	.000281	.0089175	-.004750

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000013	.0000050	-.000559	.0002277	-.000027	-.000068	.0018598
Stddev	.000065	.0000916	.003891	.0001436	.000076	.000541	.0033464
%RSD	512.4318	1826.009	695.7003	63.06901	284.9859	793.5238	179.9382

#1	-.000033	.0000905	.003927	.0003929	-.000046	-.000114	.0054185
#2	-.000065	.0000162	-.003018	.0001579	-.000091	.000494	-.001224
#3	.000060	-.000092	-.002586	.0001323	.000057	-.000584	.001384

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001205	-.002411	-.000281	.0005672	-.101839	.0000256	-.000256
Stddev	.000210	.005986	.000313	.0001132	.007686	.0010222	.000239
%RSD	17.45278	248.2831	111.5426	19.96215	7.547428	3986.191	93.68609

#1	-.001435	-.000743	-.000446	.0004514	-.110710	.0009028	-.000036
#2	-.001022	.002564	-.000477	.0005726	-.097167	.0002711	-.000219
#3	-.001159	-.009054	.000080	.0006777	-.097639	-.001097	-.000511

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.177232	.0056156	.0000869	-.000455	.0012828	.0056720	-.003711
Stddev	.019208	.0005167	.0001862	.000446	.0000487	.0034789	.000354
%RSD	10.83804	9.201033	214.1631	97.93938	3.797021	61.33388	9.551679

#1	-.185456	.0053291	.0002932	-.000216	.0012327	.0092958	-.003304
#2	-.190959	.0062121	-.000069	-.000969	.0012857	.0023588	-.003873
#3	-.155280	.0053057	.000036	-.000180	.0013300	.0053616	-.003955

Sample Name: CCB01 Acquired: 3/24/2025 11:26:34 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.004391	-.006016	.0000466
Stddev	.003823	.000902	.0000500
%RSD	87.06272	14.99132	107.3040
#1	-.003733	-.006318	.0001040
#2	-.000940	-.005002	.0000136
#3	-.008500	-.006728	.0000221

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3278.830	73834.36	14650.09	2157.434	5171.270
Stddev	7.405	126.27	78.35	11.702	10.892
%RSD	.2258554	.1710227	.5348293	.5424237	.2106296
#1	3287.171	73688.56	14703.49	2145.934	5183.488
#2	3276.293	73908.35	14686.63	2157.038	5162.577
#3	3273.027	73906.17	14560.14	2169.329	5167.744

Sample Name: Q1628-01 Acquired: 3/24/2025 11:30:54 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.004069	-.005180	.0202328	.0051578	.0008700	1.480630
Stddev	.002803	.002014	.0002788	.0031695	.0011984	.014148
%RSD	68.89435	38.87488	1.377928	61.45173	137.7408	.9555094
#1	-.002472	-.003551	.0203432	.0067534	.0021324	1.470652
#2	-.002429	-.004557	.0204395	.0072124	.0007297	1.496821
#3	-.007306	-.007432	.0199157	.0015075	-.000252	1.474418
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0658310	.0000033	-.000895	80.23138	.0052397	.0021041
Stddev	.0004530	.0000430	.000024	.34021	.0001694	.0001888
%RSD	.6881345	1316.128	2.734850	.4240328	3.233261	8.974673
#1	.0653284	-.000044	-.000923	79.83915	.0052248	.0022317
#2	.0659567	.000015	-.000884	80.44638	.0050783	.0021935
#3	.0662079	.000039	-.000878	80.40862	.0054161	.0018872
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1030574	15.08256	.3004276	13.55251	.0079115	.0003341
Stddev	.0004694	.06303	.0029536	.06808	.0000656	.0001841
%RSD	.4555050	.4178935	.9831266	.5023666	.8292949	55.10238
#1	.1027155	15.15382	.2970270	13.47435	.0079776	.0001582
#2	.1028640	15.05973	.3023529	13.59889	.0078464	.0005254
#3	.1035926	15.03413	.3019029	13.58429	.0079105	.0003186
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	329.4764	.0068946	.3588547	9.665977	.0551942	.0036561
Stddev	1.6773	.0013555	.0028004	.056623	.0002960	.0001958
%RSD	.5090927	19.66058	.7803634	.5857937	.5362864	5.355969
#1	328.3049	.0084597	.3614202	9.730709	.0553289	.0034343
#2	328.7263	.0061334	.3592767	9.641578	.0548548	.0038049
#3	331.3979	.0060908	.3558673	9.625645	.0553989	.0037292

Sample Name: Q1628-01 Acquired: 3/24/2025 11:30:54 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.005081	.0765530	F 11.19963	.9338525	9.819997	-.005156
Stddev	.000405	.0026951	.07257	.0073042	.050897	.002018
%RSD	7.980382	3.520546	.6479879	.7821596	.5182966	39.13956
#1	-.005546	.0734426	11.28270	.9366841	9.828090	-.006372
#2	-.004890	.0780213	11.14854	.9255564	9.765539	-.006268
#3	-.004806	.0781951	11.16765	.9393170	9.866362	-.002826

Elem	Sr4077
Units	ppm
Avg	.2782586
Stddev	.0011991
%RSD	.4309447
#1	.2768903
#2	.2791263
#3	.2787593

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2988.885	67686.29	15152.84	1961.901	4322.480
Stddev	12.255	364.47	63.54	15.431	16.953
%RSD	.4100142	.5384668	.4193424	.7865326	.3922046
#1	2988.620	67290.47	15212.23	1945.608	4322.161
#2	3001.270	67760.38	15085.83	1963.801	4339.590
#3	2976.764	68008.02	15160.47	1976.294	4305.688

Sample Name: Q1628-02 Acquired: 3/24/2025 11:35:14 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0003563	-.005892	.0214294	.0019349	.0017535	1.776003
Stddev	.0028466	.001256	.0022130	.0051183	.0036478	.025507
%RSD	798.9642	21.31914	10.32685	264.5189	208.0357	1.436230

#1	.0035438	-.004580	.0213149	.0069643	.0030567	1.804877
#2	-.000542	-.006011	.0192759	-.003268	.0045707	1.756534
#3	-.001933	-.007084	.0236974	.002108	-.002367	1.766597

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0670182	.0001046	-.000862	87.01180	.0069677	.0023326
Stddev	.0010627	.0000277	.000108	.13884	.0000809	.0000404
%RSD	1.585736	26.49359	12.51531	.1595678	1.160416	1.733664

#1	.0674172	.0001035	-.000979	87.07458	.0069892	.0022964
#2	.0678236	.0000775	-.000841	87.10818	.0068782	.0023763
#3	.0658137	.0001329	-.000766	86.85266	.0070356	.0023252

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0911054	17.83619	.3461069	12.52082	.0094456	.0003138
Stddev	.0003354	.12315	.0006948	.04916	.0002058	.0001091
%RSD	.3681506	.6904508	.2007574	.3926138	2.178779	34.76946

#1	.0913899	17.89220	.3468754	12.55039	.0092943	.0002069
#2	.0911907	17.92139	.3455229	12.54800	.0093626	.0003094
#3	.0907356	17.69499	.3459225	12.46407	.0096800	.0004250

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	356.4838	.0066556	.4043856	11.02352	.0549558	.0047826
Stddev	4.2964	.0010581	.0038196	.03801	.0009386	.0002685
%RSD	1.205206	15.89802	.9445380	.3448156	1.707912	5.613910

#1	358.1152	.0054344	.4031414	11.01275	.0554976	.0045243
#2	359.7255	.0072335	.4086721	11.06576	.0554979	.0047634
#3	351.6107	.0072989	.4013432	10.99206	.0538720	.0050602

Sample Name: Q1628-02 Acquired: 3/24/2025 11:35:14 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.004618	.0985719	F 11.87064	1.128395	F 10.66989	-.001730
Stddev	.000318	.0064689	.11146	.001489	.02146	.002267
%RSD	6.882270	6.562628	.9389618	.1319165	.2011048	131.0557
#1	-.004854	.1053399	11.95544	1.128985	10.65159	-.001394
#2	-.004257	.0924507	11.91209	1.129498	10.69351	.000350
#3	-.004743	.0979251	11.74440	1.126702	10.66457	-.004146

Elem	Sr4077
Units	ppm
Avg	.2907861
Stddev	.0005965
%RSD	.2051349
#1	.2902056
#2	.2907552
#3	.2913974

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2941.910	67151.65	15138.64	1913.969	4265.356
Stddev	12.013	486.44	65.42	15.815	7.321
%RSD	.4083254	.7243864	.4321416	.8263129	.1716413
#1	2950.435	66985.57	15096.85	1918.423	4271.851
#2	2947.124	66770.01	15105.03	1896.404	4266.793
#3	2928.172	67699.38	15214.03	1927.080	4257.422

Sample Name: Q1605-02 Acquired: 3/24/2025 11:39:34 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.004346	-.006444	.1348660	.0034188	-.002462	.0215574	.4474934
Stddev	.000620	.001362	.0006149	.0013220	.001660	.0049251	.0034966
%RSD	14.25843	21.14045	.4559247	38.66839	67.42483	22.84656	.7813740
#1	-.004270	-.007823	.1345895	.0031873	-.001418	.0170412	.4513843
#2	-.004999	-.005099	.1344379	.0048412	-.001591	.0268088	.4446144
#3	-.003767	-.006409	.1355706	.0022279	-.004375	.0208221	.4464814
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000378	.0016539	70.92939	-.000012	.0102792	.0218072	.3716500
Stddev	.0000183	.0000519	.46547	.000443	.0000253	.0003156	.0033120
%RSD	48.45529	3.136161	.6562507	3683.564	.2462666	1.447090	.8911703
#1	.0000189	.0017114	71.46434	.000069	.0102753	.0219924	.3699847
#2	.0000390	.0016398	70.70699	-.000490	.0103062	.0214428	.3754642
#3	.0000555	.0016105	70.61683	.000385	.0102560	.0219864	.3695011
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.353618	5.312784	.0129584	.0002787	387.8636	.0004850	.3281202
Stddev	.008947	.050470	.0003882	.0001849	3.8986	.0007053	.0013126
%RSD	.6609578	.9499778	2.995423	66.34388	1.005151	145.4451	.4000278
#1	1.363928	5.355855	.0128205	.0004804	383.4000	.0004651	.3279934
#2	1.347895	5.257250	.0133966	.0001172	389.5885	-.000210	.3268756
#3	1.349030	5.325248	.0126580	.0002385	390.6022	.001200	.3294916
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.845920	.0241531	.0000866	-.006106	-.000696	1.483429	.0097931
Stddev	.033419	.0007247	.0001967	.000689	.000053	.007113	.0039779
%RSD	1.810400	3.000341	227.2655	11.28720	7.676284	.4794738	40.61959
#1	1.807435	.0246949	.0000594	-.005984	-.000650	1.483633	.0089593
#2	1.862724	.0244345	-.000095	-.006848	-.000755	1.476217	.0062982
#3	1.867602	.0233299	.000295	-.005486	-.000683	1.490438	.0141218

Sample Name: Q1605-02 Acquired: 3/24/2025 11:39:34 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7923590	-.017771	.1864561
Stddev	.0001977	.000146	.0012175
%RSD	.0249482	.8238995	.6529558
#1	.7925182	-.017678	.1877996
#2	.7921377	-.017940	.1854258
#3	.7924209	-.017696	.1861429

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2931.487	66693.04	15314.59	1898.511	4245.551
Stddev	14.805	69.85	118.41	4.408	15.628
%RSD	.5050288	.1047388	.7731560	.2321905	.3681131
#1	2948.571	66743.80	15194.02	1899.710	4263.420
#2	2923.488	66613.37	15319.05	1902.195	4234.434
#3	2922.402	66721.95	15430.70	1893.627	4238.799

Sample Name: Q1583-02 Acquired: 3/24/2025 11:43:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.005625	-.005766	.0182007	.0039957	-.002311	.0554026	-.002430
Stddev	.001119	.001187	.0014180	.0027674	.002098	.0043265	.000859
%RSD	19.88937	20.58779	7.790902	69.25987	90.81342	7.809139	35.34276

#1	-.006283	-.006316	.0174260	.0017545	-.003487	.0556185	-.003206
#2	-.004333	-.004404	.0198373	.0070890	-.003557	.0596170	-.002576
#3	-.006259	-.006578	.0173389	.0031437	.000112	.0509722	-.001507

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000109	.0000751	17.77563	.0029110	-.000174	.2898228	.6100907
Stddev	.000044	.0000758	.32702	.0002589	.000067	.0009552	.0015964
%RSD	40.58360	100.9027	1.839725	8.893182	38.60379	.3295754	.2616608

#1	-.000099	.0000805	17.41197	.0029144	-.000240	.2906725	.6088864
#2	-.000070	-.000003	17.86938	.0026505	-.000106	.2887889	.6119014
#3	-.000157	.000148	18.04553	.0031683	-.000175	.2900069	.6094844

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0217352	3.719559	.0030649	.0004723	59.19837	.0005875	.9140762
Stddev	.0005285	.086944	.0002681	.0000411	.34570	.0012367	.0018434
%RSD	2.431500	2.337485	8.746763	8.713988	.5839658	210.5101	.2016667

#1	.0212577	3.620571	.0029247	.0004251	58.99458	.0018759	.9135375
#2	.0223031	3.754547	.0028959	.0004914	59.59752	.0004766	.9161290
#3	.0216450	3.783558	.0033740	.0005004	59.00301	-.000590	.9125622

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.06086	.0773280	.0004602	-.003489	.0021380	7.283261	2.556056
Stddev	.14430	.0014649	.0001763	.000520	.0005424	.046698	.010416
%RSD	.8458161	1.894362	38.30599	14.89315	25.36839	.6411716	.4074968

#1	16.92090	.0756615	.0006406	-.002891	.0026869	7.244728	2.557422
#2	17.20914	.0779104	.0002884	-.003754	.0016024	7.335194	2.545025
#3	17.05255	.0784121	.0004514	-.003823	.0021247	7.269860	2.565722

Sample Name: Q1583-02 Acquired: 3/24/2025 11:43:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	7.252930	-.008194	.1024381
Stddev	.026504	.001447	.0016639
%RSD	.3654187	17.65726	1.624269
#1	7.264485	-.008037	.1005272
#2	7.222611	-.009712	.1032215
#3	7.271694	-.006832	.1035657

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3035.157	71276.54	15617.72	1987.959	4655.980
Stddev	11.453	196.85	217.73	7.499	21.771
%RSD	.3773364	.2761826	1.394149	.3772232	.4675857
#1	3024.061	71197.03	15837.13	1986.799	4638.635
#2	3046.936	71131.88	15614.32	1981.107	4680.411
#3	3034.475	71500.72	15401.71	1995.970	4648.894

Sample Name: Q1583-02DUP Acquired: 3/24/2025 11:48:09 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.005698	-.005172	.0179149	.0018076	-.000899	.0476089	-.001053
Stddev	.003115	.000764	.0010439	.0046853	.000610	.0039844	.000103
%RSD	54.66107	14.78018	5.827229	259.1985	67.88914	8.368969	9.805369
#1	-.002143	-.005583	.0177373	.0054148	-.001400	.0462162	-.001136
#2	-.007006	-.005643	.0190363	.0034959	-.000219	.0521027	-.001085
#3	-.007946	-.004290	.0169712	-.003488	-.001077	.0445078	-.000937
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000084	.0000776	18.10044	.0025742	-.000108	.2857623	.6165250
Stddev	.000036	.0001068	.48539	.0001490	.000038	.0012447	.0106511
%RSD	42.98264	137.5026	2.681652	5.787618	35.08359	.4355576	1.727595
#1	-.000099	-.000019	18.57742	.0027051	-.000098	.2844409	.6278000
#2	-.000043	.000192	18.11685	.0024121	-.000077	.2869125	.6151418
#3	-.000110	.000060	17.60705	.0026056	-.000151	.2859333	.6066331
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0219454	3.773754	.0033156	.0001911	59.28039	.0007193	.9029418
Stddev	.0008055	.106544	.0001724	.0001732	.46467	.0016172	.0066935
%RSD	3.670649	2.823301	5.200031	90.65877	.7838544	224.8226	.7413012
#1	.0225589	3.877111	.0034476	.0002761	59.76933	.0022294	.9103606
#2	.0222442	3.779866	.0033787	-.000008	59.22731	-.000987	.9011099
#3	.0210332	3.664285	.0031205	.000305	58.84455	.000916	.8973550
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.92998	.0795325	.0005165	-.003042	.0016678	7.186434	2.540670
Stddev	.11623	.0020722	.0001374	.000438	.0001418	.052449	.021769
%RSD	.6865099	2.605454	26.59325	14.40440	8.502090	.7298342	.8568371
#1	17.05990	.0815842	.0003893	-.003547	.0015852	7.243801	2.517091
#2	16.89416	.0795729	.0006621	-.002814	.0015865	7.174563	2.544914
#3	16.83588	.0774405	.0004981	-.002764	.0018315	7.140938	2.560005

Sample Name: Q1583-02DUP Acquired: 3/24/2025 11:48:09 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	7.176477	-.008906	.1043562
Stddev	.020214	.001052	.0027370
%RSD	.2816680	11.80804	2.622774
#1	7.153203	-.009518	.1069332
#2	7.189648	-.007692	.1046522
#3	7.186579	-.009509	.1014832

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3099.169	72297.51	15463.30	2054.067	4729.492
Stddev	12.084	411.02	368.70	27.120	17.685
%RSD	.3899250	.5685052	2.384386	1.320308	.3739268
#1	3112.249	71868.55	15128.26	2023.087	4749.712
#2	3096.840	72336.14	15403.33	2065.600	4721.859
#3	3088.419	72687.85	15858.31	2073.515	4716.906

Sample Name: Q1583-02LX5 Acquired: 3/24/2025 11:52:21 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.002006	-.001496	.0047227	.0010849	-.000372	.0118664	-.007827
Stddev	.001560	.001833	.0008711	.0027801	.000280	.0045269	.000573
%RSD	77.73021	122.4798	18.44567	256.2483	75.33513	38.14875	7.321580
#1	-.002140	.000106	.0037860	.0000045	-.000124	.0075359	-.007850
#2	-.000384	-.003494	.0048735	.0042430	-.000676	.0165669	-.008389
#3	-.003495	-.001100	.0055085	-.000993	-.000316	.0114965	-.007243
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000068	-.000053	3.692799	.0001949	-.000092	.0594593	.1239722
Stddev	.000021	.000045	.019107	.0004999	.000062	.0001334	.0063025
%RSD	30.54729	85.73839	.5174085	256.5258	67.20715	.2243609	5.083795
#1	-.000081	-.000025	3.681652	.0005611	-.000123	.0593973	.1307251
#2	-.000044	-.000105	3.681884	.0003983	-.000021	.0596124	.1229453
#3	-.000078	-.000029	3.714861	-.000375	-.000132	.0593681	.1182462
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036998	.7714086	.0004691	.0002942	11.18270	.0006235	.1842309
Stddev	.0002384	.0097441	.0000850	.0003159	.04065	.0003256	.0005700
%RSD	6.443810	1.263155	18.12588	107.3780	.3635098	52.22582	.3094117
#1	.0039555	.7700788	.0004862	.0001849	11.22855	.0002779	.1848371
#2	.0034837	.7623977	.0005443	.0006501	11.16848	.0009246	.1837058
#3	.0036602	.7817493	.0003769	.0000475	11.15107	.0006680	.1841497
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.226326	.0152860	.0000543	-.001051	.0010683	1.408202	.5059034
Stddev	.006981	.0002256	.0000367	.000159	.0006852	.012099	.0027969
%RSD	.2163680	1.475811	67.69113	15.16494	64.13368	.8591634	.5528611
#1	3.233810	.0155450	.0000165	-.000881	.0016504	1.417028	.5026737
#2	3.225176	.0151811	.0000899	-.001196	.0003133	1.394411	.5075154
#3	3.219992	.0151320	.0000566	-.001075	.0012413	1.413167	.5075209

Sample Name: Q1583-02LX5 Acquired: 3/24/2025 11:52:21 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	1.426238	.0002729	.0214164
Stddev	.005207	.0008293	.0000579
%RSD	.3650603	303.8797	.2704206
#1	1.424958	.0002829	.0214421
#2	1.431965	-.000561	.0213500
#3	1.421790	.001097	.0214570

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3249.474	74788.65	15448.80	2154.818	5102.359
Stddev	4.816	228.36	81.92	7.457	9.082
%RSD	.1482009	.3053408	.5302770	.3460743	.1779879
#1	3248.126	74535.68	15431.62	2146.328	5100.775
#2	3245.475	74979.57	15537.95	2157.821	5094.174
#3	3254.820	74850.70	15376.84	2160.306	5112.129

Sample Name: Q1583-02MS Acquired: 3/24/2025 11:56:38 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7554151	1.771475	.8854265	1.847768	.8026839	1.906364	.1768557
Stddev	.0032167	.021023	.0039841	.007826	.0031679	.004747	.0010449
%RSD	.4258200	1.186730	.4499586	.4235545	.3946606	.2490169	.5908442

#1	.7518532	1.747703	.8808467	1.838809	.7991927	1.906975	.1766184
#2	.7562841	1.779105	.8880928	1.851227	.8053750	1.910776	.1779988
#3	.7581081	1.787617	.8873400	1.853269	.8034841	1.901340	.1759497

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1665347	.1775436	18.74147	.3904383	.1845293	.5744249	3.413394
Stddev	.0004621	.0003213	.03646	.0004528	.0008038	.0013849	.009507
%RSD	.2775063	.1809504	.1945325	.1159829	.4355734	.2410950	.2785330

#1	.1662370	.1771741	18.73374	.3899187	.1836356	.5729211	3.404787
#2	.1662999	.1777561	18.78118	.3907486	.1851929	.5747059	3.411797
#3	.1670671	.1777008	18.70950	.3906477	.1847593	.5756478	3.423599

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1988564	5.444844	.4602362	.0317584	61.81608	.2766232	1.082550
Stddev	.0001980	.014254	.0013195	.0000851	.12605	.0010012	.004648
%RSD	.0995517	.2617979	.2866946	.2679103	.2039189	.3619245	.4293588

#1	.1986299	5.446589	.4587387	.0316709	61.95701	.2754869	1.085123
#2	.1989433	5.458147	.4607416	.0318408	61.71410	.2770073	1.085343
#3	.1989961	5.429798	.4612283	.0317635	61.77712	.2773755	1.077185

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.68882	.3087021	.4185158	.6382037	.1843088	7.984964	7.896668
Stddev	.00907	.0008861	.0013652	.0037204	.0003175	.020467	.047766
%RSD	.0339861	.2870423	.3262033	.5829527	.1722735	.2563164	.6048844

#1	26.69869	.3084414	.4169396	.6369189	.1839500	8.003557	7.846162
#2	26.68695	.3079756	.4193263	.6352959	.1844232	7.988301	7.902726
#3	26.68084	.3096893	.4192815	.6423962	.1845533	7.963033	7.941115

Sample Name: Q1583-02MS Acquired: 3/24/2025 11:56:38 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	7.066392	.1817057	.2850209
Stddev	.045477	.0011919	.0004529
%RSD	.6435610	.6559388	.1588851
#1	7.013880	.1824069	.2854498
#2	7.092678	.1803295	.2850656
#3	7.092618	.1823806	.2845474

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3077.183	71822.40	15549.21	2019.518	4691.948
Stddev	6.695	122.56	16.65	12.716	10.318
%RSD	.2175645	.1706370	.1071113	.6296794	.2199173
#1	3084.854	71745.06	15548.63	2011.007	4703.850
#2	3074.177	71758.43	15532.85	2013.412	4685.511
#3	3072.518	71963.70	15566.15	2034.136	4686.484

Sample Name: Q1583-02MSD Acquired: 3/24/2025 12:00:37 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7575672	1.762046	.8832978	1.854409	.8089380	1.903959	.1728168
Stddev	.0043869	.004596	.0011400	.005078	.0017381	.001817	.0015377
%RSD	.5790717	.2608418	.1290657	.2738139	.2148618	.0954147	.8897577

#1	.7591765	1.764782	.8831151	1.856808	.8076052	1.904879	.1741597
#2	.7526030	1.756739	.8822601	1.848577	.8083049	1.905131	.1731515
#3	.7609221	1.764615	.8845181	1.857843	.8109039	1.901866	.1711395

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1663088	.1766326	18.64072	.3909519	.1834827	.5740974	3.423728
Stddev	.0006825	.0005673	.07182	.0004798	.0006056	.0007539	.019198
%RSD	.4103940	.3211586	.3852991	.1227330	.3300825	.1313159	.5607314

#1	.1662951	.1766972	18.65747	.3908792	.1839874	.5739851	3.445894
#2	.1669980	.1760358	18.70268	.3905125	.1828111	.5734059	3.412388
#3	.1656332	.1771649	18.56200	.3914639	.1836495	.5749011	3.412902

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1966339	5.431856	.4572249	.0378587	61.65870	.2746254	1.089296
Stddev	.0010894	.031315	.0014826	.0054518	.34895	.0010532	.002311
%RSD	.5540346	.5765054	.3242597	14.40027	.5659341	.3834990	.2121301

#1	.1966395	5.450819	.4567693	.0424322	62.05314	.2754506	1.090255
#2	.1977205	5.449037	.4560236	.0393181	61.53272	.2734392	1.090974
#3	.1955417	5.395711	.4588819	.0318257	61.39023	.2749864	1.086661

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.81445	.3099621	.4199959	.6355387	.1828555	8.061173	7.836458
Stddev	.13969	.0007904	.0010054	.0023845	.0005923	.013839	.027622
%RSD	.5209537	.2550001	.2393861	.3751932	.3239144	.1716755	.3524795

#1	26.97332	.3101825	.4207175	.6360726	.1834655	8.074435	7.833180
#2	26.71087	.3106189	.4188475	.6329326	.1828183	8.046821	7.810622
#3	26.75915	.3090848	.4204228	.6376110	.1822826	8.062263	7.865573

Sample Name: Q1583-02MSD Acquired: 3/24/2025 12:00:37 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	7.036039	.1792092	.2811258
Stddev	.011687	.0023646	.0014085
%RSD	.1660955	1.319489	.5010191
#1	7.040599	.1817156	.2822661
#2	7.022759	.1788942	.2815600
#3	7.044757	.1770179	.2795513

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3073.386	70883.44	15561.19	1988.033	4713.574
Stddev	9.872	216.09	54.35	13.002	11.677
%RSD	.3212021	.3048524	.3492585	.6540230	.2477268
#1	3062.097	70635.76	15523.78	1973.566	4700.212
#2	3077.663	71033.47	15536.25	1991.792	4721.815
#3	3080.398	70981.08	15623.53	1998.742	4718.696

Sample Name: Q1583-02A Acquired: 3/24/2025 12:04:37 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7610684	1.758729	.8880432	1.877405	.8131891	1.917636	.1759139
Stddev	.0014266	.022129	.0037887	.005629	.0038147	.006778	.0005425
%RSD	.1874461	1.258225	.4266367	.2998118	.4691005	.3534574	.3083921

#1	.7623984	1.779764	.8914421	1.881563	.8148407	1.925101	.1764200
#2	.7595617	1.735648	.8887291	1.879652	.8088269	1.915943	.1759806
#3	.7612451	1.760774	.8839584	1.870999	.8158997	1.911866	.1753412

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1659697	.1773728	18.76706	.3925650	.1839853	.5763726	3.489182
Stddev	.0003286	.0009690	.06253	.0039114	.0004027	.0008035	.023433
%RSD	.1979826	.5463313	.3331754	.9963623	.2188566	.1393976	.6716012

#1	.1657936	.1784687	18.74970	.3899421	.1844430	.5767720	3.475143
#2	.1663488	.1770209	18.83644	.3906924	.1838274	.5768981	3.476169
#3	.1657667	.1766289	18.71505	.3970607	.1836856	.5754477	3.516234

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1993957	5.437857	.4586175	.0452296	63.13433	.2774006	1.096357
Stddev	.0004422	.030598	.0017450	.0148288	.81682	.0017060	.010098
%RSD	.2217727	.5626903	.3804913	32.78553	1.293775	.6149821	.9210951

#1	.1989634	5.407450	.4605008	.0316232	62.62041	.2760738	1.086469
#2	.1993766	5.468643	.4582965	.0610351	62.70638	.2768029	1.095947
#3	.1998472	5.437477	.4570554	.0430306	64.07620	.2793249	1.106654

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.24749	.3106963	.4193617	.6386267	.1860696	8.137211	7.828238
Stddev	.32591	.0003332	.0012470	.0021427	.0004981	.063323	.044892
%RSD	1.196109	.1072396	.2973559	.3355219	.2676930	.7781879	.5734653

#1	27.06672	.3110764	.4206862	.6408720	.1861721	8.108529	7.874324
#2	27.05204	.3104548	.4191885	.6366039	.1855282	8.093304	7.784643
#3	27.62373	.3105576	.4182103	.6384042	.1865084	8.209800	7.825749

Sample Name: Q1583-02A Acquired: 3/24/2025 12:04:37 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	7.101781	.1837642	.2851357
Stddev	.032808	.0002930	.0001937
%RSD	.4619682	.1594461	.0679327
#1	7.137688	.1838437	.2849129
#2	7.073369	.1840092	.2852296
#3	7.094286	.1834396	.2852644

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3067.624	70944.41	15627.33	1995.028	4688.375
Stddev	10.889	691.29	69.42	15.199	22.638
%RSD	.3549744	.9744120	.4442372	.7618496	.4828476
#1	3055.345	71525.01	15654.44	2012.029	4662.306
#2	3071.421	71128.53	15548.44	1990.299	4699.742
#3	3076.107	70179.70	15679.10	1982.755	4703.077

Sample Name: PB167178BL Acquired: 3/24/2025 12:08:37 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.001319	-.001247	.0009727	.0002675	-.000858	.0037629	-.009120
Stddev	.002469	.001021	.0007428	.0013287	.000912	.0044983	.000659
%RSD	187.2000	81.87056	76.36425	496.7116	106.2506	119.5429	7.223341
#1	-.003116	-.001764	.0001609	.0017819	-.000714	.0079523	-.009604
#2	-.002337	-.000071	.0016185	-.000702	-.000027	.0043274	-.008370
#3	.001496	-.001907	.0011388	-.000277	-.001833	-.000991	-.009387
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000042	-.000073	-.007287	-.000002	-.000036	.0002452	-.001770
Stddev	.0000181	.000044	.004517	.000275	.000079	.0002915	.003269
%RSD	432.4714	60.23090	61.98267	14918.56	221.3166	118.8842	184.7061
#1	.0000249	-.000030	-.007269	.000269	-.000119	.0003639	-.005292
#2	-.000008	-.000072	-.011814	.000005	-.000028	-.000087	-.001185
#3	-.000004	-.000118	-.002780	-.000280	.000039	.000459	.001167
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001167	-.007863	.0000225	.0005370	-.032557	.0008975	-.000141
Stddev	.000087	.006912	.0001655	.0001103	.018892	.0005112	.000283
%RSD	7.415500	87.91197	737.1164	20.53552	58.02532	56.95739	201.0973
#1	-.001263	-.009037	-.000168	.0005391	-.049616	.0003698	-.000467
#2	-.001095	-.000438	.000110	.0004256	-.012254	.0013905	.000005
#3	-.001143	-.014113	.000125	.0006461	-.035802	.0009323	.000040
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.045031	-.002798	-.000276	-.000517	.0010788	.0044802	-.000802
Stddev	.017432	.000331	.000217	.000805	.0002981	.0044964	.001068
%RSD	38.71065	11.83748	78.80388	155.7127	27.62905	100.3606	133.2884
#1	-.060717	-.002479	-.000336	.000316	.0008188	.0073722	-.001210
#2	-.048112	-.003141	-.000035	-.000577	.0014041	.0067684	-.001605
#3	-.026264	-.002775	-.000456	-.001291	.0010134	-.000700	.000411

Sample Name: PB167178BL Acquired: 3/24/2025 12:08:37 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.001465	-.000797	.0000060
Stddev	.002568	.000511	.0000511
%RSD	175.2590	64.07439	850.9083
#1	-.004378	-.000234	-.000032
#2	.000473	-.000927	.000064
#3	-.000491	-.001231	-.000014

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3311.962	75394.74	15037.13	2176.321	5267.768
Stddev	12.666	1154.71	52.18	28.042	20.002
%RSD	.3824187	1.531550	.3470263	1.288484	.3797140
#1	3304.131	76648.01	15071.05	2207.403	5253.419
#2	3305.181	74373.97	14977.04	2152.920	5259.269
#3	3326.574	75162.25	15063.31	2168.642	5290.617

Sample Name: CCV02 Acquired: 3/24/2025 12:12:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	5.006897	4.866575	4.831423	5.068784	5.145866	9.804395	9.556593
Stddev	.002701	.021928	.013876	.003960	.013195	.031565	.078779
%RSD	.0539356	.4505879	.2872031	.0781238	.2564240	.3219471	.8243384
#1	5.005904	4.874619	4.815441	5.064973	5.133147	9.811441	9.467197
#2	5.004834	4.883345	4.838440	5.068500	5.144961	9.831841	9.586720
#3	5.009953	4.841761	4.840390	5.072878	5.159491	9.769902	9.615862
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2373558	2.398040	23.45506	.9824042	2.413721	1.262812	4.713902
Stddev	.0006437	.008872	.11582	.0079835	.007648	.002203	.039996
%RSD	.2711971	.3699652	.4938034	.8126504	.3168583	.1744901	.8484586
#1	.2373730	2.388024	23.48294	.9915112	2.405047	1.260436	4.759984
#2	.2379908	2.404910	23.55440	.9790891	2.419497	1.264788	4.688221
#3	.2367037	2.401187	23.32784	.9766123	2.416618	1.263210	4.693501
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.304532	23.45486	2.415374	1.231033	23.69985	2.389597	2.491826
Stddev	.006732	.09952	.008690	.009675	.30846	.005923	.021503
%RSD	.2921356	.4243183	.3597966	.7858981	1.301534	.2478687	.8629328
#1	2.309944	23.49746	2.405467	1.242116	24.05591	2.396401	2.515978
#2	2.306659	23.52599	2.421711	1.226702	23.52965	2.386793	2.484740
#3	2.296993	23.34112	2.418943	1.224280	23.51398	2.385596	2.474760
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.27668	4.731551	5.078440	4.845861	4.757522	4.875713	5.032973
Stddev	.26332	.021331	.005446	.014114	.013663	.025892	.012694
%RSD	1.084653	.4508349	.1072361	.2912522	.2871903	.5310378	.2522226
#1	24.56819	4.741992	5.072157	4.829963	4.770322	4.900185	5.020397
#2	24.05606	4.745651	5.081806	4.856915	4.759108	4.848603	5.045782
#3	24.20580	4.707010	5.081358	4.850704	4.743135	4.878350	5.032741

Sample Name: CCV02 Acquired: 3/24/2025 12:12:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.874019	4.829754	4.779949
Stddev	.016697	.023218	.024347
%RSD	.3425682	.4807200	.5093627
#1	4.861639	4.856520	4.774929
#2	4.893009	4.817685	4.806415
#3	4.867409	4.815056	4.758503

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3127.708	72195.56	14808.79	2083.818	4591.001
Stddev	3.362	474.72	61.75	20.479	12.132
%RSD	.1074992	.6575523	.4169511	.9827750	.2642479
#1	3131.502	71667.33	14813.25	2061.177	4604.163
#2	3125.099	72332.83	14744.93	2089.227	4580.268
#3	3126.522	72586.52	14868.18	2101.049	4588.571

Sample Name: CCB02 Acquired: 3/24/2025 12:17:08 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0004287	.0000405	.0005114	-.002358	-.002201	.0045082	-.007926
Stddev	.0018945	.0017134	.0005198	.001776	.000421	.0074999	.000570
%RSD	441.8656	4232.785	101.6475	75.33524	19.10319	166.3591	7.192420

#1	-.000037	-.001786	.0006605	-.003209	-.002138	-.004019	-.008381
#2	.002513	.001612	.0009404	-.003549	-.001816	.007463	-.007286
#3	-.001190	.000296	-.000067	-.000316	-.002650	.010081	-.008110

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000024	-.000005	-.000581	.0000024	-.000075	-.000520	-.000874
Stddev	.000067	.000026	.005826	.0000862	.000206	.000098	.007599
%RSD	282.5485	553.5017	1002.424	3519.428	274.9743	18.93225	869.4313

#1	-.000050	-.000035	.000522	-.000097	.000161	-.000562	.007888
#2	.000052	.000014	.004614	.000047	-.000216	-.000590	-.005650
#3	-.000073	.000007	-.006880	.000057	-.000170	-.000407	-.004861

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000966	-.008122	.0000251	.0003653	-.080530	-.000187	-.000104
Stddev	.000141	.013104	.0000741	.0001797	.003977	.000504	.000307
%RSD	14.58850	161.3355	295.6854	49.18536	4.938316	270.0624	295.5071

#1	-.001040	-.020707	.0000388	.0002614	-.076841	-.000625	.000250
#2	-.000803	.005446	.0000914	.0002618	-.080005	.000364	-.000289
#3	-.001054	-.009107	-.000055	.0005728	-.084743	-.000299	-.000272

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.094371	.0046823	.0001409	-.000231	.0012859	.0061077	-.000866
Stddev	.003696	.0003107	.0001515	.000477	.0002064	.0004396	.001466
%RSD	3.916306	6.636681	107.5515	206.1181	16.05026	7.196743	169.3304

#1	-.098561	.0049581	.0000808	.000016	.0014862	.0059526	-.001919
#2	-.091573	.0047433	.0003132	-.000781	.0010739	.0057668	-.001487
#3	-.092980	.0043456	.0000286	.000071	.0012975	.0066038	.000809

Sample Name: CCB02 Acquired: 3/24/2025 12:17:08 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.002315	-.005145	.0001043
Stddev	.000581	.000688	.0001294
%RSD	25.09468	13.36392	124.0514
#1	-.002398	-.004399	.0001485
#2	-.001697	-.005753	.0002059
#3	-.002850	-.005284	-.000041

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3266.614	74405.96	15169.79	2141.827	5225.275
Stddev	7.978	104.76	35.16	9.889	19.015
%RSD	.2442390	.1407906	.2317741	.4616907	.3638971
#1	3266.051	74409.86	15184.85	2140.269	5212.218
#2	3274.859	74299.31	15194.92	2132.809	5247.090
#3	3258.932	74508.72	15129.61	2152.402	5216.515

Sample Name: PB167178BS Acquired: 3/24/2025 12:21:28 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7597193	1.880342	.9063465	1.935954	.8112085	1.887229
Stddev	.0009639	.016574	.0010157	.005509	.0030457	.008399
%RSD	.1268819	.8814108	.1120632	.2845520	.3754578	.4450670
#1	.7588438	1.893731	.9061411	1.935497	.8080194	1.881989
#2	.7595618	1.885490	.9054492	1.930689	.8115190	1.896917
#3	.7607523	1.861806	.9074491	1.941678	.8140872	1.882781
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F .1688567	.1779023	.1797642	.9190550	.3830122	.1842629
Stddev	.0005380	.0010995	.0003398	.0080309	.0068061	.0007007
%RSD	.3186090	.6180148	.1890165	.8738176	1.776992	.3802927
#1	.1682512	.1776733	.1793735	.9254370	.3752132	.1845379
#2	.1690390	.1790982	.1799283	.9216905	.3860723	.1834664
#3	.1692798	.1769354	.1799907	.9100376	.3877511	.1847845
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3048797	2.738037	.1780788	1.787838	.4620158	.0723812
Stddev	.0010754	.050924	.0020048	.019908	.0013762	.0010331
%RSD	.3527208	1.859873	1.125809	1.113528	.2978662	1.427332
#1	.3041869	2.680257	.1762865	1.808221	.4606690	.0711955
#2	.3043336	2.757478	.1802438	1.786850	.4619589	.0730877
#3	.3061185	2.776377	.1777061	1.768441	.4634196	.0728604
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 2.486846	.2749571	.1968994	9.025006	.2617913	.4051354
Stddev	.054440	.0013974	.0035199	.179062	.0008756	.0001380
%RSD	2.189105	.5082144	1.787668	1.984060	.3344477	.0340593
#1	2.431815	.2753810	.1928619	8.848545	.2614180	.4052776
#2	2.488048	.2760934	.1993231	9.019915	.2627916	.4050021
#3	2.540674	.2733968	.1985131	9.206560	.2611642	.4051265

Sample Name: PB167178BS Acquired: 3/24/2025 12:21:28 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6435869	.1828107	F .7488778	5.369363	F -.011928	.1820114
Stddev	.0014983	.0008837	.0044693	.010151	.002456	.0012299
%RSD	.2328083	.4833959	.5968046	.1890516	20.59226	.6757414
#1	.6434033	.1819193	.7460257	5.379931	-.013437	.1812689
#2	.6421888	.1836865	.7465790	5.359689	-.009094	.1813341
#3	.6451685	.1828263	.7540287	5.368468	-.013253	.1834311

Elem	Sr4077
Units	ppm
Avg	.1795790
Stddev	.0006651
%RSD	.3703443
#1	.1791624
#2	.1803460
#3	.1792287

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3204.519	74956.43	15425.70	2120.260	5012.740
Stddev	6.465	1112.94	92.00	33.556	7.146
%RSD	.2017473	1.484777	.5963893	1.582618	.1425580
#1	3206.982	76221.95	15428.72	2158.548	5014.851
#2	3209.391	74517.25	15332.23	2106.268	5018.592
#3	3197.185	74130.10	15516.15	2095.965	5004.776

Sample Name: Q1576-01 Acquired: 3/24/2025 12:27:40 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	F 54.08540	.0278930	2.018465	.0065796	.0043626	28.41493
Stddev	.04495	.0009507	.001488	.0063510	.0042324	.06566
%RSD	.0831090	3.408498	.0737430	96.52532	97.01512	.2310813
#1	54.13157	.0283502	2.019929	.0025716	.0092485	28.47211
#2	54.08285	.0268000	2.016953	.0139022	.0020163	28.42945
#3	54.04178	.0285287	2.018513	.0032651	.0018231	28.34322

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7536656	.0035122	.0442538	301.2124	.2737766	.0206756
Stddev	.0021409	.0001316	.0003644	4.0404	.0003854	.0002296
%RSD	.2840671	3.747661	.8235177	1.341381	.1407727	1.110485
#1	.7541304	.0036628	.0445307	305.6572	.2741470	.0209272
#2	.7555360	.0034548	.0438409	300.2176	.2733778	.0204773
#3	.7513305	.0034190	.0443897	297.7622	.2738051	.0206224

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.024840	383.1116	2.203586	34.97128	.0619082	-.000096
Stddev	.001293	.9038	.003018	.04674	.0005749	.000274
%RSD	.1261374	.2359197	.1369475	.1336467	.9286700	285.0953
#1	1.026249	382.5586	2.204301	34.93876	.0612446	.000123
#2	1.023709	384.1546	2.206181	35.02484	.0622255	-.000009
#3	1.024562	382.6216	2.200274	34.95025	.0622546	-.000403

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	254.6439	.0849120	4.775515	35.31441	.2643049	.0578678
Stddev	1.7129	.0014188	.014662	.13934	.0053258	.0004796
%RSD	.6726693	1.670847	.3070261	.3945606	2.015019	.8287192
#1	256.2865	.0833828	4.790670	35.27225	.2628074	.0582432
#2	254.7766	.0861856	4.761401	35.46996	.2702192	.0580327
#3	252.8684	.0851676	4.774473	35.20103	.2598882	.0573276

Sample Name: Q1576-01 Acquired: 3/24/2025 12:27:40 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0865519	.4614197	F 62.56336	8.622201	F 148.3293	.1954004
Stddev	.0022015	.0010233	.23373	.008583	.1233	.0011874
%RSD	2.543506	.2217675	.3735842	.0995422	.0831108	.6076831
#1	.0890158	.4619008	62.49215	8.623654	148.4629	.1955494
#2	.0858616	.4621138	62.82441	8.612985	148.3050	.1965062
#3	.0847783	.4602445	62.37352	8.629965	148.2199	.1941455

Elem	Sr4077
Units	ppm
Avg	1.080787
Stddev	.003604
%RSD	.3334525
#1	1.083517
#2	1.082141
#3	1.076702

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2835.079	67065.75	15169.96	1899.473	4005.953
Stddev	6.779	164.01	50.11	4.216	10.198
%RSD	.2391053	.2445453	.3303511	.2219300	.2545690
#1	2827.277	66930.09	15112.95	1895.107	3994.370
#2	2839.530	67019.15	15207.06	1903.519	4013.582
#3	2838.429	67248.01	15189.88	1899.794	4009.906

Sample Name: Q1576-01DUP Acquired: 3/24/2025 12:32:08 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	F 53.51787	.0284011	2.006099	.0032994	.0036571	28.30950
Stddev	.18690	.0015449	.008159	.0015523	.0024962	.09957
%RSD	.3492258	5.439688	.4066990	47.04810	68.25624	.3517020
#1	53.30430	.0286590	1.996767	.0036945	.0022824	28.37162
#2	53.59780	.0267434	2.011884	.0015877	.0065385	28.19466
#3	53.65152	.0298008	2.009646	.0046159	.0021504	28.36222
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7585307	.0035082	.0442466	302.1930	.2714403	.0214338
Stddev	.0038230	.0000432	.0019264	2.3402	.0076084	.0004065
%RSD	.5040028	1.232610	4.353710	.7744177	2.802966	1.896391
#1	.7608869	.0035415	.0427183	300.5174	.2775471	.0211311
#2	.7541197	.0035238	.0464105	301.1947	.2629172	.0212746
#3	.7605856	.0034593	.0436112	304.8668	.2738566	.0218958
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.023748	381.9051	2.211715	35.04577	.0618998	-.000567
Stddev	.006242	10.1147	.003423	.02898	.0001885	.000485
%RSD	.6097617	2.648492	.1547614	.0826913	.3045960	85.50137
#1	1.016949	388.5039	2.212573	35.01655	.0616967	-.001080
#2	1.029221	370.2601	2.207946	35.07450	.0619336	-.000507
#3	1.025075	386.9512	2.214628	35.04628	.0620692	-.000115
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	255.8273	.0837304	4.763003	34.98849	.2833071	.0581759
Stddev	7.8026	.0011179	.137320	1.04531	.0241252	.0003000
%RSD	3.049931	1.335078	2.883051	2.987570	8.515571	.5156340
#1	260.5036	.0848163	4.874887	35.65118	.3040397	.0578465
#2	246.8199	.0825831	4.609757	33.78348	.2568272	.0582476
#3	260.1583	.0837920	4.804366	35.53082	.2890543	.0584335

Sample Name: Q1576-01DUP Acquired: 3/24/2025 12:32:08 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0868911	.4620122	F 61.98497	8.563497	F 146.9655	.1940244
Stddev	.0000956	.0023697	1.69904	.035184	.6531	.0031912
%RSD	.1100591	.5129116	2.741055	.4108544	.4443749	1.644760
#1	.0869153	.4637157	63.12421	8.528630	146.2118	.1954956
#2	.0867857	.4593060	60.03211	8.562874	147.3216	.1903630
#3	.0869723	.4630150	62.79858	8.598989	147.3632	.1962147

Elem	Sr4077
Units	ppm
Avg	1.088557
Stddev	.026508
%RSD	2.435125
#1	1.083369
#2	1.117276
#3	1.065027

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2852.166	67581.46	15134.45	1919.171	4031.924
Stddev	11.971	1599.31	37.58	48.387	11.665
%RSD	.4197033	2.366499	.2483260	2.521252	.2893163
#1	2865.633	66455.66	15142.66	1876.111	4043.674
#2	2848.129	69412.13	15093.45	1971.534	4031.750
#3	2842.736	66876.59	15167.26	1909.868	4020.346

Sample Name: Q1576-01LX5 Acquired: 3/24/2025 12:36:36 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	F 11.48189	.0034201	.4286256	.0004531	-.002138	5.751648
Stddev	.01543	.0020846	.0018972	.0033451	.000860	.018353
%RSD	.1344229	60.95322	.4426326	738.3015	40.21007	.3190912

#1	11.47116	.0044778	.4266748	-.001592	-.003035	5.738057
#2	11.47491	.0047638	.4287377	.004313	-.001321	5.772525
#3	11.49958	.0010186	.4304643	-.001362	-.002059	5.744362

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1440146	.0007430	.0079130	62.54638	.0576074	.0041466
Stddev	.0014950	.0000744	.0001776	.08625	.0001347	.0003502
%RSD	1.038115	10.01818	2.244067	.1378911	.2338420	8.446647

#1	.1456566	.0007638	.0077927	62.62948	.0577629	.0039927
#2	.1436550	.0006604	.0078294	62.55237	.0575293	.0045474
#3	.1427321	.0008048	.0081169	62.45730	.0575299	.0038997

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2202599	78.62326	.4616712	7.344022	.0127356	.0003410
Stddev	.0005790	.43974	.0005123	.030880	.0003116	.0000355
%RSD	.2628643	.5592992	.1109663	.4204770	2.446656	10.41690

#1	.2197277	79.10390	.4622196	7.308679	.0127409	.0003684
#2	.2201755	78.52474	.4612049	7.357607	.0124214	.0003537
#3	.2208764	78.24114	.4615891	7.365781	.0130446	.0003008

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	48.38064	.0171938	1.005515	6.475073	.0546060	.0119272
Stddev	.27142	.0007772	.005734	.035099	.0019221	.0001988
%RSD	.5610078	4.520303	.5702378	.5420654	3.519993	1.666613

#1	48.67118	.0164674	1.007899	6.513870	.0548299	.0120670
#2	48.33716	.0171006	1.009673	6.465825	.0564063	.0120150
#3	48.13359	.0180134	.998974	6.445523	.0525817	.0116996

Sample Name: Q1576-01LX5 Acquired: 3/24/2025 12:36:36 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0144816	.0949741	F 12.33355	1.693333	F 29.43894	.0399195
Stddev	.0005009	.0002376	.05306	.008300	.12178	.0008010
%RSD	3.459166	.2502154	.4302116	.4901632	.4136606	2.006438
#1	.0148700	.0947174	12.38979	1.696453	29.39451	.0407232
#2	.0146585	.0951864	12.28438	1.699621	29.34561	.0391213
#3	.0139162	.0950185	12.32647	1.683925	29.57669	.0399141

Elem	Sr4077
Units	ppm
Avg	.2172367
Stddev	.0006246
%RSD	.2875107
#1	.2175723
#2	.2176217
#3	.2165160

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3108.062	71030.68	15516.22	2033.827	4619.173
Stddev	7.570	203.36	43.33	3.311	11.740
%RSD	.2435646	.2863009	.2792415	.1627786	.2541495
#1	3115.308	70897.21	15534.15	2037.549	4627.164
#2	3108.673	71264.73	15547.70	2031.212	4624.662
#3	3100.205	70930.10	15466.80	2032.718	4605.695

Sample Name: Q1576-01MS Acquired: 3/24/2025 12:40:45 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	F 49.22829	1.650904	2.639303	1.877371	.7141099	29.79851
Stddev	.12502	.014707	.006418	.002710	.0018228	.15110
%RSD	.2539698	.8908283	.2431620	.1443305	.2552502	.5070598

#1	49.09991	1.634392	2.633849	1.874242	.7161222	29.64522
#2	49.23530	1.655724	2.637685	1.878880	.7136379	29.94731
#3	49.34967	1.662596	2.646375	1.878990	.7125695	29.80300

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8720779	.1663214	.2144041	287.1968	.6103899	.1984006
Stddev	.0034617	.0010440	.0007637	1.4428	.0017322	.0005204
%RSD	.3969526	.6277333	.3562103	.5023775	.2837837	.2623003

#1	.8682481	.1651262	.2137084	286.2997	.6119881	.1985274
#2	.8730013	.1670558	.2142825	288.8611	.6085492	.1978285
#3	.8749843	.1667822	.2152213	286.4295	.6106322	.1988459

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.199797	359.1900	2.230070	34.98735	.4972273	.0231770
Stddev	.001006	1.1607	.008490	.16527	.0009145	.0001900
%RSD	.0838289	.3231558	.3806885	.4723600	.1839174	.8199287

#1	1.198869	359.6776	2.221348	34.80073	.4961897	.0229957
#2	1.199657	357.8650	2.238306	35.11520	.4975763	.0233747
#3	1.200865	360.0274	2.230556	35.04612	.4979159	.0231604

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	248.8059	.3402150	4.751349	44.79177	.4950998	.4447201
Stddev	2.5896	.0035338	.016941	.08271	.0025764	.0005673
%RSD	1.040822	1.038686	.3565408	.1846587	.5203876	.1275749

#1	251.3608	.3362899	4.763154	44.88291	.4972859	.4444706
#2	246.1829	.3431434	4.731939	44.72147	.4922592	.4443202
#3	248.8740	.3412116	4.758954	44.77093	.4957543	.4453694

Sample Name: Q1576-01MS Acquired: 3/24/2025 12:40:45 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6077002	.5920572	F 61.08316	F 13.05194	F 135.6260	.3799328
Stddev	.0008810	.0028412	.10734	.02495	.3946	.0014561
%RSD	.1449727	.4798862	.1757228	.1911732	.2909354	.3832449
#1	.6068400	.5887809	61.05366	13.02869	135.2466	.3783998
#2	.6076600	.5935474	60.99366	13.04883	135.5973	.3812973
#3	.6086006	.5938433	61.20216	13.07830	136.0342	.3801013

Elem	Sr4077
Units	ppm
Avg	1.200100
Stddev	.014678
%RSD	1.223052
#1	1.186006
#2	1.215299
#3	1.198995

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2833.729	65819.90	15158.34	1847.981	4049.211
Stddev	1.914	149.02	50.92	6.564	4.890
%RSD	.0675584	.2264023	.3359252	.3552246	.1207608
#1	2835.136	65719.55	15213.24	1843.573	4052.804
#2	2834.501	65991.13	15112.65	1855.525	4051.188
#3	2831.549	65749.01	15149.14	1844.844	4043.643

Sample Name: Q1576-01MSD Acquired: 3/24/2025 12:45:10 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	F 51.30016	1.771313	2.804399	1.990175	.7492763	31.57302
Stddev	.15849	.024897	.014732	.004720	.0081891	.06176
%RSD	.3089489	1.405579	.5253079	.2371619	1.092936	.1955968

#1	51.46538	1.782618	2.799943	1.992321	.7558508	31.51010
#2	51.14938	1.742769	2.792410	1.993440	.7401032	31.57540
#3	51.28573	1.788553	2.820844	1.984763	.7518749	31.63355

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9144048	.1827616	.2308694	304.4511	.6401997	.2117613
Stddev	.0041310	.0003115	.0017647	2.3803	.0048402	.0008145
%RSD	.4517707	.1704316	.7643716	.7818469	.7560437	.3846274

#1	.9097659	.1829392	.2309904	302.8122	.6440478	.2111212
#2	.9157622	.1829437	.2290473	307.1814	.6417857	.2114847
#3	.9176863	.1824019	.2325705	303.3596	.6347654	.2126781

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.278501	367.4646	2.371517	37.33777	.5308943	.0225952
Stddev	.004821	1.6768	.001155	.08403	.0023348	.0001733
%RSD	.3770641	.4563233	.0487093	.2250422	.4397966	.7668793

#1	1.283853	367.9481	2.370614	37.30785	.5306249	.0226192
#2	1.274499	368.8465	2.371118	37.43266	.5287058	.0227552
#3	1.277151	365.5991	2.372819	37.27279	.5333522	.0224112

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	256.3355	.3613361	5.030493	46.31030	.4823177	.4705419
Stddev	3.7053	.0030203	.041428	.12813	.0037841	.0016204
%RSD	1.445506	.8358824	.8235414	.2766718	.7845668	.3443742

#1	256.6970	.3579853	5.062139	46.26957	.4782130	.4716462
#2	259.8469	.3638491	5.045737	46.45384	.4830730	.4686817
#3	252.4627	.3621739	4.983602	46.20748	.4856673	.4712980

Sample Name: Q1576-01MSD Acquired: 3/24/2025 12:45:10 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6515198	.6166058	F 61.47813	F 14.01653	F 145.2846	.3997870
Stddev	.0032455	.0024926	.15333	.06494	.6702	.0014034
%RSD	.4981511	.4042540	.2493996	.4632903	.4612801	.3510271
#1	.6507272	.6140047	61.51843	14.04365	145.7042	.3981666
#2	.6487439	.6189736	61.60728	13.94243	144.5117	.4006066
#3	.6550882	.6168392	61.30868	14.06351	145.6378	.4005879

Elem	Sr4077
Units	ppm
Avg	1.269526
Stddev	.012216
%RSD	.9622636
#1	1.281784
#2	1.257352
#3	1.269443

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2835.871	66277.71	14709.47	1870.470	4021.206
Stddev	10.865	423.19	39.72	16.379	17.895
%RSD	.3831136	.6385035	.2700495	.8756884	.4450049
#1	2824.229	66090.89	14714.91	1856.768	4009.251
#2	2845.741	65980.07	14667.30	1866.030	4041.779
#3	2837.643	66762.15	14746.18	1888.612	4012.588

Sample Name: Q1576-01A Acquired: 3/24/2025 12:49:34 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	F 49.53461	1.720031	2.705106	1.934418	.8264706	28.48114
Stddev	.07290	.014051	.005529	.002850	.0024791	.13689
%RSD	.1471708	.8169221	.2043907	.1473386	.2999607	.4806458

#1	49.45587	1.720779	2.702664	1.931405	.8280942	28.55035
#2	49.54819	1.705620	2.701219	1.934778	.8236171	28.32346
#3	49.59977	1.733693	2.711436	1.937070	.8277007	28.56961

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9047727	.1756534	.2193339	292.0821	.6308316	.2059881
Stddev	.0047120	.0006653	.0009501	1.0197	.0036548	.0001621
%RSD	.5207930	.3787468	.4331545	.3491194	.5793595	.0786720

#1	.9087152	.1757856	.2185996	292.9663	.6299781	.2059028
#2	.8995541	.1749320	.2189952	290.9666	.6348376	.2058866
#3	.9060489	.1762427	.2204069	292.3135	.6276791	.2061750

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.227628	366.5600	2.280456	35.33027	.5155496	.0478620
Stddev	.003207	2.2854	.013164	.11425	.0017510	.0009363
%RSD	.2612637	.6234750	.5772644	.3233816	.3396324	1.956287

#1	1.224536	368.2211	2.293657	35.41084	.5140619	.0484460
#2	1.227409	367.5054	2.267329	35.19951	.5151079	.0467821
#3	1.230940	363.9536	2.280382	35.38046	.5174792	.0483581

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	250.4135	.3530424	4.785778	45.13433	.5033074	.4608371
Stddev	3.7801	.0022085	.043991	.23688	.0082640	.0006212
%RSD	1.509531	.6255730	.9192046	.5248268	1.641931	.1347927

#1	254.7770	.3534027	4.798213	45.35163	.5041294	.4609652
#2	248.3232	.3506759	4.822214	45.16953	.5111296	.4601618
#3	248.1402	.3550487	4.736909	44.88182	.4946632	.4613842

Sample Name: Q1576-01A Acquired: 3/24/2025 12:49:34 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7322483	.6121643	F 60.31344	F 13.66960	F 136.1676	.3896338
Stddev	.0020806	.0032570	.29391	.04656	.4810	.0016820
%RSD	.2841439	.5320407	.4873073	.3406117	.3532403	.4316767
#1	.7299451	.6126634	60.45237	13.64767	135.7475	.3910580
#2	.7328079	.6086865	60.51213	13.63805	136.0631	.3900652
#3	.7339919	.6151428	59.97582	13.72308	136.6923	.3877781

Elem	Sr4077
Units	ppm
Avg	1.216593
Stddev	.009777
%RSD	.8036177
#1	1.226803
#2	1.215659
#3	1.207316

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2886.076	66329.39	15100.41	1881.903	4099.966
Stddev	2.445	350.24	47.11	18.020	7.055
%RSD	.0847002	.5280294	.3120062	.9575373	.1720778
#1	2883.343	66274.85	15092.47	1876.378	4097.870
#2	2888.054	66009.62	15150.99	1867.293	4107.832
#3	2886.831	66703.69	15057.78	1902.039	4094.197

Sample Name: Q1595-02 Acquired: 3/24/2025 12:53:58 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0034232	-.003625	.0016305	-.004388	-.002607	7.339619
Stddev	.0038903	.001789	.0010453	.004336	.001908	.129896
%RSD	113.6448	49.33813	64.10938	98.81180	73.19295	1.769787

#1	.0077692	-.005631	.0023447	-.009228	-.002326	7.487860
#2	.0022344	-.002196	.0021160	-.000859	-.000855	7.245718
#3	.0002660	-.003049	.0004307	-.003077	-.004639	7.285279

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0356807	.0058010	.0000745	27.35874	.0134108	.0036352
Stddev	.0006143	.0001123	.0000724	.31491	.0016913	.0003682
%RSD	1.721565	1.935001	97.19113	1.151053	12.61164	10.12941

#1	.0363892	.0059215	.0000940	27.62728	.0118012	.0032965
#2	.0352969	.0057824	.0001351	27.43680	.0151734	.0035819
#3	.0353561	.0056993	-.000006	27.01213	.0132576	.0040272

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6163373	.3430338	.0386052	21.41537	.0412507	.0468354
Stddev	.0015184	.0012482	.0007340	.18632	.0002153	.0040954
%RSD	.2463650	.3638779	1.901197	.8700522	.5218640	8.744285

#1	.6156105	.3444571	.0390783	21.55490	.0410666	.0431592
#2	.6180826	.3421255	.0389776	21.48745	.0414874	.0460975
#3	.6153189	.3425186	.0377597	21.20378	.0411981	.0512497

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	309.6620	.0021821	.0784573	10.35809	F 59.69689	.0013932
Stddev	.8833	.0004140	.0030460	.12497	.28377	.0001260
%RSD	.2852360	18.97292	3.882325	1.206529	.4753473	9.042153

#1	309.0780	.0017197	.0758213	10.47405	59.83477	.0015386
#2	309.2299	.0025185	.0777587	10.37449	59.88538	.0013226
#3	310.6781	.0023081	.0817919	10.22572	59.37053	.0013184

Sample Name: Q1595-02 Acquired: 3/24/2025 12:53:58 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.003544	.1319937	4.198574	2.375704	F 44.38321	.0127105
Stddev	.000360	.0031046	.020240	.008181	.04277	.0013503
%RSD	10.17020	2.352095	.4820650	.3443624	.0963624	10.62327
#1	-.003726	.1309721	4.221211	2.383697	44.36057	.0141597
#2	-.003778	.1295287	4.182223	2.367347	44.35653	.0124838
#3	-.003129	.1354804	4.192288	2.376070	44.43254	.0114879

Elem	Sr4077
Units	ppm
Avg	.1340130
Stddev	.0020761
%RSD	1.549211
#1	.1354787
#2	.1349231
#3	.1316373

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3030.493	69596.10	15657.41	1979.750	4373.495
Stddev	7.699	48.83	87.92	11.567	3.032
%RSD	.2540401	.0701605	.5615438	.5842842	.0693245
#1	3027.616	69596.62	15585.50	1993.016	4370.094
#2	3024.648	69644.66	15631.31	1974.469	4375.914
#3	3039.216	69547.01	15755.43	1971.767	4374.476

Sample Name: Q1595-02DUP Acquired: 3/24/2025 12:58:28 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0006512	-.003051	.0003153	-.001701	-.004355	7.345166
Stddev	.0023873	.000868	.0014759	.003829	.000761	.039720
%RSD	366.5988	28.46071	468.1721	225.1205	17.47934	.5407615

#1	.0017914	-.003613	.0016671	-.001521	-.004274	7.340379
#2	-.002092	-.002051	-.001259	.002035	-.005153	7.387063
#3	.002255	-.003490	.000538	-.005617	-.003637	7.308058

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0357838	.0056454	.0000822	27.44748	.0136306	.0035480
Stddev	.0005554	.0000394	.0000267	.01075	.0006041	.0001058
%RSD	1.552063	.6984035	32.45812	.0391551	4.431707	2.983212

#1	.0361918	.0056683	.0000946	27.45155	.0142143	.0036585
#2	.0360082	.0055999	.0000516	27.43529	.0130080	.0034475
#3	.0351513	.0056681	.0001004	27.45560	.0136696	.0035380

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6163947	.3241994	.0308014	21.49483	.0407759	.0440634
Stddev	.0013428	.0056384	.0000118	.04040	.0005477	.0013832
%RSD	.2178403	1.739181	.0383952	.1879565	1.343291	3.138988

#1	.6148447	.3300076	.0307939	21.53600	.0401452	.0450339
#2	.6172031	.3187477	.0308150	21.45524	.0411322	.0446767
#3	.6171364	.3238427	.0307952	21.49326	.0410504	.0424797

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	306.6939	.0021900	.0776858	10.39638	F 59.01967	.0011374
Stddev	4.3222	.0005328	.0005329	.07036	.21806	.0003244
%RSD	1.409272	24.32659	.6859949	.6767846	.3694692	28.52307

#1	303.0901	.0015947	.0780141	10.42345	59.10631	.0013902
#2	305.5058	.0023535	.0770709	10.31650	59.18110	.0012505
#3	311.4859	.0026219	.0779725	10.44918	58.77161	.0007716

Sample Name: Q1595-02DUP Acquired: 3/24/2025 12:58:28 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.003185	.1320535	4.233789	2.327852	F 44.19186	.0118596
Stddev	.000937	.0025691	.006357	.019063	.20622	.0012712
%RSD	29.42342	1.945471	.1501460	.8189207	.4666489	10.71898
#1	-.003793	.1324954	4.241032	2.305849	43.97561	.0113406
#2	-.002106	.1343730	4.231194	2.339402	44.21365	.0109301
#3	-.003656	.1292922	4.229139	2.338307	44.38632	.0133083

Elem	Sr4077
Units	ppm
Avg	.1340530
Stddev	.0002744
%RSD	.2047350
#1	.1343341
#2	.1337857
#3	.1340391

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2990.860	69767.70	15845.30	1967.901	4351.791
Stddev	20.870	238.05	59.74	19.878	25.428
%RSD	.6977961	.3412053	.3769933	1.010111	.5843045
#1	2966.770	69566.56	15788.60	1953.236	4322.439
#2	3002.344	70030.52	15839.63	1990.526	4367.109
#3	3003.467	69706.03	15907.67	1959.942	4365.826

Sample Name: Q1595-02LX5 Acquired: 3/24/2025 13:02:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.001658	-.000052	.0001223	.0000381	-.002949	1.453412
Stddev	.001718	.001285	.0010851	.0062175	.001729	.015364
%RSD	103.5600	2455.298	887.5163	16341.91	58.64856	1.057079
#1	-.002556	.000856	-.000797	.0069631	-.001170	1.451466
#2	.000322	-.001523	-.000156	-.001784	-.003051	1.439115
#3	-.002742	.000510	.001319	-.005065	-.004624	1.469657
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000557	.0011848	.0000016	5.706969	.0025115	.0006649
Stddev	.000964	.0000477	.0000215	.023663	.0001853	.0001697
%RSD	172.8841	4.028767	1324.311	.4146350	7.377699	25.51929
#1	.000314	.0012392	-.000017	5.719094	.0023750	.0007751
#2	-.001592	.0011500	-.000003	5.679700	.0024370	.0007501
#3	-.000393	.0011651	.000025	5.722112	.0027224	.0004695
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1319334	.0600654	.0052437	4.440699	.0082231	.0099159
Stddev	.0006047	.0038876	.0004438	.017423	.0000765	.0003184
%RSD	.4583682	6.472360	8.462624	.3923553	.9304550	3.211388
#1	.1322289	.0603650	.0057553	4.443953	.0082326	.0100254
#2	.1312377	.0560366	.0049626	4.421878	.0082945	.0101652
#3	.1323335	.0637945	.0050132	4.456265	.0081423	.0095572
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	59.21901	.0008875	.0145253	1.994883	F 13.63491	.0000148
Stddev	.21272	.0007227	.0000773	.015730	.08953	.0000327
%RSD	.3592122	81.44080	.5321243	.7885308	.6566566	221.2607
#1	59.40907	.0001718	.0145486	1.997686	13.70520	.0000520
#2	59.25872	.0016171	.0145883	2.009023	13.53411	-.000010
#3	58.98923	.0008736	.0144391	1.977940	13.66542	.000002

Sample Name: Q1595-02LX5 Acquired: 3/24/2025 13:02:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.001136	.0264107	.8096228	.4580782	8.747115	.0060089
Stddev	.000839	.0002761	.0040975	.0048952	.012597	.0012356
%RSD	73.85027	1.045377	.5060984	1.068642	.1440140	20.56220
#1	-.002091	.0264497	.8143406	.4554587	8.757756	.0067341
#2	-.000518	.0261172	.8075739	.4550501	8.733206	.0067102
#3	-.000800	.0266653	.8069538	.4637258	8.750381	.0045822

Elem	Sr4077
Units	ppm
Avg	.0276971
Stddev	.0000651
%RSD	.2349547
#1	.0277719
#2	.0276540
#3	.0276653

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3166.531	73523.35	15753.37	2086.398	4818.841
Stddev	9.352	65.58	75.62	5.242	9.374
%RSD	.2953288	.0891895	.4800230	.2512615	.1945247
#1	3164.843	73560.02	15713.62	2091.953	4816.061
#2	3176.611	73447.64	15840.57	2081.537	4829.291
#3	3158.138	73562.38	15705.91	2085.705	4811.172

Sample Name: CCV03 Acquired: 3/24/2025 13:07:13 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.971634	4.884753	4.801357	4.990536	5.132642	9.811877	9.512343
Stddev	.010634	.042012	.007755	.008564	.015000	.004469	.039627
%RSD	.2138888	.8600626	.1615183	.1716137	.2922470	.0455494	.4165831
#1	4.965033	4.920920	4.796187	4.995397	5.140062	9.813477	9.555302
#2	4.965968	4.894667	4.797611	4.980647	5.115378	9.806828	9.504508
#3	4.983901	4.838670	4.810274	4.995563	5.142485	9.815326	9.477219
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2308365	2.375725	23.78833	.9797725	2.391745	1.253826	4.837614
Stddev	.0006771	.004021	.01467	.0021710	.007535	.002845	.012189
%RSD	.2933254	.1692660	.0616490	.2215863	.3150264	.2268719	.2519608
#1	.2301605	2.371404	23.77679	.9773504	2.383643	1.252738	4.824658
#2	.2308341	2.376413	23.80483	.9804234	2.393050	1.251686	4.839331
#3	.2315147	2.379357	23.78337	.9815436	2.398542	1.257054	4.848853
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.328764	23.62449	2.385459	1.222164	24.12220	2.409744	2.469002
Stddev	.003633	.07594	.005541	.002279	.08592	.001910	.005988
%RSD	.1560261	.3214616	.2322896	.1865025	.3561766	.0792809	.2425257
#1	2.328132	23.55901	2.381084	1.219532	24.16113	2.407578	2.475621
#2	2.325487	23.60672	2.383602	1.223470	24.18176	2.411189	2.463960
#3	2.332672	23.70774	2.391690	1.223489	24.02371	2.410466	2.467426
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.67028	4.790176	5.093700	4.808832	4.808057	4.939832	4.971051
Stddev	.06220	.018259	.003469	.009802	.007866	.036272	.015035
%RSD	.2521356	.3811813	.0681023	.2038327	.1636042	.7342849	.3024428
#1	24.63758	4.802674	5.097432	4.798202	4.816111	4.898751	4.953727
#2	24.74201	4.769221	5.090573	4.810781	4.807665	4.967441	4.978739
#3	24.63125	4.798633	5.093095	4.817513	4.800394	4.953304	4.980688

Sample Name: CCV03 Acquired: 3/24/2025 13:07:13 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.790861	4.818283	4.850303
Stddev	.006886	.011554	.021124
%RSD	.1437384	.2397955	.4355270
#1	4.782926	4.829107	4.860904
#2	4.794371	4.819626	4.825977
#3	4.795284	4.806116	4.864027

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3139.062	72618.90	14994.46	2076.268	4635.778
Stddev	2.492	309.57	68.46	5.363	11.094
%RSD	.0793883	.4262938	.4565851	.2583197	.2393152
#1	3140.408	72910.80	15005.06	2072.043	4648.521
#2	3140.591	72651.63	15057.01	2082.302	4630.544
#3	3136.186	72294.26	14921.32	2074.459	4628.269

Sample Name: CCB03 Acquired: 3/24/2025 13:11:24 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002589	.0001195	.0022078	-.001097	-.004198	.0039936
Stddev	.003594	.0016022	.0006895	.003571	.001075	.0050698
%RSD	138.8095	1340.894	31.22772	325.5353	25.59725	126.9503
#1	.000796	.0002229	.0015975	.001495	-.005064	.0088404
#2	-.006360	.0016674	.0029557	-.005170	-.002995	.0044134
#3	-.002203	-.001532	.0020704	.000384	-.004535	-.001273
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007370	-.000020	.0000657	-.001443	-.000044	.0000704
Stddev	.000171	.000030	.0000317	.006574	.000457	.0001392
%RSD	2.318935	151.9685	48.33616	455.7440	1033.120	197.5852
#1	-.007311	.000009	.0000555	.004987	.000483	.0000835
#2	-.007562	-.000018	.0001012	-.008152	-.000281	-.000075
#3	-.007236	-.000051	.0000403	-.001163	-.000334	.000203
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000008	.0000300	-.000802	.0024827	-.000138	.0002669
Stddev	.000364	.0032289	.000250	.0078137	.000233	.0000870
%RSD	4481.654	10755.63	31.17607	314.7250	169.5894	32.59267
#1	-.000427	.0017263	-.000974	.0086340	-.000324	.0002361
#2	.000231	-.003694	-.000918	-.006309	.000124	.0001994
#3	.000172	.002057	-.000515	.005123	-.000214	.0003651
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000398	.0006974	-.000531	.1051640	F .1075719	.0003197
Stddev	.016387	.0003629	.000142	.0370833	.0030954	.0001519
%RSD	4113.955	52.03266	26.68137	35.26230	2.877536	47.51859
#1	.013967	.0011163	-.000489	.1008482	.1102673	.0002314
#2	.003084	.0004784	-.000415	.0704275	.1082571	.0002325
#3	-.018246	.0004976	-.000689	.1442164	.1041913	.0004951

Sample Name: CCB03 Acquired: 3/24/2025 13:11:24 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000466	.0008651	.0104721	-.002310	.0054427	-.002612
Stddev	.000267	.0003078	.0035676	.000057	.0025837	.000259
%RSD	57.21312	35.57490	34.06766	2.487559	47.47011	9.896100
#1	-.000195	.0011401	.0134173	-.002321	.0060369	-.002384
#2	-.000477	.0009226	.0065051	-.002361	.0076776	-.002560
#3	-.000728	.0005327	.0114939	-.002248	.0026137	-.002893

Elem	Sr4077
Units	ppm
Avg	.0002117
Stddev	.0000545
%RSD	25.72303
#1	.0001488
#2	.0002448
#3	.0002414

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3308.266	75176.97	15529.30	2185.070	5260.121
Stddev	2.862	308.71	84.52	12.480	3.180
%RSD	.0865205	.4106413	.5442519	.5711647	.0604525
#1	3311.063	75513.62	15523.89	2197.579	5260.452
#2	3305.343	74907.16	15447.62	2185.013	5256.788
#3	3308.392	75110.12	15616.40	2172.619	5263.122

Sample Name: Q1595-02MS Acquired: 3/24/2025 13:15:44 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7487593	1.672094	.8391337	1.820850	.7932891	8.743594
Stddev	.0020874	.006847	.0010595	.003733	.0021727	.065227
%RSD	.2787840	.4095153	.1262562	.2050071	.2738861	.7460003

#1	.7468200	1.677658	.8393535	1.817380	.7910710	8.814907
#2	.7509686	1.674176	.8379816	1.820369	.7954134	8.728924
#3	.7484894	1.664447	.8400661	1.824799	.7933829	8.686951

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2040445	.1655027	.1750930	27.63473	.3719297	.1837365
Stddev	.0010306	.0008833	.0001812	.15457	.0019316	.0002618
%RSD	.5050595	.5337311	.1034974	.5593255	.5193340	.1424895

#1	.2051966	.1664518	.1751926	27.81319	.3704665	.1834471
#2	.2032104	.1647045	.1748838	27.54774	.3712035	.1839569
#3	.2037265	.1653519	.1752025	27.54327	.3741191	.1838054

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9144011	3.077563	.1964215	22.58078	.4824185	.0450646
Stddev	.0020296	.005699	.0013492	.09017	.0013287	.0086566
%RSD	.2219616	.1851731	.6869052	.3993349	.2754225	19.20933

#1	.9128864	3.075728	.1978587	22.68380	.4823856	.0398313
#2	.9167072	3.073009	.1962239	22.51620	.4811066	.0550566
#3	.9136097	3.083954	.1951820	22.54233	.4837634	.0403059

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	307.7880	.2624731	.2670666	20.29760	F 57.96264	.3985628
Stddev	5.3994	.0011967	.0017467	.02531	.63396	.0003972
%RSD	1.754271	.4559472	.6540475	.1246878	1.093734	.0996688

#1	302.4764	.2637400	.2684873	20.28955	58.69128	.3986005
#2	313.2712	.2623178	.2651163	20.32596	57.53738	.3989399
#3	307.6165	.2613617	.2675961	20.27731	57.65925	.3981481

Sample Name: Q1595-02MS Acquired: 3/24/2025 13:15:44 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6270663	.3019684	4.836729	7.910138	F 43.52923	.2012229
Stddev	.0021518	.0037238	.008996	.007471	.04249	.0016795
%RSD	.3431547	1.233186	.1859832	.0944466	.0976054	.8346321
#1	.6255904	.3062206	4.830139	7.918440	43.56209	.2031436
#2	.6260731	.3003949	4.846977	7.908020	43.54434	.2000305
#3	.6295353	.2992895	4.833070	7.903955	43.48125	.2004947

Elem	Sr4077
Units	ppm
Avg	.3058501
Stddev	.0023021
%RSD	.7526934
#1	.3084404
#2	.3050720
#3	.3040379

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2996.481	70117.04	15735.86	1982.703	4339.507
Stddev	2.342	220.76	108.85	12.502	9.163
%RSD	.0781704	.3148397	.6917272	.6305493	.2111533
#1	2993.804	70028.65	15611.82	1971.632	4331.681
#2	2998.153	70368.29	15815.48	1996.262	4349.587
#3	2997.485	69954.17	15780.26	1980.214	4337.255

Sample Name: Q1595-02MSD Acquired: 3/24/2025 13:20:01 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7482697	1.683570	.8389685	1.824167	.7923323	8.759184
Stddev	.0038217	.008849	.0012914	.002779	.0033454	.046710
%RSD	.5107388	.5256227	.1539306	.1523222	.4222207	.5332689
#1	.7518544	1.676081	.8375269	1.823887	.7887575	8.810010
#2	.7487062	1.681294	.8400197	1.821539	.7928518	8.749405
#3	.7442485	1.693335	.8393589	1.827075	.7953875	8.718139
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2037350	.1631613	.1746878	27.56527	.3727046	.1830628
Stddev	.0013538	.0008481	.0003073	.16034	.0025911	.0006538
%RSD	.6644999	.5198023	.1758977	.5816862	.6952154	.3571180
#1	.2037262	.1622158	.1744336	27.40492	.3719961	.1823174
#2	.2050931	.1638552	.1746006	27.72561	.3705415	.1833321
#3	.2023855	.1634127	.1750293	27.56527	.3755763	.1835389
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9106191	3.077794	.1950423	22.47257	.4816134	.0410679
Stddev	.0017105	.010126	.0007218	.11834	.0011411	.0049050
%RSD	.1878447	.3290054	.3700621	.5266023	.2369247	11.94375
#1	.9119058	3.088833	.1943601	22.35057	.4809995	.0467315
#2	.9086779	3.068935	.1957980	22.58687	.4809107	.0382853
#3	.9112735	3.075615	.1949688	22.48028	.4829299	.0381869
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	307.3299	.2628090	.2669715	20.58704	F 57.38505	.3982367
Stddev	1.3559	.0008947	.0002860	.04729	.23672	.0004347
%RSD	.4411817	.3404293	.1071185	.2296855	.4125124	.1091448
#1	305.8590	.2619031	.2672471	20.63084	57.12708	.3977353
#2	308.5299	.2628320	.2669911	20.53691	57.59230	.3985064
#3	307.6007	.2636920	.2666762	20.59335	57.43577	.3984684

Sample Name: Q1595-02MSD Acquired: 3/24/2025 13:20:01 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6266314	.3012960	4.869653	7.893337	F 43.41811	.2005511
Stddev	.0024237	.0020510	.015411	.025458	.12033	.0017886
%RSD	.3867882	.6807227	.3164627	.3225247	.2771447	.8918204
#1	.6268262	.3007514	4.886642	7.864892	43.29978	.1989950
#2	.6241162	.2995722	4.856575	7.901138	43.41420	.2025051
#3	.6289519	.3035643	4.865741	7.913982	43.54035	.2001532

Elem	Sr4077
Units	ppm
Avg	.3048433
Stddev	.0016022
%RSD	.5255767
#1	.3036884
#2	.3066724
#3	.3041691

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3001.122	69864.59	15857.67	1968.967	4350.025
Stddev	4.497	231.26	69.74	6.020	7.699
%RSD	.1498532	.3310158	.4397978	.3057535	.1769836
#1	2998.155	69863.60	15933.91	1975.718	4351.175
#2	3006.297	70096.34	15797.09	1964.158	4357.084
#3	2998.915	69633.82	15842.01	1967.024	4341.816

Sample Name: Q1595-02A Acquired: 3/24/2025 13:24:18 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7692038	1.703899	.8676103	1.878832	.8016796	9.071469
Stddev	.0037323	.019162	.0023055	.012592	.0086978	.078174
%RSD	.4852164	1.124627	.2657322	.6701936	1.084945	.8617576
#1	.7735104	1.722152	.8693958	1.892866	.8115903	9.160337
#2	.7669088	1.683941	.8650075	1.868524	.7953153	9.013321
#3	.7671921	1.705603	.8684278	1.875106	.7981332	9.040750
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2112667	.1715496	.1804148	28.07789	.3853284	.1892772
Stddev	.0009700	.0012478	.0006936	.08380	.0017193	.0013737
%RSD	.4591511	.7273853	.3844558	.2984484	.4462001	.7257466
#1	.2118568	.1713774	.1811865	28.15263	.3841532	.1907838
#2	.2101472	.1703969	.1798432	27.98730	.3845303	.1880942
#3	.2117962	.1728746	.1802148	28.09374	.3873018	.1889536
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8959280	3.157972	.2010425	22.98621	.4996913	.1126183
Stddev	.0054564	.014268	.0005592	.04820	.0021439	.0044196
%RSD	.6090176	.4518080	.2781660	.2096930	.4290388	3.924364
#1	.9017759	3.152158	.2011794	22.96594	.5021434	.1143490
#2	.8909735	3.147529	.2004275	22.95147	.4981711	.1159106
#3	.8950345	3.174229	.2015205	23.04124	.4987593	.1075953
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	315.1108	.2708901	.2742453	20.95572	F 59.14422	.4046594
Stddev	3.1778	.0020762	.0016960	.04007	.25043	.0020583
%RSD	1.008481	.7664507	.6184312	.1911999	.4234264	.5086405
#1	318.1202	.2703480	.2741209	20.99804	59.29936	.4070319
#2	315.4244	.2691387	.2726149	20.95074	58.85531	.4035958
#3	311.7878	.2731836	.2760001	20.91837	59.27800	.4033506

Sample Name: Q1595-02A Acquired: 3/24/2025 13:24:18 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6455532	.3075822	4.962222	8.153711	F 44.23278	.2088085
Stddev	.0017928	.0012353	.011574	.047375	.27483	.0005985
%RSD	.2777094	.4016285	.2332513	.5810212	.6213281	.2866131
#1	.6473623	.3081814	4.950748	8.203035	44.53742	.2081187
#2	.6437772	.3061616	4.962023	8.108562	44.00347	.2091887
#3	.6455201	.3084037	4.973895	8.149537	44.15745	.2091182

Elem	Sr4077
Units	ppm
Avg	.3131835
Stddev	.0013302
%RSD	.4247179
#1	.3145439
#2	.3118859
#3	.3131207

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3004.063	69737.34	15686.66	1987.401	4334.735
Stddev	18.344	76.55	57.39	5.108	23.646
%RSD	.6106420	.1097696	.3658676	.2570003	.5454898
#1	2983.003	69709.74	15652.15	1981.842	4307.514
#2	3016.561	69823.86	15752.91	1991.886	4350.182
#3	3012.624	69678.41	15654.92	1988.476	4346.509

Sample Name: PB167266BL Acquired: 3/24/2025 13:28:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.002944	-.000551	.0009417	-.000155	-.001067	-.001831
Stddev	.001147	.001452	.0005597	.001394	.001397	.005006
%RSD	38.96630	263.4528	59.43148	899.5343	130.9688	273.3972

#1	-.002448	-.000148	.0015479	.001387	.000361	-.004416
#2	-.002128	-.002161	.0008327	-.000527	-.001131	-.005016
#3	-.004256	.000657	.0004446	-.001325	-.002431	.003939

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.007347	.0000321	-.000047	-.001421	-.000159	.0000876
Stddev	.000687	.0000266	.000027	.001490	.000117	.0002264
%RSD	9.344845	83.04219	58.11921	104.8529	73.36815	258.3733

#1	-.006864	.0000017	-.000041	-.000947	-.000028	.0003487
#2	-.008132	.0000430	-.000077	-.000225	-.000253	-.000053
#3	-.007044	.0000514	-.000023	-.003090	-.000197	-.000033

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001148	.0013999	-.001144	.0096726	-.000067	.0009629
Stddev	.0003735	.0041626	.000215	.0050273	.000202	.0000745
%RSD	325.4484	297.3554	18.80534	51.97421	302.4360	7.734926

#1	-.000143	.0030775	-.000912	.0076880	.000033	.0009374
#2	.000543	.0044619	-.001336	.0153893	-.000300	.0009045
#3	-.000056	-.003340	-.001183	.0059406	.000066	.0010468

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0645230	-.000761	-.000501	.0690304	F .2279570	-.000085
Stddev	.0075962	.000585	.000400	.0155132	.0026880	.000080
%RSD	11.77292	76.90597	79.79651	22.47297	1.179162	94.64269

#1	.0639972	-.001422	-.000639	.0595390	.2308919	-.000017
#2	.0572033	-.000551	-.000813	.0606196	.2273643	-.000174
#3	.0723685	-.000310	-.000050	.0869327	.2256149	-.000064

Sample Name: PB167266BL Acquired: 3/24/2025 13:28:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.000910	.0006551	.0014949	-.002166	F .0133710	.0019507
Stddev	.000362	.0004305	.0013718	.001397	.0030864	.0003098
%RSD	39.76787	65.71875	91.76353	64.51066	23.08273	15.88343
#1	-.001312	.0011499	.0030782	-.003745	.0142414	.0021746
#2	-.000609	.0004497	.0007423	-.001091	.0159288	.0015971
#3	-.000810	.0003658	.0006641	-.001661	.0099429	.0020803

Elem	Sr4077
Units	ppm
Avg	-.000009
Stddev	.000023
%RSD	251.7987
#1	-.000021
#2	-.000023
#3	.000017

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3319.099	75530.66	15610.08	2197.409	5275.147
Stddev	9.082	101.76	19.03	2.801	8.204
%RSD	.2736222	.1347266	.1218948	.1274786	.1555127
#1	3312.815	75431.12	15621.84	2195.891	5280.700
#2	3314.971	75634.50	15620.26	2200.641	5265.725
#3	3329.512	75526.35	15588.12	2195.694	5279.018

Sample Name: PB167266BS Acquired: 3/24/2025 13:32:54 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7414144	1.841803	.8893711	1.895414	.7890902	1.871695
Stddev	.0027498	.004790	.0011057	.005150	.0020131	.007003
%RSD	.3708820	.2600518	.1243231	.2717085	.2551213	.3741408
#1	.7428525	1.843682	.8881002	1.895336	.7869308	1.865746
#2	.7431469	1.845369	.8899007	1.890304	.7894245	1.869926
#3	.7382438	1.836359	.8901123	1.900603	.7909152	1.879413
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1697232	.1804356	.1766684	.9071985	.3828928	.1812152
Stddev	.0002404	.0013509	.0002890	.0101917	.0004113	.0002851
%RSD	.1416407	.7486788	.1635891	1.123424	.1074105	.1573025
#1	.1694764	.1791470	.1766217	.8961029	.3830336	.1812124
#2	.1697365	.1803187	.1769779	.9093499	.3824296	.1809316
#3	.1699566	.1818412	.1764056	.9161428	.3832152	.1815016
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2994665	2.758197	.1779315	1.780153	.4546233	.0727230
Stddev	.0009993	.021655	.0018419	.012293	.0004083	.0001170
%RSD	.3337050	.7851154	1.035150	.6905474	.0898085	.1608943
#1	.3002247	2.783082	.1770186	1.772135	.4544006	.0728379
#2	.2998407	2.747867	.1767244	1.774018	.4550945	.0726040
#3	.2983340	2.743640	.1800515	1.794306	.4543747	.0727271
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.594223	.2733659	.1969880	9.139630	F .4300271	.3990114
Stddev	.041658	.0025344	.0008284	.063518	.0019745	.0002763
%RSD	1.605794	.9271086	.4205284	.6949777	.4591614	.0692504
#1	2.642189	.2729862	.1965817	9.205472	.4286483	.3991443
#2	2.567109	.2710427	.1979411	9.134694	.4291440	.3986937
#3	2.573370	.2760687	.1964413	9.078723	.4322890	.3991961

Sample Name: PB167266BS Acquired: 3/24/2025 13:32:54 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6315911	.1826215	F .7397961	5.333889	F -.004464	.1852730
Stddev	.0013981	.0015578	.0032178	.006361	.001786	.0008847
%RSD	.2213612	.8530258	.4349578	.1192560	39.99945	.4774983
#1	.6330959	.1820947	.7432196	5.333208	-.006095	.1862662
#2	.6313452	.1813954	.7393348	5.340563	-.002556	.1845694
#3	.6303323	.1843744	.7368338	5.327896	-.004743	.1849835

Elem	Sr4077
Units	ppm
Avg	.1787439
Stddev	.0008157
%RSD	.4563258
#1	.1786439
#2	.1779829
#3	.1796049

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3243.836	73747.52	15228.20	2137.197	5068.603
Stddev	2.388	200.93	95.20	7.405	.694
%RSD	.0736043	.2724594	.6251359	.3464938	.0136836
#1	3244.189	73549.11	15312.55	2133.024	5068.965
#2	3246.028	73742.58	15247.07	2132.820	5069.041
#3	3241.292	73950.88	15124.98	2145.747	5067.803

Sample Name: Q1618-01 Acquired: 3/24/2025 13:36:56 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.004653	-.005500	.0066834	-.001961	.0007934	3.230484
Stddev	.002176	.001765	.0024999	.004426	.0003067	.011625
%RSD	46.77316	32.10036	37.40466	225.6830	38.64974	.3598524
#1	-.003046	-.004014	.0089595	-.004325	.0011475	3.227976
#2	-.007130	-.005034	.0070828	-.004704	.0006180	3.243159
#3	-.003783	-.007452	.0040078	.003145	.0006148	3.220318
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1803610	.0000516	-.000103	131.4507	.0338568	.0026652
Stddev	.0012055	.0000631	.000021	.3504	.0001546	.0001639
%RSD	.6683558	122.1824	19.84522	.2665781	.4565967	6.148713
#1	.1800082	.0000016	-.000080	131.4785	.0340344	.0028028
#2	.1817035	.0000308	-.000120	131.7864	.0337522	.0027087
#3	.1793714	.0001225	-.000110	131.0872	.0337838	.0024839
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0345918	5.328796	.1233308	20.60515	.0149355	.0004778
Stddev	.0003839	.013171	.0002959	.08767	.0001817	.0001842
%RSD	1.109724	.2471588	.2398900	.4254901	1.216224	38.55338
#1	.0349454	5.314937	.1235617	20.58466	.0148159	.0006797
#2	.0341835	5.330305	.1234333	20.70125	.0148460	.0004352
#3	.0346465	5.341148	.1229973	20.52953	.0151445	.0003187
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	853.8786	.0088474	.3085816	21.11519	1.005701	.0142872
Stddev	6.4753	.0007305	.0007738	.00302	.005852	.0001578
%RSD	.7583429	8.256107	.2507734	.0142967	.5818873	1.104832
#1	857.7458	.0082367	.3092727	21.11725	1.009054	.0142406
#2	846.4030	.0096566	.3087266	21.11173	1.009106	.0141580
#3	857.4870	.0086490	.3077456	21.11660	.998944	.0144631

Sample Name: Q1618-01 Acquired: 3/24/2025 13:36:56 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.005640	.1767468	F 11.05300	.1516243	F 25.29422	-.012376
Stddev	.000926	.0003336	.03767	.0044524	.09618	.000858
%RSD	16.41167	.1887137	.3408368	2.936458	.3802440	6.929330
#1	-.004738	.1764597	11.07617	.1495401	25.25636	-.012908
#2	-.006587	.1771127	11.00953	.1485963	25.22273	-.012833
#3	-.005593	.1766680	11.07329	.1567366	25.40357	-.011386

Elem	Sr4077
Units	ppm
Avg	.9716383
Stddev	.0027613
%RSD	.2841929
#1	.9708092
#2	.9747192
#3	.9693865

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2798.847	63959.58	14899.42	1830.360	3932.857
Stddev	5.303	251.94	61.98	6.480	6.017
%RSD	.1894607	.3939118	.4160108	.3540043	.1530040
#1	2793.337	63669.37	14859.89	1828.839	3928.996
#2	2803.915	64122.30	14867.52	1824.777	3939.791
#3	2799.289	64087.06	14970.86	1837.465	3929.784

Sample Name: Q1618-01DUP Acquired: 3/24/2025 13:41:15 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.002961	-.008509	.0064072	.0016207	.0015715	3.344334
Stddev	.002849	.000526	.0009951	.0009843	.0012141	.008610
%RSD	96.19092	6.185895	15.53060	60.73325	77.25966	.2574527

#1	-.000134	-.007943	.0058058	.0004922	.0026145	3.334406
#2	-.005831	-.008984	.0058601	.0023019	.0002387	3.349761
#3	-.002919	-.008601	.0075558	.0020680	.0018613	3.348835

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1838790	.0000772	-.000072	130.8035	.0329660	.0026090
Stddev	.0002223	.0000167	.000058	.2732	.0001744	.0003529
%RSD	.1208743	21.58897	80.81250	.2088893	.5290342	13.52491

#1	.1836333	.0000747	-.000034	130.8297	.0331291	.0030150
#2	.1840660	.0000619	-.000139	130.5180	.0329866	.0023765
#3	.1839378	.0000949	-.000042	131.0626	.0327822	.0024355

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0348032	5.481523	.1174344	20.23150	.0147029	.0001390
Stddev	.0004945	.036554	.0003844	.06530	.0003459	.0001227
%RSD	1.420936	.6668511	.3273446	.3227833	2.352678	88.24535

#1	.0347436	5.520230	.1178654	20.16506	.0148084	-.000001
#2	.0343412	5.447592	.1173108	20.23384	.0143165	.000191
#3	.0353248	5.476747	.1171270	20.29561	.0149838	.000227

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	887.4765	.0095514	.3064467	21.99961	.9440308	.0140896
Stddev	7.1446	.0006051	.0012467	.14855	.0026002	.0001651
%RSD	.8050443	6.334734	.4068252	.6752510	.2754323	1.171525

#1	895.5892	.0095774	.3078843	22.15668	.9427758	.0142181
#2	884.7174	.0101431	.3056621	21.86137	.9422963	.0141473
#3	882.1229	.0089338	.3057938	21.98079	.9470205	.0139034

Sample Name: Q1618-01DUP Acquired: 3/24/2025 13:41:15 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.005478	.1839717	F 11.81223	.1518730	F 25.03132	-.011930
Stddev	.000686	.0017651	.05455	.0016332	.03200	.000811
%RSD	12.53146	.9594566	.4618458	1.075389	.1278455	6.797604
#1	-.005533	.1820369	11.82850	.1502053	25.02803	-.011493
#2	-.006135	.1854941	11.75139	.1534695	25.00109	-.011430
#3	-.004765	.1843840	11.85680	.1519442	25.06484	-.012865

Elem	Sr4077
Units	ppm
Avg	.9823443
Stddev	.0017159
%RSD	.1746710
#1	.9842996
#2	.9810896
#3	.9816438

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2816.467	64569.87	15609.64	1831.614	3954.984
Stddev	11.347	156.00	31.02	5.427	6.066
%RSD	.4028959	.2416003	.1987005	.2962936	.1533779
#1	2805.069	64408.91	15642.04	1827.301	3956.360
#2	2827.763	64720.38	15606.67	1837.707	3960.244
#3	2816.568	64580.33	15580.22	1829.832	3948.348

Sample Name: Q1618-01LX5 Acquired: 3/24/2025 13:45:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0001534	-.003040	.0013042	-.000245	-.001619	.8191056	.0323273
Stddev	.0029287	.001769	.0008663	.001105	.001174	.0056799	.0004278
%RSD	1908.966	58.20417	66.42179	450.6837	72.48940	.6934326	1.323365

#1	-.001065	-.004901	.0005005	-.001458	-.000298	.8133236	.0318502
#2	-.001969	-.002838	.0022218	.000018	-.002017	.8246777	.0324548
#3	.003495	-.001380	.0011903	.000705	-.002542	.8193156	.0326768

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000646	-.000042	26.92889	.0068104	.0006061	.0075090	1.095004
Stddev	.0000430	.000041	.03770	.0004659	.0000342	.0005428	.005727
%RSD	66.60247	97.16570	.1399962	6.840909	5.643047	7.228405	.5230399

#1	.0001127	-.000086	26.96118	.0062741	.0006436	.0073773	1.099842
#2	.0000296	-.000034	26.88746	.0070416	.0005982	.0081056	1.096490
#3	.0000515	-.000006	26.93804	.0071154	.0005766	.0070443	1.088680

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0241635	4.259542	.0030125	.0002534	164.6458	.0024904	.0597674
Stddev	.0003677	.004596	.0001164	.0001507	2.3124	.0004673	.0004118
%RSD	1.521611	.1079057	3.864503	59.47110	1.404443	18.76423	.6890206

#1	.0237749	4.256822	.0029111	.0002579	166.8557	.0030300	.0593162
#2	.0242096	4.264849	.0031396	.0001005	164.8387	.0022157	.0598629
#3	.0245059	4.256956	.0029867	.0004018	162.2431	.0022255	.0601230

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.013536	.2702543	.0028387	-.002642	.0494361	2.651537	.0284250
Stddev	.042071	.0003333	.0002288	.000361	.0010886	.019564	.0030154
%RSD	1.048218	.1233219	8.060215	13.64981	2.202098	.7378548	10.60831

#1	4.007640	.2706264	.0030499	-.003021	.0484013	2.644128	.0269892
#2	3.974725	.2701534	.0025956	-.002603	.0493356	2.673724	.0318899
#3	4.058244	.2699831	.0028706	-.002303	.0505716	2.636759	.0263957

Sample Name: Q1618-01LX5 Acquired: 3/24/2025 13:45:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.779634	.0041138	.1952287
Stddev	.011904	.0016040	.0001539
%RSD	.2490666	38.98938	.0788184
#1	4.788623	.0033827	.1954026
#2	4.766133	.0030058	.1951736
#3	4.784146	.0059531	.1951100

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3137.043	70939.41	15579.89	2066.330	4600.225
Stddev	4.125	99.11	29.91	5.154	9.441
%RSD	.1314889	.1397171	.1919558	.2494163	.2052203
#1	3135.384	70841.20	15549.82	2064.059	4594.480
#2	3141.739	71039.41	15580.23	2072.229	4611.121
#3	3134.005	70937.62	15609.63	2062.702	4595.075

Sample Name: Q1618-01MS Acquired: 3/24/2025 13:49:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7594950	1.669729	.8594225	1.778712	.7910671	5.056570
Stddev	.0014896	.012005	.0005735	.005272	.0003583	.026266
%RSD	.1961355	.7189580	.0667344	.2963663	.0452882	.5194405

#1	.7611999	1.660748	.8597007	1.773001	.7906606	5.046666
#2	.7588398	1.665074	.8587629	1.783392	.7912043	5.086348
#3	.7584453	1.683364	.8598039	1.779743	.7913366	5.036696

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3464694	.1665162	.1797740	124.0226	.5537147	.1905368
Stddev	.0008948	.0003091	.0003752	.3857	.0007101	.0004370
%RSD	.2582698	.1856382	.2087011	.3109716	.1282361	.2293437

#1	.3463009	.1666897	.1795870	123.9228	.5542940	.1901383
#2	.3474365	.1666995	.1795292	124.4484	.5529225	.1904680
#3	.3456708	.1661593	.1802060	123.6966	.5539276	.1910041

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3079788	11.15743	.3469637	20.80752	.6980997	.0731961
Stddev	.0004811	.04682	.0019376	.06073	.0009919	.0002192
%RSD	.1562151	.4196134	.5584391	.2918818	.1420891	.2994463

#1	.3075564	11.11673	.3471854	20.78431	.6980701	.0734492
#2	.3085025	11.20859	.3487809	20.87643	.6971229	.0730703
#3	.3078775	11.14696	.3449248	20.76181	.6991061	.0730688

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	813.4902	.2727836	.4864899	30.63607	1.115625	.4026620
Stddev	3.5784	.0018678	.0006218	.08438	.007134	.0008052
%RSD	.4398768	.6847064	.1278167	.2754199	.6394550	.1999644

#1	817.6218	.2731333	.4867752	30.59773	1.117575	.4024829
#2	811.4667	.2744518	.4869179	30.73281	1.121580	.4019615
#3	811.3821	.2707657	.4857767	30.57767	1.107718	.4035417

Sample Name: Q1618-01MS Acquired: 3/24/2025 13:49:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6356397	.3425053	F 11.58091	6.258603	F 23.87310	.1854199
Stddev	.0016847	.0021695	.03492	.016453	.07086	.0007101
%RSD	.2650386	.6334169	.3015033	.2628891	.2968399	.3829810
#1	.6339060	.3416195	11.59092	6.257075	23.85709	.1848563
#2	.6357423	.3449776	11.60974	6.242966	23.81162	.1862175
#3	.6372707	.3409190	11.54209	6.275766	23.95060	.1851859

Elem	Sr4077
Units	ppm
Avg	1.092798
Stddev	.006219
%RSD	.5690760
#1	1.090687
#2	1.099797
#3	1.087909

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2833.069	65609.30	15144.73	1904.757	3947.953
Stddev	2.273	105.24	56.58	3.617	9.030
%RSD	.0802276	.1603972	.3736171	.1898836	.2287329
#1	2832.903	65501.04	15131.15	1905.312	3947.209
#2	2835.421	65615.62	15096.17	1908.063	3957.332
#3	2830.884	65711.23	15206.86	1900.894	3939.318

Sample Name: Q1618-01MSD Acquired: 3/24/2025 13:54:06 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7542078	1.657907	.8525284	1.778384	.7935596	5.308180
Stddev	.0078604	.007125	.0010624	.005216	.0029032	.003573
%RSD	1.042211	.4297786	.1246224	.2933187	.3658481	.0673085
#1	.7477834	1.653470	.8535097	1.772360	.7905947	5.304060
#2	.7518675	1.654124	.8526755	1.781366	.7963970	5.310061
#3	.7629727	1.666126	.8514001	1.781425	.7936871	5.310419
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3420483	.1642245	.1781687	123.3993	.5538588	.1885746
Stddev	.0010770	.0003105	.0003822	.3187	.0035631	.0007537
%RSD	.3148783	.1890637	.2144927	.2582844	.6433293	.3996932
#1	.3414270	.1639925	.1781629	123.0702	.5574273	.1884175
#2	.3432919	.1641038	.1785538	123.4211	.5503010	.1893945
#3	.3414259	.1645772	.1777895	123.7065	.5538482	.1879118
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3063001	11.11708	.3414161	20.70869	.6896918	.0733413
Stddev	.0006923	.07770	.0011804	.10409	.0005890	.0005029
%RSD	.2260224	.6989399	.3457388	.5026595	.0854051	.6857106
#1	.3062914	11.18685	.3400553	20.62238	.6894003	.0738264
#2	.3069968	11.03334	.3420298	20.67939	.6903698	.0728223
#3	.3056122	11.13103	.3421633	20.82429	.6893054	.0733752
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	809.0026	.2712533	.4861738	30.72379	1.094632	.4043675
Stddev	12.6719	.0034971	.0041096	.20953	.001612	.0010460
%RSD	1.566355	1.289225	.8452908	.6819662	.1472200	.2586686
#1	821.5708	.2750542	.4882487	30.96305	1.096276	.4032700
#2	796.2296	.2705336	.4814405	30.57302	1.093055	.4053529
#3	809.2076	.2681720	.4888323	30.63532	1.094564	.4044797

Sample Name: Q1618-01MSD Acquired: 3/24/2025 13:54:06 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6268328	.3572831	F 12.41735	6.138609	F 23.47283	.1847415
Stddev	.0011830	.0019685	.07547	.013368	.05609	.0006253
%RSD	.1887345	.5509585	.6077739	.2177650	.2389683	.3384480
#1	.6281731	.3590275	12.48274	6.130028	23.44390	.1854089
#2	.6259337	.3551489	12.33477	6.131789	23.43711	.1846465
#3	.6263918	.3576729	12.43455	6.154012	23.53748	.1841693

Elem	Sr4077
Units	ppm
Avg	1.083102
Stddev	.001662
%RSD	.1534073
#1	1.081756
#2	1.084959
#3	1.082590

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2836.856	65707.97	15208.64	1868.696	3980.220
Stddev	2.958	463.22	15.24	16.765	4.172
%RSD	.1042757	.7049678	.1002303	.8971465	.1048121
#1	2836.902	65234.33	15217.29	1858.204	3979.024
#2	2833.875	66160.02	15217.59	1888.031	3976.776
#3	2839.791	65729.56	15191.04	1859.854	3984.858

Sample Name: CCV04 Acquired: 3/24/2025 14:06:52 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.827294	4.850983	4.678134	4.933755	4.929825	9.503201	9.204541
Stddev	.012819	.014528	.014062	.015127	.015279	.014698	.058420
%RSD	.2655565	.2994792	.3005876	.3066051	.3099202	.1546591	.6346849

#1	4.820250	4.836845	4.661899	4.917414	4.917669	9.520150	9.259984
#2	4.819541	4.865871	4.686488	4.936582	4.924830	9.495489	9.143541
#3	4.842090	4.850232	4.686015	4.947269	4.946976	9.493965	9.210096

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2294847	2.329909	22.84567	.9506439	2.350189	1.226316	4.613053
Stddev	.0008848	.006496	.08850	.0005249	.009157	.002161	.039950
%RSD	.3855625	.2787903	.3874025	.0552158	.3896255	.1762464	.8660210

#1	.2296689	2.322412	22.93250	.9505696	2.339817	1.224629	4.623992
#2	.2285224	2.333439	22.75559	.9512019	2.353600	1.225568	4.646395
#3	.2302630	2.333875	22.84892	.9501600	2.357151	1.228752	4.568774

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.255363	22.80857	2.355205	1.192755	23.14129	2.336342	2.428346
Stddev	.002455	.09936	.007342	.001731	.17113	.011744	.005291
%RSD	.1088677	.4356062	.3117485	.1451606	.7395138	.5026672	.2178891

#1	2.257779	22.90356	2.346738	1.192990	23.11034	2.349322	2.427877
#2	2.252870	22.70536	2.359061	1.194357	23.32578	2.326452	2.433857
#3	2.255441	22.81678	2.359815	1.190918	22.98774	2.333252	2.423306

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.70223	4.609446	4.957423	4.718801	4.639150	4.702380	4.824976
Stddev	.13763	.021492	.011253	.015070	.009394	.016334	.021244
%RSD	.5806799	.4662571	.2269917	.3193684	.2024971	.3473653	.4402932

#1	23.71643	4.610298	4.946805	4.702931	4.644103	4.700043	4.802742
#2	23.83221	4.587542	4.956245	4.720551	4.645031	4.719757	4.827119
#3	23.55805	4.630500	4.969218	4.732919	4.628316	4.687340	4.845067

Sample Name: CCV04 Acquired: 3/24/2025 14:06:52 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.731018	4.702063	4.664665
Stddev	.025117	.013629	.005002
%RSD	.5309065	.2898587	.1072302

#1	4.702257	4.698200	4.670286
#2	4.748640	4.717207	4.660704
#3	4.742156	4.690782	4.663005

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3182.122	72739.99	14842.44	2117.030	4664.148
Stddev	.530	85.00	65.37	7.806	6.752
%RSD	.0166425	.1168605	.4404251	.3687475	.1447639

#1	3181.881	72672.94	14818.57	2112.235	4671.576
#2	3181.756	72711.44	14916.39	2112.817	4658.383
#3	3182.729	72835.60	14792.35	2126.037	4662.483

Sample Name: CCB04 Acquired: 3/24/2025 14:11:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000867	-.000472	.0011671	-.000947	-.002290	.0034163	-.007348
Stddev	.001233	.002455	.0012910	.001579	.001503	.0022356	.000354
%RSD	142.1573	519.8887	110.6166	166.6428	65.64406	65.43766	4.818715

#1	.000543	.000426	-.000320	-.000059	-.003406	.0045473	-.007397
#2	-.001739	-.003250	.001827	-.000013	-.000580	.0008413	-.007675
#3	-.001405	.001408	.001995	-.002770	-.002884	.0048604	-.006972

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000096	.0000348	-.002420	-.000033	.0000915	-.000067	.0016524
Stddev	.0000321	.0000622	.004167	.000250	.0000501	.000496	.0012496
%RSD	335.6826	178.8039	172.2185	762.9770	54.70563	738.1501	75.62563

#1	.0000464	.0000566	-.000068	-.000280	.0000745	-.000528	.0004238
#2	-.000011	-.000035	-.007231	-.000039	.0001479	.000458	.0016114
#3	-.000006	.000083	.000040	.000220	.0000522	-.000131	.0029220

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001103	-.002716	-.000105	.0004262	.0059321	.0004619	-.000806
Stddev	.000443	.004086	.000122	.0002413	.0061414	.0000753	.000226
%RSD	40.18463	150.4099	116.8730	56.61978	103.5279	16.29255	27.98731

#1	-.000591	-.005905	-.000211	.0006417	.0054328	.0003885	-.000940
#2	-.001363	-.004133	-.000131	.0004714	.0000556	.0004584	-.000546
#3	-.001355	.001889	.000029	.0001655	.0123080	.0005389	-.000933

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0929386	.0228213	.0001818	-.000737	.0012166	.0056443	.0000911
Stddev	.0374950	.0006741	.0001514	.000320	.0005891	.0011880	.0004838
%RSD	40.34385	2.953836	83.29758	43.39960	48.42657	21.04784	531.2325

#1	.0496455	.0221740	.0001365	-.000376	.0010763	.0043178	.0001105
#2	.1141880	.0235194	.0000581	-.000985	.0018632	.0060052	-.000402
#3	.1149822	.0227707	.0003506	-.000850	.0007102	.0066101	.000565

Sample Name: CCB04 Acquired: 3/24/2025 14:11:57 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB04 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0005601	-.005012	.0000905
Stddev	.0022862	.000717	.0000207
%RSD	408.1519	14.31259	22.82346
#1	.0030985	-.004857	.0000714
#2	-.000081	-.005794	.0001124
#3	-.001337	-.004385	.0000877

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3296.545	75741.32	15533.88	2186.717	5240.787
Stddev	16.182	184.33	40.46	6.707	20.895
%RSD	.4908767	.2433628	.2604732	.3067226	.3986924
#1	3306.928	75936.26	15580.52	2189.500	5255.000
#2	3304.807	75717.82	15512.87	2191.584	5250.565
#3	3277.900	75569.87	15508.24	2179.066	5216.796

Sample Name: Q1618-01A Acquired: 3/24/2025 14:16:17 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7628713	1.691654	.8668184	1.798127	.8059907	5.364493
Stddev	.0023130	.006111	.0035343	.013456	.0026695	.015652
%RSD	.3031956	.3612252	.4077281	.7483360	.3312048	.2917689

#1	.7649738	1.686002	.8629822	1.785466	.8029299	5.346947
#2	.7603937	1.698138	.8699421	1.796656	.8072054	5.369515
#3	.7632463	1.690822	.8675309	1.812257	.8078368	5.377018

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3453196	.1632530	.1809222	124.7109	.5581573	.1911632
Stddev	.0006815	.0012112	.0003570	.5874	.0018919	.0006441
%RSD	.1973408	.7419339	.1973274	.4710205	.3389595	.3369145

#1	.3451460	.1625310	.1805914	124.3008	.5584288	.1904282
#2	.3460710	.1625767	.1808745	124.4480	.5598988	.1914322
#3	.3447417	.1646514	.1813006	125.3838	.5561443	.1916291

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3105829	11.15544	.3441039	20.90746	.6995241	.0730472
Stddev	.0004401	.05557	.0005453	.20121	.0003515	.0000311
%RSD	.1417023	.4981014	.1584803	.9623677	.0502526	.0426357

#1	.3101357	11.16945	.3435859	20.72531	.6998210	.0730830
#2	.3105975	11.20266	.3440527	20.87364	.6996154	.0730317
#3	.3110155	11.09421	.3446730	21.12343	.6991359	.0730268

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	805.0395	.2720084	.4855278	30.60538	1.068184	.4082099
Stddev	3.2057	.0011534	.0013866	.30252	.010577	.0015787
%RSD	.3982003	.4240459	.2855850	.9884632	.9901710	.3867482

#1	803.9410	.2712039	.4843226	30.63563	1.061579	.4065486
#2	808.6499	.2714915	.4870432	30.89164	1.062591	.4083904
#3	802.5274	.2733299	.4852175	30.28887	1.080384	.4096906

Sample Name: Q1618-01A Acquired: 3/24/2025 14:16:17 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6394501	.3596213	F 12.64762	6.233100	F 23.81875	.1827390
Stddev	.0016684	.0025698	.08709	.002940	.02439	.0013634
%RSD	.2609120	.7145790	.6885998	.0471714	.1023867	.7461096
#1	.6390234	.3595906	12.63876	6.229717	23.80409	.1841695
#2	.6380365	.3622063	12.73881	6.235038	23.84690	.1825931
#3	.6412904	.3570670	12.56531	6.234545	23.80524	.1814543

Elem	Sr4077
Units	ppm
Avg	1.085769
Stddev	.007613
%RSD	.7011289
#1	1.089171
#2	1.077048
#3	1.091087

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2792.325	65711.10	15151.26	1873.055	3912.800
Stddev	11.293	301.53	78.37	11.370	7.599
%RSD	.4044272	.4588667	.5172373	.6070245	.1942141
#1	2802.367	65718.76	15199.70	1874.840	3916.511
#2	2794.507	65405.82	15193.24	1860.899	3917.830
#3	2780.100	66008.73	15060.85	1883.427	3904.058

Sample Name: Q1618-02 Acquired: 3/24/2025 14:20:28 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.1602441	.0079296	.1687160	.0057513	-.232346	49.92587
Stddev	.0063506	.0017676	.0014686	.0007530	.006042	.11779
%RSD	3.963090	22.29147	.8704436	13.09305	2.600585	.2359319
#1	.1640808	.0058897	.1678548	.0049363	-.226482	49.79208
#2	.1637378	.0090101	.1678816	.0058960	-.238552	50.01397
#3	.1529137	.0088889	.1704117	.0064214	-.232003	49.97156
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1192522	.0007258	-.001213	151.8459	F 49.89787	.0548833
Stddev	.0002610	.0000426	.000144	.3723	.24993	.0001496
%RSD	.2188488	5.864415	11.85268	.2451616	.5008744	.2726398
#1	.1190978	.0007295	-.001171	151.8122	49.63086	.0549553
#2	.1191052	.0007664	-.001373	152.2339	50.12620	.0549833
#3	.1195535	.0006815	-.001094	151.4916	49.93654	.0547113
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1468493	47.83664	.9105648	16.83779	.1615930	.0018965
Stddev	.0003108	.03791	.0030740	.04395	.0002954	.0000632
%RSD	.2116286	.0792529	.3375909	.2609972	.1828042	3.331698
#1	.1467181	47.79397	.9127396	16.86849	.1616663	.0019664
#2	.1466257	47.84949	.9119067	16.85743	.1612678	.0018798
#3	.1472042	47.86646	.9070479	16.78745	.1618448	.0018434
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	117.2264	.2929098	.3533765	6.994516	.1018335	.0210098
Stddev	.7854	.0021343	.0011403	.071461	.0012165	.0003380
%RSD	.6699844	.7286451	.3226758	1.021679	1.194587	1.608870
#1	116.4299	.2906761	.3530105	6.934679	.1030567	.0206901
#2	117.2492	.2949283	.3546548	6.975226	.1018201	.0213635
#3	118.0002	.2931250	.3524642	7.073642	.1006238	.0209757

Sample Name: Q1618-02 Acquired: 3/24/2025 14:20:28 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.003991	.9956183	F 29.71360	.6191983	F 17.30139	.0115819
Stddev	.000448	.0038539	.15899	.0062547	.03046	.0001112
%RSD	11.21500	.3870834	.5350680	1.010129	.1760718	.9603206
#1	-.003805	.9922932	29.54314	.6210829	17.26819	.0117042
#2	-.004501	.9998421	29.73979	.6122180	17.30794	.0114867
#3	-.003666	.9947194	29.85787	.6242940	17.32805	.0115548

Elem	Sr4077
Units	ppm
Avg	.2116758
Stddev	.0005325
%RSD	.2515596
#1	.2110656
#2	.2120466
#3	.2119153

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2686.535	69509.32	15576.83	1784.552	4327.354
Stddev	3.719	313.92	82.30	10.176	1.882
%RSD	.1384316	.4516266	.5283709	.5702198	.0434950
#1	2682.471	69862.29	15589.35	1793.403	4325.403
#2	2689.768	69261.38	15488.98	1773.434	4329.159
#3	2687.365	69404.29	15652.16	1786.817	4327.498

Sample Name: PB167258BL Acquired: 3/24/2025 14:24:45 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.002563	-.001715	.0011075	-.000115	-.001351	.0059615	-.008711
Stddev	.001660	.001388	.0004126	.001039	.001056	.0026745	.000627
%RSD	64.74383	80.92044	37.25093	902.4371	78.17340	44.86190	7.195995

#1	-.004415	-.002405	.0006525	.001084	-.001028	.0053425	-.008702
#2	-.001208	-.000117	.0012129	-.000691	-.002532	.0088912	-.009343
#3	-.002068	-.002623	.0014571	-.000738	-.000494	.0036509	-.008089

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000374	-.000073	-.001324	.0010544	.0000055	.0001367	.0011757
Stddev	.0000241	.000046	.005647	.0002015	.0002608	.0002307	.0044246
%RSD	64.38993	62.30458	426.3290	19.11299	4703.804	168.6754	376.3309

#1	.0000363	-.000045	-.003237	.0012869	-.000296	-.000129	.0030841
#2	.0000621	-.000049	.005030	.0009444	.000155	.000282	-.003883
#3	.0000139	-.000126	-.005767	.0009317	.000158	.000258	.004326

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001159	-.008826	-.000027	.0006389	.1003893	-.000116	-.000517
Stddev	.000090	.008919	.000288	.0003233	.0135117	.000559	.000245
%RSD	7.803033	101.0617	1052.469	50.59434	13.45927	480.8878	47.28288

#1	-.001187	-.003361	-.000116	.0003378	.1151113	-.000544	-.000583
#2	-.001232	-.003997	.000295	.0005986	.0975017	-.000321	-.000246
#3	-.001058	-.019118	-.000261	.0009805	.0885549	.000516	-.000722

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1358187	.0127826	-.000221	-.000455	.0007185	.0040789	-.001995
Stddev	.0349672	.0006557	.000389	.000521	.0005620	.0040562	.002479
%RSD	25.74549	5.129687	175.7958	114.5875	78.22165	99.44214	124.2619

#1	.1005467	.0134944	.000228	-.000085	.0003272	.0016858	-.000286
#2	.1364365	.0122033	-.000433	-.001051	.0013625	.0017888	-.000861
#3	.1704729	.0126499	-.000459	-.000228	.0004658	.0087623	-.004839

Sample Name: PB167258BL Acquired: 3/24/2025 14:24:45 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.001788	-.000944	.0000219
Stddev	.001111	.000748	.0000332
%RSD	62.16882	79.25258	151.4113

#1	-.003036	-.000365	-.000011
#2	-.000905	-.001788	.000056
#3	-.001423	-.000678	.000021

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3318.245	75415.14	15429.35	2186.409	5296.395
Stddev	9.657	239.84	81.39	9.749	10.323
%RSD	.2910375	.3180207	.5274989	.4458912	.1949064

#1	3327.788	75613.22	15395.18	2187.448	5306.024
#2	3318.470	75148.49	15522.25	2176.182	5297.666
#3	3308.478	75483.71	15370.62	2195.597	5285.496

Sample Name: PB167258BS Acquired: 3/24/2025 14:29:03 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7292529	1.860462	.8706120	1.885638	.7789503	1.812729
Stddev	.0043549	.019420	.0005532	.008085	.0020557	.001490
%RSD	.5971782	1.043832	.0635457	.4287720	.2639040	.0821887

#1	.7303748	1.857266	.8703557	1.884128	.7778900	1.813331
#2	.7244468	1.842838	.8702333	1.878414	.7776412	1.811032
#3	.7329372	1.881282	.8712469	1.894371	.7813196	1.813824

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1661899	.1770593	.1731832	.8763407	.3693785	.1779398
Stddev	.0006227	.0006609	.0004337	.0031344	.0023863	.0004775
%RSD	.3747072	.3732451	.2504202	.3576647	.6460382	.2683519

#1	.1668954	.1777852	.1734654	.8728850	.3684291	.1780315
#2	.1657169	.1764926	.1726838	.8790000	.3720934	.1774232
#3	.1659573	.1769001	.1734003	.8771371	.3676129	.1783649

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2940875	2.690363	.1756508	1.723559	.4477296	.0709435
Stddev	.0008991	.010729	.0007635	.006002	.0008033	.0003296
%RSD	.3057337	.3987964	.4346946	.3482391	.1794278	.4645468

#1	.2942642	2.686790	.1765324	1.726464	.4475053	.0713035
#2	.2931132	2.702423	.1752049	1.727556	.4470622	.0706567
#3	.2948852	2.681877	.1752150	1.716657	.4486213	.0708703

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.594663	.2659291	.1912207	8.937385	.2696616	.3901931
Stddev	.019134	.0007428	.0004844	.066542	.0017088	.0010571
%RSD	.7374224	.2793099	.2533300	.7445399	.6336883	.2709117

#1	2.584882	.2667562	.1906782	8.882578	.2712519	.3902165
#2	2.616710	.2657125	.1916099	9.011426	.2678549	.3891245
#3	2.582397	.2653188	.1913740	8.918150	.2698779	.3912382

Sample Name: PB167258BS Acquired: 3/24/2025 14:29:03 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6221072	.1777350	F .7207725	5.289768	F -.001959	.1817748
Stddev	.0009033	.0004569	.0048792	.013811	.001349	.0011315
%RSD	.1452053	.2570553	.6769468	.2610882	68.86062	.6224664
#1	.6230100	.1779294	.7153971	5.282782	-.002456	.1819783
#2	.6221080	.1780625	.7219987	5.280847	-.002990	.1827907
#3	.6212034	.1772131	.7249217	5.305677	-.000432	.1805553

Elem	Sr4077
Units	ppm
Avg	.1743763
Stddev	.0002986
%RSD	.1712595
#1	.1745212
#2	.1745749
#3	.1740329

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3266.165	74947.68	15357.04	2183.429	5075.142
Stddev	4.313	339.74	15.48	12.348	4.690
%RSD	.1320440	.4532986	.1007988	.5655205	.0924103
#1	3262.392	75217.08	15346.08	2196.250	5069.819
#2	3270.867	74566.02	15374.75	2182.421	5078.663
#3	3265.236	75059.95	15350.29	2171.616	5076.946

Sample Name: PB167233TB Acquired: 3/24/2025 14:33:06 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.005683	-.006623	.0007844	.0012234	-.000304	.0073098
Stddev	.002028	.000577	.0012335	.0016056	.001216	.0032356
%RSD	35.68393	8.712775	157.2557	131.2456	400.4947	44.26362

#1	-.005048	-.006799	-.000437	.0024136	.001100	.0101983
#2	-.004048	-.007090	.000760	-.000603	-.001022	.0079176
#3	-.007952	-.005978	.002030	.001859	-.000989	.0038134

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.010837	-.000112	-.000216	-.002303	.0003674	-.000390
Stddev	.001302	.000018	.000064	.003219	.0004214	.000074
%RSD	12.01182	16.31223	29.40946	139.7512	114.7108	18.90801

#1	-.010869	-.000101	-.000280	.000851	.0002949	-.000319
#2	-.012123	-.000133	-.000215	-.005583	.0008203	-.000384
#3	-.009520	-.000103	-.000153	-.002177	-.000013	-.000466

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000070	.0247371	-.000272	.0093974	.0004954	.0003254
Stddev	.000541	.0042285	.000049	.0081228	.0001143	.0001383
%RSD	775.9513	17.09377	18.12474	86.43687	23.07464	42.49122

#1	-.000594	.0200507	-.000240	.0030358	.0003721	.0001662
#2	-.000102	.0258937	-.000247	.0066094	.0005163	.0003946
#3	.000487	.0282670	-.000329	.0185471	.0005979	.0004154

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 378.3276	.0008276	.0003352	-.118660	.0050477	.0000361
Stddev	1.1505	.0005982	.0000492	.012981	.0005882	.0001446
%RSD	.3040888	72.27983	14.67845	10.93993	11.65235	400.1248

#1	377.6398	.0010034	.0003677	-.105313	.0056460	.0000184
#2	377.6872	.0013181	.0002786	-.131241	.0044702	.0001888
#3	379.6557	.0001612	.0003592	-.119425	.0050270	-.000099

Sample Name: PB167233TB Acquired: 3/24/2025 14:33:06 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.003116	.0008881	.0156539	.0045221	F .0132443	-.009809
Stddev	.000486	.0002944	.0046891	.0033961	.0028438	.001225
%RSD	15.60475	33.15168	29.95498	75.10026	21.47195	12.49212
#1	-.002568	.0010718	.0123882	.0041122	.0131168	-.008433
#2	-.003495	.0005485	.0135465	.0013495	.0104664	-.010213
#3	-.003286	.0010440	.0210269	.0081044	.0161498	-.010782

Elem	Sr4077
Units	ppm
Avg	.0000123
Stddev	.0000284
%RSD	230.7922
#1	-.000005
#2	-.000003
#3	.000045

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2991.394	68966.09	15871.10	1982.875	4417.737
Stddev	9.459	239.54	230.20	6.941	9.100
%RSD	.3162158	.3473241	1.450405	.3500667	.2059863
#1	2999.339	68981.53	15784.61	1984.590	4418.484
#2	2993.914	69197.53	15696.68	1988.798	4426.440
#3	2980.930	68719.20	16132.02	1975.237	4408.286

Sample Name: Q1606-02 Acquired: 3/24/2025 14:37:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.006353	-.005342	.2153614	.0037303	.0007201	.1523158	.1236330
Stddev	.001640	.001128	.0013431	.0008580	.0012090	.0009558	.0009390
%RSD	25.81344	21.11848	.6236584	23.00081	167.8959	.6274892	.7595059
#1	-.007771	-.005008	.2169119	.0043934	-.000342	.1528555	.1236285
#2	-.006730	-.004419	.2145540	.0040363	.000467	.1512123	.1226963
#3	-.004557	-.006600	.2146184	.0027613	.002036	.1528797	.1245743
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000556	.0001039	17.26497	.0039015	.0058493	.0116231	4.658059
Stddev	.0000540	.0000453	.03353	.0001415	.0001080	.0004768	.004494
%RSD	97.07094	43.55269	.1942028	3.627025	1.846755	4.102176	.0964693
#1	.0000019	.0001410	17.30318	.0037443	.0059059	.0118282	4.654422
#2	.0001098	.0000535	17.25129	.0040186	.0057247	.0119630	4.656673
#3	.0000552	.0001172	17.24044	.0039417	.0059173	.0110781	4.663083
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5445618	.8792469	.0102386	.0004150	312.1166	.0004523	.4550956
Stddev	.0026040	.0135695	.0001650	.0002146	.5833	.0011884	.0004030
%RSD	.4781750	1.543305	1.611191	51.72110	.1868724	262.7759	.0885419
#1	.5473125	.8686385	.0100799	.0004879	311.8472	.0014413	.4547477
#2	.5442381	.8945374	.0102266	.0005836	312.7858	-.000866	.4550020
#3	.5421349	.8745647	.0104092	.0001734	311.7167	.000782	.4555371
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.018149	.0233285	-.000029	-.004114	.0001979	.7620400	.0065491
Stddev	.024519	.0002232	.000113	.000111	.0004633	.0062560	.0021684
%RSD	2.408149	.9566301	384.3507	2.693078	234.1163	.8209592	33.10930
#1	.989944	.0230770	-.000113	-.004235	.0001589	.7548894	.0085516
#2	1.030126	.0235028	-.000075	-.004017	.0006795	.7647265	.0042462
#3	1.034378	.0234058	.000100	-.004091	-.000245	.7665040	.0068496

Sample Name: Q1606-02 Acquired: 3/24/2025 14:37:35 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	2.026234	-.006065	.0724368
Stddev	.004279	.001119	.0001015
%RSD	.2111586	18.45394	.1401480
#1	2.021984	-.004773	.0725446
#2	2.026178	-.006730	.0724227
#3	2.030541	-.006692	.0723430

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3022.496	70079.05	15890.89	1989.788	4484.168
Stddev	4.645	191.42	48.76	1.693	8.798
%RSD	.1536878	.2731522	.3068329	.0850751	.1962040
#1	3018.102	70223.82	15835.53	1989.495	4475.344
#2	3027.357	70151.32	15927.45	1991.608	4492.940
#3	3022.030	69862.01	15909.70	1988.260	4484.222

Sample Name: Q1606-04 Acquired: 3/24/2025 14:41:58 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.004592	-.005443	.1901229	.0053009	-.001227	.0860158	.1172427
Stddev	.001492	.002600	.0006183	.0057689	.000747	.0044505	.0007020
%RSD	32.50071	47.75924	.3252023	108.8278	60.87078	5.174087	.5987573

#1	-.005555	-.004508	.1898299	.0104955	-.001125	.0809637	.1168011
#2	-.002873	-.003440	.1908332	-.000908	-.000537	.0877268	.1180521
#3	-.005348	-.008381	.1897055	.006315	-.002020	.0893570	.1168747

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001159	-.000208	21.80816	.0005784	.0083329	.0132836	8.623345
Stddev	.0000456	.000056	.08337	.0003733	.0000897	.0004804	.088475
%RSD	39.32042	27.03516	.3822931	64.54132	1.076682	3.616369	1.025989

#1	.0000637	-.000144	21.77288	.0007189	.0082455	.0132210	8.653566
#2	.0001475	-.000249	21.74822	.0008609	.0084248	.0128375	8.692749
#3	.0001367	-.000232	21.90337	.0001552	.0083283	.0137922	8.523719

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7656601	.8847682	.0141194	.0001881	289.0786	.0005055	.5648969
Stddev	.0021318	.0089458	.0002605	.0002572	6.1815	.0005829	.0057472
%RSD	.2784309	1.011093	1.845294	136.7781	2.138350	115.3220	1.017395

#1	.7648662	.8920729	.0143848	-.000054	292.0441	.0008833	.5711912
#2	.7640391	.8747906	.0141095	.000458	293.2187	.0007990	.5635710
#3	.7680750	.8874411	.0138640	.000160	281.9731	-.000166	.5599285

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.292963	.0173121	-.000265	-.004635	.0005201	.8879752	.0108095
Stddev	.026009	.0011285	.000365	.000197	.0001945	.0135268	.0008681
%RSD	2.011567	6.518474	137.8654	4.259715	37.38635	1.523332	8.030706

#1	1.314533	.0185621	.000135	-.004839	.0007429	.8985370	.0115660
#2	1.264080	.0170059	-.000348	-.004445	.0003843	.8926597	.0098617
#3	1.300275	.0163684	-.000581	-.004620	.0004331	.8727288	.0110007

Sample Name: Q1606-04 Acquired: 3/24/2025 14:41:58 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	3.562453	-.003165	.0930644
Stddev	.011333	.001112	.0001771
%RSD	.3181109	35.11712	.1902819
#1	3.565510	-.002865	.0932452
#2	3.549906	-.004396	.0928913
#3	3.571944	-.002235	.0930566

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3032.460	70990.55	15703.51	2026.536	4468.017
Stddev	8.273	833.89	78.22	34.825	9.805
%RSD	.2728270	1.174649	.4980749	1.718466	.2194423
#1	3024.414	70374.45	15693.75	2006.535	4464.642
#2	3040.943	70657.75	15786.15	2006.325	4479.063
#3	3032.023	71939.45	15630.63	2066.749	4460.345

Sample Name: Q1606-06 Acquired: 3/24/2025 14:46:22 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.004397	-.005848	.1694238	.0027863	.0008502	.1005282	.2360426
Stddev	.001017	.000898	.0008536	.0019506	.0013218	.0092817	.0009770
%RSD	23.13242	15.36458	.5038480	70.00835	155.4691	9.232910	.4139106

#1	-.005567	-.006095	.1702998	.0034319	-.000223	.0943525	.2371708
#2	-.003899	-.004851	.1693771	.0005947	.002327	.0960302	.2354742
#3	-.003724	-.006596	.1685945	.0043322	.000447	.1112019	.2354829

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000741	.0009064	40.43230	.0000900	.0063515	.0934204	.9419935
Stddev	.0000303	.0000886	.12991	.0001941	.0001070	.0005390	.0121356
%RSD	40.80508	9.772762	.3213008	215.6843	1.684578	.5769917	1.288292

#1	.0000393	.0009895	40.58229	-.000133	.0064638	.0928028	.9349504
#2	.0000933	.0009164	40.35926	.000222	.0062508	.0937958	.9350236
#3	.0000899	.0008132	40.35536	.000181	.0063400	.0936626	.9560064

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9607245	1.996395	.0112152	.0000727	403.6492	-.000095	.4775829
Stddev	.0029661	.002176	.0004900	.0002129	2.4519	.000723	.0021658
%RSD	.3087367	.1089758	4.369140	292.9470	.6074306	761.5095	.4534981

#1	.9636168	1.998517	.0117421	-.000169	402.5689	-.000720	.4755577
#2	.9608668	1.994169	.0111303	.000233	401.9230	-.000262	.4773246
#3	.9576898	1.996500	.0107731	.000154	406.4558	.000697	.4798662

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.092252	.0310573	.0001442	-.004914	-.000382	1.535420	.0122733
Stddev	.003363	.0006035	.0000224	.000259	.000134	.014757	.0028678
%RSD	.1607316	1.943277	15.50036	5.278149	34.99231	.9610865	23.36642

#1	2.093904	.0315788	.0001268	-.004665	-.000362	1.545070	.0117384
#2	2.088383	.0303962	.0001694	-.004896	-.000525	1.518433	.0153710
#3	2.094470	.0311970	.0001365	-.005183	-.000260	1.542758	.0097106

Sample Name: Q1606-06 Acquired: 3/24/2025 14:46:22 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	1.167354	-.011211	.2160312
Stddev	.010525	.000508	.0004861
%RSD	.9015823	4.532881	.2249936
#1	1.174626	-.011093	.2165275
#2	1.155285	-.010773	.2155561
#3	1.172150	-.011768	.2160099

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2992.082	70537.41	15831.36	2033.409	4327.526
Stddev	9.611	102.33	39.66	6.911	18.833
%RSD	.3212297	.1450789	.2504876	.3398788	.4351798
#1	2999.887	70564.24	15802.87	2040.322	4332.571
#2	2995.013	70623.65	15814.56	2033.407	4343.321
#3	2981.347	70424.33	15876.65	2026.499	4306.684

Sample Name: Q1606-08 Acquired: 3/24/2025 14:50:46 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.006328	-.005477	.0966960	.0013454	.0016917	.0730443	.1425022
Stddev	.000608	.001138	.0011311	.0015685	.0021708	.0096205	.0006905
%RSD	9.602320	20.76949	1.169749	116.5796	128.3260	13.17075	.4845236

#1	-.005679	-.004221	.0960599	.0021026	.0022526	.0670643	.1428440
#2	-.006883	-.005772	.0960262	.0023916	-.000705	.0679268	.1429552
#3	-.006423	-.006438	.0980020	-.000458	.003527	.0841420	.1417076

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000012	.0012983	57.29795	-.000006	.0051509	.0190779	.8209735
Stddev	.000084	.0000718	.11299	.000198	.0001237	.0000778	.0044985
%RSD	679.1509	5.527515	.1972025	3092.310	2.401078	.4078881	.5479488

#1	-.000091	.0013721	57.26065	.000142	.0051715	.0190885	.8157849
#2	.000076	.0012287	57.42488	.000070	.0052631	.0189954	.8237809
#3	-.000023	.0012941	57.20833	-.000231	.0050183	.0191499	.8233547

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9693190	2.189156	.0149997	.0000387	324.0369	.0004990	.6019419
Stddev	.0025512	.018897	.0002562	.0004545	2.0689	.0008113	.0012349
%RSD	.2631976	.8632068	1.708024	1174.922	.6384887	162.5845	.2051509

#1	.9663814	2.189102	.0150176	-.000216	321.6973	.0002316	.6032629
#2	.9709792	2.208080	.0152465	.000563	324.7883	.0014102	.6008164
#3	.9705965	2.170286	.0147351	-.000231	325.6252	-.000145	.6017466

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.628230	.0286331	.0004706	-.005777	.0002531	1.258502	.0066701
Stddev	.024381	.0006637	.0000841	.000165	.0005057	.003136	.0038146
%RSD	1.497392	2.317935	17.86905	2.856766	199.7814	.2492228	57.18897

#1	1.616121	.0292062	.0004955	-.005858	.0008319	1.261743	.0104679
#2	1.612274	.0287871	.0003768	-.005587	-.000103	1.255482	.0067036
#3	1.656295	.0279059	.0005394	-.005885	.000030	1.258281	.0028389

Sample Name: Q1606-08 Acquired: 3/24/2025 14:50:46 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	2.125465	-.015005	.3095785
Stddev	.006080	.001504	.0011013
%RSD	.2860641	10.02137	.3557274
#1	2.127730	-.014682	.3086425
#2	2.118577	-.016644	.3107919
#3	2.130087	-.013689	.3093010

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2978.060	69336.22	15433.05	1966.344	4348.693
Stddev	15.220	240.71	26.14	7.151	11.871
%RSD	.5110872	.3471633	.1693774	.3636470	.2729707
#1	2987.995	69214.81	15439.77	1970.938	4349.737
#2	2985.648	69613.46	15455.17	1969.989	4360.007
#3	2960.537	69180.40	15404.21	1958.105	4336.334

Sample Name: Q1606-10 Acquired: 3/24/2025 14:55:11 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0080234	-.004241	.0548573	.0051105	-.000306	.0060811	.2467633
Stddev	.0021553	.000411	.0003974	.0008379	.000507	.0044651	.0011101
%RSD	26.86277	9.692001	.7244011	16.39664	165.4099	73.42538	.4498461

#1	.0086686	-.004516	.0550849	.0051101	.000255	.0009285	.2456490
#2	.0056192	-.003768	.0543984	.0042728	-.000731	.0085002	.2467720
#3	.0097825	-.004439	.0550885	.0059487	-.000442	.0088148	.2478690

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001397	-.001913	52.33303	.0000162	.0095038	.0111462	33.91576
Stddev	.0000633	.000087	.15414	.0003718	.0000542	.0003526	.30653
%RSD	45.30502	4.549224	.2945420	2296.636	.5708610	3.163532	.9037976

#1	.0001884	-.001837	52.16743	.0001539	.0094786	.0113348	33.61850
#2	.0000682	-.002008	52.35934	-.000405	.0094668	.0113643	33.89799
#3	.0001625	-.001894	52.47232	.000299	.0095661	.0107394	34.23079

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.145132	.9997612	.0164167	.0000101	333.4113	.0014289	.3739536
Stddev	.002173	.0081771	.0006212	.0000623	3.4240	.0004299	.0030510
%RSD	.1897368	.8179107	3.784227	616.4525	1.026956	30.08285	.8158798

#1	1.143100	.9997167	.0168340	-.000062	333.4851	.0016029	.3714926
#2	1.144874	.9916064	.0157027	.000045	329.9510	.0009393	.3730010
#3	1.147423	1.007961	.0167134	.000047	336.7978	.0017445	.3773673

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.621012	.0122479	.0009717	-.006606	.0003529	1.424074	.0899942
Stddev	.041787	.0008052	.0003841	.000625	.0004095	.009305	.0033070
%RSD	2.577841	6.574256	39.53111	9.461019	116.0409	.6534383	3.674675

#1	1.576316	.0127688	.0006393	-.005910	-.000120	1.424378	.0925179
#2	1.627617	.0113205	.0008837	-.007118	.000594	1.414620	.0912141
#3	1.659104	.0126544	.0013922	-.006791	.000584	1.433223	.0862505

Sample Name: Q1606-10 Acquired: 3/24/2025 14:55:11 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	1.117578	.0054044	.1937598
Stddev	.005877	.0009633	.0004574
%RSD	.5258786	17.82465	.2360726
#1	1.111590	.0056599	.1932614
#2	1.123337	.0043391	.1938576
#3	1.117806	.0062142	.1941604

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2941.967	70133.96	15384.74	1955.268	4309.914
Stddev	10.593	472.58	32.24	11.569	5.344
%RSD	.3600677	.6738269	.2095592	.5916983	.1239825
#1	2942.956	70324.91	15348.49	1963.050	4311.886
#2	2952.031	70481.19	15410.22	1960.780	4313.992
#3	2930.914	69595.78	15395.52	1941.973	4303.865

Sample Name: CCV05 Acquired: 3/24/2025 15:30:13 Type: Unk
Method: NON EPA-6010-200.7(v2836) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.856599	4.768568	4.644283	4.950738	5.001967	9.475392
Stddev	.023345	.044931	.013890	.008062	.025680	.041264
%RSD	.4806882	.9422374	.2990850	.1628494	.5134014	.4354880

#1	4.846675	4.773084	4.641492	4.950191	4.983849	9.449547
#2	4.839854	4.721550	4.632001	4.942964	4.990697	9.453647
#3	4.883266	4.811071	4.659357	4.959060	5.031355	9.522980

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.348649	.2521179	2.305214	22.51293	.9402167	2.328920
Stddev	.136426	.0017332	.008311	.12926	.0016726	.006813
%RSD	1.459309	.6874389	.3605370	.5741679	.1778942	.2925467

#1	9.201816	.2505029	2.303977	22.39770	.9383467	2.327750
#2	9.372649	.2519019	2.297590	22.48839	.9407334	2.322768
#3	9.471483	.2539489	2.314074	22.65271	.9415700	2.336243

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.223961	4.638095	2.577952	26.19876	2.327187	1.179891
Stddev	.005524	.019111	.013031	.17542	.006774	.002122
%RSD	.4513490	.4120392	.5054708	.6695547	.2910926	.1798628

#1	1.220517	4.616677	2.564959	26.02870	2.326235	1.177441
#2	1.221033	4.644203	2.577877	26.18850	2.320940	1.181071
#3	1.230333	4.653405	2.591020	26.37908	2.334388	1.181161

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.61883	2.308520	2.398956	24.24969	F 4.387070	4.983369
Stddev	.04443	.009634	.005892	.03452	.026106	.019580
%RSD	.1881234	.4173343	.2455861	.1423718	.5950686	.3929114

#1	23.59511	2.298245	2.392819	24.21103	4.364934	4.973944
#2	23.67009	2.309964	2.404566	24.26058	4.380419	4.970284
#3	23.59129	2.317351	2.399484	24.27745	4.415859	5.005879

Sample Name: CCV05 Acquired: 3/24/2025 15:30:13 Type: Unk
Method: NON EPA-6010-200.7(v2836) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.668137	4.616860	4.823479	4.736218	4.666587	4.660634
Stddev	.021871	.016155	.024851	.005046	.021052	.012761
%RSD	.4685189	.3499207	.5152058	.1065309	.4511150	.2738063
#1	4.664426	4.601990	4.803549	4.735982	4.663404	4.648274
#2	4.648358	4.614541	4.815564	4.731295	4.647309	4.659866
#3	4.691626	4.634050	4.851323	4.741377	4.689049	4.673761

Elem	Sr4077
Units	ppm
Avg	4.688580
Stddev	.049013
%RSD	1.045366
#1	4.669343
#2	4.652105
#3	4.744294

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3171.330	74032.96	15670.53	2103.346	4686.424
Stddev	13.113	326.31	117.13	11.355	16.136
%RSD	.4134997	.4407639	.7474754	.5398402	.3443169
#1	3177.205	74409.19	15790.35	2115.585	4689.449
#2	3180.479	73862.68	15664.96	2093.153	4700.834
#3	3156.307	73827.01	15556.28	2101.301	4668.990

Sample Name: CCB05 Acquired: 3/24/2025 15:34:23 Type: Unk
Method: NON EPA-6010-200.7(v2836) 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	-.000773	-.002030	.0008656	-.000859	-.000322	.0012354	-.009846
Stddev	.000083	.002135	.0004711	.001501	.000311	.0033235	.000738
%RSD	10.74563	105.1900	54.42198	174.7683	96.64446	269.0185	7.495761

#1	-.000816	-.000540	.0009698	-.001881	-.000641	.0042357	-.009089
#2	-.000825	-.004476	.0003511	.000864	-.000304	.0018075	-.009884
#3	-.000677	-.001073	.0012758	-.001559	-.000020	-.002337	-.010564

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000927	.0000187	-.004559	.0001302	.0001789	-.000052	-.000627
Stddev	.0000401	.0000440	.001753	.0002642	.0001600	.000217	.001334
%RSD	43.26372	235.5613	38.45404	202.9781	89.43165	420.5704	212.7250

#1	.0001201	.0000140	-.004326	-.000093	.0000181	-.000196	-.002110
#2	.0001112	-.000023	-.006417	.000061	.0001806	-.000157	-.000249
#3	.0000467	.000065	-.002934	.000422	.0003381	.000198	.000477

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000348	.0174082	-.000166	.0005593	.0256425	.0003372	-.000661
Stddev	.000321	.0086917	.000141	.0000898	.0081732	.0016074	.000147
%RSD	92.22957	49.92888	85.42184	16.04745	31.87350	476.7364	22.22934

#1	-.000062	.0119005	-.000091	.0005959	.0175821	-.001504	-.000815
#2	-.000695	.0274281	-.000077	.0006250	.0254215	.001058	-.000645
#3	-.000286	.0128961	-.000329	.0004570	.0339240	.001458	-.000523

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1493723	.0068977	.0001747	-.002699	.0009766	.0108751	-.000884
Stddev	.0221557	.0005592	.0003139	.000199	.0002203	.0037746	.001489
%RSD	14.83253	8.106891	179.7130	7.384741	22.55760	34.70837	168.4164

#1	.1407367	.0068847	.0001032	-.002535	.0008458	.0065340	-.000141
#2	.1328349	.0074633	.0005181	-.002643	.0012310	.0127089	-.002599
#3	.1745455	.0063451	-.000097	-.002921	.0008531	.0133824	.000087

Sample Name: CCB05 Acquired: 3/24/2025 15:34:23 Type: Unk
Method: NON EPA-6010-200.7(v2836) 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	-.001178	-.004776	.0000823
Stddev	.002203	.000665	.0000494
%RSD	187.0677	13.92908	59.99002
#1	-.002195	-.004914	.0000473
#2	.001350	-.005361	.0001388
#3	-.002688	-.004052	.0000608

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3270.877	75952.20	15897.70	2162.927	5233.481
Stddev	4.143	282.95	61.53	8.446	7.975
%RSD	.1266761	.3725376	.3870134	.3905048	.1523937
#1	3275.362	75750.18	15850.15	2158.423	5231.422
#2	3270.078	75830.83	15875.76	2157.687	5242.285
#3	3267.191	76275.59	15967.19	2172.671	5226.738

Sample Name: Q1610-03 Acquired: 3/24/2025 15:43:10 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.006139	-.005404	.0115232	.0023454	.0006132	.0688238	.4370669
Stddev	.001881	.001723	.0004136	.0006850	.0019300	.0020196	.0021045
%RSD	30.64744	31.87801	3.589440	29.20769	314.7228	2.934429	.4815017

#1	-.005975	-.007150	.0114044	.0017122	-.000661	.0683221	.4385031
#2	-.004345	-.003706	.0119832	.0030726	.002834	.0671024	.4380463
#3	-.008097	-.005355	.0111820	.0022513	-.000333	.0710470	.4346512

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000038	.0002910	19.89137	.0056671	.0061783	.0152692	.0544618
Stddev	.0000252	.0000310	.08005	.0001725	.0001383	.0000445	.0026890
%RSD	669.1240	10.64721	.4024416	3.043836	2.237955	.2916317	4.937437

#1	-.000012	.0002690	19.97974	.0054841	.0060337	.0152794	.0548093
#2	.000033	.0003264	19.87066	.0056904	.0061918	.0153078	.0569603
#3	-.000010	.0002775	19.82371	.0058268	.0063093	.0152205	.0516160

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9461420	6.157700	.0243851	.0001826	309.1200	.0008572	.2174548
Stddev	.0064715	.029725	.0003627	.0001776	2.9409	.0016489	.0005731
%RSD	.6839891	.4827264	1.487227	97.27270	.9513701	192.3577	.2635296

#1	.9518095	6.173137	.0239990	.0000627	309.4901	-.000339	.2179141
#2	.9475260	6.176531	.0244378	.0000984	311.8583	.002738	.2168126
#3	.9390904	6.123433	.0247186	.0003866	306.0116	.000173	.2176377

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.822182	.1011465	.0000492	-.003917	.0002166	1.935378	.0195717
Stddev	.011448	.0010223	.0002556	.000436	.0005542	.008951	.0016903
%RSD	.6282429	1.010743	519.6456	11.12669	255.9245	.4624826	8.636461

#1	1.829104	.1020087	-.000056	-.004413	-.000401	1.944473	.0211188
#2	1.828474	.1000171	.000341	-.003597	.000380	1.935084	.0177676
#3	1.808968	.1014137	-.000137	-.003740	.000671	1.926578	.0198287

Sample Name: Q1610-03 Acquired: 3/24/2025 15:43:10 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6051818	-.008666	.0847254
Stddev	.0027802	.001188	.0005182
%RSD	.4594024	13.70417	.6115713
#1	.6028309	-.007358	.0849833
#2	.6044640	-.009677	.0850641
#3	.6082505	-.008963	.0841289

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3081.540	71243.04	15878.22	2051.518	4513.781
Stddev	7.469	167.66	30.20	16.040	4.315
%RSD	.2423705	.2353357	.1902216	.7818809	.0956010
#1	3077.281	71102.50	15843.45	2033.161	4517.011
#2	3090.164	71198.01	15893.20	2058.563	4515.452
#3	3077.174	71428.62	15898.00	2062.830	4508.880

Sample Name: Q1609-03 Acquired: 3/24/2025 15:53:01 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	-.003589	-.006700	.0092396	.0007246	-.000852	-.023245	.1395511
Stddev	.001446	.002262	.0007138	.0027528	.001250	.005138	.0011594
%RSD	40.29256	33.75777	7.725190	379.9109	146.7587	22.10298	.8308314
#1	-.002437	-.009311	.0084455	-.000947	-.002267	-.026541	.1408229
#2	-.003117	-.005318	.0094453	-.000781	.000102	-.025869	.1392776
#3	-.005211	-.005472	.0098279	.003902	-.000390	-.017325	.1385529
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000110	.0004357	119.5488	-.000111	.0071840	.0071176	.0804791
Stddev	.000063	.0000340	.7081	.000255	.0002234	.0001464	.0005505
%RSD	57.04458	7.804193	.5923495	231.0824	3.108919	2.057063	.6840297
#1	-.000161	.0004687	119.7877	-.000361	.0070988	.0072833	.0806583
#2	-.000130	.0004376	120.1066	.000150	.0074375	.0070058	.0809177
#3	-.000040	.0004008	118.7521	-.000121	.0070159	.0070637	.0798613
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3168813	28.91400	.0104674	.0003954	410.3583	.0012753	.0561173
Stddev	.0017546	.19854	.0002037	.0000811	2.5900	.0007633	.0005051
%RSD	.5537191	.6866462	1.946186	20.50069	.6311663	59.85378	.9000305
#1	.3161671	28.94280	.0106774	.0004502	407.8510	.0004003	.0564520
#2	.3188804	29.09657	.0102706	.0004338	413.0238	.0018046	.0563636
#3	.3155963	28.70264	.0104543	.0003023	410.2001	.0016209	.0555363
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.761076	.0191514	.0008115	-.003916	-.001962	3.368402	.0062952
Stddev	.030054	.0004679	.0003993	.000364	.000174	.046352	.0012590
%RSD	1.706569	2.443293	49.20888	9.296426	8.876386	1.376089	19.99879
#1	1.760280	.0189727	.0009494	-.004317	-.002141	3.359014	.0057588
#2	1.731428	.0196824	.0003615	-.003823	-.001953	3.327463	.0053933
#3	1.791520	.0187992	.0011236	-.003607	-.001793	3.418730	.0077336

Sample Name: Q1609-03 Acquired: 3/24/2025 15:53:01 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	2.020378	-.025645	.1803063
Stddev	.007311	.000994	.0006835
%RSD	.3618656	3.876301	.3790845
#1	2.025195	-.024516	.1807111
#2	2.011966	-.026387	.1806906
#3	2.023975	-.026032	.1795171

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2928.125	68008.39	15718.04	1919.883	4269.219
Stddev	12.159	226.68	198.16	10.893	19.231
%RSD	.4152320	.3333132	1.260742	.5673533	.4504583
#1	2914.358	68163.06	15707.97	1927.391	4247.591
#2	2932.623	68113.93	15525.09	1924.868	4275.671
#3	2937.394	67748.18	15921.04	1907.390	4284.394

Sample Name: Q1619-02 Acquired: 3/24/2025 15:57:30 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	-.007147	-.006289	.0014286	-.001123	.0003787	.2367432	.1715769
Stddev	.002162	.003359	.0006372	.003134	.0011687	.0037708	.0012985
%RSD	30.25509	53.41187	44.60672	279.1174	308.6223	1.592775	.7568027

#1	-.006664	-.009289	.0019597	-.001530	-.000958	.2385858	.1730460
#2	-.005267	-.006920	.0016041	-.004033	.001206	.2392384	.1711019
#3	-.009510	-.002660	.0007220	.002195	.000889	.2324054	.1705827

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000129	-.000110	157.2732	.0044349	-.000463	.0029832	.0055976
Stddev	.000040	.000051	.5681	.0001416	.000086	.0001264	.0040300
%RSD	31.45515	46.39831	.3612224	3.192668	18.61627	4.237922	71.99566

#1	-.000128	-.000164	157.9110	.0045392	-.000445	.0030218	.0090696
#2	-.000089	-.000104	157.0870	.0042737	-.000387	.0030858	.0011783
#3	-.000169	-.000063	156.8216	.0044918	-.000557	.0028420	.0065450

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0406085	.0311864	-.000286	.0003039	313.6848	.0014983	.0029549
Stddev	.0001399	.0080974	.000194	.0000985	.9140	.0006218	.0004488
%RSD	.3445628	25.96461	68.08203	32.40431	.2913647	41.49672	15.18775

#1	.0404667	.0266995	-.000091	.0002948	313.4893	.0008887	.0034705
#2	.0406125	.0405340	-.000480	.0002103	312.8843	.0014748	.0027417
#3	.0407464	.0263257	-.000286	.0004066	314.6807	.0021315	.0026524

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.074127	.0285588	.0007721	-.006551	-.002605	1.331040	.0081352
Stddev	.028142	.0002272	.0000304	.000819	.000352	.001232	.0007945
%RSD	.9154445	.7957187	3.932211	12.50010	13.49872	.0925292	9.766526

#1	3.099936	.0287809	.0008008	-.006625	-.002381	1.332038	.0079512
#2	3.044123	.0285689	.0007403	-.005698	-.002425	1.329663	.0074487
#3	3.078322	.0283267	.0007750	-.007331	-.003011	1.331418	.0090055

Sample Name: Q1619-02 Acquired: 3/24/2025 15:57:30 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	4.264639	-.030491	1.656147
Stddev	.010235	.000228	.021060
%RSD	.2399892	.7491937	1.271652
#1	4.260365	-.030539	1.653975
#2	4.257233	-.030691	1.636257
#3	4.276317	-.030242	1.678209

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2960.087	69374.77	16023.63	1947.583	4338.387
Stddev	7.714	419.62	40.88	6.833	8.251
%RSD	.2606096	.6048628	.2551045	.3508424	.1901845
#1	2967.768	68893.04	15978.05	1942.291	4344.625
#2	2960.153	69570.53	16035.80	1945.160	4341.505
#3	2952.340	69660.74	16057.04	1955.297	4329.032

Sample Name: Q1619-04 Acquired: 3/24/2025 16:02:06 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	-.007076	-.007821	.0004527	-.001155	.0019297	-.052602
Stddev	.001912	.001689	.0019418	.003377	.0009409	.003990
%RSD	27.02635	21.59036	428.9860	292.4613	48.75874	7.585737
#1	-.008909	-.007030	.0018540	.000797	.0008640	-.048786
#2	-.005093	-.009759	-.001764	.000793	.0026456	-.056746
#3	-.007225	-.006673	.001268	-.005054	.0022793	-.052273
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1151806	-.000137	-.000052	182.1678	.0012661	-.000080
Stddev	.0005210	.000029	.000088	.4118	.0004811	.000414
%RSD	.4522953	21.45840	168.6086	.2260393	38.00098	514.4167
#1	.1151673	-.000106	-.000154	182.2181	.0018213	.000329
#2	.1146664	-.000165	-.000005	181.7332	.0010040	-.000499
#3	.1157081	-.000139	.000002	182.5521	.0009728	-.000071
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0096248	.0117363	.0596600	8.515223	.0029519	.0002895
Stddev	.0002327	.0046832	.0002744	.031355	.0001809	.0001452
%RSD	2.417901	39.90369	.4599189	.3682227	6.129195	50.16408
#1	.0095800	.0086795	.0595558	8.544059	.0027853	.0004525
#2	.0098766	.0171279	.0594529	8.481844	.0031444	.0001739
#3	.0094177	.0094015	.0599712	8.519765	.0029260	.0002421
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	337.8779	.0035556	.0773861	8.046376	.0756510	.0022139
Stddev	.7859	.0001844	.0007928	.037841	.0008899	.0002487
%RSD	.2326007	5.185270	1.024417	.4702810	1.176293	11.23423
#1	337.9785	.0035015	.0779651	8.022571	.0757835	.0021275
#2	338.6087	.0034044	.0764826	8.026547	.0747023	.0024943
#3	337.0466	.0037610	.0777106	8.090010	.0764672	.0020199

Sample Name: Q1619-04 Acquired: 3/24/2025 16:02:06 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	-.006873	-.003694	5.969948	.0136215	F 19.98415	-.026556
Stddev	.000958	.000636	.011688	.0013057	.09312	.000687
%RSD	13.93233	17.21053	.1957724	9.585319	.4659535	2.587799
#1	-.007966	-.004292	5.966314	.0135500	20.01306	-.027034
#2	-.006473	-.003026	5.983021	.0149614	19.88000	-.026866
#3	-.006181	-.003764	5.960510	.0123531	20.05937	-.025768

Elem	Sr4077
Units	ppm
Avg	1.214701
Stddev	.018053
%RSD	1.486222
#1	1.234955
#2	1.208846
#3	1.200303

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2963.276	69119.27	15850.24	1958.563	4313.793
Stddev	3.344	48.27	21.34	10.935	6.975
%RSD	.1128489	.0698303	.1346139	.5583193	.1616931
#1	2959.489	69103.07	15843.86	1946.109	4315.735
#2	2964.513	69081.19	15874.04	1966.592	4319.591
#3	2965.825	69173.56	15832.82	1962.989	4306.052

Sample Name: Q1619-06 Acquired: 3/24/2025 16:06:39 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	-.004840	-.006026	.0022291	-.003085	-.001019	-.020286	.7250775
Stddev	.002426	.001041	.0009839	.003238	.000934	.006913	.0034746
%RSD	50.11605	17.28074	44.13964	104.9505	91.61065	34.07508	.4792016
#1	-.002190	-.005062	.0032748	-.002501	-.000355	-.015723	.7284377
#2	-.005378	-.005885	.0013217	-.000179	-.002087	-.016896	.7252960
#3	-.006951	-.007130	.0020907	-.006575	-.000616	-.028239	.7214989
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000114	-.000542	116.4364	.0074129	.0096726	.0015217	8.224080
Stddev	.000044	.000013	.2613	.0000595	.0002560	.0002879	.033639
%RSD	38.14474	2.444513	.2244158	.8028840	2.646686	18.92185	.4090266
#1	-.000155	-.000541	116.7351	.0074779	.0093906	.0016333	8.239182
#2	-.000119	-.000556	116.3245	.0073999	.0097368	.0011947	8.185537
#3	-.000068	-.000529	116.2498	.0073611	.0098904	.0017372	8.247522
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.744154	6.816102	.0282620	.0001729	315.1840	.0018248	.2184150
Stddev	.008916	.007714	.0001293	.0001908	3.8050	.0000631	.0012736
%RSD	.5112010	.1131758	.4574220	110.3692	1.207222	3.455254	.5831133
#1	1.754015	6.821663	.0281329	.0003932	310.8724	.0017615	.2180438
#2	1.741784	6.819346	.0283915	.0000642	318.0716	.0018876	.2173682
#3	1.736662	6.807295	.0282616	.0000612	316.6080	.0018252	.2198330
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.550885	.1017638	.0002988	-.006667	-.001777	2.639746	.0084116
Stddev	.026915	.0010226	.0001780	.000822	.000245	.013252	.0016496
%RSD	1.055122	1.004875	59.59038	12.33364	13.79311	.5020028	19.61150
#1	2.526670	.1027321	.0001072	-.006375	-.001825	2.625951	.0065236
#2	2.546121	.1006944	.0004591	-.006031	-.001511	2.640909	.0095747
#3	2.579864	.1018649	.0003300	-.007596	-.001994	2.652378	.0091364

Sample Name: Q1619-06 Acquired: 3/24/2025 16:06:39 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	1.381218	-.023020	.2334340
Stddev	.003595	.000663	.0009200
%RSD	.2602470	2.881516	.3941008
#1	1.385367	-.023778	.2344594
#2	1.379031	-.022546	.2331616
#3	1.379258	-.022737	.2326809

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2999.213	70376.95	15823.51	2000.339	4385.411
Stddev	11.290	227.88	65.01	8.818	6.434
%RSD	.3764211	.3238053	.4108630	.4408004	.1467155
#1	3000.690	70300.13	15756.66	2003.974	4381.144
#2	3009.691	70633.32	15886.52	2006.758	4392.812
#3	2987.257	70197.40	15827.35	1990.285	4382.278

Sample Name: Q1619-08 Acquired: 3/24/2025 16:11:01 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	.0115721	-.003927	.0012483	-.000338	-.004284	-.034975	.6836836
Stddev	.0017296	.002375	.0005468	.000246	.000444	.005767	.0044990
%RSD	14.94664	60.48181	43.80289	72.74853	10.37333	16.48886	.6580508

#1	.0122166	-.006162	.0013771	-.000248	-.004280	-.040221	.6887848
#2	.0096127	-.001433	.0017192	-.000617	-.003841	-.035904	.6819842
#3	.0128869	-.004184	.0006486	-.000150	-.004730	-.028800	.6802818

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000179	-.001427	125.0480	.0012923	.0026235	.0033725	22.46379
Stddev	.0000431	.000017	.3109	.0002820	.0002848	.0003827	.18063
%RSD	240.1670	1.158548	.2486542	21.81937	10.85693	11.34725	.8040991

#1	-.000030	-.001443	125.3780	.0010896	.0023202	.0034194	22.66605
#2	.000053	-.001410	124.7604	.0011731	.0028853	.0037296	22.31854
#3	.000032	-.001428	125.0057	.0016143	.0026649	.0029685	22.40679

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.623386	2.554568	.0064212	-.000131	348.5926	.0019200	.3067588
Stddev	.007637	.009634	.0000802	.000375	4.1609	.0006629	.0014088
%RSD	.4704319	.3771177	1.249705	285.7134	1.193640	34.52717	.4592634

#1	1.632089	2.553506	.0063395	-.000543	352.8980	.0018750	.3073848
#2	1.617803	2.545510	.0064999	.000192	348.2869	.0026042	.3051454
#3	1.620267	2.564689	.0064240	-.000043	344.5930	.0012807	.3077461

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.502605	.1335169	.0003728	-.007623	-.001950	2.760749	.4009081
Stddev	.039425	.0016822	.0002409	.000373	.000140	.023365	.0033624
%RSD	1.125600	1.259933	64.61463	4.892197	7.183423	.8463356	.8386840

#1	3.542979	.1344557	.0000958	-.007208	-.001815	2.783730	.4007767
#2	3.464202	.1315748	.0005329	-.007729	-.002095	2.737017	.3976134
#3	3.500636	.1345203	.0004898	-.007931	-.001940	2.761500	.4043342

Sample Name: Q1619-08 Acquired: 3/24/2025 16:11:01 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	1.198335	-.018667	.3837729
Stddev	.006751	.001144	.0030430
%RSD	.5634002	6.126372	.7929187
#1	1.204631	-.017355	.3872539
#2	1.199168	-.019449	.3824471
#3	1.191206	-.019198	.3816178

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2967.136	68707.99	15840.58	1945.173	4320.821
Stddev	5.740	180.29	62.10	11.135	7.614
%RSD	.1934554	.2623952	.3920178	.5724175	.1762052
#1	2972.707	68603.90	15910.74	1935.119	4328.556
#2	2967.460	68916.17	15818.33	1957.140	4320.573
#3	2961.241	68603.90	15792.67	1943.259	4313.335

Sample Name: Q1576-01DLX10 Acquired: 3/24/2025 16:15:25 Type: Unk
Method: NON EPA-6010-200.7(v2837) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.652976	.0013730	.2085632	-.000575	-.001381	2.923130
Stddev	.006352	.0004945	.0015982	.003700	.000868	.001593
%RSD	.1123601	36.01824	.7663071	644.0106	62.88000	.0544905
#1	5.658889	.0012804	.2094134	-.003216	-.000379	2.924925
#2	5.646262	.0019072	.2067196	-.002162	-.001921	2.921883
#3	5.653778	.0009313	.2095567	.003655	-.001841	2.922583
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0641298	.0003915	.0037443	30.28111	.0279197	.0020418
Stddev	.0001580	.0000218	.0000406	.14733	.0003123	.0002400
%RSD	.2463563	5.554681	1.083785	.4865260	1.118480	11.75499
#1	.0642644	.0003886	.0037718	30.36520	.0279148	.0022945
#2	.0641692	.0004146	.0036977	30.11100	.0282344	.0018169
#3	.0639559	.0003714	.0037633	30.36714	.0276100	.0020141
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1104609	38.03496	.2251148	3.516446	.0060340	.0003587
Stddev	.0001666	.14464	.0019335	.019019	.0001286	.0000999
%RSD	.1508584	.3802758	.8588818	.5408569	2.131220	27.84850
#1	.1102865	38.13810	.2253090	3.517868	.0061536	.0003464
#2	.1104776	37.86963	.2230915	3.496756	.0060504	.0002655
#3	.1106185	38.09716	.2269438	3.534714	.0058980	.0004641
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.50965	.0097149	.4930785	3.331613	.0249021	.0056374
Stddev	.15683	.0005174	.0023144	.038738	.0008229	.0002212
%RSD	.6671068	5.325730	.4693750	1.162751	3.304710	3.922900
#1	23.68802	.0099629	.4936810	3.301639	.0241697	.0053827
#2	23.44756	.0100617	.4950320	3.317845	.0247440	.0057485
#3	23.39336	.0091202	.4905224	3.375354	.0257926	.0057810

Sample Name: Q1576-01DLX10 Acquired: 3/24/2025 16:15:25 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	.0056985	.0530772	5.512672	.7945590	F 14.14438	.0209383
Stddev	.0001198	.0014162	.014815	.0027401	.04213	.0004785
%RSD	2.102250	2.668169	.2687387	.3448522	.2978399	2.285384
#1	.0055653	.0541636	5.499573	.7966950	14.16728	.0206683
#2	.0057974	.0535924	5.528750	.7914696	14.09576	.0214908
#3	.0057328	.0514755	5.509692	.7955124	14.17009	.0206557

Elem	Sr4077
Units	ppm
Avg	.1066031
Stddev	.0008817
%RSD	.8271224
#1	.1073972
#2	.1056542
#3	.1067579

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3244.651	76016.01	16558.18	2133.390	4937.817
Stddev	3.091	48.52	78.25	5.095	4.638
%RSD	.0952781	.0638330	.4725848	.2388450	.0939344
#1	3241.391	76010.16	16549.23	2130.164	4933.800
#2	3247.540	76067.19	16640.53	2130.741	4942.893
#3	3245.023	75970.67	16484.79	2139.264	4936.756

Sample Name: Q1576-01DUPDLX10 Acquired: 3/24/2025 16:19:36 Type: Unk
Method: NON EPA-6010-200.7(v2837) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.556365	.0031539	.2062387	.0010541	-.002898	2.872991
Stddev	.024359	.0007889	.0002164	.0029364	.001267	.008833
%RSD	.4383906	25.01478	.1049317	278.5782	43.72003	.3074543

#1	5.560087	.0038018	.2064708	.0007959	-.002648	2.883144
#2	5.530359	.0022754	.2060424	-.001745	-.001775	2.868755
#3	5.578648	.0033846	.2062029	.004111	-.004271	2.867073

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0649557	.0003935	.0037149	30.02465	.0274229	.0021416
Stddev	.0000834	.0000214	.0000386	.09220	.0002200	.0002238
%RSD	.1283609	5.443363	1.038264	.3070694	.8023501	10.45080

#1	.0649177	.0003859	.0036704	30.03979	.0274013	.0019070
#2	.0648981	.0003770	.0037361	29.92583	.0276529	.0021650
#3	.0650513	.0004177	.0037382	30.10834	.0272144	.0023528

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1094468	37.62836	.2232143	3.488567	.0063787	.0000808
Stddev	.0004784	.24473	.0006018	.019408	.0001414	.0001558
%RSD	.4370636	.6503950	.2696213	.5563443	2.216905	192.9215

#1	.1098684	37.44410	.2230629	3.492674	.0064218	.0001358
#2	.1089269	37.53494	.2227027	3.505593	.0062208	.0002016
#3	.1095450	37.90604	.2238774	3.467434	.0064936	-.000095

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.00727	.0090992	.4854104	3.291980	.0267916	.0056701
Stddev	.18631	.0006056	.0031549	.016920	.0007092	.0002690
%RSD	.8097659	6.655555	.6499459	.5139658	2.647015	4.744298

#1	22.87485	.0096875	.4846799	3.281162	.0275434	.0054987
#2	22.92666	.0091323	.4888664	3.283301	.0261345	.0059801
#3	23.22031	.0084777	.4826848	3.311478	.0266970	.0055314

Sample Name: Q1576-01DUPDLX10 Acquired: 3/24/2025 16:19:36 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	.0060476	.0519645	5.399741	.7974041	F 14.11026	.0160171
Stddev	.0003683	.0016018	.039836	.0035603	.03032	.0004179
%RSD	6.089911	3.082513	.7377451	.4464902	.2148459	2.609327

#1	.0064242	.0509573	5.358728	.7962467	14.10054	.0162415
#2	.0060304	.0511246	5.402211	.7945665	14.08600	.0155349
#3	.0056882	.0538116	5.438285	.8013991	14.14424	.0162750

Elem	Sr4077
Units	ppm
Avg	.1055190
Stddev	.0002852
%RSD	.2702536

#1	.1054224
#2	.1052947
#3	.1058400

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3270.363	76755.44	16577.57	2193.496	4954.177
Stddev	7.801	96.71	18.90	14.072	2.051
%RSD	.2385245	.1259974	.1140283	.6415303	.0413947

#1	3266.397	76858.24	16556.28	2197.809	4955.096
#2	3279.349	76741.80	16584.04	2177.773	4955.608
#3	3265.342	76666.26	16592.38	2204.907	4951.828

Sample Name: Q1576-01LDLX50 Acquired: 3/24/2025 16:23:47 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	1.079022	-.000706	.0413890	-.002212	-.003681	.5661101	.0040650
Stddev	.010438	.001152	.0004128	.001972	.000967	.0024481	.0011073
%RSD	.9673750	162.9989	.9974729	89.17984	26.26019	.4324455	27.23951

#1	1.072173	.000070	.0409577	-.002552	-.004693	.5634598	.0033194
#2	1.073858	-.002030	.0414287	-.000091	-.003582	.5665837	.0035383
#3	1.091036	-.000160	.0417805	-.003991	-.002768	.5682868	.0053374

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000646	.0006172	6.014554	.0052095	.0003173	.0222816	7.289138
Stddev	.0000340	.0000651	.014602	.0003751	.0000161	.0003063	.042179
%RSD	52.59998	10.54216	.2427796	7.199930	5.069872	1.374649	.5786584

#1	.0001020	.0006555	6.012380	.0049093	.0003142	.0219382	7.311252
#2	.0000357	.0005421	6.001160	.0050893	.0003347	.0225265	7.315662
#3	.0000560	.0006541	6.030121	.0056300	.0003029	.0223801	7.240500

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0446151	.7116935	.0010539	.0002660	4.159060	.0030127	.0958989
Stddev	.0004925	.0094717	.0002127	.0001381	.029379	.0013947	.0001928
%RSD	1.103883	1.330867	20.18370	51.92795	.7063767	46.29532	.2010707

#1	.0440487	.7017170	.0011688	.0004228	4.172454	.0044264	.0957583
#2	.0448539	.7128003	.0008084	.0002126	4.179355	.0016378	.0961188
#3	.0449427	.7205631	.0011844	.0001624	4.125371	.0029737	.0958198

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7744304	.0022270	.0009841	.0007212	.0101797	.9865438	.1504504
Stddev	.0228180	.0005734	.0002513	.0005736	.0007738	.0090149	.0020214
%RSD	2.946425	25.74661	25.53159	79.52533	7.600954	.9137829	1.343581

#1	.7484181	.0019343	.0008683	.0009204	.0095299	.9885617	.1498870
#2	.7910671	.0028877	.0012724	.0011687	.0099735	.9943787	.1487705
#3	.7838060	.0018591	.0008117	.0000746	.0110357	.9766909	.1526938

Sample Name: Q1576-01LDLX50 Acquired: 3/24/2025 16:23:47 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	2.643713	-.001171	.0212896
Stddev	.024190	.000382	.0000939
%RSD	.9149843	32.62060	.4411282
#1	2.618672	-.000843	.0213428
#2	2.645517	-.001079	.0213449
#3	2.666950	-.001591	.0211812

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3377.165	77739.07	15817.59	2259.101	5299.841
Stddev	9.431	293.13	111.58	9.419	23.730
%RSD	.2792689	.3770661	.7054112	.4169504	.4477451
#1	3386.731	77702.86	15881.83	2264.363	5325.168
#2	3376.889	77465.73	15882.18	2248.227	5296.234
#3	3367.875	78048.62	15688.75	2264.715	5278.122

Sample Name: Q1576-01MSDLX10 Acquired: 3/24/2025 16:28:05 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	4.884882	.1764771	.2645882	.1803825	.0630145	2.842324
Stddev	.077546	.0030512	.0044492	.0042319	.0002594	.001975
%RSD	1.587460	1.728940	1.681562	2.346057	.4115905	.0694827

#1	4.934234	.1780746	.2658131	.1832776	.0629318	2.841365
#2	4.924911	.1783978	.2682966	.1823440	.0633051	2.841011
#3	4.795502	.1729588	.2596548	.1755257	.0628065	2.844595

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0725709	.0164173	.0202277	27.65106	.0591131	.0187675
Stddev	.0004866	.0000459	.0004554	.09090	.0003021	.0003239
%RSD	.6704769	.2796294	2.251451	.3287310	.5111085	1.726022

#1	.0731123	.0164697	.0204595	27.73170	.0587700	.0188152
#2	.0721701	.0163845	.0205206	27.55256	.0592298	.0190649
#3	.0724303	.0163976	.0197030	27.66892	.0593395	.0184223

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1253646	33.18970	.2205055	3.360752	.0486209	.0018207
Stddev	.0025443	.12352	.0005899	.007025	.0008601	.0001598
%RSD	2.029541	.3721544	.2675158	.2090285	1.769012	8.775510

#1	.1271005	33.05055	.2203573	3.368830	.0490981	.0020040
#2	.1265494	33.28636	.2200039	3.357354	.0491366	.0017475
#3	.1224439	33.23218	.2211554	3.356071	.0476279	.0017106

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	20.89517	.0331069	.4634341	3.800289	.0455255	.0425862
Stddev	.08831	.0006511	.0008517	.019920	.0003981	.0009809
%RSD	.4226119	1.966646	.1837879	.5241637	.8745477	2.303233

#1	20.80684	.0330412	.4624637	3.779776	.0452506	.0428158
#2	20.98345	.0324912	.4637808	3.819557	.0453438	.0434319
#3	20.89523	.0337884	.4640578	3.801534	.0459821	.0415109

Sample Name: Q1576-01MSDLX10 Acquired: 3/24/2025 16:28:05 Type: Unk
Method: NON EPA-6010-200.7(v2837) 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	.0552286	.0572923	5.048236	1.213811	F 12.69758	.0304077
Stddev	.0012464	.0006062	.006263	.016331	.21854	.0003105
%RSD	2.256714	1.058155	.1240671	1.345425	1.721123	1.021253

#1	.0564078	.0566716	5.041264	1.221618	12.81179	.0307459
#2	.0553533	.0578830	5.050055	1.224774	12.83535	.0301354
#3	.0539245	.0573223	5.053388	1.195042	12.44560	.0303419

Elem	Sr4077
Units	ppm
Avg	.1149835
Stddev	.0004889
%RSD	.4251882

#1	.1154753
#2	.1144976
#3	.1149777

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3282.403	77490.12	16415.15	2169.878	4991.627
Stddev	39.245	164.83	40.19	3.593	61.772
%RSD	1.195615	.2127150	.2448119	.1655920	1.237504

#1	3254.851	77615.35	16370.58	2167.909	4947.432
#2	3265.020	77303.37	16448.62	2174.026	4965.239
#3	3327.337	77551.62	16426.25	2167.701	5062.209

Sample Name: CCV06 Acquired: 3/24/2025 16:39:35 Type: Unk
Method: NON EPA-6010-200.7(v2838) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.702609	4.653634	4.512474	4.793313	4.869092	9.268960
Stddev	.014453	.039385	.003273	.021003	.021244	.028760
%RSD	.3073481	.8463348	.0725347	.4381633	.4362975	.3102881

#1	4.704150	4.687363	4.508784	4.814471	4.893521	9.278789
#2	4.687447	4.610350	4.513612	4.772470	4.854954	9.291518
#3	4.716230	4.663188	4.515027	4.792999	4.858800	9.236574

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.196402	.2529249	2.337765	26.53252	.9198341	2.260403
Stddev	.015451	.0014567	.002738	.06271	.0017914	.001915
%RSD	.1680075	.5759425	.1171206	.2363525	.1947552	.0847031

#1	9.203315	.2529047	2.340923	26.49133	.9206551	2.261947
#2	9.178701	.2543917	2.336329	26.60469	.9210679	2.260999
#3	9.207189	.2514785	2.336044	26.50153	.9177793	2.258261

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.192069	4.581359	2.485293	25.63129	2.260340	1.165572
Stddev	.003206	.022413	.009537	.02508	.002316	.002318
%RSD	.2689336	.4892249	.3837329	.0978483	.1024813	.1988567

#1	1.195355	4.579642	2.474826	25.65952	2.263013	1.168236
#2	1.188950	4.559854	2.493491	25.62275	2.259088	1.164023
#3	1.191902	4.604581	2.487562	25.61159	2.258918	1.164455

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.31444	2.264987	2.369439	23.70776	F 4.362909	4.842664
Stddev	.02351	.003728	.006699	.12869	.021947	.015442
%RSD	.1008274	.1645969	.2827370	.5428011	.5030275	.3188755

#1	23.32276	2.263096	2.371729	23.73470	4.355525	4.858701
#2	23.28791	2.269281	2.361895	23.56774	4.387595	4.827896
#3	23.33266	2.262583	2.374693	23.82085	4.345606	4.841395

Sample Name: CCV06 Acquired: 3/24/2025 16:39:35 Type: Unk
Method: NON EPA-6010-200.7(v2838) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.526521	4.525665	4.745097	4.609093	4.526531	4.588998
Stddev	.009726	.007744	.013955	.015334	.008408	.006220
%RSD	.2148748	.1711220	.2940855	.3326982	.1857440	.1355339
#1	4.531131	4.521033	4.744455	4.618117	4.535053	4.583912
#2	4.515346	4.534606	4.731474	4.591387	4.518243	4.595932
#3	4.533084	4.521356	4.759361	4.617774	4.526296	4.587149

Elem	Sr4077
Units	ppm
Avg	4.582073
Stddev	.056952
%RSD	1.242928
#1	4.646297
#2	4.537715
#3	4.562208

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3224.361	74274.70	15654.59	2129.493	4768.309
Stddev	4.498	187.09	92.26	4.107	.365
%RSD	.1395151	.2518871	.5893551	.1928644	.0076601
#1	3220.359	74061.97	15646.77	2127.634	4768.095
#2	3229.230	74348.51	15566.48	2134.201	4768.731
#3	3223.494	74413.63	15750.51	2126.644	4768.102

Sample Name: CCB06 Acquired: 3/24/2025 16:43:40 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001436	-.000350	.0012109	-.002878	-.002652	.0052686	-.008401
Stddev	.000996	.000932	.0003239	.002399	.000571	.0047321	.000643
%RSD	69.31971	266.2217	26.75245	83.35888	21.51669	89.81796	7.656522

#1	-.002513	.000087	.0009579	-.002873	-.002141	-.000039	-.008536
#2	-.001247	-.001421	.0015760	-.005279	-.002547	.006798	-.008966
#3	-.000549	.000284	.0010988	-.000481	-.003267	.009047	-.007701

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000013	.0000036	.0002922	-.000067	.0000405	-.000236	.0021739
Stddev	.000036	.0000128	.0053003	.000194	.0000716	.000362	.0042424
%RSD	268.0604	353.0547	1814.274	291.4997	176.9805	153.5468	195.1529

#1	-.000032	-.000007	-.001772	-.000030	-.000042	-.000314	.0003952
#2	.000028	-.000000	.006314	-.000277	.000088	-.000553	.0070161
#3	-.000036	.000018	-.003665	.000107	.000076	.000159	-.000890

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000992	.0086928	-.000047	.0002924	-.006246	.0013757	.0003677
Stddev	.000243	.0073341	.000132	.0001531	.014488	.0006339	.0001894
%RSD	24.53696	84.37054	283.5205	52.36446	231.9349	46.07590	51.50807

#1	-.000711	.0003561	-.000184	.0004610	.000097	.0020153	.0002627
#2	-.001129	.0115712	-.000036	.0002544	-.022824	.0007478	.0002540
#3	-.001137	.0141510	.000080	.0001619	.003987	.0013640	.0005862

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0449075	.0054487	.0000644	-.000016	.0004504	.0098309	-.001599
Stddev	.0254227	.0006302	.0001072	.000290	.0005948	.0039443	.002427
%RSD	56.61126	11.56568	166.6026	1842.681	132.0580	40.12187	151.8323

#1	.0166218	.0061426	.0000607	.000278	.0007351	.0134538	-.002449
#2	.0522492	.0052911	.0001734	-.000302	.0008493	.0104097	.001139
#3	.0658514	.0049122	-.000041	-.000023	-.000233	.0056291	-.003486

Sample Name: CCB06 Acquired: 3/24/2025 16:43:40 Type: Unk
Method: NON EPA-6010-200.7(v2835) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.004476	-.006111	.0001265
Stddev	.001057	.001263	.0000342
%RSD	23.62241	20.65890	27.00390

#1	-.004721	-.004817	.0001491
#2	-.003318	-.007340	.0001431
#3	-.005390	-.006177	.0000872

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3370.151	76236.45	15893.64	2218.966	5371.902
Stddev	11.358	214.52	58.12	6.890	22.732
%RSD	.3370143	.2813873	.3656692	.3104960	.4231681

#1	3378.239	76148.29	15924.87	2211.846	5385.454
#2	3375.048	76481.01	15929.47	2225.600	5384.594
#3	3357.166	76080.06	15826.59	2219.451	5345.657

Sample Name: Q1576-01MSDDLX10 Acquired: 3/24/2025 16:47:59 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.949842	.1809314	.2723566	.1815048	.0630672	2.887178
Stddev	.011658	.0012806	.0020341	.0029641	.0022911	.004095
%RSD	.2355189	.7077868	.7468555	1.633082	3.632804	.1418420

#1	4.949024	.1806031	.2714069	.1784282	.0615139	2.885222
#2	4.938615	.1798469	.2709710	.1817443	.0656984	2.891885
#3	4.961888	.1823442	.2746919	.1843419	.0619892	2.884428

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0755128	.0176788	.0208447	28.44666	.0620073	.0194986
Stddev	.0004624	.0000994	.0002064	.02230	.0003106	.0000351
%RSD	.6123007	.5621549	.9899604	.0783760	.5009153	.1799923

#1	.0759581	.0175678	.0207008	28.42136	.0621897	.0195389
#2	.0750351	.0177595	.0207523	28.46344	.0621835	.0194818
#3	.0755453	.0177091	.0210812	28.45518	.0616487	.0194750

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1274422	34.30688	.2266547	3.539732	.0498109	.0014056
Stddev	.0002943	.26545	.0007458	.007595	.0001834	.0002759
%RSD	.2309188	.7737375	.3290450	.2145678	.3681264	19.62803

#1	.1275642	34.61339	.2274461	3.535111	.0496466	.0011004
#2	.1276559	34.15238	.2265531	3.548497	.0500087	.0014790
#3	.1271066	34.15487	.2259650	3.535587	.0497775	.0016373

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.19458	.0340163	.4800085	3.716677	.0542607	.0433218
Stddev	.19258	.0004740	.0021050	.030069	.0008658	.0001737
%RSD	.9086281	1.393364	.4385281	.8090373	1.595664	.4008556

#1	21.41642	.0336113	.4780878	3.744470	.0550492	.0434722
#2	21.07037	.0345376	.4822589	3.684758	.0533342	.0431317
#3	21.09694	.0339000	.4796789	3.720803	.0543988	.0433614

Sample Name: Q1576-01MSDDLX10 Acquired: 3/24/2025 16:47:59 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0574482	.0592424	5.203775	1.240022	F 12.93411	.0291767
Stddev	.0011210	.0010502	.059025	.004354	.06357	.0010888
%RSD	1.951374	1.772655	1.134273	.3511431	.4914548	3.731691
#1	.0563880	.0588423	5.269778	1.242413	12.90531	.0300586
#2	.0573352	.0584511	5.185495	1.234996	12.89004	.0295116
#3	.0586215	.0604338	5.156053	1.242656	13.00698	.0279598

Elem	Sr4077
Units	ppm
Avg	.1149151
Stddev	.0001800
%RSD	.1565973
#1	.1151098
#2	.1148808
#3	.1147548

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3269.805	73418.07	15586.34	2138.023	4935.177
Stddev	17.354	313.19	56.61	4.566	17.255
%RSD	.5307297	.4265830	.3632034	.2135641	.3496337
#1	3257.899	73058.45	15651.46	2133.392	4920.035
#2	3261.799	73564.82	15548.82	2142.522	4931.532
#3	3289.716	73630.93	15558.75	2138.154	4953.963

Sample Name: Q1576-01ADLX10 Acquired: 3/24/2025 16:52:09 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	4.925677	.1775481	.2706157	.1817320	.0636376	2.865391
Stddev	.004572	.0005550	.0005867	.0022208	.0005216	.010551
%RSD	.0928100	.3126116	.2168166	1.222017	.8196561	.3682204

#1	4.928400	.1779880	.2712932	.1807264	.0640870	2.871488
#2	4.928231	.1777319	.2702803	.1801918	.0637601	2.871478
#3	4.920399	.1769245	.2702736	.1842777	.0630656	2.853208

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0760171	.0170814	.0204329	28.39107	.0613893	.0192477
Stddev	.0005137	.0001411	.0000688	.02147	.0001696	.0001181
%RSD	.6757235	.8260649	.3367756	.0756345	.2763115	.6136852

#1	.0763324	.0170712	.0203689	28.37657	.0614853	.0191868
#2	.0762946	.0172274	.0205057	28.38090	.0611934	.0191725
#3	.0754244	.0169457	.0204242	28.41574	.0614891	.0193838

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1265013	34.78587	.2259494	3.481937	.0492706	.0017459
Stddev	.0001956	.11960	.0005814	.007035	.0000542	.0000854
%RSD	.1546266	.3438291	.2572923	.2020471	.1099105	4.891665

#1	.1266851	34.92341	.2266006	3.476430	.0492984	.0016805
#2	.1262957	34.70623	.2254827	3.479519	.0492082	.0017148
#3	.1265231	34.72799	.2257648	3.489863	.0493052	.0018425

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	21.69420	.0332638	.4777805	3.793941	.0534574	.0428948
Stddev	.12289	.0005275	.0025402	.024292	.0007718	.0002080
%RSD	.5664612	1.585936	.5316557	.6402776	1.443785	.4849894

#1	21.82892	.0334762	.4753195	3.813437	.0541883	.0428053
#2	21.58825	.0336521	.4776290	3.801657	.0526503	.0427465
#3	21.66544	.0326632	.4803930	3.766728	.0535337	.0431326

Sample Name: Q1576-01ADLX10 Acquired: 3/24/2025 16:52:09 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0566711	.0583448	5.253927	1.198472	F 12.77234	.0294283
Stddev	.0003680	.0005473	.023335	.001749	.02268	.0002513
%RSD	.6494473	.9380476	.4441482	.1459764	.1775484	.8540072
#1	.0564557	.0584122	5.269134	1.197118	12.79851	.0295755
#2	.0570961	.0588553	5.265588	1.200447	12.75853	.0291381
#3	.0564616	.0577669	5.227060	1.197850	12.75997	.0295713

Elem	Sr4077
Units	ppm
Avg	.1148346
Stddev	.0005401
%RSD	.4703493
#1	.1153654
#2	.1142856
#3	.1148527

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3257.224	73659.91	15986.05	2133.915	4928.082
Stddev	8.459	103.37	32.46	7.084	9.511
%RSD	.2597102	.1403366	.2030708	.3319594	.1930020
#1	3260.279	73733.88	16013.93	2140.460	4928.374
#2	3263.732	73541.79	15950.41	2134.891	4937.444
#3	3247.662	73704.05	15993.81	2126.394	4918.428

Sample Name: Q1611-01 Acquired: 3/24/2025 16:56:20 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0423649	-.010391	.1521936	.0055723	-.012083	152.7106	.3875178
Stddev	.0040434	.003132	.0015544	.0005748	.001402	.2687	.0012980
%RSD	9.544355	30.14439	1.021315	10.31453	11.60256	.1759698	.3349511

#1	.0451838	-.012204	.1503988	.0062324	-.012500	152.7243	.3889718
#2	.0441787	-.012195	.1530964	.0051827	-.013228	152.4352	.3871059
#3	.0377321	-.006774	.1530856	.0053018	-.010519	152.9721	.3864757

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066947	-.005251	92.59871	.2041146	.1918525	.7391917	278.0466
Stddev	.0001059	.000294	.28620	.0004877	.0004361	.0007358	1.3985
%RSD	1.581894	5.594177	.3090735	.2389392	.2273259	.0995384	.5029847

#1	.0068164	-.005217	92.70744	.2045282	.1921878	.7385230	278.5233
#2	.0066235	-.005560	92.27408	.2035768	.1920102	.7399799	279.1444
#3	.0066442	-.004975	92.81461	.2042386	.1913594	.7390722	276.4720

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.450232	75.98760	.2855808	-.002709	23.64957	.5389254	.5232103
Stddev	.009302	.39891	.0008511	.000052	.24475	.0004777	.0020921
%RSD	.2696002	.5249677	.2980185	1.919589	1.034892	.0886423	.3998584

#1	3.456296	76.05303	.2847190	-.002735	23.66640	.5393971	.5248964
#2	3.439523	75.56002	.2864207	-.002649	23.88547	.5384419	.5208690
#3	3.454878	76.34975	.2856027	-.002743	23.39684	.5389371	.5238654

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.003741	.4957031	.0018913	-.005799	7.124793	3.437349	4.698899
Stddev	.029007	.0056697	.0003103	.000858	.012332	.022937	.012618
%RSD	.5797149	1.143763	16.40775	14.80130	.1730906	.6672860	.2685342

#1	4.997544	.4974101	.0022481	-.005441	7.135816	3.440294	4.702721
#2	5.035346	.5003232	.0016840	-.005178	7.111474	3.458672	4.709164
#3	4.978333	.4893761	.0017418	-.006779	7.127090	3.413083	4.684812

Sample Name: Q1611-01 Acquired: 3/24/2025 16:56:20 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	2.735523	.2165844	.2543334
Stddev	.010736	.0006718	.0011965
%RSD	.3924773	.3101808	.4704450
#1	2.746501	.2159008	.2549908
#2	2.735023	.2172438	.2529523
#3	2.725046	.2166086	.2550570

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3481.561	79598.12	17597.94	2306.206	4364.712
Stddev	1.687	70.91	133.82	5.256	11.059
%RSD	.0484466	.0890837	.7604184	.2279230	.2533697
#1	3479.741	79614.62	17587.47	2310.958	4355.310
#2	3481.869	79520.41	17736.69	2300.560	4361.929
#3	3483.072	79659.32	17469.67	2307.101	4376.896

Sample Name: Q1614-01 Acquired: 3/24/2025 17:00:24 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0743614	-.002075	.1517411	-.000874	-.009779	100.1615	.2546192
Stddev	.0034881	.001300	.0026975	.001595	.002920	.0907	.0014474
%RSD	4.690703	62.65551	1.777673	182.4219	29.85863	.0905061	.5684696

#1	.0712988	-.000574	.1486367	-.000291	-.013084	100.2662	.2552028
#2	.0736272	-.002843	.1530732	-.002679	-.008706	100.1093	.2529711
#3	.0781581	-.002809	.1535133	.000347	-.007547	100.1091	.2556837

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068919	-.003513	253.3376	.2140793	.3286853	.2119781	190.5650
Stddev	.0000781	.000346	.1815	.0006834	.0008859	.0001733	.9009
%RSD	1.132969	9.839243	.0716412	.3192358	.2695356	.0817459	.4727381

#1	.0068752	-.003740	253.4774	.2134254	.3277904	.2121575	191.2129
#2	.0069769	-.003115	253.4030	.2140236	.3295619	.2119652	189.5363
#3	.0068235	-.003684	253.1325	.2147888	.3287037	.2118117	190.9459

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.040991	130.9459	.2388438	-.003786	3.359337	.3367903	.3735482
Stddev	.015658	.0569	.0004393	.000200	.029999	.0015065	.0012517
%RSD	.5148849	.0434889	.1839303	5.278612	.8930056	.4473154	.3350818

#1	3.046511	130.8862	.2383442	-.003699	3.389810	.3370955	.3729758
#2	3.023321	130.9996	.2390176	-.004014	3.329835	.3351546	.3749838
#3	3.053140	130.9521	.2391697	-.003644	3.358365	.3381209	.3726851

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	16.98164	-.015612	.0094381	-.002927	2.727717	3.208476	5.695345
Stddev	.08109	.004599	.0003954	.000553	.009488	.022645	.015834
%RSD	.4775034	29.45555	4.189608	18.88781	.3478227	.7057754	.2780246

#1	17.05892	-.011619	.0089992	-.003534	2.733941	3.202323	5.677344
#2	16.89722	-.020640	.0097664	-.002794	2.716797	3.189545	5.701570
#3	16.98877	-.014577	.0095488	-.002453	2.732414	3.233562	5.707121

Sample Name: Q1614-01 Acquired: 3/24/2025 17:00:24 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	7.782890	.2610093	.1748412
Stddev	.017076	.0016904	.0004528
%RSD	.2194034	.6476499	.2589729
#1	7.763183	.2620613	.1752097
#2	7.792175	.2590594	.1743358
#3	7.793312	.2619071	.1749783

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3328.054	78802.17	17020.07	2231.643	4215.812
Stddev	2.833	155.98	65.38	14.049	3.724
%RSD	.0851201	.1979353	.3841460	.6295531	.0883312
#1	3327.867	78982.05	17093.49	2243.178	4218.707
#2	3330.976	78720.10	16968.14	2215.996	4217.119
#3	3325.320	78704.36	16998.58	2235.755	4211.611

Sample Name: Q1614-01DUP Acquired: 3/24/2025 17:04:38 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0775781	-.001612	.1516926	.0015565	-.011483	99.10446	.2538026
Stddev	.0024559	.002145	.0003884	.0077640	.002178	.12161	.0012007
%RSD	3.165674	133.0809	.2560606	498.8251	18.96973	.1227063	.4730872

#1	.0778362	-.004078	.1521122	.0104383	-.011161	99.18525	.2532400
#2	.0798948	-.000186	.1513456	-.003940	-.013804	98.96460	.2551813
#3	.0750034	-.000571	.1516199	-.001829	-.009484	99.16354	.2529865

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067622	-.005019	247.4323	.2175445	.3277298	.2096041	198.0621
Stddev	.0001234	.000386	1.8003	.0006687	.0013325	.0011687	.4048
%RSD	1.825099	7.698071	.7275998	.3073759	.4065811	.5575744	.2043733

#1	.0068966	-.005304	249.4536	.2182145	.3275969	.2097414	198.2429
#2	.0066541	-.005173	246.0010	.2168771	.3264687	.2083728	198.3449
#3	.0067358	-.004579	246.8423	.2175419	.3291237	.2106980	197.5984

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.976532	128.9463	.2389404	-.003196	3.525576	.3329394	.3799542
Stddev	.003638	.2528	.0009443	.000305	.013680	.0023629	.0006107
%RSD	.1222243	.1960589	.3951953	9.550264	.3880203	.7097252	.1607216

#1	2.972389	129.1544	.2390749	-.003544	3.512638	.3346990	.3805529
#2	2.979206	128.6649	.2379360	-.002973	3.539893	.3302537	.3799777
#3	2.978001	129.0194	.2398102	-.003071	3.524198	.3338655	.3793322

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.93582	.0281475	.0094242	-.001999	2.705830	3.487392	5.703082
Stddev	.03802	.0024571	.0005783	.001147	.002623	.005444	.024140
%RSD	.2119684	8.729419	6.136784	57.38901	.0969235	.1561017	.4232842

#1	17.92052	.0274266	.0099993	-.001938	2.703201	3.482079	5.724934
#2	17.97911	.0308844	.0088427	-.003175	2.708446	3.487140	5.677169
#3	17.90784	.0261314	.0094307	-.000883	2.705843	3.492958	5.707143

Sample Name: Q1614-01DUP Acquired: 3/24/2025 17:04:38 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	7.789676	.2597991	.1669278
Stddev	.033687	.0018049	.0009688
%RSD	.4324553	.6947142	.5803662
#1	7.810197	.2580874	.1658253
#2	7.750798	.2616846	.1673148
#3	7.808033	.2596254	.1676432

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3312.816	76386.56	17579.95	2189.134	4208.190
Stddev	10.272	190.55	40.84	8.638	12.672
%RSD	.3100644	.2494575	.2323165	.3945646	.3011223
#1	3318.386	76182.73	17552.23	2179.984	4208.706
#2	3319.100	76560.25	17626.85	2190.270	4220.596
#3	3300.962	76416.69	17560.77	2197.147	4195.268

Sample Name: Q1614-01LX5 Acquired: 3/24/2025 17:08:50 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.0143361	-.001627	.0321249	-.001721	-.005481	21.92008	.0499186
Stddev	.0015983	.001055	.0003685	.001193	.002389	.02439	.0004738
%RSD	11.14906	64.83200	1.147145	69.33837	43.58482	.1112781	.9491432

#1	.0134889	-.000411	.0325475	-.000559	-.003044	21.89443	.0503559
#2	.0161797	-.002172	.0319572	-.002943	-.005579	21.94299	.0494152
#3	.0133398	-.002298	.0318701	-.001660	-.007819	21.92283	.0499847

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015837	-.002154	56.61598	.0495504	.0668606	.0493992	42.98317
Stddev	.0000544	.000073	.10468	.0002069	.0001559	.0002512	.10487
%RSD	3.436526	3.410140	.1848962	.4174653	.2332089	.5085494	.2439815

#1	.0016132	-.002069	56.60053	.0496579	.0668768	.0496490	42.86246
#2	.0016170	-.002195	56.51989	.0493119	.0666972	.0494021	43.05186
#3	.0015209	-.002197	56.72753	.0496813	.0670078	.0491466	43.03519

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6920161	28.96129	.0495652	-.000848	.6703339	.0761353	.0834721
Stddev	.0016985	.06240	.0004427	.000134	.0068537	.0005565	.0008781
%RSD	.2454418	.2154498	.8931486	15.85876	1.022426	.7309286	1.052013

#1	.6904951	28.90749	.0497998	-.000737	.6738285	.0759581	.0824772
#2	.6938489	28.94669	.0498413	-.000998	.6747359	.0767589	.0841389
#3	.6917044	29.02969	.0490546	-.000809	.6624374	.0756891	.0838003

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.574451	-.000513	.0019754	-.002647	.6375535	1.081213	1.144167
Stddev	.022668	.001211	.0005735	.000587	.0019788	.010538	.010739
%RSD	.6341582	235.8353	29.03205	22.18192	.3103704	.9746663	.9385923

#1	3.590132	.000416	.0014480	-.003192	.6367375	1.092554	1.156148
#2	3.584761	-.000074	.0018923	-.002723	.6361133	1.071723	1.140943
#3	3.548461	-.001882	.0025860	-.002025	.6398098	1.079361	1.135409

Sample Name: Q1614-01LX5 Acquired: 3/24/2025 17:08:50 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	1.495772	.0494617	.0374247
Stddev	.005317	.0008297	.0001149
%RSD	.3554414	1.677486	.3070031
#1	1.498739	.0500107	.0375554
#2	1.498944	.0498673	.0373395
#3	1.489635	.0485073	.0373793

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3257.508	75498.91	16327.14	2152.981	4753.519
Stddev	6.763	134.06	56.08	5.825	2.454
%RSD	.2076224	.1775702	.3434965	.2705651	.0516176
#1	3264.100	75653.36	16357.54	2158.057	4756.143
#2	3257.840	75412.66	16361.46	2146.621	4753.134
#3	3250.585	75430.70	16262.42	2154.264	4751.281

Sample Name: Q1614-01MS Acquired: 3/24/2025 17:13:04 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7502214	1.687173	1.020273	1.585799	.3208989	120.8153
Stddev	.0012824	.006977	.001111	.001746	.0034385	.1222
%RSD	.1709327	.4135427	.1088761	.1101040	1.071522	.1011081

#1	.7501285	1.694716	1.020005	1.586838	.3220707	120.9403
#2	.7515477	1.680950	1.021493	1.583783	.3235983	120.8093
#3	.7489880	1.685854	1.019321	1.586776	.3170276	120.6962

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4551850	.1556856	.1683332	177.2583	.5514297	.3395310
Stddev	.0009476	.0003271	.0003746	.2035	.0031377	.0008414
%RSD	.2081697	.2101058	.2225363	.1147943	.5690063	.2478136

#1	.4555877	.1557403	.1680150	177.4911	.5539722	.3387106
#2	.4558647	.1553346	.1687461	177.1142	.5479231	.3394904
#3	.4541026	.1559820	.1682386	177.1698	.5523938	.3403920

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5157184	207.5662	3.163419	99.56821	.6773738	.0609912
Stddev	.0003768	.6763	.010207	.27357	.0014955	.0004541
%RSD	.0730626	.3258410	.3226661	.2747530	.2207755	.7444740

#1	.5156733	208.3333	3.174930	99.80776	.6757201	.0604670
#2	.5153662	207.0559	3.155470	99.27011	.6777699	.0612586
#3	.5161157	207.3094	3.159857	99.62677	.6786313	.0612482

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.679151	.6122695	.6417930	28.81086	.1319671	.3514385
Stddev	.047866	.0023225	.0036593	.07941	.0042019	.0003044
%RSD	.7166449	.3793244	.5701632	.2756213	3.184073	.0866000

#1	6.726960	.6149262	.6449940	28.87114	.1351661	.3517324
#2	6.679263	.6112578	.6378039	28.84055	.1335270	.3511246
#3	6.631229	.6106244	.6425811	28.72088	.1272083	.3514584

Sample Name: Q1614-01MS Acquired: 3/24/2025 17:13:04 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6408368	3.159972	4.928195	F 11.03538	7.037221	.4827623
Stddev	.0027717	.005497	.023134	.04088	.005966	.0011046
%RSD	.4325211	.1739462	.4694220	.3704612	.0847722	.2288078
#1	.6384214	3.166257	4.924177	11.03268	7.030476	.4830903
#2	.6402259	3.156068	4.953075	10.99592	7.041804	.4815309
#3	.6438630	3.157589	4.907333	11.07755	7.039384	.4836658

Elem	Sr4077
Units	ppm
Avg	.3487783
Stddev	.0008411
%RSD	.2411471
#1	.3492338
#2	.3492933
#3	.3478077

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3309.696	76685.06	17135.97	2162.755	4272.064
Stddev	2.570	263.02	71.76	12.510	3.268
%RSD	.0776618	.3429862	.4187727	.5784500	.0764919
#1	3306.776	76441.40	17096.22	2148.809	4272.605
#2	3311.617	76963.89	17218.81	2172.989	4275.028
#3	3310.696	76649.88	17092.87	2166.467	4268.560

Sample Name: Q1614-01MSD Acquired: 3/24/2025 17:17:02 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7371194	1.683335	1.018837	1.574070	.3140002	121.4020
Stddev	.0024500	.006542	.001370	.003646	.0017299	.6612
%RSD	.3323781	.3886543	.1344853	.2316556	.5509221	.5446652
#1	.7346684	1.675790	1.017258	1.574874	.3157542	122.1655
#2	.7371216	1.687443	1.019722	1.570089	.3139512	121.0185
#3	.7395684	1.686772	1.019530	1.577248	.3122954	121.0219
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4629969	.1588963	.1678724	178.6910	.5437772	.3397200
Stddev	.0004943	.0015323	.0001868	.7047	.0026108	.0005418
%RSD	.1067567	.9643266	.1112458	.3943851	.4801185	.1594943
#1	.4633303	.1603051	.1680831	179.4660	.5427659	.3399069
#2	.4632314	.1572649	.1678072	178.0887	.5418233	.3401437
#3	.4624290	.1591188	.1677271	178.5182	.5467423	.3391095
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5154896	205.3397	3.233972	100.4853	.6785377	.0602841
Stddev	.0006967	1.0664	.010033	.5932	.0010405	.0003355
%RSD	.1351506	.5193171	.3102234	.5903514	.1533503	.5564680
#1	.5146964	204.1245	3.241044	101.1589	.6774988	.0599762
#2	.5160025	205.7748	3.222489	100.0409	.6785344	.0602343
#3	.5157698	206.1196	3.238382	100.2560	.6795799	.0606416
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.627960	.6175419	.6347821	28.26932	.1212125	.3473431
Stddev	.069055	.0017012	.0026886	.18712	.0077335	.0005943
%RSD	1.041873	.2754842	.4235552	.6619027	6.380126	.1710956
#1	6.548520	.6189539	.6335973	28.05459	.1124390	.3468936
#2	6.673639	.6156531	.6328893	28.35596	.1270401	.3480169
#3	6.661721	.6180187	.6378596	28.39741	.1241585	.3471189

Sample Name: Q1614-01MSD Acquired: 3/24/2025 17:17:02 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6381960	3.231390	5.280027	F 11.21575	7.123689	.4898826
Stddev	.0010533	.009826	.016279	.02236	.021150	.0011234
%RSD	.1650363	.3040644	.3083044	.1993962	.2968950	.2293099
#1	.6372094	3.241935	5.261293	11.19108	7.099273	.4885983
#2	.6380735	3.222493	5.288060	11.22150	7.135440	.4903673
#3	.6393052	3.229743	5.290727	11.23468	7.136354	.4906823

Elem	Sr4077
Units	ppm
Avg	.3592657
Stddev	.0017830
%RSD	.4962968
#1	.3613242
#2	.3582034
#3	.3582694

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3347.618	77978.32	16838.05	2233.352	4296.691
Stddev	5.864	280.10	103.76	9.705	2.284
%RSD	.1751775	.3592035	.6162044	.4345540	.0531655
#1	3349.888	78270.92	16730.04	2244.352	4298.545
#2	3340.959	77951.37	16936.95	2229.709	4294.139
#3	3352.009	77712.67	16847.16	2225.996	4297.389

Sample Name: Q1614-01A Acquired: 3/24/2025 17:21:01 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.7374515	1.698797	1.020697	1.569565	.3087494	122.4377
Stddev	.0021937	.009835	.008119	.007765	.0023631	.3199
%RSD	.2974727	.5789462	.7954791	.4947530	.7653726	.2612379

#1	.7372969	1.703133	1.022397	1.571263	.3077711	122.3867
#2	.7353391	1.705718	1.027832	1.561091	.3070326	122.1464
#3	.7397184	1.687539	1.011863	1.576341	.3114446	122.7800

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4647054	.1618344	.1682895	178.6490	.5457590	.3407190
Stddev	.0005685	.0003537	.0005693	.3108	.0001399	.0011796
%RSD	.1223388	.2185694	.3382823	.1739622	.0256359	.3461979

#1	.4649039	.1621912	.1682921	178.6418	.5458871	.3401690
#2	.4640642	.1614839	.1688576	178.3419	.5457803	.3420731
#3	.4651480	.1618281	.1677190	178.9634	.5456097	.3399149

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5158759	203.8667	3.246301	100.9553	.6808992	.0592717
Stddev	.0012605	.8432	.000957	.3576	.0021759	.0004677
%RSD	.2443406	.4136120	.0294742	.3541906	.3195667	.7890828

#1	.5146197	203.2085	3.247355	100.8603	.6800803	.0588791
#2	.5171407	204.8172	3.246059	100.6549	.6833657	.0597891
#3	.5158673	203.5744	3.245488	101.3508	.6792514	.0591469

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.584048	.6181042	.6360591	28.11167	.1185589	.3476431
Stddev	.035991	.0018029	.0025363	.10262	.0032354	.0005854
%RSD	.5466406	.2916859	.3987461	.3650564	2.728941	.1684041

#1	6.560585	.6180265	.6353845	28.02693	.1151209	.3472492
#2	6.625486	.6163414	.6388645	28.22578	.1215440	.3483158
#3	6.566073	.6199447	.6339284	28.08231	.1190116	.3473642

Sample Name: Q1614-01A Acquired: 3/24/2025 17:21:01 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	.6379198	3.277428	6.008278	F 11.29724	7.159956	.4937343
Stddev	.0022772	.008310	.031552	.04198	.019289	.0014264
%RSD	.3569696	.2535607	.5251455	.3715902	.2693970	.2888964
#1	.6363355	3.281186	5.971975	11.30912	7.180836	.4951340
#2	.6405294	3.267902	6.029093	11.33201	7.156228	.4937863
#3	.6368945	3.283195	6.023767	11.25060	7.142803	.4922826

Elem	Sr4077
Units	ppm
Avg	.3622541
Stddev	.0011819
%RSD	.3262689
#1	.3632876
#2	.3609654
#3	.3625091

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3353.867	78180.31	16629.55	2251.169	4295.329
Stddev	5.759	61.24	59.04	7.585	11.433
%RSD	.1717029	.0783355	.3550181	.3369404	.2661684
#1	3359.057	78193.13	16587.28	2243.479	4295.667
#2	3347.672	78113.67	16697.00	2251.381	4283.731
#3	3354.871	78234.13	16604.36	2258.645	4306.589

Sample Name: Q1619-10 Acquired: 3/24/2025 17:25:00 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	-.001526	-.007306	.0007534	.0020986	-.007282	-.043713	.1628418
Stddev	.003385	.003887	.0018690	.0016731	.001992	.010572	.0015967
%RSD	221.7758	53.19848	248.0687	79.72390	27.34735	24.18467	.9805106

#1	-.002189	-.008296	-.001153	.0025234	-.009145	-.031527	.1612116
#2	-.004532	-.010602	.000831	.0002541	-.005183	-.050427	.1629112
#3	.002141	-.003020	.002582	.0035183	-.007518	-.049186	.1644027

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000140	-.000060	162.4644	1.004397	.0016774	.0024135	.0512904
Stddev	.000033	.000021	1.2231	.003214	.0001723	.0001075	.0033433
%RSD	23.51233	34.81236	.7528612	.3200340	10.27261	4.455208	6.518339

#1	-.000161	-.000042	161.0996	1.006582	.0017016	.0023483	.0544624
#2	-.000102	-.000055	162.8318	1.000706	.0014942	.0025376	.0516100
#3	-.000157	-.000082	163.4616	1.005903	.0018363	.0023545	.0477988

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3544166	14.39398	.0271700	-.000014	366.7288	.0044759	.0270468
Stddev	.0029192	.15173	.0001397	.000228	3.2086	.0010902	.0005661
%RSD	.8236602	1.054144	.5141321	1616.320	.8749175	24.35604	2.093182

#1	.3511348	14.22015	.0271578	.000172	367.9046	.0057266	.0275419
#2	.3553913	14.49990	.0270369	-.000269	363.0982	.0039740	.0264296
#3	.3567238	14.46188	.0273155	.000054	369.1836	.0037272	.0271689

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.8959977	.0205701	.0008278	-.007296	-.002594	2.037526	.0092720
Stddev	.0232123	.0005984	.0002125	.000835	.000159	.000918	.0003239
%RSD	2.590670	2.909227	25.66710	11.44400	6.142392	.0450447	3.493578

#1	.9148976	.0200384	.0009158	-.008050	-.002582	2.036974	.0090865
#2	.9030070	.0212182	.0009820	-.007438	-.002441	2.037018	.0096460
#3	.8700885	.0204539	.0005854	-.006399	-.002759	2.038585	.0090834

Sample Name: Q1619-10 Acquired: 3/24/2025 17:25:00 Type: Unk
Method: NON EPA-6010-200.7(v2835) 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	2.447146	-.035138	.1789813
Stddev	.005955	.001015	.0013852
%RSD	.2433384	2.889365	.7739248
#1	2.452053	-.035219	.1774050
#2	2.440521	-.034085	.1795342
#3	2.448865	-.036111	.1800046

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2933.342	68111.79	15455.61	1944.544	4228.525
Stddev	4.531	76.49	123.93	10.918	9.166
%RSD	.1544799	.1122972	.8018378	.5614510	.2167664
#1	2931.619	68059.77	15590.57	1954.014	4218.890
#2	2938.481	68199.61	15429.33	1932.602	4237.137
#3	2929.924	68075.98	15346.93	1947.017	4229.547

Sample Name: CCV07 Acquired: 3/24/2025 17:29:16 Type: Unk
Method: NON EPA-6010-200.7(v2839) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.739513	4.711792	4.554616	4.831899	4.885430	9.244536
Stddev	.020028	.052801	.006394	.020260	.015953	.008208
%RSD	.4225819	1.120621	.1403773	.4192971	.3265356	.0887899

#1	4.744183	4.705661	4.547489	4.831778	4.886737	9.251335
#2	4.717561	4.662324	4.559846	4.811700	4.868864	9.246854
#3	4.756793	4.767391	4.556514	4.852219	4.900689	9.235418

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.007268	.2528180	2.262792	26.62292	.9376047	2.278955
Stddev	.005455	.0004494	.002883	.01553	.0020228	.003315
%RSD	.0605624	.1777409	.1274233	.0583408	.2157448	.1454833

#1	9.006698	.2523248	2.261055	26.64061	.9361468	2.276026
#2	9.002120	.2532042	2.261200	26.61663	.9399141	2.278286
#3	9.012985	.2529251	2.266120	26.61152	.9367532	2.282554

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.194749	4.633963	2.521299	25.80843	2.280574	1.178711
Stddev	.003758	.007767	.003657	.03371	.002238	.000804
%RSD	.3145446	.1676152	.1450275	.1306312	.0981362	.0682041

#1	1.196434	4.631669	2.525477	25.83198	2.278190	1.178998
#2	1.190443	4.627601	2.518684	25.82350	2.280904	1.179332
#3	1.197368	4.642619	2.519735	25.76981	2.282630	1.177803

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	23.40723	2.264388	2.399962	23.96817	F 4.308711	4.865048
Stddev	.11685	.004966	.005542	.09505	.008434	.017653
%RSD	.4992147	.2192985	.2309161	.3965831	.1957432	.3628569

#1	23.52661	2.269444	2.395201	24.07251	4.302932	4.871571
#2	23.29308	2.264202	2.398641	23.88650	4.304813	4.845062
#3	23.40199	2.259518	2.406045	23.94551	4.318389	4.878512

Sample Name: CCV07 Acquired: 3/24/2025 17:29:16 Type: Unk
Method: NON EPA-6010-200.7(v2839) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV07 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.575211	F 4.487521	4.895818	4.617200	4.554877	F 4.493637
Stddev	.009278	.006178	.014183	.019995	.013565	.011847
%RSD	.2027899	.1376786	.2896867	.4330560	.2978133	.2636429
#1	4.575349	4.492719	4.894420	4.604969	4.542593	4.505991
#2	4.565864	4.480691	4.882387	4.606356	4.552603	4.482371
#3	4.584419	4.489154	4.910648	4.640275	4.569435	4.492548

Elem	Sr4077
Units	ppm
Avg	4.509526
Stddev	.032054
%RSD	.7108095
#1	4.495105
#2	4.487216
#3	4.546258

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3193.121	72092.16	15578.28	2069.080	4716.442
Stddev	7.426	144.95	28.53	3.338	4.233
%RSD	.2325490	.2010597	.1831664	.1613473	.0897403
#1	3187.970	72070.97	15595.95	2071.133	4719.525
#2	3201.633	71958.97	15545.36	2070.879	4718.185
#3	3189.762	72246.53	15593.54	2065.228	4711.616

Sample Name: CCB07 Acquired: 3/24/2025 17:33:27 Type: Unk
Method: NON EPA-6010-200.7(v2839) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000619	.0002859	.0009540	-.000161	-.001396	.0023261	-.007327
Stddev	.000903	.0019827	.0007915	.003362	.000910	.0067456	.000292
%RSD	145.9582	693.3837	82.97091	2088.935	65.19496	290.0013	3.979806

#1	-.000828	-.000125	.0001590	.000650	-.000350	.0085482	-.007258
#2	-.001398	.002442	.0009610	.002722	-.001835	-.004843	-.007075
#3	.000370	-.001459	.0017420	-.003854	-.002005	.003273	-.007646

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001174	-.000017	-.003932	-.000080	.0000400	-.000169	.0013054
Stddev	.0000227	.000044	.006244	.000289	.0002936	.000275	.0009976
%RSD	19.31105	262.4477	158.7921	358.7602	734.7292	162.0238	76.42223

#1	.0001011	-.000041	-.009053	-.000381	-.000286	-.000086	.0010450
#2	.0001433	.000034	.003024	.000195	.000283	-.000476	.0004638
#3	.0001077	-.000043	-.005768	-.000055	.000123	.000053	.0024073

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000807	.0076922	.0001038	.0003313	-.023841	.0013219	-.000815
Stddev	.000192	.0102038	.0000517	.0002436	.016006	.0007403	.000190
%RSD	23.79892	132.6516	49.82313	73.52772	67.13731	55.99881	23.37440

#1	-.000963	-.003843	.0000879	.0000822	-.010600	.0021701	-.000771
#2	-.000866	.011380	.0000618	.0005690	-.041629	.0009894	-.001023
#3	-.000593	.015540	.0001615	.0003427	-.019295	.0008062	-.000650

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.016621	.0023739	.0002263	-.000573	.0013757	.0065417	-.001257
Stddev	.017608	.0003352	.0002639	.000422	.0005350	.0015826	.000274
%RSD	105.9416	14.11829	116.6141	73.61567	38.89052	24.19285	21.83592

#1	-.036488	.0027609	.0003622	-.000279	.0014555	.0056506	-.001151
#2	-.010434	.0021759	-.000078	-.000384	.0018663	.0083689	-.001568
#3	-.002941	.0021850	.000395	-.001057	.0008052	.0056054	-.001051

Sample Name: CCB07 Acquired: 3/24/2025 17:33:27 Type: Unk
Method: NON EPA-6010-200.7(v2839) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB07 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.002620	-.006326	.0000501
Stddev	.000240	.001527	.0000434
%RSD	9.147544	24.14434	86.59454
#1	-.002364	-.004563	.0000440
#2	-.002657	-.007224	.0000101
#3	-.002840	-.007192	.0000963

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3319.547	76396.05	15642.38	2207.763	5259.043
Stddev	8.222	273.54	36.99	10.348	15.544
%RSD	.2476787	.3580551	.2364699	.4686975	.2955621
#1	3328.272	76082.25	15669.09	2198.054	5276.789
#2	3318.426	76521.76	15600.16	2206.587	5247.840
#3	3311.944	76584.13	15657.89	2218.649	5252.501

Sample Name: LR1 Acquired: 3/24/2025 17:38:38 Type: Unk
Method: NON EPA-6010-200.7(v2840) 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	.0467236	.0742382	.0315682	-.001392	-.021319	1981.664	.0094493
Stddev	.0130506	.0060584	.0055529	.004102	.007818	5.974	.0004023
%RSD	27.93144	8.160752	17.59012	294.6295	36.67265	.3014560	4.257236

#1	.0403238	.0805616	.0379292	.001051	-.027774	1988.455	.0090504
#2	.0381083	.0736678	.0276898	.000901	-.012626	1977.220	.0094426
#3	.0617387	.0684851	.0290854	-.006129	-.023557	1979.317	.0098549

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054032	.0038671	1753.149	.0247188	.0314262	.0970277	938.8454
Stddev	.0000459	.0015386	5.300	.0000545	.0003729	.0005710	3.9057
%RSD	.8488037	39.78864	.3022940	.2203069	1.186738	.5884832	.4160154

#1	.0054545	.0024902	1747.090	.0246694	.0311005	.0973058	942.6845
#2	.0053662	.0035831	1755.434	.0247772	.0318330	.0974064	934.8762
#3	.0053887	.0055279	1756.923	.0247098	.0313449	.0963709	938.9755

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.111050	1897.561	.0110793	-.038787	1866.150	.0170650	.1575487
Stddev	.000819	8.387	.0012821	.000450	13.259	.0006747	.0030641
%RSD	.7374856	.4419684	11.57167	1.161117	.7104967	3.953748	1.944876

#1	-.111717	1906.517	.0117410	-.038312	1881.322	.0166865	.1592310
#2	-.110136	1889.892	.0096016	-.039208	1860.342	.0178439	.1540120
#3	-.111298	1896.275	.0118953	-.038839	1856.787	.0166645	.1594032

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1384.633	^ *****	-.009766	-.004655	-.035428	.1371183	.0873552
Stddev	12.574	-----	.000806	.004257	.000923	.0132505	.0085242
%RSD	.9081061	-----	8.251661	91.45874	2.605725	9.663576	9.758119

#1	1398.640	^ -----	-.009349	-.005943	-.036371	.1450704	.0776108
#2	1374.318	^ -----	-.009253	.000098	-.035387	.1218219	.0910238
#3	1380.942	^ -----	-.010695	-.008118	-.034526	.1444625	.0934308

Sample Name: LR1 Acquired: 3/24/2025 17:38:38 Type: Unk
Method: NON EPA-6010-200.7(v2840) 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	-.187514	.0933820	-.815172
Stddev	.007638	.0033692	.003402
%RSD	4.073255	3.607985	.4173464
#1	-.195488	.0969475	-.818467
#2	-.186789	.0929471	-.811672
#3	-.180264	.0902514	-.815376

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2190.808	50799.48	12963.13	1448.610	2724.044
Stddev	8.769	54.86	30.12	3.624	12.894
%RSD	.4002417	.1080014	.2323142	.2501581	.4733517
#1	2195.214	50758.76	12997.60	1448.780	2729.300
#2	2196.499	50861.87	12941.90	1452.146	2733.480
#3	2180.710	50777.80	12949.90	1444.904	2709.352

Sample Name: LR2 Acquired: 3/24/2025 17:52:07 Type: Unk
Method: NON EPA-6010-200.7(v2841) 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	.0097266	-.021018	253.5243	-.005540	-.004079	.1438519	^F *****
Stddev	.0034420	.002488	.5514	.002272	.001834	.0055534	-----
%RSD	35.38765	11.83647	.2174816	41.01022	44.97683	3.860489	-----

#1	.0080929	-.018378	253.4085	-.005797	-.005254	.1468093	^ -----
#2	.0074056	-.021356	253.0400	-.003150	-.005017	.1374457	75.80682
#3	.0136812	-.023319	254.1243	-.007672	-.001965	.1473007	76.41991

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001135	-.001339	.1753568	.0075092	.0053391	271.8521	.0197344
Stddev	.000030	.000090	.0048622	.0002491	.0000285	.0876	.0014314
%RSD	2.600217	6.730760	2.772742	3.317265	.5342477	.0322413	7.253466

#1	-.001131	-.001435	.1701808	.0074731	.0053619	271.9530	.0211857
#2	-.001108	-.001328	.1760612	.0072801	.0053071	271.7940	.0183237
#3	-.001166	-.001255	.1798283	.0077743	.0053483	271.8095	.0196938

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	46.91955	-.073640	54.19129	-.000101	.0176053	-.009516	36.10018
Stddev	.55270	.006810	.12213	.000469	.0091393	.000094	.06596
%RSD	1.177971	9.247166	.2253679	463.0290	51.91249	.9842077	.1827123

#1	46.80856	-.080102	54.15921	.000390	.0127669	-.009418	36.17146
#2	46.43077	-.066529	54.08840	-.000150	.0281467	-.009524	36.04130
#3	47.51932	-.074290	54.32626	-.000544	.0119023	-.009605	36.08777

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.014945	-.001182	-.005761	-.005745	-.030727	-.008323	.2415328
Stddev	.010681	.000428	.000151	.000468	.000941	.002075	.0091348
%RSD	71.46750	36.17715	2.619660	8.145887	3.063049	24.93463	3.782013

#1	-.009481	-.000733	-.005750	-.005895	-.031739	-.008307	.2407602
#2	-.008102	-.001230	-.005917	-.006119	-.029878	-.010406	.2328088
#3	-.027252	-.001584	-.005616	-.005220	-.030565	-.006256	.2510293

Sample Name: LR2 Acquired: 3/24/2025 17:52:07 Type: Unk
Method: NON EPA-6010-200.7(v2841) 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	-.021285	-.008344	.0014894
Stddev	.002889	.002039	.0000421
%RSD	13.57248	24.43836	2.825336

#1	-.021235	-.008578	.0014636
#2	-.018421	-.006197	.0014667
#3	-.024199	-.010255	.0015380

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3080.807	74574.35	15853.32	2050.436	4898.029
Stddev	6.259	128.42	135.85	5.789	16.661
%RSD	.2031736	.1722059	.8569435	.2823472	.3401538

#1	3083.119	74484.46	15807.43	2046.128	4904.498
#2	3085.582	74721.43	16006.17	2048.162	4910.486
#3	3073.721	74517.14	15746.35	2057.017	4879.104

Sample Name: CCV08 Acquired: 3/24/2025 18:01:45 Type: Unk
Method: NON EPA-6010-200.7(v2842) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.758674	4.698232	4.550267	4.845075	4.929432	9.331158
Stddev	.009166	.016765	.010491	.006722	.005645	.116590
%RSD	.1926213	.3568394	.2305518	.1387288	.1145095	1.249470

#1	4.751306	4.706557	4.560276	4.852245	4.925139	9.465207
#2	4.768939	4.678934	4.551171	4.838916	4.927330	9.274931
#3	4.755777	4.709205	4.539353	4.844064	4.935826	9.253338

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.086217	.2580153	2.253711	26.64834	.9314513	2.274441
Stddev	.070119	.0020403	.006438	.34924	.0009390	.006147
%RSD	.7717053	.7907600	.2856765	1.310553	.1008144	.2702834

#1	9.165186	.2603557	2.259669	27.05160	.9319584	2.281108
#2	9.062214	.2566111	2.254583	26.44599	.9303678	2.273217
#3	9.031253	.2570792	2.246881	26.44741	.9320278	2.268998

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.199148	4.533181	2.522227	25.73982	2.270381	1.171185
Stddev	.001426	.009852	.026329	.35505	.008847	.001539
%RSD	.1188925	.2173355	1.043863	1.379364	.3896623	.1314095

#1	1.200689	4.541206	2.552504	26.14701	2.280028	1.169975
#2	1.198877	4.522185	2.504710	25.49489	2.268466	1.170663
#3	1.197877	4.536153	2.509466	25.57758	2.262648	1.172917

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.87048	2.270465	2.343178	23.38270	F 4.415005	4.872827
Stddev	.06660	.028464	.002098	.08623	.034468	.004445
%RSD	.2911948	1.253674	.0895472	.3687654	.7807094	.0912305

#1	22.93529	2.303288	2.341365	23.47954	4.453272	4.877249
#2	22.87391	2.252577	2.342694	23.35433	4.386395	4.868359
#3	22.80223	2.255529	2.345476	23.31423	4.405348	4.872874

Sample Name: CCV08 Acquired: 3/24/2025 18:01:45 Type: Unk
Method: NON EPA-6010-200.7(v2842) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV08 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.565946	4.517612	4.751694	4.607044	4.573793	4.520179
Stddev	.009475	.051741	.015874	.017306	.009367	.051885
%RSD	.2075246	1.145315	.3340698	.3756314	.2048079	1.147863
#1	4.575586	4.577243	4.757784	4.621116	4.584344	4.579246
#2	4.565608	4.490994	4.733677	4.612295	4.566453	4.499330
#3	4.556644	4.484599	4.763621	4.587721	4.570582	4.481961

Elem	Sr4077
Units	ppm
Avg	4.580751
Stddev	.030006
%RSD	.6550477
#1	4.615147
#2	4.567164
#3	4.559941

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3210.198	73737.96	15436.63	2116.888	4751.579
Stddev	3.472	108.32	141.22	2.110	12.722
%RSD	.1081450	.1468936	.9148410	.0996538	.2677476
#1	3206.274	73700.83	15280.30	2116.493	4738.973
#2	3212.871	73859.96	15554.97	2119.167	4751.351
#3	3211.448	73653.10	15474.63	2115.004	4764.414

Sample Name: CCB08 Acquired: 3/24/2025 18:08:52 Type: Unk
Method: NON EPA-6010-200.7(v2842) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002348	-.000164	.0011591	-.000092	-.003507	.0064502	-.009856
Stddev	.001785	.000696	.0007833	.001914	.000404	.0036076	.000389
%RSD	76.04665	424.9412	67.58125	2070.307	11.51455	55.93041	3.941877

#1	-.003141	-.000221	.0011858	.001993	-.003471	.0039779	-.010016
#2	-.000303	.000559	.0003627	-.000499	-.003928	.0047827	-.009413
#3	-.003598	-.000830	.0019287	-.001771	-.003122	.0105899	-.010139

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001296	-.000014	-.003350	.0000231	-.000138	.0003897	.0011090
Stddev	.0000364	.000056	.002588	.0002393	.000142	.0004934	.0011857
%RSD	28.11730	395.6316	77.23603	1034.538	102.6627	126.6032	106.9158

#1	.0001622	.000047	-.005949	-.000195	-.000044	.0009233	.0009592
#2	.0001363	-.000026	-.003329	.000279	-.000069	.0002956	.0023624
#3	.0000903	-.000063	-.000774	-.000015	-.000302	-.000050	.0000053

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000837	.0102363	.0001081	.0001299	-.015405	.0004610	-.000586
Stddev	.000104	.0055331	.0002024	.0000805	.005328	.0001985	.000059
%RSD	12.38248	54.05308	187.2493	62.00666	34.58678	43.06209	10.12417

#1	-.000858	.0165014	-.000012	.0001383	-.015197	.0002475	-.000532
#2	-.000928	.0081884	-.000005	.0000455	-.020835	.0004955	-.000649
#3	-.000724	.0060191	.000342	.0002059	-.010184	.0006399	-.000577

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.038188	.0009470	-.000119	-.000275	.0009675	.0075817	.0004610
Stddev	.035065	.0004883	.000021	.000445	.0002472	.0069749	.0005798
%RSD	91.82090	51.56735	17.40492	161.5503	25.55272	91.99643	125.7631

#1	-.071624	.0004578	-.000109	-.000721	.0009168	.0142388	-.000109
#2	-.041245	.0009486	-.000105	-.000273	.0012361	.0081789	.000441
#3	-.001695	.0014345	-.000143	.000168	.0007495	.0003274	.001050

Sample Name: CCB08 Acquired: 3/24/2025 18:08:52 Type: Unk
Method: NON EPA-6010-200.7(v2842) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB08 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003143	-.007330	.0000781
Stddev	.001476	.001218	.0000215
%RSD	46.95233	16.61945	27.53541
#1	-.003722	-.008551	.0000764
#2	-.001466	-.007324	.0001005
#3	-.004242	-.006114	.0000576

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3345.488	78780.82	16160.79	2226.751	5398.104
Stddev	9.833	90.93	77.77	8.183	20.157
%RSD	.2939088	.1154222	.4812455	.3674751	.3734032
#1	3355.027	78692.89	16203.98	2218.806	5411.520
#2	3346.052	78874.48	16071.01	2226.295	5407.868
#3	3335.386	78775.09	16207.38	2235.153	5374.925

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: 03/21/2025 Time : 15:25 Temp : 96 °C

End Digest Date: 03/21/2025 Time : 18:30 Temp : 96 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: *SKB*

Supervisor Signature: *SKB*

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

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 CELL # 55 : 96 C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
03/27/25 18:50	<i>SKB met. dig</i>	<i>SKB met. dig</i>
	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
PB167266BL	PBW266	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	1
PB167266BS	LCS266	<2	50	25	Colorless	Colorless	Clear	Clear	M6002,M6012	2
Q1595-02MS	SPRING-2025MS	<2	50	25	Colorless	Colorless	Clear	Clear	M6002,M6012	5
Q1595-02MSD	SPRING-2025MSD	<2	50	25	Colorless	Colorless	Clear	Clear	M6002,M6012	6
Q1595-02DUP	SPRING-2025DUP	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	4
Q1595-02	SPRING-2025	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	3
Q1628-01	001-WILLETS-PT-BLVD(MAR)	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	7
Q1628-02	002-35TH-AVE(MAR)	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	8

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB167266

Worklist ID : 188456

Department : Digestion

Date : 03-21-2025 14:41:42

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
Q1595-02	SPRING-2025	Water	Metals ICP-Group1	1:1 HNO3 to pH < 2	ELEG01	I41	03/18/2025	200.7
Q1628-01	001-WILLETS-PT-BLVD(MAR)	Water	Metals Group3	1:1 HNO3 to pH < 2	TULL01	I31	03/20/2025	200.7
Q1628-02	002-35TH-AVE(MAR)	Water	Metals Group3	1:1 HNO3 to pH < 2	TULL01	I31	03/20/2025	200.7

Date/Time 03/21/25 15:05

Raw Sample Received by: SPB.met.dg

Raw Sample Relinquished by: QP Spr

Date/Time 03/21/25 16:05

Raw Sample Received by: QP Spr

Raw Sample Relinquished by: SPB.met.dg

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135158

Review By	kareem	Review On	3/25/2025 10:56:33 AM
Supervise By	JANVI	Supervise On	3/26/2025 10:13:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84846
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	03/24/25 10:01		Kareem	OK
2	S1	S1	CAL2	03/24/25 10:05		Kareem	OK
3	S2	S2	CAL3	03/24/25 10:10		Kareem	OK
4	S3	S3	CAL4	03/24/25 10:14		Kareem	OK
5	S4	S4	CAL5	03/24/25 10:18		Kareem	OK
6	S5	S5	CAL6	03/24/25 10:22		Kareem	OK
7	ICV01	ICV01	ICV	03/24/25 10:33	ICV fail for Ba,Na (200.7)	Kareem	OK
8	LLICV01	LLICV01	LLICV	03/24/25 10:45		Kareem	OK
9	ICB01	ICB01	ICB	03/24/25 10:49		Kareem	OK
10	CRI01	CRI01	CRDL	03/24/25 10:54		Kareem	OK
11	ICSA01	ICSA01	ICSA	03/24/25 10:58		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	03/24/25 11:02		Kareem	OK
13	ICSADL	ICSADL	ICSA	03/24/25 11:13		Kareem	OK
14	ICSABDL	ICSABDL	ICSAB	03/24/25 11:17		Kareem	OK
15	CCV01	CCV01	CCV	03/24/25 11:21		Kareem	OK
16	CCB01	CCB01	CCB	03/24/25 11:26		Kareem	OK
17	Q1628-01	001-WILLETS-PT-BL	SAM	03/24/25 11:30		Kareem	OK
18	Q1628-02	002-35TH-AVE(MAR)	SAM	03/24/25 11:35		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135158

Review By	kareem	Review On	3/25/2025 10:56:33 AM
Supervise By	JANVI	Supervise On	3/26/2025 10:13:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84846
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

19	Q1605-02	DRUM-SOIL-CUTTIN	SAM	03/24/25 11:39		Kareem	OK
20	Q1583-02	EFF-WASTE WATER	SAM	03/24/25 11:43		Kareem	OK
21	Q1583-02DUP	EFF-WASTE WATER	DUP	03/24/25 11:48		Kareem	OK
22	Q1583-02L	EFF-WASTE WATER	SD	03/24/25 11:52		Kareem	OK
23	Q1583-02MS	EFF-WASTE WATER	MS	03/24/25 11:56	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
24	Q1583-02MSD	EFF-WASTE WATER	MSD	03/24/25 12:00	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
25	Q1583-02A	EFF-WASTE WATER	PS	03/24/25 12:04	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
26	PB167178BL	PB167178BL	MB	03/24/25 12:08		Kareem	OK
27	CCV02	CCV02	CCV	03/24/25 12:12		Kareem	OK
28	CCB02	CCB02	CCB	03/24/25 12:17		Kareem	OK
29	PB167178BS	PB167178BS	LCS	03/24/25 12:21	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
30	Q1576-01	MW14	SAM	03/24/25 12:27	As high	Kareem	Dilution
31	Q1576-01DUP	MW14DUP	DUP	03/24/25 12:32	As high	Kareem	Dilution
32	Q1576-01L	MW14L	SD	03/24/25 12:36	As high	Kareem	Dilution
33	Q1576-01MS	MW14MS	MS	03/24/25 12:40	As high	Kareem	Dilution
34	Q1576-01MSD	MW14MSD	MSD	03/24/25 12:45	As high	Kareem	Dilution

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135158

Review By	kareem	Review On	3/25/2025 10:56:33 AM
Supervise By	JANVI	Supervise On	3/26/2025 10:13:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84846
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

35	Q1576-01A	MW14A	PS	03/24/25 12:49	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
36	Q1595-02	SPRING-2025	SAM	03/24/25 12:53		Kareem	OK
37	Q1595-02DUP	SPRING-2025DUP	DUP	03/24/25 12:58		Kareem	OK
38	Q1595-02L	SPRING-2025L	SD	03/24/25 13:02		Kareem	OK
39	CCV03	CCV03	CCV	03/24/25 13:07		Kareem	OK
40	CCB03	CCB03	CCB	03/24/25 13:11		Kareem	OK
41	Q1595-02MS	SPRING-2025MS	MS	03/24/25 13:15	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
42	Q1595-02MSD	SPRING-2025MSD	MSD	03/24/25 13:20	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
43	Q1595-02A	SPRING-2025A	PS	03/24/25 13:24	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
44	PB167266BL	PB167266BL	MB	03/24/25 13:28		Kareem	OK
45	PB167266BS	PB167266BS	LCS	03/24/25 13:32	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
46	Q1618-01	TP20250320-01	SAM	03/24/25 13:36		Kareem	OK
47	Q1618-01DUP	TP20250320-01DUP	DUP	03/24/25 13:41		Kareem	OK
48	Q1618-01L	TP20250320-01L	SD	03/24/25 13:45		Kareem	OK
49	Q1618-01MS	TP20250320-01MS	MS	03/24/25 13:49	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135158

Review By	kareem	Review On	3/25/2025 10:56:33 AM
Supervise By	JANVI	Supervise On	3/26/2025 10:13:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84846
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

50	Q1618-01MSD	TP20250320-01MSD	MSD	03/24/25 13:54	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
51	CCV04	CCV04	CCV	03/24/25 14:06		Kareem	OK
52	CCB04	CCB04	CCB	03/24/25 14:11		Kareem	OK
53	Q1618-01A	TP20250320-01A	PS	03/24/25 14:16	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
54	Q1618-02	TP20250320-02	SAM	03/24/25 14:20		Kareem	OK
55	PB167258BL	PB167258BL	MB	03/24/25 14:24		Kareem	OK
56	PB167258BS	PB167258BS	LCS	03/24/25 14:29	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
57	PB167233TB	PB167233TB	MB	03/24/25 14:33		Kareem	OK
58	Q1606-02	CHRT24743	SAM	03/24/25 14:37		Kareem	OK
59	Q1606-04	RBR251346	SAM	03/24/25 14:41		Kareem	OK
60	Q1606-06	RT4534	SAM	03/24/25 14:46		Kareem	OK
61	Q1606-08	RT3025	SAM	03/24/25 14:50		Kareem	OK
62	Q1606-10	CHRT28607	SAM	03/24/25 14:55		Kareem	OK
63	CCV05	CCV05	CCV	03/24/25 15:30		Kareem	OK
64	CCB05	CCB05	CCB	03/24/25 15:34		Kareem	OK
65	Q1610-03	SOIL-PILE	SAM	03/24/25 15:43		Kareem	OK
66	Q1609-03	WC-SCRN-01-C	SAM	03/24/25 15:53		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135158

Review By	kareem	Review On	3/25/2025 10:56:33 AM
Supervise By	JANVI	Supervise On	3/26/2025 10:13:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84846
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

67	Q1619-02	CONCRETE-1	SAM	03/24/25 15:57		Kareem	OK
68	Q1619-04	CONCRETE-2	SAM	03/24/25 16:02		Kareem	OK
69	Q1619-06	TP-1	SAM	03/24/25 16:06		Kareem	OK
70	Q1619-08	TP-2	SAM	03/24/25 16:11		Kareem	OK
71	Q1576-01DL	MW14DL	SAM	03/24/25 16:15	10x for As	Kareem	Confirms
72	Q1576-01DUPDL	MW14DUPDL	DUP	03/24/25 16:19	10x for As	Kareem	Confirms
73	Q1576-01LDL	MW14LDL	SD	03/24/25 16:23	50x for As	Kareem	Confirms
74	Q1576-01MSDL	MW14MSDL	MS	03/24/25 16:28	10x for As	Kareem	Confirms
75	CCV06	CCV06	CCV	03/24/25 16:39		Kareem	OK
76	CCB06	CCB06	CCB	03/24/25 16:43		Kareem	OK
77	Q1576-01MSDDL	MW14MSDDL	MSD	03/24/25 16:47	10x for As	Kareem	Confirms
78	Q1576-01ADL	MW14ADL	PS	03/24/25 16:52	Not Required	Kareem	Not Ok
79	Q1611-01	RBR200030	SAM	03/24/25 16:56		Kareem	OK
80	Q1614-01	TR-04-032025	SAM	03/24/25 17:00		Kareem	OK
81	Q1614-01DUP	TR-04-032025DUP	DUP	03/24/25 17:04		Kareem	OK
82	Q1614-01L	TR-04-032025L	SD	03/24/25 17:08		Kareem	OK
83	Q1614-01MS	TR-04-032025MS	MS	03/24/25 17:13	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
84	Q1614-01MSD	TR-04-032025MSD	MSD	03/24/25 17:17	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB135158

Review By	kareem	Review On	3/25/2025 10:56:33 AM
Supervise By	JANVI	Supervise On	3/26/2025 10:13:54 AM

STD. NAME	STD REF.#
ICAL Standard	MP84636,MP84637,MP84638,MP84639,MP84640,MP84846
ICV Standard	MP84643
CCV Standard	MP84646
ICSA Standard	MP84644,MP84721
CRI Standard	MP84846
LCS Standard	
Chk Standard	MP84649,MP84650

85	Q1614-01A	TR-04-032025A	PS	03/24/25 17:21	0.1 ML OF M6004 AND M6013 WERE ADDED TO 10 ML OF SAMPLE	Kareem	OK
86	Q1619-10	TP-3	SAM	03/24/25 17:25		Kareem	OK
87	CCV07	CCV07	CCV	03/24/25 17:29		Kareem	OK
88	CCB07	CCB07	CCB	03/24/25 17:33		Kareem	OK
89	LR1	LR1	HIGH STD	03/24/25 17:38		Kareem	OK
90	LR2	LR2	HIGH STD	03/24/25 17:52		Kareem	OK
91	CCV08	CCV08	CCV	03/24/25 18:01		Kareem	OK
92	CCB08	CCB08	CCB	03/24/25 18:08		Kareem	OK

Prep Standard - Chemical Standard Summary

Order ID : Q1628

Test : Metals Group3

Prepbatch ID : PB167266,

Sequence ID/Qc Batch ID: LB135158, LB135158,

Standard ID :

MP84041, MP84636, MP84637, MP84638, MP84639, MP84640, MP84643, MP84644, MP84646, MP84649, MP84650, MP847
20, MP84721, MP84845, MP84846,

Chemical ID :

M4883, M4891, M5218, M5288, M5296, M5395, M5429, M5467, M5472, M5497, M5658, M5697, M5698, M5747, M5748, M5769
, M5789, M5792, M5798, M5799, M5800, M5801, M5806, M5808, M5811, M5814, M5815, M5816, M5817, M5820, M5875, M5959
, M5970, M5978, M5985, M6003, M6012, M6021, M6023, M6028, M6030, M6032, M6077, M6126, M6137, M6146, M6150, M615
1, M6152, M6155, M6156, 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>
902	ICP AES CAL BLK (SO/ICB/CCB)	MP84636	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								02/28/2025

FROM 125.00000ml of M5792 + 2350.00000ml of W3112 + 25.00000ml of M5789 = Final Quantity: 2500.000 ml



<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)	MP84637	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025
<u>FROM</u>	5.00000ml of M5395 + 5.00000ml of M5467 + 5.00000ml of M5472 + 5.00000ml of M5816 + 5.00000ml of M5820 + 5.00000ml of M5875 + 5.00000ml of M5970 + 5.00000ml of M6077 + 5.00000ml of M6146 + 455.00000ml of MP84636 = Final Quantity: 500.000 ml							

<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	MP84638	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025
<u>FROM</u> 50.00000ml of MP84636 + 50.00000ml of MP84637 = 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>
909	ICP AES STD S3	MP84639	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								02/28/2025

FROM 25.00000ml of MP84637 + 75.00000ml of MP84636 = Final Quantity: 100.000 ml

<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	MP84640	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								02/28/2025

FROM 16.00000ml of MP84637 + 184.00000ml of MP84636 = Final Quantity: 200.000 ml



<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	MP84643	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025
FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.10000ml of M5467 + 0.25000ml of M5218 + 0.25000ml of M5472 + 10.00000ml of M6150 + 89.77500ml of MP84636 = Final Quantity: 100.000 ml								

<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	MP84644	02/24/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025
FROM 25.00000ml of M6152 + 225.00000ml of MP84636 = Final Quantity: 250.000 ml								

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	MP84646	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								02/28/2025

FROM 50.00000ml of MP84636 + 50.00000ml of MP84637 = Final Quantity: 100.000 ml

<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	MP84649	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								02/28/2025

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

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>
513	RINSE SOLN	MP84650	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								02/28/2025

FROM 200.00000ml of M5789 + 9800.00000ml of W3112 = Final Quantity: 10000.000 ml

<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>
3494	ICP AES ICSAB SOLN-1	MP84721	02/25/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 02/28/2025
<u>FROM</u>	0.01000ml of M5815 + 0.01000ml of M5817 + 0.10000ml of M5296 + 0.10000ml of M5472 + 0.10000ml of M5970 + 10.00000ml of M6152 + 10.00000ml of M6155 + 79.50000ml of MP84636 = Final Quantity: 100.000 ml							

<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	MP84845	03/09/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal 03/11/2025
<u>FROM</u>	0.03000ml of M5798 + 0.03000ml of M6028 + 0.04000ml of M6137 + 0.05000ml of M5658 + 0.05000ml of M5808 + 0.05000ml of M5811 + 0.05000ml of M6030 + 0.06000ml of M5747 + 0.10000ml of M4883 + 0.10000ml of M5472 + 0.10000ml of M5697 + 0.10000ml of M5698 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5970 + 0.15000ml of M5800 + 0.20000ml of M4891 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M6146 + 0.50000ml of M5814 + 0.50000ml of M6032 + 1.00000ml of M5288 + 1.00000ml of M5497 + 1.00000ml of M5769 + 1.00000ml of M5806 + 1.00000ml of M5978 + 1.00000ml of M6156 + 2.00000ml of M5816 + 77.68000ml of MP84636 = Final Quantity: 100.000 ml							

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	MP84846	03/09/2025	03/25/2025	Kareem Khairalla	None	None	Sarabjit Jaswal
								03/11/2025

FROM 2.00000ml of MP84845 + 98.00000ml of MP84636 = Final Quantity: 100.000 ml

CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Nickel (Ni) 1000PPM	091223	09/12/2026	01/02/2024 / bin	12/20/2023 / jaswal	M5748

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58112 / Mg, 10000 PPM, 500 ml	091823	09/18/2026	05/24/2024 / Jaswal	01/03/2024 / bin	M5769

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22D1462006	08/05/2025	02/05/2024 / Al-Terek	02/24/2022 / Al-Terek	M5792

CHEMICAL RECEIPT LOG BOOK

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

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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	122926	12/29/2026	12/18/2024 / janvi	01/03/2024 / jaswal	M5808

CHEMICAL RECEIPT LOG BOOK

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57115 / P, 10000 PPM, 125 ml	041723	04/17/2026	05/21/2024 / Jaswal	02/09/2024 / jaswal	M5815

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

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

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

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

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

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

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	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

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	010924	01/09/2027	01/14/2025 / Jaswal	08/05/2024 / Jaswal	M6032

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	V2-MEB746762	09/06/2029	01/23/2025 / kareem	09/19/2024 / kareem	M6077

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

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57051 / Sb, 1000 PPM, 125 ml	071724	07/17/2027	01/31/2025 / kareem	10/18/2024 / kareem	M6146

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

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

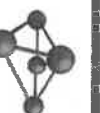
CHEMICAL RECEIPT LOG BOOK

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

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: **58113**
Lot Number: **122923**
Description: **Aluminum (Al)**

Solvent: 24002546 Nitric Acid

Lot #

P. 01/23/24 M5808, M5809

Expiration Date: 122926

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

SE-05 Balance Uncertainty

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

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Rentas</i>
	122923

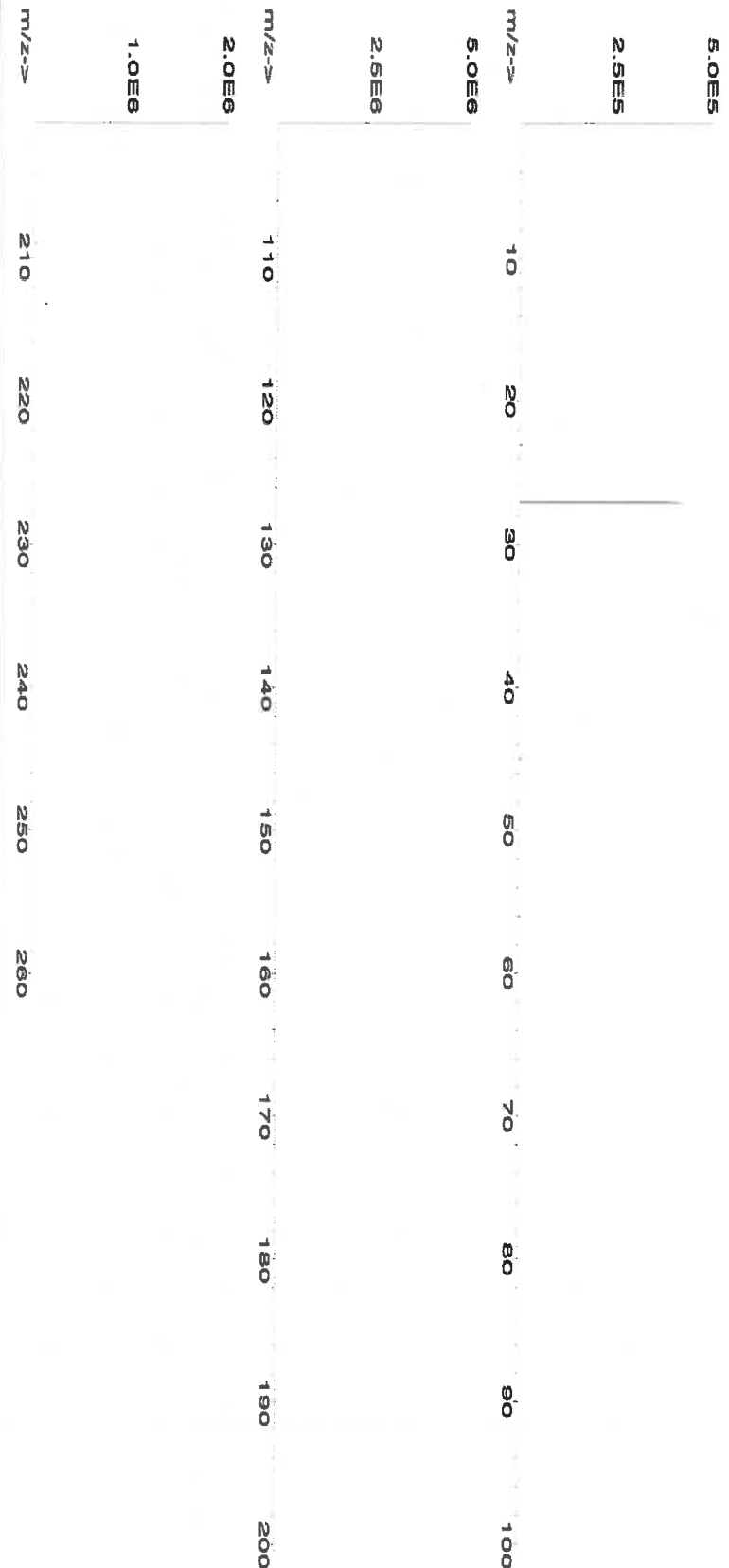
Compound

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. Aluminum nitrate nonahydrate (Al) INO22 ALMO8222A1 10000 88.889 0.10 7.30 273.9779 273.9813 10000.1 20.0 7784-27-2 2 mg/m3 or-tal 3671 mg/kg 3101a

[1] Spectrum No. 1 [15.014 sec]:58113.D# [Count] [Linear]



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

Al	T	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	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Bu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	0.03
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	4.5	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	0.56	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	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

Certified by:

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

Mar. 19

- Printed: 12/29/2023, 2:56:08 PM



CERTIFIED WEIGHT REPORT:

Part Number:	57056	Lot #	
Lot Number:	010924	Solvent:	Nitric Acid
Description:	Barium (Ba)		
Expiration Date:	010927	2%	40.0 (mL)
Recommended Storage:	Ambient (20 °C)		Nitric Acid
Nominal Concentration (µg/mL):	1000		
NIST Test Number:	6UTB	5E-05	Balance Uncertainty
Weight shown below was diluted to (mL):	2000.02	0.058	Flask Uncertainty

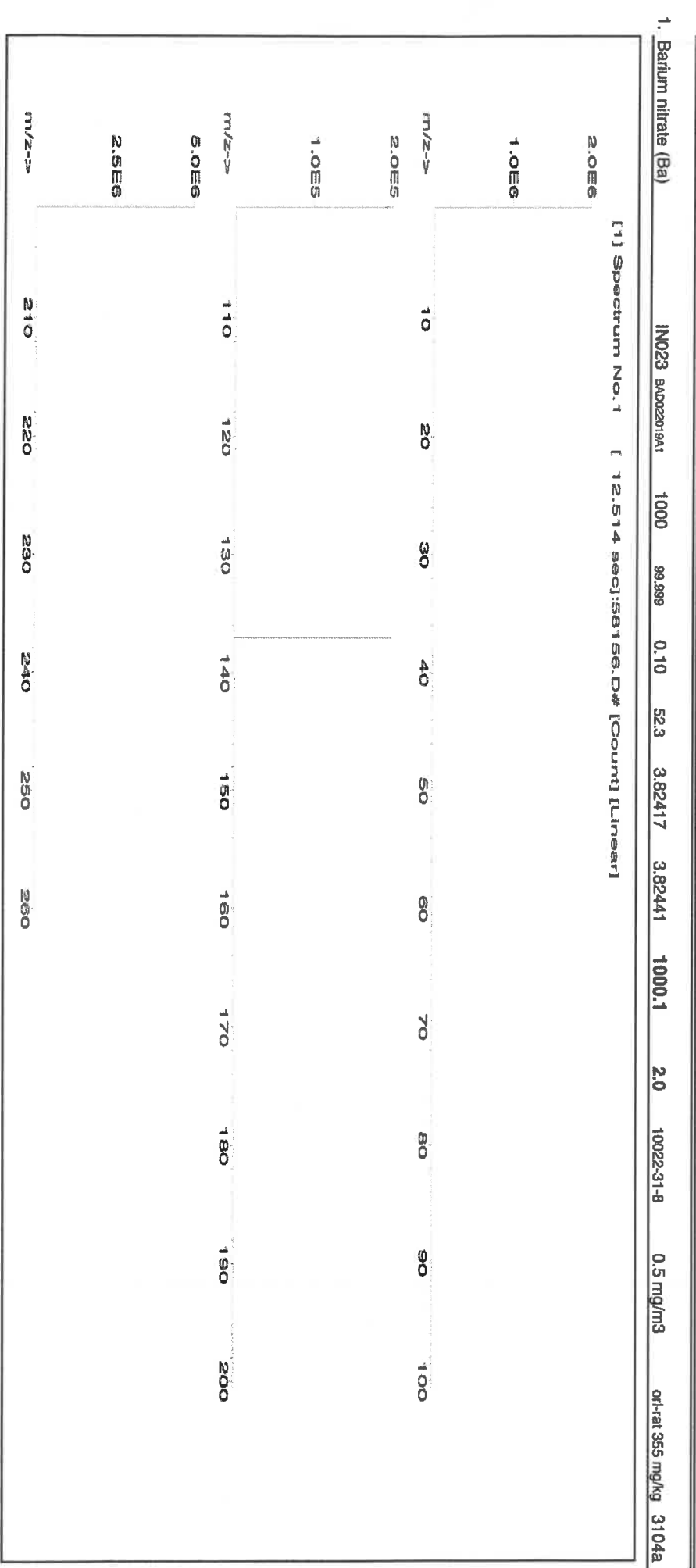
Formulated By: Giovanni Esposito

Reviewed By: Pedro L. Renteria

010924

010924

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)
1. Barium nitrate (Ba)	IN023	BA0022019A1	1000	99.999	0.10	52.3	3.82417	3.82441	1000.1





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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

57048
070124
Cadmium (Cd)

Solvent: 24002546 Nitric Acid

R: 815/24

Lot #

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

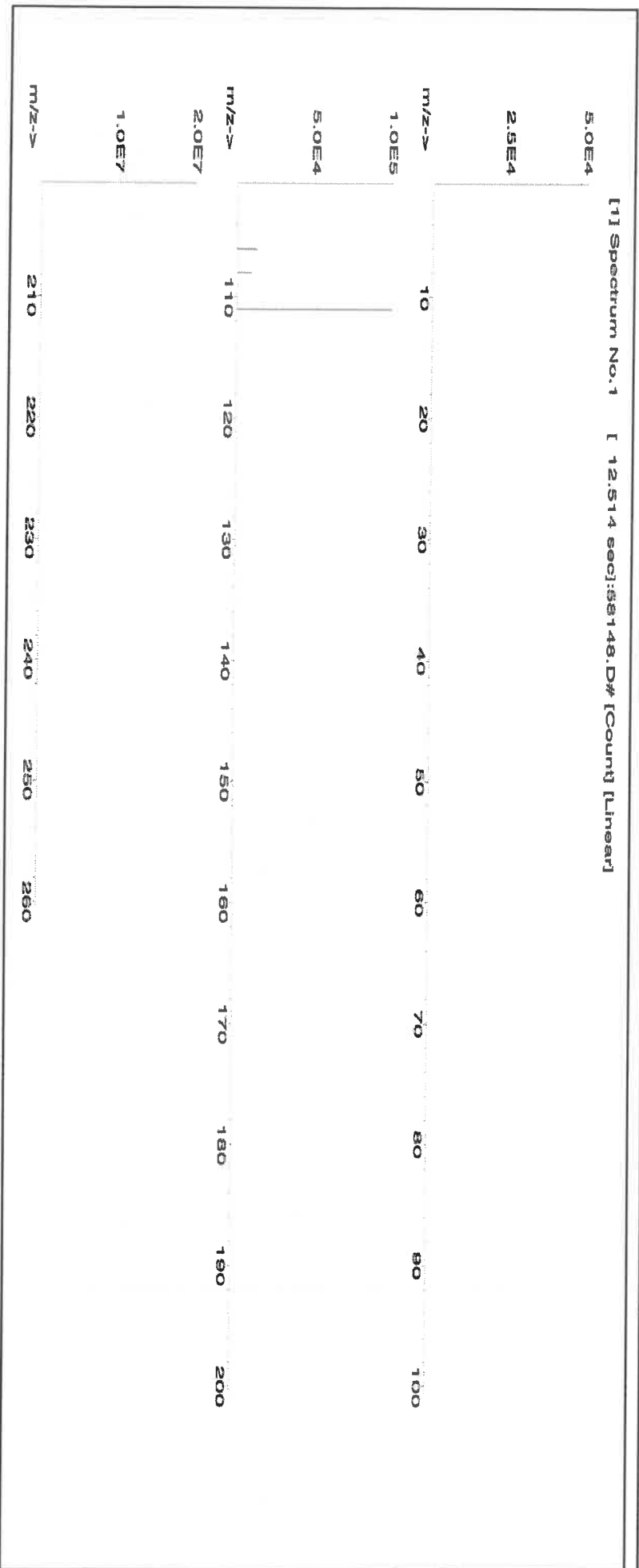
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

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. 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 orl-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).



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: CHEM-CLP-4
Lot Number: S2-MEB711673
Matrix: 3% (v/v) HNO₃
3% (v/v) HF
Value / Analyte(s): 1 000 µg/mL ea:
Boron, Molybdenum,
Silicon, Tin,
Titanium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 6 µg/mL	Molybdenum, Mo	1 000 ± 6 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 6 µg/mL
Titanium, Ti	1 000 ± 7 µg/mL		

Density: 1.030 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, 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

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

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

11.2 Lot Expiration Date

- **November 02, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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-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

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

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

11.2 Lot Expiration Date

- **January 27, 2027**

- The date after which this CRM/RM should not be used.
- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 13, 2022

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

11.2 Lot Expiration Date

- **January 13, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

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

Solvent: 21110221 Nitric Acid

Lot #

Expiration Date: 051526

5.0% 250.0 (mL) Nitric Acid

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**

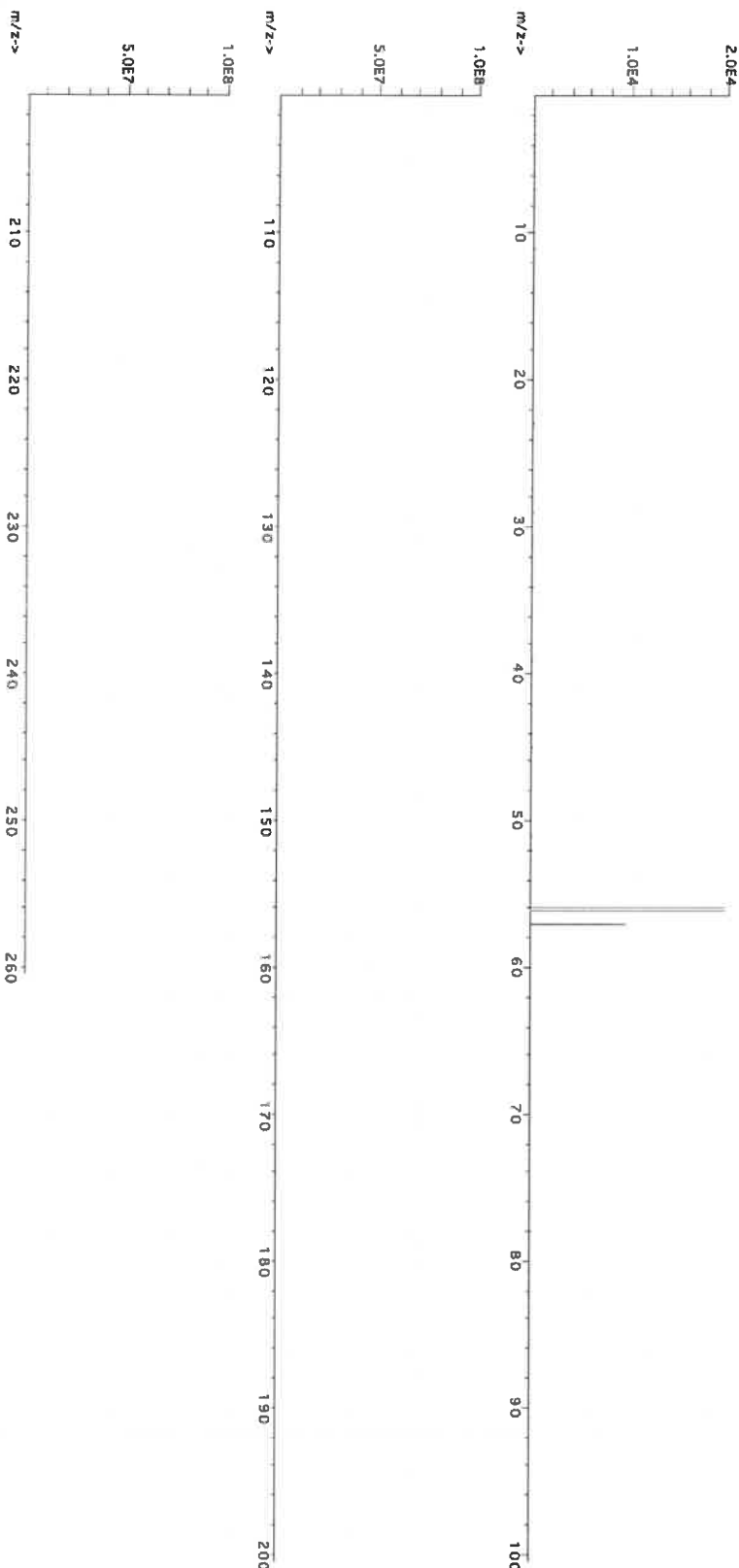
SDS Information

Compound

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
-----	------------	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

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

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-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 $k = 2$.

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:

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

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

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_{ts} = 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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{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)

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

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

11.2 Lot Expiration Date

- August 30, 2026

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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**

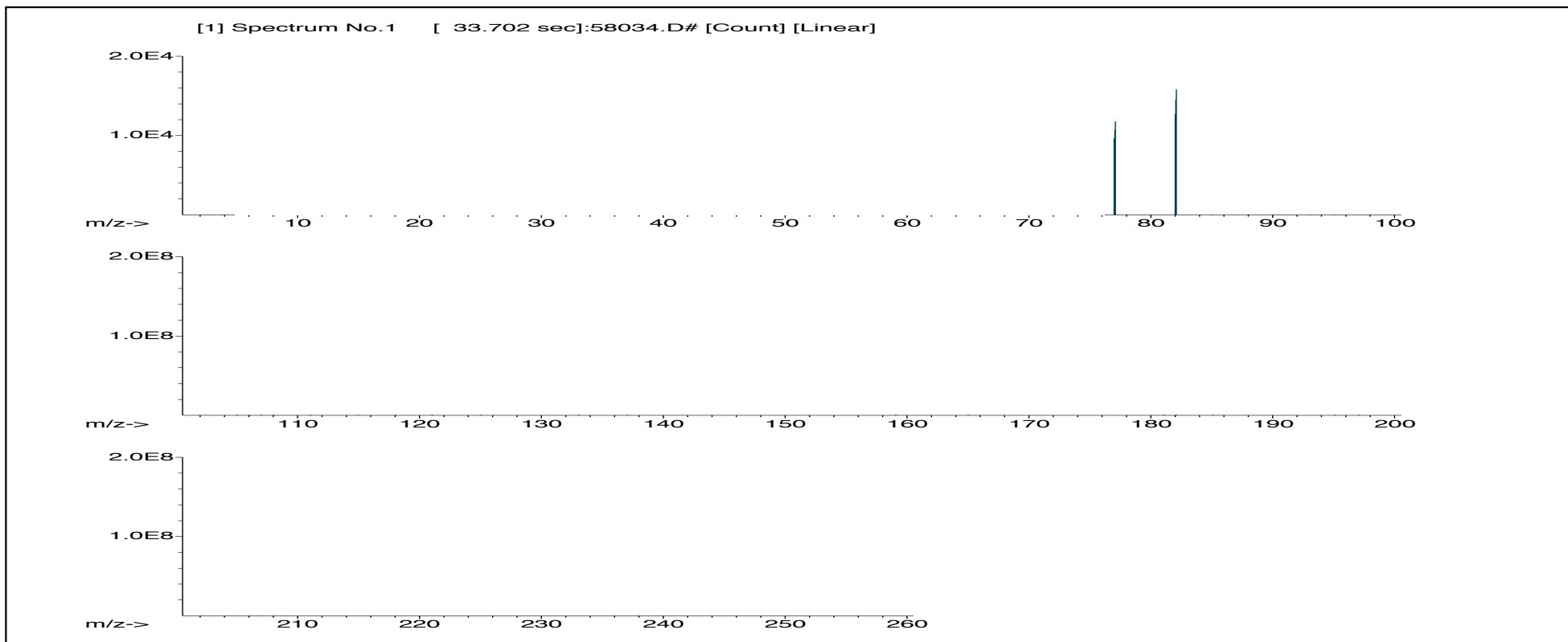
NIST Test Number: 6UTB

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 Uncertainty +/- (µg/mL)	SDS Information			NIST SRM
										(Solvent Safety Info. On Attached pg.)			
										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**

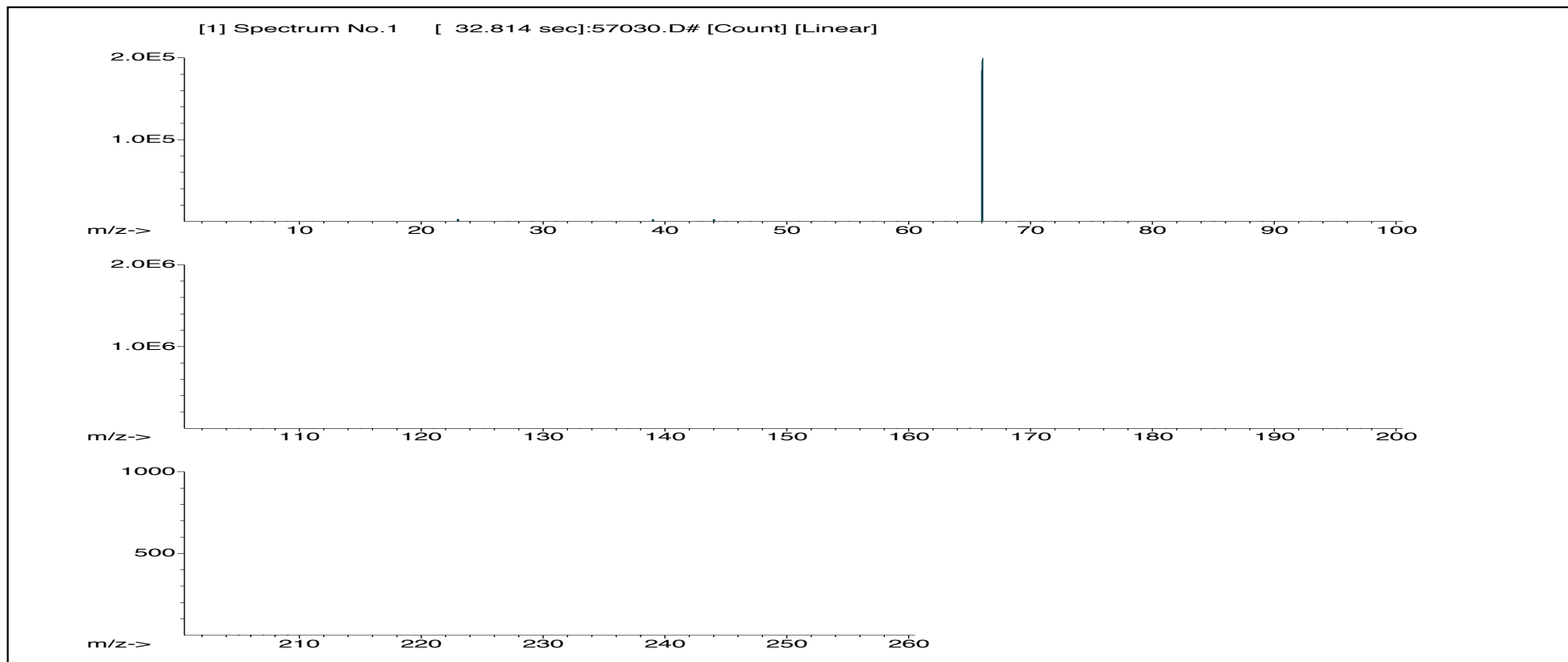
NIST Test Number: 6UTB

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			NIST SRM
										(Solvent Safety Info. On Attached pg.)			
										CAS#	OSHA PEL (TWA)	LD50	
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).

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: CHEM-QC-4
 Lot Number: S2-MEB711674
 Matrix: 3% (v/v) HNO₃
 3% (v/v) HF
 Value / Analyte(s): 1 000 µg/mL ea:
 Boron, Molybdenum,
 Silicon, Tin,
 Titanium

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Boron, B	1 000 ± 7 µg/mL	Molybdenum, Mo	1 000 ± 5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	1 000 ± 5 µg/mL
Titanium, Ti	1 001 ± 6 µg/mL		

Density: 1.032 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
B	ICP Assay	3107	110830
Mo	ICP Assay	3134	130418
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, 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

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 02, 2021

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

11.2 Lot Expiration Date

- **November 02, 2026**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Absolute Standards, Inc.

800-368-1131
www.absolutestandards.com



Certified Reference Material CRM

M5288 R: 07/21/2022 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**

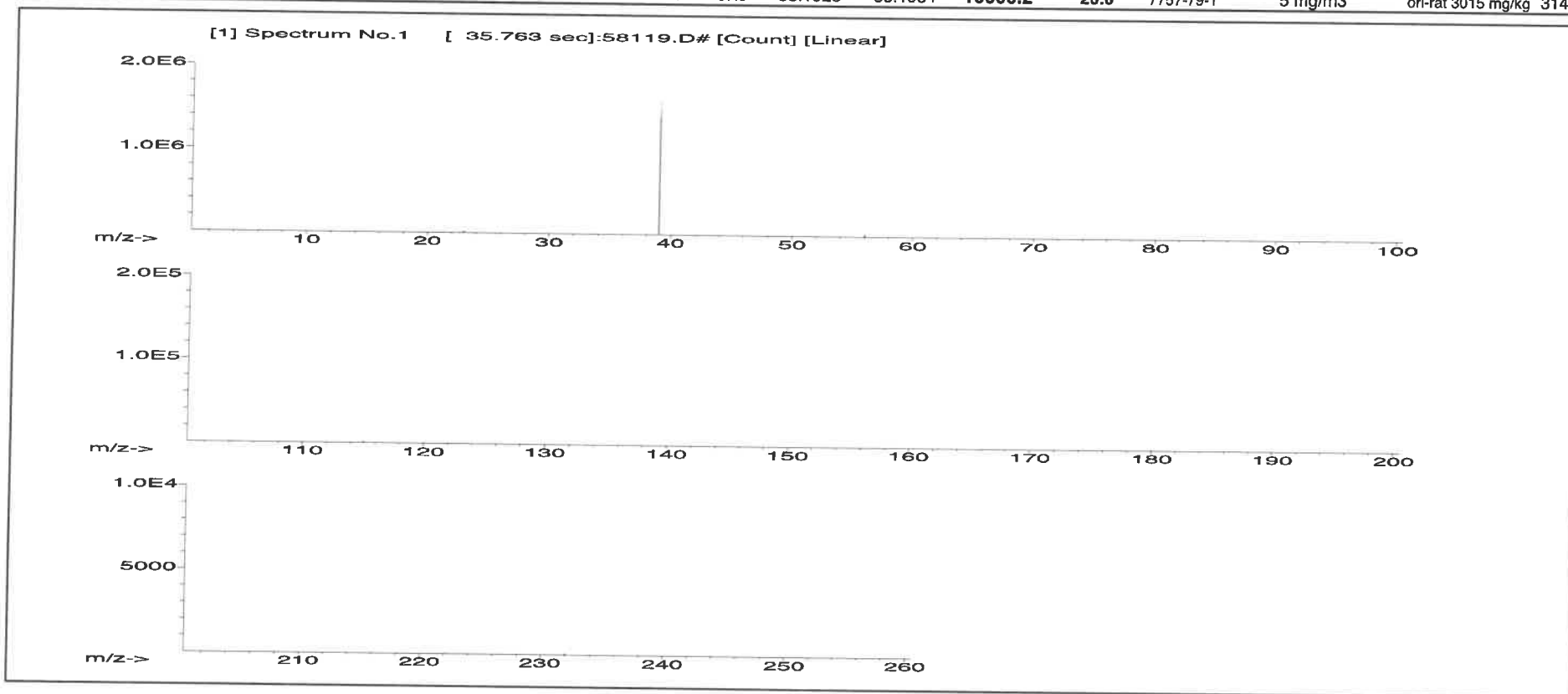
NIST Test Number: 6UTB

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#	
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	ori-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).



Certified Reference Material CRM

M5429 R1 0126/23 (B)

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57103
070622
Lithium (Li)

Solvent: 20510011 Nitric Acid

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

070625
Ambient (20 °C)
10000
6UTB

2% 20.0 (mL)

Weight shown below was diluted to (mL): 1000.12
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

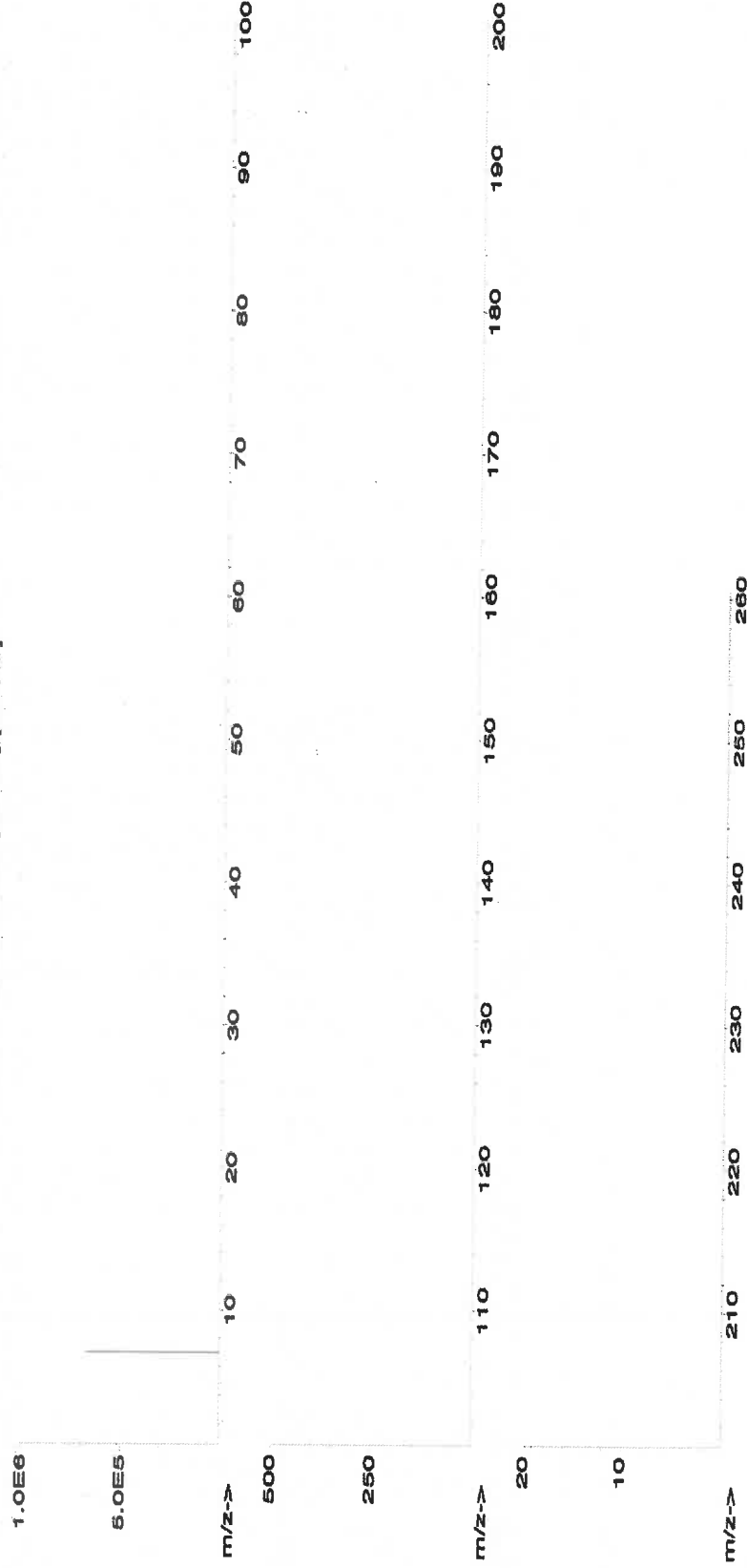
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

070622
070622

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information		
											(Solvent Safety Info. On Attached pg.)	CAS#	NIST SRM

1. Lithium nitrate (Li)	IN019	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
-------------------------	-------	------------	-------	--------	------	------	----------	----------	---------	------	-----------	---------	----------------------

[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	<0.02	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).



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	<0.02	Ho	<0.02	La	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<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	<0.02	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).



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	T	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	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	<0.02	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	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 WEIGHT REPORT:

Part Number: 58024
Lot Number: 060523
Description: Chromium (Cr)

Lot #
21110221
Solvent: Nitric Acid

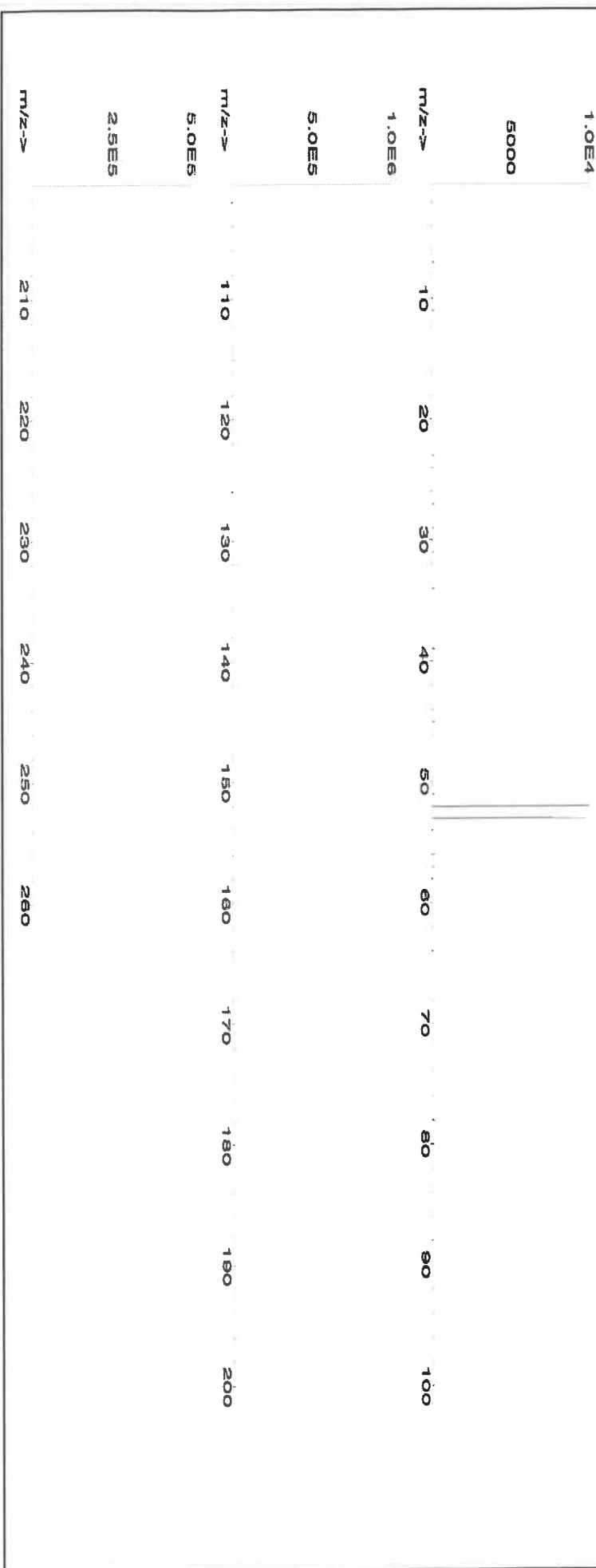
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Ruelas
	060523

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
5E-05 Balance Uncertainty
0.058 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
----------	-------------	------------	-----------------	-------------------	------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

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 Reference Material CRM

M5697 R: 10/27/23



CERTIFIED WEIGHT REPORT:

Part Number: **58029**
Lot Number: **102523**
Description: **Copper (Cu)**

Lot # **24002546**
Solvent: **Nitric Acid**

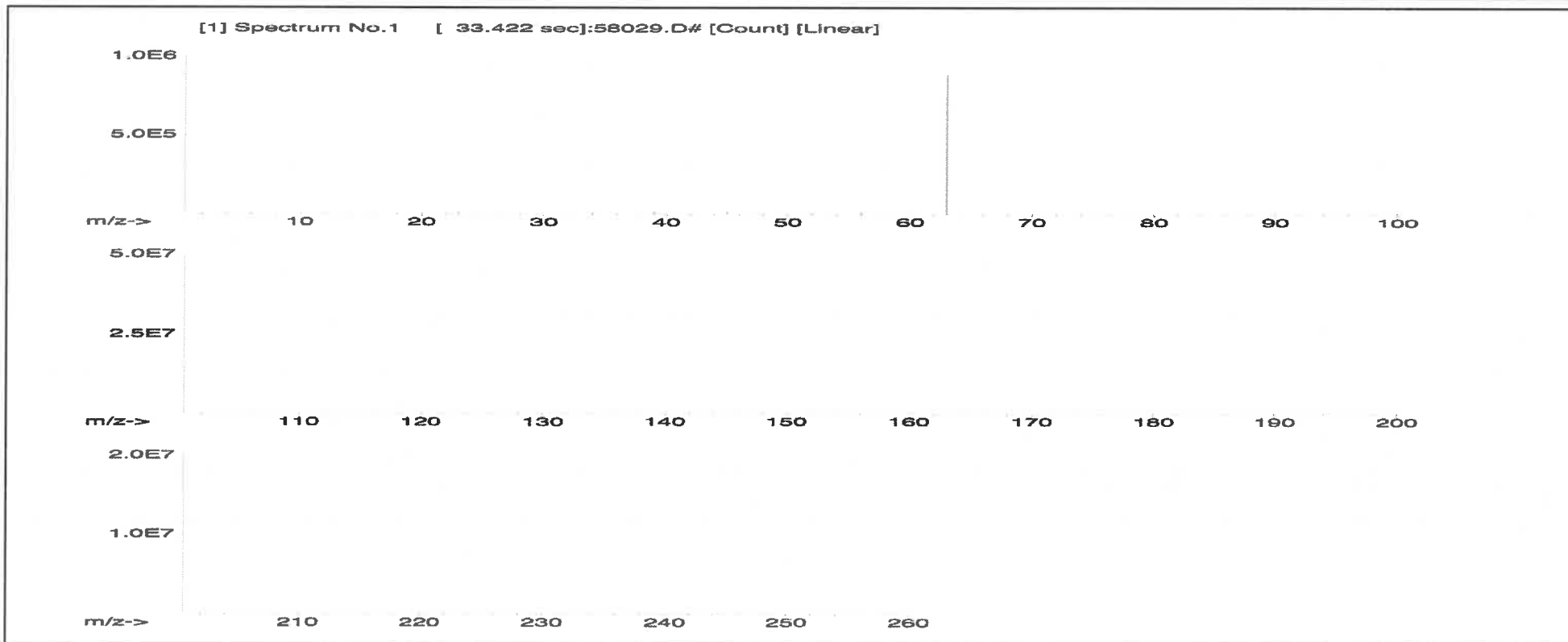
2.0% 40.0
(mL) Nitric Acid

Expiration Date: **102526**
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

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.)			NIST SRM
										CAS#	OSHA PEL (TWA)	LD50	
1. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	1000.0	2.2	10031-43-3	1 mg/m3	ori-rat 794 mg/kg	3114





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * 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:

58025
102623
Manganese (Mn)

Lot #
Solvent:

24002546
Nitric Acid

2.0%
60.0 (mL)
Nitric Acid

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

102626
Ambient (20 °C)
1000
6UTB

Volume shown below was diluted to (mL):

3000.41

0.058

Flask Uncertainty

5E-05
Balance Uncertainty

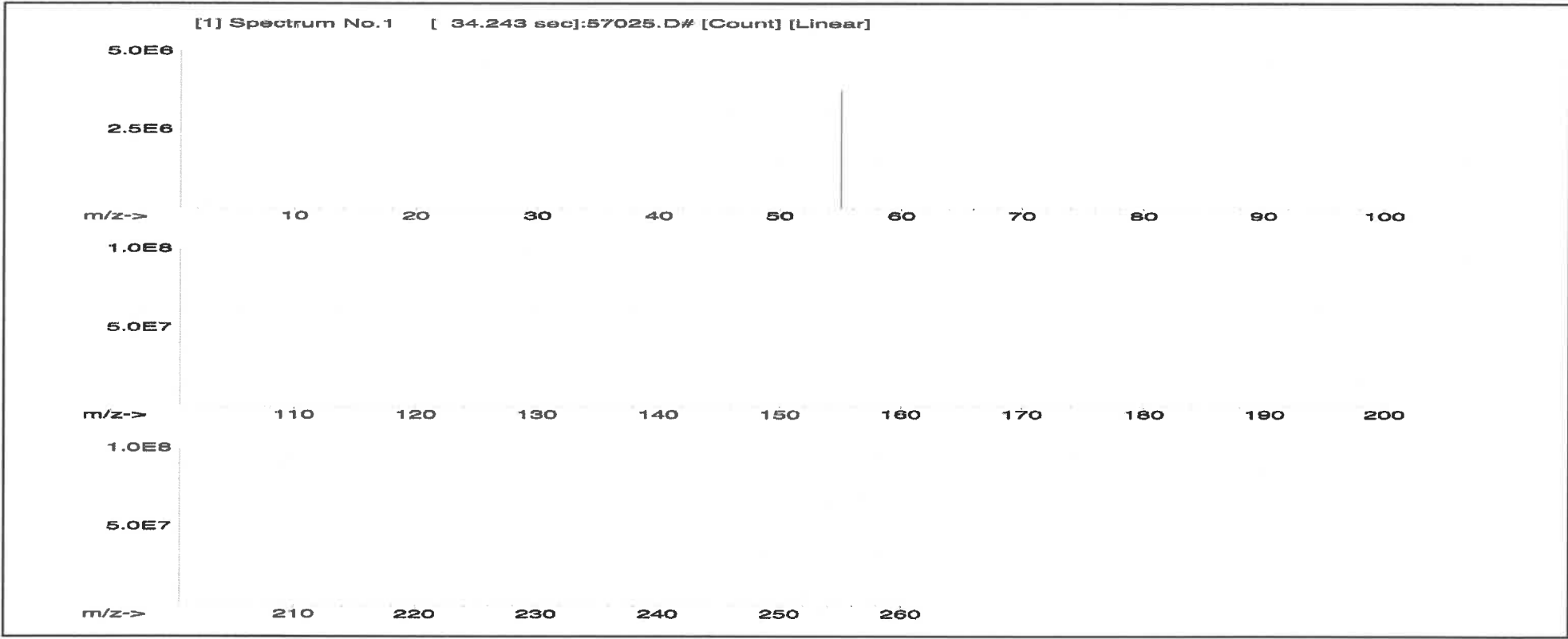
Formulated By:
Reviewed By:




Benson Chan
Pedro L. Rentas

102623
102623

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	SDS Information			NIST SRM
										(Solvent Safety Info. On Attached pg.)			
										CAS#	OSHA PEL (TWA)	LD50	
1. Manganese(II) nitrate tetrahydrate (Mn)	58125	071123	0.1000	300.0	0.084	1000	10000.1	1000.0	2.1	20694-39-7	5 mg/m3	ori-rat >300mg/kg	3132





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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the balances that are calibrated with weights traceable to NIST (see above).
- * Standards are 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 (mL) Nitric Acid

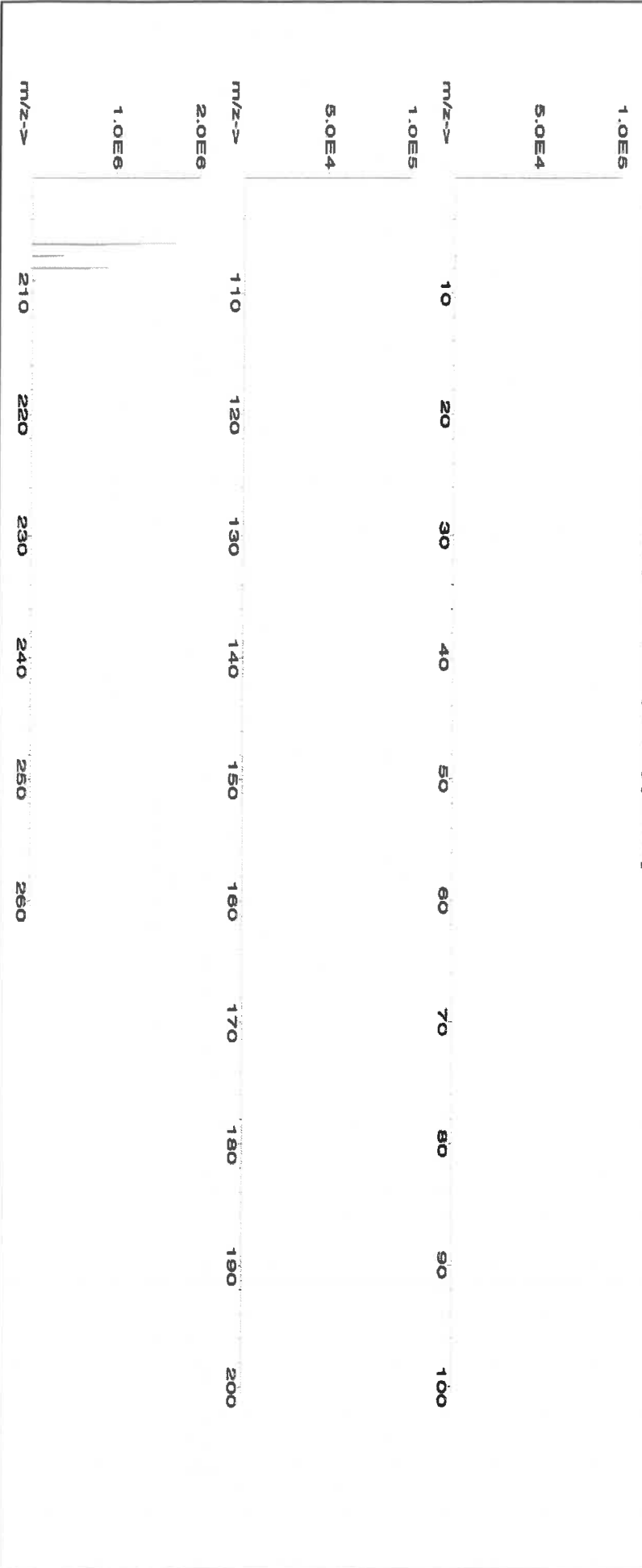
Weight shown below was diluted to (mL): 3000.41 0.06 Flask Uncertainty

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

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 Intyms-ret 89 mg/kg 3128

[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 ($\mu\text{g/mL}$)

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	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

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.
- * 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

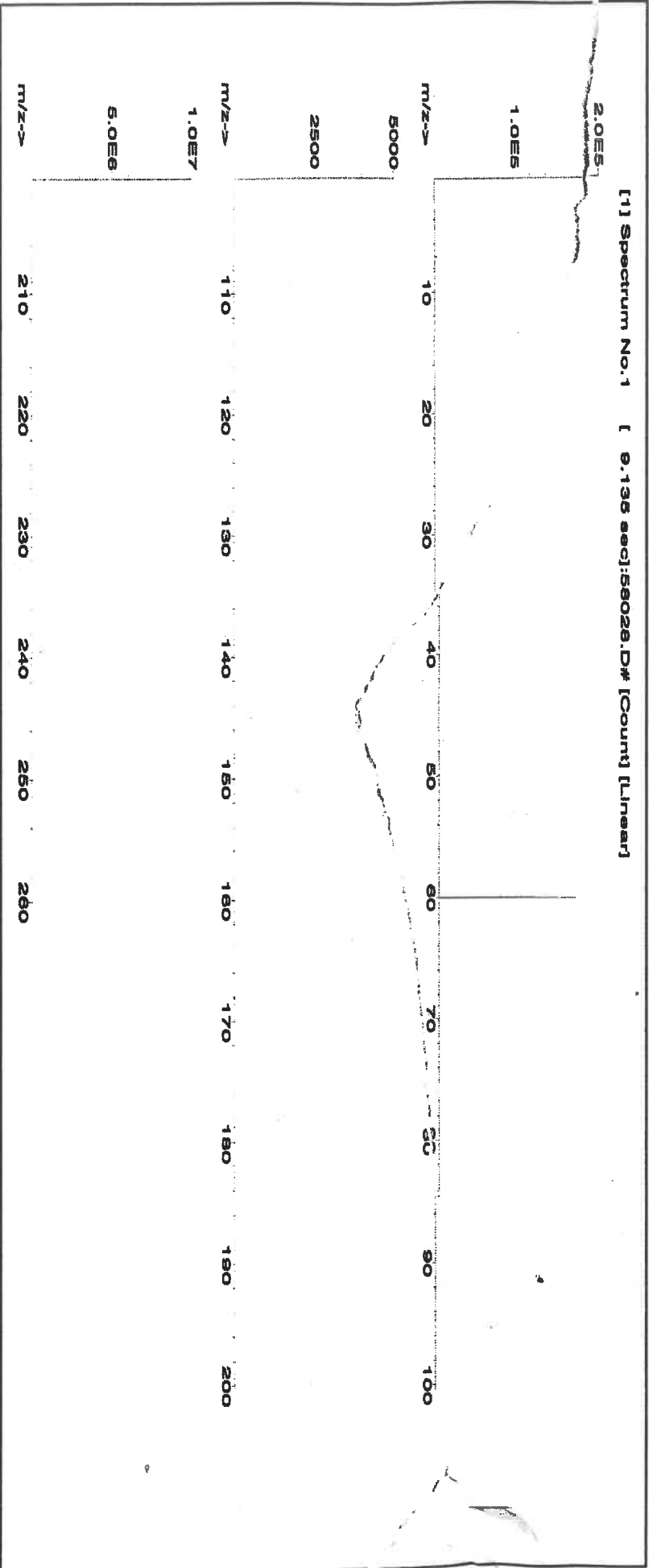
NIST Test Number: **6U7B**

Volume shown below was diluted to (mL): **2000.02** Balance Uncertainty: **5E-05** Flask Uncertainty: **0.056**

Formulated By:	<i>Lawrence Barry</i>	091223
Reviewed By:	<i>Pedro L. Renteria</i>	091223

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
----------	-------------	------------	-----------------	-------------------	------------------	--------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

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
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 2000.02
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

2% 40.0 (mL) Nitric Acid

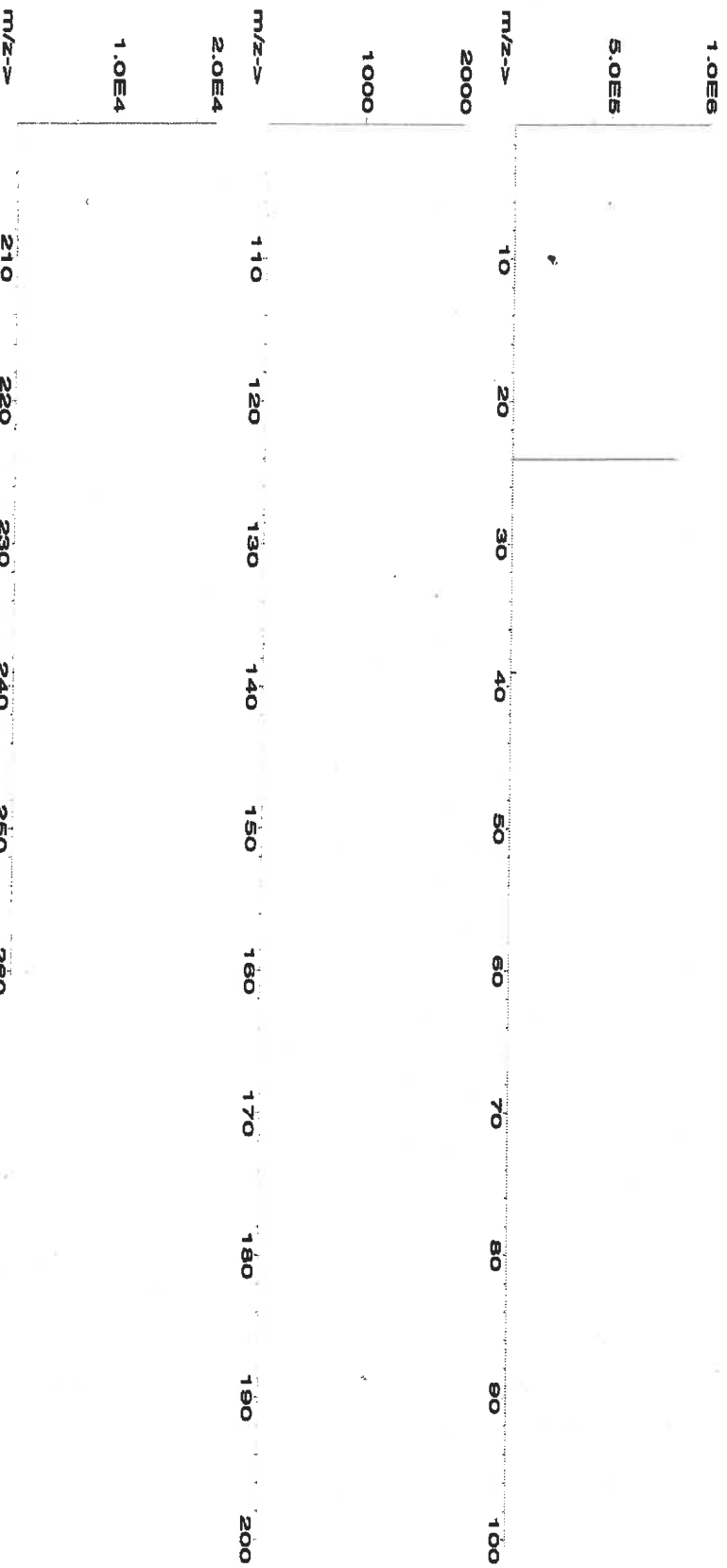
Formulated By: <i>Lawrence Barry</i>		091823
Reviewed By: <i>Pedro L. Rentas</i>		091823

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.
- * 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: 57004
Lot Number: 102523
Description: Beryllium (Be)

Lot # 24002546
Solvent: Nitric Acid

Expiration Date:

102526

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL): 2000.02

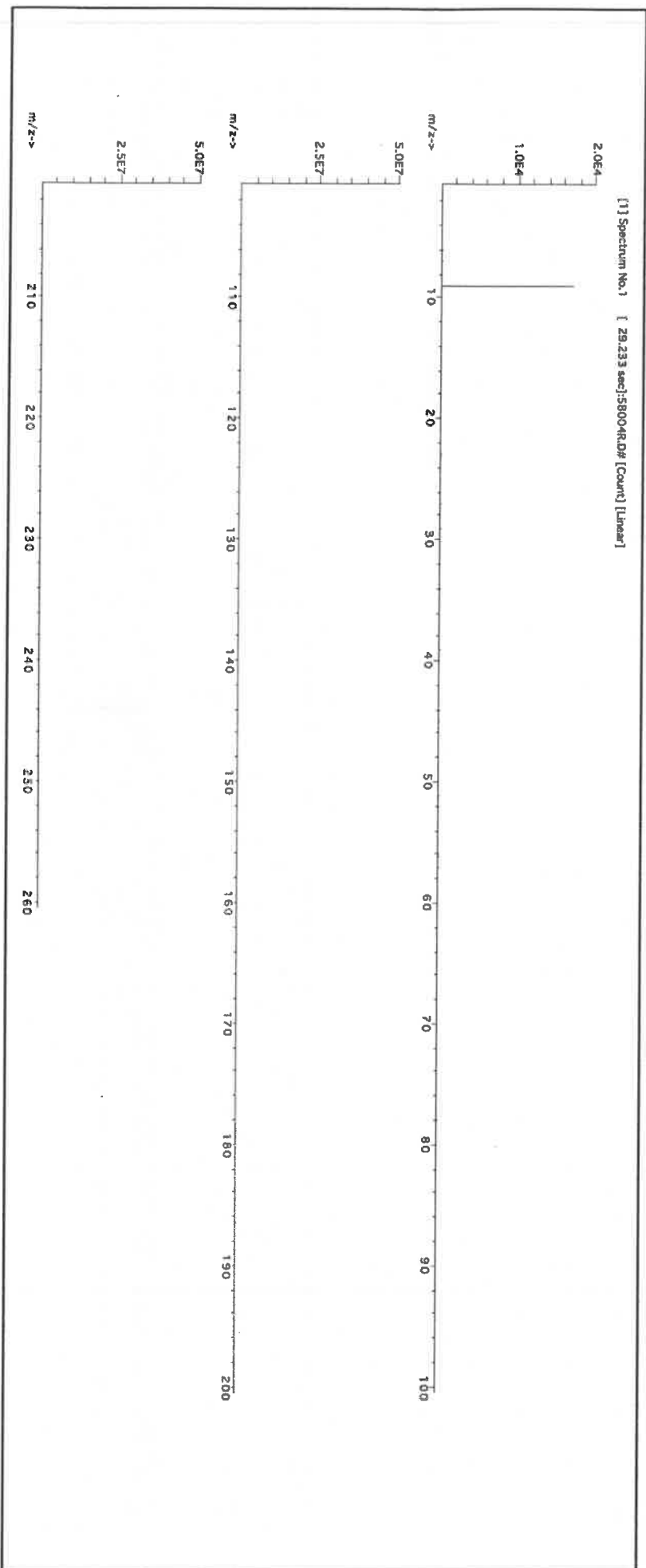
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

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
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

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 Inj/mg-rat 3.16mg/kg NA





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	Ta	<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):

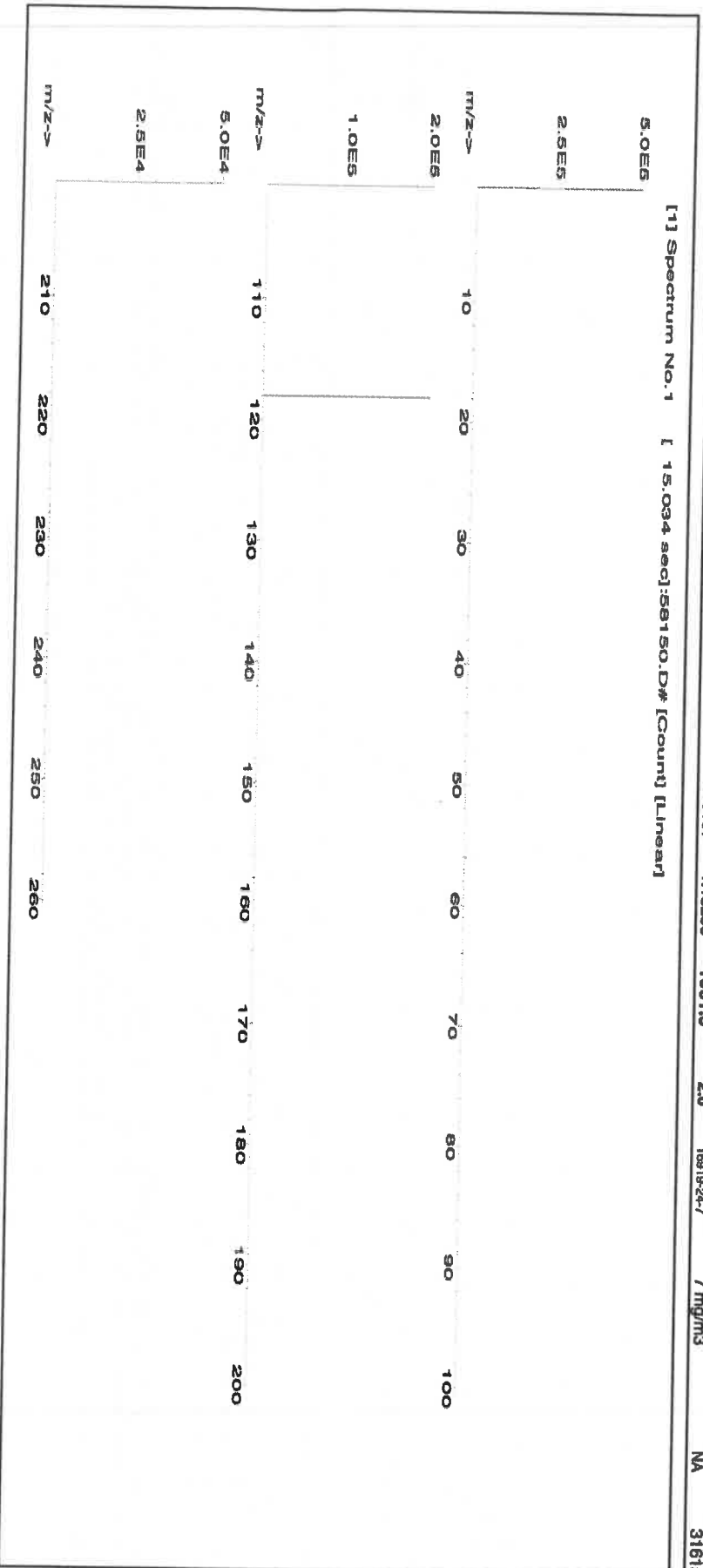
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Benson Chan	
071123	
Reviewed By: Pedro L. Rientas	
071123	

SDS Information																	
Expanded Uncertainty (Solvent Safety Info. On Attached pg.)																	
Compound		Lot		Nominal		Purity		Uncertainty		Assay		Target		Actual		Actual	
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	Uncertainty (%)	Assay (%)	Target (%)	Actual (%)	Actual (%)	Expanded (%)	Uncertainty (%)	Actual (%)	Actual (%)	Expanded (%)	Uncertainty (%)	Actual (%)	Actual (%)
NIST																	

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	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	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)

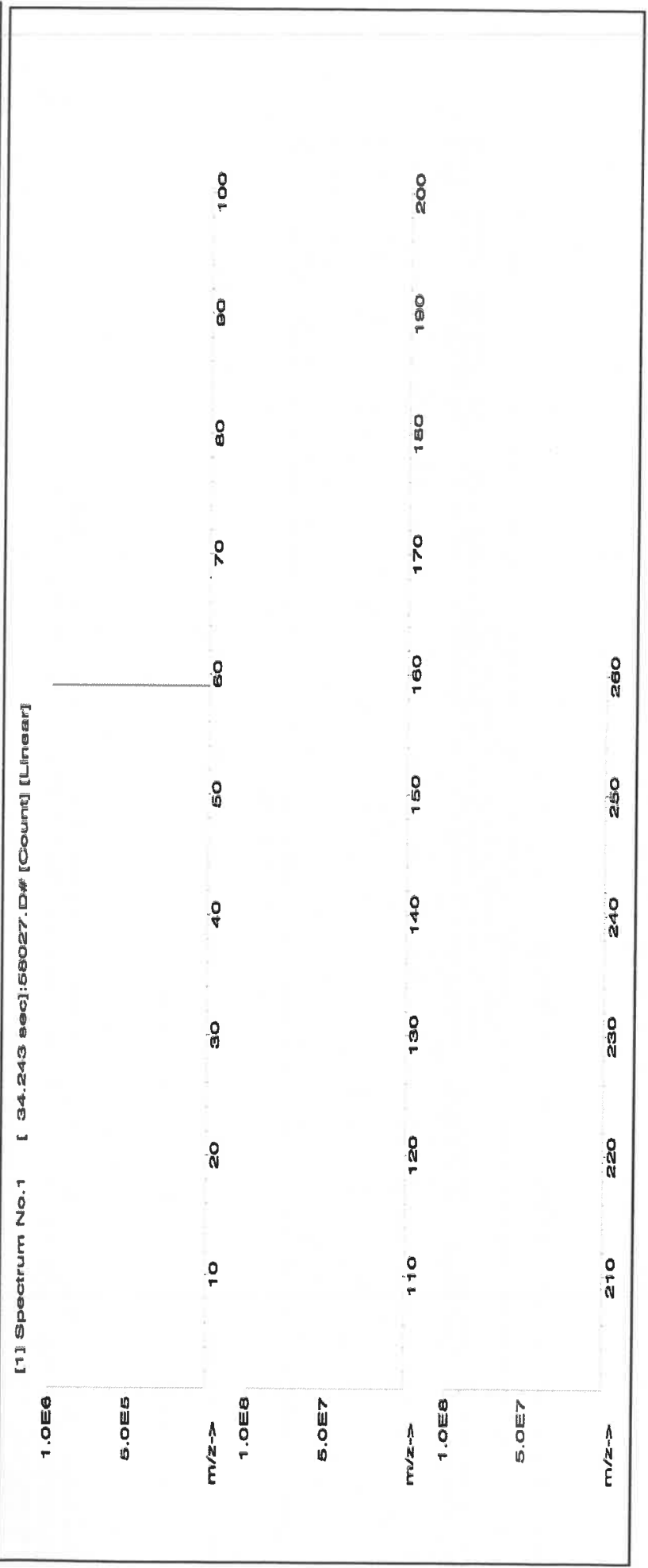
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

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.
- * 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:

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

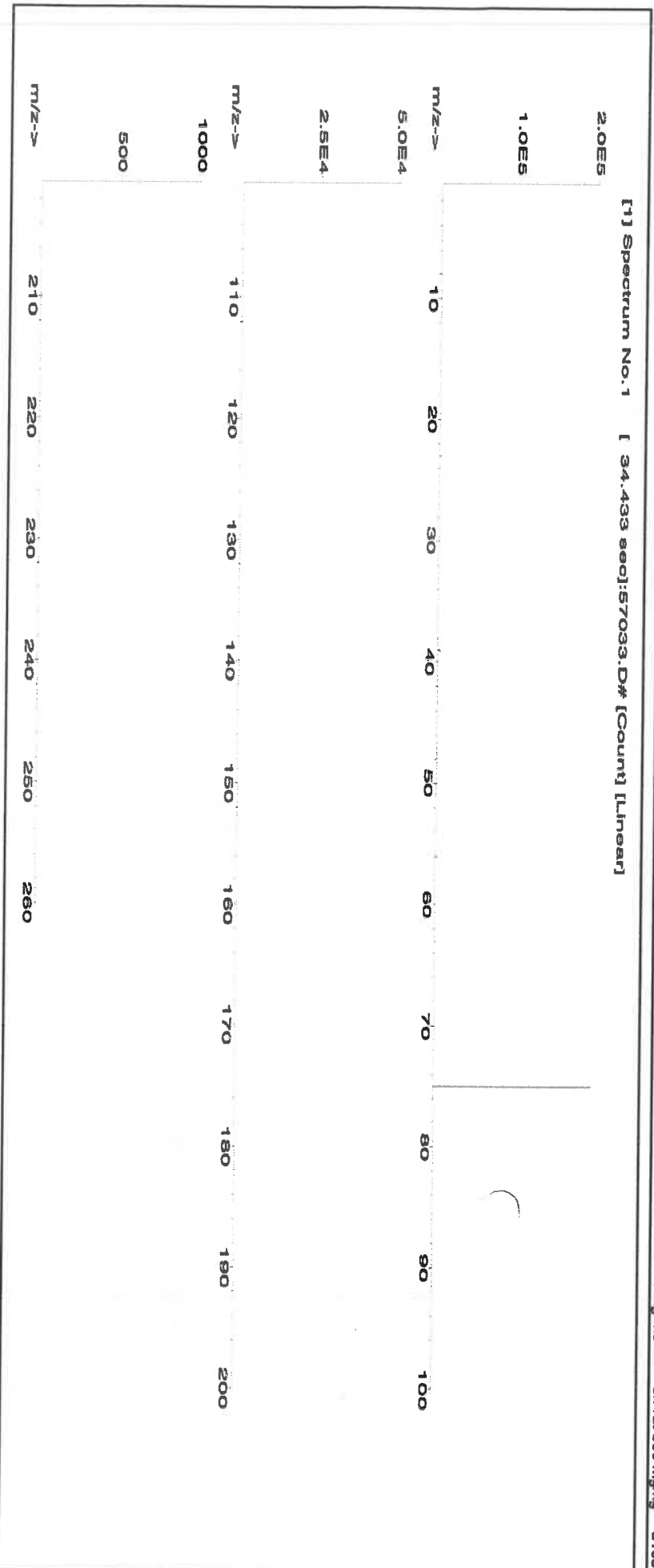
Formulated By:	Lawrence Barry
	111323
Reviewed By:	Pedro L. Rendas
	111323

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)	SDS Information (Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	--	------	----------------	------	----------

1. Arsenic (As)	58133	020522	0.1000	400.0	0.084	1000	10001.0	1000.0	2.0	7440-38-2	0.5 mg/m3	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	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	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 ₂	<0.02	Yb	<0.02
Bc	<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: **57005**
Lot Number: **071123**
Description: **Boron (B)**

Solvent: MKB8697V Ammonium hydroxide

Lot #

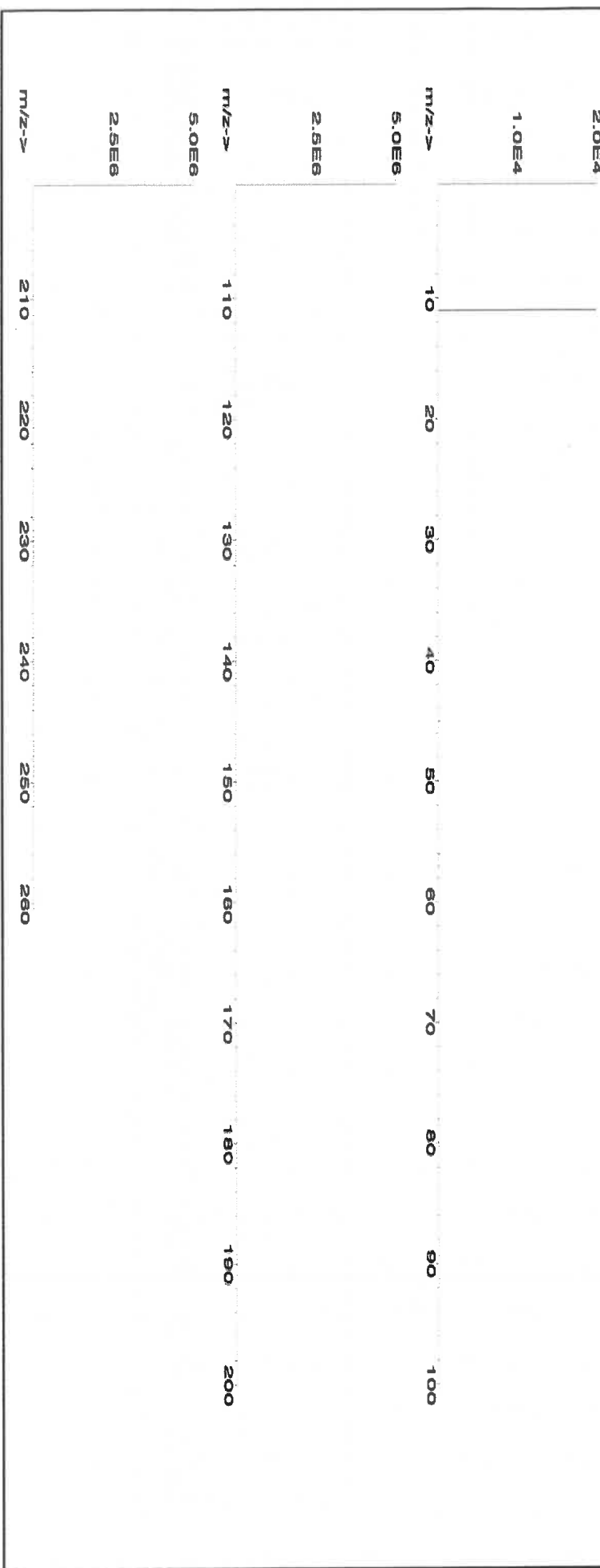
AI: 021009124 M5814

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 Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)
IN018 BV082018A1	1000	99.999	0.10	17.3	11.55772	11.56201	1000.4	2.0	10043-35-3
									2 mg/m3
									ort-nat 2660 mg/kg
									3107

[1] Spectrum No. 1 [12.275 sec]:56105.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	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: 57115
Lot Number: 041723
Description: Phosphorous (P)

Solvent: 21110221 Nitric Acid

Lot #

R102109124 M5815

Expiration Date: 041726
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6UTB

2% 40.0 (mL) Nitric Acid

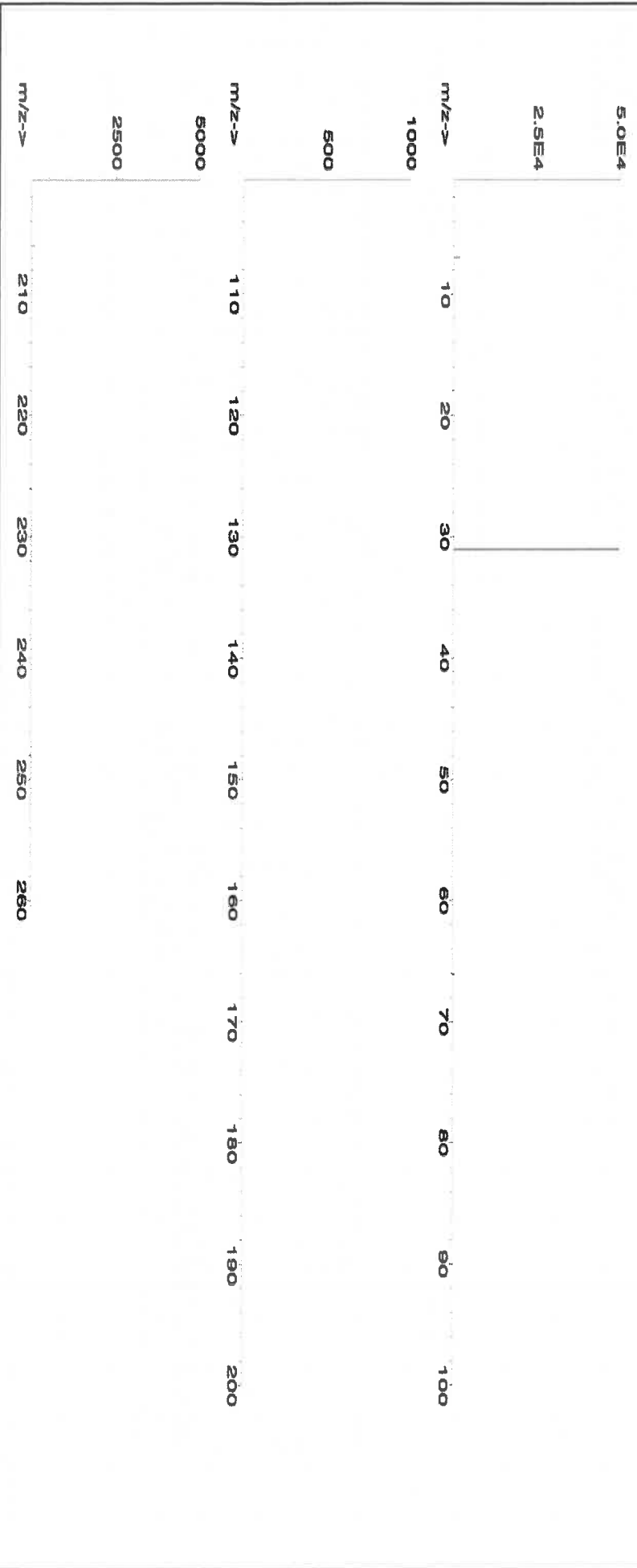
Weight shown below was diluted to (mL): 2000.02 0.058 Balance Uncertainty Flask Uncertainty

Formulated By: Lawrence Barry	041723
Reviewed By: Pedro L. Rentas	041723

Compound										SDS Information		NIST SRM
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)	(Solvent Safety Info. On Attached pg.)	CAS#	LD50

1. Ammonium dihydrogen phosphate (P) IN008 PVR2019A1 10000 99.999 0.10 27.5 72.7287 72.7289 10000.0 20.0 7722-76-1 5 mg/m3 or-hal->2000mg/kg 3186

[1] Spectrum No.1 [12.074 sec]:58115.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	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).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57016
122923
Sulfur (S)

Lot #

ASTM Type 1 Water

Formulated By:	Benson Chan	122923
Reviewed By:	Pedro L. Rentas	122923

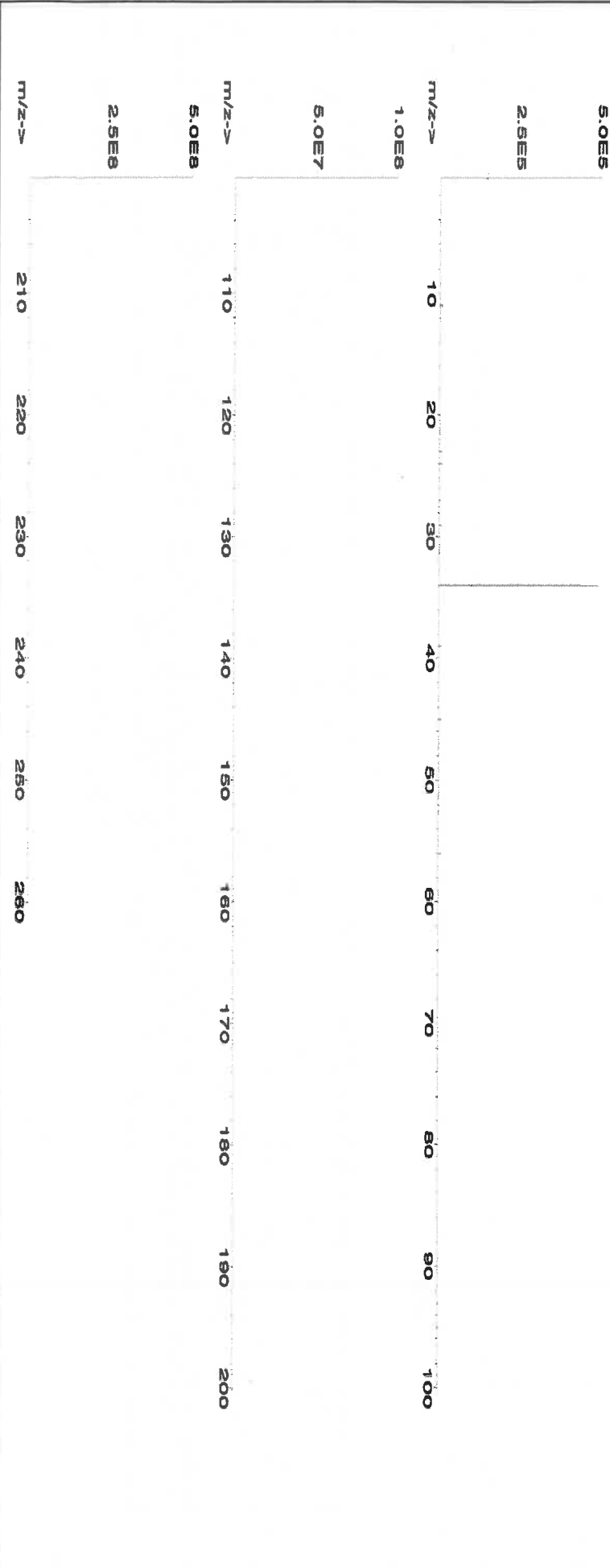
Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6LUTB
Weight shown below was diluted to (mL): 4000.0
SE-05 Balance Uncertainty
0.06 Flask Uncertainty

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
-----	------------	-----------------------	------------	-----------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

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 0.01-0.1 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.
- * 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: **57116**
Lot Number: **071123**
Description: **Sulfur (S)**

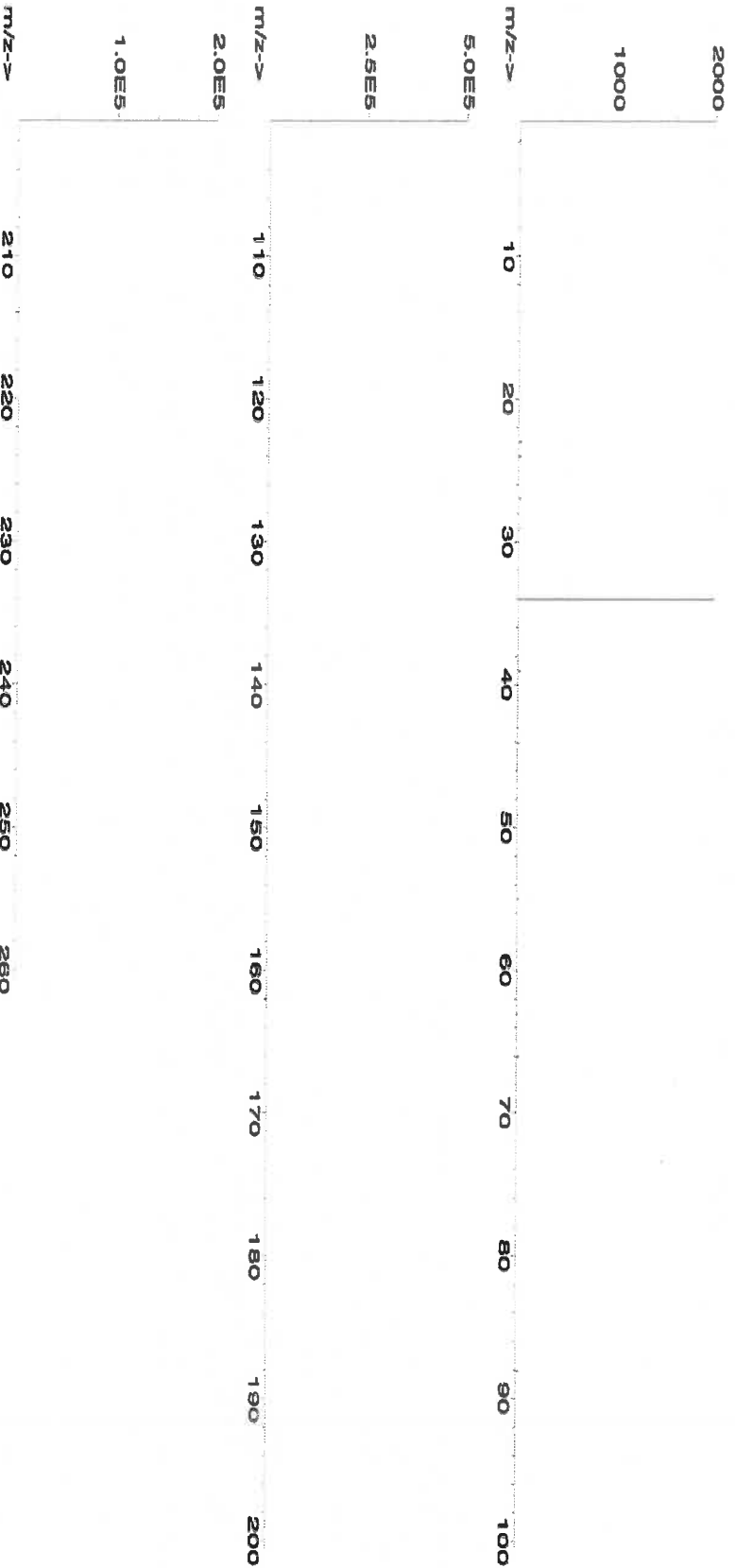
Lot #
Solvent: 071123
ASTM Type 1 Water

Formulated By:	Lawrence Barry
071123	
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 SLBR7225V	10000	99.9	0.10	24.3	82.4675	82.4692	10000.1	20.0
						7763-20-2	NA		oral 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	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	T	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			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.
- * 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: 57015
Lot Number: 091123
Description: Phosphorous (P)

Solvent: 24002546 Nitric Acid

Lot #

R: 02109124 M5820

Lawrence Barry
Formulated By: Lawrence Barry
091123

Pedro L. Rentas
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

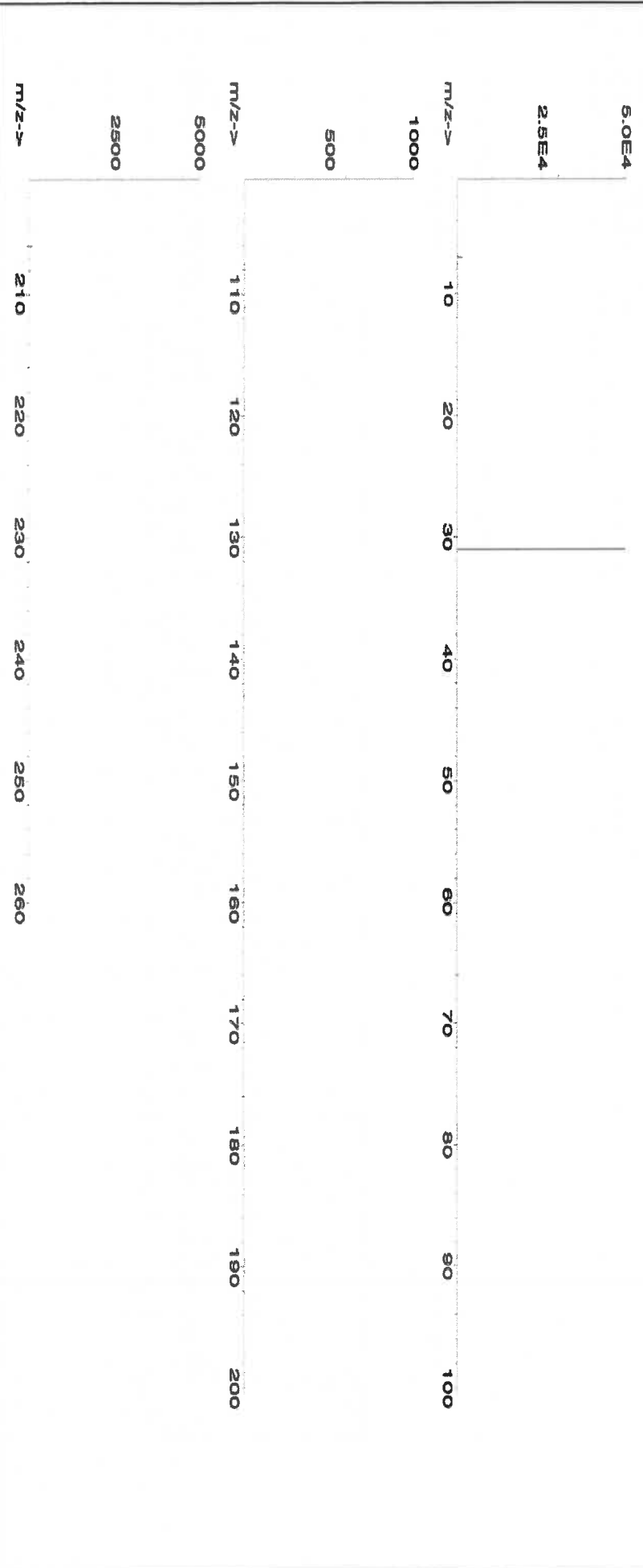
Weight shown below was diluted to (mL): 2000.02 5E-05 Balance Uncertainty 0.058 Flask Uncertainty

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
----------	-----	------------	-----------------------	------------	------------------------	-----------	-------------------	-------------------	----------------------	----------------------------------	------	----------------	------	----------

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).



Refine your results. Redefine your industry.

Certificate of Analysis

M5959 R: 6/14/24

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



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.absolute-standards.com



Certified Reference Material CRM

M5970 M5971



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: 06/12/27
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

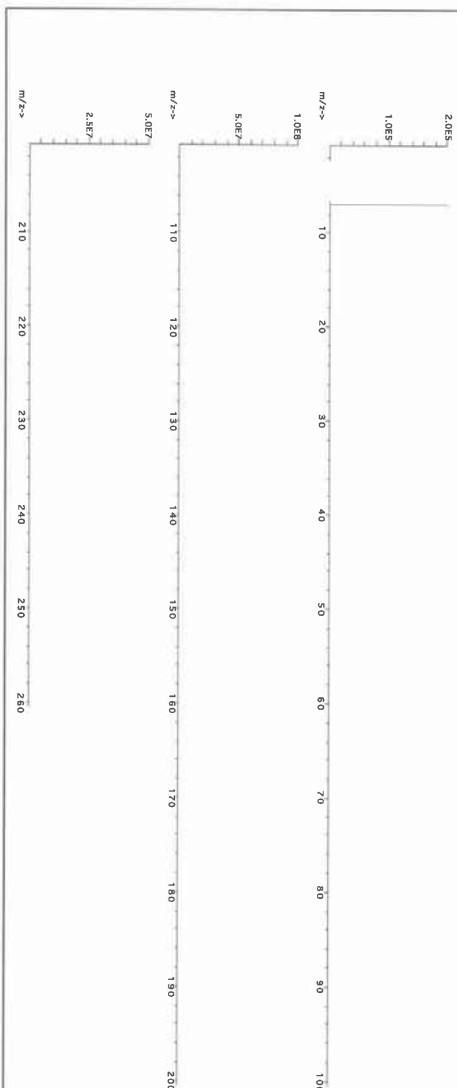
2.0% 5.0 (mL) Nitric Acid

Microvial Capable	
Formulated By:	Giovanni Esposito
	062124
Reviewed By:	Pedro 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	1000.0	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]



Certificate of Analysis



Refine your results. Redefine your industry.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

R: 2/22/24

1.0 ACCREDITATION / REGISTRATION

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



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: Ti Metal

Starting Material Lot#: 2094

Starting Material Purity: 99.9975%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL

Density: 1.012 g/mL (measured at 20 ± 4 °C)

Assay 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:

$X_{CRM/RM} = \sum (X_i / U_i)$
 X_i = mean of Assay Method A with
 U_i = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (U) = $U_{CRM/RM} = k \cdot (U_{char}^2 + U_{lab}^2 + U_{stb}^2 + U_{eq}^2)^{1/2}$
k = coverage factor = 2
 U_{char} = the mean of Assay Method A with
 U_{lab} = the standard uncertainty of characterization Method A
 U_{stb} = long term stability standard uncertainty (storage)
 U_{eq} = 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 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
M 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 Th	<	0.053663			
M Cd	<	0.000268	M Ir	<	0.000269	M Pt	<	0.000536	S Ti	<	0.000268			
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 Ru	<	0.000269	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	<	0.004900	M Yb	<	0.000536			

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,
14N17N2, 36Ar12C,
48Ca, 196X=2
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

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul Gaines

80978

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

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





Refine your results. Redefine your industry.

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

Certificate of Analysis

M6074
M6075
M6076
M6077

P: 800-669-6799/540-585-3030

F: 540-585-3012

info@inorganicventures.com

EXP: 9/6/2029

1.0 ACCREDITATION / REGISTRATION

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



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
------	---------------	--------

For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak
Director Quality Operations, Bioscience Production

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

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:

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

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

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	<	0.000310	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.





QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

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



Material No.: 9530-33
Batch No.: 22G2862015

Test	Specification	Result
------	---------------	--------

For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

A handwritten signature in cursive script that reads 'Jamie Ethier'.
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

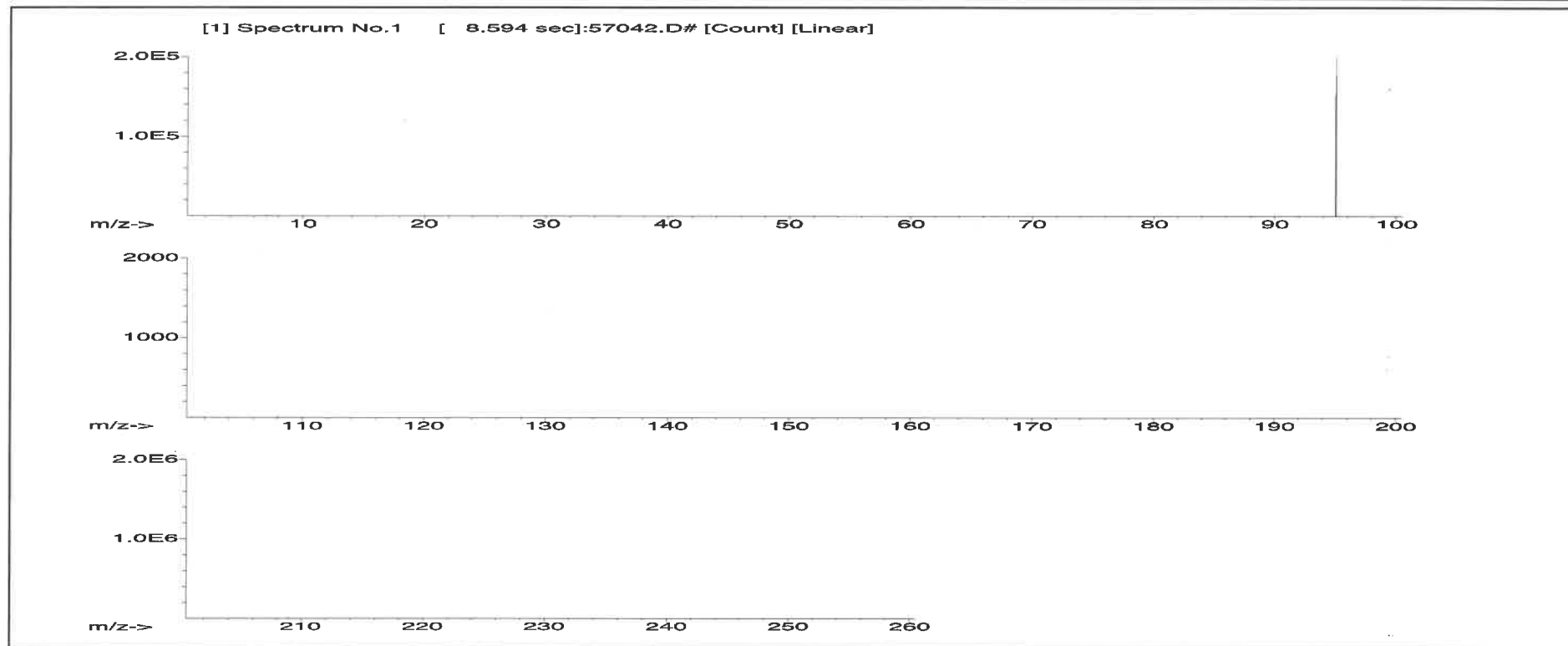
0.5% 15.0 (mL) Ammonium hydroxide

Expiration Date: 032126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Volume shown below was diluted to (mL): 3000.41 5E-05 Balance Uncertainty 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).



CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Solvent: 24002546 Nitric Acid

Lot #

Expiration Date: 122226

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 10000

NIST Test Number: 6UTB

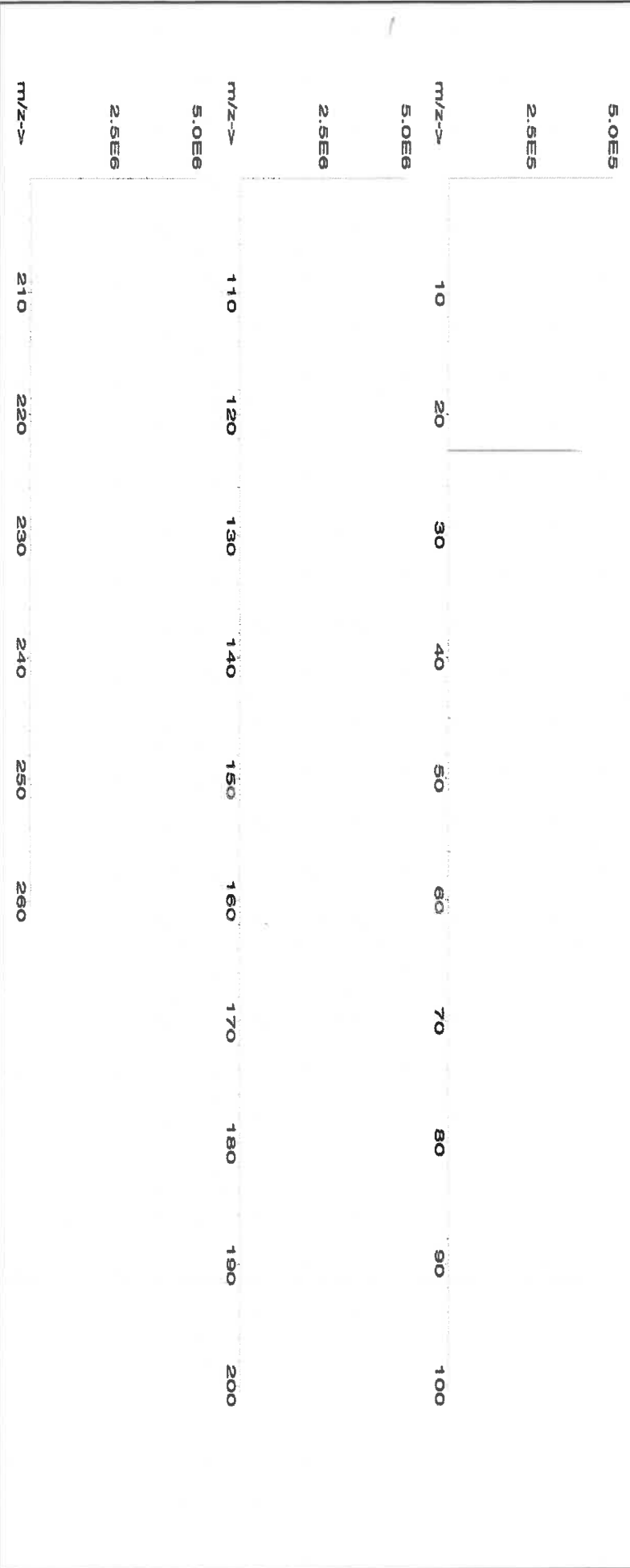
Weight shown below was diluted to (mL): 3000.4 0.06 Flask Uncertainty

<i>Aleah O Brady</i>	
Formulated By:	Aleah O Brady
Reviewed By:	Pedro L. Rentas
	122223

Compound	Lot	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

1. Sodium nitrate (Na) IN036 NAV01201511 10000 99.999 0.10 26.9 111.5406 111.5479 10000.7 20.0 7631-99-4 5 mg/m3 or-trat 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	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	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	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	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	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	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	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

M6030



CERTIFIED WEIGHT REPORT:

Part Number: **57047**
Lot Number: **122823**
Description: **Silver (Ag)**
Solvent: 24002546 Nitric Acid
Lot #

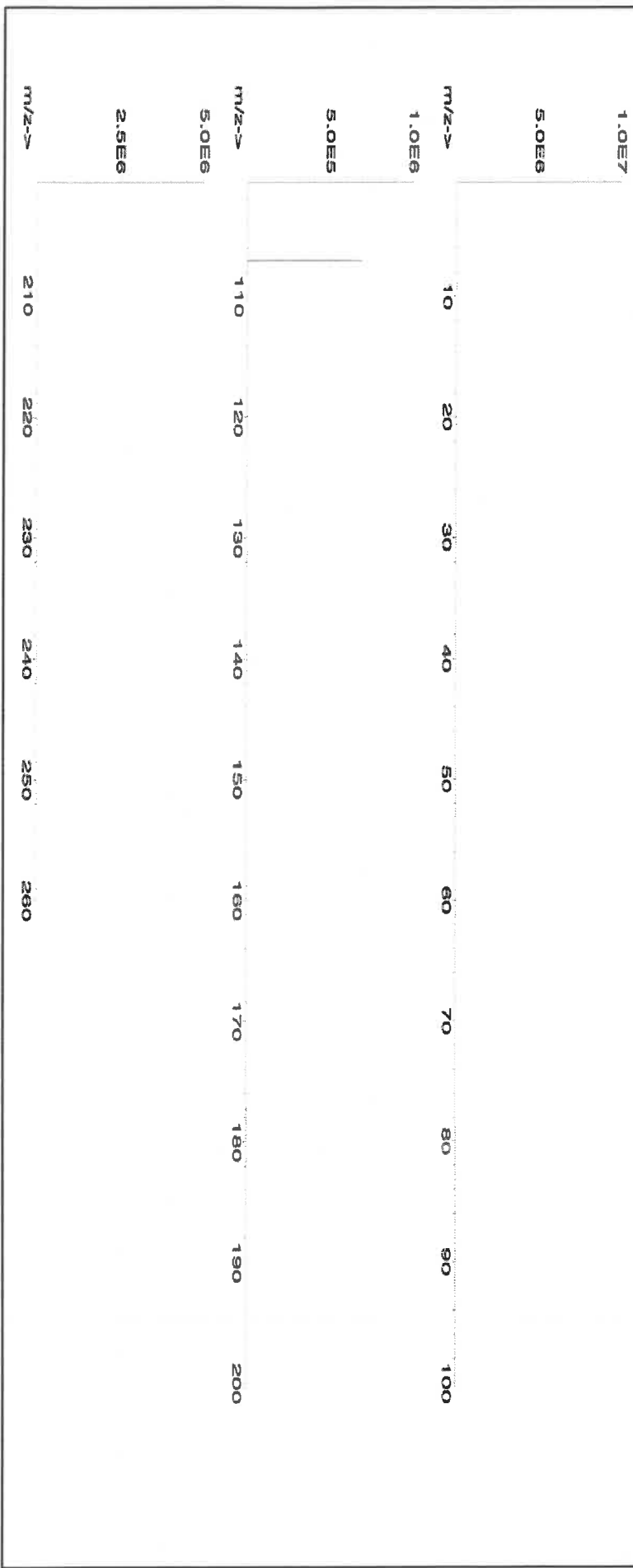
Expiration Date: 122826
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

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).



R: 10/18/24
Certified Reference Material CRM



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57051
071724
Antimony (Sb)

Lot #
24002546
Solvent:
Nitric Acid

Expiration Date:

071727

2.0%

40.0 (mL)

Nitric Acid

Recommended Storage:
Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6U7B

Volume shown below was diluted to (mL):

2000.26

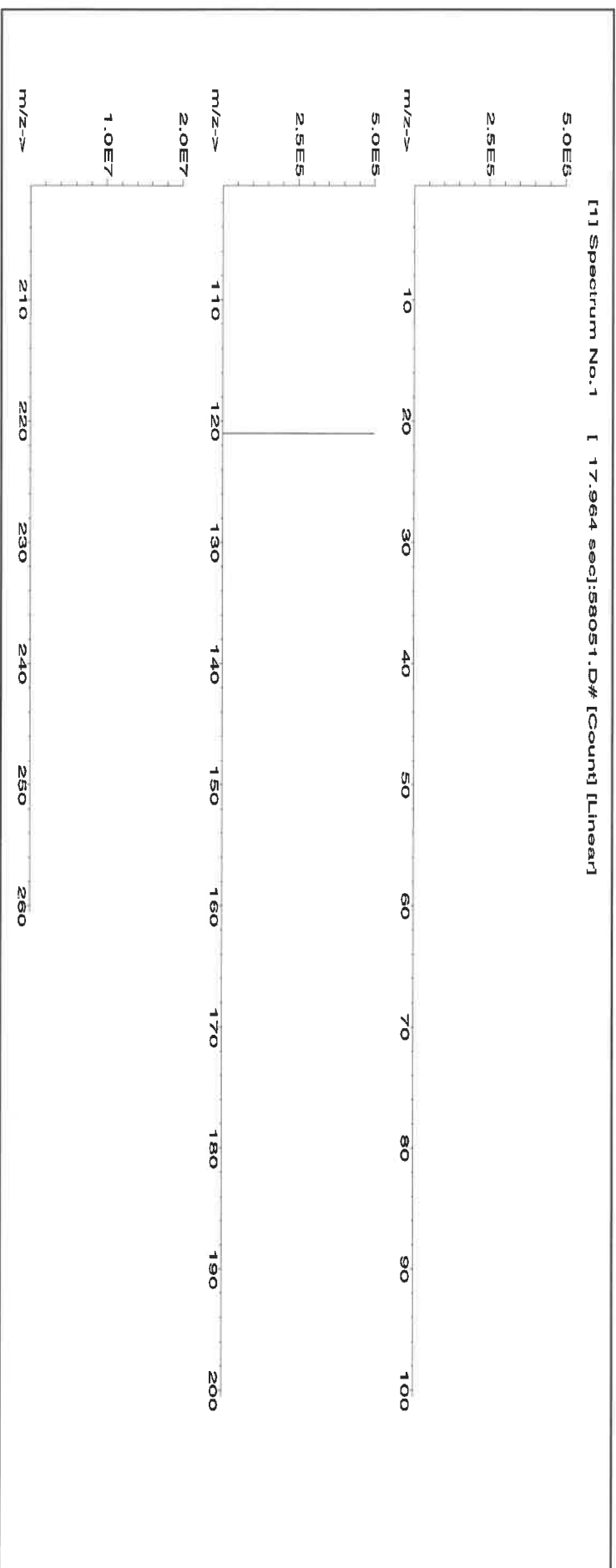
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
	071724
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	071724

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
----------	-------------	------------	-----------------	-------------------	--------------------------	-----------------------	-----------------------	---------------------	----------------------------------	------	----------------	------	----------

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
------------------	-------	--------	--------	-------	-------	------	---------	--------	-----	-----------	-----------	-------------------	-------





Har. P.



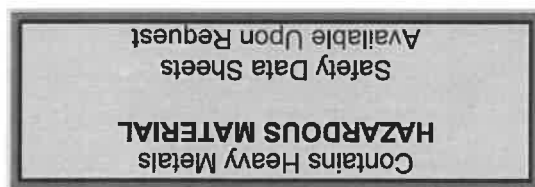
QATS LABORATORY INORGANIC REFERENCE MATERIAL INTERFERENCE CHECK SAMPLE SET FOR ICP-AES (ICSA WITH ICSB)

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 +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 $\pm$ 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"

APTIM

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.

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

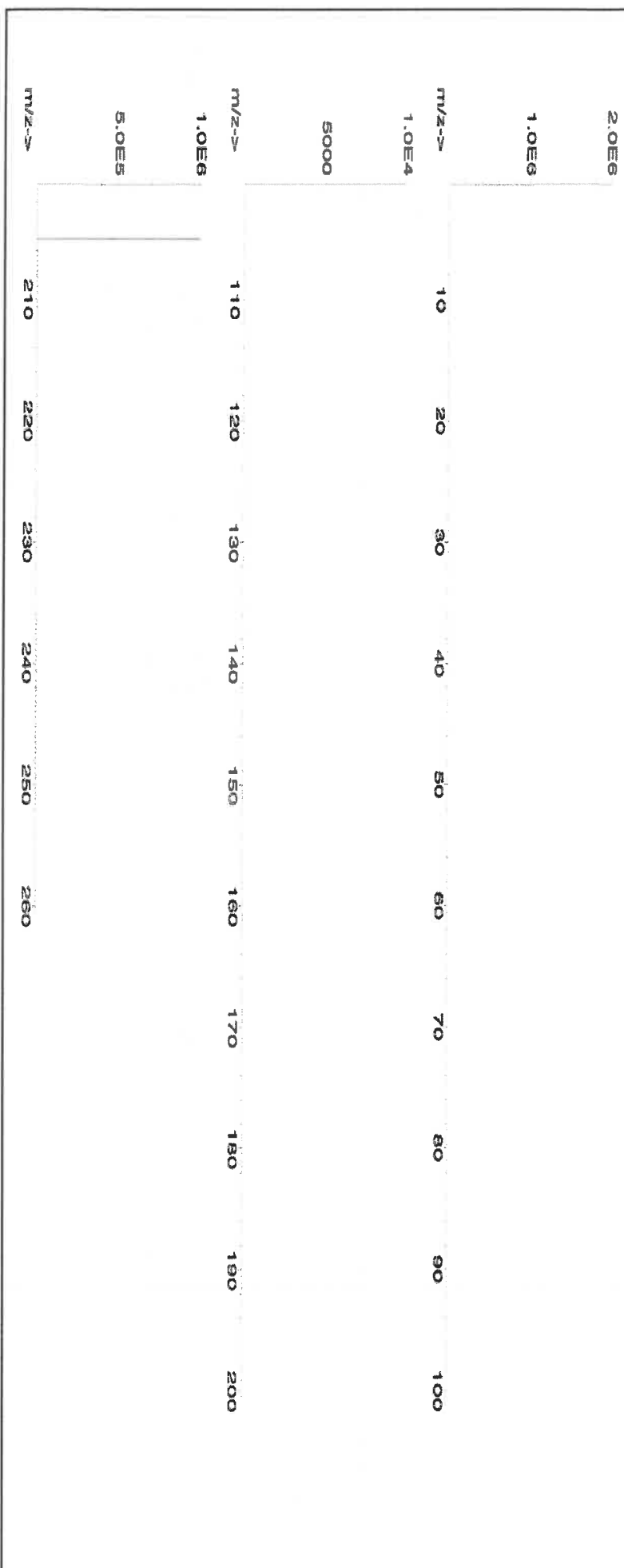
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Renias</i>
	Pedro L. Renias
	062724

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 or-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:

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

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**

2.0%

40.0 (mL)

Nitric Acid

Formulated By: *Aleah O'Brady*
Aleah O'Brady
062424

Reviewed By: *Pedro L. Rantas*
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

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
1. Ammonium metavanadate (V)	58123	021224	0.1000	200.0	0.084	1000	10000.3	10000.0	2.2	7803-55-6 0.05 mg/m3	3165

[1] Spectrum No.1 [34.243 sec]:58023.D# [Count] [Linear]

m/z-->	10	20	30	40	50	60	70	80	90	100
2.0E6										
1.0E6										
m/z-->	10	20	30	40	50	60	70	80	90	100
2.0E7										
1.0E7										
m/z-->	110	120	130	140	150	160	170	180	190	200
5.0E6										
2.5E6										
m/z-->	210	220	230	240	250	260				



SHIPPING DOCUMENTS



284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax: (908) 788-9222
www.chemtech.net

CHAIN OF CUSTODY RECORD

Alliance Project Number:

Q1628

COC Number:

CLIENT INFORMATION		PROJECT INFORMATION				BILLING INFORMATION												
COMPANY: Tully Environmental Inc.		PROJECT NAME: Transfer Station SPDES				BILL TO: Same					PO#							
ADDRESS: 57 Seaview Blvd		PROJECT #: 252113 LOCATION:				ADDRESS:												
CITY: Pt Washington STATE: NY ZIP: 11050		PROJECT MANAGER:				CITY:					STATE: ZIP:							
ATTENTION: Dean Devoe		E-MAIL:				ATTENTION:					PHONE:							
PHONE: 718 446 7000 FAX:		PHONE: FAX:				ANALYSIS												
DATA TURNAROUND INFORMATION		DATA DELIVERABLE INFORMATION				PRESERVATIVES										COMMENTS		
FAX: _____ DAYS* HARD COPY: _____ DAYS* EDD _____ DAYS* * TO BE APPROVED BY ALLIANCE STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS		* RESULTS ONLY ☐ USEPA CLP ☐ RESULTS + QC ☐ New York State ASP "B" ☐ New Jersey REDUCED ☐ New York State ASP "A" ☐ New Jersey CLP ☐ Other _____ ☐ EDD Format _____				TSS Cu, Pb, Fe 1 2 3 4 5 6 7 8 9										← Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other		
CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# of Bottles											
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9		
1.	001 Willets Pt Blvd (Mar)	W		X	3/20/25	1145		X	X									
2.	002 35th Ave (Mar)	W		X	3/20/25	1145		X	X									
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY																		
RELINQUISHED BY SAMPLER		DATE/TIME		RECEIVED BY		Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp <u>4.8°C</u> MeOH extraction requires an additional 4oz. Jar for percent solid ☐ Ice in Cooler? <u>yes</u>												
1. D Devoe		March 20, 2025		1. _____		Comments:												
RELINQUISHED BY		DATE/TIME		RECEIVED BY														
2. _____		3-21-25		2. _____														
RELINQUISHED BY		DATE/TIME		RECEIVED FOR LAB BY														
3. _____				3. _____														
Page _____ of _____						SHIPPED VIA: CLIENT: ☐ Hand Delivered ☐ Overnight ALLIANCE: ☐ Picked Up ☐ Overnight						Shipment Complete ☐ YES ☐ NO						
WHITE - ALLIANCE COPY FOR RETURN TO CLIENT YELLOW - ALLIANCE COPY PINK - SAMPLER COPY																		

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