

Cover Page

Order ID : P5006

Project ID : 540 Degraw St, Brooklyn, NY - E9309

Client : ENTACT

Lab Sample Number

P5006-01
P5006-02
P5006-03
P5006-04
P5006-05
P5006-06
P5006-07
P5006-08
P5006-09
P5006-10
P5006-11
P5006-12
P5006-13
P5006-14
P5006-15
P5006-16
P5006-17
P5006-18

Client Sample Number

SPLP-C4-2
SPLP-C4-3
SPLP-C5-1
SPLP-C5-2
SPLP-C5-3
SPLP-C6-1
SPLP-C6-2
SPLP-C6-3
SPLP-C10-1
SPLP-C10-2
SPLP-C10-3
SPLP-C11-1
SPLP-C11-2
SPLP-C11-3
SPLP-C12-1
SPLP-C12-2
SPLP-C12-3
TW-WTS-02

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: 12/6/2024

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 #: P5006

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: SOHIL JODHANI

Date: 12/06/2024

LAB CHRONICLE

OrderID:	P5006	OrderDate:	11/26/2024 11:21:00 AM
Client:	ENTACT	Project:	540 Degraw St, Brooklyn, NY - E9309
Contact:	Jarod Stanfield	Location:	L51,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P5006-18	TW-WTS-02	Water			11/25/24			11/26/24
			Mercury	7470A		12/03/24	12/03/24	
			Metals Group4	6010D		11/27/24	12/02/24	



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Fax : 908 789 8922

Hit Summary Sheet
SW-846

SDG No.: P5006

Order ID: P5006

Client: ENTACT

Project ID: 540 Degraw St, Brooklyn, NY - E9309

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : TW-WTS-02								
P5006-18	TW-WTS-02	Water	Nickel	9.19	J	0.85	20.0	ug/L
P5006-18	TW-WTS-02	Water	Zinc	19.0	J	1.75	20.0	ug/L



SAMPLE DATA

Report of Analysis

Client:	ENTACT	Date Collected:	11/25/24
Project:	540 Degraw St, Brooklyn, NY - E9309	Date Received:	11/26/24
Client Sample ID:	TW-WTS-02	SDG No.:	P5006
Lab Sample ID:	P5006-18	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.
7440-43-9	Cadmium	0.094	U	1	0.094	3.00	ug/L	11/27/24 08:40	12/02/24 13:33	SW6010	SW3010
7440-50-8	Copper	7.07	UN	1	7.07	10.0	ug/L	11/27/24 08:40	12/02/24 13:33	SW6010	SW3010
7439-92-1	Lead	3.51	UN	1	3.51	6.00	ug/L	11/27/24 08:40	12/02/24 13:33	SW6010	SW3010
7439-97-6	Mercury	0.081	U	1	0.081	0.20	ug/L	12/03/24 07:40	12/03/24 11:51	SW7470A	
7440-02-0	Nickel	9.19	J	1	0.85	20.0	ug/L	11/27/24 08:40	12/02/24 13:33	SW6010	SW3010
7440-66-6	Zinc	19.0	J	1	1.75	20.0	ug/L	11/27/24 08:40	12/02/24 13:33	SW6010	SW3010

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

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

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



METAL CALIBRATION DATA

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV109	Mercury	3.79	4.0	95	90 - 110	CV	12/03/2024	10:58	LB133702

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
Initial Calibration Source: EPA
Continuing Calibration Source: PLASMA-PURE

Sample ID	Analyte	Result ug/L	True Value	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV75	Mercury	5.17	5.0	103	90 - 110	CV	12/03/2024	11:02	LB133702
CCV76	Mercury	5.04	5.0	101	90 - 110	CV	12/03/2024	11:33	LB133702
CCV77	Mercury	5.22	5.0	104	90 - 110	CV	12/03/2024	12:08	LB133702
CCV78	Mercury	5.34	5.0	107	90 - 110	CV	12/03/2024	12:29	LB133702

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
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	Cadmium	526	510	103	90 - 110	P	12/02/2024	11:14	LB133689
	Copper	541	510	106	90 - 110	P	12/02/2024	11:14	LB133689
	Lead	1040	1000	104	90 - 110	P	12/02/2024	11:14	LB133689
	Nickel	531	530	100	90 - 110	P	12/02/2024	11:14	LB133689
	Zinc	1060	1000	106	90 - 110	P	12/02/2024	11:14	LB133689

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
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	Cadmium	5.83	6.0	97	80 - 120	P	12/02/2024	11:24	LB133689
	Copper	22.8	20.0	114	80 - 120	P	12/02/2024	11:24	LB133689
	Lead	12.5	12.0	104	80 - 120	P	12/02/2024	11:24	LB133689
	Nickel	40.3	40.0	101	80 - 120	P	12/02/2024	11:24	LB133689
	Zinc	44.5	40.0	111	80 - 120	P	12/02/2024	11:24	LB133689

Metals

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
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	Cadmium	2480	2500	99	90 - 110	P	12/02/2024	11:47	LB133689
	Copper	1270	1250	101	90 - 110	P	12/02/2024	11:47	LB133689
	Lead	4980	5000	100	90 - 110	P	12/02/2024	11:47	LB133689
	Nickel	2490	2500	99	90 - 110	P	12/02/2024	11:47	LB133689
	Zinc	2540	2500	102	90 - 110	P	12/02/2024	11:47	LB133689
CCV02	Cadmium	2460	2500	99	90 - 110	P	12/02/2024	12:46	LB133689
	Copper	1290	1250	103	90 - 110	P	12/02/2024	12:46	LB133689
	Lead	5010	5000	100	90 - 110	P	12/02/2024	12:46	LB133689
	Nickel	2490	2500	100	90 - 110	P	12/02/2024	12:46	LB133689
	Zinc	2580	2500	103	90 - 110	P	12/02/2024	12:46	LB133689
CCV03	Cadmium	2450	2500	98	90 - 110	P	12/02/2024	13:42	LB133689
	Copper	1340	1250	107	90 - 110	P	12/02/2024	13:42	LB133689
	Lead	5030	5000	101	90 - 110	P	12/02/2024	13:42	LB133689
	Nickel	2510	2500	100	90 - 110	P	12/02/2024	13:42	LB133689
	Zinc	2620	2500	105	90 - 110	P	12/02/2024	13:42	LB133689
CCV04	Cadmium	2420	2500	97	90 - 110	P	12/02/2024	14:32	LB133689
	Copper	1320	1250	106	90 - 110	P	12/02/2024	14:32	LB133689
	Lead	5000	5000	100	90 - 110	P	12/02/2024	14:32	LB133689
	Nickel	2490	2500	100	90 - 110	P	12/02/2024	14:32	LB133689
	Zinc	2590	2500	104	90 - 110	P	12/02/2024	14:32	LB133689
CCV05	Cadmium	2380	2500	95	90 - 110	P	12/02/2024	15:25	LB133689
	Copper	1320	1250	105	90 - 110	P	12/02/2024	15:25	LB133689
	Lead	4920	5000	98	90 - 110	P	12/02/2024	15:25	LB133689
	Nickel	2460	2500	98	90 - 110	P	12/02/2024	15:25	LB133689
	Zinc	2610	2500	104	90 - 110	P	12/02/2024	15:25	LB133689
CCV06	Cadmium	2340	2500	94	90 - 110	P	12/02/2024	16:11	LB133689
	Copper	1310	1250	105	90 - 110	P	12/02/2024	16:11	LB133689
	Lead	4880	5000	98	90 - 110	P	12/02/2024	16:11	LB133689
	Nickel	2430	2500	97	90 - 110	P	12/02/2024	16:11	LB133689
	Zinc	2510	2500	100	90 - 110	P	12/02/2024	16:11	LB133689



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Metals

- 2b -

CRDL STANDARD FOR AA & ICP

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
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	Cadmium	5.93	6.0	99	40 - 160	P	12/02/2024	11:34	LB133689
	Copper	22.8	20.0	114	40 - 160	P	12/02/2024	11:34	LB133689
	Lead	12.4	12.0	104	40 - 160	P	12/02/2024	11:34	LB133689
	Nickel	40.2	40.0	101	40 - 160	P	12/02/2024	11:34	LB133689
	Zinc	44.2	40.0	110	40 - 160	P	12/02/2024	11:34	LB133689
CRA	Mercury	0.17	0.2	83	40 - 160	CV	12/03/2024	11:07	LB133702



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Fax : 908 789 8922

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client:	ENTACT				SDG No.:	P5006			
Contract:	ENTA05	Lab Code:	CHEM		Case No.:	P5006	SAS No.:	P5006	
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB109	Mercury	0.20	+/-0.20	U	0.20	CV	12/03/2024	11:00	LB133702

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB75	Mercury	0.20	+/-0.20	U	0.20	CV	12/03/2024	11:04	LB133702
CCB76	Mercury	0.20	+/-0.20	U	0.20	CV	12/03/2024	11:35	LB133702
CCB77	Mercury	0.20	+/-0.20	U	0.20	CV	12/03/2024	12:10	LB133702
CCB78	Mercury	0.20	+/-0.20	U	0.20	CV	12/03/2024	12:31	LB133702

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
ICB01	Cadmium	6.00	+/-6.00	U	6.00	P	12/02/2024	11:29	LB133689
	Copper	20.0	+/-20.0	U	20.0	P	12/02/2024	11:29	LB133689
	Lead	12.0	+/-12.0	U	12.0	P	12/02/2024	11:29	LB133689
	Nickel	40.0	+/-40.0	U	40.0	P	12/02/2024	11:29	LB133689
	Zinc	40.0	+/-40.0	U	40.0	P	12/02/2024	11:29	LB133689

Metals

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: ENTACT		SDG No.: P5006							
Contract: ENTA05	Lab Code: CHEM	Case No.: P5006	SAS No.: P5006						
Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	CRQL	M	Analysis Date	Analysis Time	Run Number
CCB01	Cadmium	6.00	+/-6.00	U	6.00	P	12/02/2024	11:51	LB133689
	Copper	20.0	+/-20.0	U	20.0	P	12/02/2024	11:51	LB133689
	Lead	12.0	+/-12.0	U	12.0	P	12/02/2024	11:51	LB133689
	Nickel	40.0	+/-40.0	U	40.0	P	12/02/2024	11:51	LB133689
	Zinc	40.0	+/-40.0	U	40.0	P	12/02/2024	11:51	LB133689
CCB02	Cadmium	6.00	+/-6.00	U	6.00	P	12/02/2024	12:50	LB133689
	Copper	20.0	+/-20.0	U	20.0	P	12/02/2024	12:50	LB133689
	Lead	12.0	+/-12.0	U	12.0	P	12/02/2024	12:50	LB133689
	Nickel	40.0	+/-40.0	U	40.0	P	12/02/2024	12:50	LB133689
	Zinc	40.0	+/-40.0	U	40.0	P	12/02/2024	12:50	LB133689
CCB03	Cadmium	6.00	+/-6.00	U	6.00	P	12/02/2024	13:46	LB133689
	Copper	20.0	+/-20.0	U	20.0	P	12/02/2024	13:46	LB133689
	Lead	12.0	+/-12.0	U	12.0	P	12/02/2024	13:46	LB133689
	Nickel	40.0	+/-40.0	U	40.0	P	12/02/2024	13:46	LB133689
	Zinc	40.0	+/-40.0	U	40.0	P	12/02/2024	13:46	LB133689
CCB04	Cadmium	6.00	+/-6.00	U	6.00	P	12/02/2024	14:37	LB133689
	Copper	20.0	+/-20.0	U	20.0	P	12/02/2024	14:37	LB133689
	Lead	12.0	+/-12.0	U	12.0	P	12/02/2024	14:37	LB133689
	Nickel	40.0	+/-40.0	U	40.0	P	12/02/2024	14:37	LB133689
	Zinc	40.0	+/-40.0	U	40.0	P	12/02/2024	14:37	LB133689
CCB05	Cadmium	6.00	+/-6.00	U	6.00	P	12/02/2024	15:29	LB133689
	Copper	20.0	+/-20.0	U	20.0	P	12/02/2024	15:29	LB133689
	Lead	12.0	+/-12.0	U	12.0	P	12/02/2024	15:29	LB133689
	Nickel	40.0	+/-40.0	U	40.0	P	12/02/2024	15:29	LB133689
	Zinc	40.0	+/-40.0	U	40.0	P	12/02/2024	15:29	LB133689
CCB06	Cadmium	6.00	+/-6.00	U	6.00	P	12/02/2024	16:15	LB133689
	Copper	20.0	+/-20.0	U	20.0	P	12/02/2024	16:15	LB133689
	Lead	12.0	+/-12.0	U	12.0	P	12/02/2024	16:15	LB133689
	Nickel	40.0	+/-40.0	U	40.0	P	12/02/2024	16:15	LB133689
	Zinc	40.0	+/-40.0	U	40.0	P	12/02/2024	16:15	LB133689

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: ENTACT

SDG No.: P5006

Instrument: CV1

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165335BL		WATER		Batch Number:	PB165335		Prep Date:	12/03/2024	
	Mercury	0.20	<0.20	U	0.20	CV	12/03/2024	11:46	LB133702

Metals
- 3b -
PREPARATION BLANK SUMMARY

Client: ENTACT

SDG No.: P5006

Instrument: P4

Sample ID	Analyte	Result (ug/L)	Acceptance Limit	Conc Qual	CRQL ug/L	M	Analysis Date	Analysis Time	Run
PB165271BL	WATER			Batch Number:	PB165271		Prep Date:	11/27/2024	
	Cadmium	3.00	<3.00	U	3.00	P	12/02/2024	13:51	LB133689
	Copper	10.0	<10.0	U	10.0	P	12/02/2024	13:51	LB133689
	Lead	6.00	<6.00	U	6.00	P	12/02/2024	13:51	LB133689
	Nickel	20.0	<20.0	U	20.0	P	12/02/2024	13:51	LB133689
	Zinc	20.0	<20.0	U	20.0	P	12/02/2024	13:51	LB133689

Metals

- 4 -

INTERFERENCE CHECK SAMPLE

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
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	Cadmium	6.75	1.0	675	-5	7	12/02/2024	11:38	LB133689
	Copper	5.49	2.0	274	-18	22	12/02/2024	11:38	LB133689
	Lead	7.95			-12	12	12/02/2024	11:38	LB133689
	Nickel	2.45	2.0	122	-38	42	12/02/2024	11:38	LB133689
	Zinc	5.77			-40	40	12/02/2024	11:38	LB133689
ICSAB01	Cadmium	1010	972	104	826	1120	12/02/2024	11:42	LB133689
	Copper	486	511	95	434	588	12/02/2024	11:42	LB133689
	Lead	55.3	49.0	113	37	61	12/02/2024	11:42	LB133689
	Nickel	995	954	104	810	1100	12/02/2024	11:42	LB133689
	Zinc	1070	952	112	809	1095	12/02/2024	11:42	LB133689



METAL QC DATA

metals
- 5a -
MATRIX SPIKE SUMMARY

client: <u>ENTACT</u>	level: <u>low</u>	sdg no.: <u>P5006</u>
contract: <u>ENTA05</u>	lab code: <u>CHEM</u>	case no.: <u>P5006</u> sas no.: <u>P5006</u>
matrix: <u>Water</u>	sample id: <u>P4972-05</u>	client id: <u>628-FMS</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>P4972-05MS</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cadmium	ug/L	75 - 125	92.3	D	2.63	JD	100	90		P
Copper	ug/L	75 - 125	360	D	220	D	150	93		P
Lead	ug/L	75 - 125	434	D	35.5	D	500	80		P
Nickel	ug/L	75 - 125	250	D	23.3	JD	250	91		P
Zinc	ug/L	75 - 125	2720	D	2650	D	100	62		P

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>ENTACT</u>	level: <u>low</u>	sdg no.: <u>P5006</u>
contract: <u>ENTA05</u>	lab code: <u>CHEM</u>	case no.: <u>P5006</u> sas no.: <u>P5006</u>
matrix: <u>Water</u>	sample id: <u>P4972-05</u>	client id: <u>628-FMSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>P4972-05MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Cadmium	ug/L	75 - 125	82.2	D	2.63	JD	100	80		P
Copper	ug/L	75 - 125	325	D	220	D	150	70	N	P
Lead	ug/L	75 - 125	390	D	35.5	D	500	71	N	P
Nickel	ug/L	75 - 125	221	D	23.3	JD	250	79		P
Zinc	ug/L	75 - 125	2410	D	2650	D	100	-242		P

metals
- 5a -
MATRIX SPIKE SUMMARY

client: ENTACT **level:** low **sdg no.:** P5006
contract: ENTA05 **lab code:** CHEM **case no.:** P5006 **sas no.:** P5006
matrix: Water **sample id:** P5031-01 **client id:** 286127MS
Percent Solids for Sample: NA **Spiked ID:** P5031-01MS **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	4.22		0.25		4.0	99		CV

metals
- 5a -
MATRIX SPIKE DUPLICATE SUMMARY

client: <u>ENTACT</u>	level: <u>low</u>	sdg no.: <u>P5006</u>
contract: <u>ENTA05</u>	lab code: <u>CHEM</u>	case no.: <u>P5006</u> sas no.: <u>P5006</u>
matrix: <u>Water</u>	sample id: <u>P5031-01</u>	client id: <u>286127MSD</u>
Percent Solids for Sample: <u>NA</u>	Spiked ID: <u>P5031-01MSD</u>	Percent Solids for Spike Sample: <u>NA</u>

Analyte	Units	Acceptance Limit %R	MSD Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/L	75 - 125	4.29		0.25		4.0	101		CV

Metals
- 5b -
POST DIGEST SPIKE SUMMARY

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
Matrix: Water **Level:** LOW **Client ID:** 628-FA
Sample ID: P4972-05 **Spiked ID:** P4972-05A

Analyte	Units	Acceptance Limit %R	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Copper	ug/L	75 - 125	327	D	220	D	750	14		P
Lead	ug/L	75 - 125	393	D	35.5	D	2500	14		P

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: ENTACT **Level:** LOW **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
Matrix: Water **Sample ID:** P4972-05 **Client ID:** 628-FDUP
Percent Solids for Sample: NA **Duplicate ID** P4972-05DUP **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cadmium	ug/L	20	2.63	JD	2.60	JD	1		P
Copper	ug/L	20	220	D	199	D	10		P
Lead	ug/L	20	35.5	D	32.9	D	8		P
Nickel	ug/L	20	23.3	JD	21.4	JD	9		P
Zinc	ug/L	20	2650	D	2400	D	10		P

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: ENTACT **Level:** LOW **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
Matrix: Water **Sample ID:** P4972-05MS **Client ID:** 628-FMSD
Percent Solids for Sample: NA **Duplicate ID** P4972-05MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Cadmium	ug/L	20	92.3	D	82.2	D	12		P
Copper	ug/L	20	360	D	325	D	10		P
Lead	ug/L	20	434	D	390	D	11		P
Nickel	ug/L	20	250	D	221	D	12		P
Zinc	ug/L	20	2720	D	2410	D	12		P

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client:	<u>ENTACT</u>	Level:	<u>LOW</u>	SDG No.:	<u>P5006</u>
Contract:	<u>ENTA05</u>	Lab Code:	<u>CHEM</u>	Case No.:	<u>P5006</u>
Matrix:	<u>Water</u>	Sample ID:	<u>P5031-01</u>	Client ID:	<u>286127DUP</u>
Percent Solids for Sample:	<u>NA</u>	Duplicate ID	<u>P5031-01DUP</u>	Percent Solids for Spike Sample:	<u>NA</u>

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	0.25		0.21		16		CV

Metals

- 6 -

DUPLICATE SAMPLE SUMMARY

Client: ENTACT **Level:** LOW **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006
Matrix: Water **Sample ID:** P5031-01MS **Client ID:** 286127MSD
Percent Solids for Sample: NA **Duplicate ID** P5031-01MSD **Percent Solids for Spike Sample:** NA

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/L	20	4.22		4.29		2		CV

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: ENTACT **SDG No.:** P5006
Contract: ENTA05 **Lab Code:** CHEM **Case No.:** P5006 **SAS No.:** P5006

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB165271BS							
Cadmium	ug/L	100	92.4		92	80 - 120	P
Copper	ug/L	150	160		107	80 - 120	P
Lead	ug/L	500	478		96	80 - 120	P
Nickel	ug/L	250	241		96	80 - 120	P
Zinc	ug/L	100	105		105	80 - 120	P

Metals

- 7 -

LABORATORY CONTROL SAMPLE SUMMARY

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limits	M
PB165335BS Mercury	ug/L	4.0	4.31		108	80 - 120	CV

Metals
-9 -
ICP SERIAL DILUTIONS

SAMPLE NO.

628-FL

Lab Name: Chemtech Consulting Group **Contract:** ENTA05
Lab Code: CHEM **Lb No.:** lb133689 **Lab Sample ID :** P4972-05L **SDG No.:** P5006
Matrix (soil/water): Water **Level (low/med):** LOW
Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)		% Difference		Q	M
		C		C				
Cadmium		2.63 JD		4.28 JD		63		P
Copper		220 D		257 D		17		P
Lead		35.5 D		150 UD		22		P
Nickel		23.3 JD		25.5 JD		10		P
Zinc		2650 D		2710 D		2		P

Metals

-9 -

ICP SERIAL DILUTIONS

SAMPLE NO.

286127L

Lab Name: Chemtech Consulting Group

Contract: ENTA05

Lab Code: CHEM

Lb No.: lb133702

Lab Sample ID : P5031-01L

SDG No.: P5006

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
Mercury	0.25	1.00 U	100.0		CV



METAL PREPARATION & INSTRUMENT DATA

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

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
Cadmium	226.502	0.0000000	0.0000000	0.0000930	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0007850	0.0000000	0.0000000
Lead	220.353	-0.0000920	0.0000000	0.0000380	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0001050	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

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
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0002870
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0000000	0.0009530
Lead	220.353	0.0000000	0.0003170	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

Instrument ID: _____

Date: _____

Interement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interement Correction Factors For:				
		Cr	Cu	K	Mn	Mo
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0000000	0.0000000	0.0006510	0.0020500
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0001400	-0.0008600
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0009010	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

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
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	224.700	0.0000000	-0.0047000	0.0036100	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0006580	0.0000000	0.0000000	0.0001290
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0067600	0.0000000	0.0000000	0.0000000

Metals

- 11 -

ICP INTERELEMENT CORRECTION FACTORS

Client: ENTACT

SDG No.: P5006

Contract: ENTA05

Lab Code: CHEM

Case No.: P5006

SAS No.: P5006

Instrument ID: _____

Date: _____

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Analyte	Wave- Length (nm)	ICP Interelement Correction Factors For:				
		Sn	Ti	Tl	V	Zn
Cadmium	226.502	0.0000000	0.0000630	0.0001280	0.0000000	0.0000000
Copper	224.700	0.0000000	0.0003840	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	-0.0003610	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000



METAL PREPARATION & ANALYICAL SUMMARY

Metals

- 13 -

SAMPLE PREPARATION SUMMARY

Client:	<u>ENTACT</u>	SDG No.:	<u>P5006</u>
Contract:	<u>ENTA05</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>P5006</u>
		SAS No.:	<u>P5006</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB165271							
P4972-05DUP	628-FDUP	DUP	WATER	11/27/2024	50.0	25.0	
P4972-05MS	628-FMS	MS	WATER	11/27/2024	50.0	25.0	
P4972-05MSD	628-FMSD	MSD	WATER	11/27/2024	50.0	25.0	
P5006-18	TW-WTS-02	SAM	WATER	11/27/2024	50.0	25.0	
PB165271BL	PB165271BL	MB	WATER	11/27/2024	50.0	25.0	
PB165271BS	PB165271BS	LCS	WATER	11/27/2024	50.0	25.0	

Metals

- 13 -

SAMPLE PREPARATION SUMMARY

Client:	<u>ENTACT</u>	SDG No.:	<u>P5006</u>
Contract:	<u>ENTA05</u>	Lab Code:	<u>CHEM</u>
		Method:	<u></u>
		Case No.:	<u>P5006</u>
		SAS No.:	<u>P5006</u>

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size(mL)	Final Sample Volume (mL)	Percent Solids
Batch Number: PB165335							
P5006-18	TW-WTS-02	SAM	WATER	12/03/2024	30.0	30.0	
P5031-01DUP	286127DUP	DUP	WATER	12/03/2024	30.0	30.0	
P5031-01MS	286127MS	MS	WATER	12/03/2024	30.0	30.0	
P5031-01MSD	286127MSD	MSD	WATER	12/03/2024	30.0	30.0	
PB165335BL	PB165335BL	MB	WATER	12/03/2024	30.0	30.0	
PB165335BS	PB165335BS	LCS	WATER	12/03/2024	30.0	30.0	

metals
- 14 -
ANALYSIS RUN LOG

Client: ENTACT **Contract:** ENTA05

Lab code: CHEM **Case no.:** P5006 **Sas no.:** P5006 **Sdg no.:** P5006

Instrument id number: **Method:** **Run number:** LB133689

Start date: 12/02/2024 **End date:** 12/02/2024

Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1048	Cd,Cu,Ni,Pb,Zn
S1	S1	1	1053	Cd,Cu,Ni,Pb,Zn
S2	S2	1	1057	Cd,Cu,Ni,Pb,Zn
S3	S3	1	1101	Cd,Cu,Ni,Pb,Zn
S4	S4	1	1105	Cd,Cu,Ni,Pb,Zn
S5	S5	1	1109	Cd,Cu,Ni,Pb,Zn
ICV01	ICV01	1	1114	Cd,Cu,Ni,Pb,Zn
LLICV01	LLICV01	1	1124	Cd,Cu,Ni,Pb,Zn
ICB01	ICB01	1	1129	Cd,Cu,Ni,Pb,Zn
CRI01	CRI01	1	1134	Cd,Cu,Ni,Pb,Zn
ICSA01	ICSA01	1	1138	Cd,Cu,Ni,Pb,Zn
ICSAB01	ICSAB01	1	1142	Cd,Cu,Ni,Pb,Zn
CCV01	CCV01	1	1147	Cd,Cu,Ni,Pb,Zn
CCB01	CCB01	1	1151	Cd,Cu,Ni,Pb,Zn
CCV02	CCV02	1	1246	Cd,Cu,Ni,Pb,Zn
CCB02	CCB02	1	1250	Cd,Cu,Ni,Pb,Zn
P4972-05DUP	628-FDUP	5	1312	Cd,Cu,Ni,Pb,Zn
P4972-05L	628-FL	25	1317	Cd,Cu,Ni,Pb,Zn
P4972-05MS	628-FMS	5	1321	Cd,Cu,Ni,Pb,Zn
P4972-05MSD	628-FMSD	5	1325	Cd,Cu,Ni,Pb,Zn
P4972-05A	628-FA	5	1329	Cu,Pb
P5006-18	TW-WTS-02	1	1333	Cd,Cu,Ni,Pb,Zn
CCV03	CCV03	1	1342	Cd,Cu,Ni,Pb,Zn
CCB03	CCB03	1	1346	Cd,Cu,Ni,Pb,Zn
PB165271BL	PB165271BL	1	1351	Cd,Cu,Ni,Pb,Zn
PB165271BS	PB165271BS	1	1355	Cd,Cu,Ni,Pb,Zn
CCV04	CCV04	1	1432	Cd,Cu,Ni,Pb,Zn
CCB04	CCB04	1	1437	Cd,Cu,Ni,Pb,Zn
CCV05	CCV05	1	1525	Cd,Cu,Ni,Pb,Zn
CCB05	CCB05	1	1529	Cd,Cu,Ni,Pb,Zn
CCV06	CCV06	1	1611	Cd,Cu,Ni,Pb,Zn
CCB06	CCB06	1	1615	Cd,Cu,Ni,Pb,Zn

metals
- 14 -
ANALYSIS RUN LOG

Client: ENTACT **Contract:** ENTA05

Lab code: CHEM **Case no.:** P5006 **Sas no.:** P5006 **Sdg no.:** P5006

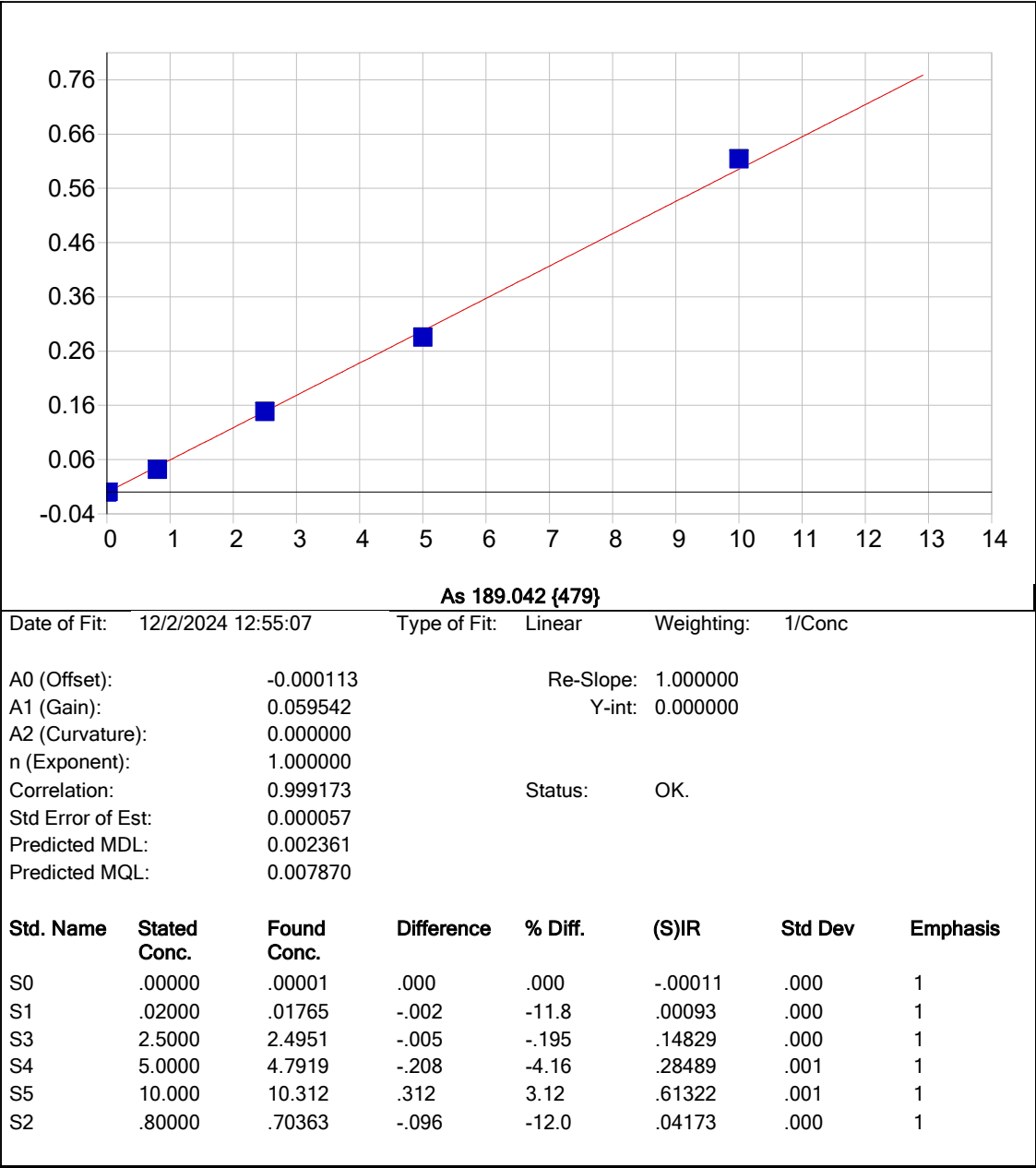
Instrument id number: **Method:** **Run number:** LB133702

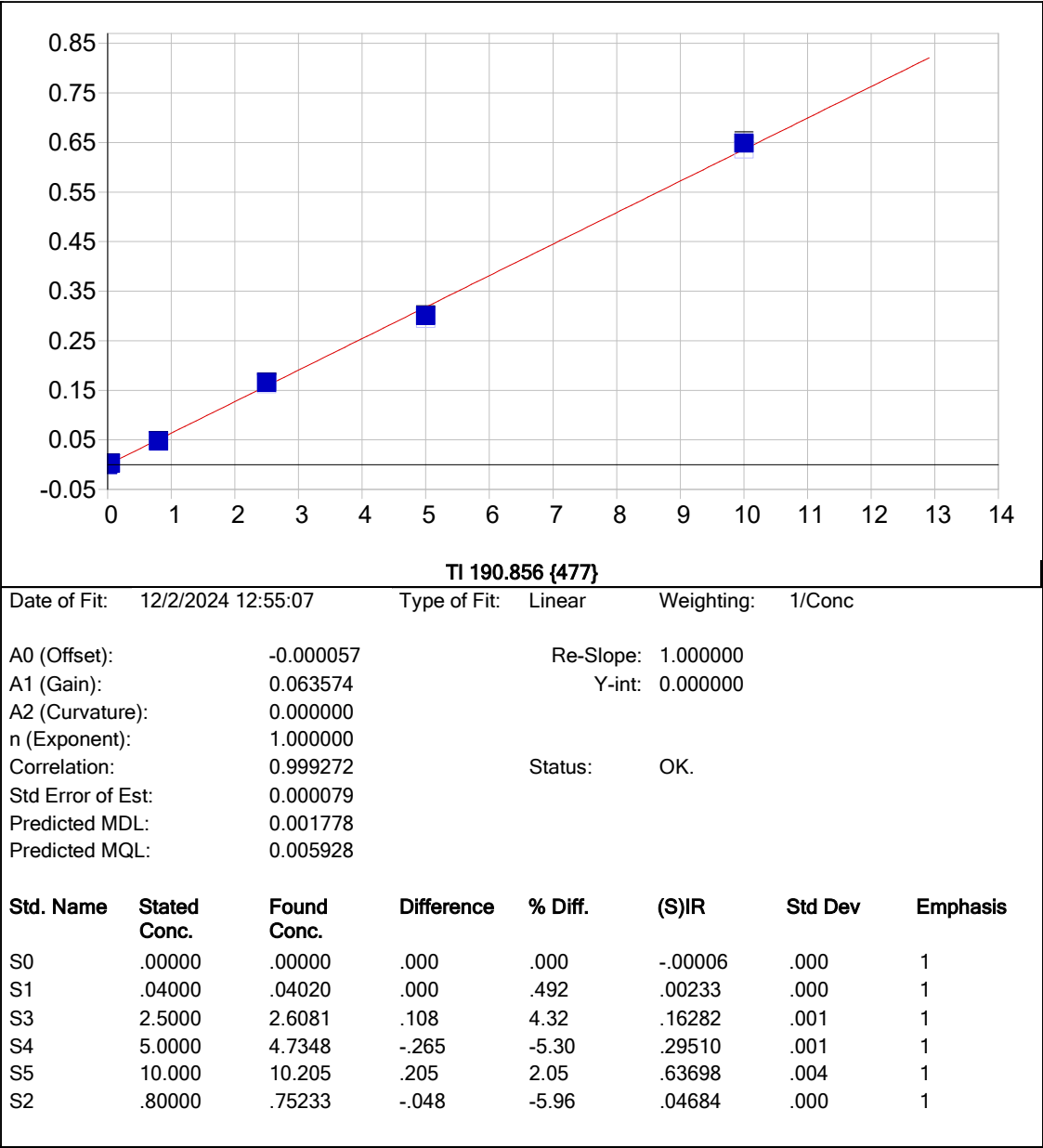
Start date: 12/03/2024 **End date:** 12/03/2024

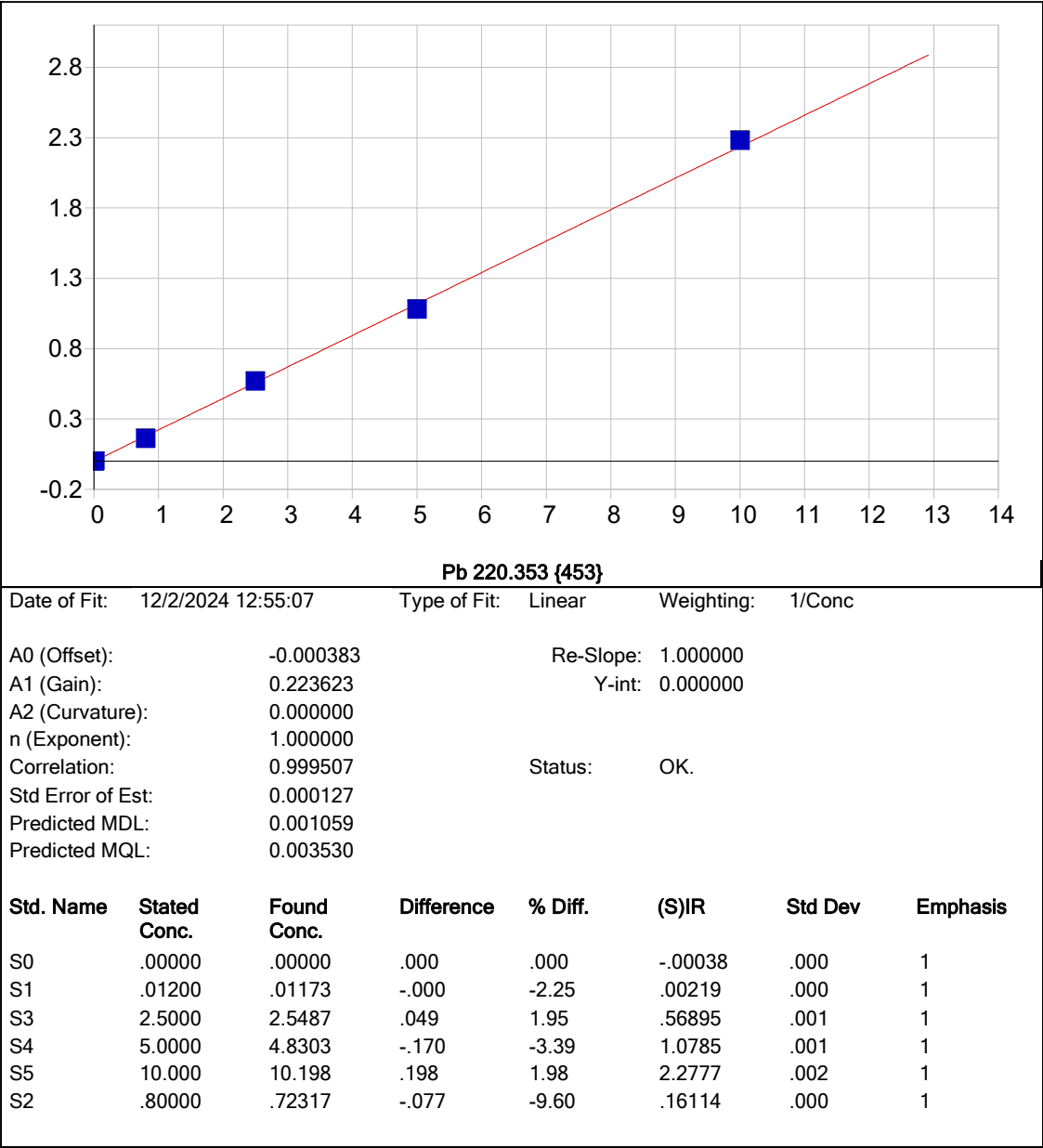
Lab sample id.	Client Sample Id	d/f	Time	Parameter list
S0	S0	1	1031	HG
S0.2	S0.2	1	1033	HG
S2.5	S2.5	1	1035	HG
S5	S5	1	1038	HG
S7.5	S7.5	1	1050	HG
S10	S10	1	1055	HG
ICV109	ICV109	1	1058	HG
ICB109	ICB109	1	1100	HG
CCV75	CCV75	1	1102	HG
CCB75	CCB75	1	1104	HG
CRA	CRA	1	1107	HG
CCV76	CCV76	1	1133	HG
CCB76	CCB76	1	1135	HG
PB165335BL	PB165335BL	1	1146	HG
PB165335BS	PB165335BS	1	1149	HG
P5006-18	TW-WTS-02	1	1151	HG
P5031-01DUP	286127DUP	1	1204	HG
P5031-01MS	286127MS	1	1206	HG
CCV77	CCV77	1	1208	HG
CCB77	CCB77	1	1210	HG
P5031-01MSD	286127MSD	1	1213	HG
P5031-01L	286127L	5	1222	HG
CCV78	CCV78	1	1229	HG
CCB78	CCB78	1	1231	HG

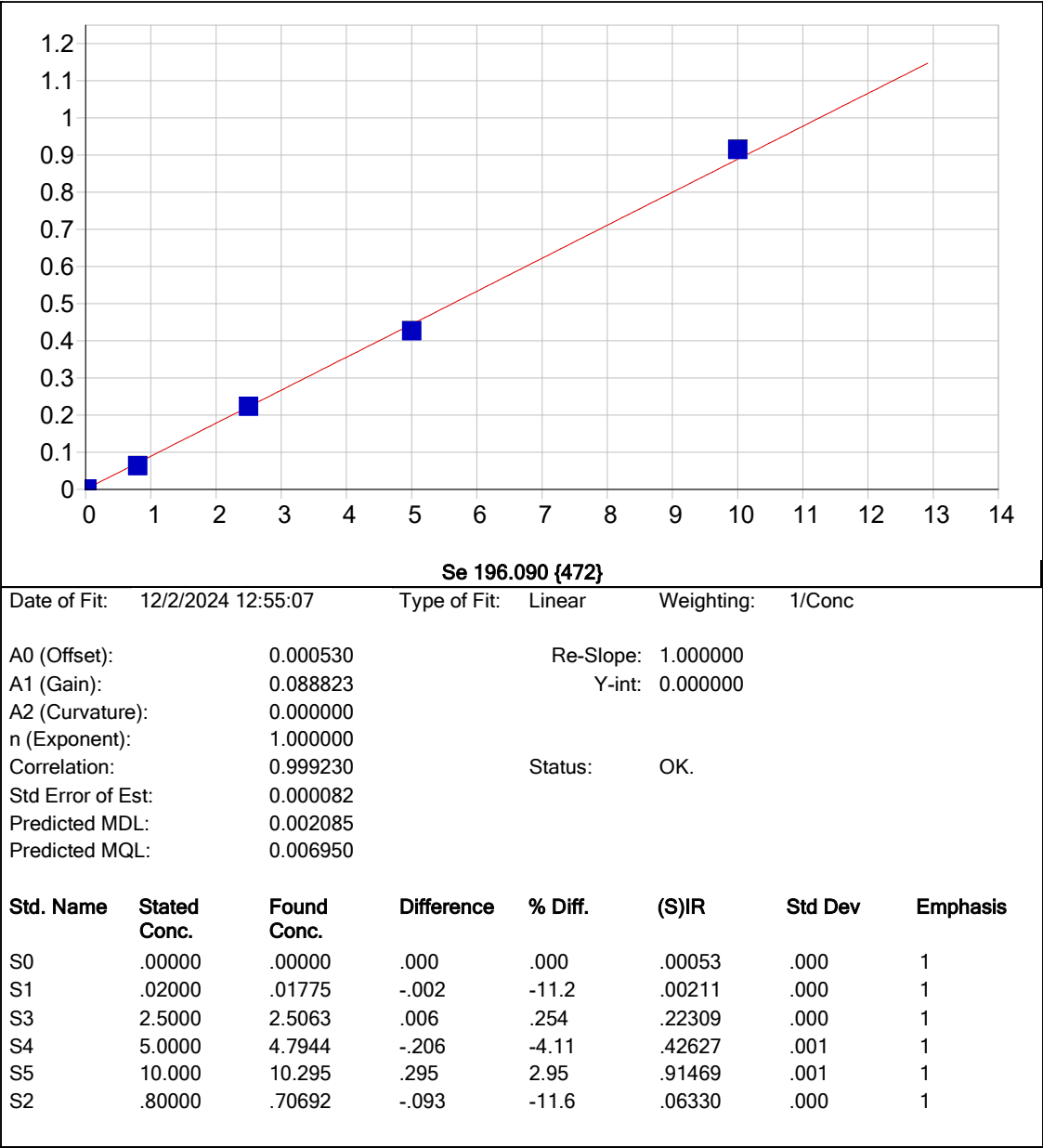


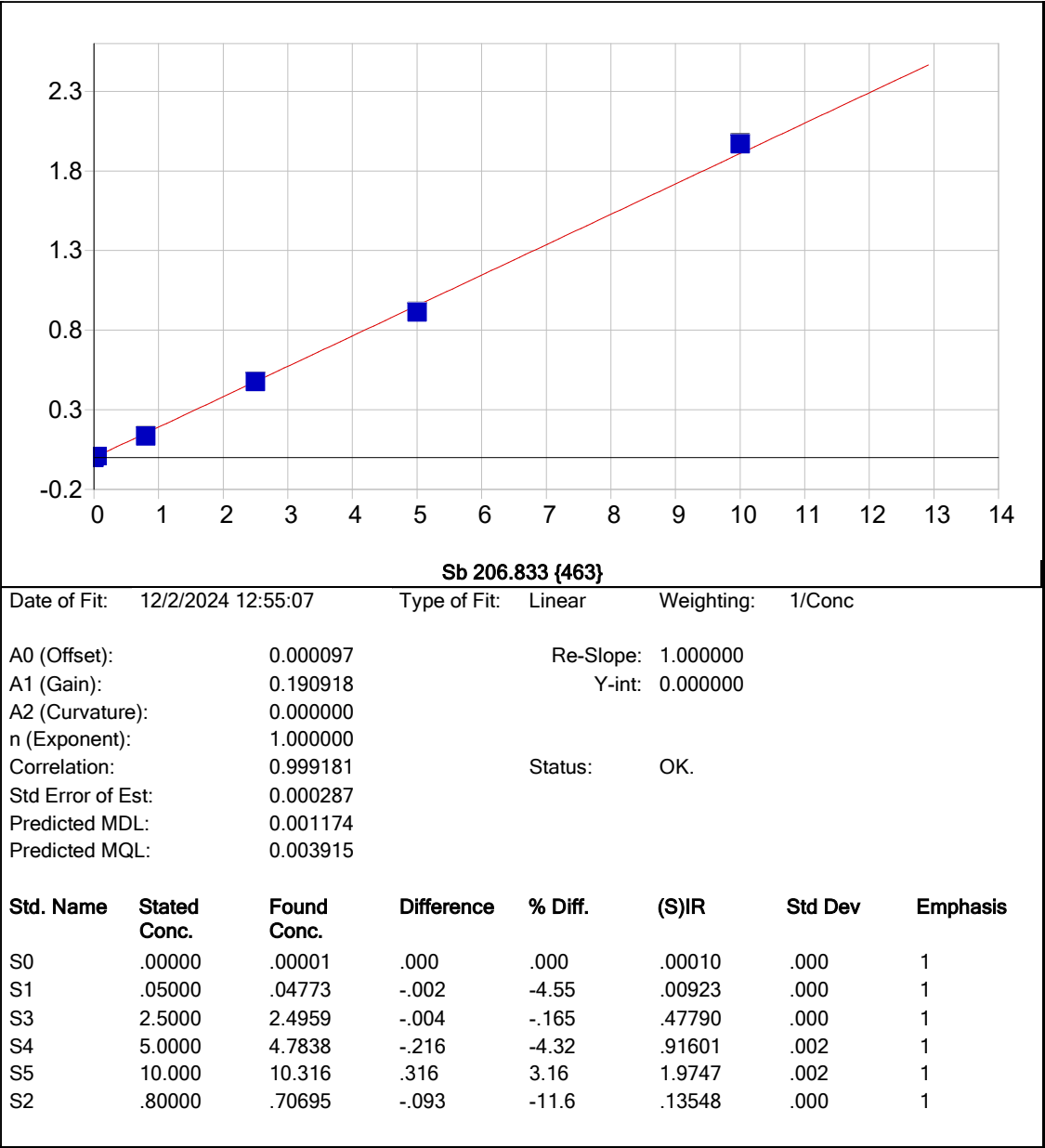
METAL RAW DATA

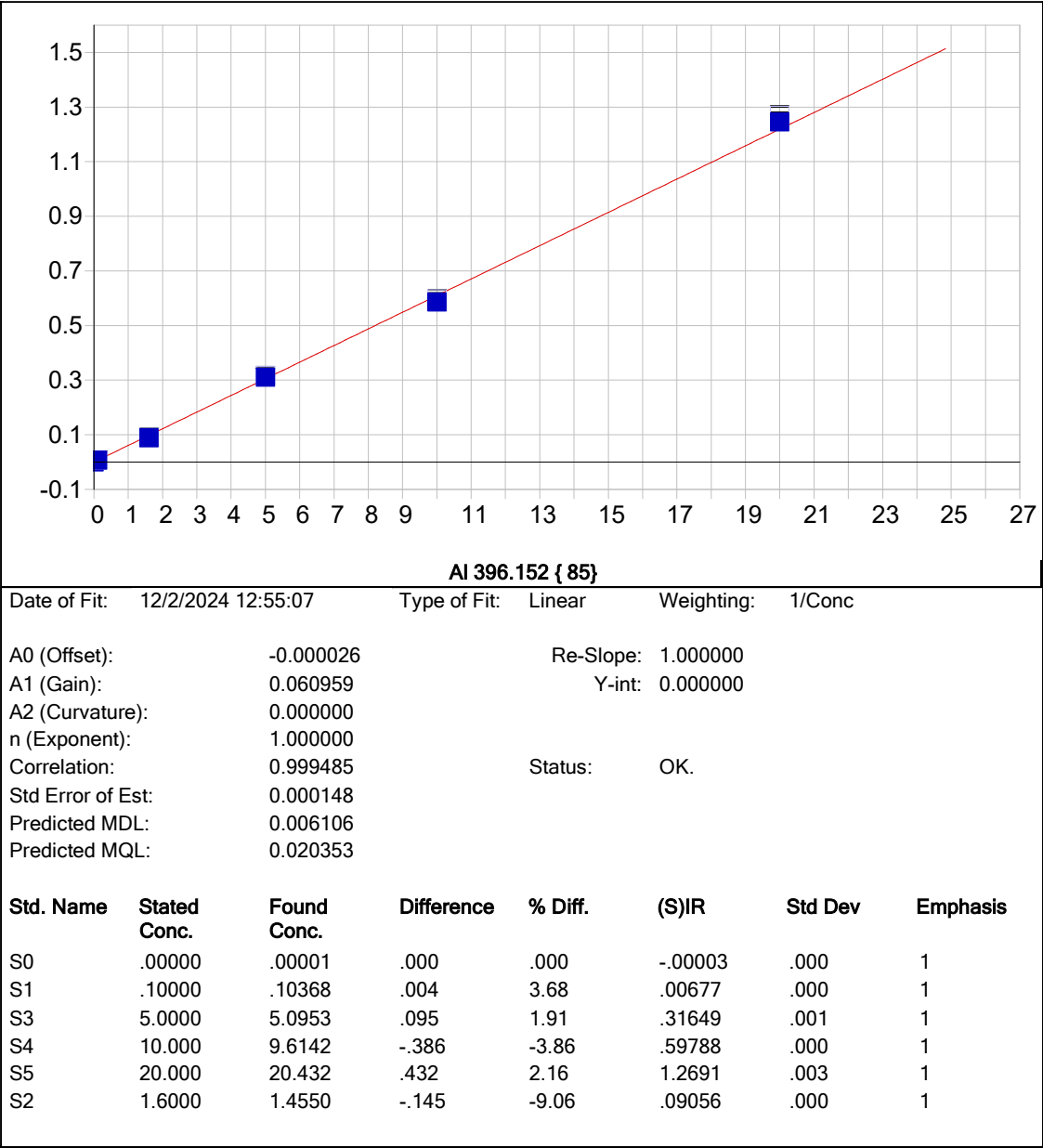


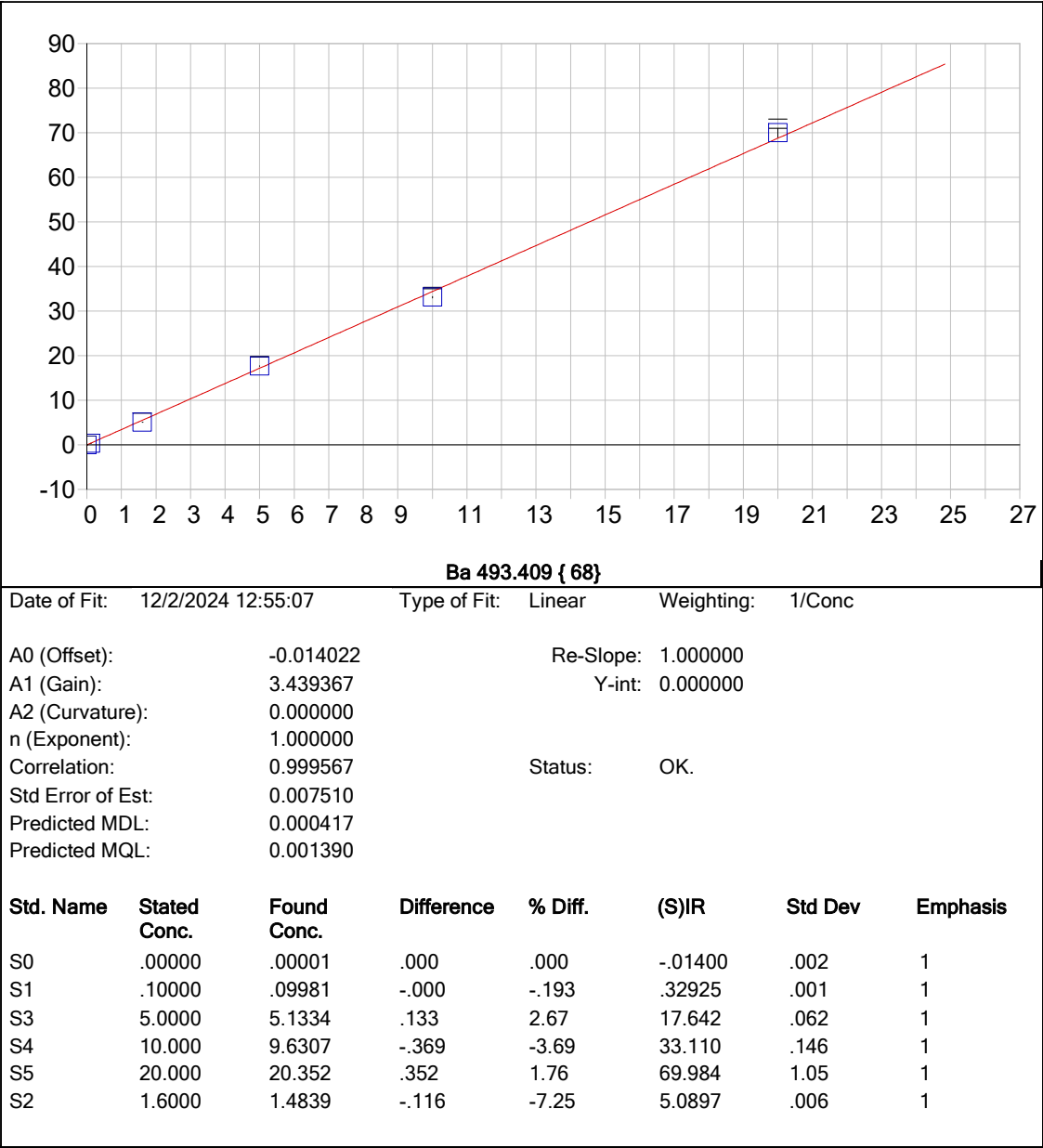


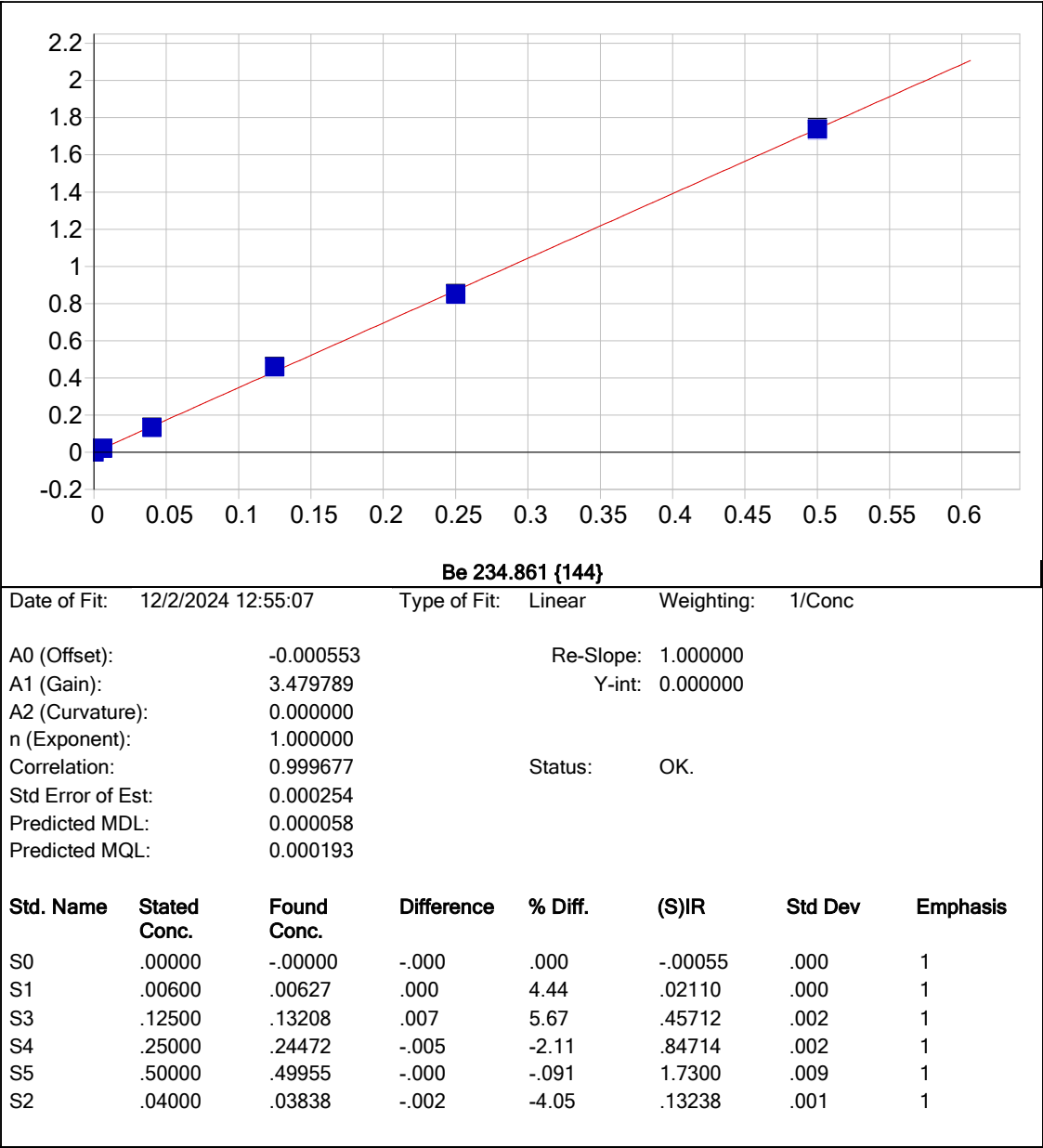


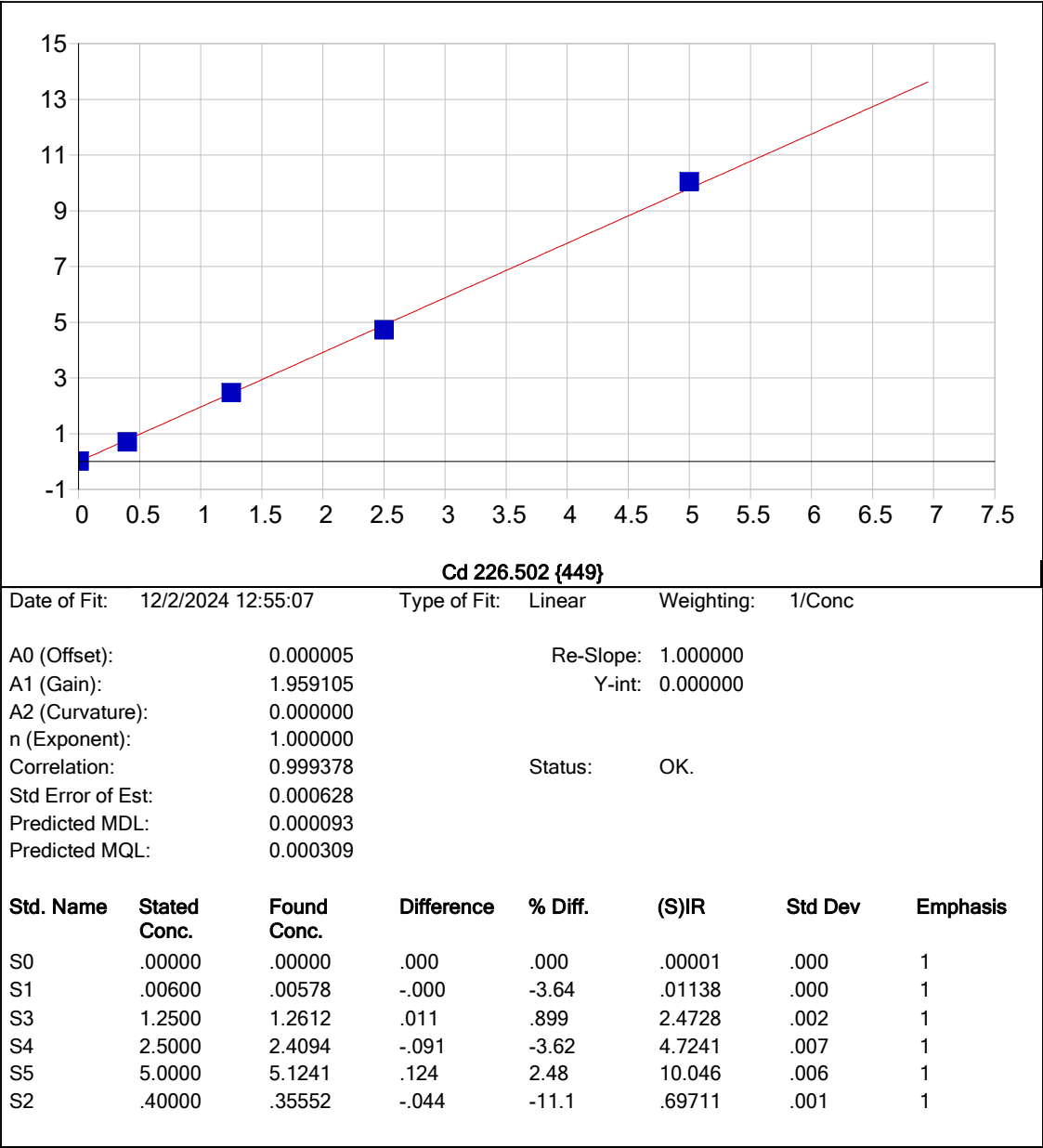


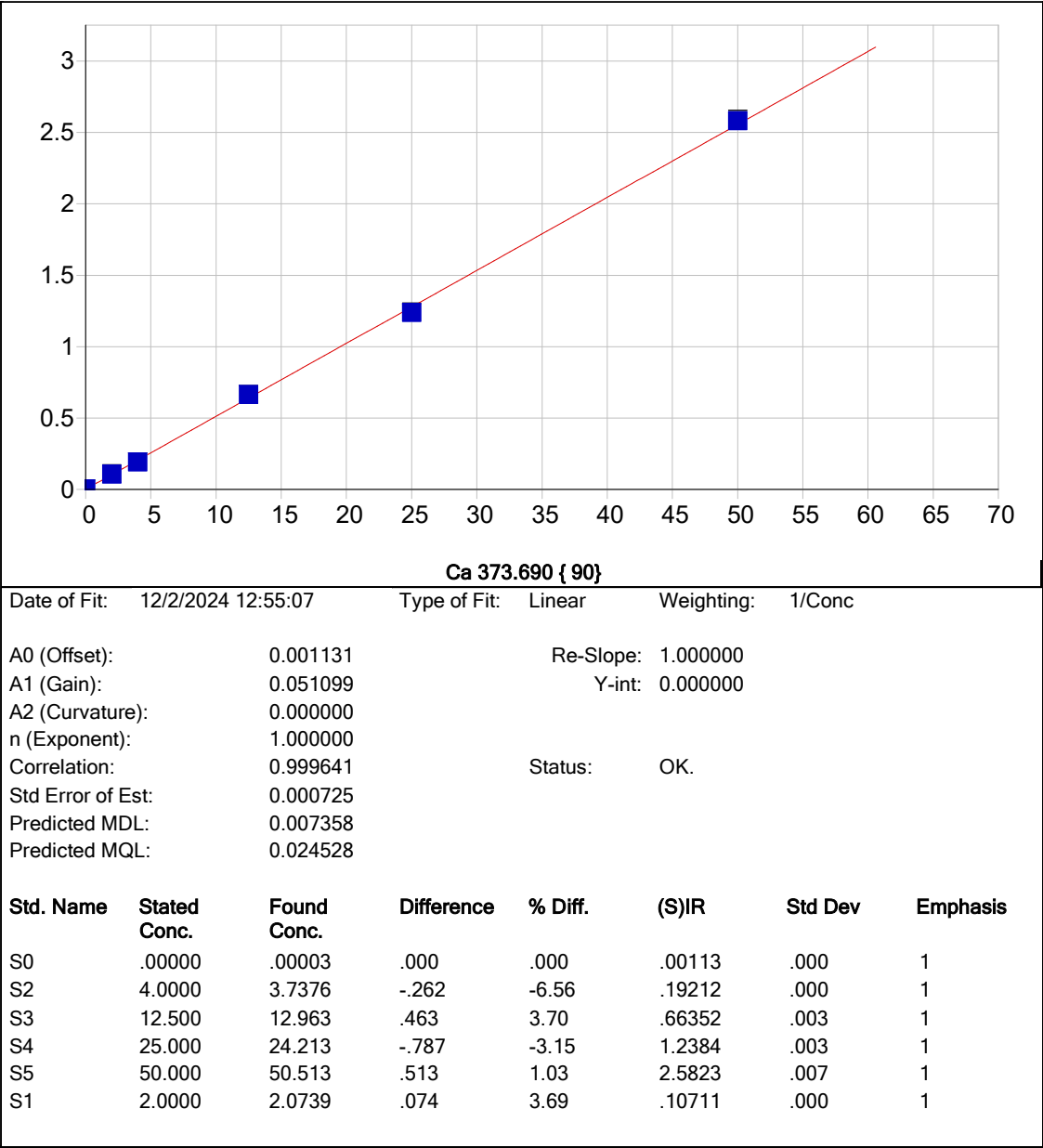


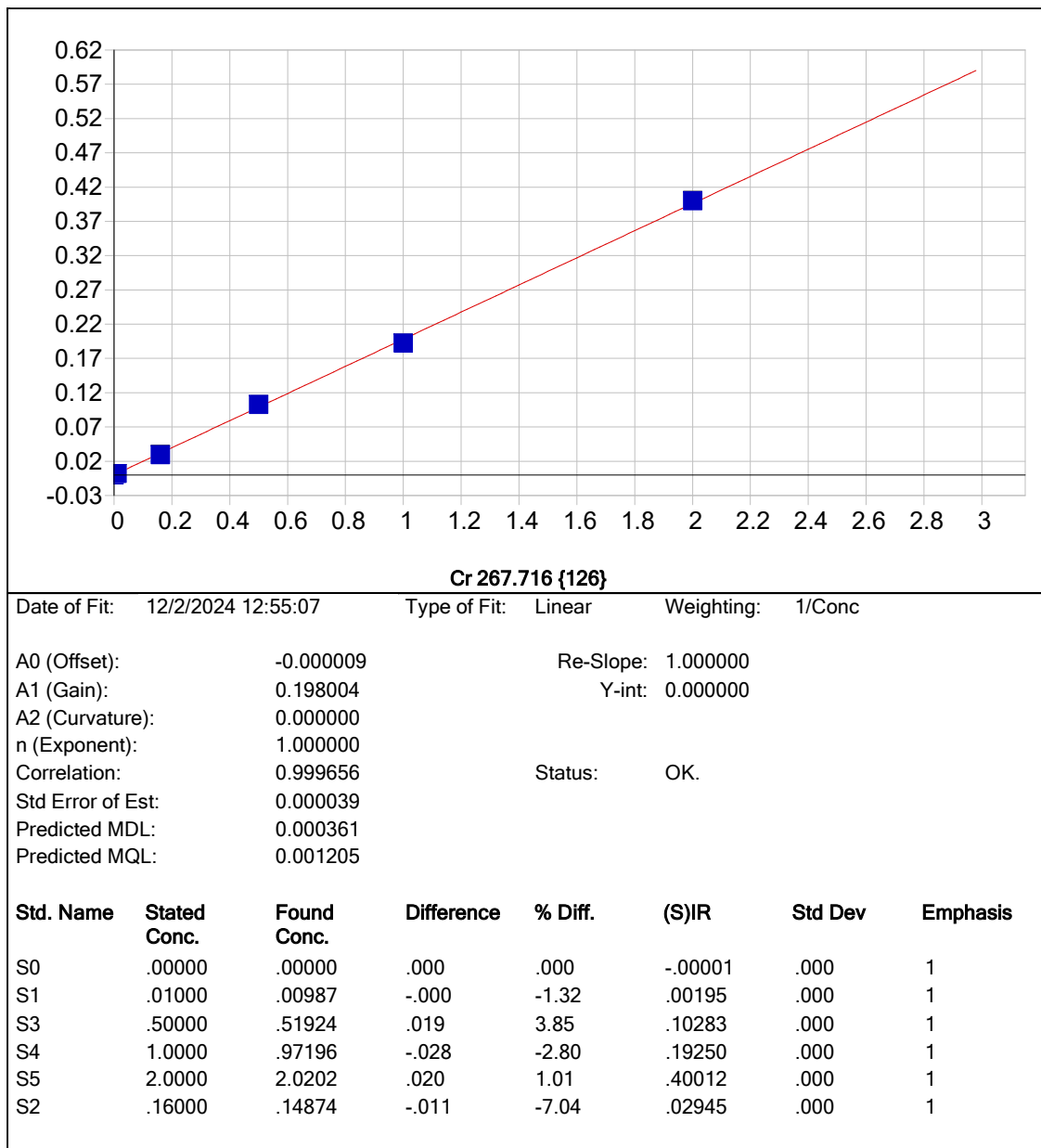


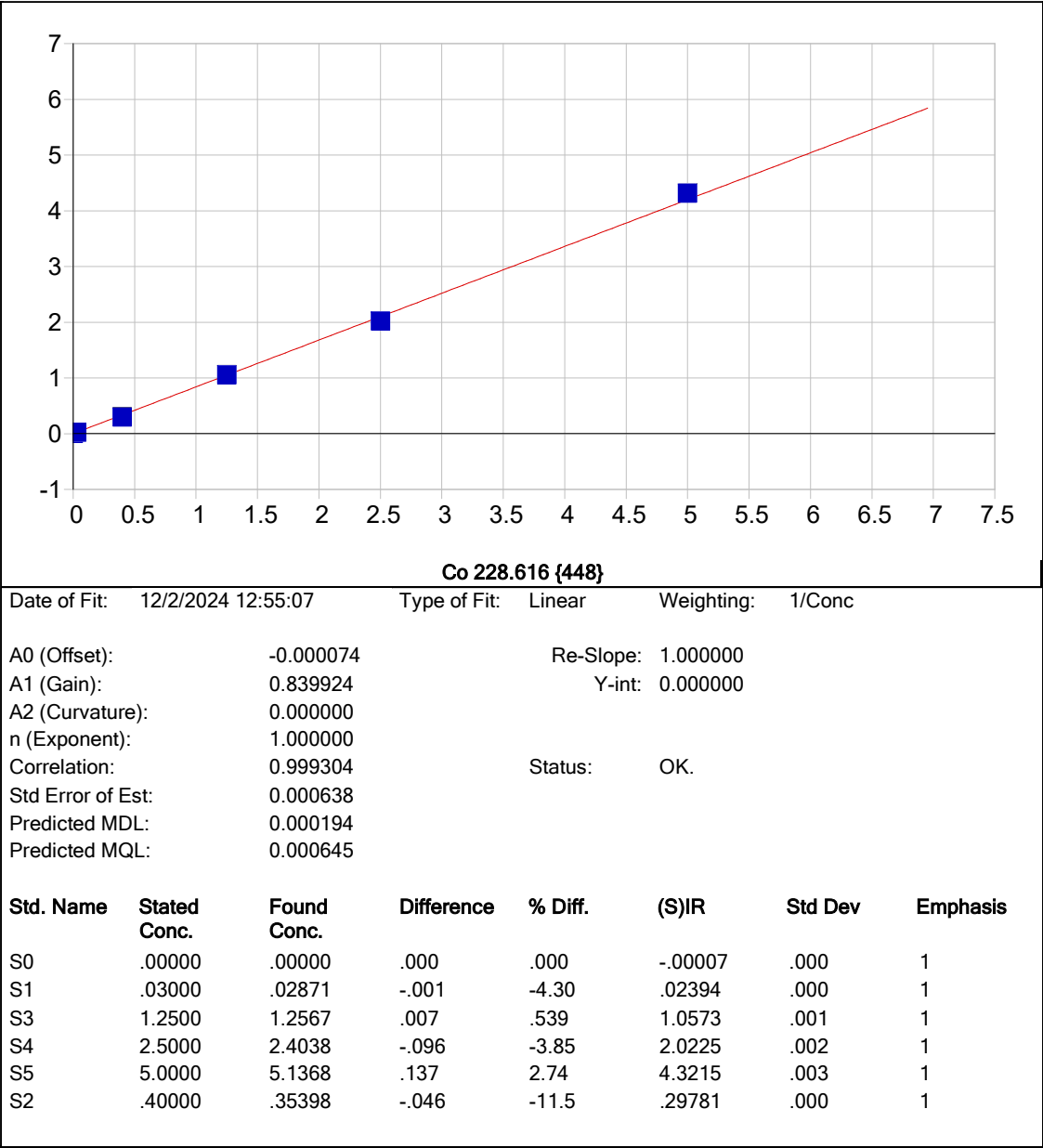


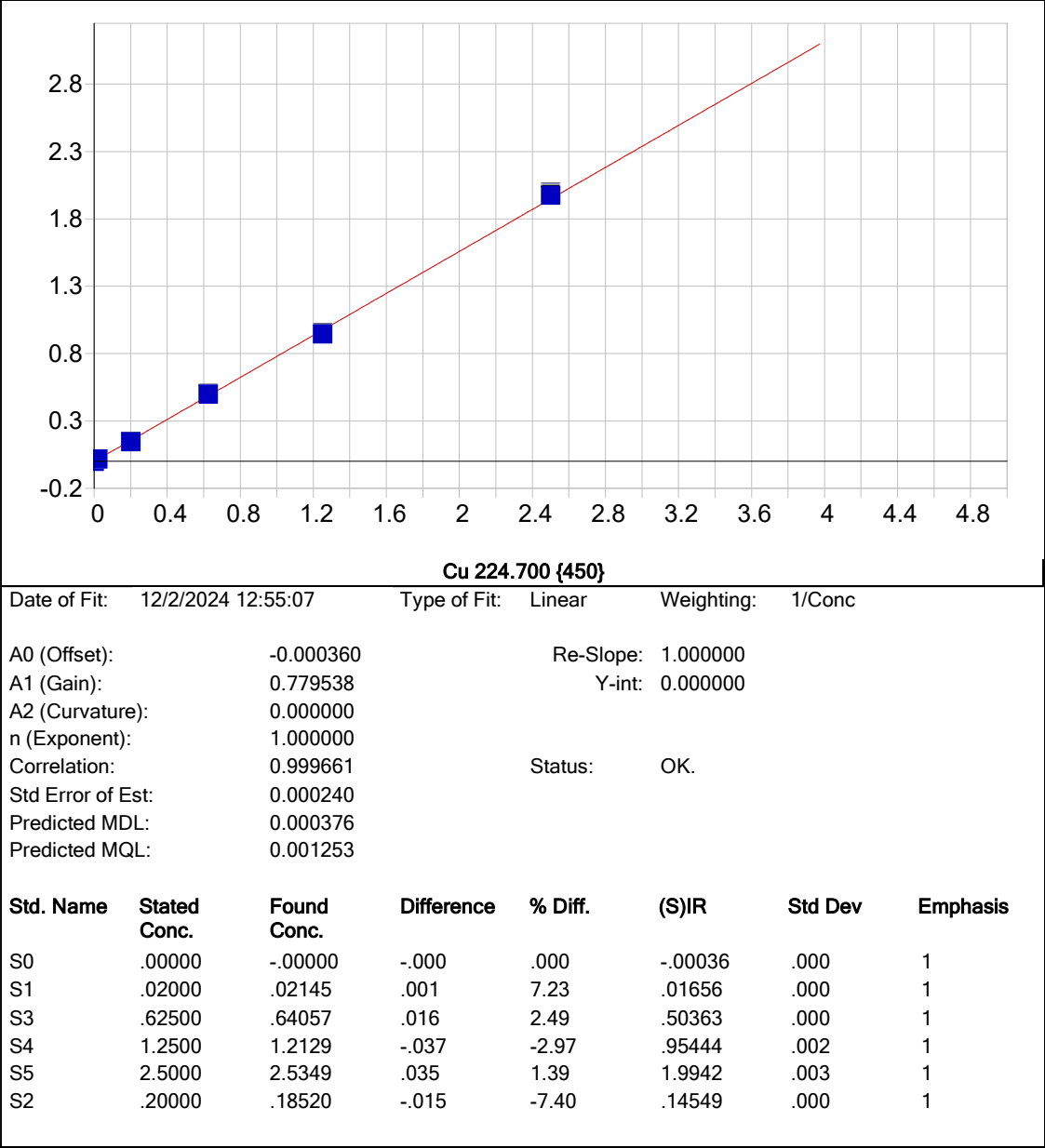


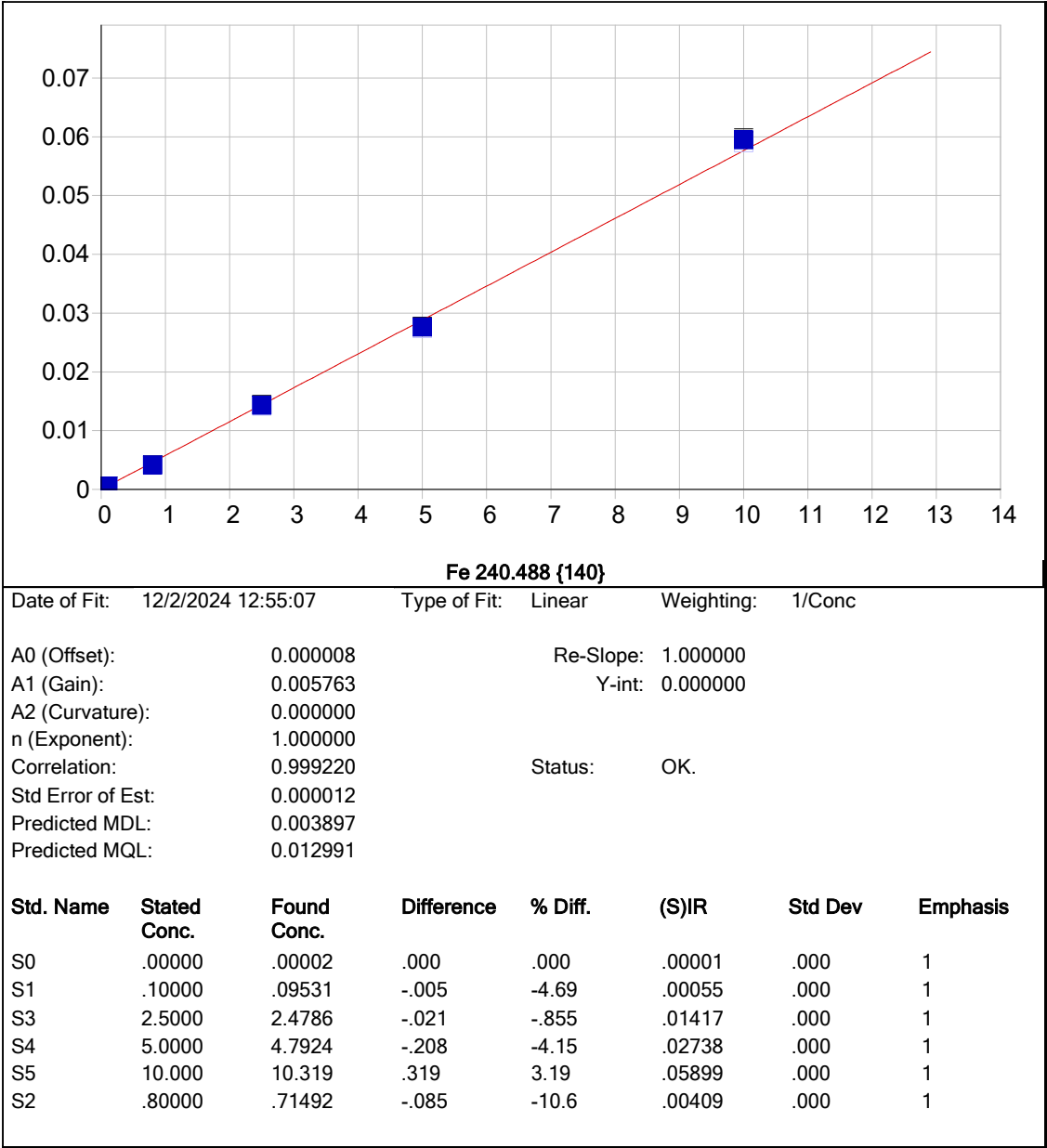


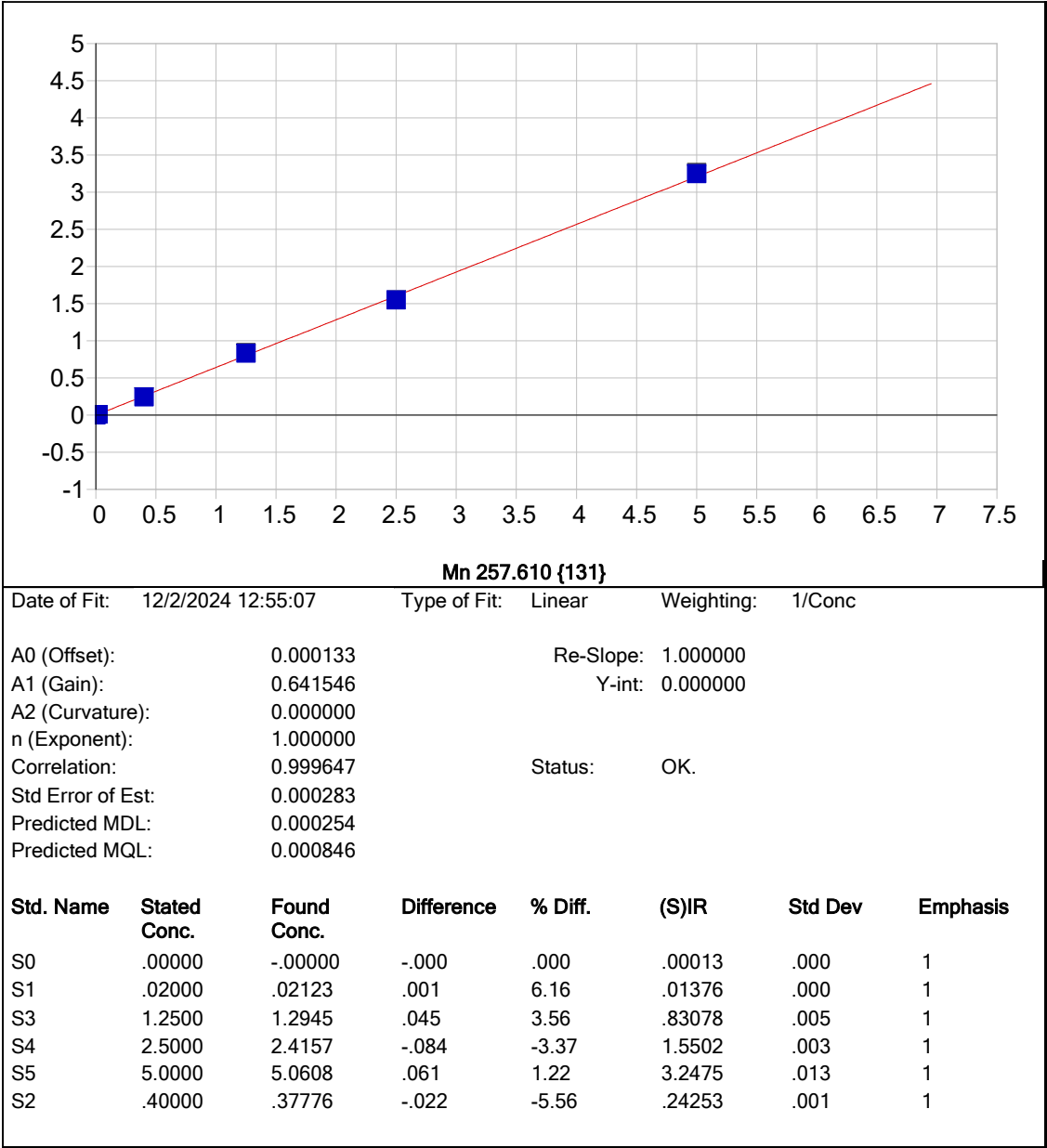


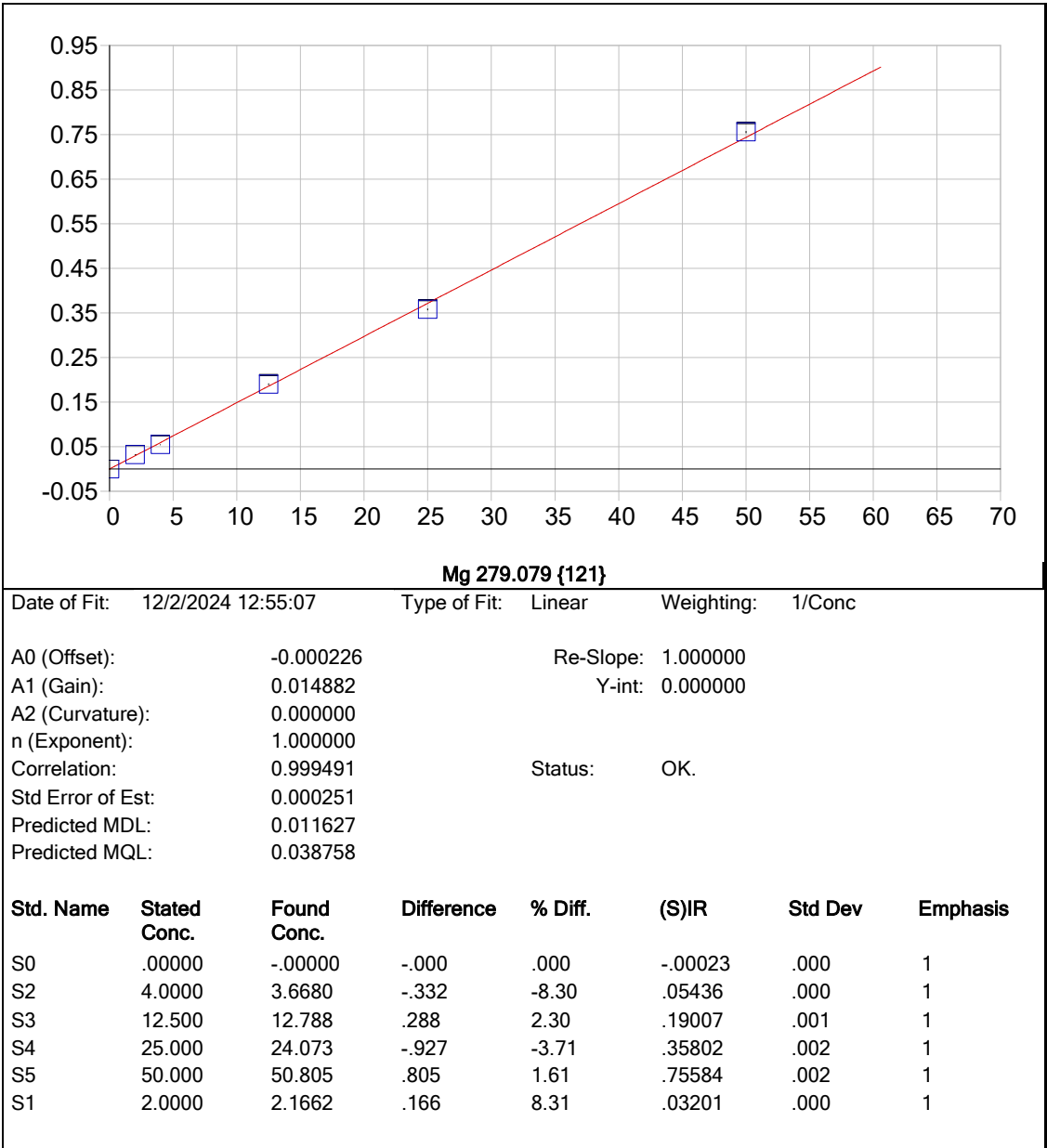


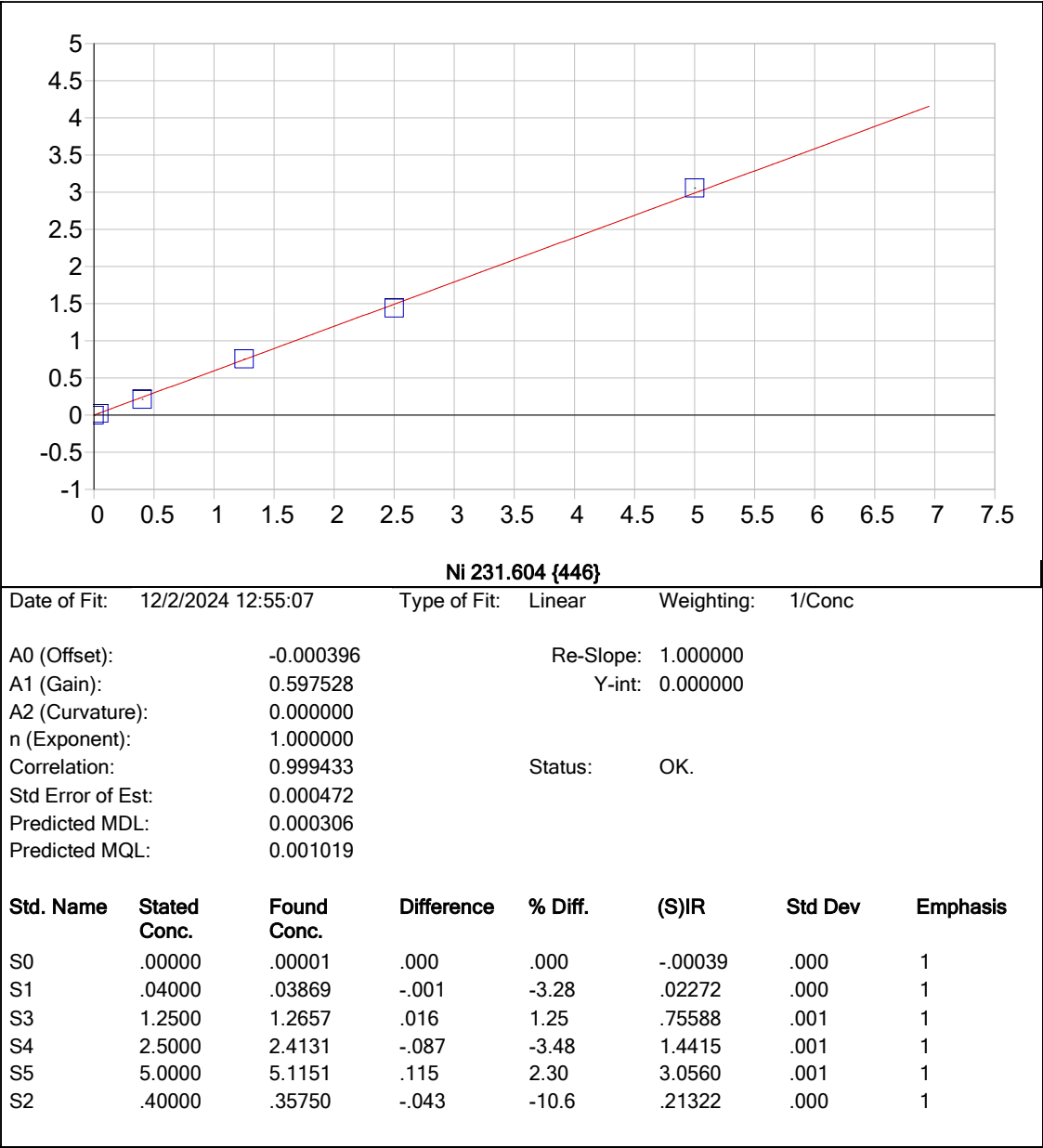


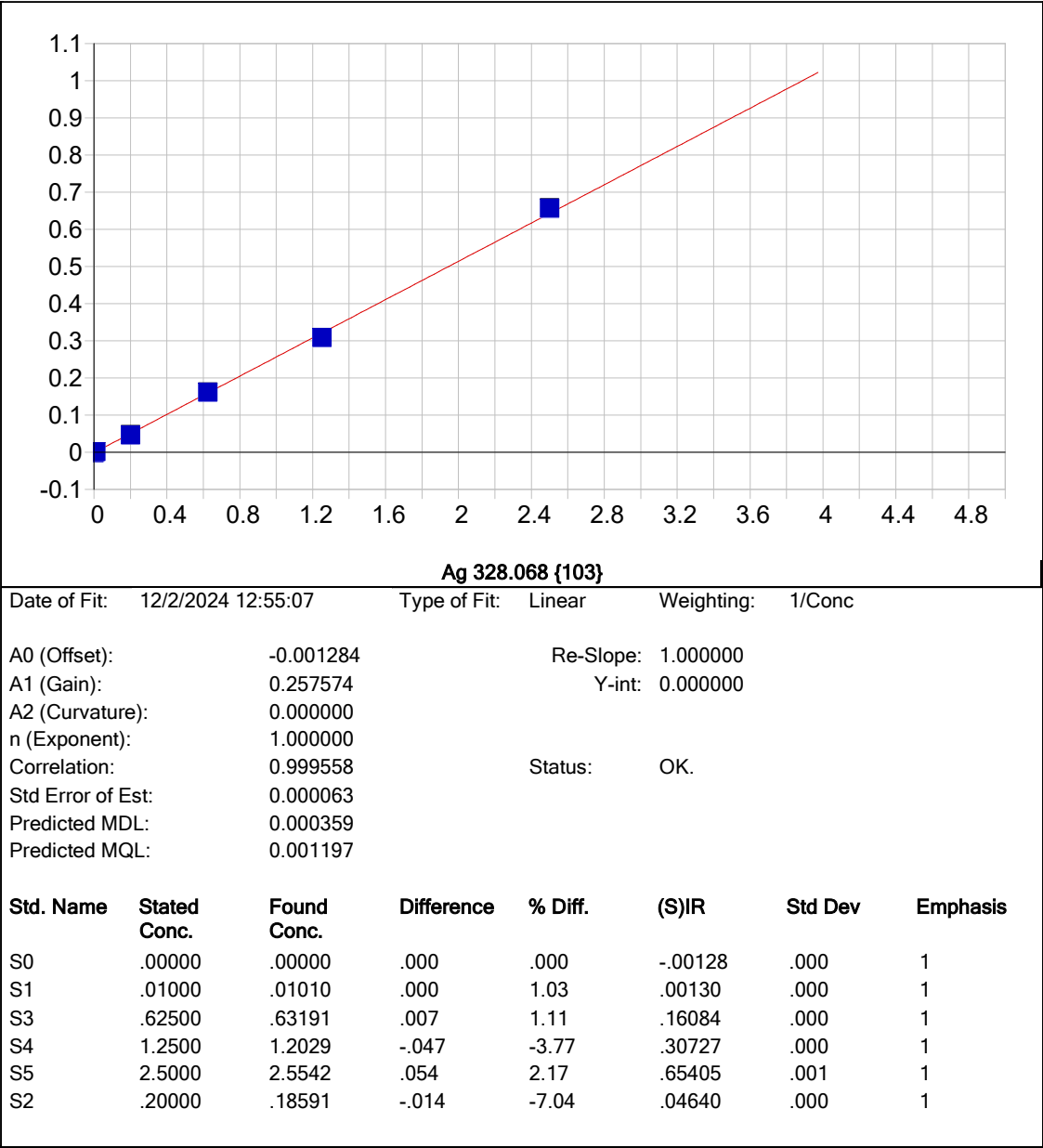


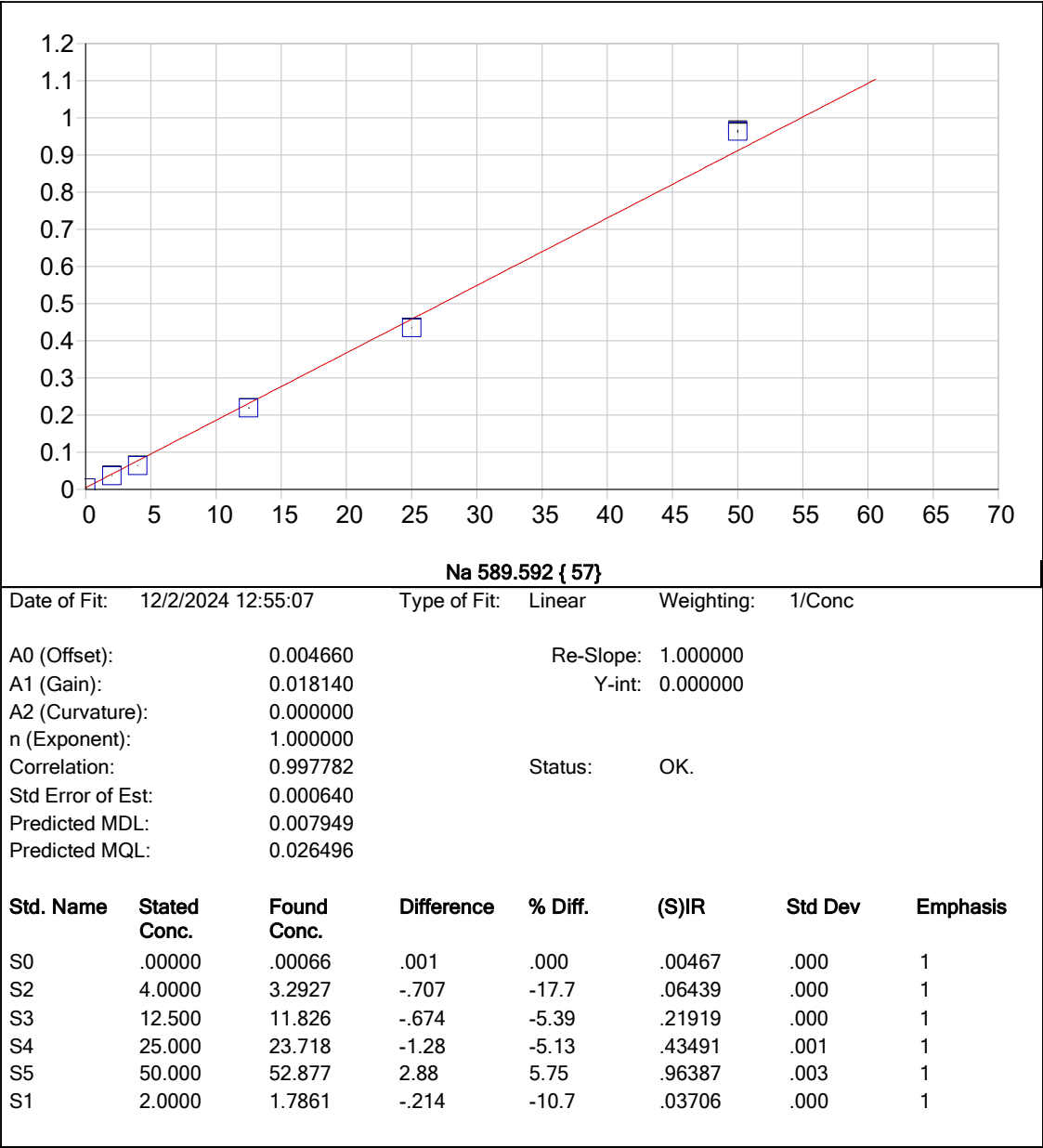


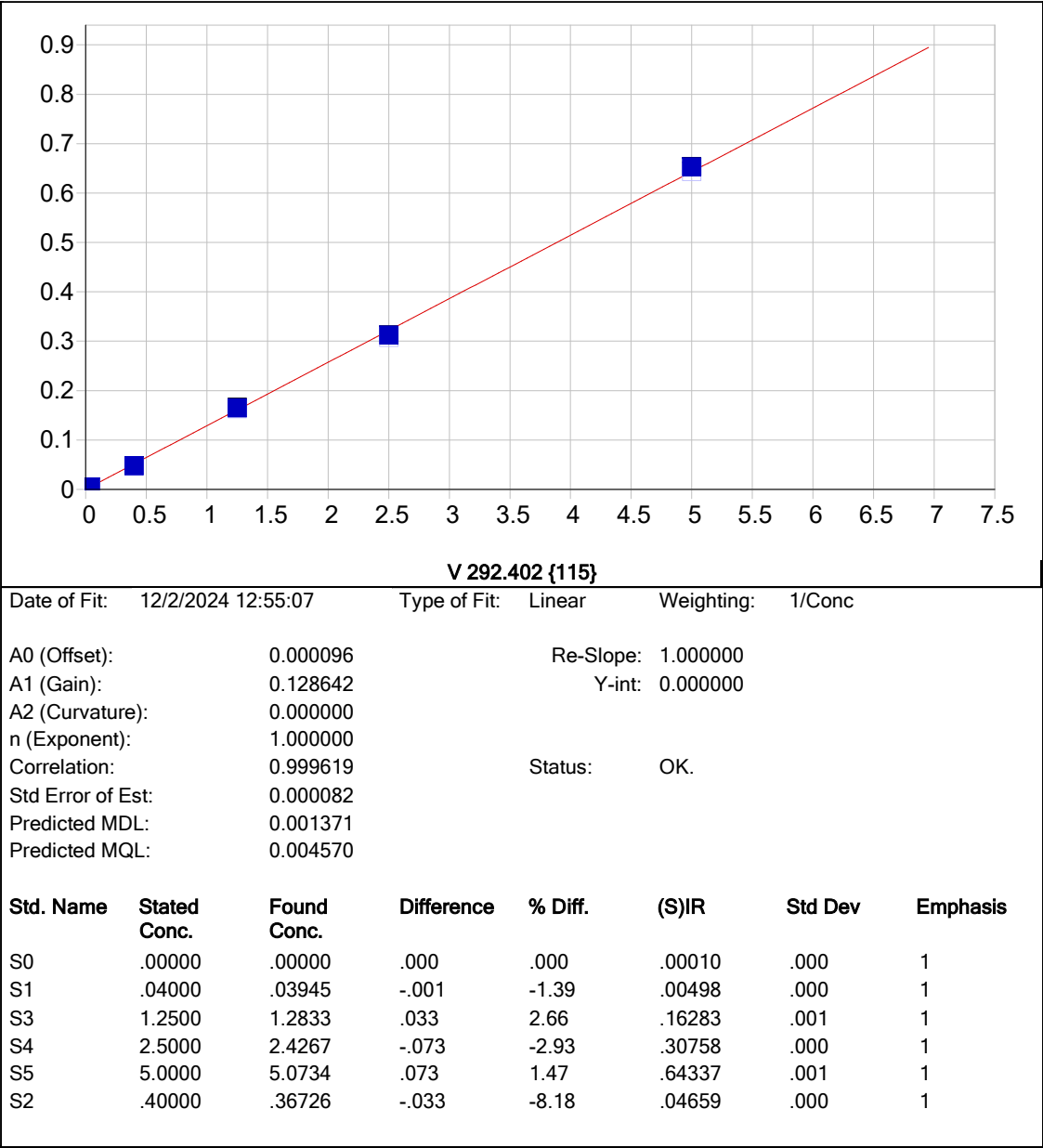


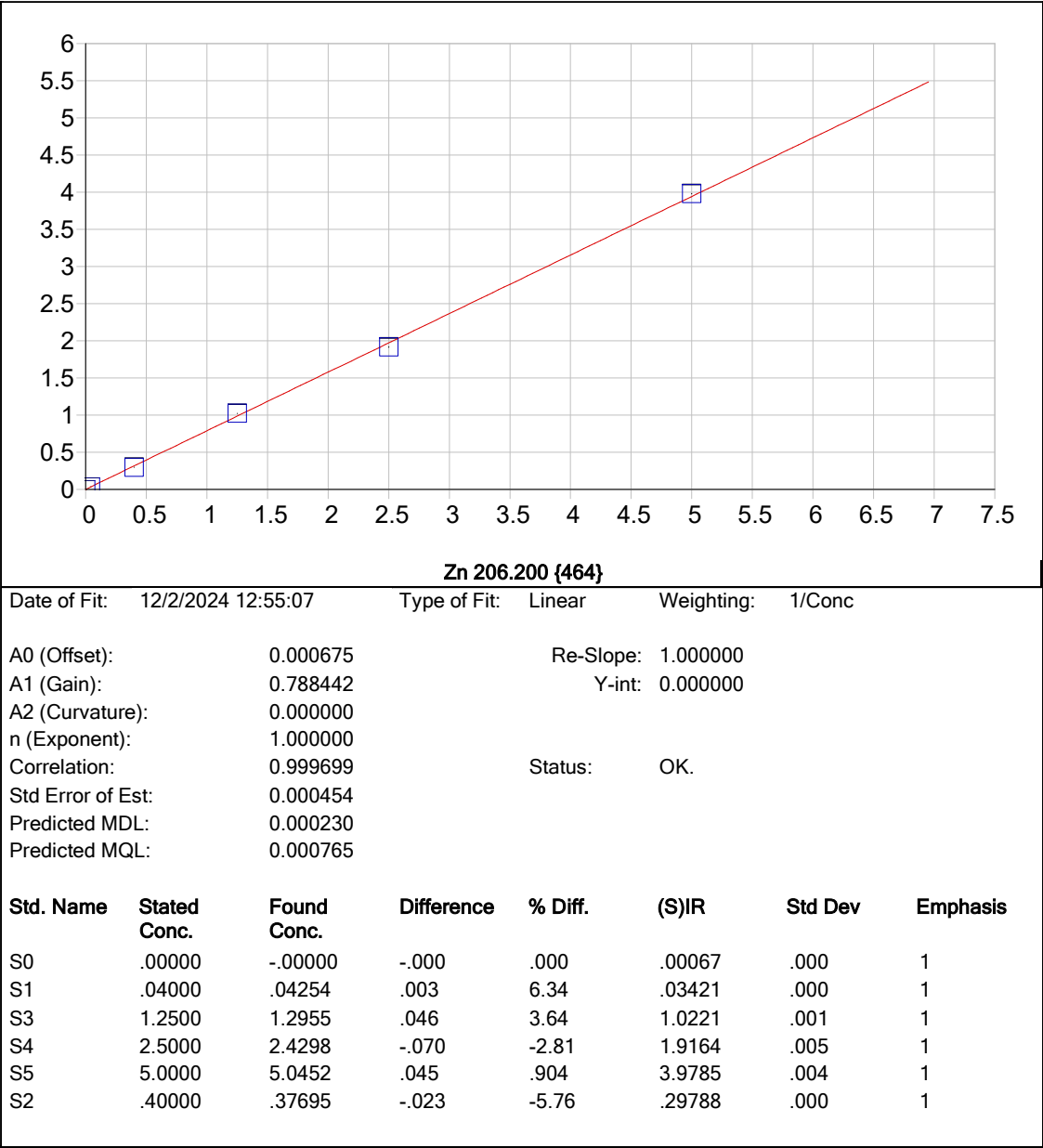


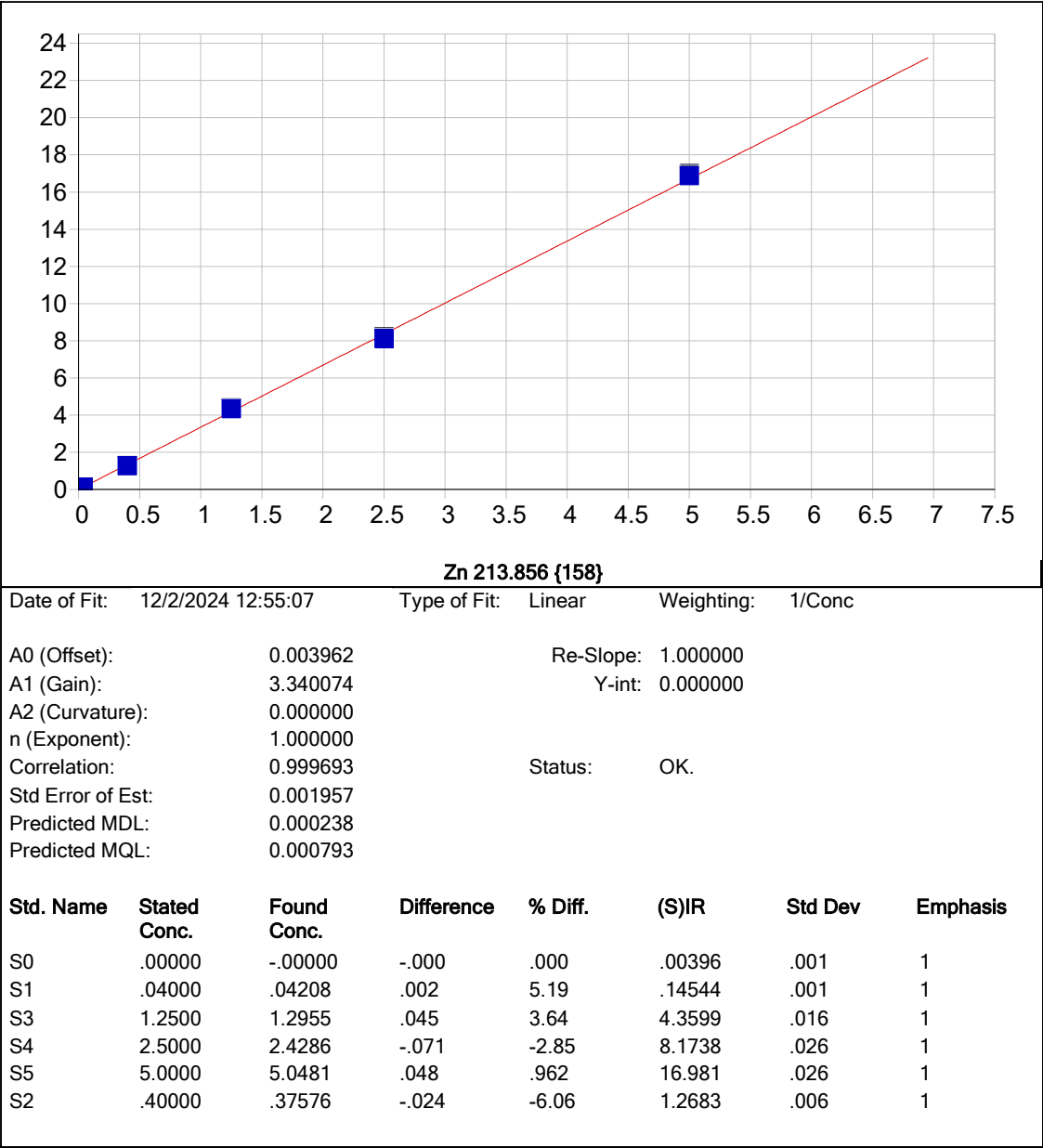


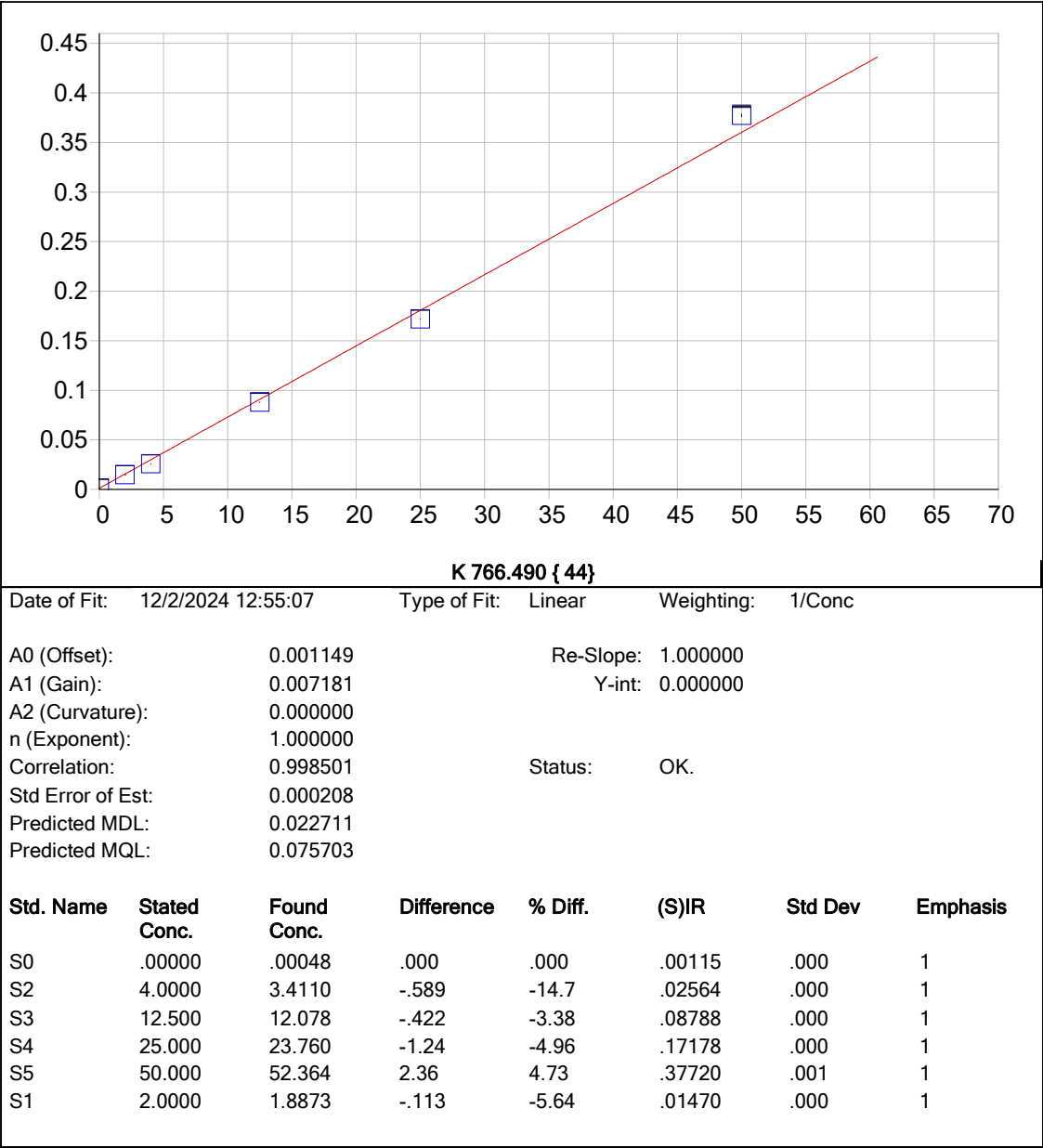


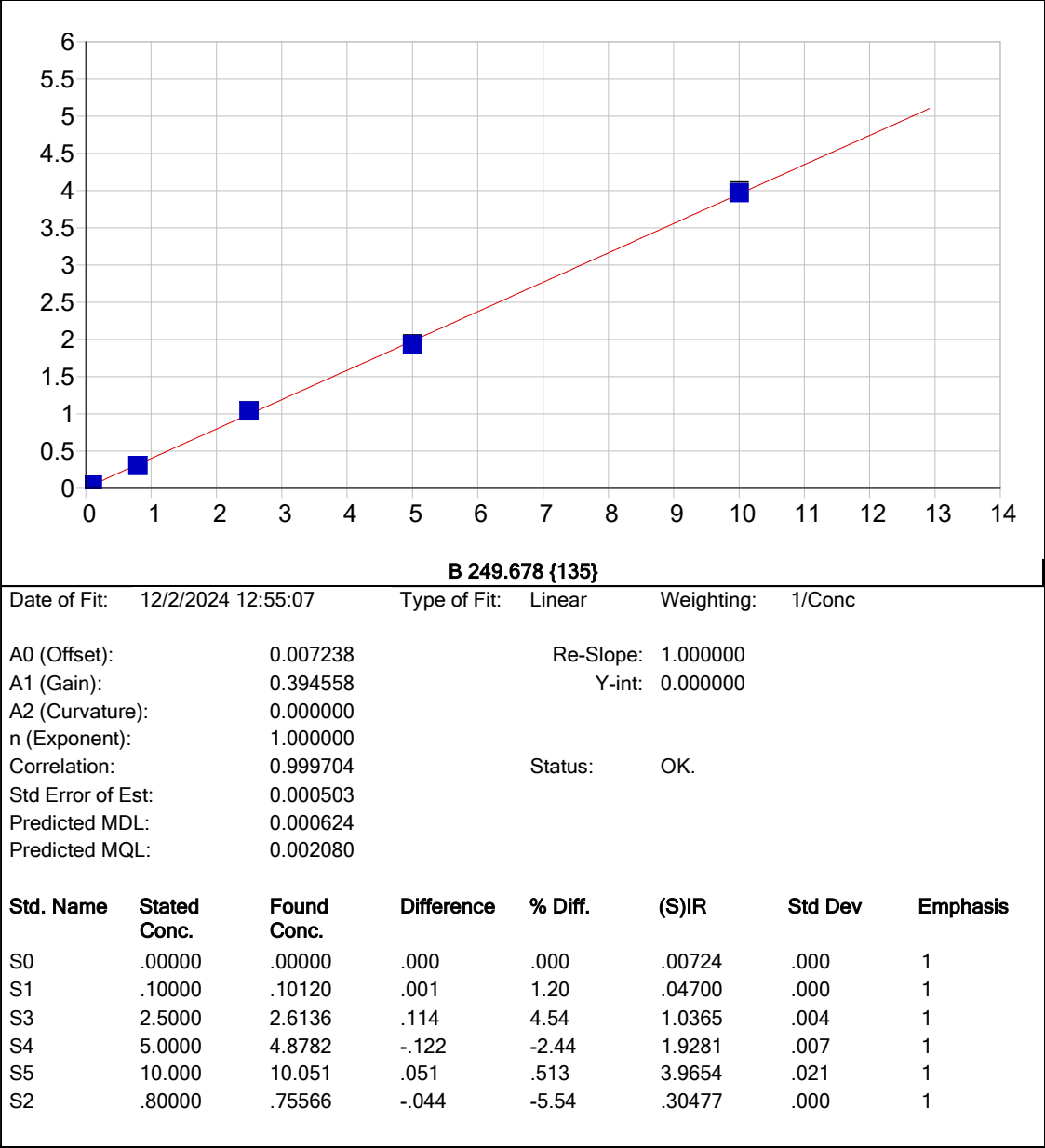


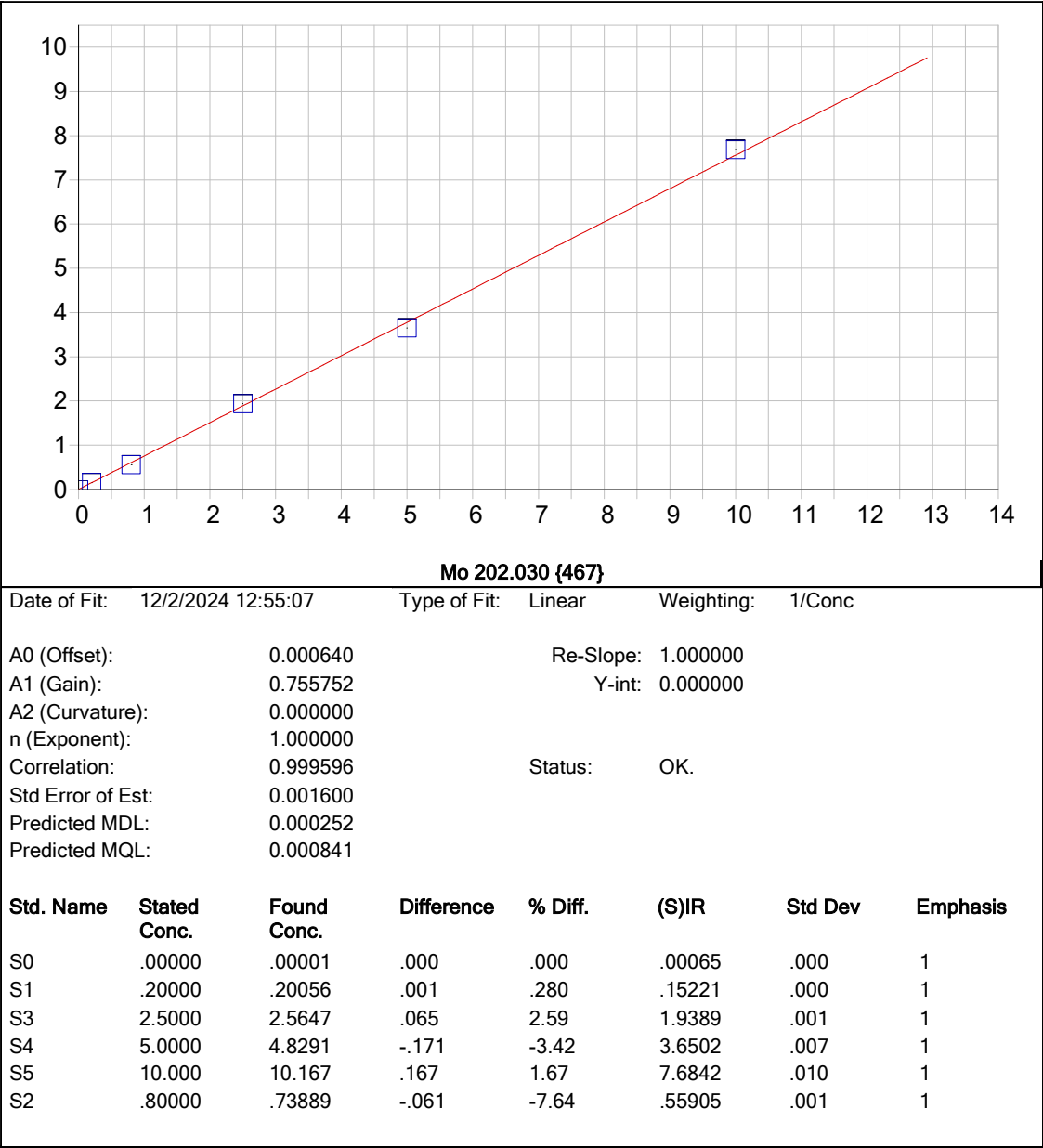


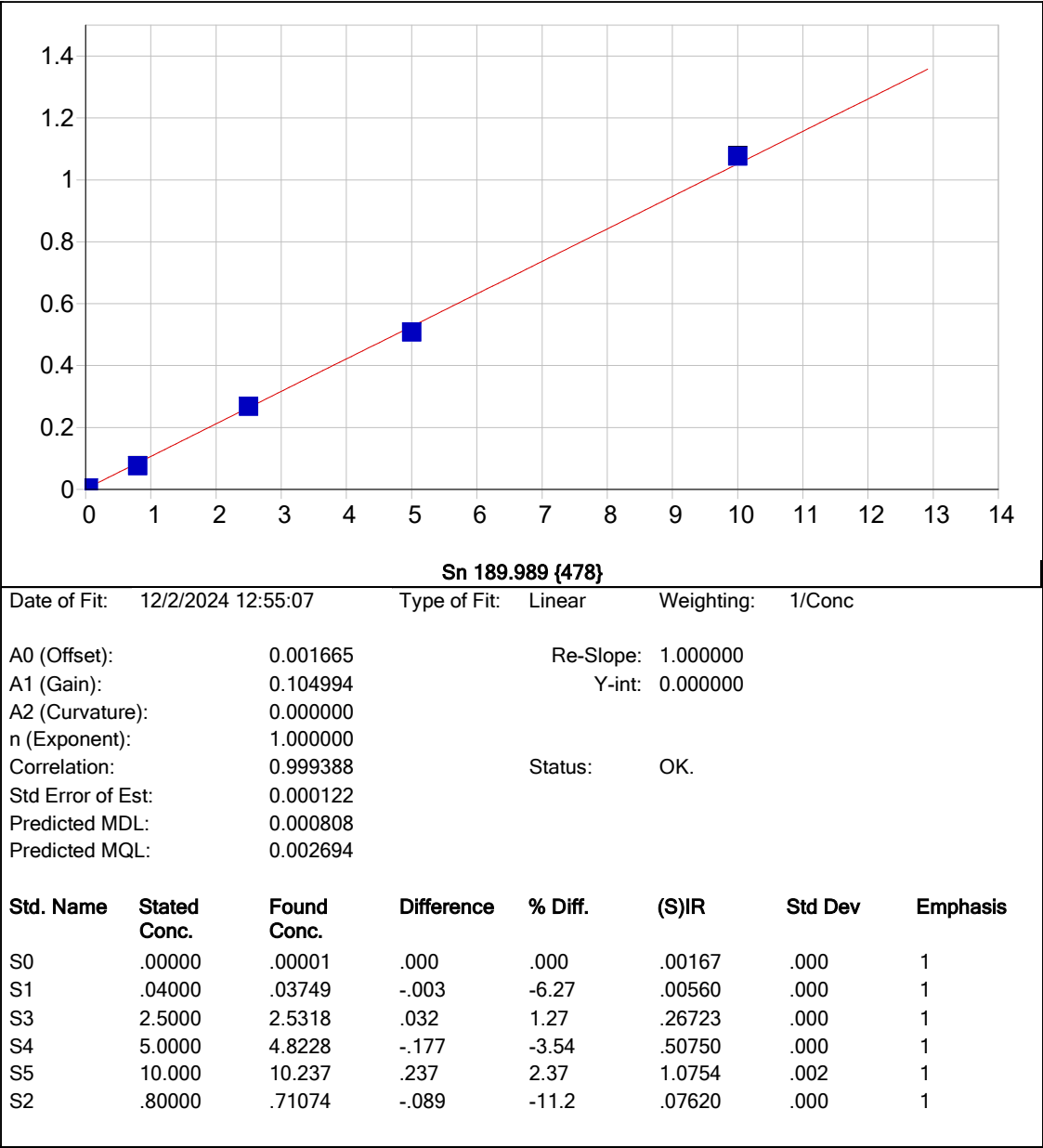


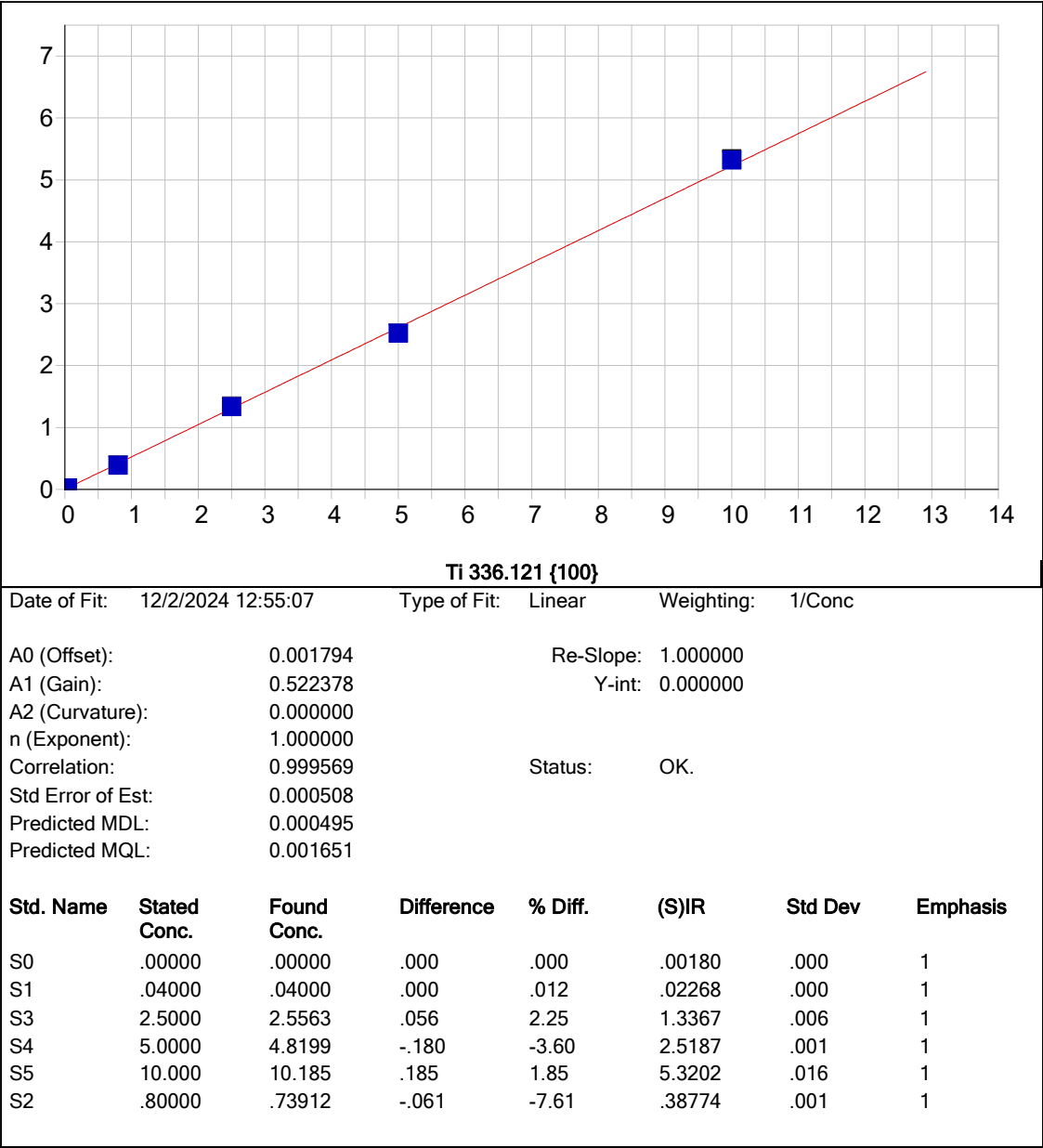


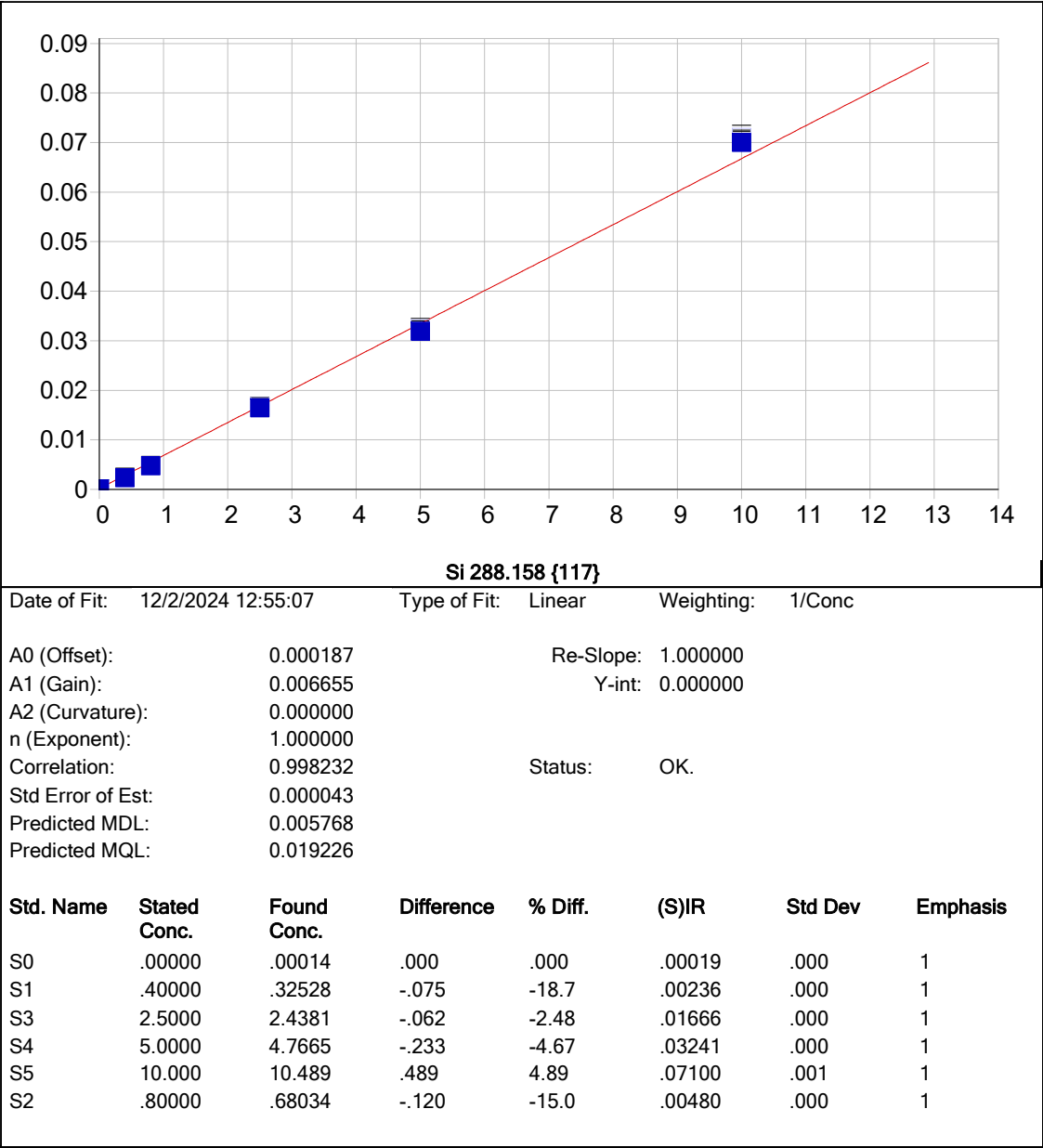


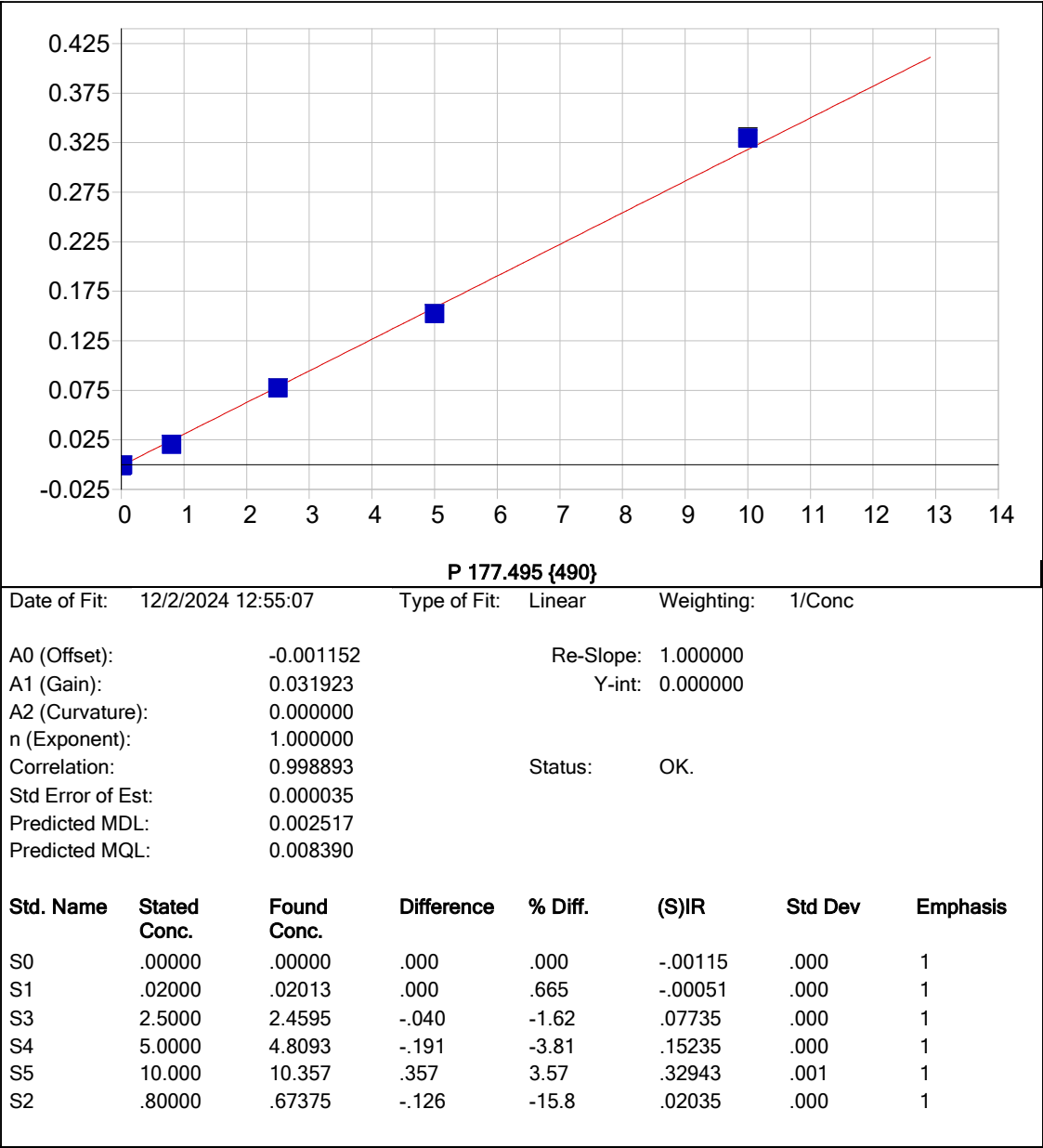


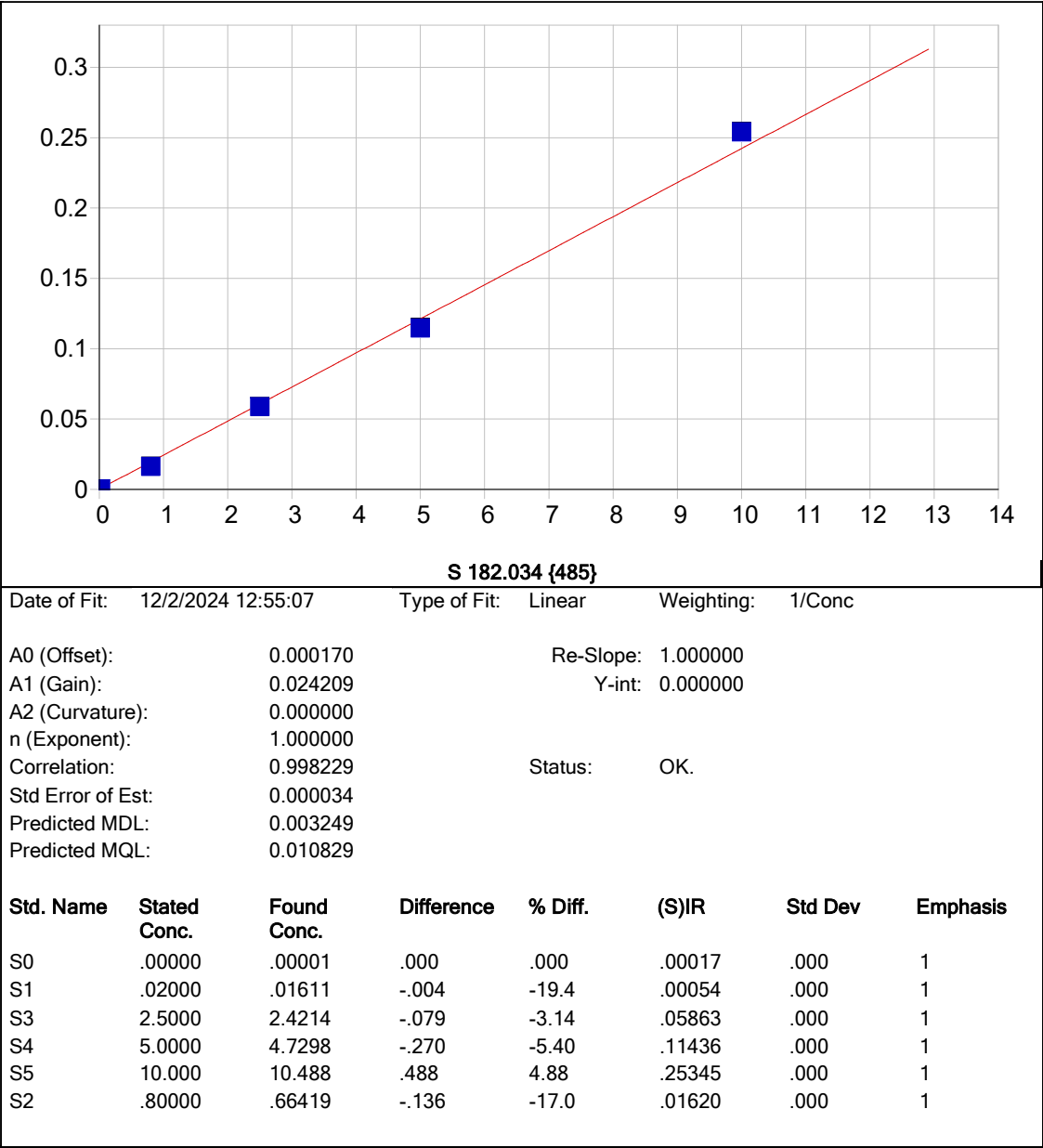


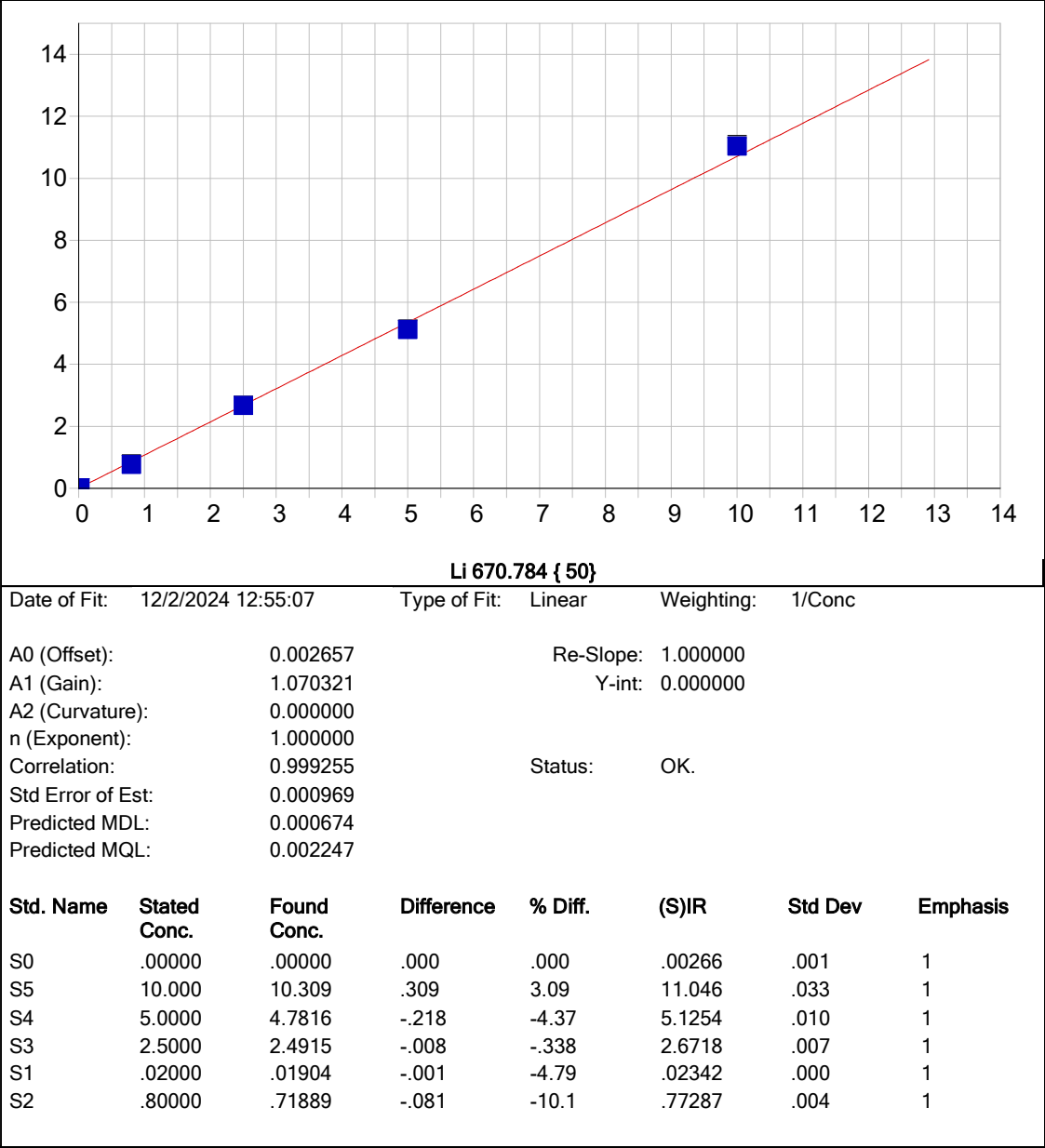


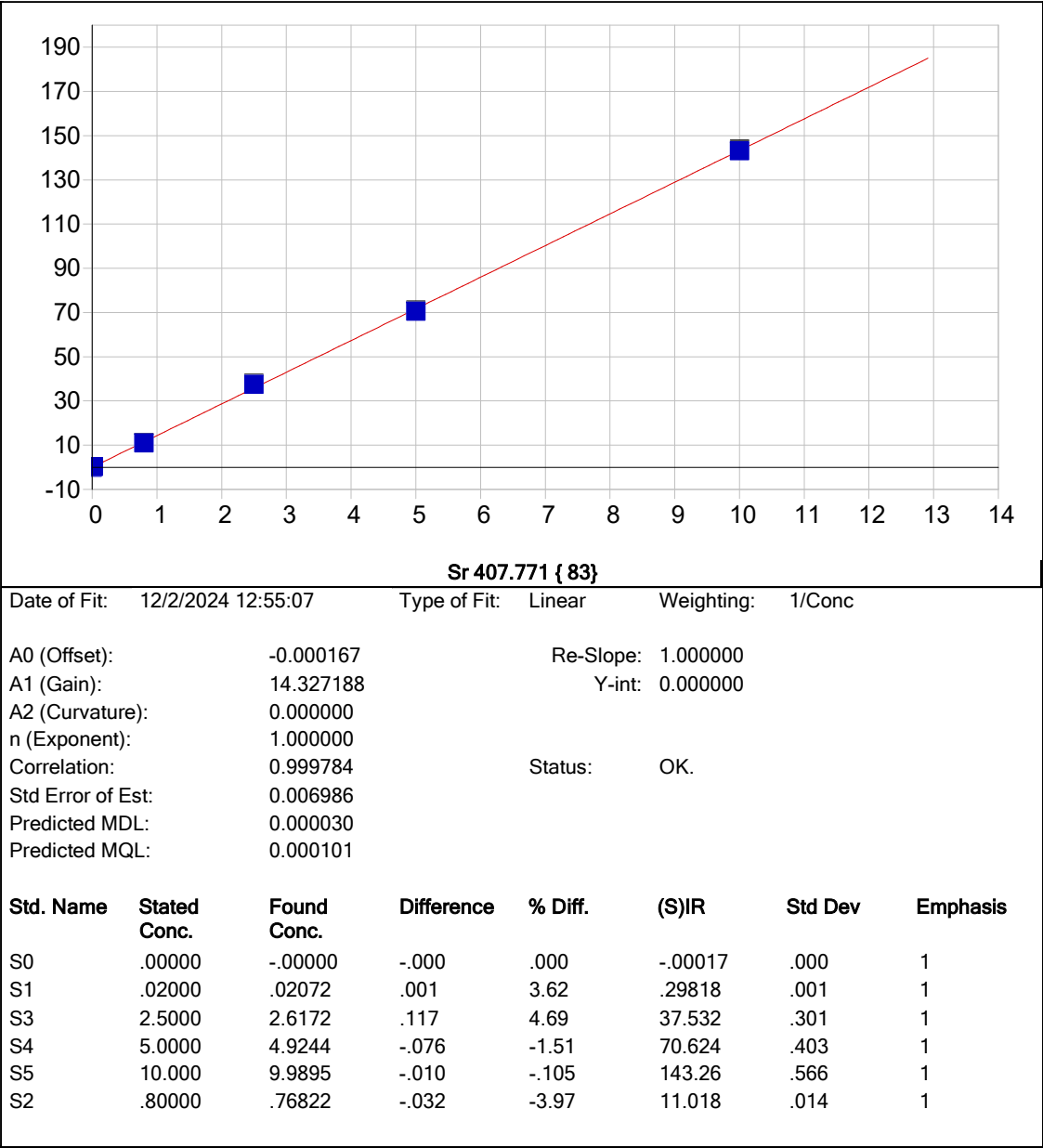


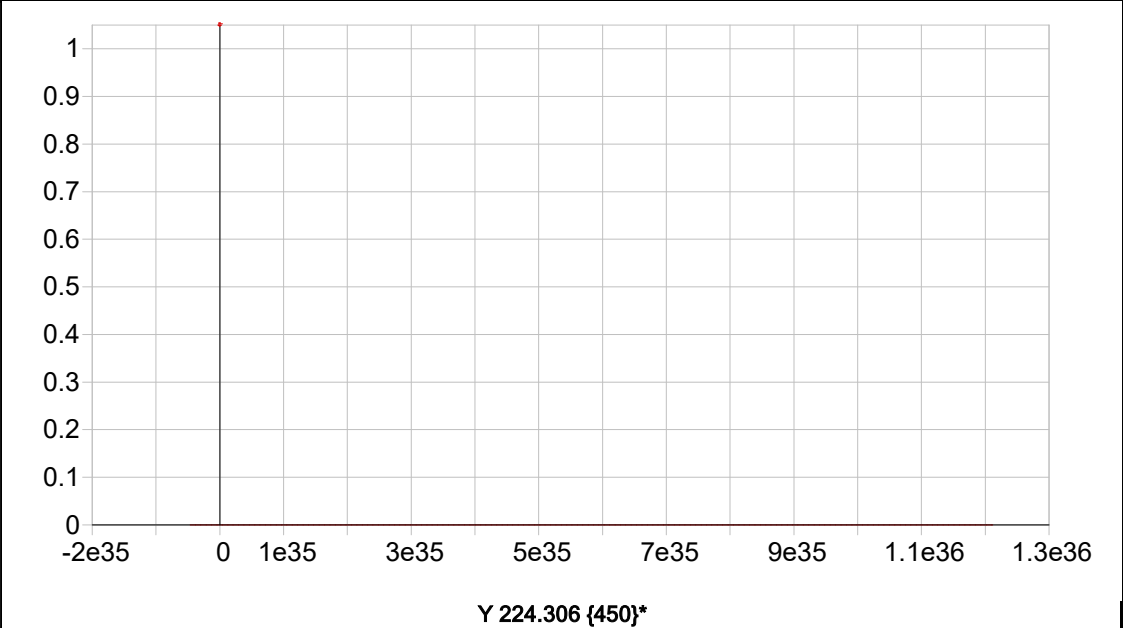








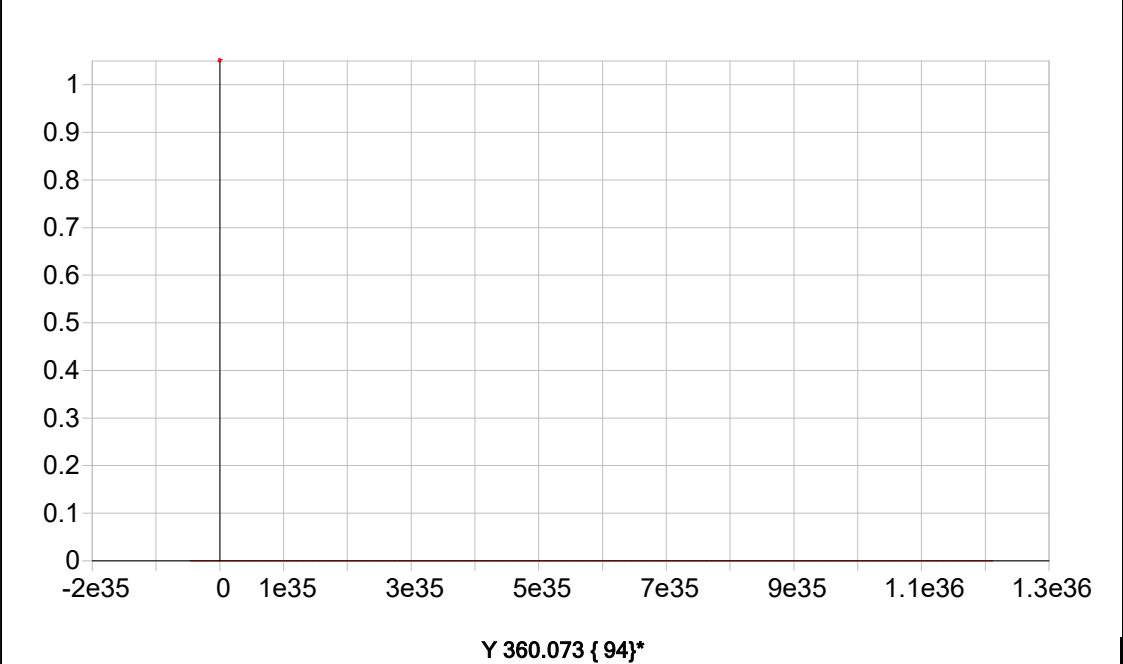




Date of Fit: 12/2/2024 12:55:07 Type of Fit: Linear Weighting: 1/Conc

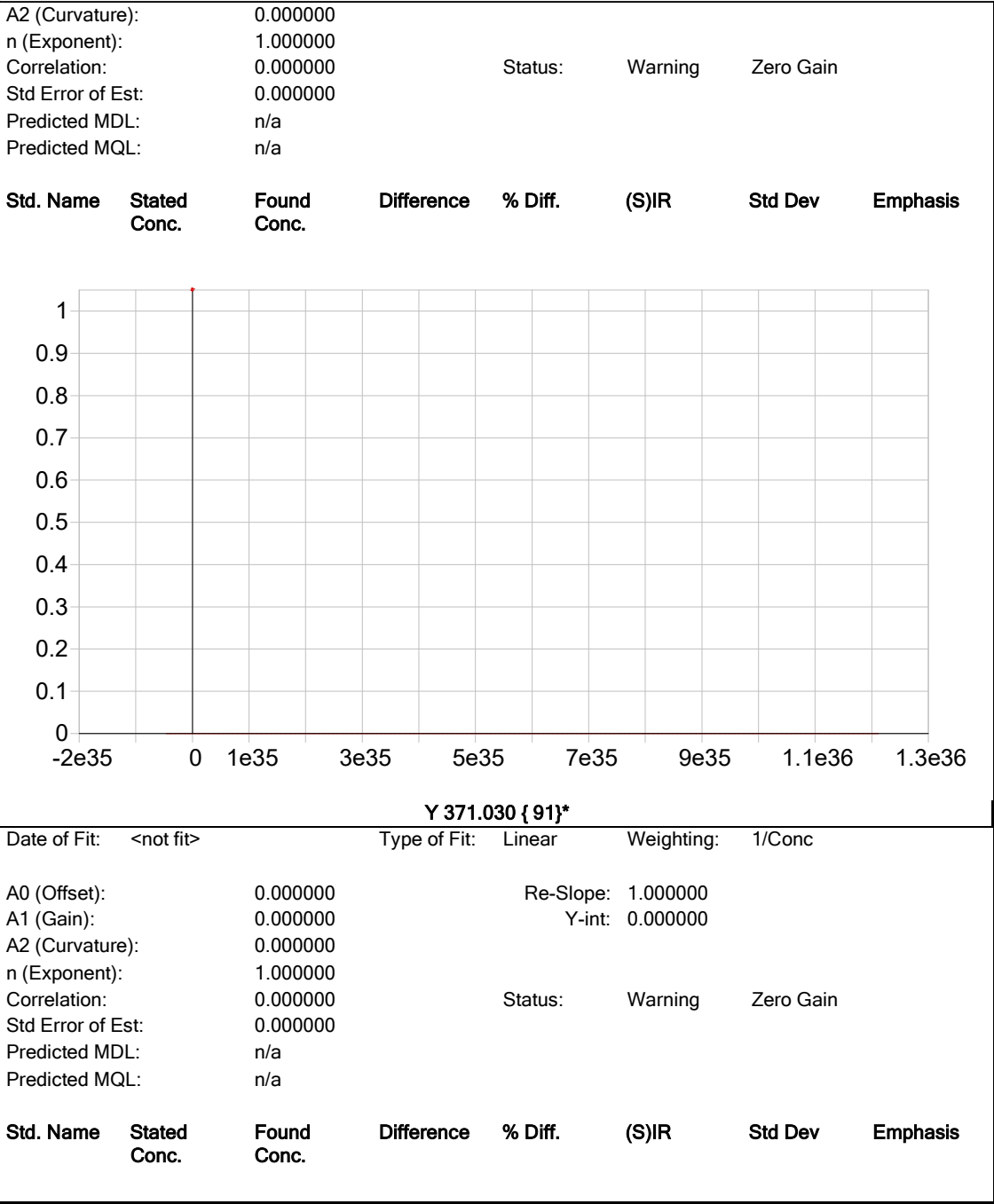
A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

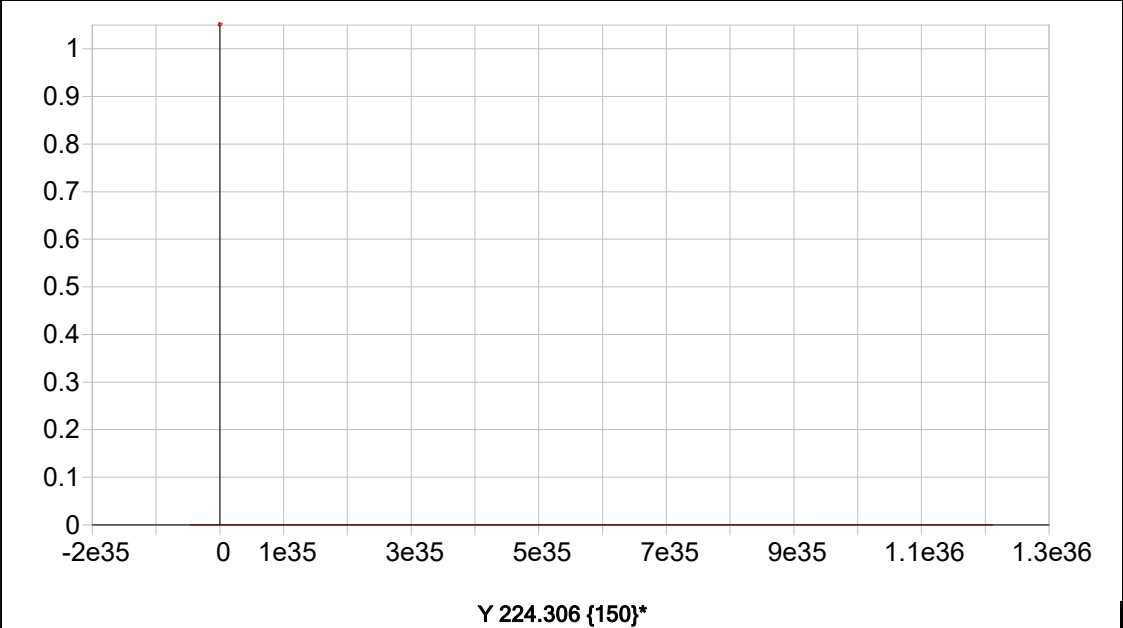
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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Date of Fit: <not fit> Type of Fit: Linear Weighting: 1/Conc

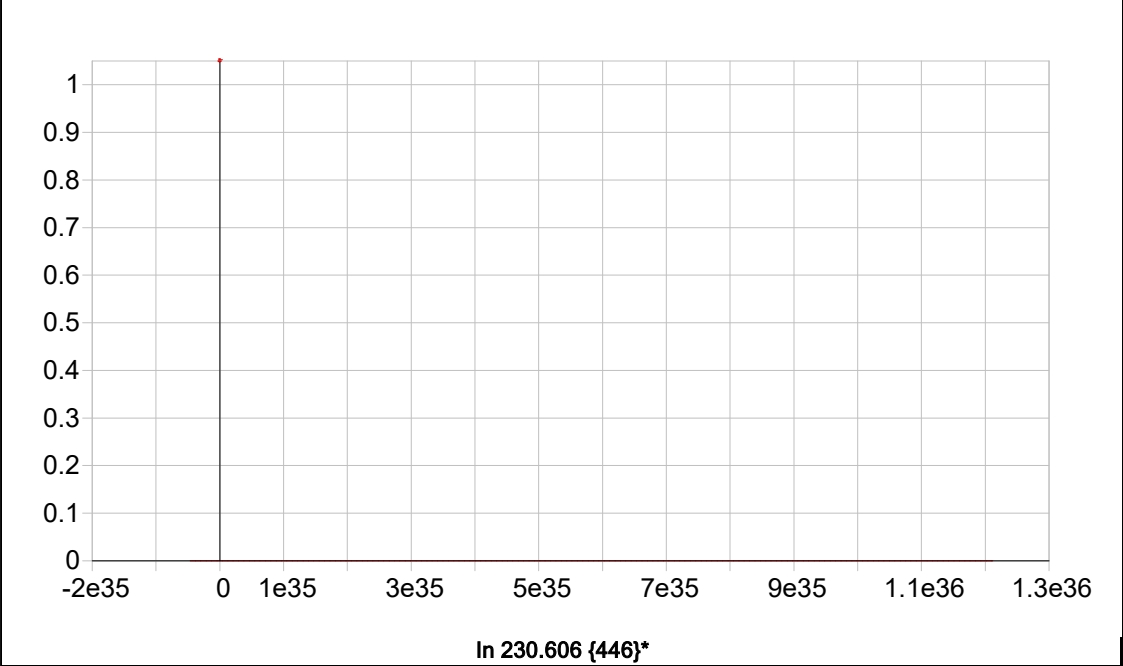
A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000





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

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
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Date of Fit:	<not fit>		Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		

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

Sample Name: S0 Acquired: 12/2/2024 10:48:38 Type: Cal

Method: NON EPA-6010-200.7(v2481) 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	-.00011	-.00006	-.00038	.00053	.00010	-.00003	-.01400	-.00055
Stddev	.00009	.00007	.00007	.00012	.00011	.00026	.00159	.00014
%RSD	83.609	128.72	19.399	23.057	112.36	1007.0	11.385	25.974
#1	-.00018	-.00012	-.00043	.00056	.00011	-.00032	-.01505	-.00042
#2	-.00001	.00002	-.00042	.00064	.00020	.00010	-.01478	-.00070
#3	-.00015	-.00007	-.00030	.00040	-.00002	.00014	-.01217	-.00054
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	.00113	-.00001	-.00007	-.00036	.00001	.00013	-.00023
Stddev	.00004	.00013	.00004	.00011	.00021	.00001	.00014	.00021
%RSD	560.98	11.597	496.39	158.44	59.186	92.475	105.70	92.784
#1	.00005	.00121	.00002	-.00003	-.00028	.00001	.00004	-.00047
#2	-.00001	.00121	-.00006	-.00019	-.00020	.00002	.00006	-.00007
#3	-.00002	.00098	.00001	.00002	-.00060	.00000	.00029	-.00014
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	-.00039	-.00128	.00467	.00010	.00396	.00115	.00724	.00065
Stddev	.00021	.00002	.00009	.00007	.00052	.00027	.00023	.00009
%RSD	53.904	1.7956	1.8551	77.054	13.098	23.509	3.2122	14.358
#1	-.00058	-.00127	.00460	.00012	.00453	.00085	.00730	.00075
#2	-.00044	-.00131	.00464	.00016	.00383	.00124	.00698	.00064
#3	-.00016	-.00127	.00477	.00001	.00352	.00137	.00744	.00056
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	.00167	.00180	.00019	-.00115	.00017	.00266	-.00017	
Stddev	.00003	.00015	.00002	.00009	.00005	.00053	.00031	
%RSD	1.6225	8.1628	11.423	8.1698	27.462	19.746	177.28	
#1	.00169	.00186	.00020	-.00126	.00020	.00246	.00018	
#2	.00167	.00163	.00020	-.00111	.00012	.00227	-.00039	
#3	.00164	.00190	.00016	-.00109	.00020	.00326	-.00031	

Sample Name: S0 Acquired: 12/2/2024 10:48:38 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	2768.0	64292.	13493.	1982.7	4727.0
Stddev	6.3	91.	22.	9.1	7.8
%RSD	.22636	.14081	.16396	.45903	.16489
#1	2774.1	64249.	13480.	1973.5	4731.0
#2	2761.6	64231.	13481.	1982.8	4718.0
#3	2768.1	64396.	13519.	1991.7	4732.0

Sample Name: S1 Acquired: 12/2/2024 10:53:03 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	.00093	.00233	.00219	.00211	.00923	.00677	.32925	.02110
Stddev	.00003	.00007	.00007	.00005	.00017	.00018	.00062	.00019
%RSD	2.9681	2.8599	3.0185	2.1921	1.8226	2.6012	.18970	.91345
#1	.00096	.00227	.00215	.00216	.00936	.00687	.32938	.02123
#2	.00091	.00240	.00226	.00207	.00929	.00656	.32980	.02118
#3	.00093	.00233	.00214	.00210	.00904	.00687	.32857	.02088
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	.01138	.10711	.00195	.02394	.01656	.00055	.01376	.03201
Stddev	.00009	.00031	.00004	.00003	.00017	.00002	.00010	.00011
%RSD	.74776	.28816	1.8287	.13950	1.0241	3.6319	.75333	.33003
#1	.01132	.10689	.00199	.02395	.01672	.00053	.01375	.03192
#2	.01148	.10697	.00192	.02390	.01638	.00057	.01366	.03198
#3	.01135	.10746	.00193	.02396	.01657	.00055	.01386	.03213
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	.02272	.00130	.03706	.00498	.14544	.01470	.04700	.15221
Stddev	.00006	.00003	.00014	.00008	.00134	.00013	.00037	.00004
%RSD	.25877	2.3420	.38138	1.5918	.92369	.85593	.79299	.02709
#1	.02266	.00131	.03712	.00505	.14520	.01456	.04730	.15224
#2	.02274	.00127	.03716	.00499	.14423	.01475	.04711	.15217
#3	.02277	.00133	.03690	.00489	.14688	.01480	.04658	.15224
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	.00560	.02268	.00236	-.00051	.00054	.02342	.29818	
Stddev	.00011	.00014	.00002	.00005	.00005	.00041	.00082	
%RSD	1.9888	.63585	.80090	10.582	10.148	1.7303	.27377	
#1	.00547	.02257	.00234	-.00049	.00059	.02335	.29856	
#2	.00562	.02262	.00237	-.00046	.00048	.02386	.29875	
#3	.00569	.02284	.00237	-.00057	.00055	.02306	.29725	

Sample Name: S1 Acquired: 12/2/2024 10:53:03 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	2843.2	65161.	13839.	2007.2	4807.4
Stddev	3.7	58.	19.	6.8	8.0
%RSD	.12949	.08842	.13846	.33987	.16649
#1	2844.2	65098.	13827.	1999.9	4803.0
#2	2839.2	65171.	13829.	2008.2	4802.6
#3	2846.3	65212.	13861.	2013.5	4816.7

Sample Name: S2 Acquired: 12/2/2024 10:57:26 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	.04173	.04684	.16114	.06330	.13548	.09056	5.0897	.13238
Stddev	.00019	.00032	.00018	.00045	.00028	.00027	.0056	.00076
%RSD	.45474	.69186	.11179	.70598	.20645	.30172	.11091	.57137

#1	.04189	.04692	.16123	.06342	.13539	.09066	5.0937	.13218
#2	.04178	.04648	.16125	.06368	.13579	.09077	5.0922	.13321
#3	.04152	.04711	.16093	.06281	.13526	.09025	5.0833	.13174

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	.69711	.19212	.02945	.29781	.14549	.00409	.24253	.05436
Stddev	.00119	.00024	.00012	.00048	.00031	.00001	.00100	.00031
%RSD	.17013	.12404	.42180	.16192	.21208	.36119	.41393	.56891

#1	.69848	.19201	.02947	.29831	.14518	.00407	.24236	.05407
#2	.69642	.19195	.02957	.29778	.14580	.00409	.24163	.05433
#3	.69643	.19239	.02932	.29734	.14550	.00410	.24361	.05469

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	.21322	.04640	.06439	.04659	1.2683	.02564	.30477	.55905
Stddev	.00044	.00020	.00012	.00006	.0059	.00007	.00028	.00100
%RSD	.20666	.43343	.18204	.12216	.46850	.27998	.09287	.17811

#1	.21349	.04658	.06447	.04654	1.2749	.02573	.30475	.55960
#2	.21271	.04643	.06445	.04658	1.2667	.02561	.30507	.55966
#3	.21346	.04618	.06426	.04665	1.2634	.02560	.30450	.55791

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	.07620	.38774	.00480	.02035	.01620	.77287	11.018
Stddev	.00009	.00068	.00002	.00001	.00002	.00380	.014
%RSD	.11820	.17441	.50096	.06111	.15138	.49120	.12785

#1	.07628	.38786	.00482	.02035	.01623	.77305	11.027
#2	.07610	.38836	.00478	.02036	.01618	.77657	11.025
#3	.07623	.38702	.00479	.02034	.01619	.76899	11.002

Sample Name: S2 Acquired: 12/2/2024 10:57:26 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	2981.2	68455.	14724.	2113.2	4969.1
Stddev	5.9	56.	10.	6.0	7.4
%RSD	.19705	.08169	.06661	.28363	.14902
#1	2977.3	68419.	14713.	2106.3	4960.9
#2	2978.5	68426.	14726.	2117.3	4971.5
#3	2988.0	68519.	14732.	2116.1	4975.1

Sample Name: S3 Acquired: 12/2/2024 11:01:30 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	.14829	.16282	.56895	.22309	.47790	.31649	17.642	.45712
Stddev	.00014	.00071	.00093	.00039	.00047	.00080	.062	.00183
%RSD	.09377	.43767	.16357	.17496	.09869	.25178	.35228	.40129

#1	.14816	.16350	.56787	.22300	.47787	.31611	17.583	.45913
#2	.14828	.16208	.56955	.22276	.47839	.31741	17.634	.45669
#3	.14844	.16289	.56941	.22352	.47744	.31595	17.707	.45554

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	2.4728	.66352	.10283	1.0573	.50363	.01417	.83078	.19007
Stddev	.0025	.00289	.00034	.0008	.00014	.00011	.00539	.00125
%RSD	.10072	.43586	.32650	.07360	.02796	.77919	.64899	.65641

#1	2.4727	.66106	.10314	1.0574	.50349	.01404	.82765	.18946
#2	2.4754	.66670	.10247	1.0579	.50376	.01422	.83701	.19151
#3	2.4704	.66280	.10289	1.0564	.50365	.01425	.82769	.18925

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	.75588	.16084	.21919	.16283	4.3599	.08788	1.0365	1.9389
Stddev	.00061	.00045	.00022	.00085	.0155	.00032	.0043	.0011
%RSD	.08050	.28198	.10008	.51989	.35572	.35901	.41351	.05708

#1	.75518	.16107	.21918	.16203	4.3710	.08795	1.0392	1.9385
#2	.75626	.16032	.21897	.16372	4.3665	.08754	1.0389	1.9381
#3	.75620	.16113	.21941	.16275	4.3422	.08816	1.0316	1.9402

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	.26723	1.3367	.01666	.07735	.05863	2.6718	37.532
Stddev	.00008	.0056	.00010	.00003	.00022	.0074	.301
%RSD	.02855	.41954	.59146	.03961	.37188	.27840	.80300

#1	.26714	1.3345	.01656	.07736	.05838	2.6737	37.396
#2	.26729	1.3430	.01668	.07731	.05872	2.6782	37.323
#3	.26724	1.3324	.01675	.07737	.05880	2.6636	37.878

Sample Name: S3 Acquired: 12/2/2024 11:01:30 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	2612.0	61344.	13336.	1852.0	4230.3
Stddev	2.8	100.	65.	13.6	5.6
%RSD	.10811	.16237	.48858	.73202	.13319
#1	2611.8	61452.	13320.	1849.5	4228.9
#2	2609.3	61327.	13281.	1839.8	4225.5
#3	2614.9	61255.	13408.	1866.6	4236.5

Sample Name: S4 Acquired: 12/2/2024 11:05:44 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	.28489	.29510	1.0785	.42627	.91601	.59788	33.110	.84714
Stddev	.00083	.00137	.0013	.00057	.00195	.00018	.146	.00249
%RSD	.29282	.46322	.11732	.13480	.21259	.02937	.44190	.29451
#1	.28525	.29420	1.0783	.42646	.91812	.59797	33.252	.84985
#2	.28394	.29443	1.0774	.42562	.91428	.59799	33.116	.84664
#3	.28548	.29668	1.0799	.42672	.91564	.59767	32.960	.84493
Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.7241	1.2384	.19250	2.0225	.95444	.02738	1.5502	.35802
Stddev	.0066	.0029	.00012	.0015	.00171	.00011	.0032	.00151
%RSD	.13963	.23795	.06465	.07507	.17935	.38814	.20378	.42268
#1	4.7203	1.2374	.19255	2.0210	.95600	.02728	1.5469	.35756
#2	4.7203	1.2361	.19259	2.0224	.95261	.02738	1.5507	.35680
#3	4.7317	1.2417	.19236	2.0241	.95473	.02749	1.5531	.35972
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	1.4415	.30727	.43491	.30758	8.1738	.17178	1.9281	3.6502
Stddev	.0012	.00039	.00052	.00032	.0259	.00019	.0066	.0069
%RSD	.07969	.12703	.11951	.10287	.31666	.10989	.34325	.18969
#1	1.4402	.30772	.43527	.30740	8.2037	.17184	1.9324	3.6543
#2	1.4422	.30709	.43514	.30739	8.1606	.17157	1.9314	3.6422
#3	1.4421	.30700	.43431	.30794	8.1573	.17193	1.9205	3.6542
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	.50750	2.5187	.03241	.15235	.11436	5.1254	70.624	
Stddev	.00039	.0009	.00023	.00022	.00041	.0103	.403	
%RSD	.07759	.03494	.71418	.14714	.35756	.20011	.57115	
#1	.50711	2.5188	.03220	.15211	.11406	5.1339	71.089	
#2	.50748	2.5177	.03237	.15237	.11419	5.1282	70.371	
#3	.50790	2.5195	.03266	.15256	.11483	5.1140	70.411	

Sample Name: S4 Acquired: 12/2/2024 11:05:44 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	2551.6	59757.	13398.	1807.1	4071.2
Stddev	4.6	121.	53.	9.6	5.1
%RSD	.17970	.20212	.39478	.53399	.12521
#1	2546.5	59626.	13341.	1796.0	4074.1
#2	2552.9	59780.	13408.	1812.3	4065.3
#3	2555.5	59864.	13445.	1813.1	4074.1

Sample Name: S5 Acquired: 12/2/2024 11:09:55 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	.61322	.63698	2.2777	.91469	1.9747	1.2691	69.984	1.7300
Stddev	.00088	.00401	.0024	.00054	.0023	.0027	1.048	.0089
%RSD	.14343	.62950	.10595	.05852	.11678	.21544	1.4970	.51185

#1	.61337	.64004	2.2797	.91437	1.9733	1.2717	71.193	1.7402
#2	.61403	.63244	2.2750	.91531	1.9774	1.2662	69.430	1.7256
#3	.61228	.63847	2.2783	.91439	1.9735	1.2695	69.331	1.7241

Elem	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404	Mn2576	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	10.046	2.5823	.40012	4.3215	1.9942	.05899	3.2475	.75584
Stddev	.006	.0074	.00029	.0027	.0034	.00030	.0127	.00157
%RSD	.06053	.28829	.07301	.06333	.16876	.50226	.39063	.20762

#1	10.049	2.5881	.40034	4.3226	1.9910	.05883	3.2585	.75432
#2	10.039	2.5739	.39978	4.3184	1.9977	.05880	3.2336	.75573
#3	10.051	2.5849	.40022	4.3236	1.9940	.05933	3.2504	.75746

Elem	Ni2316	Ag3280	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3.0560	.65405	.96387	.64337	16.981	.37720	3.9654	7.6842
Stddev	.0007	.00106	.00323	.00073	.026	.00115	.0214	.0104
%RSD	.02266	.16143	.33513	.11365	.15043	.30394	.53993	.13495

#1	3.0568	.65505	.96682	.64343	16.954	.37657	3.9893	7.6782
#2	3.0555	.65416	.96042	.64261	16.985	.37650	3.9586	7.6962
#3	3.0558	.65294	.96438	.64407	17.004	.37852	3.9481	7.6782

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	1.0754	5.3202	.07100	.32943	.25345	11.046	143.26
Stddev	.0016	.0164	.00065	.00098	.00029	.033	.57
%RSD	.14597	.30894	.91001	.29807	.11303	.30206	.39541

#1	1.0771	5.3375	.07030	.33034	.25367	11.079	143.92
#2	1.0739	5.3048	.07110	.32839	.25313	11.013	142.93
#3	1.0753	5.3183	.07158	.32956	.25355	11.046	142.95

Sample Name: S5 Acquired: 12/2/2024 11:09:55 Type: Cal
Method: NON EPA-6010-200.7(v2481) 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	2422.9	57634.	13277.	1704.5	3786.2
Stddev	5.1	95.	69.	2.2	2.2
%RSD	.20959	.16407	.51941	.12791	.05717
#1	2423.8	57539.	13198.	1705.2	3785.8
#2	2417.4	57728.	13312.	1706.3	3784.3
#3	2427.5	57637.	13321.	1702.1	3788.6

Sample Name: ICV01 Acquired: 12/2/2024 11:14:07 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.032428	1.079543	1.038321	1.061440	1.042429	2.656700
Stddev	.005336	.006737	.002757	.002887	.004578	.007130
%RSD	.5168022	.6240312	.2655323	.2720029	.4391612	.2683856

#1	1.026631	1.074210	1.035521	1.059880	1.037651	2.649165
#2	1.033518	1.077305	1.038410	1.064771	1.046776	2.657594
#3	1.037134	1.087114	1.041033	1.059668	1.042862	2.663341

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5396967	.5400888	.5255367	10.53929	.5480524	.5288706
Stddev	.0012479	.0019387	.0005096	.00866	.0024361	.0006046
%RSD	.2312248	.3589534	.0969678	.0821952	.4444953	.1143093

#1	.5409355	.5389342	.5250857	10.54550	.5475168	.5290118
#2	.5384398	.5423270	.5254347	10.52939	.5507117	.5282079
#3	.5397149	.5390052	.5260895	10.54296	.5459287	.5293920

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5413629	10.21367	.5452570	6.190500	.5312421	.2614776
Stddev	.0010149	.00739	.0009846	.014240	.0003311	.0005812
%RSD	.1874684	.0723847	.1805854	.2300234	.0623252	.2222904

#1	.5402106	10.21833	.5443195	6.184170	.5314947	.2621050
#2	.5421240	10.21753	.5462829	6.206807	.5313643	.2613703
#3	.5417540	10.20515	.5451686	6.180523	.5308673	.2609574

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.750834	.5327381	1.057147	9.982202	F .0074879	F .0017952
Stddev	.052309	.0024058	.002438	.039677	.0001351	.0004458
%RSD	.5364560	.4515903	.2305964	.3974774	1.804275	24.83140

#1	9.810648	.5338507	1.057841	9.994723	.0073922	.0021183
#2	9.728210	.5299774	1.059163	9.937775	.0074290	.0019806
#3	9.713646	.5343863	1.054438	10.01411	.0076424	.0012866

Sample Name: ICV01 Acquired: 12/2/2024 11:14:07 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	F -.015518	F -.000455	F .0059886	F .0091339	F -.000452	F -.001339
Stddev	.000951	.000160	.0026672	.0006104	.002212	.000559
%RSD	6.131299	35.20926	44.53872	6.682540	489.4408	41.76435
#1	-.016163	-.000276	.0056741	.0089756	-.002420	-.001902
#2	-.014425	-.000504	.0087992	.0098078	.001943	-.001330
#3	-.015966	-.000585	.0034926	.0086182	-.000879	-.000784

Elem	Sr4077
Units	ppm
Avg	F -.008635
Stddev	.000029
%RSD	.3307972
#1	-.008602
#2	-.008653
#3	-.008651

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2626.067	61872.12	13577.71	1866.538	4353.716
Stddev	6.697	257.00	37.47	10.078	4.720
%RSD	.2550019	.4153739	.2759465	.5399335	.1084177
#1	2633.799	61623.63	13540.74	1855.624	4358.938
#2	2622.123	61855.88	13576.73	1868.495	4352.455
#3	2622.278	62136.86	13615.66	1875.493	4349.754

Sample Name: LLICV01 Acquired: 12/2/2024 11:24:42 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0182121	.0432491	.0124771	.0190367	.0508551	.1043865	.1007173
Stddev	.0009302	.0013593	.0003274	.0007304	.0009871	.0018500	.0003203
%RSD	5.107442	3.142940	2.623642	3.836666	1.941010	1.772237	.3180113

#1	.0177386	.0442242	.0127444	.0198147	.0517812	.1040733	.1010276
#2	.0176140	.0438268	.0121120	.0189296	.0498166	.1027131	.1003879
#3	.0192838	.0416964	.0125750	.0183658	.0509676	.1063731	.1007365

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0062653	.0058274	2.102237	.0101440	.0300993	.0227922	.1005422
Stddev	.0000388	.0001887	.008537	.0001467	.0002989	.0001829	.0033671
%RSD	.6198282	3.238302	.4061001	1.445861	.9931037	.8024529	3.348977

#1	.0062756	.0060058	2.094191	.0099830	.0297589	.0229827	.0985239
#2	.0062981	.0058465	2.101328	.0102701	.0302197	.0227759	.0986735
#3	.0062224	.0056298	2.111192	.0101788	.0303192	.0226180	.1044293

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0214655	2.209423	.0403141	.0100544	1.854040	.0405853	.0444593
Stddev	.0001360	.012722	.0002756	.0002441	.025915	.0026033	.0000447
%RSD	.6334224	.5758188	.6835553	2.427843	1.397772	6.414391	.1004870

#1	.0214263	2.195690	.0400076	.0098155	1.829234	.0418619	.0445097
#2	.0216168	2.211773	.0403932	.0103034	1.851947	.0375901	.0444435
#3	.0213535	2.220807	.0405414	.0100442	1.880938	.0423039	.0444247

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.955596	.1003410	.2125680	.0392258	.0413732	.3452134	.0192097
Stddev	.033832	.0008843	.0003936	.0004595	.0002989	.0061444	.0011751
%RSD	1.730027	.8812905	.1851395	1.171406	.7224412	1.779898	6.117375

#1	1.925068	.1007657	.2123955	.0391522	.0413637	.3381962	.0183281
#2	1.949750	.1009329	.2122901	.0397177	.0416768	.3478147	.0205438
#3	1.991971	.0993245	.2130183	.0388076	.0410792	.3496293	.0187572

Sample Name: LLICV01 Acquired: 12/2/2024 11:24:42 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: LLICV01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0194876	.0193828	.0213810
Stddev	.0036995	.0003543	.0000655
%RSD	18.98393	1.827887	.3063094
#1	.0163776	.0197479	.0214311
#2	.0235788	.0193600	.0213069
#3	.0185064	.0190404	.0214049

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2647.679	62314.38	13590.79	1869.835	4511.219
Stddev	7.911	63.65	104.34	5.983	6.444
%RSD	.2987880	.1021432	.7677254	.3199720	.1428395
#1	2638.705	62369.10	13470.31	1863.932	4503.783
#2	2653.647	62329.50	13650.39	1869.678	4514.698
#3	2650.683	62244.53	13651.68	1875.894	4515.176

Sample Name: ICB01 Acquired: 12/2/2024 11:29:53 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002678	.0003388	.0000152	-.001236	.0005719	.0012249	-.001994
Stddev	.001444	.0002978	.0002935	.001506	.0005065	.0050860	.000413
%RSD	53.91560	87.89637	1934.013	121.8142	88.56726	415.2355	20.69474

#1	-.001288	.0001296	-.000047	-.000792	.0004283	-.001289	-.002466
#2	-.004171	.0006798	.000335	-.002915	.0001527	.007078	-.001814
#3	-.002577	.0002071	-.000242	-.000003	.0011346	-.002115	-.001702

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000101	-.000103	.0005328	.0001372	.0001367	-.000235	-.004121
Stddev	.0000387	.000022	.0026663	.0001449	.0000976	.000032	.002629
%RSD	385.2970	21.44967	500.4411	105.6385	71.39502	13.71472	63.78977

#1	.0000545	-.000128	.0002811	.0002463	.0000981	-.000255	-.004579
#2	-.000008	-.000084	.0033160	-.000027	.0000643	-.000253	-.001293
#3	-.000016	-.000099	-.001999	.000192	.0002478	-.000198	-.006491

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000122	.0079237	.0001790	.0002677	-.060902	-.000454	-.000118
Stddev	.000161	.0075613	.0001500	.0003125	.008516	.000303	.000249
%RSD	131.5939	95.42605	83.81268	116.7504	13.98398	66.78344	210.4872

#1	-.000079	.0166007	.0002609	-.000088	-.070671	-.000725	-.000084
#2	-.000300	.0044248	.0002702	.000498	-.056987	-.000509	-.000383
#3	.000013	.0027456	.0000058	.000393	-.055046	-.000127	.000112

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.047091	-.011276	-.000491	-.014010	-.000094	.0012137	.0019889
Stddev	.009029	.000471	.000072	.000277	.000361	.0071766	.0019486
%RSD	19.17255	4.176472	14.68809	1.975803	382.1172	591.3129	97.97396

#1	-.055292	-.011699	-.000457	-.014272	.000165	.0016733	.0024548
#2	-.037416	-.010768	-.000574	-.013721	.000058	.0081494	-.000150
#3	-.048566	-.011360	-.000443	-.014036	-.000506	-.006182	.003662

Sample Name: ICB01 Acquired: 12/2/2024 11:29:53 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.000471	-.000634	-.000010
Stddev	.002089	.000695	.000012
%RSD	443.6477	109.6401	122.4038
#1	.001525	-.000830	.000003
#2	-.000296	.000138	-.000012
#3	-.002642	-.001211	-.000020

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2816.060	66018.03	14329.15	1963.712	4912.736
Stddev	8.030	104.05	85.42	6.934	8.446
%RSD	.2851516	.1576023	.5961580	.3531118	.1719128
#1	2813.067	65992.62	14424.05	1959.266	4903.004
#2	2809.956	65929.04	14258.40	1960.169	4917.066
#3	2825.157	66132.42	14304.99	1971.702	4918.139

Sample Name: CRI01 Acquired: 12/2/2024 11:34:15 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0182436	.0431657	.0124269	.0190059	.0520818	.1084597	.1016412
Stddev	.0014251	.0011152	.0006572	.0004144	.0011580	.0030527	.0003595
%RSD	7.811430	2.583545	5.288673	2.180091	2.223350	2.814585	.3536752
#1	.0197921	.0442175	.0130485	.0188298	.0509930	.1106649	.1015792
#2	.0179514	.0419964	.0124930	.0194792	.0532984	.1049756	.1013169
#3	.0169873	.0432831	.0117391	.0187087	.0519540	.1097386	.1020277
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0062643	.0059274	2.112417	.0101529	.0299585	.0228415	.0995900
Stddev	.0000426	.0000479	.010379	.0001550	.0002326	.0004628	.0023645
%RSD	.6800786	.8083719	.4913339	1.526910	.7763465	2.025927	2.374211
#1	.0062843	.0059631	2.102900	.0102721	.0300477	.0233740	.0986115
#2	.0062933	.0058729	2.110867	.0099777	.0296945	.0225371	.0978719
#3	.0062154	.0059461	2.123484	.0102091	.0301333	.0226134	.1022867
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0215058	2.215003	.0402207	.0102691	1.860312	.0408715	.0442121
Stddev	.0003491	.024034	.0001906	.0001632	.028263	.0011811	.0005789
%RSD	1.623089	1.085044	.4738015	1.589486	1.519235	2.889890	1.309487
#1	.0211612	2.187263	.0400006	.0100913	1.849826	.0407553	.0443564
#2	.0214969	2.228174	.0403298	.0103038	1.838792	.0421064	.0435746
#3	.0218592	2.229573	.0403316	.0104121	1.892319	.0397527	.0447052
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.953877	.0968277	.2139165	.0399296	.0415514	.3441924	.0210898
Stddev	.010293	.0006899	.0005937	.0005457	.0004261	.0055207	.0008162
%RSD	.5267796	.7125179	.2775573	1.366561	1.025430	1.603951	3.870123
#1	1.950948	.0966151	.2132310	.0399981	.0419301	.3379042	.0214773
#2	1.945366	.0975989	.2142492	.0404378	.0416340	.3482426	.0216400
#3	1.965317	.0962690	.2142693	.0393529	.0410900	.3464305	.0201520

Sample Name: CRI01 Acquired: 12/2/2024 11:34:15 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CRI01 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0197044	.0195789	.0214862
Stddev	.0030758	.0006211	.0001403
%RSD	15.60964	3.172206	.6528465
#1	.0232534	.0191721	.0214155
#2	.0178138	.0202938	.0213954
#3	.0180459	.0192708	.0216478

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2648.853	62239.26	13550.96	1855.515	4515.632
Stddev	2.849	129.57	68.09	8.358	7.932
%RSD	.1075504	.2081859	.5024518	.4504388	.1756511
#1	2649.250	62134.22	13491.62	1848.156	4506.873
#2	2645.827	62384.05	13535.97	1864.602	4517.691
#3	2651.483	62199.50	13625.30	1853.788	4522.331

Sample Name: ICSA01 Acquired: 12/2/2024 11:38:33 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0045033	.0114109	.0079524	-.019810	-.001344	263.2021
Stddev	.0026157	.0018517	.0018045	.001909	.002206	2.0885
%RSD	58.08402	16.22780	22.69169	9.635024	164.1264	.7935146

#1	.0063156	.0121118	.0089550	-.017723	-.001292	261.0463
#2	.0056897	.0128099	.0090330	-.020240	.000835	263.3440
#3	.0015047	.0093110	.0058692	-.021467	-.003575	265.2161

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028096	.0014255	.0067506	247.6120	.0573745	.0022561
Stddev	.0000539	.0000768	.0001655	.4477	.0001792	.0000830
%RSD	1.918851	5.387653	2.451427	.1808220	.3124037	3.678104

#1	.0027473	.0015141	.0069416	247.1771	.0571852	.0023001
#2	.0028408	.0013819	.0066503	247.5872	.0575416	.0021604
#3	.0028406	.0013804	.0066599	248.0716	.0573968	.0023079

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054922	101.1295	.0038828	268.8191	.0024453	-.002995
Stddev	.0002364	.2978	.0006232	.9107	.0004512	.000318
%RSD	4.304136	.2944923	16.04953	.3387644	18.45138	10.62734

#1	.0053684	100.7858	.0033796	267.8198	.0021854	-.002833
#2	.0053435	101.2936	.0045799	269.0354	.0029663	-.003362
#3	.0057648	101.3092	.0036889	269.6021	.0021842	-.002790

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0795615	.0076739	.0057658	.0827456	.0262947	-.001007
Stddev	.0162294	.0005812	.0000779	.0272858	.0004106	.000086
%RSD	20.39860	7.573229	1.351046	32.97548	1.561360	8.504414

#1	.0621758	.0083363	.0057205	.0656347	.0258566	-.001038
#2	.0821966	.0072499	.0057212	.0683899	.0266707	-.001072
#3	.0943121	.0074355	.0058558	.1142123	.0263569	-.000910

Sample Name: ICSA01 Acquired: 12/2/2024 11:38:33 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSA01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.016715	-.000688	.0112731	.0065579	-.012473	F -.041859
Stddev	.000761	.000136	.0039487	.0040110	.004711	.000605
%RSD	4.550556	19.71349	35.02720	61.16190	37.77186	1.445415
#1	-.016750	-.000592	.0107297	.0089958	-.007099	-.041287
#2	-.015937	-.000629	.0154654	.0087493	-.015892	-.041796
#3	-.017457	-.000843	.0076243	.0019287	-.014428	-.042492

Elem	Sr4077
Units	ppm
Avg	.0052466
Stddev	.0009346
%RSD	17.81440
#1	.0063200
#2	.0046127
#3	.0048070

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2310.477	54035.90	12910.78	1622.384	3544.186
Stddev	3.466	146.60	38.50	2.598	5.437
%RSD	.1499974	.2713082	.2982076	.1601349	.1534116
#1	2308.788	54178.12	12872.45	1623.821	3539.519
#2	2308.181	54044.32	12949.45	1623.946	3542.883
#3	2314.464	53885.27	12910.43	1619.385	3550.157

Sample Name: ICSAB01 Acquired: 12/2/2024 11:42:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1064987	.0974034	.0553450	.0315160	.6236671	257.7688
Stddev	.0049678	.0016597	.0012778	.0016820	.0008244	1.0814
%RSD	4.664626	1.703955	2.308823	5.336906	.1321915	.4195304

#1	.1009938	.0992589	.0539969	.0306590	.6245086	256.5223
#2	.1106479	.0968909	.0554996	.0334539	.6228608	258.3276
#3	.1078543	.0960605	.0565384	.0304351	.6236319	258.4565

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5153639	.5061309	1.008347	242.6924	.5595909	.5070119
Stddev	.0007707	.0036230	.002916	.3815	.0017036	.0006050
%RSD	.1495459	.7158312	.2892118	.1571844	.3044329	.1193262

#1	.5144903	.5091745	1.010318	242.2519	.5615398	.5073303
#2	.5156538	.5021234	1.004996	242.9083	.5588481	.5063142
#3	.5159476	.5070948	1.009726	242.9169	.5583849	.5073913

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4861703	98.64948	.4997170	264.0840	.9951636	.1954366
Stddev	.0012750	.65117	.0024530	.4714	.0020283	.0005658
%RSD	.2622495	.6600883	.4908753	.1785046	.2038180	.2894892

#1	.4866385	97.95812	.4971475	263.6535	.9962843	.1949283
#2	.4847274	99.25117	.5020340	264.0109	.9928222	.1960462
#3	.4871450	98.73914	.4999694	264.5877	.9963843	.1953353

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0897484	.5032366	1.074949	.0655450	F .0239309	F -.001153
Stddev	.0211700	.0005869	.003378	.0259838	.0017367	.000399
%RSD	23.58817	.1166297	.3142295	39.64267	7.257001	34.58184

#1	.0663303	.5027985	1.078406	.0714638	.0220272	-.001362
#2	.0953858	.5030078	1.071657	.0371124	.0254286	-.001404
#3	.1075291	.5039034	1.074785	.0880588	.0243370	-.000693

Sample Name: ICSAB01 Acquired: 12/2/2024 11:42:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: ICSAB01 Custom ID2: Custom ID3:
Comment:

Elem	Sn1899	Ti3361	Si2881	P_1774	S_1820	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F -.017076	F -.001994	F .0009588	F .0125857	F -.013893	F -.041110
Stddev	.000273	.000157	.0037719	.0044396	.000739	.000841
%RSD	1.595911	7.887121	393.3994	35.27510	5.321189	2.044865
#1	-.016998	-.001933	.0050344	.0097516	-.013775	-.042079
#2	-.017378	-.002172	-.002409	.0177022	-.013220	-.040567
#3	-.016850	-.001876	.000251	.0103032	-.014685	-.040685

Elem	Sr4077
Units	ppm
Avg	F .0054266
Stddev	.0005409
%RSD	9.967143
#1	.0059165
#2	.0048462
#3	.0055172

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2324.790	55254.15	13205.57	1635.792	3590.308
Stddev	2.662	287.69	14.52	13.734	5.146
%RSD	.1145259	.5206678	.1099752	.8395957	.1433407
#1	2326.214	55453.35	13194.78	1638.686	3588.672
#2	2326.438	54924.32	13199.86	1620.842	3596.073
#3	2321.719	55384.78	13222.08	1647.848	3586.178

Sample Name: CCV01 Acquired: 12/2/2024 11:47:11 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	5.041697	5.127782	4.980665	5.067750	5.070994	10.05604	10.04075
Stddev	.007401	.041719	.008559	.004658	.007378	.01524	.10371
%RSD	.1467866	.8135811	.1718536	.0919144	.1454913	.1515398	1.032868
#1	5.044185	5.082460	4.977152	5.067016	5.075768	10.04618	10.09878
#2	5.033372	5.136304	4.974422	5.063502	5.062496	10.04834	9.92101
#3	5.047532	5.164582	4.990422	5.072731	5.074717	10.07359	10.10244
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2490616	2.477353	24.89735	1.010602	2.478611	1.265856	5.028415
Stddev	.0010859	.001664	.16876	.002539	.003741	.000104	.030118
%RSD	.4359865	.0671836	.6778239	.2512352	.1509169	.0082121	.5989639
#1	.2497403	2.478207	24.84268	1.013394	2.479218	1.265755	5.000210
#2	.2478092	2.475435	24.76269	1.009980	2.474604	1.265963	5.024898
#3	.2496353	2.478417	25.08666	1.008432	2.482011	1.265850	5.060138
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.497411	24.75661	2.485235	1.254377	25.26756	2.514470	2.543400
Stddev	.023250	.14514	.001560	.001632	.02977	.010995	.006065
%RSD	.9309525	.5862526	.0627625	.1301177	.1178065	.4372707	.2384441
#1	2.490238	24.69308	2.486920	1.256248	25.26371	2.511763	2.537423
#2	2.478594	24.65407	2.483841	1.253642	25.23990	2.505082	2.549549
#3	2.523402	24.92268	2.484944	1.253243	25.29906	2.526566	2.543229
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.21374	4.993949	5.117430	4.980886	5.019451	4.995457	4.919428
Stddev	.04448	.023813	.003438	.002145	.020268	.029006	.016937
%RSD	.1764035	.4768328	.0671837	.0430691	.4037843	.5806529	.3442814
#1	25.16382	4.998342	5.116332	4.978423	5.011618	4.961971	4.903237
#2	25.22828	4.968245	5.114674	4.982350	5.004269	5.011550	4.918024
#3	25.24914	5.015259	5.121282	4.981885	5.042466	5.012849	4.937023

Sample Name: CCV01 Acquired: 12/2/2024 11:47:11 Type: Unk
 Method: NON EPA-6010-200.7(v2481) 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	4.906751	5.038071	5.152231
Stddev	.015582	.007491	.046774
%RSD	.3175711	.1486818	.9078468
#1	4.889116	5.040045	5.140412
#2	4.912474	5.029791	5.112500
#3	4.918662	5.044377	5.203781

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2507.847	59050.28	13452.33	1755.970	4038.004
Stddev	3.624	109.36	70.76	4.135	4.720
%RSD	.1445163	.1852017	.5260318	.2354936	.1168869
#1	2503.910	58932.83	13400.60	1754.794	4033.822
#2	2511.045	59149.18	13532.97	1752.550	4043.122
#3	2508.584	59068.83	13423.42	1760.566	4037.069

Sample Name: CCB01 Acquired: 12/2/2024 11:51:22 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002068	-.001279	.0002629	-.001030	-.000261	.0000380	-.003056
Stddev	.002776	.001195	.0003984	.000817	.000640	.0053283	.000362
%RSD	134.1949	93.44078	151.5186	79.31866	245.4767	14006.14	11.84008

#1	-.004768	-.001747	-.000113	-.001213	.000123	.0053421	-.003396
#2	.000777	-.002170	.000221	-.000137	-.000999	-.005314	-.002676
#3	-.002214	.000079	.000681	-.001741	.000094	.000086	-.003096

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000497	-.000060	.0049194	.0002109	.0001335	.0000257	-.001708
Stddev	.0000416	.000062	.0036124	.0002723	.0001012	.0000470	.001341
%RSD	83.73628	103.9422	73.43208	129.0977	75.76846	183.0076	78.46146

#1	.0000943	-.000014	.0082505	.0002751	.0001193	.0000554	-.000738
#2	.0000121	-.000035	.0010796	.0004454	.0002410	-.000029	-.003238
#3	.0000426	-.000131	.0054282	-.000088	.0000402	.000050	-.001150

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000155	.0067466	.0004025	.0001956	-.028560	-.000326	-.000193
Stddev	.0001923	.0050368	.0002188	.0002516	.014945	.001380	.000069
%RSD	1236.393	74.65609	54.37570	128.6043	52.32910	423.6325	35.66249

#1	.0001356	.0106732	.0006514	.0004818	-.045255	.000786	-.000139
#2	-.000206	.0084990	.0003157	.0000092	-.023999	.000107	-.000170
#3	.000117	.0010677	.0002403	.0000958	-.016427	-.001870	-.000271

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.036559	-.009424	.0005834	-.013832	.0004217	.0013916	.0013521
Stddev	.010701	.000381	.0002346	.000519	.0004273	.0048500	.0008724
%RSD	29.26943	4.047958	40.20734	3.748628	101.3284	348.5288	64.52437

#1	-.047922	-.008986	.0008542	-.013254	.0000270	-.004209	.0004068
#2	-.035080	-.009685	.0004439	-.014255	.0008754	.004201	.0015230
#3	-.026675	-.009602	.0004520	-.013987	.0003626	.004182	.0021263

Sample Name: CCB01 Acquired: 12/2/2024 11:51:22 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002027	-.000815	.0000845
Stddev	.001403	.000129	.0000117
%RSD	69.20887	15.79932	13.78049
#1	-.002198	-.000932	.0000847
#2	-.003337	-.000677	.0000728
#3	-.000546	-.000838	.0000961

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2644.712	62718.96	13673.14	1856.988	4616.600
Stddev	3.390	90.79	30.77	2.040	4.892
%RSD	.1281874	.1447634	.2250687	.1098506	.1059709
#1	2643.350	62639.46	13708.11	1859.086	4612.425
#2	2648.572	62699.51	13650.19	1856.867	4615.392
#3	2642.215	62817.90	13661.12	1855.012	4621.984

Sample Name: P5019-01DUP Acquired: 12/2/2024 11:55:44 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0277650	-.008960	.3243008	-.037599	-.001846	111.8526
Stddev	.0039735	.004359	.0021269	.001986	.001481	.7142
%RSD	14.31126	48.65673	.6558321	5.280834	80.19906	.6385599

#1	.0290723	-.007269	.3241647	-.036686	-.001490	112.1212
#2	.0233026	-.005699	.3222452	-.039876	-.003473	112.3936
#3	.0309203	-.013911	.3264924	-.036234	-.000576	111.0430

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6087836	.0067729	.0171310	54.86730	.2051040	.1050662
Stddev	.0052130	.0000877	.0000470	.37341	.0011091	.0003595
%RSD	.8563007	1.294072	.2745287	.6805654	.5407246	.3421863

#1	.6118981	.0067481	.0171834	54.96987	.2050667	.1047055
#2	.6116873	.0067003	.0170924	55.17870	.2040140	.1050687
#3	.6027653	.0068702	.0171173	54.45333	.2062312	.1054245

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2434781	190.9242	4.373124	33.20956	.1891007	-.003504
Stddev	.0014114	.9949	.034525	.23618	.0010842	.000604
%RSD	.5796715	.5211160	.7894859	.7111764	.5733566	17.23695

#1	.2431747	190.0746	4.384775	33.14805	.1887651	-.003869
#2	.2422431	192.0187	4.400316	33.47041	.1882240	-.002807
#3	.2450165	190.6794	4.334281	33.01023	.1903131	-.003836

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.095513	.3053201	.4357813	13.06478	.0957116	.0025688
Stddev	.023986	.0015859	.0009810	.07151	.0011454	.0002785
%RSD	.3380457	.5194087	.2251200	.5473201	1.196738	10.83947

#1	7.090798	.3051171	.4352149	13.01891	.0950131	.0022474
#2	7.121506	.3069977	.4352149	13.14717	.0970335	.0027373
#3	7.074234	.3038455	.4369141	13.02825	.0950883	.0027217

Sample Name: P5019-01DUP Acquired: 12/2/2024 11:55:44 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.011528	4.929917	F 18.75147	5.667512	2.892718	.0890249
Stddev	.001418	.036649	.09969	.015349	.013001	.0010143
%RSD	12.30265	.7434056	.5316449	.2708311	.4494446	1.139282
#1	-.010088	4.943731	18.65248	5.662271	2.881992	.0900235
#2	-.011572	4.957652	18.85185	5.655469	2.888984	.0890556
#3	-.012924	4.888368	18.75009	5.684795	2.907178	.0879957

Elem	Sr4077
Units	ppm
Avg	.0760806
Stddev	.0023439
%RSD	3.080757
#1	.0783248
#2	.0762686
#3	.0736484

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2854.246	66983.38	16307.96	1992.606	3817.588
Stddev	4.664	108.97	120.77	10.853	7.618
%RSD	.1634068	.1626831	.7405692	.5446498	.1995584
#1	2858.985	66955.81	16205.20	1980.077	3825.866
#2	2854.092	66890.83	16277.68	1998.653	3816.025
#3	2849.660	67103.48	16440.99	1999.087	3810.872

Sample Name: P4985-01 Acquired: 12/2/2024 11:59:49 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0915610	-.016049	.5722522	-.053998	.0002894	98.79127
Stddev	.0031581	.003574	.0025603	.001836	.0012691	.19715
%RSD	3.449187	22.27015	.4474042	3.400620	438.5809	.1995668

#1	.0906602	-.013454	.5731113	-.053079	-.000603	98.96121
#2	.0950716	-.014568	.5742725	-.052803	-.000271	98.83748
#3	.0889511	-.020126	.5693729	-.056113	.001742	98.57511

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.106415	.0128518	.0313013	104.7678	.2501244	.1473600
Stddev	.004185	.0000683	.0003904	.4735	.0005860	.0002081
%RSD	.3782484	.5317633	1.247255	.4519316	.2342659	.1411992

#1	1.104298	.0129280	.0317518	104.4571	.2497135	.1474813
#2	1.111236	.0127958	.0310611	105.3127	.2498643	.1471197
#3	1.103713	.0128317	.0310910	104.5335	.2507954	.1474790

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2588575	238.0067	7.108279	68.82868	.2870179	-.004876
Stddev	.0019993	1.9255	.043253	.27114	.0008206	.000924
%RSD	.7723655	.8090183	.6084823	.3939333	.2859077	18.94204

#1	.2611464	235.7871	7.071473	68.65430	.2879652	-.005921
#2	.2574521	239.2288	7.155918	69.14106	.2865627	-.004534
#3	.2579741	239.0043	7.097446	68.69069	.2865257	-.004172

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.715623	.3696256	1.009137	26.34824	.1425553	.0003460
Stddev	.035785	.0017558	.002989	.12183	.0004926	.0003692
%RSD	.7588530	.4750114	.2961784	.4623953	.3455666	106.7182

#1	4.674482	.3701585	1.005732	26.20782	.1423792	.0002620
#2	4.732860	.3710533	1.010353	26.41113	.1421750	.0000260
#3	4.739528	.3676652	1.011327	26.42579	.1431118	.0007499

Sample Name: P4985-01 Acquired: 12/2/2024 11:59:49 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.004677	7.138518	F 11.60681	F 11.40869	.3844293	.2502123
Stddev	.000634	.025334	.04787	.04306	.0041150	.0003397
%RSD	13.55908	.3548872	.4123943	.3774382	1.070419	.1357706

#1	-.005226	7.127948	11.55179	11.45776	.3840189	.2506045
#2	-.004821	7.167425	11.62974	11.39110	.3805348	.2500105
#3	-.003983	7.120182	11.63889	11.37720	.3887341	.2500219

Elem	Sr4077
Units	ppm
Avg	.0712828
Stddev	.0016101
%RSD	2.258798

#1	.0729760
#2	.0711010
#3	.0697712

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3073.061	73339.50	17132.29	2154.862	3676.120
Stddev	5.685	163.93	109.13	10.779	8.693
%RSD	.1849812	.2235157	.6369752	.5002079	.2364703

#1	3067.510	73222.79	17045.95	2144.961	3666.471
#2	3072.801	73268.79	17095.97	2153.280	3678.551
#3	3078.871	73526.91	17254.95	2166.344	3683.340

Sample Name: P4985-05 Acquired: 12/2/2024 12:03:55 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0747263	-.000957	.2335833	-.079758	-.002075	154.1555
Stddev	.0021731	.000884	.0024295	.001516	.000551	.1850
%RSD	2.908062	92.30949	1.040084	1.900594	26.53947	.1200071

#1	.0765618	-.000488	.2347994	-.081471	-.001773	154.3385
#2	.0723268	-.000407	.2307859	-.078588	-.001742	154.1594
#3	.0752904	-.001976	.2351645	-.079217	-.002711	153.9686

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.990204	.0147667	.0412080	27.44998	.3193936	.1956583
Stddev	.003591	.0000658	.0001087	.09686	.0011427	.0001804
%RSD	.1804160	.4457087	.2637110	.3528641	.3577691	.0922049

#1	1.989576	.0148381	.0412678	27.33935	.3194513	.1956302
#2	1.994068	.0147084	.0412735	27.49105	.3205063	.1958511
#3	1.986970	.0147535	.0410825	27.51954	.3182231	.1954936

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3167591	356.6418	14.99327	68.87834	.3798765	-.008396
Stddev	.0012742	2.2550	.05008	.27282	.0010210	.000284
%RSD	.4022524	.6322769	.3340333	.3960917	.2687683	3.376675

#1	.3181565	354.0500	14.93558	68.58616	.3790941	-.008663
#2	.3156618	357.7213	15.01870	68.92245	.3795039	-.008427
#3	.3164590	358.1540	15.02553	69.12642	.3810314	-.008098

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.90936	.4647971	.7883946	25.40191	.2037957	.0004955
Stddev	.02592	.0013282	.0013211	.03496	.0047710	.0004185
%RSD	.2176440	.2857517	.1675712	.1376440	2.341073	84.45383

#1	11.93716	.4655924	.7887144	25.41541	.1986181	.0009678
#2	11.88586	.4632638	.7869429	25.36221	.2047546	.0003477
#3	11.90505	.4655351	.7895265	25.42812	.2080144	.0001710

Sample Name: P4985-05 Acquired: 12/2/2024 12:03:55 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.007338	5.945388	F 11.14863	7.956441	.6235983	.3020303
Stddev	.001813	.003273	.01526	.034312	.0018831	.0006735
%RSD	24.71331	.0550439	.1368412	.4312517	.3019707	.2229929
#1	-.005672	5.942844	11.15855	7.921316	.6255372	.3015188
#2	-.009269	5.949080	11.13106	7.958128	.6217765	.3027934
#3	-.007072	5.944240	11.15627	7.989878	.6234813	.3017787

Elem	Sr4077
Units	ppm
Avg	-.164982
Stddev	.002149
%RSD	1.302714
#1	-.162616
#2	-.165519
#3	-.166812

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2989.921	70679.68	16544.22	2098.978	3742.632
Stddev	4.114	225.02	45.00	15.367	2.372
%RSD	.1375956	.3183631	.2720059	.7320993	.0633827
#1	2990.660	70458.72	16497.23	2087.802	3745.359
#2	2993.615	70908.54	16548.50	2116.502	3741.040
#3	2985.487	70671.77	16586.93	2092.632	3741.499

Sample Name: P5000-01 Acquired: 12/2/2024 12:08:12 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0366529	-.002638	.2907092	-.031497	.0014767	77.24825
Stddev	.0021611	.002449	.0031549	.004221	.0006749	2.67295
%RSD	5.896076	92.81246	1.085228	13.40045	45.70418	3.460205

#1	.0356368	-.002264	.2898273	-.031301	.0007716	77.92135
#2	.0391348	-.000399	.2942111	-.035812	.0021167	79.52031
#3	.0351872	-.005253	.2880891	-.027377	.0015417	74.30309

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7739848	.0074725	.0133530	21.84868	.1555784	.0755241
Stddev	.0275434	.0001672	.0008743	.75908	.0054629	.0006201
%RSD	3.558653	2.237589	6.547556	3.474275	3.511375	.8211303

#1	.7799609	.0074906	.0143453	22.01093	.1492744	.0752134
#2	.7980495	.0076299	.0126960	22.51351	.1585336	.0751208
#3	.7439439	.0072970	.0130176	21.02158	.1589272	.0762382

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1621228	156.7813	1.723987	28.22202	.1615243	-.003424
Stddev	.0056015	5.0990	.061978	1.01923	.0000366	.000513
%RSD	3.455098	3.252324	3.595058	3.611455	.0226816	14.99541

#1	.1685737	150.9350	1.735537	28.41899	.1614830	-.003147
#2	.1584897	160.3094	1.779378	29.12839	.1615372	-.003109
#3	.1593050	159.0994	1.657046	27.11869	.1615528	-.004017

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9727051	.2494818	2.069157	9.974022	.0774486	.0009760
Stddev	.0473339	.0079270	.073614	.331192	.0077975	.0003953
%RSD	4.866211	3.177372	3.557661	3.320543	10.06791	40.49979

#1	.9181563	.2502081	1.984163	9.595033	.0689120	.0010885
#2	1.002949	.2570206	2.110654	10.20783	.0792379	.0005367
#3	.997010	.2412167	2.112654	10.11921	.0841959	.0013029

Sample Name: P5000-01 Acquired: 12/2/2024 12:08:12 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.007427	2.208009	F 14.34912	4.828569	.9760271	.1419760
Stddev	.000740	.077862	.46870	.022233	.0022934	.0045330
%RSD	9.969873	3.526351	3.266418	.4604383	.2349771	3.192798

#1	-.006573	2.227760	13.81179	4.848050	.9767903	.1429815
#2	-.007873	2.274094	14.67379	4.833309	.9734493	.1459218
#3	-.007837	2.122174	14.56179	4.804349	.9778416	.1370246

Elem	Sr4077
Units	ppm
Avg	-.017857
Stddev	.007340
%RSD	41.10305

#1	-.010906
#2	-.017133
#3	-.025531

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2862.986	69025.60	15390.12	2038.620	4106.642
Stddev	7.539	1950.94	495.96	55.770	8.495
%RSD	.2633406	2.826401	3.222597	2.735658	.2068705

#1	2854.772	71277.95	15190.18	2103.015	4097.626
#2	2864.594	67936.45	15025.33	2006.910	4107.802
#3	2869.592	67862.41	15954.84	2005.935	4114.498

Sample Name: P5000-05 Acquired: 12/2/2024 12:12:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0777040	-.000121	.8963965	-.073788	.0070376	199.3386
Stddev	.0037181	.000701	.0030920	.003475	.0021468	.7274
%RSD	4.784943	582.0458	.3449425	4.709040	30.50463	.3649021

#1	.0807219	-.000681	.8992104	-.077413	.0052874	199.1924
#2	.0735505	.000666	.8968927	-.073464	.0063923	198.6954
#3	.0788396	-.000347	.8930863	-.070487	.0094330	200.1280

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.036947	.0143727	.0405726	50.48117	.2810262	.1829029
Stddev	.003404	.0000486	.0005772	.15743	.0004889	.0002981
%RSD	.3282853	.3378968	1.422756	.3118556	.1739675	.1629553

#1	1.040733	.0143725	.0411940	50.33767	.2815437	.1827187
#2	1.034138	.0144214	.0400530	50.45627	.2805721	.1832467
#3	1.035970	.0143243	.0404709	50.64956	.2809629	.1827432

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5036490	336.1510	10.62818	58.65879	.3016832	-.008606
Stddev	.0013145	2.8814	.00884	.21905	.0005709	.000495
%RSD	.2609857	.8571690	.0831352	.3734267	.1892564	5.757762

#1	.5048047	332.8356	10.62466	58.41590	.3023341	-.009178
#2	.5039231	337.5661	10.62165	58.71913	.3014485	-.008329
#3	.5022191	338.0512	10.63824	58.84135	.3012669	-.008310

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.35458	.4450577	1.155006	18.71941	.1509052	.0029244
Stddev	.09641	.0024300	.002636	.04203	.0051163	.0003112
%RSD	.6716062	.5459864	.2282136	.2245367	3.390371	10.64037

#1	14.46586	.4423269	1.158049	18.67122	.1451147	.0025880
#2	14.30132	.4458647	1.153548	18.74848	.1527864	.0032019
#3	14.29655	.4469814	1.153422	18.73854	.1548146	.0029832

Sample Name: P5000-05 Acquired: 12/2/2024 12:12:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0626107	5.172847	F 15.43367	7.257319	4.739843	.2567544
Stddev	.0023285	.005856	.06892	.006536	.003114	.0009410
%RSD	3.719043	.1131985	.4465657	.0900541	.0657077	.3665082
#1	.0652736	5.173123	15.35806	7.252045	4.736364	.2577023
#2	.0616012	5.166858	15.44998	7.255281	4.740796	.2558204
#3	.0609573	5.178560	15.49297	7.264630	4.742370	.2567404

Elem	Sr4077
Units	ppm
Avg	-.027817
Stddev	.003664
%RSD	13.17261
#1	-.023595
#2	-.029686
#3	-.030169

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2892.304	69862.80	16208.96	2040.529	3704.255
Stddev	6.219	188.76	74.11	5.763	3.754
%RSD	.2150159	.2701858	.4572051	.2824080	.1013304
#1	2899.444	69651.45	16128.15	2034.753	3704.671
#2	2888.066	69922.37	16225.00	2040.557	3700.310
#3	2889.404	70014.59	16273.74	2046.278	3707.783

Sample Name: P5005-01 Acquired: 12/2/2024 12:16:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0390245	-.044934	.1181277	-.076372	-.002995	167.2570
Stddev	.0014113	.001961	.0033475	.000874	.001716	2.6925
%RSD	3.616481	4.363452	2.833829	1.144037	57.28638	1.609813

#1	.0374948	-.046634	.1144653	-.077346	-.001228	166.7201
#2	.0393027	-.042789	.1188885	-.076115	-.003102	164.8733
#3	.0402760	-.045379	.1210294	-.075656	-.004655	170.1775

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5552739	.0088988	.0418341	104.0750	.3416386	.2164001
Stddev	.0136481	.0001991	.0002580	2.6791	.0009336	.0006792
%RSD	2.457902	2.237878	.6166912	2.574238	.2732617	.3138495

#1	.5641444	.0090754	.0415399	105.5381	.3413840	.2157473
#2	.5395579	.0086829	.0419407	100.9829	.3426731	.2171029
#3	.5621195	.0089380	.0420217	105.7041	.3408587	.2163501

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4750783	323.3999	6.010167	84.08015	.2940087	-.005764
Stddev	.0011403	1.2254	.154064	2.21372	.0002005	.000575
%RSD	.2400197	.3789001	2.563384	2.632864	.0681906	9.983471

#1	.4738705	324.7196	6.099744	85.32416	.2938420	-.005407
#2	.4752282	322.2981	5.832271	81.52427	.2942312	-.006428
#3	.4761362	323.1820	6.098486	85.39202	.2939528	-.005457

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.582551	.8343463	.6373001	6.491544	.1573921	-.000751
Stddev	.043369	.0205950	.0052635	.018826	.0041646	.000328
%RSD	.5053171	2.468404	.8258994	.2900103	2.646033	43.64534

#1	8.630577	.8473802	.6427191	6.488058	.1554103	-.000777
#2	8.570825	.8106031	.6369738	6.511869	.1621775	-.000411
#3	8.546250	.8450556	.6322074	6.474704	.1545884	-.001064

Sample Name: P5005-01 Acquired: 12/2/2024 12:16:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.026867	F 14.07570	F 12.83749	5.383442	.6890407	.1295485
Stddev	.002070	.35170	.02279	.013553	.0031766	.0033595
%RSD	7.704859	2.498667	.1775428	.2517483	.4610234	2.593247
#1	-.027001	14.29355	12.86364	5.398246	.6921399	.1313910
#2	-.028867	13.66996	12.82182	5.371647	.6857919	.1256709
#3	-.024733	14.26360	12.82702	5.380433	.6891901	.1315837

Elem	Sr4077
Units	ppm
Avg	-.134455
Stddev	.003520
%RSD	2.617951
#1	-.133036
#2	-.138463
#3	-.131867

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3040.697	74505.50	17564.31	2167.921	3906.885
Stddev	1.581	398.56	386.44	26.178	3.890
%RSD	.0519922	.5349340	2.200141	1.207504	.0995631
#1	3042.281	74231.16	17283.76	2145.429	3910.533
#2	3039.120	74322.67	18005.09	2161.678	3907.332
#3	3040.688	74962.67	17404.07	2196.656	3902.792

Sample Name: P5019-01 Acquired: 12/2/2024 12:21:01 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0243293	-.008487	.2960527	-.037177	-.002898	105.6776
Stddev	.0016558	.000639	.0059510	.002588	.001206	2.0355
%RSD	6.805777	7.532134	2.010098	6.961967	41.62286	1.926095

#1	.0262204	-.008036	.2998650	-.039020	-.001771	107.8443
#2	.0236270	-.008206	.2990977	-.038292	-.004170	103.8055
#3	.0231403	-.009218	.2891955	-.034218	-.002754	105.3831

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5666495	.0063478	.0157993	51.85142	.1897888	.0952241
Stddev	.0103866	.0000582	.0010277	.91800	.0010251	.0028008
%RSD	1.832981	.9170088	6.504971	1.770447	.5401466	2.941285

#1	.5785203	.0064064	.0164436	52.85452	.1895296	.0974881
#2	.5592327	.0062900	.0163404	51.05311	.1889182	.0960922
#3	.5621955	.0063470	.0146141	51.64662	.1909187	.0920920

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2280794	174.0074	4.081645	31.31278	.1715434	-.002729
Stddev	.0083970	.8539	.070726	.50312	.0039698	.000481
%RSD	3.681605	.4907443	1.732794	1.606772	2.314191	17.63039

#1	.2337012	173.4923	4.161290	31.86460	.1745303	-.003256
#2	.2321100	173.5367	4.026179	30.87954	.1730612	-.002619
#3	.2184270	174.9931	4.057464	31.19420	.1670385	-.002313

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.503997	.2864081	.4155685	11.99540	.0742547	.0019765
Stddev	.010274	.0045836	.0018215	.08584	.0020745	.0001881
%RSD	.1579642	1.600363	.4383093	.7156119	2.793727	9.518109

#1	6.494107	.2915795	.4134666	11.93950	.0723370	.0021780
#2	6.503269	.2828470	.4165554	11.95247	.0739703	.0018055
#3	6.514616	.2847978	.4166836	12.09424	.0764566	.0019461

Sample Name: P5019-01 Acquired: 12/2/2024 12:21:01 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.010882	4.616127	F 17.30050	5.136359	2.666493	.0830218
Stddev	.000147	.084265	.08043	.101102	.061181	.0013162
%RSD	1.353287	1.825447	.4649099	1.968363	2.294440	1.585406
#1	-.011017	4.709003	17.25835	5.210706	2.713310	.0845276
#2	-.010725	4.544567	17.24990	5.177136	2.688903	.0820906
#3	-.010905	4.594810	17.39324	5.021237	2.597267	.0824471

Elem	Sr4077
Units	ppm
Avg	.0766824
Stddev	.0047431
%RSD	6.185449
#1	.0821553
#2	.0737659
#3	.0741258

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3010.971	71761.81	17101.45	2099.999	4137.562
Stddev	49.811	344.64	280.19	13.115	88.395
%RSD	1.654304	.4802521	1.638404	.6245341	2.136397
#1	2979.429	72014.13	16786.98	2112.400	4077.059
#2	2985.090	71902.15	17324.56	2101.327	4096.622
#3	3068.395	71369.14	17192.81	2086.271	4239.005

Sample Name: P5019-01LX5 Acquired: 12/2/2024 12:25:06 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0051821	-.001982	.0620224	-.009173	-.000190	26.38278	.1412804
Stddev	.0016384	.001649	.0001911	.000671	.001392	.56666	.0033109
%RSD	31.61697	83.19468	.3081689	7.316085	730.7593	2.147845	2.343490

#1	.0063222	-.002450	.0622238	-.009499	-.001722	26.05372	.1391621
#2	.0059196	-.003345	.0620000	-.009619	.000153	26.05752	.1395833
#3	.0033045	-.000150	.0618435	-.008401	.000997	27.03710	.1450957

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016761	.0017345	13.41486	.0439959	.0187449	.0549595	40.06530
Stddev	.0000411	.0000645	.32962	.0006725	.0002257	.0010773	.41119
%RSD	2.453067	3.721678	2.457099	1.528469	1.204172	1.960252	1.026308

#1	.0016348	.0016879	13.20541	.0447723	.0185139	.0537572	39.75926
#2	.0017171	.0018081	13.24436	.0436007	.0189649	.0558374	39.90394
#3	.0016765	.0017074	13.79480	.0436146	.0187560	.0552839	40.53270

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.070612	7.970055	.0347831	-.000357	1.361193	.0724381	.0920098
Stddev	.025681	.197823	.0005645	.000221	.011622	.0030072	.0006379
%RSD	2.398686	2.482076	1.622948	61.97512	.8538035	4.151451	.6932563

#1	1.054620	7.848359	.0341423	-.000513	1.349256	.0708124	.0926215
#2	1.056982	7.863493	.0350002	-.000454	1.361851	.0705937	.0920592
#3	1.100234	8.198315	.0352069	-.000104	1.372472	.0759083	.0913487

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.605306	.0016298	.0000365	-.014810	1.189783	3.831334	.9971021
Stddev	.021722	.0002704	.0001835	.000789	.028443	.031722	.0130891
%RSD	.8337657	16.59257	502.7624	5.324748	2.390638	.8279541	1.312718

#1	2.584349	.0013388	.0001206	-.015553	1.175058	3.810103	.9819894
#2	2.603848	.0016771	-.000174	-.013983	1.171722	3.816100	1.004828
#3	2.627720	.0018734	.000163	-.014894	1.222571	3.867799	1.004489

Sample Name: P5019-01LX5 Acquired: 12/2/2024 12:25:06 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.5057914	.0194969	.0237754
Stddev	.0103790	.0002432	.0008074
%RSD	2.052029	1.247385	3.396034
#1	.4940173	.0192611	.0233862
#2	.5136152	.0194827	.0232363
#3	.5097417	.0197469	.0247037

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2830.356	66947.20	13944.68	1993.188	4586.280
Stddev	33.956	43.64	214.53	4.561	58.264
%RSD	1.199698	.0651892	1.538422	.2288240	1.270407
#1	2868.619	66897.44	14050.00	1994.908	4653.168
#2	2803.812	66978.98	14086.18	1996.639	4546.568
#3	2818.637	66965.17	13697.84	1988.017	4559.106

Sample Name: P5019-01MS Acquired: 12/2/2024 12:29:22 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6580906	1.798019	1.143659	1.546397	.6302995	116.4756
Stddev	.0011782	.016930	.001871	.010500	.0023887	.4636
%RSD	.1790276	.9415746	.1635903	.6790019	.3789867	.3980293
#1	.6591550	1.817077	1.141941	1.556190	.6323473	116.1247
#2	.6582921	1.784721	1.143385	1.547690	.6276753	117.0012
#3	.6568247	1.792258	1.145652	1.535310	.6308758	116.3009
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7984059	.1695374	.1923324	56.91154	.4865321	.2707252
Stddev	.0041516	.0014455	.0005773	.39724	.0170136	.0001604
%RSD	.5199867	.8526011	.3001561	.6979961	3.496911	.0592454
#1	.7945678	.1702981	.1921406	56.56764	.4965025	.2705584
#2	.8028124	.1704436	.1918755	57.34636	.4962066	.2708783
#3	.7978374	.1678704	.1929812	56.82062	.4668872	.2707387
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4510723	171.0362	4.603027	35.39078	.6082878	.0567020
Stddev	.0047804	4.8340	.032940	.23629	.0002738	.0013644
%RSD	1.059784	2.826304	.7156094	.6676591	.0450071	2.406279
#1	.4507438	172.5204	4.569672	35.16374	.6080551	.0574015
#2	.4464646	174.9541	4.635535	35.63534	.6082190	.0575748
#3	.4560085	165.6341	4.603874	35.37325	.6085894	.0551297
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.817490	.5656812	.5542160	19.89267	.2995070	.3283381
Stddev	.274295	.0024247	.0207716	.56034	.0069945	.0009407
%RSD	3.110807	.4286291	3.747916	2.816802	2.335342	.2865158
#1	8.937296	.5631747	.5665282	20.11589	.2996518	.3293819
#2	9.011501	.5680148	.5658858	20.30699	.3064280	.3280768
#3	8.503672	.5658542	.5302339	19.25512	.2924412	.3275556

Sample Name: P5019-01MS Acquired: 12/2/2024 12:29:22 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6094954	5.194478	F 17.35968	F 10.20189	2.562742	.2765726
Stddev	.0006199	.031292	.50619	.02667	.016552	.0018111
%RSD	.1017061	.6024018	2.915922	.2614282	.6458636	.6548383

#1	.6098940	5.166876	17.58028	10.22674	2.570250	.2754559
#2	.6087812	5.228472	17.71814	10.17372	2.543766	.2786623
#3	.6098109	5.188086	16.78062	10.20522	2.574208	.2755997

Elem	Sr4077
Units	ppm
Avg	.2852491
Stddev	.0047948
%RSD	1.680924

#1	.2811338
#2	.2840991
#3	.2905143

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3012.753	72893.60	15500.65	2115.452	4155.192
Stddev	12.950	2205.40	42.71	67.400	12.817
%RSD	.4298276	3.025509	.2755227	3.186092	.3084506

#1	2998.268	71658.97	15496.66	2078.774	4140.433
#2	3016.783	71582.03	15460.09	2074.345	4161.625
#3	3023.209	75439.79	15545.22	2193.237	4163.518

Sample Name: P5019-01MSD Acquired: 12/2/2024 12:33:20 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6520965	1.774995	1.130820	1.535797	.6263877	106.3386
Stddev	.0058910	.005422	.002209	.003170	.0005720	.1932
%RSD	.9033883	.3054815	.1953267	.2064027	.0913168	.1816954

#1	.6578208	1.781256	1.133020	1.536164	.6265651	106.3284
#2	.6460519	1.771932	1.128603	1.538768	.6257480	106.5366
#3	.6524167	1.771798	1.130836	1.532460	.6268500	106.1506

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7245493	.1556131	.1902267	51.66488	.4809945	.2679400
Stddev	.0027115	.0004251	.0001611	.26467	.0007403	.0005277
%RSD	.3742338	.2731582	.0846679	.5122902	.1539169	.1969394

#1	.7269031	.1552682	.1904020	51.40195	.4810557	.2676524
#2	.7251605	.1560880	.1900852	51.93126	.4802254	.2676187
#3	.7215844	.1554831	.1901929	51.66142	.4817023	.2685491

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4495606	167.2171	4.159753	32.25841	.6017234	.0555923
Stddev	.0006056	.4228	.020920	.27612	.0004948	.0001078
%RSD	.1347104	.2528156	.5029025	.8559702	.0822318	.1938633

#1	.4502438	166.7322	4.140585	31.96988	.6011732	.0555307
#2	.4493482	167.4108	4.182068	32.52017	.6021320	.0555294
#3	.4490898	167.5084	4.156605	32.28517	.6018650	.0557167

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.612327	.5144869	.5487994	19.57270	.2873909	.3259760
Stddev	.046949	.0019269	.0015435	.10323	.0008729	.0004318
%RSD	.5451378	.3745292	.2812417	.5274413	.3037338	.1324581

#1	8.666344	.5122663	.5484638	19.68984	.2871057	.3257517
#2	8.581344	.5157173	.5474514	19.53324	.2883707	.3264738
#3	8.589292	.5154772	.5504831	19.49501	.2866962	.3257026

Sample Name: P5019-01MSD Acquired: 12/2/2024 12:33:20 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6038883	4.721953	F 17.24432	F 10.13703	2.538001	.2505517
Stddev	.0029708	.011658	.04328	.00501	.006154	.0009727
%RSD	.4919476	.2468880	.2509623	.0494475	.2424936	.3882370
#1	.6008022	4.717493	17.24492	10.13350	2.532108	.2516544
#2	.6067286	4.735182	17.20075	10.14277	2.544388	.2501850
#3	.6041342	4.713183	17.28729	10.13482	2.537508	.2498155

Elem	Sr4077
Units	ppm
Avg	.2470798
Stddev	.0019338
%RSD	.7826530
#1	.2486590
#2	.2476574
#3	.2449231

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3029.139	72854.08	16790.69	2113.397	4184.248
Stddev	6.538	215.07	67.60	1.917	8.435
%RSD	.2158296	.2952045	.4026226	.0906978	.2015776
#1	3028.881	72609.90	16783.96	2112.423	4188.384
#2	3022.734	72937.00	16726.70	2115.605	4174.543
#3	3035.802	73015.35	16861.40	2112.163	4189.815

Sample Name: CCV02 Acquired: 12/2/2024 12:46:47 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	5.169653	5.199319	5.005253	5.227420	5.217892	10.19218	10.17076
Stddev	.003193	.049753	.005489	.006695	.007144	.03099	.07797
%RSD	.0617737	.9569152	.1096559	.1280698	.1369224	.3040207	.7666245

#1	5.166236	5.240733	5.011578	5.219753	5.212375	10.15774	10.10698
#2	5.172561	5.213093	5.001756	5.232110	5.225962	10.20101	10.14763
#3	5.170164	5.144130	5.002423	5.230396	5.215338	10.21780	10.25768

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2452874	2.464217	24.66895	1.009455	2.492642	1.292395	5.003398
Stddev	.0006614	.005717	.11400	.000625	.003135	.001195	.024916
%RSD	.2696387	.2320025	.4621226	.0619345	.1257662	.0924518	.4979847

#1	.2460042	2.470138	24.55535	1.010167	2.496246	1.292566	4.977037
#2	.2451574	2.458729	24.78335	1.009203	2.490549	1.291124	5.026560
#3	.2447007	2.463784	24.66816	1.008995	2.491131	1.293496	5.006598

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.466171	24.58039	2.493805	1.257339	25.65696	2.520018	2.582131
Stddev	.004689	.10331	.005063	.002716	.03480	.006027	.005785
%RSD	.1901244	.4202993	.2030317	.2160378	.1356454	.2391562	.2240445

#1	2.461454	24.46246	2.499533	1.260465	25.69650	2.514256	2.578294
#2	2.470831	24.62377	2.489927	1.256000	25.64340	2.526279	2.579314
#3	2.466229	24.65494	2.491954	1.255552	25.63098	2.519518	2.588785

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.71741	4.943206	5.239273	4.986984	5.019525	5.102223	4.913994
Stddev	.04552	.015787	.000601	.017966	.009764	.045936	.023191
%RSD	.1769949	.3193668	.0114660	.3602592	.1945148	.9003116	.4719306

#1	25.66895	4.960392	5.239506	5.007254	5.010514	5.049286	4.939021
#2	25.72402	4.939878	5.238591	4.973024	5.029898	5.125800	4.909731
#3	25.75927	4.929348	5.239723	4.980674	5.018162	5.131584	4.893231

Sample Name: CCV02 Acquired: 12/2/2024 12:46:47 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	4.932909	5.100270	5.186217
Stddev	.020369	.004423	.045666
%RSD	.4129124	.0867303	.8805312
#1	4.952896	5.102591	5.151323
#2	4.933652	5.103051	5.237901
#3	4.912179	5.095170	5.169425

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2424.654	57995.17	13391.56	1685.968	3945.057
Stddev	5.593	73.72	28.91	5.402	6.853
%RSD	.2306901	.1271144	.2159104	.3204168	.1737009
#1	2430.406	58079.94	13374.57	1690.441	3947.679
#2	2419.234	57946.07	13375.15	1687.497	3937.281
#3	2424.322	57959.50	13424.94	1679.966	3950.212

Sample Name: CCB02 Acquired: 12/2/2024 12:50:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002335	-.000899	-.000202	-.001056	.0002280	.0043505	-.003943
Stddev	.001830	.000866	.000154	.000371	.0003734	.0015554	.000427
%RSD	78.38032	96.32034	76.43213	35.13940	163.7871	35.75235	10.82780

#1	-.000226	-.000438	-.000130	-.000956	.0006591	.0026560	-.004400
#2	-.003503	-.001898	-.000379	-.001467	.0000043	.0046822	-.003554
#3	-.003276	-.000361	-.000096	-.000745	.0000206	.0057134	-.003877

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000187	-.000061	.0004882	.0000148	.0001154	.0001599	-.001360
Stddev	.0000243	.000148	.0088189	.0001771	.0001929	.0000598	.002306
%RSD	129.7668	241.9841	1806.425	1196.306	167.2366	37.38027	169.5311

#1	-.000006	-.000157	-.005230	-.000183	.0002771	.0001331	-.001251
#2	.000043	-.000136	-.003950	.000068	-.000098	.0002284	-.003719
#3	.000019	.000109	.010645	.000159	.000167	.0001182	.000889

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000077	.0019205	.0001852	.0004877	-.079652	-.001307	-.000232
Stddev	.000121	.0128434	.0001998	.0004355	.008887	.001310	.000164
%RSD	156.5615	668.7477	107.8498	89.28680	11.15771	100.2286	70.61353

#1	.000000	-.002866	-.000036	.0001988	-.089036	-.001276	-.000357
#2	-.000015	-.007843	.000352	.0009886	-.078557	-.000013	-.000047
#3	-.000216	.016470	.000240	.0002758	-.071363	-.002632	-.000292

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.021373	-.009264	.0004333	-.013873	.0001908	.0019049	.0029712
Stddev	.006234	.000434	.0004123	.000502	.0002200	.0032816	.0004891
%RSD	29.17024	4.686971	95.14311	3.615766	115.3170	172.2718	16.46248

#1	-.022953	-.008763	.0009002	-.013610	.0003148	-.001487	.0035259
#2	-.014500	-.009537	.0002805	-.014451	.0003208	.002139	.0026018
#3	-.026664	-.009492	.0001193	-.013557	-.000063	.005063	.0027860

Sample Name: CCB02 Acquired: 12/2/2024 12:50:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.001477	-.001191	.0000320
Stddev	.002992	.000654	.0000183
%RSD	202.6303	54.91699	57.38132
#1	-.001331	-.001635	.0000497
#2	.001440	-.001498	.0000131
#3	-.004540	-.000440	.0000331

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2704.267	64327.88	14218.60	1882.717	4788.274
Stddev	4.290	208.96	25.44	5.580	7.524
%RSD	.1586547	.3248435	.1788945	.2963867	.1571422
#1	2699.970	64339.42	14189.45	1877.474	4780.603
#2	2704.279	64113.38	14236.27	1882.097	4788.578
#3	2708.551	64530.83	14230.08	1888.582	4795.642

Sample Name: P5019-01A Acquired: 12/2/2024 12:56:23 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.7256809	1.919912	1.252240	1.701984	.6940916	117.4477
Stddev	.0052061	.033917	.005334	.002746	.0026489	.1121
%RSD	.7174094	1.766572	.4259442	.1613463	.3816321	.0954700

#1	.7296032	1.957981	1.257960	1.703756	.6918094	117.5639
#2	.7197745	1.892916	1.251359	1.703375	.6934692	117.4391
#3	.7276651	1.908838	1.247402	1.698821	.6969963	117.3402

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.7913582	.1661431	.2103152	56.59244	.5219281	.2981826
Stddev	.0044160	.0011656	.0012336	.26472	.0011131	.0006148
%RSD	.5580329	.7015731	.5865644	.4677683	.2132739	.2061857

#1	.7958249	.1671394	.2116532	56.33343	.5230016	.2988348
#2	.7912552	.1664288	.2100695	56.86253	.5207792	.2980991
#3	.7869946	.1648613	.2092230	56.58137	.5220037	.2976138

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4945120	184.3535	4.536485	35.10019	.6696370	.0617044
Stddev	.0012108	1.1938	.015109	.17627	.0017037	.0001197
%RSD	.2448387	.6475344	.3330517	.5021945	.2544249	.1939565

#1	.4938546	183.1436	4.529282	34.90890	.6715507	.0618109
#2	.4959093	184.3863	4.553848	35.25606	.6682852	.0617275
#3	.4937722	185.5304	4.526326	35.13563	.6690751	.0615749

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.732193	.5617595	.6186487	21.81618	.3111757	.3591058
Stddev	.035296	.0043936	.0024153	.02251	.0014287	.0010400
%RSD	.3626674	.7821077	.3904210	.1031954	.4591290	.2896133

#1	9.771069	.5567297	.6206937	21.83723	.3111184	.3600765
#2	9.702160	.5637000	.6159839	21.79245	.3097765	.3580081
#3	9.723351	.5648486	.6192685	21.81887	.3126322	.3592328

Sample Name: P5019-01A Acquired: 12/2/2024 12:56:23 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6730759	5.183696	F 19.70576	F 11.29191	2.837881	.2768897
Stddev	.0039419	.018991	.12253	.08591	.015673	.0019983
%RSD	.5856497	.3663673	.6218096	.7608531	.5522635	.7216943
#1	.6774668	5.198423	19.58433	11.25266	2.855876	.2790246
#2	.6719190	5.190406	19.70359	11.23262	2.830551	.2765803
#3	.6698420	5.162261	19.82936	11.39043	2.827217	.2750641

Elem	Sr4077
Units	ppm
Avg	.2703778
Stddev	.0031179
%RSD	1.153166
#1	.2732843
#2	.2707647
#3	.2670846

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2731.178	66794.27	15605.71	1905.703	3737.270
Stddev	9.088	73.68	80.23	7.894	3.255
%RSD	.3327399	.1103033	.5141186	.4142307	.0870901
#1	2741.671	66870.23	15561.07	1908.993	3738.960
#2	2725.982	66789.47	15557.73	1911.420	3733.518
#3	2725.880	66723.11	15698.33	1896.696	3739.333

Sample Name: PB165280BL Acquired: 12/2/2024 13:00:21 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002891	.0001018	-.000118	-.000422	.0007652	-.000085	-.005035
Stddev	.000365	.0024372	.000617	.001139	.0009925	.003525	.000359
%RSD	12.61833	2394.100	523.3847	269.6738	129.7062	4143.323	7.135589

#1	-.002524	.0026222	.000246	.000352	-.000347	-.001250	-.005422
#2	-.002895	-.002243	-.000831	.000111	.001560	.003875	-.004712
#3	-.003254	-.000074	.000231	-.001730	.001083	-.002880	-.004971

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000642	-.000044	.0037227	.0000637	.0001458	-.000090	.0000608
Stddev	.0000344	.000047	.0033975	.0002649	.0001924	.000329	.0034448
%RSD	53.53706	107.1075	91.26405	415.7317	131.9983	364.3243	5667.655

#1	.0001026	-.000036	.0015633	-.000126	-.000076	.000130	.0036859
#2	.0000364	-.000096	.0076390	.000366	.000255	-.000469	-.000334
#3	.0000536	-.000002	.0019660	-.000049	.000259	.000068	-.003170

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000800	.0080971	.0000210	.0005431	-.084150	-.000332	-.000189
Stddev	.0001348	.0024063	.0001278	.0001881	.012010	.000794	.000279
%RSD	168.4032	29.71858	608.5337	34.63680	14.27197	239.0764	147.7833

#1	.0001244	.0067134	-.000088	.0004812	-.098008	-.000854	.000000
#2	.0001871	.0067023	-.000010	.0007544	-.076773	-.000724	-.000510
#3	-.000071	.0108757	.000162	.0003938	-.077670	.000582	-.000057

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.025200	-.012178	-.000653	-.014062	.0003842	.0014570	.0005185
Stddev	.030734	.000474	.000222	.000507	.0001320	.0047004	.0016407
%RSD	121.9604	3.888590	33.90866	3.608384	34.35122	322.6090	316.4656

#1	-.058055	-.011636	-.000505	-.014141	.0005300	.0007395	.0022828
#2	-.020392	-.012511	-.000547	-.013519	.0002728	.0064749	-.000962
#3	.002847	-.012386	-.000908	-.014525	.0003499	-.002843	.000234

Sample Name: PB165280BL Acquired: 12/2/2024 13:00:21 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0002604	-.001232	-.000013
Stddev	.0023703	.000257	.000017
%RSD	910.3302	20.88819	129.9357
#1	.0011994	-.001168	-.000003
#2	.0020173	-.001515	-.000033
#3	-.002436	-.001012	-.000004

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2517.346	60611.59	13585.68	1751.623	4448.223
Stddev	8.511	217.28	76.47	20.807	7.516
%RSD	.3380921	.3584804	.5628446	1.187896	.1689611
#1	2510.372	60395.02	13501.69	1728.396	4440.108
#2	2514.836	60610.16	13604.07	1757.915	4449.616
#3	2526.829	60829.58	13651.27	1768.559	4454.944

Sample Name: PB165280BS Acquired: 12/2/2024 13:04:41 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8141137	2.133965	.9838212	2.067798	.8165622	2.069904
Stddev	.0032869	.026946	.0041927	.002575	.0012511	.005455
%RSD	.4037461	1.262737	.4261595	.1245242	.1532092	.2635551

#1	.8126670	2.148790	.9794804	2.065299	.8166778	2.063654
#2	.8178758	2.150244	.9878480	2.070443	.8152573	2.073710
#3	.8117981	2.102861	.9841352	2.067652	.8177514	2.072350

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1997940	.1999419	.1933980	1.045420	.4063001	.1985758
Stddev	.0004658	.0001611	.0003857	.008570	.0020972	.0002347
%RSD	.2331267	.0805487	.1994094	.8197448	.5161759	.1181933

#1	.1998199	.2000737	.1930311	1.041452	.4081451	.1984986
#2	.1993158	.1999897	.1938000	1.039554	.4040192	.1988394
#3	.2002463	.1997624	.1933631	1.055255	.4067359	.1983895

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3210654	2.947079	.2040274	1.975497	.4972460	.0740610
Stddev	.0004045	.013074	.0006285	.008583	.0004410	.0004714
%RSD	.1260016	.4436308	.3080516	.4344829	.0886810	.6364851

#1	.3206027	2.936569	.2033120	1.969674	.4973727	.0742551
#2	.3212414	2.942949	.2044909	1.985354	.4976098	.0735236
#3	.3213523	2.961720	.2042792	1.971462	.4967556	.0744044

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.777616	.3066826	.2116258	9.825252	.2860950	.4307059
Stddev	.006715	.0011768	.0003751	.048783	.0009532	.0006944
%RSD	.2417482	.3837013	.1772454	.4965068	.3331706	.1612313

#1	2.784330	.3066446	.2118439	9.879019	.2868405	.4312906
#2	2.770900	.3055253	.2118408	9.783822	.2864234	.4308888
#3	2.777616	.3078779	.2111927	9.812914	.2850210	.4299383

Sample Name: PB165280BS Acquired: 12/2/2024 13:04:41 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6734201	.2051691	.7565411	5.551604	F -.010064	.2128607
Stddev	.0017800	.0003246	.0021226	.030222	.000966	.0005707
%RSD	.2643251	.1582277	.2805707	.5443881	9.597475	.2681115
#1	.6754687	.2047943	.7583785	5.564122	-.009245	.2134543
#2	.6722510	.2053528	.7542176	5.573556	-.011129	.2128117
#3	.6725407	.2053602	.7570273	5.517134	-.009819	.2123161

Elem	Sr4077
Units	ppm
Avg	.2122878
Stddev	.0003529
%RSD	.1662439
#1	.2126816
#2	.2120003
#3	.2121814

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2490.962	60492.27	13371.01	1733.194	4269.835
Stddev	5.105	140.32	24.48	3.946	5.239
%RSD	.2049498	.2319677	.1830994	.2276588	.1226960
#1	2494.886	60410.29	13384.80	1737.360	4275.821
#2	2492.810	60654.30	13385.49	1729.514	4267.603
#3	2485.190	60412.22	13342.74	1732.708	4266.083

Sample Name: P4972-05DLX5 Acquired: 12/2/2024 13:08:42 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.029483	.0213316	.0141930	.0529186	.0106705	2.128818
Stddev	.003330	.0016989	.0004628	.0051387	.0010826	.006774
%RSD	11.29481	7.964288	3.260666	9.710536	10.14592	.3182061

#1	-.027396	.0196595	.0140213	.0540077	.0101602	2.121160
#2	-.033323	.0212794	.0147171	.0574254	.0099373	2.131268
#3	-.027730	.0230561	.0138406	.0473226	.0119140	2.134026

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4650575	.0012417	.0010531	12.96514	.0151294	.0039815
Stddev	.0019454	.0000238	.0000430	.02016	.0003257	.0002551
%RSD	.4183147	1.919008	4.078903	.1554870	2.152967	6.406538

#1	.4672714	.0012161	.0010927	12.94981	.0151884	.0037832
#2	.4636212	.0012633	.0010593	12.95762	.0154216	.0042692
#3	.4642798	.0012456	.0010074	12.98797	.0147782	.0038920

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0880416	96.52666	.8541983	2.550519	.0093092	.0012193
Stddev	.0017232	.37717	.0018590	.027270	.0002302	.0001944
%RSD	1.957228	.3907441	.2176297	1.069176	2.472700	15.94141

#1	.0897112	96.11053	.8527538	2.526224	.0093880	.0011358
#2	.0881441	96.62341	.8535453	2.545319	.0094896	.0010807
#3	.0862694	96.84602	.8562956	2.580014	.0090499	.0014415

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	116.1353	.0078399	1.061957	173.6966	.2542131	.0047437
Stddev	.6795	.0004920	.005249	.5365	.0012371	.0004889
%RSD	.5850626	6.275191	.4942610	.3089005	.4866564	10.30627

#1	116.9068	.0075408	1.058376	174.2886	.2555091	.0050734
#2	115.6260	.0075713	1.067982	173.2424	.2540856	.0041820
#3	115.8731	.0084077	1.059514	173.5588	.2530447	.0049757

Sample Name: P4972-05DLX5 Acquired: 12/2/2024 13:08:42 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0178178	.0307984	1.481119	F 26.98768	1.749139	.0016656
Stddev	.0006613	.0004235	.006833	.03548	.006235	.0004322
%RSD	3.711285	1.375155	.4613537	.1314815	.3564615	25.94798
#1	.0185192	.0309247	1.475501	26.96744	1.741942	.0021069
#2	.0177285	.0311444	1.479131	27.02865	1.752915	.0012431
#3	.0172057	.0303261	1.488726	26.96695	1.752558	.0016468

Elem	Sr4077
Units	ppm
Avg	-.032094
Stddev	.000643
%RSD	2.002310
#1	-.031354
#2	-.032423
#3	-.032506

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2118.675	52921.52	13342.64	1481.777	3823.332
Stddev	5.220	53.80	22.21	2.732	5.309
%RSD	.2463591	.1016662	.1664804	.1844036	.1388450
#1	2115.907	52881.43	13317.37	1483.551	3817.925
#2	2124.695	52982.67	13351.44	1483.150	3828.536
#3	2115.421	52900.47	13359.10	1478.631	3823.536

Sample Name: P4972-05DUPDLX5 Acquired: 12/2/2024 13:12:53 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.023573	.0187824	.0131606	.0382838	.0082532	1.927055
Stddev	.002956	.0018342	.0015577	.0018206	.0014637	.039286
%RSD	12.53912	9.765766	11.83619	4.755507	17.73510	2.038660

#1	-.023249	.0208726	.0142697	.0392519	.0092543	1.886332
#2	-.026677	.0174411	.0138324	.0361837	.0089320	1.930106
#3	-.020792	.0180334	.0113797	.0394158	.0065734	1.964727

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4189496	.0011012	.0010384	11.77004	.0137065	.0036383
Stddev	.0070463	.0000144	.0003055	.25488	.0005154	.0001161
%RSD	1.681902	1.304257	29.42430	2.165515	3.760137	3.189953

#1	.4121274	.0010850	.0013788	11.48935	.0142062	.0037619
#2	.4185209	.0011062	.0009485	11.83373	.0137367	.0036212
#3	.4262005	.0011124	.0007879	11.98703	.0131767	.0035317

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0796186	86.68558	.7701019	2.317078	.0085546	.0015500
Stddev	.0023748	1.19945	.0141841	.043926	.0000709	.0003118
%RSD	2.982758	1.383682	1.841849	1.895755	.8291073	20.11783

#1	.0818657	85.66805	.7554549	2.267517	.0084887	.0014662
#2	.0798564	86.38061	.7710782	2.332513	.0085455	.0012887
#3	.0771339	88.00808	.7837727	2.351203	.0086297	.0018952

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	104.5623	.0075288	.9583192	157.2010	.2265166	.0046173
Stddev	1.1550	.0004113	.0067209	1.9433	.0039647	.0003759
%RSD	1.104604	5.463127	.7013171	1.236220	1.750278	8.141050

#1	103.8657	.0070560	.9527986	155.8296	.2223301	.0042120
#2	103.9257	.0078043	.9563559	156.3486	.2270056	.0049545
#3	105.8956	.0077261	.9658031	159.4249	.2302141	.0046854

Sample Name: P4972-05DUPDLX5 Acquired: 12/2/2024 13:12:53 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0138015	.0281023	1.336703	F 23.97549	1.559443	.0017847
Stddev	.0005514	.0009498	.021025	.06378	.009143	.0002087
%RSD	3.994966	3.379945	1.572872	.2660136	.5862838	11.69208
#1	.0142234	.0270897	1.322663	24.04483	1.567680	.0016328
#2	.0140034	.0282437	1.326571	23.91933	1.561044	.0016987
#3	.0131776	.0289736	1.360875	23.96231	1.549606	.0020227

Elem	Sr4077
Units	ppm
Avg	-.028450
Stddev	.000322
%RSD	1.131206
#1	-.028504
#2	-.028104
#3	-.028741

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2303.516	57467.87	14445.29	1590.997	4188.050
Stddev	13.766	386.25	189.37	14.201	20.152
%RSD	.5976162	.6721217	1.310924	.8925951	.4811858
#1	2288.375	57784.98	14660.00	1594.874	4164.897
#2	2306.892	57580.94	14373.78	1602.856	4197.605
#3	2315.280	57037.70	14302.10	1575.259	4201.648

Sample Name: P4972-05LDLX25 Acquired: 12/2/2024 13:17:05 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.005659	.0037634	.0034573	.0094029	.0042647	.4445487	.0877759
Stddev	.002260	.0015293	.0004505	.0011499	.0006693	.0037623	.0004833
%RSD	39.93414	40.63768	13.03099	12.22916	15.69302	.8463243	.5506275

#1	-.005312	.0026746	.0039752	.0080967	.0039256	.4483130	.0872179
#2	-.008072	.0031036	.0032407	.0102627	.0050356	.4445449	.0880472
#3	-.003592	.0055118	.0031560	.0098492	.0038329	.4407883	.0880627

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002960	.0003424	2.676238	.0033568	.0008717	.0205629	18.72137
Stddev	.0000357	.0000099	.017790	.0001642	.0001736	.0002954	.07766
%RSD	12.05056	2.876509	.6647312	4.892305	19.91992	1.436684	.4148428

#1	.0002808	.0003436	2.668333	.0034852	.0008589	.0209040	18.63249
#2	.0003368	.0003517	2.663770	.0034134	.0010514	.0203903	18.77618
#3	.0002705	.0003321	2.696610	.0031717	.0007048	.0203944	18.75542

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1762307	.5503510	.0020397	.0002826	21.94509	.0007744	.2170517
Stddev	.0006718	.0154389	.0004004	.0003904	.17630	.0011318	.0022844
%RSD	.3812226	2.805278	19.63111	138.1361	.8033686	146.1581	1.052457

#1	.1762105	.5327950	.0016227	-.000168	21.94704	.0013414	.2151815
#2	.1755692	.5564459	.0024212	.000487	22.12041	-.000529	.2195977
#3	.1769124	.5618121	.0020751	.000528	21.76782	.001510	.2163758

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	33.56929	.0415250	.0004971	-.009797	.0061521	.2838405	5.262000
Stddev	.25410	.0004081	.0001314	.001237	.0001154	.0031518	.009022
%RSD	.7569454	.9827650	26.43142	12.62527	1.875933	1.110414	.1714544

#1	33.48113	.0419399	.0003458	-.008941	.0062248	.2802236	5.258865
#2	33.85573	.0411241	.0005632	-.009235	.0060190	.2859990	5.254964
#3	33.37101	.0415109	.0005822	-.011215	.0062125	.2852990	5.272172

Sample Name: P4972-05LDLX25 Acquired: 12/2/2024 13:17:05 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.3791210	-.000118	-.005730
Stddev	.0024060	.000419	.000094
%RSD	.6346384	355.6052	1.640752
#1	.3775987	-.000393	-.005621
#2	.3778693	-.000325	-.005788
#3	.3818948	.000364	-.005780

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2364.714	57908.86	13607.47	1628.581	4122.896
Stddev	4.394	143.49	65.65	9.499	3.068
%RSD	.1858030	.2477906	.4824370	.5832588	.0744239
#1	2360.773	57755.74	13558.74	1621.294	4119.355
#2	2363.916	57930.57	13682.12	1625.125	4124.767
#3	2369.452	58040.25	13581.54	1639.324	4124.566

Sample Name: P4972-05MSDLX5 Acquired: 12/2/2024 13:21:19 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1788883	.3751152	.1734323	.6308731	.1773333	2.485018
Stddev	.0029216	.0041388	.0009689	.0026970	.0014469	.003959
%RSD	1.633203	1.103350	.5586537	.4274946	.8158941	.1593191

#1	.1796990	.3751221	.1724817	.6290653	.1757429	2.481213
#2	.1756469	.3792506	.1744185	.6339731	.1776855	2.484726
#3	.1813190	.3709729	.1733966	.6295811	.1785716	2.489115

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4995500	.0354071	.0369252	12.89611	.0967670	.0407999
Stddev	.0011412	.0002372	.0001880	.04106	.0008798	.0001766
%RSD	.2284461	.6700151	.5090287	.3183741	.9092167	.4329118

#1	.4991326	.0356752	.0371185	12.93623	.0965167	.0408123
#2	.4986762	.0352245	.0369140	12.85417	.0960394	.0409700
#3	.5008411	.0353216	.0367431	12.89794	.0977448	.0406174

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1438388	95.65132	.8779606	2.841243	.1001010	.0161323
Stddev	.0006345	.39163	.0028175	.018203	.0002249	.0005284
%RSD	.4411184	.4094378	.3209181	.6406617	.2247086	3.275340

#1	.1444676	95.24955	.8801257	2.839574	.0998428	.0160033
#2	.1438501	95.67246	.8747750	2.823932	.1002547	.0156803
#3	.1431988	96.03196	.8789812	2.860223	.1002055	.0167132

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	115.7665	.0687990	1.086938	174.0588	.2991709	.0975858
Stddev	.5424	.0017190	.001943	.8837	.0014338	.0004775
%RSD	.4684883	2.498613	.1787462	.5076825	.4792651	.4892871

#1	115.2187	.0707728	1.087319	173.0652	.3006645	.0980169
#2	115.7775	.0679944	1.088662	174.3548	.2978055	.0976679
#3	116.3032	.0676299	1.084833	174.7566	.2990427	.0970726

Sample Name: P4972-05MSDLX5 Acquired: 12/2/2024 13:21:19 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1350056	.0707015	1.629719	F 27.43697	1.703934	.0450685
Stddev	.0004727	.0001977	.017774	.11413	.004663	.0003176
%RSD	.3501240	.2796437	1.090613	.4159851	.2736679	.7046756
#1	.1348792	.0707205	1.609687	27.36333	1.698557	.0449391
#2	.1355287	.0704950	1.635871	27.37913	1.706378	.0454304
#3	.1346090	.0708890	1.643600	27.56844	1.706867	.0448361

Elem	Sr4077
Units	ppm
Avg	.0106517
Stddev	.0002657
%RSD	2.494761
#1	.0109332
#2	.0104052
#3	.0106165

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2081.388	52387.24	13258.53	1442.984	3767.274
Stddev	2.068	101.90	87.11	5.349	4.460
%RSD	.0993688	.1945089	.6570115	.3706828	.1183816
#1	2083.734	52304.55	13160.17	1442.461	3769.736
#2	2079.827	52501.07	13325.95	1448.575	3762.126
#3	2080.603	52356.10	13289.47	1437.916	3769.959

Sample Name: P4972-05MSDDLX5 Acquired: 12/2/2024 13:25:29 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1606362	.3376534	.1559358	.5690379	.1589614	2.221402
Stddev	.0062073	.0033902	.0017578	.0026969	.0015014	.011302
%RSD	3.864196	1.004038	1.127254	.4739472	.9444927	.5087902

#1	.1669371	.3343704	.1558171	.5669494	.1600398	2.208609
#2	.1545269	.3374483	.1577500	.5680816	.1595978	2.230035
#3	.1604446	.3411414	.1542404	.5720827	.1572466	2.225561

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4406252	.0312108	.0328760	11.47276	.0858280	.0363632
Stddev	.0010464	.0000878	.0000680	.05826	.0003934	.0001353
%RSD	.2374837	.2814192	.2067150	.5077833	.4583550	.3719435

#1	.4417520	.0313040	.0328680	11.41771	.0862506	.0365148
#2	.4404399	.0311296	.0328125	11.53377	.0857609	.0362550
#3	.4396839	.0311987	.0329477	11.46679	.0854725	.0363198

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1299840	84.44457	.7762158	2.508425	.0885550	.0143084
Stddev	.0005683	.41606	.0025610	.024390	.0001678	.0003590
%RSD	.4372390	.4926983	.3299283	.9723189	.1894866	2.508992

#1	.1300874	84.03742	.7758713	2.480467	.0887276	.0143692
#2	.1293710	84.86899	.7789316	2.525340	.0885451	.0139229
#3	.1304935	84.42730	.7738446	2.519470	.0883924	.0146332

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	102.2909	.0593578	.9650184	154.5128	.2608029	.0873807
Stddev	.1829	.0013700	.0051574	.1301	.0006983	.0001423
%RSD	.1788193	2.308012	.5344313	.0842157	.2677529	.1628649

#1	102.4663	.0591157	.9649647	154.3626	.2599988	.0872558
#2	102.3051	.0608327	.9702024	154.5887	.2611525	.0875356
#3	102.1013	.0581250	.9598881	154.5872	.2612573	.0873508

Sample Name: P4972-05MSDDLX5 Acquired: 12/2/2024 13:25:29 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1188825	.0625659	1.445672	F 24.49330	1.526058	.0398363
Stddev	.0003611	.0001579	.006607	.11158	.005949	.0003449
%RSD	.3037817	.2523678	.4569946	.4555515	.3898035	.8657419

#1	.1192660	.0625873	1.438265	24.38325	1.519649	.0398861
#2	.1188326	.0623983	1.450956	24.49031	1.531403	.0394692
#3	.1185489	.0627119	1.447796	24.60635	1.527122	.0401536

Elem	Sr4077
Units	ppm
Avg	.0096633
Stddev	.0003702
%RSD	3.830666

#1	.0100715
#2	.0093495
#3	.0095690

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2303.454	58631.59	14831.52	1594.569	4191.648
Stddev	6.376	93.56	34.98	10.202	5.073
%RSD	.2768022	.1595712	.2358577	.6397971	.1210293

#1	2302.175	58738.18	14825.04	1601.481	4189.507
#2	2310.372	58563.06	14800.23	1582.852	4197.441
#3	2297.814	58593.53	14869.29	1599.376	4187.997

Sample Name: P4972-05ADLX5 Acquired: 12/2/2024 13:29:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1560121	.3353795	.1572404	.5738368	.1596629	2.223640
Stddev	.0011837	.0024778	.0018678	.0047126	.0023942	.021675
%RSD	.7587417	.7387920	1.187869	.8212436	1.499527	.9747501

#1	.1546739	.3345223	.1554103	.5684328	.1594567	2.247031
#2	.1569223	.3334442	.1591438	.5770921	.1621536	2.219656
#3	.1564401	.3381720	.1571669	.5759855	.1573785	2.204234

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4419780	.0310226	.0330522	11.49232	.0845972	.0366267
Stddev	.0027515	.0000488	.0005863	.10688	.0004243	.0002100
%RSD	.6225422	.1573889	1.773947	.9300267	.5016143	.5734647

#1	.4450238	.0310578	.0323820	11.61364	.0844458	.0363917
#2	.4412380	.0309668	.0333045	11.45125	.0842693	.0366925
#3	.4396722	.0310431	.0334702	11.41206	.0850765	.0367960

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1307928	85.14408	.7770912	2.538691	.0896581	.0149646
Stddev	.0024632	.23518	.0066254	.025512	.0009233	.0001057
%RSD	1.883266	.2762126	.8525961	1.004918	1.029766	.7065183

#1	.1279487	85.38803	.7842728	2.568137	.0885921	.0148486
#2	.1322402	85.12541	.7757840	2.524718	.0902053	.0149894
#3	.1321895	84.91879	.7712168	2.523219	.0901769	.0150557

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	103.5446	.0601591	.9678828	156.2376	.2621670	.0878427
Stddev	.3041	.0004903	.0029439	.5235	.0016513	.0007990
%RSD	.2937061	.8150842	.3041542	.3350462	.6298738	.9095858

#1	103.8690	.0605124	.9675324	156.7427	.2635401	.0870615
#2	103.4988	.0603657	.9651298	156.2727	.2626263	.0878083
#3	103.2660	.0595993	.9709862	155.6975	.2603347	.0886584

Sample Name: P4972-05ADLX5 Acquired: 12/2/2024 13:29:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1192153	.0630535	1.463980	F 24.48918	1.531911	.0405293
Stddev	.0019552	.0004504	.001579	.24841	.020702	.0003066
%RSD	1.640058	.7143482	.1078564	1.014373	1.351389	.7565386
#1	.1174935	.0635222	1.462702	24.20351	1.508431	.0407442
#2	.1188115	.0626239	1.465745	24.60957	1.547537	.0406657
#3	.1213409	.0630144	1.463494	24.65446	1.539765	.0401782

Elem	Sr4077
Units	ppm
Avg	.0093014
Stddev	.0006656
%RSD	7.155803
#1	.0100510
#2	.0090734
#3	.0087798

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2254.346	57165.24	14563.51	1570.508	4097.230
Stddev	15.221	193.52	126.21	16.494	37.294
%RSD	.6751875	.3385326	.8666242	1.050229	.9102217
#1	2271.917	56965.00	14423.31	1551.496	4139.853
#2	2245.222	57179.47	14599.14	1580.985	4081.239
#3	2245.898	57351.26	14668.07	1579.044	4070.599

Sample Name: P5006-18 Acquired: 12/2/2024 13:33:48 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.008674	-.012084	.0001314	.0064368	.0058846	.0105113
Stddev	.000390	.001460	.0001358	.0023738	.0017314	.0184840
%RSD	4.499773	12.08042	103.3103	36.87817	29.42280	175.8479

#1	-.009071	-.012254	.0000365	.0061795	.0078318	.0315828
#2	-.008661	-.013451	.0002870	.0089287	.0053035	-.002966
#3	-.008290	-.010546	.0000708	.0042021	.0045184	.002917

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0815857	-.000142	.0000379	193.0209	.0040192	.0042091
Stddev	.0017381	.000020	.0000154	2.6503	.0001978	.0001455
%RSD	2.130427	14.40669	40.79871	1.373068	4.922376	3.457099

#1	.0805270	-.000122	.0000469	191.4099	.0038144	.0041737
#2	.0806384	-.000141	.0000466	191.5730	.0040340	.0043691
#3	.0835917	-.000163	.0000200	196.0797	.0042092	.0040846

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0018782	.0844572	.1656930	26.23567	.0183702	.0003527
Stddev	.0002793	.0018979	.0022221	.35571	.0003096	.0001444
%RSD	14.86880	2.247142	1.341076	1.355810	1.685203	40.94084

#1	.0021687	.0845711	.1639668	25.98185	.0180238	.0002039
#2	.0018542	.0862955	.1649120	26.08292	.0184668	.0003620
#3	.0016117	.0825049	.1682001	26.64224	.0186200	.0004922

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	101.9835	-.000327	.0379173	176.2175	.1092261	.1975795
Stddev	.7028	.000451	.0003444	1.2159	.0009436	.0003351
%RSD	.6891474	137.9880	.9083558	.6899872	.8638725	.1695911

#1	101.3647	-.000848	.0379708	175.1230	.1086823	.1972332
#2	101.8383	-.000049	.0382318	176.0033	.1086804	.1979021
#3	102.7476	-.000084	.0375492	177.5263	.1103157	.1976033

Sample Name: P5006-18 Acquired: 12/2/2024 13:33:48 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.015062	-.003690	F 18.57623	.0545383	F 122.1381	.0444623
Stddev	.000363	.000288	.09903	.0030121	.3830	.0010107
%RSD	2.408067	7.802936	.5331078	5.522985	.3135482	2.273118
#1	-.014969	-.003519	18.47386	.0547168	121.8416	.0443606
#2	-.015463	-.003529	18.58328	.0514409	122.5705	.0435063
#3	-.014756	-.004022	18.67155	.0574572	122.0023	.0455200

Elem	Sr4077
Units	ppm
Avg	1.844803
Stddev	.030980
%RSD	1.679315
#1	1.842428
#2	1.815079
#3	1.876902

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2137.959	53466.84	13274.13	1485.959	3577.003
Stddev	3.418	98.65	148.64	4.018	5.274
%RSD	.1598525	.1845141	1.119744	.2703723	.1474473
#1	2137.134	53528.63	13319.52	1490.530	3575.631
#2	2141.713	53518.83	13394.79	1482.984	3582.827
#3	2135.028	53353.06	13108.09	1484.364	3572.550

Sample Name: CCV03 Acquired: 12/2/2024 13:42:47 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.394775	5.328197	5.034936	5.485374	5.453376	10.38091	10.29945
Stddev	.010107	.015666	.006186	.007762	.004532	.00285	.01267
%RSD	.1873417	.2940189	.1228672	.1415050	.0830971	.0274983	.1230560

#1	5.405454	5.329173	5.042043	5.484297	5.456020	10.38078	10.29446
#2	5.385360	5.312066	5.030759	5.478207	5.448144	10.37813	10.29003
#3	5.393512	5.343352	5.032007	5.493618	5.455965	10.38383	10.31386

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2417259	2.449434	24.56294	1.019115	2.515310	1.335372	5.056208
Stddev	.0005588	.004565	.10683	.003554	.003974	.002828	.025637
%RSD	.2311927	.1863610	.4349136	.3487050	.1579768	.2117977	.5070450

#1	.2412404	2.454698	24.44071	1.015090	2.519434	1.338167	5.048080
#2	.2423368	2.446562	24.63845	1.020434	2.511506	1.332512	5.035619
#3	.2416005	2.447042	24.60966	1.021820	2.514991	1.335438	5.084924

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.440323	24.48633	2.513524	1.274310	26.68067	2.539780	2.624185
Stddev	.004758	.05174	.004580	.001809	.12646	.000924	.011462
%RSD	.1949907	.2113126	.1822299	.1419722	.4739802	.0363870	.4367695

#1	2.435747	24.44632	2.517859	1.272265	26.76631	2.540159	2.626636
#2	2.439976	24.46791	2.508733	1.275702	26.53542	2.538727	2.634222
#3	2.445245	24.54477	2.513980	1.274962	26.74029	2.540454	2.611695

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.85271	4.874910	5.417876	5.000954	5.039037	5.335817	4.954460
Stddev	.07997	.015032	.010624	.008501	.002586	.030383	.022170
%RSD	.2978028	.3083565	.1960893	.1699890	.0513139	.5694146	.4474728

#1	26.82725	4.872157	5.429885	5.010102	5.040507	5.307361	4.957602
#2	26.78857	4.891128	5.409701	4.999464	5.036052	5.332274	4.930887
#3	26.94231	4.861445	5.414043	4.993297	5.040553	5.367816	4.974891

Sample Name: CCV03 Acquired: 12/2/2024 13:42:47 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	4.994945	5.228314	5.235964
Stddev	.020492	.021383	.014193
%RSD	.4102496	.4089793	.2710617
#1	5.006277	5.247755	5.219985
#2	4.971290	5.205412	5.247108
#3	5.007268	5.231777	5.240798

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2288.046	55889.28	13285.28	1589.728	3784.117
Stddev	3.896	112.87	52.23	9.727	8.305
%RSD	.1702827	.2019441	.3931751	.6118546	.2194659
#1	2286.763	55778.61	13243.58	1580.552	3782.552
#2	2292.421	55885.01	13268.40	1588.705	3793.094
#3	2284.953	56004.22	13343.87	1599.925	3776.707

Sample Name: CCB03 Acquired: 12/2/2024 13:46:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.001850	-.001283	-.000789	.0009187	.0001768	.0017999	-.006475
Stddev	.001813	.001479	.000388	.0003744	.0005247	.0023069	.000071
%RSD	97.97492	115.3003	49.22756	40.75072	296.6888	128.1641	1.089426

#1	-.001906	.000200	-.000835	.0010159	.0005709	.0032016	-.006439
#2	-.000010	-.002758	-.001151	.0005054	-.000419	.0030607	-.006556
#3	-.003635	-.001291	-.000379	.0012350	.000378	-.000863	-.006429

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000136	-.000110	-.005389	.0001021	.0000893	.0001161	-.003350
Stddev	.0000219	.000060	.005581	.0000208	.0000459	.0003668	.003137
%RSD	161.8347	54.05148	103.5653	20.40214	51.44977	315.9058	93.65555

#1	.0000329	-.000046	-.007008	.0000861	.0001354	.0000051	-.002732
#2	.0000180	-.000122	-.009982	.0000946	.0000889	.0005256	-.000567
#3	-.000010	-.000163	.000823	.0001256	.0000435	-.000182	-.006750

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000480	.0044119	.0000010	.0009051	-.073193	-.000497	.0003201
Stddev	.0000933	.0078171	.0001082	.0002551	.013787	.000882	.0001889
%RSD	194.2026	177.1814	10842.97	28.18213	18.83660	177.4726	59.00610

#1	.0000985	.0036700	-.000103	.0011912	-.086273	-.000885	.0002517
#2	.0001052	-.003008	-.000006	.0008223	-.074512	.000512	.0001749
#3	-.000060	.012574	.000113	.0007016	-.058794	-.001118	.0005336

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0393933	-.006470	.0006467	-.013661	.0001100	.0065934	.0013588
Stddev	.0263202	.000786	.0003709	.001051	.0003599	.0017052	.0014408
%RSD	66.81395	12.14247	57.34674	7.692429	327.1403	25.86225	106.0343

#1	.0106388	-.006518	.0010712	-.014875	-.000090	.0046435	.0004891
#2	.0622933	-.007230	.0004836	-.013039	.000526	.0073319	.0030219
#3	.0452477	-.005661	.0003854	-.013071	-.000105	.0078050	.0005654

Sample Name: CCB03 Acquired: 12/2/2024 13:46:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB03 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	.0000202	-.000418	.0000199
Stddev	.0011599	.000445	.0000281
%RSD	5738.465	106.5342	141.0960
#1	.0001866	-.000738	.0000522
#2	.0010880	-.000607	.0000058
#3	-.001214	.000091	.0000017

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2443.148	59751.23	13532.72	1686.618	4345.462
Stddev	2.471	67.51	59.96	10.601	9.100
%RSD	.1011293	.1129863	.4430889	.6285442	.2094079
#1	2445.429	59740.86	13475.13	1686.623	4347.915
#2	2440.523	59689.51	13594.80	1676.014	4335.387
#3	2443.493	59823.33	13528.21	1697.217	4353.084

Sample Name: PB165271BL Acquired: 12/2/2024 13:51:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.001518	-.001818	.0000792	-.000757	.0002308	-.002295	-.006631
Stddev	.002839	.001450	.0003150	.002176	.0009550	.004056	.000195
%RSD	187.0663	79.72600	397.7677	287.5610	413.7728	176.6931	2.944477

#1	-.004692	-.001504	-.000268	-.000741	-.000703	-.000797	-.006835
#2	.000778	-.003399	.000157	-.002940	.000191	.000798	-.006612
#3	-.000638	-.000552	.000348	.001411	.001205	-.006887	-.006446

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000218	-.000129	.0051694	-.000130	.0001390	-.000088	-.000912
Stddev	.0000135	.000086	.0043059	.000371	.0000529	.000230	.003105
%RSD	61.74622	66.30225	83.29620	284.5030	38.01603	262.7127	340.5175

#1	.0000236	-.000132	.0073302	-.000037	.0001097	-.000341	.000018
#2	.0000342	-.000042	.0079670	.000185	.0001074	.000108	.001621
#3	.0000075	-.000214	.0002110	-.000539	.0002001	-.000030	-.004375

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000163	.0019787	.0000120	.0009972	-.077147	-.000619	.0000818
Stddev	.0001142	.0034989	.0002238	.0001257	.011325	.000776	.0003072
%RSD	701.6219	176.8232	1869.866	12.60309	14.67912	125.3895	375.5086

#1	-.000021	.0057704	.0000525	.0010708	-.090223	.000087	.0004254
#2	.000144	.0012911	.0002127	.0008521	-.070723	-.000494	-.000167
#3	-.000075	-.001125	-.000229	.0010688	-.070495	-.001450	-.000013

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0390805	-.010527	-.000223	-.014317	.0001776	.0033003	.0016248
Stddev	.0268284	.000355	.000074	.000789	.0001982	.0017893	.0013538
%RSD	68.64888	3.370238	33.16276	5.509741	111.5860	54.21702	83.31794

#1	.0092312	-.010117	-.000172	-.015087	.0002509	.0050519	.0020015
#2	.0611832	-.010743	-.000189	-.014354	-.000047	.0033736	.0027504
#3	.0468273	-.010719	-.000308	-.013511	.000329	.0014755	.0001226

Sample Name: PB165271BL Acquired: 12/2/2024 13:51:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.000025	-.001237	-.000021
Stddev	.001653	.000501	.000041
%RSD	6744.072	40.51010	197.7297
#1	.000692	-.000692	-.000004
#2	-.001915	-.001341	-.000067
#3	.001149	-.001678	.000010

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2442.695	59685.63	13640.81	1683.214	4368.399
Stddev	7.795	101.94	24.49	13.657	8.293
%RSD	.3190991	.1707958	.1795349	.8113421	.1898487
#1	2434.877	59569.10	13668.12	1668.128	4359.697
#2	2450.466	59758.25	13620.82	1694.734	4376.213
#3	2442.741	59729.55	13633.48	1686.779	4369.286

Sample Name: PB165271BS Acquired: 12/2/2024 13:55:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8126377	2.108987	.9551422	2.089022	.8277070	2.065131
Stddev	.0028897	.006973	.0011320	.006193	.0038875	.010182
%RSD	.3555963	.3306515	.1185159	.2964647	.4696672	.4930474
#1	.8136891	2.101065	.9561660	2.089424	.8245318	2.056397
#2	.8093695	2.114196	.9553339	2.082638	.8265466	2.062682
#3	.8148545	2.111701	.9539265	2.095004	.8320425	2.076315
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1938593	.1904633	.1848939	1.022322	.3970178	.1926893
Stddev	.0004180	.0005464	.0001728	.013247	.0013034	.0002703
%RSD	.2156383	.2868849	.0934532	1.295739	.3283008	.1402884
#1	.1934442	.1908036	.1850505	1.033915	.3983839	.1927411
#2	.1942802	.1898330	.1847085	1.007884	.3957877	.1923968
#3	.1938534	.1907532	.1849226	1.025167	.3968818	.1929300
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3198075	2.894122	.1964451	1.909524	.4810689	.0736818
Stddev	.0009359	.010984	.0007747	.017716	.0007295	.0002947
%RSD	.2926359	.3795450	.3943386	.9277591	.1516371	.4000032
#1	.3198795	2.884200	.1955607	1.929618	.4813496	.0739773
#2	.3188377	2.892241	.1970032	1.902798	.4802407	.0733879
#3	.3207053	2.905926	.1967715	1.896157	.4816163	.0736802
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.819637	.3015258	.2096553	10.03284	.2761111	.4317554
Stddev	.024625	.0017654	.0001198	.06250	.0011408	.0004439
%RSD	.8733351	.5855010	.0571245	.6229720	.4131727	.1028227
#1	2.791849	.3012752	.2097410	9.97337	.2770653	.4312440
#2	2.838750	.2998990	.2095185	10.09799	.2748475	.4319816
#3	2.828311	.3034031	.2097065	10.02716	.2764204	.4320408

Sample Name: PB165271BS Acquired: 12/2/2024 13:55:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6482379	.2000544	.7611198	5.349408	F -.009468	.2137523
Stddev	.0008697	.0005024	.0037115	.003648	.004587	.0006953
%RSD	.1341620	.2511062	.4876328	.0682030	48.44996	.3252704

#1	.6472804	.2001217	.7651147	5.350310	-.006563	.2129539
#2	.6484542	.1995218	.7577786	5.345393	-.007085	.2140788
#3	.6489790	.2005197	.7604661	5.352520	-.014757	.2142242

Elem	Sr4077
Units	ppm
Avg	.2100579
Stddev	.0005991
%RSD	.2852231

#1	.2093696
#2	.2104619
#3	.2103423

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2427.805	59614.65	13502.15	1665.663	4260.935
Stddev	3.428	67.98	40.45	2.206	5.926
%RSD	.1412121	.1140377	.2996088	.1324188	.1390878

#1	2426.408	59575.40	13456.67	1663.199	4258.911
#2	2425.295	59575.40	13534.13	1666.339	4256.285
#3	2431.711	59693.15	13515.64	1667.452	4267.608

Sample Name: P4986-01 Acquired: 12/2/2024 13:59:40 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0606174	-.004091	.0378816	-.031325	.0015695	41.66917
Stddev	.0000920	.001224	.0003257	.001718	.0012138	.07182
%RSD	.1517043	29.92232	.8596711	5.484720	77.33951	.1723484

#1	.0605731	-.005081	.0375083	-.033141	.0026967	41.59140
#2	.0605560	-.004470	.0381074	-.029725	.0002845	41.68314
#3	.0607231	-.002722	.0380292	-.031108	.0017273	41.73298

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1939399	.0058544	.0083771	3.703301	.1954835	.0288616
Stddev	.0006807	.0000374	.0004134	.005945	.0003935	.0002334
%RSD	.3510017	.6388624	4.934937	.1605263	.2013094	.8085239

#1	.1935133	.0058320	.0088502	3.696604	.1950443	.0289645
#2	.1947249	.0058337	.0080856	3.705342	.1958041	.0285945
#3	.1935813	.0058976	.0081954	3.707955	.1956020	.0290257

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0898753	158.0031	.8622637	2.175700	.0452628	.0002633
Stddev	.0008583	.6059	.0028078	.008503	.0003228	.0000934
%RSD	.9549917	.3834833	.3256272	.3907960	.7130764	35.46601

#1	.0908482	157.3035	.8593888	2.167068	.0449003	.0002072
#2	.0892252	158.3434	.8624032	2.184066	.0453693	.0003712
#3	.0895526	158.3624	.8649991	2.175966	.0455189	.0002116

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3854784	.3464081	.0877772	3.341607	.0313797	.0228438
Stddev	.0069359	.0017987	.0000424	.022590	.0008608	.0002464
%RSD	1.799297	.5192443	.0482738	.6760174	2.743274	1.078666

#1	.3778143	.3466203	.0877343	3.322973	.0304331	.0231282
#2	.3913238	.3480913	.0877781	3.366732	.0321158	.0226939
#3	.3872970	.3445127	.0878190	3.335116	.0315900	.0227093

Sample Name: P4986-01 Acquired: 12/2/2024 13:59:40 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.008396	1.517649	F 12.66628	2.398832	.2603741	.0113656
Stddev	.000309	.000978	.01643	.002430	.0011088	.0004701
%RSD	3.679852	.0644409	.1297017	.1012855	.4258410	4.136050
#1	-.008063	1.516688	12.65810	2.398466	.2593579	.0108828
#2	-.008451	1.517614	12.65555	2.396606	.2615567	.0113920
#3	-.008674	1.518644	12.68519	2.401424	.2602075	.0118219

Elem	Sr4077
Units	ppm
Avg	-.137321
Stddev	.000584
%RSD	.4254505
#1	-.136647
#2	-.137656
#3	-.137661

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2531.494	62438.42	14902.53	1726.093	4049.520
Stddev	16.454	85.04	17.16	2.118	20.441
%RSD	.6499648	.1361907	.1151440	.1226922	.5047792
#1	2512.658	62377.05	14885.54	1725.833	4026.021
#2	2543.062	62402.74	14919.86	1728.329	4063.188
#3	2538.762	62535.49	14902.18	1724.118	4059.350

Sample Name: P4986-02 Acquired: 12/2/2024 14:03:52 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0258412	-.002205	.0670937	-.042623	.0000022	65.66081
Stddev	.0016765	.001929	.0001096	.002315	.0009503	.09363
%RSD	6.487629	87.48145	.1633911	5.432068	43062.47	.1425997

#1	.0271701	-.000035	.0669907	-.042830	.0005472	65.55969
#2	.0239577	-.002853	.0670815	-.040212	-.001095	65.74451
#3	.0263958	-.003726	.0672089	-.044828	.000555	65.67825

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3382250	.0081954	.0113669	4.704005	.2288751	.1603917
Stddev	.0012533	.0000850	.0000907	.049169	.0007183	.0002698
%RSD	.3705611	1.037415	.7978721	1.045249	.3138360	.1681887

#1	.3382419	.0082863	.0114068	4.671630	.2280576	.1601152
#2	.3394698	.0081822	.0112631	4.760583	.2294053	.1604058
#3	.3369633	.0081178	.0114308	4.679801	.2291623	.1606542

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1328845	212.9950	4.306505	10.35950	.1605201	.0002101
Stddev	.0004766	.8669	.025973	.06727	.0003587	.0002299
%RSD	.3586308	.4070113	.6031064	.6493160	.2234423	109.4231

#1	.1334254	212.0181	4.280460	10.28221	.1605640	-.000055
#2	.1327018	213.6724	4.332405	10.40484	.1601415	.000357
#3	.1325264	213.2946	4.306650	10.39145	.1608548	.000328

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1391054	.3386063	.2762578	10.68616	.0452027	.0038109
Stddev	.0011740	.0020675	.0011422	.02998	.0005979	.0001022
%RSD	.8439529	.6105971	.4134569	.2805704	1.322606	2.682173

#1	.1404293	.3373210	.2749463	10.69907	.0447835	.0037291
#2	.1381909	.3409913	.2767923	10.70753	.0458873	.0037780
#3	.1386961	.3375067	.2770347	10.65189	.0449373	.0039255

Sample Name: P4986-02 Acquired: 12/2/2024 14:03:52 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.007496	3.543575	F 15.60140	2.827075	.1803664	.0577357
Stddev	.000535	.014035	.01160	.006640	.0023978	.0004431
%RSD	7.135080	.3960831	.0743293	.2348704	1.329378	.7675058

#1	-.007781	3.531688	15.58820	2.830535	.1812241	.0572243
#2	-.006879	3.559059	15.60606	2.819419	.1776577	.0580077
#3	-.007829	3.539978	15.60994	2.831269	.1822172	.0579750

Elem	Sr4077
Units	ppm
Avg	-.187789
Stddev	.000794
%RSD	.4230159

#1	-.186879
#2	-.188347
#3	-.188140

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2510.695	62303.05	14928.51	1731.292	4106.921
Stddev	4.631	168.65	38.41	2.775	6.651
%RSD	.1844543	.2706942	.2572874	.1603056	.1619429

#1	2507.009	62147.02	14925.44	1733.270	4104.964
#2	2515.893	62280.14	14891.72	1732.487	4114.331
#3	2509.183	62481.98	14968.36	1728.119	4101.468

Sample Name: P4986-02DUP Acquired: 12/2/2024 14:07:58 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0214908	-.004204	.0643336	-.040612	.0007868	62.65310
Stddev	.0007310	.003121	.0014674	.001266	.0010367	.07903
%RSD	3.401332	74.24474	2.280941	3.116282	131.7580	.1261329

#1	.0212068	-.005201	.0655391	-.040639	.0005847	62.63469
#2	.0223212	-.000706	.0647621	-.041864	-.000134	62.58490
#3	.0209446	-.006705	.0626997	-.039334	.001910	62.73971

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3228565	.0078040	.0105616	4.532269	.2178971	.1523358
Stddev	.0012842	.0000408	.0002250	.024295	.0003879	.0006434
%RSD	.3977470	.5221692	2.130574	.5360380	.1780366	.4223381

#1	.3243021	.0078233	.0108120	4.551519	.2183432	.1530779
#2	.3218479	.0078315	.0103763	4.504972	.2176396	.1519350
#3	.3224194	.0077572	.0104965	4.540317	.2177083	.1519945

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1261725	203.1928	4.115457	9.918676	.1527107	.0008585
Stddev	.0008659	1.3926	.005999	.057502	.0006541	.0006635
%RSD	.6863075	.6853363	.1457730	.5797358	.4283125	77.28285

#1	.1271489	201.5877	4.112640	9.852990	.1534581	.0002650
#2	.1254976	204.0788	4.111385	9.959918	.1524313	.0007357
#3	.1258710	203.9119	4.122347	9.943119	.1522427	.0015748

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1185404	.3241352	.2625824	10.23356	.0385985	.0029759
Stddev	.0050880	.0010501	.0002935	.02429	.0021587	.0002061
%RSD	4.292209	.3239577	.1117611	.2373247	5.592645	6.924226

#1	.1137076	.3233019	.2625146	10.20594	.0361840	.0031735
#2	.1180634	.3253146	.2629038	10.25157	.0403420	.0029918
#3	.1238501	.3237890	.2623288	10.24317	.0392695	.0027623

Sample Name: P4986-02DUP Acquired: 12/2/2024 14:07:58 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.007730	3.382996	F 14.94076	2.692643	.1659114	.0554450
Stddev	.001273	.005175	.11600	.004408	.0023786	.0002829
%RSD	16.46885	.1529568	.7764138	.1637152	1.433635	.5103035

#1	-.008087	3.385452	14.80690	2.690021	.1685716	.0557141
#2	-.006316	3.377051	15.01182	2.690175	.1651732	.0554709
#3	-.008786	3.386485	15.00356	2.697732	.1639895	.0551500

Elem	Sr4077
Units	ppm
Avg	-.179111
Stddev	.001491
%RSD	.8322903

#1	-.177394
#2	-.180081
#3	-.179857

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2612.238	64688.55	15472.92	1792.936	4295.504
Stddev	10.072	69.77	60.35	8.633	6.875
%RSD	.3855700	.1078558	.3900266	.4815266	.1600572

#1	2623.334	64744.67	15403.66	1788.367	4301.962
#2	2603.672	64610.43	15514.16	1787.547	4288.276
#3	2609.708	64710.55	15500.95	1802.894	4296.273

Sample Name: P4986-02LX5 Acquired: 12/2/2024 14:12:05 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0010861	-.002715	.0145302	-.010567	.0003412	14.82936	.0725075
Stddev	.0026625	.000369	.0009273	.001511	.0017468	.01490	.0006460
%RSD	245.1340	13.57279	6.381676	14.30284	511.8662	.1005078	.8909820
#1	-.000330	-.002973	.0145605	-.009149	-.001173	14.84460	.0717929
#2	-.000569	-.002880	.0135882	-.010394	.002252	14.82866	.0726795
#3	.004157	-.002293	.0154420	-.012157	-.000056	14.81481	.0730502
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019676	.0016724	1.046238	.0513436	.0347230	.0303913	48.05239
Stddev	.0000368	.0000290	.011517	.0002954	.0003812	.0002602	.23017
%RSD	1.868514	1.734423	1.100762	.5752375	1.097766	.8559850	.4789990
#1	.0020096	.0016398	1.040255	.0516235	.0351506	.0306899	47.78661
#2	.0019523	.0016954	1.038945	.0513726	.0345998	.0302133	48.18576
#3	.0019410	.0016820	1.059515	.0510349	.0344188	.0302708	48.18480
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.000700	2.384749	.0347438	.0007511	-.042257	.0760610	.0620881
Stddev	.003283	.001615	.0001713	.0001691	.008714	.0008695	.0004770
%RSD	.3281194	.0677270	.4930524	22.50634	20.62252	1.143184	.7682540
#1	.996923	2.383100	.0345482	.0005705	-.044742	.0752912	.0625028
#2	1.002295	2.386328	.0348671	.0007773	-.049459	.0758877	.0621946
#3	1.002881	2.384820	.0348161	.0009056	-.032570	.0770041	.0615668
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.355761	-.003662	.0001590	-.013675	.8123591	3.446095	.6046683
Stddev	.010089	.000527	.0000862	.000328	.0010850	.018341	.0050929
%RSD	.4282879	14.38164	54.20721	2.394966	.1335577	.5322116	.8422639
#1	2.345926	-.003902	.0002282	-.013733	.8136115	3.425107	.6104703
#2	2.366087	-.004026	.0000625	-.013323	.8117600	3.459036	.6025978
#3	2.355271	-.003058	.0001863	-.013971	.8117058	3.454142	.6009366

Sample Name: P4986-02LX5 Acquired: 12/2/2024 14:12:05 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0387558	.0125577	-.042299
Stddev	.0041468	.0002910	.000213
%RSD	10.69985	2.317032	.5032069

#1	.0435366	.0127397	-.042054
#2	.0361323	.0127114	-.042432
#3	.0365986	.0122221	-.042412

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2420.154	59612.92	13855.41	1679.524	4170.467
Stddev	1.639	15.71	43.08	5.304	4.841
%RSD	.0677295	.0263561	.3109256	.3158250	.1160877

#1	2419.251	59603.04	13816.22	1685.649	4164.917
#2	2419.166	59604.68	13901.54	1676.456	4172.662
#3	2422.046	59631.03	13848.46	1676.466	4173.822

Sample Name: P4986-02MS Acquired: 12/2/2024 14:16:21 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8064171	1.880969	.9492205	1.870429	.7798755	71.11345
Stddev	.0031569	.011212	.0015957	.001213	.0029878	.03310
%RSD	.3914718	.5960550	.1681073	.0648611	.3831179	.0465433

#1	.8097826	1.870508	.9503033	1.869658	.7769540	71.11413
#2	.8059470	1.892805	.9473880	1.869801	.7829255	71.08002
#3	.8035216	1.879593	.9499701	1.871827	.7797471	71.14621

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5598891	.1824979	.1921225	6.008191	.6068510	.3550496
Stddev	.0014192	.0007649	.0002657	.045997	.0016279	.0002874
%RSD	.2534808	.4191134	.1382882	.7655732	.2682465	.0809508

#1	.5583812	.1829795	.1923127	5.960522	.6060406	.3551334
#2	.5611987	.1828983	.1918190	6.052310	.6087250	.3547296
#3	.5600874	.1816160	.1922360	6.011741	.6057874	.3552858

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4166635	222.8313	4.728445	12.65462	.6326665	.0701897
Stddev	.0012279	1.3341	.025698	.04318	.0007803	.0003016
%RSD	.2946992	.5987148	.5434815	.3412300	.1233324	.4296931

#1	.4177203	221.2908	4.704415	12.62236	.6327266	.0703956
#2	.4153165	223.6049	4.755537	12.70367	.6318579	.0703299
#3	.4169538	223.5983	4.725383	12.63781	.6334150	.0698435

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.128492	.6438599	.4819687	21.26738	.2921584	.4179721
Stddev	.011265	.0017905	.0007377	.04077	.0006638	.0019128
%RSD	.3600804	.2780832	.1530670	.1917081	.2272129	.4576477

#1	3.116490	.6418534	.4812003	21.26493	.2913972	.4158290
#2	3.130149	.6444319	.4826713	21.22788	.2924608	.4185809
#3	3.138837	.6452946	.4820346	21.30931	.2926171	.4195065

Sample Name: P4986-02MS Acquired: 12/2/2024 14:16:21 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6241129	3.937395	F 16.90618	8.152712	.1706062	.2727622
Stddev	.0006366	.011995	.04570	.014007	.0040330	.0003633
%RSD	.1019962	.3046384	.2703288	.1718083	2.363912	.1331795

#1	.6241765	3.924119	16.87326	8.166452	.1752593	.2725267
#2	.6247153	3.947451	16.88692	8.138452	.1684442	.2731806
#3	.6234470	3.940615	16.95836	8.153231	.1681152	.2725794

Elem	Sr4077
Units	ppm
Avg	.0103054
Stddev	.0008840
%RSD	8.577573

#1	.0112832
#2	.0100704
#3	.0095627

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2385.214	58698.64	13823.24	1637.767	3883.496
Stddev	5.173	21.79	35.36	6.553	8.406
%RSD	.2168768	.0371225	.2557891	.4001482	.2164434

#1	2382.547	58710.17	13806.50	1641.135	3875.205
#2	2381.919	58712.23	13799.36	1641.952	3883.273
#3	2391.177	58673.50	13863.86	1630.215	3892.011

Sample Name: P4986-02MSD Acquired: 12/2/2024 14:20:19 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.7369748	1.708285	.8629800	1.718343	.7114034	64.53032
Stddev	.0054256	.014304	.0012468	.006654	.0016171	.10576
%RSD	.7361988	.8373245	.1444801	.3872114	.2273167	.1638987
#1	.7369562	1.721178	.8632505	1.725807	.7132223	64.60216
#2	.7424096	1.710780	.8640693	1.713034	.7108600	64.57992
#3	.7315585	1.692898	.8616201	1.716187	.7101280	64.40887
Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4998680	.1624492	.1737927	5.591882	.5480013	.3215208
Stddev	.0007813	.0009580	.0003080	.021495	.0012327	.0005557
%RSD	.1563100	.5897001	.1772368	.3844027	.2249397	.1728430
#1	.4996185	.1629433	.1737078	5.575732	.5493246	.3211094
#2	.5007436	.1613451	.1735360	5.616280	.5477937	.3221529
#3	.4992419	.1630592	.1741342	5.583635	.5468856	.3213000
Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3824347	201.3363	4.263790	11.44573	.5727896	.0639119
Stddev	.0018282	.8380	.012994	.06881	.0003262	.0001117
%RSD	.4780382	.4162011	.3047527	.6011805	.0569452	.1748339
#1	.3843074	200.4894	4.249913	11.37009	.5728384	.0639042
#2	.3806546	202.1650	4.275669	11.46251	.5724417	.0638042
#3	.3823422	201.3544	4.265789	11.50461	.5730886	.0640273
Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.777615	.5826928	.4347132	19.17598	.2579646	.3811648
Stddev	.016207	.0013100	.0022347	.09723	.0014505	.0021033
%RSD	.5835008	.2248108	.5140691	.5070151	.5622750	.5518225
#1	2.760733	.5820841	.4363658	19.19110	.2563037	.3835927
#2	2.793051	.5841964	.4356034	19.26476	.2586078	.3800055
#3	2.779060	.5817980	.4321706	19.07208	.2589822	.3798962

Sample Name: P4986-02MSD Acquired: 12/2/2024 14:20:19 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.5593961	3.548132	F 15.50862	7.494610	.1573105	.2463260
Stddev	.0019567	.004176	.06354	.053172	.0052044	.0008810
%RSD	.3497944	.1177058	.4097258	.7094687	3.308365	.3576489

#1	.5601310	3.548255	15.45289	7.433450	.1513430	.2472137
#2	.5571783	3.552245	15.57782	7.529867	.1609086	.2463124
#3	.5608789	3.543895	15.49515	7.520512	.1596800	.2454519

Elem	Sr4077
Units	ppm
Avg	.0074178
Stddev	.0007556
%RSD	10.18690

#1	.0082886
#2	.0070302
#3	.0069346

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2573.362	64603.62	15200.62	1773.273	4235.389
Stddev	11.781	302.39	52.97	17.884	6.405
%RSD	.4578231	.4680692	.3484511	1.008514	.1512224

#1	2560.346	64469.69	15155.30	1768.393	4227.997
#2	2583.296	64391.33	15187.70	1758.337	4239.289
#3	2576.446	64949.85	15258.85	1793.091	4238.881

Sample Name: P4986-02A Acquired: 12/2/2024 14:24:16 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8149997	1.925040	.9592595	1.906412	.7861625	71.11443
Stddev	.0040532	.015558	.0014118	.006618	.0004856	.10577
%RSD	.4973233	.8081783	.1471801	.3471380	.0617666	.1487332

#1	.8103239	1.934727	.9581692	1.909689	.7867231	71.08465
#2	.8171625	1.933298	.9608543	1.898795	.7858734	71.23190
#3	.8175128	1.907094	.9587549	1.910751	.7858910	71.02675

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5486049	.1817666	.1938759	6.151097	.6080638	.3579000
Stddev	.0026245	.0002948	.0002230	.023974	.0016204	.0008587
%RSD	.4783938	.1622130	.1150430	.3897486	.2664845	.2399285

#1	.5500115	.1815787	.1940832	6.139673	.6083695	.3574372
#2	.5502262	.1816146	.1939047	6.178647	.6063124	.3588908
#3	.5455769	.1821064	.1936399	6.134973	.6095097	.3573719

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4220004	220.0435	4.673982	12.67403	.6381722	.0698838
Stddev	.0016265	.9749	.018152	.05056	.0009305	.0006095
%RSD	.3854195	.4430701	.3883558	.3989332	.1458057	.8722216

#1	.4233211	218.9385	4.656984	12.61708	.6372816	.0693110
#2	.4201836	220.4093	4.693101	12.71364	.6380972	.0698160
#3	.4224963	220.7825	4.671862	12.69136	.6391380	.0705244

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.035726	.6426022	.4784264	20.95627	.2830516	.4216239
Stddev	.016293	.0011281	.0013227	.03438	.0021222	.0004699
%RSD	.5366945	.1755584	.2764575	.1640739	.7497441	.1114486

#1	3.040500	.6419305	.4794740	20.95950	.2806469	.4221166
#2	3.049098	.6419714	.4769402	20.98893	.2838460	.4211807
#3	3.017579	.6439046	.4788650	20.92039	.2846620	.4215744

Sample Name: P4986-02A Acquired: 12/2/2024 14:24:16 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6294126	3.904194	F 17.05036	8.342075	.1723477	.2692890
Stddev	.0012436	.012883	.01729	.010643	.0054982	.0011706
%RSD	.1975872	.3299882	.1014246	.1275821	3.190179	.4346917
#1	.6282744	3.899297	17.04290	8.333964	.1778286	.2690425
#2	.6307400	3.918808	17.03804	8.354126	.1723822	.2705631
#3	.6292235	3.894477	17.07013	8.338135	.1668324	.2682612

Elem	Sr4077
Units	ppm
Avg	.0103253
Stddev	.0014148
%RSD	13.70233
#1	.0114819
#2	.0107463
#3	.0087478

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2364.775	59361.49	13922.25	1629.952	3855.224
Stddev	5.640	167.06	56.19	11.757	1.194
%RSD	.2384991	.2814297	.4035655	.7213241	.0309603
#1	2360.858	59168.96	13870.44	1617.028	3853.885
#2	2371.239	59447.46	13914.34	1632.812	3855.612
#3	2362.227	59468.07	13981.97	1640.015	3856.175

Sample Name: PB165247BL Acquired: 12/2/2024 14:28:15 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002490	-.002136	.0005580	-.000745	.0001579	.0026107	-.007142
Stddev	.001602	.001956	.0004683	.000980	.0010930	.0056548	.000033
%RSD	64.31361	91.55562	83.93288	131.4741	692.0723	216.6026	.4602546
#1	-.004258	-.000636	.0007318	-.000925	-.000459	.0070916	-.007104
#2	-.002079	-.001424	.0000276	.000312	-.000487	.0044833	-.007157
#3	-.001135	-.004348	.0009145	-.001623	.001420	-.003743	-.007165
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000403	-.000153	-.001161	-.000042	.0000811	.0000848	-.000040
Stddev	.0000375	.000056	.004797	.000069	.0000507	.0001959	.001739
%RSD	92.95443	36.92887	413.2658	162.9481	62.58327	231.0723	4369.281
#1	.0000598	-.000203	-.006647	-.000073	.0001129	.0000941	.001306
#2	.0000640	-.000163	.002245	.000037	.0000226	.0002758	-.002003
#3	-.000003	-.000092	.000920	-.000091	.0001078	-.000116	.000577
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000194	-.004703	-.000011	.0013763	-.097390	-.001762	-.000088
Stddev	.000165	.004742	.000114	.0001135	.015358	.000486	.000160
%RSD	85.04593	100.8201	1014.159	8.249578	15.76913	27.60619	182.4546
#1	-.000311	.000352	.000041	.0013400	-.110625	-.001288	.000088
#2	-.000005	-.005409	.000067	.0015035	-.100994	-.002260	-.000127
#3	-.000264	-.009052	-.000142	.0012853	-.080551	-.001738	-.000224
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.017727	-.015649	-.000569	-.013245	.0000555	.0030257	.0020108
Stddev	.011149	.000201	.000135	.001166	.0002666	.0019912	.0006054
%RSD	62.88890	1.287321	23.68194	8.805514	480.5713	65.80921	30.10777
#1	-.029876	-.015876	-.000430	-.011899	.0001314	.0012160	.0013207
#2	-.007964	-.015582	-.000577	-.013951	-.000241	.0027024	.0024526
#3	-.015343	-.015490	-.000700	-.013886	.000276	.0051588	.0022590

Sample Name: PB165247BL Acquired: 12/2/2024 14:28:15 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.000702	-.001025	-.000043
Stddev	.001925	.000362	.000032
%RSD	274.0445	35.34534	73.79914
#1	.000883	-.001421	-.000012
#2	-.002844	-.000945	-.000042
#3	-.000147	-.000710	-.000076

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2477.438	59426.67	13781.55	1667.390	4448.061
Stddev	10.291	124.68	33.52	6.691	15.244
%RSD	.4153862	.2098121	.2432424	.4012887	.3427075
#1	2465.659	59306.00	13745.37	1664.193	4430.843
#2	2484.690	59418.97	13787.72	1662.897	4459.838
#3	2481.964	59555.02	13811.55	1675.080	4453.500

Sample Name: CCV04 Acquired: 12/2/2024 14:32:36 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV04 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.316496	5.371657	4.998654	5.410338	5.396704	10.31760	10.09939
Stddev	.001765	.055024	.006191	.014793	.007189	.03847	.05287
%RSD	.0331909	1.024332	.1238619	.2734193	.1332098	.3729046	.5235014
#1	5.315362	5.430123	4.991517	5.427150	5.400572	10.27317	10.10814
#2	5.318529	5.320886	5.001864	5.399318	5.401131	10.34023	10.04269
#3	5.315597	5.363963	5.002581	5.404544	5.388409	10.33939	10.14734
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2408002	2.416004	24.50500	1.002438	2.492587	1.321370	5.001710
Stddev	.0017504	.002148	.09713	.002839	.001978	.001329	.021565
%RSD	.7269207	.0888943	.3963579	.2831866	.0793420	.1005837	.4311571
#1	.2404635	2.413734	24.47858	1.001948	2.490336	1.320822	4.982312
#2	.2426945	2.416273	24.61260	1.005490	2.494044	1.322885	4.997887
#3	.2392425	2.418004	24.42381	.999877	2.493381	1.320402	5.024931
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.443801	24.38732	2.487935	1.256833	26.17445	2.526737	2.594691
Stddev	.010481	.14028	.003850	.001905	.21395	.007633	.002108
%RSD	.4288985	.5752233	.1547638	.1515349	.8173980	.3020770	.0812242
#1	2.432060	24.32329	2.483569	1.254699	26.07885	2.519950	2.592331
#2	2.452215	24.54819	2.490843	1.258359	26.02496	2.535000	2.595358
#3	2.447129	24.29048	2.489394	1.257442	26.41953	2.525261	2.596384
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.31547	4.860055	5.376724	4.952871	5.010966	5.207141	5.016152
Stddev	.16169	.033937	.002711	.004067	.016496	.033038	.016401
%RSD	.6144114	.6982878	.0504175	.0821203	.3292023	.6344783	.3269605
#1	26.25205	4.857153	5.376903	4.954025	4.992988	5.198481	5.032115
#2	26.19510	4.895350	5.379341	4.948351	5.025406	5.179296	4.999346
#3	26.49925	4.827662	5.373928	4.956236	5.014503	5.243647	5.016996

Sample Name: CCV04 Acquired: 12/2/2024 14:32:36 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	4.981669	5.203162	5.228935
Stddev	.015143	.015551	.029933
%RSD	.3039756	.2988854	.5724516
#1	4.994015	5.186573	5.200944
#2	4.964772	5.205502	5.260491
#3	4.986220	5.217411	5.225370

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2331.284	57196.16	13407.67	1635.670	3847.986
Stddev	2.859	81.16	47.32	8.978	2.021
%RSD	.1226261	.1418908	.3529164	.5489178	.0525202
#1	2331.925	57197.09	13417.29	1629.575	3850.047
#2	2328.159	57276.85	13356.28	1645.980	3846.008
#3	2333.767	57114.54	13449.44	1631.453	3847.902

Sample Name: CCB04 Acquired: 12/2/2024 14:37:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002515	-.000649	.0002597	-.003371	-.000389	-.000247	-.006955
Stddev	.001950	.001366	.0008911	.001651	.000805	.005511	.000194
%RSD	77.52581	210.5016	343.0714	48.96409	207.0787	2228.993	2.794992

#1	-.001559	-.000869	.0000562	-.004787	.000516	.003975	-.007085
#2	-.001228	.000814	-.000512	-.003768	-.000657	-.006481	-.007048
#3	-.004759	-.001892	.001235	-.001558	-.001025	.001764	-.006732

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000225	-.000086	-.003142	.0004515	.0002702	-.000345	-.003839
Stddev	.0000396	.000075	.003377	.0001939	.0000582	.000105	.005218
%RSD	175.7431	87.22592	107.4882	42.94404	21.54725	30.36983	135.9122

#1	-.000006	-.000169	-.007040	.0003567	.0003305	-.000385	.001132
#2	.000006	-.000062	-.001103	.0006746	.0002143	-.000226	-.009272
#3	.000068	-.000025	-.001283	.0003232	.0002658	-.000424	-.003377

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000381	-.004861	.0002177	.0011261	-.103853	-.001000	.0000178
Stddev	.0001839	.001072	.0002704	.0001492	.014506	.001368	.0002095
%RSD	482.4907	22.06061	124.1906	13.24923	13.96807	136.8724	1175.253

#1	.0001239	-.005336	.0001981	.0011321	-.118883	-.002258	.0000977
#2	.0001635	-.003633	.0004974	.0012722	-.102741	-.001199	.0001757
#3	-.000173	-.005613	-.000042	.0009740	-.089935	.000457	-.000220

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.028490	-.010230	.0002595	-.013978	.0001734	.0024657	-.000467
Stddev	.023054	.000197	.0000834	.000511	.0002405	.0024758	.001860
%RSD	80.92031	1.925892	32.15045	3.657558	138.7117	100.4101	398.5391

#1	-.003463	-.010291	.0003147	-.014568	.0002774	.0049440	-.001620
#2	-.048860	-.010010	.0003003	-.013703	.0003442	.0024607	.001679
#3	-.033147	-.010389	.0001635	-.013663	-.000102	-.000008	-.001458

Sample Name: CCB04 Acquired: 12/2/2024 14:37:57 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.000373	-.001407	.0000120
Stddev	.002377	.000525	.0000145
%RSD	637.1514	37.28005	121.2226
#1	-.002055	-.001813	-.000005
#2	-.001412	-.000815	.000018
#3	.002347	-.001594	.000023

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2435.847	60497.55	13642.23	1673.092	4421.424
Stddev	6.224	54.33	49.07	1.987	6.996
%RSD	.2555187	.0898078	.3596845	.1187763	.1582224
#1	2434.754	60547.27	13585.90	1670.797	4418.241
#2	2442.545	60505.82	13675.72	1674.280	4429.445
#3	2430.241	60439.56	13665.06	1674.197	4416.586

Sample Name: PB165247BS Acquired: 12/2/2024 14:42:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8191382	2.097873	.9546670	2.079469	.8229948	2.062480
Stddev	.0059884	.007848	.0017642	.006299	.0017858	.001969
%RSD	.7310649	.3741105	.1847991	.3029242	.2169851	.0954433

#1	.8258580	2.103405	.9528291	2.083764	.8243663	2.060370
#2	.8171909	2.088891	.9563469	2.072238	.8209756	2.062803
#3	.8143659	2.101324	.9548252	2.082407	.8236426	2.064267

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1901322	.1904315	.1843498	1.024281	.3959058	.1924601
Stddev	.0005379	.0009274	.0003016	.002325	.0014440	.0000998
%RSD	.2829186	.4870151	.1636223	.2270035	.3647283	.0518717

#1	.1906901	.1911856	.1840171	1.022086	.3970343	.1923459
#2	.1900897	.1907129	.1846054	1.024039	.3964045	.1925305
#3	.1896167	.1893960	.1844270	1.026718	.3942786	.1925041

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3197044	2.845893	.1944973	1.906996	.4810700	.0729654
Stddev	.0005252	.006242	.0007480	.013545	.0002028	.0002627
%RSD	.1642836	.2193173	.3845682	.7102594	.0421623	.3600491

#1	.3192890	2.838841	.1947564	1.909205	.4810723	.0729279
#2	.3202948	2.848129	.1950813	1.919300	.4812716	.0727235
#3	.3195294	2.850708	.1936543	1.892483	.4808660	.0732449

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.730176	.3020290	.2092991	9.873690	.2729384	.4329693
Stddev	.002977	.0012722	.0002910	.046661	.0006919	.0002859
%RSD	.1090414	.4212249	.1390341	.4725753	.2535028	.0660367

#1	2.733326	.3006866	.2090460	9.924489	.2730816	.4326457
#2	2.729795	.3021835	.2096170	9.863841	.2735475	.4331877
#3	2.727408	.3032169	.2092343	9.832740	.2721861	.4330744

Sample Name: PB165247BS Acquired: 12/2/2024 14:42:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6468073	.1974805	.7556104	5.332904	F -.007929	.2106258
Stddev	.0009296	.0006638	.0045805	.013116	.001353	.0016828
%RSD	.1437146	.3361514	.6062012	.2459488	17.05968	.7989490

#1	.6463372	.1982465	.7587217	5.318626	-.007283	.2120686
#2	.6478780	.1970730	.7503505	5.335665	-.009483	.2110315
#3	.6462067	.1971220	.7577588	5.344419	-.007020	.2087772

Elem	Sr4077
Units	ppm
Avg	.2071831
Stddev	.0004916
%RSD	.2372867

#1	.2075774
#2	.2073396
#3	.2066323

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2427.196	59858.54	13530.31	1651.741	4254.809
Stddev	3.601	221.19	59.62	11.431	4.723
%RSD	.1483648	.3695247	.4406475	.6920669	.1110107

#1	2423.197	59637.70	13461.68	1646.627	4251.889
#2	2428.208	60080.09	13569.33	1664.837	4252.280
#3	2430.182	59857.83	13559.92	1643.760	4260.259

Sample Name: P4985-04 Acquired: 12/2/2024 14:46:19 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.010940	-.010726	.0051062	.0050566	.0013337	.0520988	.3082162
Stddev	.002316	.000712	.0011419	.0012394	.0007987	.0061062	.0021427
%RSD	21.16844	6.638643	22.36286	24.50997	59.88704	11.72034	.6952081

#1	-.010492	-.011203	.0064142	.0063755	.0007845	.0559328	.3074028
#2	-.008880	-.009907	.0045959	.0039160	.0022499	.0450573	.3065993
#3	-.013447	-.011067	.0043083	.0048784	.0009665	.0553063	.3106466

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000846	.0001238	36.78669	.0007986	-.000256	.0094637	.0541998
Stddev	.0000274	.0000474	.22290	.0002060	.000134	.0001645	.0015179
%RSD	32.38810	38.30199	.6059148	25.79490	52.28369	1.738250	2.800573

#1	.0001043	.0001058	36.61692	.0009800	-.000226	.0095976	.0551259
#2	.0000533	.0000880	36.70404	.0005746	-.000140	.0095133	.0550255
#3	.0000962	.0001775	37.03910	.0008413	-.000402	.0092800	.0524481

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3299025	1.259417	.0032205	.0010732	324.1253	-.000743	.0726598
Stddev	.0023990	.007795	.0002684	.0002208	2.8738	.000749	.0001779
%RSD	.7271784	.6189499	8.335725	20.57403	.8866223	100.7738	.2448940

#1	.3281875	1.259604	.0029804	.0009596	322.7871	-.000017	.0726958
#2	.3288761	1.267117	.0031708	.0013276	327.4241	-.000701	.0728171
#3	.3326439	1.251530	.0035104	.0009323	322.1647	-.001513	.0724667

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.456790	-.000550	.0007623	-.013480	.0005064	1.320751	.0324591
Stddev	.009576	.000474	.0001358	.000668	.0002281	.001147	.0002582
%RSD	.6573332	86.28166	17.82049	4.954308	45.03764	.0868194	.7954343

#1	1.465085	-.000858	.0007062	-.014059	.0004046	1.319579	.0322572
#2	1.458974	-.000004	.0006634	-.013632	.0007677	1.320803	.0323701
#3	1.446311	-.000788	.0009171	-.012749	.0003470	1.321871	.0327500

Sample Name: P4985-04 Acquired: 12/2/2024 14:46:19 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.4526536	-.006405	.1397837
Stddev	.0062957	.000631	.0011391
%RSD	1.390838	9.859353	.8148779
#1	.4469954	-.006441	.1392670
#2	.4594355	-.005756	.1389946
#3	.4515299	-.007018	.1410896

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2143.938	52388.82	13629.20	1443.873	3594.138
Stddev	11.543	136.18	54.17	10.250	9.797
%RSD	.5383844	.2599413	.3974613	.7099153	.2725852
#1	2133.327	52498.48	13627.69	1452.993	3583.932
#2	2156.228	52236.38	13684.12	1432.780	3603.468
#3	2142.258	52431.59	13575.80	1445.848	3595.015

Sample Name: P4985-08 Acquired: 12/2/2024 14:50:46 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.009060	-.010880	-.000799	.0039569	.0001893	.0499799	.2301133
Stddev	.002386	.000944	.000244	.0014998	.0010580	.0058971	.0001271
%RSD	26.33095	8.674974	30.52023	37.90391	558.7191	11.79887	.0552475

#1	-.011510	-.010580	-.000764	.0023162	.0010807	.0436949	.2302361
#2	-.008926	-.010123	-.000574	.0042973	-.000980	.0553916	.2301216
#3	-.006745	-.011938	-.001058	.0052573	.000467	.0508532	.2299823

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000567	-.000204	7.303621	.0030535	-.000258	.0107463	.0514193
Stddev	.0000107	.000075	.020643	.0001805	.000204	.0001802	.0036404
%RSD	18.85890	36.79635	.2826420	5.910781	78.92604	1.676929	7.079732

#1	.0000450	-.000131	7.282892	.0029969	-.000432	.0105848	.0517799
#2	.0000660	-.000201	7.303793	.0029082	-.000308	.0109407	.0548659
#3	.0000590	-.000281	7.324177	.0032556	-.000034	.0107134	.0476120

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1898786	1.328665	.0017335	.0010442	304.2875	-.000957	.0566006
Stddev	.0006568	.013461	.0002119	.0001324	2.7578	.000436	.0002688
%RSD	.3459196	1.013124	12.22261	12.68089	.9063230	45.53334	.4749113

#1	.1894555	1.313917	.0018282	.0009840	305.6175	-.000870	.0562912
#2	.1895450	1.331787	.0014908	.0011961	301.1168	-.000571	.0567768
#3	.1906353	1.340290	.0018815	.0009526	306.1284	-.001429	.0567338

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6581578	.0041157	.0000118	-.012425	.0005943	.6901701	.0286146
Stddev	.0124046	.0002489	.0002100	.000509	.0002070	.0049389	.0021379
%RSD	1.884748	6.047509	1774.892	4.097800	34.84060	.7156023	7.471315

#1	.6594703	.0043190	.0002025	-.012688	.0007567	.6916618	.0310340
#2	.6698539	.0041901	.0000462	-.011839	.0003611	.6846573	.0269800
#3	.6451491	.0038381	-.000213	-.012749	.0006649	.6941912	.0278299

Sample Name: P4985-08 Acquired: 12/2/2024 14:50:46 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8022647	-.003364	.0506949
Stddev	.0031330	.000645	.0002229
%RSD	.3905216	19.18728	.4396045

#1	.8046126	-.002710	.0505805
#2	.8034742	-.004000	.0505524
#3	.7987072	-.003383	.0509517

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2186.517	54047.58	13593.34	1506.558	3696.793
Stddev	2.024	95.77	11.82	4.657	1.735
%RSD	.0925680	.1771961	.0869889	.3091343	.0469316

#1	2188.817	53972.74	13605.50	1505.812	3696.218
#2	2185.729	54014.49	13592.64	1502.319	3698.743
#3	2185.006	54155.51	13581.88	1511.543	3695.420

Sample Name: P5000-04 Acquired: 12/2/2024 14:55:13 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.010150	-.009978	.0088778	.0042745	.0012273	.1363292	.1948854
Stddev	.003423	.000813	.0010469	.0008723	.0006115	.0025868	.0011163
%RSD	33.72757	8.151567	11.79180	20.40700	49.82218	1.897498	.5727963

#1	-.008647	-.009428	.0086642	.0032742	.0019333	.1370716	.1960998
#2	-.014068	-.010912	.0100149	.0046727	.0008761	.1334524	.1939039
#3	-.007736	-.009593	.0079542	.0048767	.0008724	.1384637	.1946526

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001389	.0001659	8.651517	.0008645	.0052588	.0094250	2.163419
Stddev	.0000541	.0000285	.021921	.0004369	.0001522	.0002135	.015579
%RSD	38.97174	17.18387	.2533740	50.53229	2.894627	2.264723	.7201001

#1	.0001229	.0001494	8.626205	.0005284	.0053833	.0092026	2.154992
#2	.0000945	.0001495	8.664236	.0013583	.0053039	.0096282	2.181396
#3	.0001992	.0001988	8.664109	.0007068	.0050891	.0094442	2.153869

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6561881	.4926467	.0017260	.0013862	277.4872	-.000089	.2093386
Stddev	.0011236	.0082399	.0004112	.0001259	1.9604	.000583	.0013892
%RSD	.1712374	1.672575	23.82496	9.084783	.7064764	651.8553	.6636327

#1	.6554401	.4951283	.0015818	.0012408	279.7461	-.000205	.2082825
#2	.6556441	.4993605	.0014063	.0014593	276.4850	-.000606	.2088211
#3	.6574803	.4834512	.0021899	.0014585	276.2306	.000543	.2109124

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.146017	.0014686	.0000113	-.013328	.0009310	.5704322	.0133038
Stddev	.030988	.0006245	.0003291	.001057	.0004026	.0059067	.0024031
%RSD	2.703978	42.52822	2911.448	7.927517	43.25000	1.035483	18.06301

#1	1.129441	.0021586	-.000157	-.012433	.0004660	.5732384	.0123619
#2	1.181767	.0009420	-.000200	-.013059	.0011618	.5744128	.0115144
#3	1.126843	.0013051	.000391	-.014494	.0011651	.5636455	.0160352

Sample Name: P5000-04 Acquired: 12/2/2024 14:55:13 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.4002053	-.003833	.0532904
Stddev	.0060444	.000243	.0003244
%RSD	1.510312	6.334489	.6088184
#1	.4004294	-.003593	.0535895
#2	.4061344	-.004078	.0529455
#3	.3940519	-.003827	.0533362

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2182.950	53741.90	13579.02	1480.293	3700.022
Stddev	25.363	195.07	30.81	7.290	50.502
%RSD	1.161883	.3629716	.2268575	.4924436	1.364898
#1	2171.477	53635.55	13548.79	1479.605	3671.667
#2	2165.351	53623.13	13610.37	1473.371	3670.071
#3	2212.023	53967.03	13577.91	1487.902	3758.329

Sample Name: P5000-08 Acquired: 12/2/2024 14:59:38 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.012056	-.009311	.0190366	.0035494	.0005802	.1154054	.2159386
Stddev	.001118	.001632	.0006978	.0014479	.0012544	.0038867	.0008961
%RSD	9.273129	17.52607	3.665500	40.79230	216.1899	3.367879	.4150000

#1	-.011428	-.008534	.0197518	.0041848	-.000097	.1120092	.2169724
#2	-.013347	-.008212	.0183576	.0018924	-.000190	.1196443	.2154617
#3	-.011393	-.011186	.0190003	.0045709	.002028	.1145626	.2153818

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001539	.0003366	22.66369	.0009216	.0102972	.0044298	8.947755
Stddev	.0000301	.0001182	.03498	.0002112	.0002568	.0002404	.042125
%RSD	19.56344	35.10995	.1543360	22.91732	2.493758	5.427852	.4707908

#1	.0001494	.0004634	22.69608	.0008178	.0105892	.0041877	8.996382
#2	.0001860	.0002296	22.62660	.0007824	.0101954	.0046686	8.922400
#3	.0001263	.0003167	22.66839	.0011646	.0101069	.0044329	8.924483

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.131748	2.410432	.0064019	.0012997	325.9876	-.000084	.1307413
Stddev	.003681	.003202	.0002283	.0000294	1.4631	.001527	.0001560
%RSD	.1726530	.1328313	3.566200	2.260683	.4488187	1818.141	.1192905

#1	2.135890	2.409760	.0066652	.0012702	327.1974	-.000819	.1309203
#2	2.128853	2.413917	.0062584	.0013000	326.4039	-.001105	.1306694
#3	2.130501	2.407620	.0062823	.0013289	324.3614	.001671	.1306343

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.398065	.0085436	-.000076	-.013723	.0003082	1.616795	.0089453
Stddev	.035913	.0004321	.000243	.001019	.0003219	.000933	.0013111
%RSD	1.497599	5.057800	318.0367	7.423313	104.4514	.0577312	14.65678

#1	2.430493	.0090407	.000035	-.014010	-.000028	1.617102	.0086122
#2	2.404235	.0083322	.000091	-.014567	.000614	1.617536	.0078329
#3	2.359466	.0082578	-.000355	-.012591	.000339	1.615746	.0103908

Sample Name: P5000-08 Acquired: 12/2/2024 14:59:38 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.7929344	-.006054	.1299443
Stddev	.0018730	.000014	.0004175
%RSD	.2362136	.2315977	.3213319
#1	.7940356	-.006070	.1303797
#2	.7939958	-.006043	.1299061
#3	.7907717	-.006048	.1295472

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2138.937	53151.26	13581.90	1461.428	3591.540
Stddev	4.323	58.08	33.91	4.964	8.059
%RSD	.2020994	.1092654	.2496652	.3396484	.2243998
#1	2139.221	53124.80	13562.27	1455.700	3594.454
#2	2143.111	53111.13	13562.37	1464.466	3597.737
#3	2134.480	53217.86	13621.06	1464.118	3582.429

Sample Name: P5000-08DUP Acquired: 12/2/2024 15:04:05 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.006864	-.010988	.0188245	.0028409	.0000830	.1156644	.2136743
Stddev	.000822	.003120	.0002607	.0012349	.0007974	.0043611	.0008382
%RSD	11.97552	28.39529	1.384729	43.46806	960.6366	3.770501	.3922967

#1	-.005941	-.009816	.0189659	.0024392	.0008086	.1158285	.2127064
#2	-.007132	-.014524	.0189838	.0042266	-.000771	.1199412	.2141511
#3	-.007519	-.008623	.0185236	.0018568	.000211	.1112236	.2141654

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000813	.0003369	22.48771	.0011703	.0099649	.0041706	8.916651
Stddev	.0000236	.0001331	.07065	.0002289	.0002780	.0002165	.030670
%RSD	29.01151	39.51176	.3141749	19.56061	2.790150	5.190970	.3439635

#1	.0000843	.0002039	22.52796	.0009517	.0097666	.0043686	8.897581
#2	.0000564	.0003368	22.40613	.0014083	.0098455	.0039394	8.952030
#3	.0001033	.0004701	22.52904	.0011509	.0102827	.0042036	8.900342

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.123706	2.378182	.0066440	.0015895	325.0795	-.001097	.1307800
Stddev	.002207	.009427	.0000515	.0001571	1.3924	.000144	.0003799
%RSD	.1039335	.3963888	.7751081	9.881641	.4283139	13.11272	.2905181

#1	2.124044	2.370972	.0066217	.0016666	326.4936	-.000932	.1311536
#2	2.121349	2.374725	.0067028	.0016932	323.7100	-.001199	.1307925
#3	2.125725	2.388849	.0066074	.0014088	325.0350	-.001160	.1303941

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.378400	.0084375	-.000078	-.014298	.0008791	1.602541	.0107201
Stddev	.026148	.0002432	.000119	.000596	.0003035	.005861	.0011924
%RSD	1.099388	2.882645	152.6326	4.170578	34.52061	.3657430	11.12323

#1	2.371054	.0081852	-.000113	-.014875	.0005498	1.605716	.0116502
#2	2.407435	.0086704	.000055	-.014335	.0011475	1.606131	.0111345
#3	2.356711	.0084571	-.000176	-.013684	.0009399	1.595778	.0093758

Sample Name: P5000-08DUP Acquired: 12/2/2024 15:04:05 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.7855838	-.005869	.1288782
Stddev	.0059460	.000288	.0002668
%RSD	.7568905	4.904880	.2070098
#1	.7913585	-.006196	.1286222
#2	.7794802	-.005756	.1291546
#3	.7859128	-.005654	.1288577

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2151.593	53554.99	13688.60	1472.335	3613.757
Stddev	8.206	211.64	27.49	12.421	10.252
%RSD	.3813729	.3951785	.2008022	.8436296	.2836937
#1	2144.083	53400.76	13665.29	1468.019	3602.950
#2	2150.346	53467.94	13718.91	1462.647	3614.976
#3	2160.351	53796.27	13681.61	1486.338	3623.345

Sample Name: P5000-08LX5 Acquired: 12/2/2024 15:08:31 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.004056	-.003210	.0035780	-.000276	-.000923	.0272805	.0382006
Stddev	.002904	.001031	.0007407	.001255	.000710	.0024546	.0000824
%RSD	71.60585	32.10861	20.70309	455.3038	76.93474	8.997517	.2158328

#1	-.007376	-.003418	.0041573	-.000036	-.001742	.0301032	.0382163
#2	-.002808	-.004121	.0027433	-.001633	-.000538	.0260910	.0381114
#3	-.001984	-.002091	.0038332	.000842	-.000488	.0256474	.0382740

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000401	-.000054	4.701996	.0001098	.0021099	.0008875	1.751620
Stddev	.0000328	.000039	.017272	.0002598	.0002070	.0003103	.013532
%RSD	81.79339	71.69785	.3673246	236.5894	9.809454	34.96265	.7725507

#1	.0000054	-.000009	4.682053	.0003692	.0021868	.0011297	1.736229
#2	.0000706	-.000074	4.712074	-.000150	.0018755	.0009950	1.756981
#3	.0000442	-.000079	4.711862	.000111	.0022674	.0005377	1.761650

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4458633	.5039728	.0014689	.0013303	61.91950	-.000237	.0272009
Stddev	.0009816	.0075118	.0000683	.0001155	.04003	.001219	.0001765
%RSD	.2201549	1.490516	4.646752	8.682030	.0646451	513.8854	.6489586

#1	.4451784	.5108633	.0015476	.0013353	61.93849	.000399	.0274036
#2	.4454237	.4959649	.0014331	.0012124	61.87351	.000533	.0270808
#3	.4469879	.5050902	.0014260	.0014433	61.94649	-.001643	.0271183

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5149856	-.011018	-.000473	-.014611	.0001193	.3140188	.0037692
Stddev	.0180616	.000341	.000063	.000333	.0003008	.0045965	.0021238
%RSD	3.507213	3.091728	13.33414	2.279826	252.0385	1.463754	56.34529

#1	.5047196	-.011175	-.000401	-.014669	-.000213	.3186743	.0013636
#2	.5043968	-.010627	-.000513	-.014911	.000374	.3138984	.0045592
#3	.5358406	-.011252	-.000507	-.014252	.000197	.3094837	.0053847

Sample Name: P5000-08LX5 Acquired: 12/2/2024 15:08:31 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1584116	-.000533	.0265108
Stddev	.0024769	.000206	.0001334
%RSD	1.563601	38.61921	.5030945
#1	.1565795	-.000725	.0266633
#2	.1612297	-.000316	.0264529
#3	.1574256	-.000557	.0264161

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2305.095	56858.44	13693.42	1577.902	3970.238
Stddev	4.107	47.32	48.86	6.458	10.068
%RSD	.1781668	.0832318	.3568155	.4092791	.2535785
#1	2300.353	56910.18	13637.03	1583.892	3958.613
#2	2307.463	56817.35	13723.25	1571.060	3976.018
#3	2307.469	56847.79	13719.97	1578.753	3976.082

Sample Name: P5000-08MS Acquired: 12/2/2024 15:12:50 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8628674	1.915738	.9345815	2.154129	.8510910	2.197653	.4218045
Stddev	.0029262	.003556	.0013984	.000681	.0029141	.004502	.0010638
%RSD	.3391251	.1856308	.1496250	.0316323	.3423929	.2048499	.2522114
#1	.8606472	1.917483	.9361103	2.154044	.8542552	2.197218	.4215985
#2	.8617716	1.911646	.9342673	2.153494	.8485176	2.193384	.4229563
#3	.8661833	1.918084	.9333670	2.154849	.8505001	2.202356	.4208587
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1876477	.1890300	24.28243	.4003551	.2065335	.3059627	11.99596
Stddev	.0006727	.0001715	.06058	.0028397	.0000581	.0014094	.09306
%RSD	.3584867	.0907300	.2494983	.7092970	.0281312	.4606314	.7757882
#1	.1883876	.1890315	24.28191	.3998315	.2066000	.3075877	11.89925
#2	.1874825	.1888578	24.34327	.4034201	.2064926	.3050736	12.08489
#3	.1870730	.1892008	24.22210	.3978136	.2065080	.3052269	12.00375
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.387049	4.310811	.4917525	.0772989	319.7353	.3050480	.3473628
Stddev	.006171	.009741	.0005404	.0000261	2.6327	.0028817	.0003624
%RSD	.2585402	.2259774	.1098954	.0337844	.8233870	.9446708	.1043196
#1	2.381750	4.322009	.4917152	.0773209	321.0885	.3076903	.3476555
#2	2.393825	4.306132	.4912317	.0772701	321.4162	.3054785	.3469575
#3	2.385572	4.304292	.4923106	.0773058	316.7013	.3019753	.3474754
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.70457	.2698705	.4428055	.6463592	.2025865	2.414421	6.041885
Stddev	.02120	.0018750	.0005137	.0009431	.0009635	.011110	.004790
%RSD	.1546753	.6947644	.1160176	.1459055	.4756254	.4601643	.0792858
#1	13.68105	.2717789	.4433398	.6463651	.2028564	2.414090	6.043122
#2	13.72220	.2680309	.4423152	.6454133	.2015167	2.425693	6.036598
#3	13.71046	.2698017	.4427617	.6472994	.2033862	2.403480	6.045936

Sample Name: P5000-08MS Acquired: 12/2/2024 15:12:50 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.7836394	.2125718	.3436243
Stddev	.0054209	.0003492	.0008168
%RSD	.6917557	.1642705	.2377104
#1	.7896273	.2123018	.3443333
#2	.7790661	.2129661	.3438086
#3	.7822246	.2124475	.3427311

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2174.447	53398.52	13160.54	1499.403	3589.172
Stddev	7.309	113.67	51.51	6.801	5.862
%RSD	.3361323	.2128657	.3914300	.4535839	.1633115
#1	2166.472	53401.11	13101.37	1500.629	3585.140
#2	2176.042	53283.57	13195.38	1505.509	3586.480
#3	2180.827	53510.86	13184.88	1492.073	3595.896

Sample Name: P5000-08MSD Acquired: 12/2/2024 15:16:59 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8177442	1.832166	.8889441	2.047202	.8112970	2.079836	.4038445
Stddev	.0046920	.014110	.0017943	.003219	.0020661	.012937	.0021986
%RSD	.5737730	.7701117	.2018416	.1572238	.2546619	.6220050	.5444268

#1	.8229837	1.817073	.8893375	2.045871	.8091185	2.067872	.4016156
#2	.8163184	1.845026	.8869858	2.044862	.8132284	2.093564	.4060116
#3	.8139304	1.834400	.8905091	2.050873	.8115443	2.078072	.4039063

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1798814	.1802806	23.12284	.3793377	.1966260	.2902253	11.26155
Stddev	.0004357	.0003511	.10839	.0002768	.0004273	.0000803	.01270
%RSD	.2421905	.1947620	.4687694	.0729669	.2173188	.0276535	.1127317

#1	.1794430	.1799700	22.99820	.3792589	.1961420	.2903031	11.25232
#2	.1798870	.1802101	23.19507	.3796454	.1967847	.2901428	11.27603
#3	.1803142	.1806616	23.17526	.3791089	.1969512	.2902301	11.25629

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.275927	4.093915	.4673848	.0734334	304.3787	.2906591	.3274844
Stddev	.010745	.027633	.0006359	.0000066	2.4125	.0008854	.0003023
%RSD	.4721333	.6749783	.1360571	.0090291	.7925998	.3046148	.0922950

#1	2.263560	4.062205	.4666505	.0734273	305.9121	.2897012	.3276936
#2	2.281240	4.106699	.4677523	.0734323	305.6262	.2914474	.3276216
#3	2.282980	4.112842	.4677516	.0734405	301.5979	.2908288	.3271378

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.78602	.2576070	.4217878	.6130015	.1926364	2.264326	5.784177
Stddev	.06082	.0005163	.0006977	.0026113	.0010945	.010138	.025598
%RSD	.4756632	.2004348	.1654095	.4259856	.5681668	.4477214	.4425507

#1	12.77414	.2570223	.4209954	.6102909	.1918158	2.261100	5.757678
#2	12.85191	.2580003	.4223100	.6155006	.1938791	2.275685	5.808767
#3	12.73203	.2577984	.4220580	.6132131	.1922143	2.256194	5.786086

Sample Name: P5000-08MSD Acquired: 12/2/2024 15:16:59 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.7580364	.2021828	.3278425
Stddev	.0028324	.0009002	.0016916
%RSD	.3736468	.4452192	.5159862
#1	.7552956	.2017241	.3259061
#2	.7609522	.2032199	.3290329
#3	.7578614	.2016043	.3285884

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2277.819	56526.55	13703.44	1591.173	3761.966
Stddev	2.388	221.56	7.69	6.415	7.429
%RSD	.1048366	.3919501	.0560927	.4031412	.1974799
#1	2280.216	56409.69	13706.34	1589.589	3766.186
#2	2277.803	56387.89	13694.73	1585.699	3766.324
#3	2275.440	56782.07	13709.26	1598.232	3753.388

Sample Name: P5000-08A Acquired: 12/2/2024 15:21:09 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8669911	1.902027	.9249619	2.163494	.8538245	2.182194	.4153665
Stddev	.0029732	.012488	.0038752	.008942	.0053661	.003619	.0005698
%RSD	.3429309	.6565567	.4189616	.4133080	.6284765	.1658291	.1371865

#1	.8638045	1.907774	.9214688	2.162191	.8516934	2.185675	.4159905
#2	.8674778	1.887700	.9242864	2.155275	.8498512	2.182456	.4148737
#3	.8696908	1.910607	.9291305	2.173016	.8599287	2.178452	.4152352

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1863045	.1874383	24.05470	.3981152	.2047895	.3040150	11.91238
Stddev	.0007625	.0005248	.04815	.0012320	.0009572	.0015370	.05845
%RSD	.4092985	.2799770	.2001744	.3094501	.4674132	.5055734	.4906642

#1	.1861480	.1871355	24.08708	.3984212	.2040260	.3028773	11.92628
#2	.1871331	.1871351	23.99936	.3967592	.2044792	.3034042	11.84823
#3	.1856323	.1880443	24.07764	.3991654	.2058634	.3057636	11.96263

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.351800	4.271095	.4871210	.0766769	321.3595	.3037140	.3453771
Stddev	.002029	.012646	.0012482	.0006383	.8954	.0017291	.0009936
%RSD	.0862679	.2960819	.2562342	.8324790	.2786409	.5693155	.2876920

#1	2.352206	4.265934	.4858598	.0772647	322.3188	.3020015	.3442648
#2	2.349599	4.261845	.4871475	.0767681	321.2141	.3054593	.3461769
#3	2.353595	4.285505	.4883558	.0759979	320.5457	.3036813	.3456897

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.59740	.2656455	.4435529	.6415301	.2013501	2.418680	6.013599
Stddev	.07183	.0009403	.0016875	.0025351	.0010090	.011327	.016168
%RSD	.5282845	.3539797	.3804467	.3951702	.5011034	.4682936	.2688614

#1	13.60028	.2650227	.4422145	.6393389	.2025133	2.426089	6.007451
#2	13.52418	.2667272	.4429957	.6409446	.2007118	2.405641	6.001406
#3	13.66776	.2651867	.4454486	.6443067	.2008252	2.424309	6.031939

Sample Name: P5000-08A Acquired: 12/2/2024 15:21:09 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.7721945	.2093342	.3393536
Stddev	.0024420	.0006805	.0002512
%RSD	.3162375	.3250903	.0740337
#1	.7739875	.2096582	.3395466
#2	.7694133	.2085522	.3390695
#3	.7731828	.2097921	.3394448

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2163.915	53203.14	13219.41	1485.103	3594.113
Stddev	7.826	106.42	20.97	7.002	11.727
%RSD	.3616403	.2000269	.1586465	.4714822	.3262955
#1	2169.392	53114.80	13217.13	1484.786	3605.826
#2	2167.401	53321.29	13199.67	1492.258	3594.141
#3	2154.952	53173.33	13241.42	1478.265	3582.372

Sample Name: CCV05 Acquired: 12/2/2024 15:25:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.336834	5.253761	4.921537	5.430855	5.393096	10.35235	9.877790
Stddev	.013381	.066477	.002329	.025164	.018714	.00780	.053418
%RSD	.2507359	1.265327	.0473322	.4633596	.3470072	.0753709	.5407848
#1	5.352239	5.318688	4.918953	5.459419	5.406526	10.35747	9.891609
#2	5.328090	5.256761	4.922184	5.421191	5.371720	10.34337	9.922940
#3	5.330175	5.185835	4.923475	5.411955	5.401043	10.35620	9.818820
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2356693	2.376571	24.03668	1.009516	2.466785	1.317036	4.982693
Stddev	.0021415	.004372	.03841	.003690	.001629	.003325	.030554
%RSD	.9086923	.1839559	.1598005	.3654955	.0660247	.2524938	.6132032
#1	.2381403	2.373495	24.05143	1.013669	2.466013	1.319646	4.951458
#2	.2345149	2.381575	24.06554	1.008265	2.468656	1.313292	5.012517
#3	.2343527	2.374641	23.99309	1.006614	2.465686	1.318170	4.984104
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.355745	24.13750	2.460551	1.254329	26.12095	2.500986	2.610740
Stddev	.003195	.08889	.002763	.004112	.09680	.003835	.011000
%RSD	.1356258	.3682543	.1122782	.3278005	.3705768	.1533552	.4213348
#1	2.356046	24.06026	2.459024	1.257503	26.01173	2.500673	2.615123
#2	2.358779	24.23465	2.463740	1.255801	26.19611	2.504968	2.598225
#3	2.352410	24.11757	2.458889	1.249684	26.15502	2.497316	2.618874
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.85803	4.695734	5.376709	4.846825	4.905595	5.350807	4.889767
Stddev	.16271	.032213	.012373	.011537	.002702	.047163	.023222
%RSD	.6058276	.6859963	.2301247	.2380247	.0550727	.8814255	.4749103
#1	26.67886	4.732444	5.389984	4.848441	4.903347	5.300516	4.913675
#2	26.99660	4.682571	5.365497	4.857469	4.908592	5.394049	4.888326
#3	26.89861	4.672188	5.374645	4.834566	4.904846	5.357858	4.867298

Sample Name: CCV05 Acquired: 12/2/2024 15:25:18 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV05 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.873679	5.120812	5.122935
Stddev	.014220	.008728	.012773
%RSD	.2917785	.1704401	.2493232
#1	4.888634	5.113230	5.126893
#2	4.872075	5.118855	5.133260
#3	4.860329	5.130353	5.108651

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2278.651	55328.25	13415.12	1534.970	3801.105
Stddev	11.187	198.02	66.97	9.451	11.072
%RSD	.4909679	.3579090	.4992377	.6157443	.2912711
#1	2267.379	55387.64	13344.43	1543.905	3788.706
#2	2289.752	55107.33	13423.31	1535.930	3810.002
#3	2278.823	55489.79	13477.62	1525.075	3804.607

Sample Name: CCB05 Acquired: 12/2/2024 15:29:29 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.001903	-.000982	.0006712	-.002331	-.000849	-.000976	-.006638
Stddev	.000613	.000138	.0005679	.001711	.000363	.004881	.000384
%RSD	32.18523	14.00475	84.60322	73.40356	42.72196	499.9104	5.791373
#1	-.001438	-.001104	.0013107	-.000665	-.000845	-.006585	-.006954
#2	-.002597	-.000833	.0002259	-.004084	-.001213	.001343	-.006751
#3	-.001674	-.001010	.0004771	-.002244	-.000488	.002312	-.006210
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000294	-.000127	.0076814	.0001573	.0000738	.0001292	-.004562
Stddev	.0000361	.000071	.0015378	.0002417	.0001587	.0001920	.002127
%RSD	122.8032	56.09410	20.02030	153.6285	215.0077	148.5882	46.61899
#1	-.000009	-.000047	.0059129	-.000022	.0002570	.0002498	-.002138
#2	.000034	-.000151	.0087048	.000432	-.000022	.0002301	-.006113
#3	.000063	-.000183	.0084264	.000062	-.000014	-.000092	-.005434
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000472	.0025495	-.000111	.0016067	.0032761	-.001045	.0000725
Stddev	.0001694	.0012007	.000193	.0002307	.0057591	.000640	.0002497
%RSD	359.0445	47.09554	173.7243	14.35612	175.7874	61.21410	344.3319
#1	.0001442	.0028226	.000097	.0013797	-.003373	-.000564	-.000214
#2	.0001458	.0012358	-.000285	.0018409	.006519	-.001771	.000189
#3	-.000148	.0035901	-.000145	.0015995	.006683	-.000800	.000243
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0812459	-.010825	.0005621	-.014804	-.000198	.0049020	-.000126
Stddev	.0346527	.000444	.0003211	.000603	.000202	.0008499	.000240
%RSD	42.65156	4.099972	57.12285	4.073813	101.9467	17.33797	190.8184
#1	.0523362	-.010369	.0009301	-.014245	-.000214	.0039206	-.000394
#2	.0717430	-.011255	.0003392	-.014723	-.000391	.0053933	-.000053
#3	.1196586	-.010851	.0004170	-.015443	.000012	.0053920	.000070

Sample Name: CCB05 Acquired: 12/2/2024 15:29:29 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002546	.0003772	.0000344
Stddev	.003095	.0000359	.0000091
%RSD	121.5501	9.525567	26.46089

#1	.000921	.0003893	.0000363
#2	-.005030	.0004056	.0000424
#3	-.003529	.0003368	.0000245

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2573.915	63166.38	14193.38	1747.116	4671.634
Stddev	.507	189.30	56.59	9.361	4.345
%RSD	.0196902	.2996827	.3987113	.5357704	.0930028

#1	2573.334	63304.77	14144.83	1757.581	4669.685
#2	2574.148	62950.65	14179.78	1744.225	4668.606
#3	2574.264	63243.70	14255.53	1739.541	4676.612

Sample Name: P4995-02 Acquired: 12/2/2024 15:33:50 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.007450	-.008935	-.000101	.0022648	.0004830	.0058178	.0250170
Stddev	.000915	.002126	.001031	.0003188	.0011349	.0029934	.0004718
%RSD	12.28829	23.79742	1022.747	14.07616	234.9567	51.45210	1.885748

#1	-.007289	-.006540	-.001251	.0025908	-.000790	.0092387	.0246931
#2	-.008435	-.009665	.000740	.0022500	.000851	.0036790	.0247998
#3	-.006625	-.010600	.000209	.0019537	.001388	.0045358	.0255583

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000081	-.000222	.9042682	.0005947	-.000069	.0002693	.0511253
Stddev	.000033	.000044	.0053646	.0005956	.000094	.0000171	.0042473
%RSD	40.25765	20.02721	.5932543	100.1520	136.6831	6.348883	8.307679

#1	-.000119	-.000245	.9012380	.0007510	-.000004	.0002890	.0487886
#2	-.000064	-.000170	.9011044	-.000063	-.000025	.0002610	.0560280
#3	-.000061	-.000249	.9104622	.001096	-.000176	.0002580	.0485595

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010585	.7493161	.0005898	.0014566	2.270095	-.001798	.0032345
Stddev	.0002326	.0152957	.0001528	.0003197	.014997	.000712	.0001472
%RSD	21.97356	2.041284	25.89891	21.94719	.6606343	39.63411	4.550322

#1	.0008094	.7346099	.0004620	.0014095	2.261716	-.002619	.0032549
#2	.0010961	.7481985	.0007590	.0017972	2.287409	-.001347	.0033704
#3	.0012700	.7651400	.0005483	.0011631	2.261160	-.001426	.0030782

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1181611	.0027808	.0002896	-.013769	-.000296	.0170827	.0054138
Stddev	.0073843	.0005693	.0001354	.000285	.000144	.0029893	.0013235
%RSD	6.249395	20.47132	46.74539	2.072823	48.67662	17.49888	24.44763

#1	.1216572	.0032869	.0004357	-.013647	-.000291	.0184800	.0066652
#2	.1231482	.0028911	.0001685	-.014096	-.000443	.0136506	.0055477
#3	.1096780	.0021645	.0002645	-.013566	-.000155	.0191174	.0040283

Sample Name: P4995-02 Acquired: 12/2/2024 15:33:50 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.1675563	-.002359	.0076830
Stddev	.0011575	.000355	.0000604
%RSD	.6908122	15.06309	.7860754
#1	.1683829	-.002007	.0076373
#2	.1662334	-.002353	.0076602
#3	.1680528	-.002717	.0077515

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2454.539	61502.09	14254.19	1678.471	4492.884
Stddev	7.645	69.19	39.70	6.891	11.731
%RSD	.3114748	.1124963	.2785432	.4105714	.2611123
#1	2448.998	61426.77	14292.34	1671.873	4481.127
#2	2451.358	61562.81	14257.12	1677.917	4492.935
#3	2463.261	61516.68	14213.10	1685.622	4504.590

Sample Name: PB165252TB Acquired: 12/2/2024 15:38:09 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.007868	-.009916	-.000492	.0033123	.0001036	.0081075
Stddev	.001969	.003066	.000787	.0013901	.0002275	.0029956
%RSD	25.02785	30.91573	160.0620	41.96887	219.5323	36.94819

#1	-.008386	-.009800	-.000731	.0033644	.0003448	.0101440
#2	-.009526	-.013038	-.001132	.0046756	.0000734	.0095107
#3	-.005691	-.006910	.000387	.0018968	-.000107	.0046679

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008122	-.000141	-.000170	.0193446	.0007725	-.000094
Stddev	.000539	.000049	.000106	.0036209	.0001014	.000083
%RSD	6.639284	34.41127	61.93142	18.71767	13.12311	87.93819

#1	-.008368	-.000086	-.000270	.0153370	.0008845	-.000133
#2	-.008494	-.000175	-.000059	.0223803	.0007462	-.000150
#3	-.007503	-.000164	-.000182	.0203166	.0006869	.000001

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000210	.0126960	.0041920	.0080709	.0004275	.0016964
Stddev	.000332	.0022504	.0004461	.0021646	.0001886	.0001582
%RSD	158.4963	17.72507	10.64148	26.82033	44.11321	9.324504

#1	.000036	.0152941	.0038705	.0098590	.0003627	.0018041
#2	-.000078	.0114389	.0047013	.0086893	.0002798	.0017703
#3	-.000588	.0113551	.0040043	.0056643	.0006399	.0015148

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 293.5080	-.001533	.0018403	-.054361	-.015021	.0002770
Stddev	1.4803	.000156	.0001887	.018777	.000379	.0002181
%RSD	.5043389	10.20507	10.25445	34.54050	2.525880	78.72123

#1	295.1940	-.001563	.0020538	-.038923	-.015205	.0004811
#2	292.9088	-.001672	.0017715	-.075264	-.014585	.0000472
#3	292.4213	-.001364	.0016956	-.048896	-.015273	.0003027

Sample Name: PB165252TB Acquired: 12/2/2024 15:38:09 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.012477	.0002938	.0130223	.0059584	F .0250868	-.003008
Stddev	.000192	.0002447	.0038877	.0014858	.0020853	.000371
%RSD	1.540705	83.28055	29.85454	24.93637	8.312345	12.33262
#1	-.012264	.0003970	.0110444	.0049373	.0267330	-.003431
#2	-.012531	.0000144	.0105211	.0052749	.0227419	-.002857
#3	-.012637	.0004700	.0175013	.0076629	.0257856	-.002736

Elem	Sr4077
Units	ppm
Avg	-.000046
Stddev	.000021
%RSD	45.46501
#1	-.000065
#2	-.000024
#3	-.000051

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2229.009	54883.16	13365.12	1529.994	3769.311
Stddev	9.522	88.19	518.74	9.463	10.402
%RSD	.4271859	.1606930	3.881285	.6185072	.2759765
#1	2222.917	54783.01	13478.54	1521.250	3761.788
#2	2224.128	54917.24	12799.05	1540.041	3764.963
#3	2239.982	54949.23	13817.76	1528.690	3781.182

Sample Name: PB165248TB Acquired: 12/2/2024 15:42:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.011765	-.010402	-.000435	.0047972	-.000009	.0038528
Stddev	.000900	.001572	.000969	.0010288	.000309	.0034149
%RSD	7.653243	15.11604	222.8341	21.44549	3291.151	88.63518

#1	-.011120	-.008624	-.001553	.0043263	.000278	.0014688
#2	-.011382	-.010974	.000148	.0040881	-.000336	.0077650
#3	-.012794	-.011609	.000101	.0059771	.000030	.0023246

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.008255	-.000136	-.000212	.0165607	.0011871	-.000111
Stddev	.000535	.000003	.000034	.0033521	.0000813	.000095
%RSD	6.481475	2.012564	16.09377	20.24151	6.852386	85.90813

#1	-.007638	-.000134	-.000243	.0127462	.0012796	-.000143
#2	-.008590	-.000137	-.000175	.0190371	.0011555	-.000004
#3	-.008537	-.000139	-.000218	.0178987	.0011263	-.000185

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000540	.0124116	.0008433	.0138941	.0001212	.0014410
Stddev	.0001702	.0009949	.0000919	.0115377	.0001628	.0000260
%RSD	314.9017	8.015594	10.89527	83.04055	134.2630	1.806908

#1	.0001142	.0112789	.0008831	.0042096	.0003089	.0014655
#2	.0001860	.0131436	.0009086	.0108131	.0000177	.0014137
#3	-.000138	.0128124	.0007382	.0266595	.0000371	.0014438

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 302.9203	-.000974	.0012641	-.048033	-.015191	.0003915
Stddev	2.6913	.000554	.0005257	.015398	.000277	.0002469
%RSD	.8884358	56.83612	41.58516	32.05747	1.822030	63.05752

#1	301.0117	-.001375	.0007115	-.038986	-.014878	.0006750
#2	301.7508	-.000342	.0017579	-.039300	-.015404	.0002239
#3	305.9985	-.001205	.0013229	-.065812	-.015292	.0002756

Sample Name: PB165248TB Acquired: 12/2/2024 15:42:39 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.012417	.0002029	.0092661	.0047102	.0110250	-.002720
Stddev	.000870	.0003048	.0054413	.0016305	.0023618	.000551
%RSD	7.004599	150.2209	58.72307	34.61653	21.42209	20.26842
#1	-.012398	-.000143	.0155403	.0029815	.0086251	-.002083
#2	-.013297	.000432	.0064176	.0049286	.0111032	-.003036
#3	-.011557	.000320	.0058403	.0062204	.0133467	-.003040

Elem	Sr4077
Units	ppm
Avg	-.000063
Stddev	.000022
%RSD	34.88347
#1	-.000070
#2	-.000038
#3	-.000080

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2174.579	53704.32	13476.41	1487.843	3675.072
Stddev	10.569	89.02	31.29	3.649	11.853
%RSD	.4860185	.1657586	.2321576	.2452708	.3225213
#1	2162.564	53624.15	13448.65	1487.385	3661.661
#2	2182.440	53688.70	13470.26	1484.445	3679.412
#3	2178.732	53800.12	13510.32	1491.700	3684.144

Sample Name: PB165272BL Acquired: 12/2/2024 15:47:08 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.002450	-.001912	-.000093	-.001878	.0000312	.0036928	-.007151
Stddev	.001664	.000913	.000821	.002375	.0003473	.0045679	.000226
%RSD	67.91537	47.77082	879.8383	126.5090	1112.331	123.6977	3.157516

#1	-.004328	-.002753	-.000711	-.003964	-.000315	-.000444	-.007382
#2	-.001159	-.000941	-.000408	.000708	.000029	.002927	-.007139
#3	-.001864	-.002041	.000839	-.002377	.000379	.008595	-.006931

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000320	-.000150	.0034554	.0002026	.0001391	-.000513	-.001669
Stddev	.0000351	.000076	.0034708	.0000307	.0001569	.000255	.000534
%RSD	109.7449	50.96873	100.4448	15.14367	112.7912	49.72463	32.02947

#1	.0000598	-.000074	.0072962	.0002198	.0000000	-.000388	-.002253
#2	-.000007	-.000149	.0025266	.0002208	.0003093	-.000344	-.001549
#3	.000044	-.000227	.0005435	.0001672	.0001081	-.000806	-.001204

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000063	.0045832	.0000911	.0016040	.0580566	-.000896	.0008394
Stddev	.000061	.0059505	.0002324	.0003509	.0182417	.000931	.0001577
%RSD	96.72902	129.8334	255.0016	21.87329	31.42057	103.9803	18.79180

#1	-.000099	.0033866	-.000018	.0011995	.0441782	-.000711	.0009718
#2	.000007	.0110411	-.000066	.0018246	.0512734	-.001905	.0008816
#3	-.000099	-.000678	.000358	.0017880	.0787181	-.000070	.0006649

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0706682	-.014857	-.000762	-.014372	.0002741	.0020224	-.000844
Stddev	.0251656	.000218	.000084	.000591	.0001158	.0061507	.000354
%RSD	35.61090	1.467660	11.05103	4.110436	42.24622	304.1322	41.98416

#1	.0426052	-.014893	-.000729	-.014362	.0003599	.0073967	-.000622
#2	.0781684	-.015055	-.000699	-.013785	.0003200	.0033562	-.001253
#3	.0912309	-.014623	-.000858	-.014967	.0001424	-.004686	-.000658

Sample Name: PB165272BL Acquired: 12/2/2024 15:47:08 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.000202	.0006972	-.000037
Stddev	.001253	.0009667	.000006
%RSD	620.0256	138.6654	15.50757

#1	.000292	-.000383	-.000043
#2	.000729	.001482	-.000034
#3	-.001627	.000992	-.000033

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2441.666	60355.95	13599.70	1679.564	4386.641
Stddev	6.835	127.52	62.30	9.972	13.167
%RSD	.2799116	.2112777	.4580679	.5937158	.3001551

#1	2433.808	60434.00	13539.18	1687.792	4371.774
#2	2444.959	60425.07	13663.63	1682.426	4391.321
#3	2446.231	60208.80	13596.30	1668.474	4396.828

Sample Name: PB165272BS Acquired: 12/2/2024 15:51:28 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.8437223	2.177596	.9859828	2.154682	.8477138	2.119813
Stddev	.0038495	.026472	.0017686	.011150	.0012032	.005786
%RSD	.4562507	1.215648	.1793780	.5174949	.1419294	.2729553

#1	.8414003	2.147043	.9841535	2.145083	.8477375	2.114254
#2	.8416007	2.193672	.9861110	2.152050	.8464989	2.119384
#3	.8481658	2.192075	.9876838	2.166913	.8489049	2.125802

Elem	Ba4934	Be2348	Cd2265	Ca3736	Cr2677	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1984825	.1960721	.1900769	1.059118	.4057747	.1997696
Stddev	.0004590	.0003125	.0001998	.010935	.0032546	.0003728
%RSD	.2312476	.1593767	.1050928	1.032431	.8020599	.1866214

#1	.1986955	.1958871	.1898463	1.050279	.4056763	.1994442
#2	.1987964	.1958963	.1901976	1.055730	.4025705	.1996884
#3	.1979558	.1964329	.1901867	1.071346	.4090774	.2001764

Elem	Cu2247	Fe2404	Mn2576	Mg2790	Ni2316	Ag3280
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3294260	2.985872	.2027950	1.953700	.4988424	.0749778
Stddev	.0007272	.023141	.0007735	.003697	.0009463	.0004689
%RSD	.2207502	.7750036	.3814065	.1892292	.1896907	.6253629

#1	.3296666	2.959268	.2020536	1.955180	.4979335	.0745144
#2	.3286090	2.997018	.2027344	1.949493	.4987718	.0749669
#3	.3300025	3.001330	.2035969	1.956428	.4998220	.0754520

Elem	Na5895	V_2924	Zn2138	K_7664	B_2496	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.968098	.3099679	.2157819	10.38373	.2790564	.4416287
Stddev	.010088	.0000147	.0002002	.03065	.0015584	.0013958
%RSD	.3398706	.0047376	.0927867	.2951347	.5584373	.3160568

#1	2.976493	.3099617	.2159121	10.40226	.2791606	.4400171
#2	2.970893	.3099847	.2155513	10.40058	.2805600	.4424508
#3	2.956907	.3099574	.2158821	10.34836	.2774486	.4424183

Sample Name: PB165272BS Acquired: 12/2/2024 15:51:28 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.6655683	.2035572	.7817311	5.599497	F -.012027	.2202529
Stddev	.0019942	.0003711	.0033456	.017195	.002116	.0007006
%RSD	.2996279	.1823236	.4279783	.3070802	17.59160	.3180741

#1	.6632668	.2034680	.7854047	5.579653	-.014017	.2208206
#2	.6667832	.2039648	.7788590	5.608834	-.012259	.2204680
#3	.6666550	.2032388	.7809296	5.610004	-.009805	.2194700

Elem	Sr4077
Units	ppm
Avg	.2157532
Stddev	.0003705
%RSD	.1717238

#1	.2158977
#2	.2160296
#3	.2153322

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2375.131	58319.33	13248.27	1637.377	4134.045
Stddev	5.449	69.96	37.79	10.559	4.182
%RSD	.2294058	.1199676	.2852454	.6448550	.1011581

#1	2377.434	58242.20	13227.97	1631.875	4134.716
#2	2379.051	58337.06	13224.98	1630.706	4137.852
#3	2368.909	58378.72	13291.87	1649.551	4129.569

Sample Name: LR1 Acquired: 12/2/2024 16:01:15 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0214916	.1143950	-.002577	-.271320	-.014135	2063.385	.0119890
Stddev	.0114839	.0077705	.007214	.010481	.010038	9.226	.0008913
%RSD	53.43454	6.792714	279.9717	3.862852	71.01279	.4471501	7.434020

#1	.0304141	.1231686	.005727	-.269158	-.017913	2053.237	.0129099
#2	.0255258	.1083808	-.007307	-.262090	-.002757	2071.268	.0119266
#3	.0085349	.1116356	-.006150	-.282714	-.021736	2065.648	.0111306

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0086287	.1928960	1631.477	-.003516	.0481546	.0523079	1013.435
Stddev	.0000692	.0020169	4.555	.000842	.0009628	.0093088	9.254
%RSD	.8017895	1.045595	.2791745	23.94320	1.999341	17.79620	.9131166

#1	.0086895	.1907942	1636.483	-.004283	.0488070	.0432283	1022.962
#2	.0086432	.1930780	1627.578	-.002615	.0486080	.0518654	1012.863
#3	.0085535	.1948157	1630.370	-.003650	.0470488	.0618301	1004.481

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.100219	1754.440	.0041621	-.033176	1998.950	.0526782	.3726404
Stddev	.000573	13.357	.0007039	.002218	31.295	.0014947	.0033681
%RSD	.5717913	.7613212	16.91147	6.685267	1.565596	2.837456	.9038524

#1	-.100574	1749.571	.0042378	-.030875	1986.136	.0510443	.3725641
#2	-.100526	1769.549	.0034235	-.033352	2034.619	.0539767	.3693110
#3	-.099558	1744.202	.0048251	-.035301	1976.094	.0530135	.3760460

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1372.539	.0049561	-.015483	.0088600	-.039432	.1514013	.0907408
Stddev	12.885	.0139147	.001853	.0028744	.000695	.0069485	.0068787
%RSD	.9387905	280.7597	11.97125	32.44224	1.762311	4.589454	7.580564

#1	1364.126	.0179999	-.015790	.0059511	-.039774	.1525165	.0981190
#2	1387.373	.0065591	-.017163	.0089304	-.039890	.1577248	.0895987
#3	1366.118	-.009691	-.013495	.0116986	-.038632	.1439627	.0845047

Sample Name: LR1 Acquired: 12/2/2024 16:01:15 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.193071	-.258467	-1.00003
Stddev	.021725	.001393	.00928
%RSD	11.25249	.5388340	.9275403
#1	-.180056	-.259702	-1.00959
#2	-.218151	-.256957	-.99944
#3	-.181005	-.258741	-.99106

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1334.123	35054.64	10076.19	919.7011	1973.520
Stddev	1.247	195.53	25.92	7.6764	1.303
%RSD	.0934737	.5577987	.2572306	.8346626	.0660141
#1	1333.922	35000.47	10102.55	918.4413	1975.003
#2	1335.459	34891.90	10050.74	912.7324	1972.993
#3	1332.989	35271.55	10075.29	927.9294	1972.563

Sample Name: LR2 Acquired: 12/2/2024 16:06:11 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	.0082700	-.038340	236.3809	.0058459	-.004866	.0300831	^F *****
Stddev	.0022750	.001956	.9101	.0055448	.002364	.0110512	-----
%RSD	27.50896	5.101669	.3849976	94.84985	48.58512	36.73568	-----

#1	.0056797	-.040209	237.2777	.0080111	-.005340	.0406242	^ -----
#2	.0099438	-.038502	236.4070	.0099814	-.002301	.0310410	^ -----
#3	.0091865	-.036308	235.4581	-.000455	-.006957	.0185841	^ -----

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.002095	-.008063	.2916617	.0130929	-.032584	234.1340	-.016358
Stddev	.000048	.000163	.0085901	.0002094	.000142	1.4553	.003941
%RSD	2.303071	2.021395	2.945211	1.599217	.4365105	.6215471	24.09468

#1	-.002109	-.008243	.3007925	.0133220	-.032722	232.6863	-.012010
#2	-.002042	-.007925	.2837407	.0129115	-.032593	235.5967	-.019697
#3	-.002136	-.008022	.2904519	.0130453	-.032438	234.1190	-.017365

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	42.13138	-.107996	54.73691	.0067256	.3566969	-.017058	34.75981
Stddev	.13429	.013416	.19524	.0001660	.0043199	.000620	.30061
%RSD	.3187386	12.42239	.3566938	2.467817	1.211089	3.634351	.8648265

#1	42.18344	-.092566	54.93306	.0065506	.3574297	-.016430	34.79379
#2	42.23185	-.114520	54.73509	.0068808	.3606036	-.017670	35.04198
#3	41.97886	-.116902	54.54259	.0067454	.3520575	-.017073	34.44365

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3022268	-.015427	-.005569	-.019396	-.047516	.0018072	1.473272
Stddev	.0173231	.000658	.000157	.000474	.000409	.0043634	.006182
%RSD	5.731833	4.268202	2.826908	2.444468	.8612814	241.4500	.4195889

#1	.3201915	-.016051	-.005573	-.019785	-.047889	-.002249	1.476734
#2	.3008630	-.014739	-.005410	-.019534	-.047078	.006424	1.476947
#3	.2856259	-.015491	-.005725	-.018868	-.047581	.001247	1.466135

Sample Name: LR2 Acquired: 12/2/2024 16:06:11 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.040703	-.000527	.0020474
Stddev	.002998	.000146	.0000131
%RSD	7.365960	27.64471	.6382409
#1	-.043666	-.000674	.0020435
#2	-.040770	-.000523	.0020368
#3	-.037671	-.000383	.0020620

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2053.672	57201.24	13692.70	1477.365	3936.492
Stddev	5.308	56.14	71.65	5.317	8.926
%RSD	.2584723	.0981525	.5232896	.3598670	.2267602
#1	2053.445	57158.69	13620.08	1482.590	3936.793
#2	2048.481	57180.15	13694.67	1471.962	3927.419
#3	2059.090	57264.87	13763.34	1477.545	3945.264

Sample Name: CCV06 Acquired: 12/2/2024 16:11:03 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	As1890	Tl1908	Pb2203	Se1960	Sb2068	Al3961	Ba4934
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.303838	5.185730	4.879188	5.396317	5.368930	10.09068	9.696897
Stddev	.010218	.038729	.003344	.008586	.011911	.02141	.100275
%RSD	.1926609	.7468409	.0685435	.1591012	.2218557	.2121969	1.034089
#1	5.309618	5.143757	4.882659	5.399558	5.375839	10.08608	9.722171
#2	5.309857	5.220083	4.878917	5.402811	5.375776	10.07194	9.586403
#3	5.292040	5.193349	4.875987	5.386583	5.355176	10.11402	9.782116
Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2301714	2.343853	23.19435	.9902761	2.439951	1.308374	4.909848
Stddev	.0010326	.000695	.12302	.0016912	.001183	.000908	.037887
%RSD	.4486106	.0296626	.5303948	.1707799	.0484896	.0694215	.7716474
#1	.2308241	2.344370	23.19603	.9900641	2.441197	1.308309	4.877679
#2	.2289810	2.344128	23.07050	.9887010	2.438843	1.309313	4.900257
#3	.2307093	2.343063	23.31653	.9920634	2.439813	1.307500	4.951609
Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.293655	23.25037	2.433367	1.246617	26.72229	2.430476	2.512253
Stddev	.008606	.15064	.001967	.003360	.10428	.007758	.005222
%RSD	.3752085	.6478825	.0808517	.2695157	.3902453	.3192057	.2078435
#1	2.300629	23.22080	2.434050	1.243245	26.75973	2.432552	2.506423
#2	2.284037	23.11671	2.431149	1.246641	26.80268	2.421890	2.513837
#3	2.296300	23.41359	2.434901	1.249965	26.60446	2.436984	2.516499
Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.86757	4.614550	5.308989	4.774509	4.791446	5.268276	4.821238
Stddev	.11655	.019864	.007165	.003206	.014357	.036751	.027235
%RSD	.4338080	.4304607	.1349517	.0671432	.2996342	.6975959	.5649010
#1	26.77055	4.626713	5.312684	4.771162	4.799057	5.232441	4.790120
#2	26.99686	4.591627	5.313552	4.777552	4.774887	5.266508	4.832856
#3	26.83530	4.625309	5.300732	4.774814	4.800395	5.305880	4.840737

Sample Name: CCV06 Acquired: 12/2/2024 16:11:03 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCV06 Custom ID2: Custom ID3:
Comment:

Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	4.833972	5.058422	5.026540
Stddev	.008076	.009617	.041054
%RSD	.1670770	.1901114	.8167433
#1	4.828178	5.069268	5.009138
#2	4.830541	5.055062	4.997053
#3	4.843198	5.050937	5.073429

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2308.311	55957.42	13803.08	1566.986	3850.742
Stddev	11.762	87.20	67.25	3.576	15.842
%RSD	.5095598	.1558240	.4872244	.2282150	.4114138
#1	2297.588	56055.48	13752.92	1570.830	3835.511
#2	2306.454	55928.15	13879.50	1563.758	3849.582
#3	2320.891	55888.63	13776.82	1566.371	3867.132

Sample Name: CCB06 Acquired: 12/2/2024 16:15:14 Type: Unk
Method: NON EPA-6010-200.7(v2481) 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	-.001508	-.001453	.0006325	-.000692	.0003835	.0018927	-.006076
Stddev	.002774	.000920	.0001585	.001847	.0004593	.0054551	.000247
%RSD	183.9627	63.32334	25.06563	266.9701	119.7643	288.2148	4.064319

#1	-.004699	-.002381	.0005902	-.002384	-.000017	.0080970	-.006289
#2	-.000153	-.000541	.0008078	-.000970	.000282	-.002152	-.006134
#3	.000328	-.001438	.0004993	.001278	.000885	-.000267	-.005805

Elem	Be2348	Cd2265	Ca3736	Cr2677	Co2286	Cu2247	Fe2404
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000431	-.000081	-.006493	.0001292	.0001165	.0001726	-.003843
Stddev	.0000542	.000011	.003809	.0003515	.0001869	.0002677	.001762
%RSD	125.7924	13.05078	58.65974	272.1424	160.4347	155.1399	45.86341

#1	.0001005	-.000088	-.008861	-.000273	-.000098	.0002529	-.004369
#2	.0000358	-.000069	-.008518	.000284	.000202	.0003910	-.001877
#3	-.000007	-.000085	-.002099	.000377	.000246	-.000126	-.005283

Elem	Mn2576	Mg2790	Ni2316	Ag3280	Na5895	V_2924	Zn2138
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.000262	.0060024	.0001758	.0014999	.1400612	-.000972	-.000344
Stddev	.000171	.0085010	.0001411	.0002197	.0190358	.000350	.000175
%RSD	65.24638	141.6278	80.23825	14.64788	13.59104	36.00917	50.81376

#1	-.000319	.0098936	.0000594	.0016201	.1209227	-.000629	-.000207
#2	-.000070	.0118613	.0003327	.0012463	.1402682	-.001329	-.000541
#3	-.000397	-.003748	.0001353	.0016333	.1589926	-.000958	-.000284

Elem	K_7664	B_2496	Mo2020	Sn1899	Ti3361	Si2881	P_1774
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1350654	-.012158	.0005758	-.013976	.0000573	.0037004	-.001168
Stddev	.0137048	.000184	.0002117	.000468	.0006157	.0021528	.000327
%RSD	10.14676	1.515014	36.75890	3.350339	1073.957	58.17757	27.99187

#1	.1199197	-.012048	.0008171	-.014443	-.000590	.0033166	-.001543
#2	.1386663	-.012055	.0004891	-.013980	.000636	.0060193	-.000945
#3	.1466102	-.012371	.0004213	-.013506	.000125	.0017653	-.001016

Sample Name: CCB06 Acquired: 12/2/2024 16:15:14 Type: Unk
Method: NON EPA-6010-200.7(v2481) Mode: CONC Corr. Factor: 1.000000
User: Kareem Custom ID1: CCB06 Custom ID2: Custom ID3:
Comment:

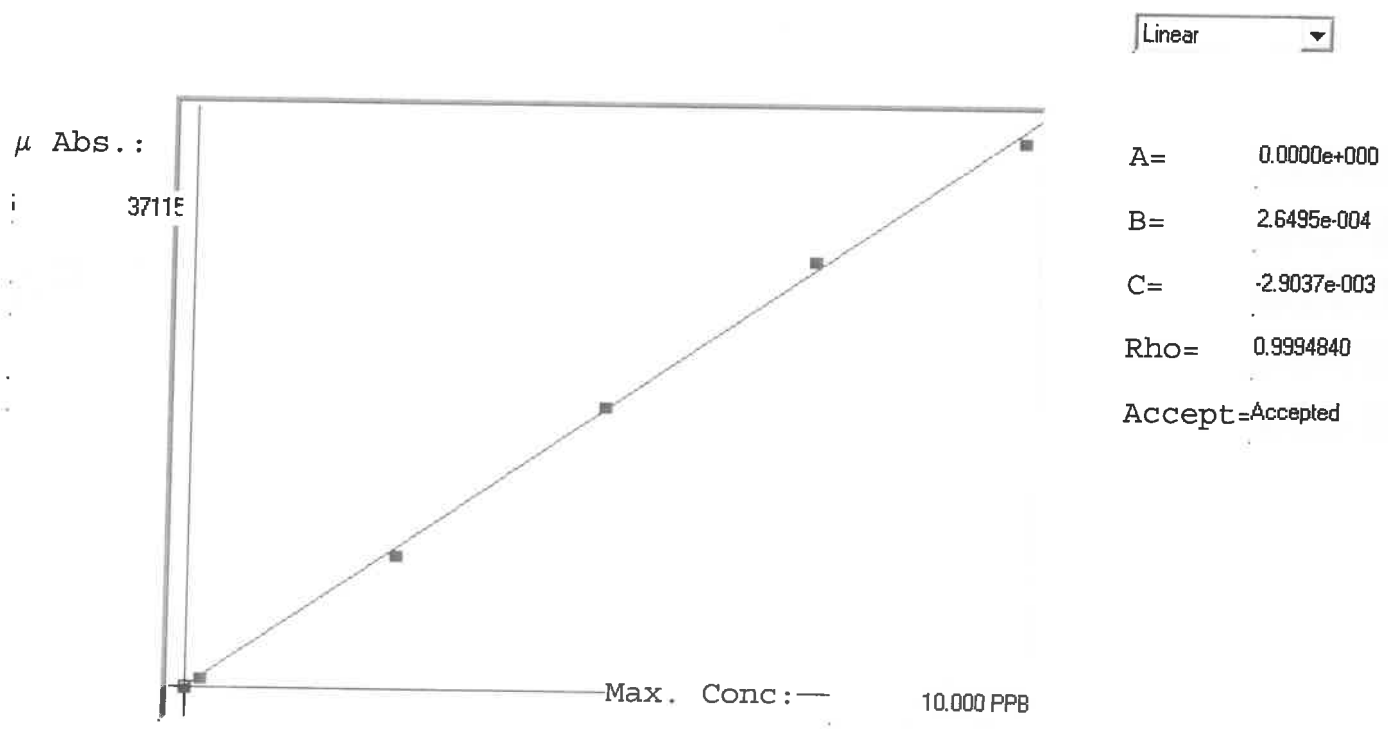
Elem	S_1820	Li6707	Sr4077
Units	ppm	ppm	ppm
Avg	-.003303	-.000236	-.000017
Stddev	.002190	.000094	.000037
%RSD	66.30144	39.79521	221.2199
#1	-.005705	-.000299	.000025
#2	-.001417	-.000128	-.000029
#3	-.002788	-.000282	-.000045

Int. Std.	Y_2243	Y_3600	Y_3710	Y_2243	In2306
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2501.342	61112.66	13608.92	1721.637	4475.524
Stddev	5.681	163.26	39.84	11.175	8.671
%RSD	.2271333	.2671439	.2927776	.6490716	.1937325
#1	2498.301	61159.36	13563.37	1724.736	4467.773
#2	2507.897	60931.14	13637.33	1709.239	4484.887
#3	2497.829	61247.48	13626.05	1730.935	4473.911

LB133702

7470A

INSTRUMENT ID: CV1



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Diob
0.0	0.000	0.002	0.002	17	0.000	17	0				1
0.2	0.200	0.195	-0.005	747	0.0 %	747					-3
2.5	2.500	2.395	-0.105	9049	0.0 %	9049					-4
5.0	5.000	5.085	0.085	19203	0.0 %	19203					2
7.5	7.500	7.693	0.193	29047	0.0 %	29047					3
10.0	10.000	9.831	-0.169	37115	0.0 %	37115					-2

LB133702 INSTRUMENT ID : CV1

Method: 7470A

Operator: Admin

Date of Analysis: 03 Dec 2024 10:22:47

Sample ID	Extended ID	μ Abs.	Conc.	Std Conc	Method	Units	Date	Type	Type
0.0 - 1	50	17	-	0.0000	7470A	PPB	03 Dec 2024 10:31:09	S	Std
0.2 - 1	50.2	747	-	0.2000	7470A	PPB	03 Dec 2024 10:33:26	S	Std
2.5 - 1	52.5	9049	-	2.5000	7470A	PPB	03 Dec 2024 10:35:43	S	Std
5.0 - 1	55	19203	-	5.0000	7470A	PPB	03 Dec 2024 10:38:00	S	Std
7.5 - 1	57.5	29047	-	7.5000	7470A	PPB	03 Dec 2024 10:50:26	S	Std
10.0 - 1	510	37115	-	10.0000	7470A	PPB	03 Dec 2024 10:55:22	S	Std
ICV109 - 1	ICV109	14324	3.7922	-	7470A	PPB	03 Dec 2024 10:58:11	U	SMPL
ICB109 - 1	ICB109	-231	-0.0641	-	7470A	PPB	03 Dec 2024 11:00:26	U	SMPL
CCV75 - 1	CCV75	19521	5.1692	-	7470A	PPB	03 Dec 2024 11:02:42	U	SMPL
CCB75 - 1	CCB75	-242	-0.0670	-	7470A	PPB	03 Dec 2024 11:04:57	U	SMPL
CRA - 1	CRA	635	0.1653	-	7470A	PPB	03 Dec 2024 11:07:14	U	SMPL
HighStd - 1	HighStd	36867	9.7650	-	7470A	PPB	03 Dec 2024 11:09:29	U	SMPL
ChkStd - 1	ChkStd	24604	6.5159	-	7470A	PPB	03 Dec 2024 11:11:44	U	SMPL
PB165334BL - 1	PBW	-96	-0.0283	-	7470A	PPB	03 Dec 2024 11:14:02	U	SMPL
PB165334BS - 1	LCSW	14228	3.7668	-	7470A	PPB	03 Dec 2024 11:19:37	U	SMPL
P5005-02 - 1	STOCK-PILE	-210	-0.0585	-	7470A	PPB	03 Dec 2024 11:21:52	U	SMPL
P5025-02 - 1	SOIL-WEST	-49	-0.0159	-	7470A	PPB	03 Dec 2024 11:24:10	U	SMPL
P5025-06 - 1	SOIL-EAST	-26	-0.0098	-	7470A	PPB	03 Dec 2024 11:26:27	U	SMPL
P5026-02 - 1	SOIL-1-HAM	134	0.0326	-	7470A	PPB	03 Dec 2024 11:28:43	U	SMPL
P5026-06 - 1	SOIL-1-HAM	43	0.0085	-	7470A	PPB	03 Dec 2024 11:30:58	U	SMPL
CCV76 - 1	CCV76	19043	5.0425	-	7470A	PPB	03 Dec 2024 11:33:14	U	SMPL
CCB76 - 1	CCB76	-246	-0.0681	-	7470A	PPB	03 Dec 2024 11:35:29	U	SMPL
P5048-04 - 1	MH-746-WC	-6	-0.0045	-	7470A	PPB	03 Dec 2024 11:37:47	U	SMPL
P5048-04DUP - 1	MH-746-WCDUP	171	0.0424	-	7470A	PPB	03 Dec 2024 11:40:02	U	SMPL
P5048-04MS - 1	MH-746-WCMS	14461	3.8285	-	7470A	PPB	03 Dec 2024 11:42:17	U	SMPL
P5048-04MSD - 1	MH-746-WCMSD	15414	4.0810	-	7470A	PPB	03 Dec 2024 11:44:32	U	SMPL
PB165335BL - 1	PBW	-277	-0.0763	-	7470A	PPB	03 Dec 2024 11:46:50	U	SMPL
PB165335BS - 1	LCSW	16285	4.3118	-	7470A	PPB	03 Dec 2024 11:49:08	U	SMPL
P5006-18 - 1	TW-WTS-02	-88	-0.0262	-	7470A	PPB	03 Dec 2024 11:51:24	U	SMPL
P5031-01 - 1	286127	960	0.2514	-	7470A	PPB	03 Dec 2024 11:58:41	U	SMPL
P5031-01DUP - 1	286127DUP	818	0.2138	-	7470A	PPB	03 Dec 2024 12:04:00	U	SMPL
P5031-01MS - 1	286127MS	15957	4.2249	-	7470A	PPB	03 Dec 2024 12:06:15	U	SMPL
CCV77 - 1	CCV77	19697	5.2158	-	7470A	PPB	03 Dec 2024 12:08:31	U	SMPL
CCB77 - 1	CCB77	-177	-0.0498	-	7470A	PPB	03 Dec 2024 12:10:48	U	SMPL
P5031-01MSD - 1	286127MSD	16190	4.2866	-	7470A	PPB	03 Dec 2024 12:13:05	U	SMPL
PB165297TB - 1	PB165297TB	-148	-0.0421	-	7470A	PPB	03 Dec 2024 12:15:20	U	SMPL
P5048-04LX5 - 1		-18	-0.0077	-	7470A	PPB	03 Dec 2024 12:17:37	U	SMPL
P5048-04A - 1		14697	3.8911	-	7470A	PPB	03 Dec 2024 12:19:53	U	SMPL
P5031-01LX5 - 1		70	0.0156	-	7470A	PPB	03 Dec 2024 12:22:08	U	SMPL
P5031-01A - 1		14984	3.9671	-	7470A	PPB	03 Dec 2024 12:24:25	U	SMPL
CCV78 - 1	CCV78	20151	5.3361	-	7470A	PPB	03 Dec 2024 12:29:21	U	SMPL
CCB78 - 1	CCB78	-156	-0.0442	-	7470A	PPB	03 Dec 2024 12:31:40	U	SMPL

SOP ID : M3010A-Digestion-17

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: 11/27/2024 Time : 08:40 Temp : 95 °C

End Digest Date: 11/27/2024 Time : 11:50 Temp : 95 °C

Digestion tube ID: M5595

Block thermometer ID: MET-DIG. #1

Dig Technician Signature: *[Signature]*

Supervisor Signature: *[Signature]*

Temp : 1. 95°C 2. N/A

Standardized Name	MLS USED	STD REF. # FROM LOG
LFS-1	0.25	M6000
LFS-2	0.25	M6009
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Chemical Used	ML/SAMPLE USED	Lot Number
Conc. HNO3	3.00	M6124
1:1 HCL	5.00	MP83105
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

Extraction Conformance/Non-Conformance Comments:

HOT BLOCK #1 CELL#50 Temp : 95C

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
11/27/24 12:00	<i>[Signature]</i> Prep / Met dig	<i>[Signature]</i> Met Lab
	Preparation Group	Analysis Group

Lab Sample ID	Client Sample ID	pH	Initial Vol (ml)	Final Vol (ml)	Color Before	Color After	Clarity Before	Clarity After	Comment	Prep Pos
P4972-05MS	628-FMS	<2	50	25	Brown	Colorless	Clear	Clear	M6000,M6009	15
P4972-05MSD	628-FMSD	<2	50	25	Brown	Colorless	Clear	Clear	M6000,M6009	16
P4972-05DUP	628-FDUP	<2	50	25	Brown	Colorless	Clear	Clear	N/A	14
P4972-05	628-F	<2	50	25	Brown	Colorless	Clear	Clear	N/A	13
P5006-18	TW-WTS-02	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	17
PB165271BL	PBW271	<2	50	25	Colorless	Colorless	Clear	Clear	N/A	18
PB165271BS	LCS271	<2	50	25	Colorless	Colorless	Clear	Clear	M6000,M6009	19

WORKLIST(Hardcopy Internal Chain)

Worklist Name : PB165271

Worklist ID : 185791

Department : Digestion

Date : 11-26-2024 12:02:14

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4972-05	628-F	Water	Metals ICP-TAL	1:1 HNO3 to pH < 2	PSEG03	L41	11/22/2024	6010D
P5006-18	TW-WTS-02	Water	Metals Group4	1:1 HNO3 to pH < 2	ENTA05	L51	11/25/2024	6010D

Date/Time 11/27/24

8:20

Raw Sample Received by:

Raw Sample Relinquished by:

[Signature]
[Signature]

Date/Time 11/27/24

9:20

Raw Sample Received by:

Raw Sample Relinquished by:

[Signature]
[Signature]

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133689

Review By	kareem	Review On	12/3/2024 8:25:12 PM
Supervise By		Supervise On	

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	12/02/24 10:48		Kareem	OK
2	S1	S1	CAL2	12/02/24 10:53		Kareem	OK
3	S2	S2	CAL3	12/02/24 10:57		Kareem	OK
4	S3	S3	CAL4	12/02/24 11:01		Kareem	OK
5	S4	S4	CAL5	12/02/24 11:05		Kareem	OK
6	S5	S5	CAL6	12/02/24 11:09		Kareem	OK
7	ICV01	ICV01	ICV	12/02/24 11:14		Kareem	OK
8	LLICV01	LLICV01	LLICV	12/02/24 11:24		Kareem	OK
9	ICB01	ICB01	ICB	12/02/24 11:29		Kareem	OK
10	CRI01	CRI01	CRDL	12/02/24 11:34		Kareem	OK
11	ICSA01	ICSA01	ICSA	12/02/24 11:38		Kareem	OK
12	ICSAB01	ICSAB01	ICSAB	12/02/24 11:42		Kareem	OK
13	CCV01	CCV01	CCV	12/02/24 11:47		Kareem	OK
14	CCB01	CCB01	CCB	12/02/24 11:51		Kareem	OK
15	P5019-01DUP	EO-02-11262024DUP	DUP	12/02/24 11:55		Kareem	OK
16	P4985-01	MH-756-WC	SAM	12/02/24 11:59		Kareem	OK
17	P4985-05	MH-740-WC	SAM	12/02/24 12:03		Kareem	OK
18	P5000-01	MH-745	SAM	12/02/24 12:08		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133689

Review By	kareem	Review On	12/3/2024 8:25:12 PM
Supervise By		Supervise On	
STD. NAME	STD REF.#		
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084		
ICV Standard	MP83085		
CCV Standard	MP83088		
ICSA Standard	MP83086 MP83087		
CRI Standard	MP83084		
LCS Standard			
Chk Standard	MP83091 MP83092		

19	P5000-05	MH-733	SAM	12/02/24 12:12		Kareem	OK
20	P5005-01	STOCK-PILE	SAM	12/02/24 12:16		Kareem	OK
21	P5019-01	EO-02-11262024	SAM	12/02/24 12:21		Kareem	OK
22	P5019-01L	EO-02-11262024L	SD	12/02/24 12:25		Kareem	OK
23	P5019-01MS	EO-02-11262024MS	MS	12/02/24 12:29	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
24	P5019-01MSD	EO-02-11262024MSD	MSD	12/02/24 12:33	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
25	CCV02	CCV02	CCV	12/02/24 12:46		Kareem	OK
26	CCB02	CCB02	CCB	12/02/24 12:50		Kareem	OK
27	P5019-01A	EO-02-11262024A	PS	12/02/24 12:56	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
28	PB165280BL	PB165280BL	MB	12/02/24 13:00		Kareem	OK
29	PB165280BS	PB165280BS	LCS	12/02/24 13:04	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
30	P4972-05DL	628-FDL	SAM	12/02/24 13:08	Straight 5x Dilution for all elements	Kareem	OK
31	P4972-05DUPDL	628-FDUPDL	DUP	12/02/24 13:12	Straight 5x Dilution for all elements	Kareem	OK
32	P4972-05LDL	628-FLDL	SD	12/02/24 13:17	Straight 25x Dilution for all elements	Kareem	OK
33	P4972-05MSDL	628-FMSDL	MS	12/02/24 13:21	Straight 5x Dilution for all elements	Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133689

Review By	kareem	Review On	12/3/2024 8:25:12 PM
Supervise By		Supervise On	
STD. NAME	STD REF.#		
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084		
ICV Standard	MP83085		
CCV Standard	MP83088		
ICSA Standard	MP83086 MP83087		
CRI Standard	MP83084		
LCS Standard			
Chk Standard	MP83091 MP83092		

34	P4972-05MSDDL	628-FMSDDL	MSD	12/02/24 13:25	Straight 5x Dilution for all elements	Kareem	OK
35	P4972-05ADL	628-FADL	PS	12/02/24 13:29	Straight 5x Dilution for all elements	Kareem	OK
36	P5006-18	TW-WTS-02	SAM	12/02/24 13:33		Kareem	OK
37	CCV03	CCV03	CCV	12/02/24 13:42		Kareem	OK
38	CCB03	CCB03	CCB	12/02/24 13:46		Kareem	OK
39	PB165271BL	PB165271BL	MB	12/02/24 13:51		Kareem	OK
40	PB165271BS	PB165271BS	LCS	12/02/24 13:55	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
41	P4986-01	TAPIAL1-SB04D-9-11	SAM	12/02/24 13:59		Kareem	OK
42	P4986-02	TAPIAL1-SB04D-4-11	SAM	12/02/24 14:03	MS/MSD fail for 50% parameters	Kareem	Not Ok
43	P4986-02DUP	TAPIAL1-SB04D-4-11	DUP	12/02/24 14:07	MS/MSD fail for 50% parameters	Kareem	Not Ok
44	P4986-02L	TAPIAL1-SB04D-4-11	SD	12/02/24 14:12	MS/MSD fail for 50% parameters	Kareem	Not Ok
45	P4986-02MS	TAPIAL1-SB04D-4-11	MS	12/02/24 14:16	MS/MSD fail for 50% parameters	Kareem	Not Ok
46	P4986-02MSD	TAPIAL1-SB04D-4-11	MSD	12/02/24 14:20	MS/MSD fail for 50% parameters	Kareem	Not Ok
47	P4986-02A	TAPIAL1-SB04D-4-11	PS	12/02/24 14:24	MS/MSD fail for 50% parameters	Kareem	Not Ok
48	PB165247BL	PB165247BL	MB	12/02/24 14:28		Kareem	OK
49	CCV04	CCV04	CCV	12/02/24 14:32		Kareem	OK
50	CCB04	CCB04	CCB	12/02/24 14:37		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133689

Review By	kareem	Review On	12/3/2024 8:25:12 PM
Supervise By		Supervise On	

STD. NAME	STD REF.#
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084
ICV Standard	MP83085
CCV Standard	MP83088
ICSA Standard	MP83086 MP83087
CRI Standard	MP83084
LCS Standard	
Chk Standard	MP83091 MP83092

51	PB165247BS	PB165247BS	LCS	12/02/24 14:42	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
52	P4985-04	MH-756-WC	SAM	12/02/24 14:46		Kareem	OK
53	P4985-08	MH-740-WC	SAM	12/02/24 14:50		Kareem	OK
54	P5000-04	MH-745	SAM	12/02/24 14:55		Kareem	OK
55	P5000-08	MH-733	SAM	12/02/24 14:59		Kareem	OK
56	P5000-08DUP	MH-733DUP	DUP	12/02/24 15:04		Kareem	OK
57	P5000-08L	MH-733L	SD	12/02/24 15:08		Kareem	OK
58	P5000-08MS	MH-733MS	MS	12/02/24 15:12	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
59	P5000-08MSD	MH-733MSD	MSD	12/02/24 15:16	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
60	P5000-08A	MH-733A	PS	12/02/24 15:21	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
61	CCV05	CCV05	CCV	12/02/24 15:25		Kareem	OK
62	CCB05	CCB05	CCB	12/02/24 15:29		Kareem	OK
63	P4995-02	001	SAM	12/02/24 15:33		Kareem	OK
64	PB165252TB	PB165252TB	MB	12/02/24 15:38		Kareem	OK
65	PB165248TB	PB165248TB	MB	12/02/24 15:42		Kareem	OK
66	PB165272BL	PB165272BL	MB	12/02/24 15:47		Kareem	OK

Instrument ID: P4

Daily Analysis Runlog For Sequence/QC Batch ID # LB133689

Review By	kareem	Review On	12/3/2024 8:25:12 PM
Supervise By		Supervise On	
STD. NAME	STD REF.#		
ICAL Standard	MP83078 MP83079 MP73080 MP83081 MP83082 MP83084		
ICV Standard	MP83085		
CCV Standard	MP83088		
ICSA Standard	MP83086 MP83087		
CRI Standard	MP83084		
LCS Standard			
Chk Standard	MP83091 MP83092		

67	PB165272BS	PB165272BS	LCS	12/02/24 15:51	0.1ML OF M6010 AND M6001 WERE ADDED TO 10ML OF SAMPLE	Kareem	OK
68	LR1	LR1	HIGH STD	12/02/24 16:01		Kareem	OK
69	LR2	LR2	HIGH STD	12/02/24 16:06		Kareem	OK
70	CCV06	CCV06	CCV	12/02/24 16:11		Kareem	OK
71	CCB06	CCB06	CCB	12/02/24 16:15		Kareem	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133702

Review By	jaswal	Review On	12/3/2024 7:09:40 PM
Supervise By	mohan	Supervise On	12/3/2024 7:10:45 PM

STD. NAME	STD REF.#
ICAL Standard	MP83411,MP83412,MP83413,MP83414,MP83415,MP83416
ICV Standard	MP83417
CCV Standard	MP83419
ICSA Standard	
CRI Standard	MP83421
LCS Standard	
Chk Standard	MP83418,MP83420,MP83422,MP83427

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	S0	S0	CAL1	12/03/24 10:31		Mohan	OK
2	S0.2	S0.2	CAL2	12/03/24 10:33		Mohan	OK
3	S2.5	S2.5	CAL3	12/03/24 10:35		Mohan	OK
4	S5	S5	CAL4	12/03/24 10:38		Mohan	OK
5	S7.5	S7.5	CAL5	12/03/24 10:50		Mohan	OK
6	S10	S10	CAL6	12/03/24 10:55		Mohan	OK
7	ICV109	ICV109	ICV	12/03/24 10:58		Mohan	OK
8	ICB109	ICB109	ICB	12/03/24 11:00		Mohan	OK
9	CCV75	CCV75	CCV	12/03/24 11:02		Mohan	OK
10	CCB75	CCB75	CCB	12/03/24 11:04		Mohan	OK
11	CRA	CRA	CRDL	12/03/24 11:07		Mohan	OK
12	HighStd	HighStd	HIGH STD	12/03/24 11:09		Mohan	OK
13	ChkStd	ChkStd	SAM	12/03/24 11:11		Mohan	OK
14	PB165334BL	PB165334BL	MB	12/03/24 11:14		Mohan	OK
15	PB165334BS	PB165334BS	LCS	12/03/24 11:19		Mohan	OK
16	P5005-02	STOCK-PILE	SAM	12/03/24 11:21		Mohan	OK
17	P5025-02	SOIL-WEST	SAM	12/03/24 11:24		Mohan	OK
18	P5025-06	SOIL-EAST	SAM	12/03/24 11:26		Mohan	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133702

Review By	jaswal	Review On	12/3/2024 7:09:40 PM
Supervise By	mohan	Supervise On	12/3/2024 7:10:45 PM

STD. NAME	STD REF.#
ICAL Standard	MP83411,MP83412,MP83413,MP83414,MP83415,MP83416
ICV Standard	MP83417
CCV Standard	MP83419
ICSA Standard	
CRI Standard	MP83421
LCS Standard	
Chk Standard	MP83418,MP83420,MP83422,MP83427

19	P5026-02	SOIL-1-HAM	SAM	12/03/24 11:28		Mohan	OK
20	P5026-06	SOIL-1-HAM	SAM	12/03/24 11:30		Mohan	OK
21	CCV76	CCV76	CCV	12/03/24 11:33		Mohan	OK
22	CCB76	CCB76	CCB	12/03/24 11:35		Mohan	OK
23	P5048-04	MH-746-WC	SAM	12/03/24 11:37		Mohan	OK
24	P5048-04DUP	MH-746-WCDUP	DUP	12/03/24 11:40		Mohan	OK
25	P5048-04MS	MH-746-WCMS	MS	12/03/24 11:42		Mohan	OK
26	P5048-04MSD	MH-746-WCMSD	MSD	12/03/24 11:44		Mohan	OK
27	PB165335BL	PB165335BL	MB	12/03/24 11:46		Mohan	OK
28	PB165335BS	PB165335BS	LCS	12/03/24 11:49		Mohan	OK
29	P5006-18	TW-WTS-02	SAM	12/03/24 11:51		Mohan	OK
30	P5031-01	286127	SAM	12/03/24 11:58		Mohan	OK
31	P5031-01DUP	286127DUP	DUP	12/03/24 12:04		Mohan	OK
32	P5031-01MS	286127MS	MS	12/03/24 12:06		Mohan	OK
33	CCV77	CCV77	CCV	12/03/24 12:08		Mohan	OK
34	CCB77	CCB77	CCB	12/03/24 12:10		Mohan	OK
35	P5031-01MSD	286127MSD	MSD	12/03/24 12:13		Mohan	OK
36	PB165297TB	PB165297TB	MB	12/03/24 12:15		Mohan	OK
37	P5048-04L	MH-746-WCL	SD	12/03/24 12:17		Mohan	OK
38	P5048-04A	MH-746-WCA	PS	12/03/24 12:19		Mohan	OK

Instrument ID: CV1

Daily Analysis Runlog For Sequence/QC Batch ID # LB133702

Review By	jaswal	Review On	12/3/2024 7:09:40 PM
Supervise By	mohan	Supervise On	12/3/2024 7:10:45 PM

STD. NAME	STD REF.#
ICAL Standard	MP83411,MP83412,MP83413,MP83414,MP83415,MP83416
ICV Standard	MP83417
CCV Standard	MP83419
ICSA Standard	
CRI Standard	MP83421
LCS Standard	
Chk Standard	MP83418,MP83420,MP83422,MP83427

39	P5031-01L	286127L	SD	12/03/24 12:22		Mohan	OK
40	P5031-01A	286127A	PS	12/03/24 12:24		Mohan	OK
41	CCV78	CCV78	CCV	12/03/24 12:29		Mohan	OK
42	CCB78	CCB78	CCB	12/03/24 12:31		Mohan	OK

Prep Standard - Chemical Standard Summary

Order ID : P5006

Test : Mercury, Metals Group4

Prepbatch ID : PB165271, PB165335,

Sequence ID/Qc Batch ID: LB133689, LB133689, LB133702,

Standard ID :

MP83078 MP83079 MP73080 MP83081 MP83082 MP83084, MP83083, MP83085, MP83086
MP83087, MP83088, MP83091
MP83092, MP83105, MP83410, MP83411, MP83412, MP83413, MP83414, MP83415, MP83416, MP83417, MP83418, MP83419, MP83420, MP83421, MP83422, MP83427,

Chemical ID :

M5062, M5192, M5218, M5288, M5295, M5296, M5390, M5394, M5429, M5467, M5498, M5515, M5658, M5697, M5698, M5747, M5748, M5769, M5798, M5799, M5800, M5801, M5802, M5806, M5814, M5815, M5816, M5817, M5818, M5819, M5820, M5875, M5882, M5953, M5962, M5970, M5978, M5982, M6000, M6009, M6021, M6023, M6028, M6030, M6033, M6111, M6117, M6121, M6124, 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>
2950	ICP AES S1/CRI STOCK STD	MP83083	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 0.03000ml of M5798 + 0.03000ml of M6028 + 0.05000ml of M5515 + 0.05000ml of M5658 + 0.05000ml of M6030 + 0.05000ml of M6033 + 0.06000ml of M5747 + 0.10000ml of M5697 + 0.10000ml of M5698 + 0.10000ml of M5801 + 0.10000ml of M5820 + 0.10000ml of M5962 + 0.10000ml of M5970 + 0.10000ml of M5982 + 0.15000ml of M5800 + 0.20000ml of M5748 + 0.20000ml of M5799 + 0.20000ml of M5819 + 0.20000ml of M6021 + 0.20000ml of M6023 + 0.25000ml of M5467 + 0.25000ml of M5802 + 0.50000ml of M5390 + 0.50000ml of M5814 + 1.00000ml of M5192 + 1.00000ml of M5288 + 1.00000ml of M5498 + 1.00000ml of M5769 + 1.00000ml of M5806 + 1.00000ml of M5978 + 2.00000ml of M5816 + 2.00000ml of M5818 + 77.68000ml of MP83078 = Final Quantity: 100.000 ml

<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	MP83085	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 0.02500ml of M5429 + 0.02500ml of M5815 + 0.02500ml of M5817 + 0.25000ml of M5218 + 0.25000ml of M5982 + 10.00000ml of M5295 + 89.77500ml of MP83078 = Final Quantity: 100.000 ml

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	MP83088	11/06/2024	12/06/2024	Kareem Khairalla	None	None	Sarabjit Jaswal
								11/07/2024

FROM 50.00000ml of MP83078 + 50.00000ml of MP83079 = Final Quantity: 100.000 ml

<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	MP83105	11/07/2024	12/06/2024	Janvi Patel	None	None	Sarabjit Jaswal
								11/07/2024

FROM 1000.00000ml of M6111 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml



<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>
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP83410	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal 12/03/2024
A)								
<u>FROM</u>	1.00000ml of M6124 + 2.50000ml of M5062 + 96.50000ml of W3112 = 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>
1340	Hg 0.00 PPB STD	MP83411	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 12/03/2024
<u>FROM</u>	2.50000ml of M6124 + 247.50000ml of W3112 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1341	Hg 0.2 PPB STD	MP83412	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
FROM 2.50000ml of M6124 + 247.30000ml of W3112 + 0.20000ml of MP83410 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1342	Hg 2.5 PPB STD	MP83413	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 12/03/2024
<u>FROM</u>	2.50000ml of M6124 + 245.00000ml of W3112 + 2.50000ml of MP83410 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1343	Hg 5.0 PPB STD	MP83414	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal 12/03/2024
FROM 2.50000ml of M6124 + 242.50000ml of W3112 + 5.00000ml of MP83410 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1344	Hg 7.5 PPB STD	MP83415	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 12/03/2024
<u>FROM</u>	2.50000ml of M6124 + 240.00000ml of W3112 + 7.50000ml of MP83410 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1345	Hg 10.0 PPB STD	MP83416	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG)	Sarabjit Jaswal
FROM 2.50000ml of M6124 + 237.50000ml of W3112 + 10.00000ml of MP83410 = Final Quantity: 250.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1346	Hg ICV SOLUTION	MP83417	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 12/03/2024
<u>FROM</u>	2.50000ml of M5953 + 2.50000ml of M6124 + 245.00000ml of W3112 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1351	ICB (Hg 0.00 PPB SOLUTION)	MP83418	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG	Sarabjit Jaswal 12/03/2024

~~A)~~

<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>
1358	CCV (Hg 5.0 PPB SOLUTION)	MP83419	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG	Sarabjit Jaswal 12/03/2024

~~A)~~



<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>
1352	CCB (Hg 0.00 PPB SOLUTION)	MP83420	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HG A)	Sarabjit Jaswal 12/03/2024
<u>FROM</u> 495.00000ml of W3112 + 5.00000ml of M6124 = 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>
1349	CRA/CRI (Hg 0.2 PPB SOLUTION)	MP83421	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 12/03/2024
<u>FROM</u>	2.50000ml of M6124 + 247.30000ml of W3112 + 0.20000ml of MP83410 = Final Quantity: 250.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1350	CHK STD (Hg 7.0 PPB SOLUTION)	MP83422	12/02/2024	12/03/2024	Mohan Bera	None	METALS_PIPETTE_5 (HGA)	Sarabjit Jaswal 12/03/2024
<u>FROM</u>	2.50000ml of M6124 + 240.50000ml of W3112 + 7.00000ml of MP83410 = Final Quantity: 250.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
68	STANNOUS CHLORIDE SOLUTION	MP83427	12/03/2024	12/04/2024	Mohan Bera	METALS_SCALE_3 (M SC-3)	None	Sarabjit Jaswal 12/03/2024
<u>FROM</u> 450.00000ml of W3112 + 50.00000gram of M5882 + 50.00000ml of M6121 = Final Quantity: 500.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	MSHG-10PPM / MERCURY HCl 125mL 10ug/mL	S2-HG709270	09/22/2026	05/28/2022 / mohan	01/27/2022 / mohan	M5062

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57042 / Mo, 1000 PPM, 125 ml	051722	05/17/2025	07/01/2022 / bin	06/17/2022 / jaswal	M5192

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CHEM-QC-4 / CHEM-QC-4, Second Source, 1000 ug/ml, B, Mo, Si, Sn, Ti	S2-MEB711674	11/02/2026	07/01/2022 / bin	09/10/2021 / bin	M5218

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-1 / ICV (ICP/ICPMS) STOCK SOLN	ICV-1014	02/05/2025	08/07/2024 / jaswal	02/20/2020 / bin	M5295

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	Z9651Q / CHEM-CLP-4/.25L	S2-MEB711673	11/02/2026	09/19/2022 / jaswal	08/20/2022 / jaswal	M5296

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57056 / Ba, 1000 PPM, 125 ml	072122	07/21/2025	08/07/2024 / jaswal	09/18/2022 / bin	M5390

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-3 / CLP CAL SOLUTION #3, 125mL	T2-MEB714159	01/13/2027	11/28/2022 / bin	09/19/2022 / bin	M5394

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57058 / Cerium, 1000PPM, 100ML	020623	02/06/2026	03/06/2023 / bin	03/01/2023 / bin	M5467

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58120 / Ca, 10000 PPM, 500 ml	031523	03/15/2026	08/15/2023 / jaswal	03/17/2023 / bin	M5498

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58126 / Fe, 10000 PPM, 500 ml	092122	09/21/2025	08/01/2024 / Jaswal	03/17/2023 / bin	M5515

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58029 / Cu, 1000 PPM, 500 ml	102523	10/25/2026	04/03/2024 / jaswal	10/27/2023 / jaswal	M5697

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58025 / Mn, 1000 PPM, 500 ml	102623	10/26/2026	04/18/2024 / jaswal	10/27/2023 / jaswal	M5698

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

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.	57051 / Sb, 1000 PPM, 125 ml	120523	12/05/2026	08/07/2024 / jaswal	01/03/2024 / jaswal	M5802

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58111 / Na, 10000 PPM, 500 ml	122223	12/22/2026	08/01/2024 / Jaswal	01/03/2024 / jaswal	M5806

CHEMICAL RECEIPT LOG BOOK

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.	57014 / Si, 1000 PPM, 125 ml	122023	12/20/2026	03/06/2024 / jaswal	02/09/2024 / jaswal	M5818

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58030 / Zinc, Zn, 500 ml, 1000 PPM	111623	11/16/2026	03/20/2024 / jaswal	02/09/2024 / jaswal	M5819

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57015 / P, 1000 PPM, 125 ml	091123	09/11/2026	05/01/2024 / jaswal	02/09/2024 / jaswal	M5820

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	CLPP-CAL-1 / CLP CAL SOLUTION #1, 125mL	T2-MEB714417	01/27/2027	04/19/2024 / jaswal	02/22/2024 / jaswal	M5875

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3980-01 / Stannous Chloride (cs/4x500g)	232820	08/31/2028	04/30/2024 / mohan	04/25/2024 / mohan	M5882

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
EPA	ICV-5 / ICV (HG) STOCK SOLN	ICV5-0415	01/01/2025	07/01/2024 / mohan	03/30/2023 / mohan	M5953

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57034 / Se, 1000 PPM, 125 ml	060624	06/06/2027	07/02/2024 / Jaswal	06/14/2024 / Jaswal	M5962

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

CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57038 / Sr, 1000 PPM, 125 ml	031524	03/15/2027	07/01/2024 / Jaswal	06/11/2024 / Jaswal	M5982

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-1 / Laboratory Fortified Stock Solution 1, 125 ml	T2-MEB723367	08/30/2026	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6000

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Inorganic Ventures	WW-LFS-2 / Laboratory Fortified Stock Solution 2, 125 ml	U2-MEB731108	03/17/2028	08/13/2024 / Jaswal	05/14/2024 / Jaswal	M6009

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57023 / V, 1000 PPM, 125 ml	062424	06/24/2027	09/28/2024 / jaswal	08/05/2024 / Jaswal	M6021

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57081 / TI, 1000 PPM, 125 ml	0624724	06/27/2027	08/05/2024 / kareem	08/05/2024 / Jaswal	M6023

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	57048 / Cd, 1000 PPM, 125 ml	070124	07/01/2027	08/05/2024 / kareem	01/25/2019 / Jaswal	M6028

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	58113 / Al, 10000 PPM, 500 ml	011623	01/16/2026	08/07/2024 / Jaswal	01/03/2024 / Jaswal	M6033

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22F0762009	05/09/2027	11/04/2024 / Eman	09/29/2024 / Janvi	M6111

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24B1362001	05/06/2025	11/06/2024 / Janvi	09/29/2024 / Eman	M6117

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	0000275677	05/13/2025	11/13/2024 / Eman	10/13/2024 / Eman	M6121

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	05/22/2025	11/22/2024 / Janvi	10/22/2024 / Janvi	M6124

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

M5882
 M3

Certificate of Analysis

1 Reagent Lane
 Fair Lawn, NJ 07410
 201.796.7100 tel
 201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
 Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	T142	Quality Test / Release Date	08/17/2023
Lot Number	232820		
Description	STANNOUS CHLORIDE, DIHYDRATE CERTIFIED ACS (Suitable for Mercury Determination)		
Country of Origin	United States	Suggested Retest Date	Aug/2028
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear crystals
ASSAY	%	Inclusive Between 98 - 103	100.65
CALCIUM	%	<= 0.005	0.0017
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	%	<= 0.003	0.0011
LEAD (Pb)	%	<= 0.01	0.0006
MERCURY (Hg)	ppm	<= 0.05	<0.05
POTASSIUM (K)	%	<= 0.005	0.0001
SODIUM (Na)	%	<= 0.01	<0.01
SOLUBILITY IN HCL	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	PASS/FAIL	= P.T. (ABOUT 0.003%)	P.T. (ABOUT 0.003%)



Harout Sahagian - Quality Control Supervisor - Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.

If there are any questions with this certificate, please call at (800) 227-6701.

*Based on suggested storage condition.



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57048
070124
Cadmium (Cd)

Lot #
Solvent: 24002546 Nitric Acid

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

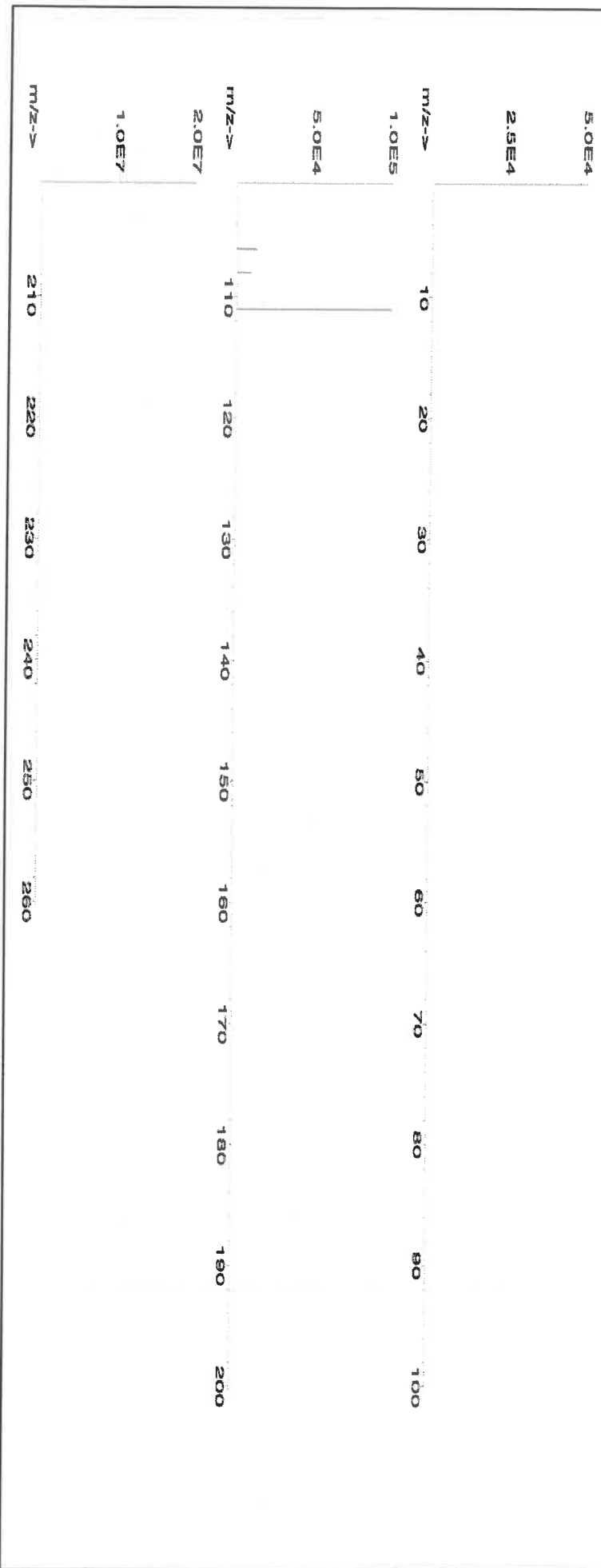
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	070124
<i>Pedro L. Rentas</i>	
Reviewed By:	Pedro L. Rentas
	070124

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
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1. Cadmium nitrate tetrahydrate (Cd) IN024 CDM09221A1 1000 99.999 0.10 36.5 5.4797 5.4804 1000.1 2.0 10022-68-1 0.01 mg/m3 or-rat 60.2mg/kg 3108

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





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

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

Al	<0.02	Cd	<0.2	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Ba	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Cd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	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).



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Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

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



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
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1.0 ACCREDITATION / REGISTRATION

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2.0 PRODUCT DESCRIPTION

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

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	2 000 ± 7 µg/mL	Barium, Ba	2 000 ± 9 µg/mL
Beryllium, Be	50.00 ± 0.26 µg/mL	Calcium, Ca	5 000 ± 22 µg/mL
Chromium, Cr	200.0 ± 1.0 µg/mL	Cobalt, Co	500.0 ± 2.4 µg/mL
Copper, Cu	250.0 ± 1.0 µg/mL	Iron, Fe	1 000 ± 4 µg/mL
Magnesium, Mg	5 000 ± 20 µg/mL	Manganese, Mn	500.0 ± 2.0 µg/mL
Nickel, Ni	500.0 ± 2.2 µg/mL	Potassium, K	5 000 ± 19 µg/mL
Silver, Ag	250.0 ± 1.1 µg/mL	Sodium, Na	5 000 ± 18 µg/mL
Vanadium, V	499.7 ± 2.2 µg/mL	Zinc, Zn	500.0 ± 2.2 µg/mL

Density: 1.118 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
V	IC Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

N/A

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

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

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

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 27, 2022

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

11.2 Lot Expiration Date

- **January 27, 2027**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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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

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- 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





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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 30, 2022

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

11.2 Lot Expiration Date

- August 30, 2026

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





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

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 17, 2023

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

11.2 Lot Expiration Date

- **March 17, 2028**

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

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

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control

A handwritten signature in black ink, appearing to read 'TK 9786'.

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

A handwritten signature in black ink, appearing to read 'Paul R. Gaines'.

300 Technology Drive
 Christiansburg, VA 24073 USA
 inorganicventures.com

MS062
 MS063
 MB

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 Mass Spec Solution
 Catalog Number: MSHG-10PPM
 Lot Number: S2-HG709270
 Matrix: 10% (v/v) HCl
 Value / Analyte(s): 10 µg/mL ea:
 Mercury
 Starting Material: Hg metal
 Starting Material Lot#: 1959
 Starting Material Purity: 99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.001 ± 0.053 µg/mL
Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	160921
Hg	EDTA	928	928
Hg	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

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

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

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

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

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

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

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

X_a = mean of Assay Method A with

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

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

k = coverage factor = 2

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

u_{bb} = bottle to bottle homogeneity standard uncertainty

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

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag	0.000011	M	Eu	<	0.000201	O	Na	0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al	0.000001	O	Fe	0.000001	M	Nb	<	0.000201	O	Si	0.000005	M	Zr	<	0.000201	
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201		
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007		
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201		
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201		
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201		
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216		
O	Ca	0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201			
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402		
M	Ce	<	0.000201	O	K	0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508			
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201		
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058		
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201		
M	Cu	<	0.000402	O	Mg	0.000001	O	S	<	0.053950	M	W	<	0.000604			
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201		
M	Er	<	0.000201	M	Mo	0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

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

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

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

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

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

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

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+

Chemical Compatibility - Stable in HNO₃. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO₃ / LDPE container, stable in 10% HNO₃ packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO₃ packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO₃ / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO₃); Oxide (Soluble in HNO₃); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

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

9.0 HOMOGENEITY

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

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

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

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

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

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 22, 2021

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

11.2 Lot Expiration Date

- **September 22, 2026**

- The date after which this CRM/RM should not be used.
- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation



Certificate Approved By:

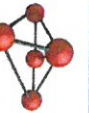
Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director





CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57042
051722
Molybdenum (Mo)

Lot # **Solvent:**
MKB08597V Ammonium hydroxide

0.5% **15.0** **Ammonium hydroxide**
(mL)

Expiration Date: 051725

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6UTB

Volume shown below was diluted to (mL): 3000.41

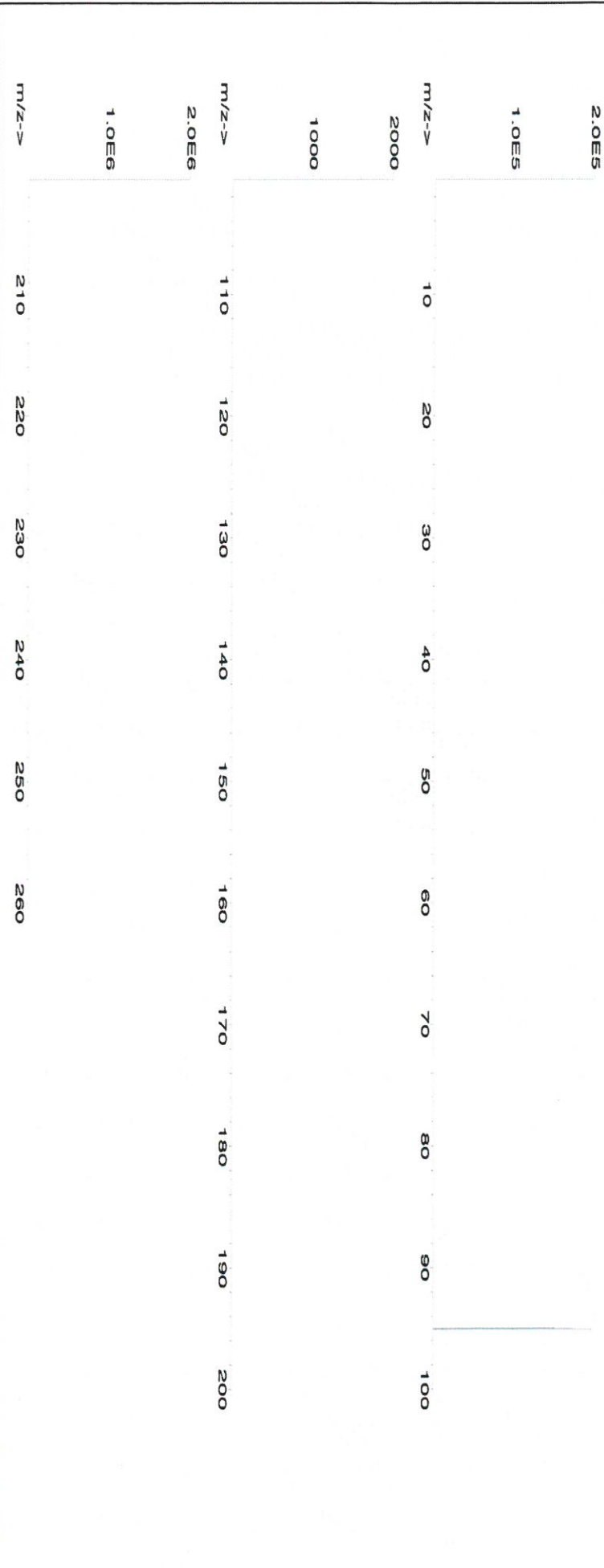
5E-05 **Balance Uncertainty**
0.058 **Flask Uncertainty**

Formulated By:	Lawrence Barry
Reviewed By:	
	Pedro L. Rendas
	051722

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)	(Solvent Safety Info. On Attached pg.)	NIST SRM
1. Ammonium molybdate (Mo)	58142	022222	0.1000	300.0	0.084	1000	10001.0	1000.0	2.1	13106-76-8 5 mg(Mo)/m3 or-trat 333 mg/kg	3134

[1] Spectrum No.1 [8.594 sec]:57042.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	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).

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





15 V5 L00

PC 0714122 (BP)



ANAB ISO 17034 Accredited

AR-1539 Certificate Number

https://AbsoluteStandards.com

Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

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

Solvent: 20510011 Nitric Acid

Expiration Date: 071125

2%

Recommended Storage: Ambient (20 °C)

40.0 (mL) Nitric Acid

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

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

Compound

Lot Number: IN034 KD022021A1

Nominal Concentration (µg/mL): 10000

Purity (%) 99.999

Expanded Uncertainty 0.10

Assay (%) 37.6

Target Weight (g) 53.1925

Actual Weight (g) 53.1934

Actual Concentration (µg/mL) 10000.2

Lot Number: IN034 KD022021A1

Nominal Concentration (µg/mL): 10000

Purity (%) 99.999

Expanded Uncertainty 0.10

Assay (%) 37.6

Target Weight (g) 53.1925

Actual Weight (g) 53.1934

Actual Concentration (µg/mL) 10000.2

1. Potassium nitrate (K)

Lot Number: IN034 KD022021A1

Nominal Concentration (µg/mL): 10000

Purity (%) 99.999

Expanded Uncertainty 0.10

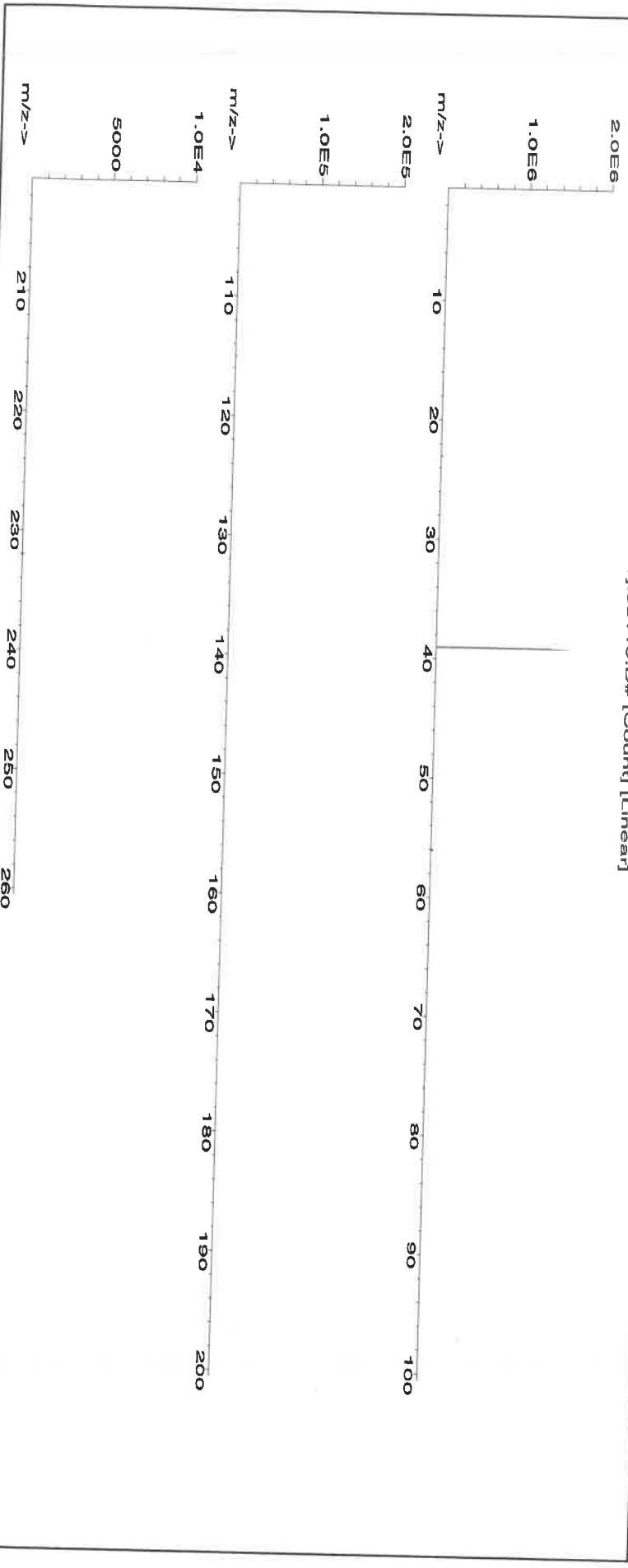
Assay (%) 37.6

Target Weight (g) 53.1925

Actual Weight (g) 53.1934

Actual Concentration (µg/mL) 10000.2

[1] Spectrum No. 1 [35.763 sec]:58119.D# [Count] [Linear]





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

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Tl	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.02	Sc	<0.02	Ta	<0.02	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: 4/20/21

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or
Cyanide in Basic Aqueous Solutions
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

M5291
M5292
M5293
M5294
M5295

(A) SAMPLE DESCRIPTION

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

(B) BREAKAGE OR MISSING ITEMS

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) ANALYSIS OF SAMPLES

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

ICV1-1014 For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.





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) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.
- ICV6-0400** For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (µg/L) (after 10-fold dilution)	Concentration (µg/L) (after 50-fold dilution)
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	2000
Cr	520	100
Co	520	100
Cu	510	100
Fe	10000	2000
Pb	1000	200
Mg	6000	1200
Mn	520	100
Ni	530	110
K	9900	2000
Se	1000	200
Ag	250	50
Na	10000	2000
Tl	1000	210
V	500	100
Zn	1000	200

ICV5-0415		ICV6-0400	
Element	Concentration (µg/L) (after 100-fold dilution)	Analyte	Concentration (µg/L) (after 100-fold dilution)
Hg	4.0	CN ⁻	99



R-09/18/22 (RH)
Certified Reference Material CRM

CERTIFIED WEIGHT REPORT:

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

Solvent: **20510011 Nitric Acid**

M5387 - M5389 - M5390 - M5391 - M5392



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

2% **40.0** **Nitric Acid**
(mL)

Weight shown below was diluted to (mL): **2000.02** **5E-05** **Balance Uncertainty**
0.058 **Flask Uncertainty**

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

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 BA022019A1	1000	99.899	0.10	52.3	3.82417	3.82426	1000.0	2.0
									1002-31-8
									0.5 mg/m3
									or -at 355 mg/kg
									31044

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





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

Ben. P. R.

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM

M5429 R1 0126/23 (B)

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

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)

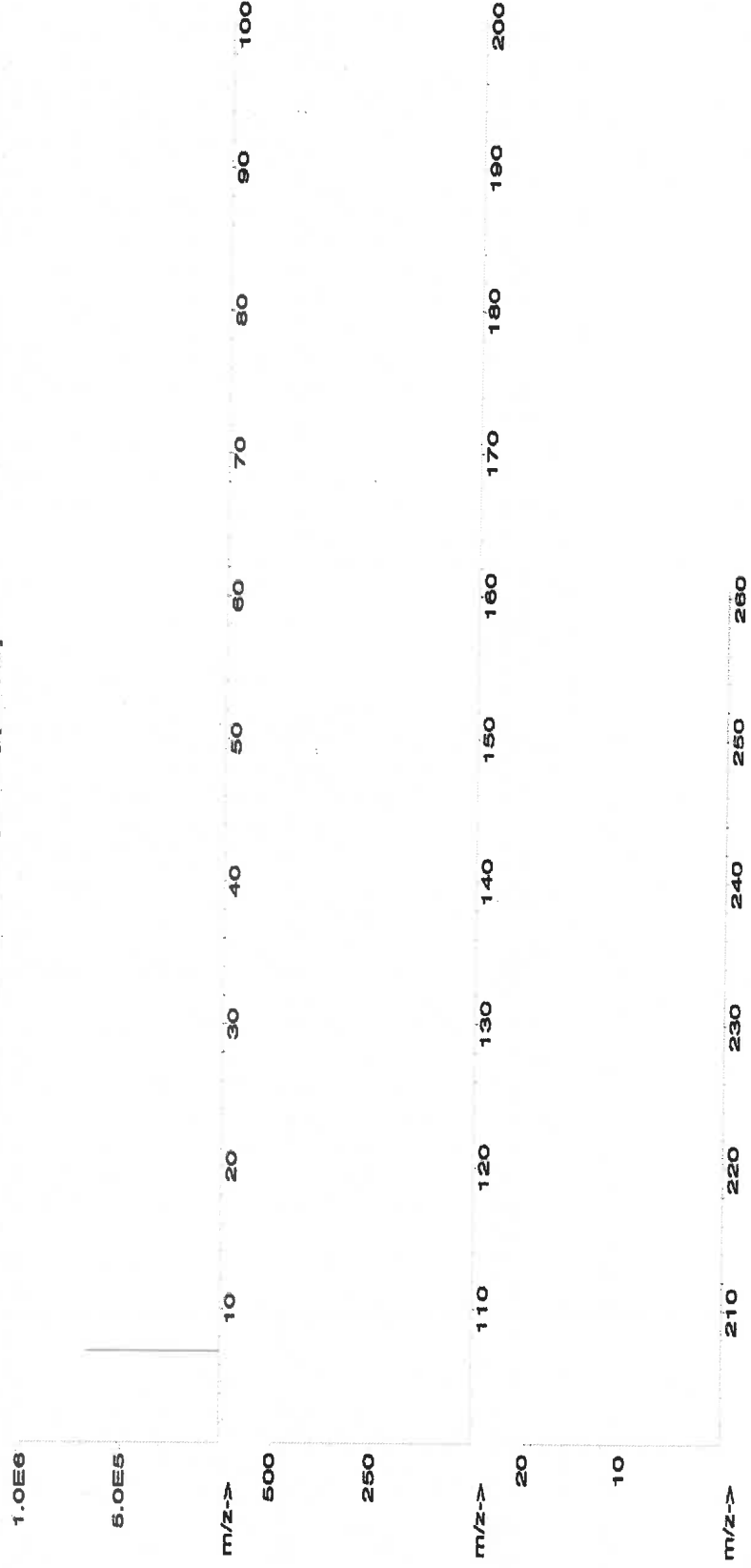
Weight shown below was diluted to (mL): 1000.12
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Lawrence Barry
Formulated By: Lawrence Barry 070622
Pedro L. Rentas
Reviewed By: Pedro L. Rentas 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
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[1] Spectrum No.1 [9.619 sec]:58103.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57058
020623
Cerium (Ce)

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

020626
Ambient (20 °C)
1000
6UTB

Weight shown below was diluted to (mL):

1000.12 **0.058** **Balance Uncertainty**
Flask Uncertainty

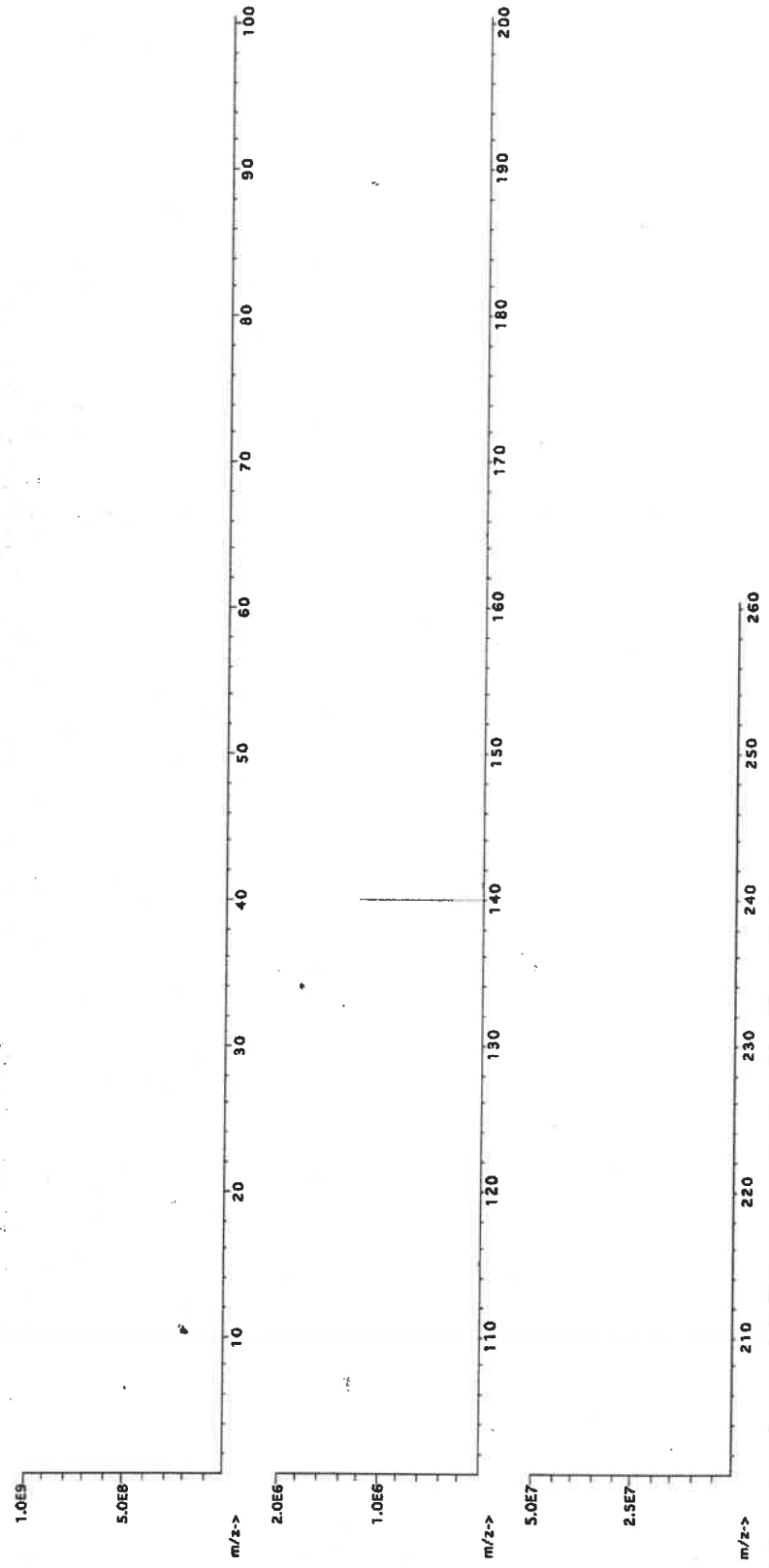
Solvent: **21110221** **Nitric Acid**

2% **20.0** **Nitric Acid**
(mL)

Lawrence Barry
Formulated By: **Lawrence Barry** **020623**
Pedro L. Rentas
Reviewed By: **Pedro L. Rentas** **020623**

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)	SDS Information		
										(Solvent Safety Info. On Attached pg.)	CAS#	LD50
1. Cerium nitrate hexahydrate (Ce)	IN146	Z512CEB1	1000	99.999	0.10	32.8	3.04919	3.04921	1000.0	2.0	10294-41-4	NA
											NA	NA

[1] Spectrum No.1 [43.472 sec]58158.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	<0.2	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	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	<0.2	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.
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- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



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:

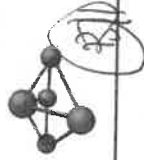
Homogeneity: No heterogeneity was observed in the preparation of this standard.

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



Certified Reference Material CRM



MS54-MS55 R:03/17/22

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

58126
092122
Iron (Fe)

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

092125
Ambient (20 °C)
10000
6UTB

Weight shown below was diluted to (mL):

5000.1

Solvent: 20510011 Nitric Acid

7.0% 350.0 Nitric Acid
(mL)

5E-05 Balance Uncertainty
0.12 Flask Uncertainty

Formulated By:	Giovanni Esposito	092122
Reviewed By:	Pedro L. Rentas	092122

Expanded
Uncertainty

SDS Information

(Solvent Safety Info. On Attached pg.)

LD50

CAS#

OSHA PEL (TWA)

SRM

5 mg/m3

7439-88-6

20.0

10001.5

50.0111

50.0034

100.0

0.10

99.985

10000

2224912-500

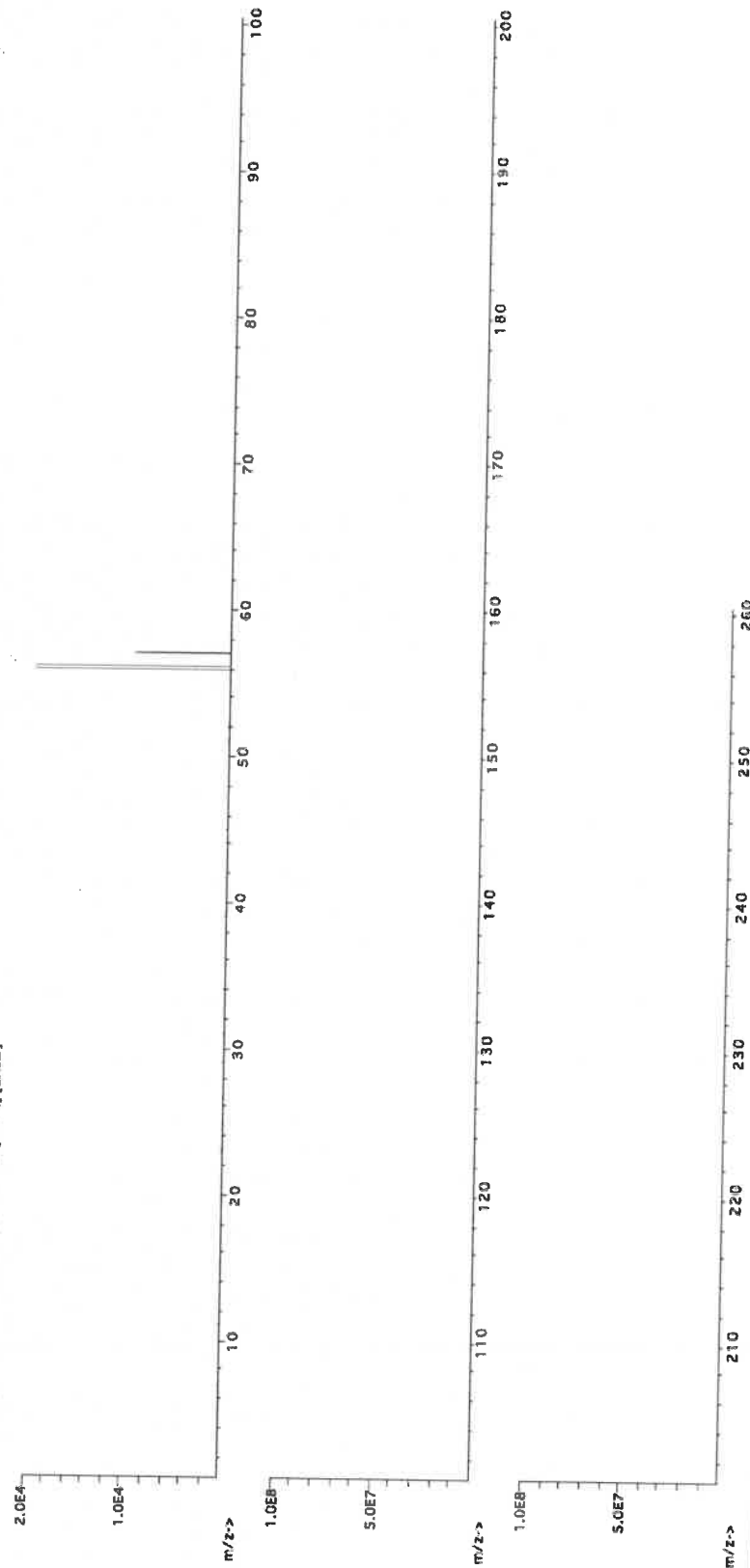
IN346

Iron (Fe)

orl-rat 7500mg/kg 3126a

1. Iron (Fe)

[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	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	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	<0.2	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.05	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.10	Ge	<0.10	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	<0.02	Zn	<0.05
B	<0.02	Cu	<0.10	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	Ti	<0.02	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Standards are 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

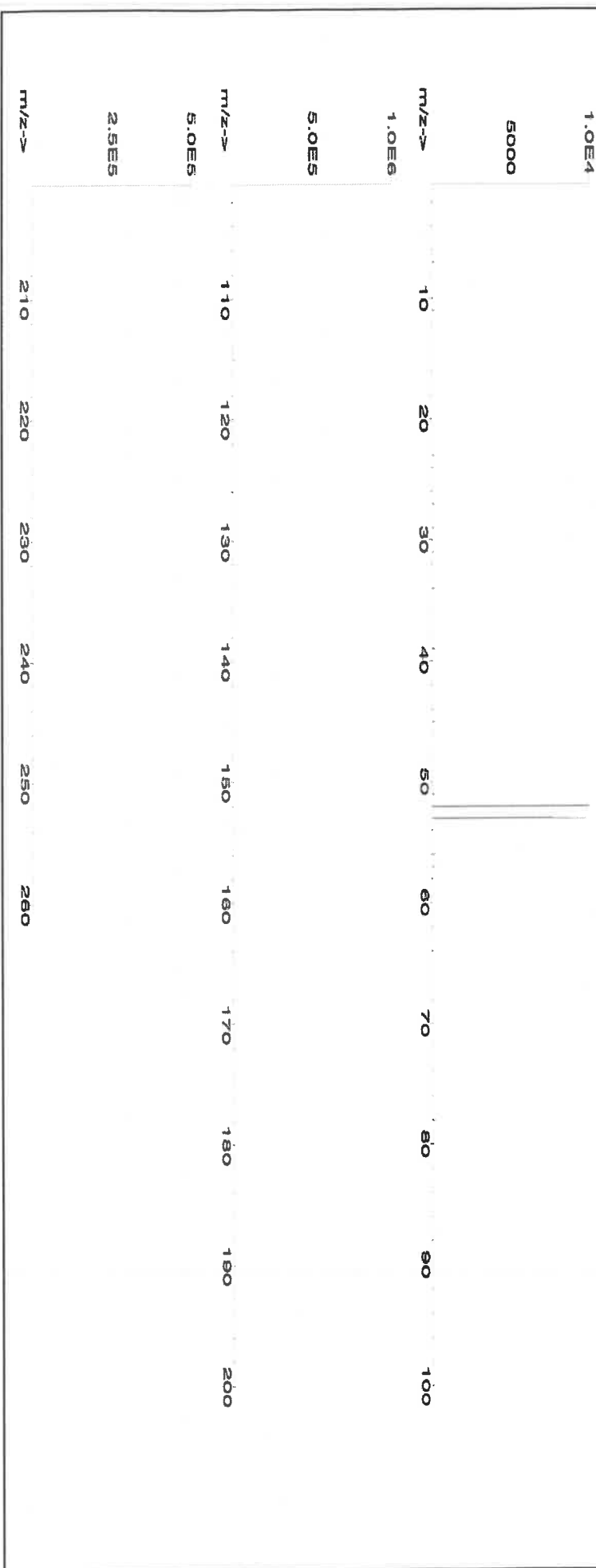
Formulated By:	Lawrence Barry
	060523
Reviewed By:	Pedro L. Henrias
	060523

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



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

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**

5E-05 Balance Uncertainty

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

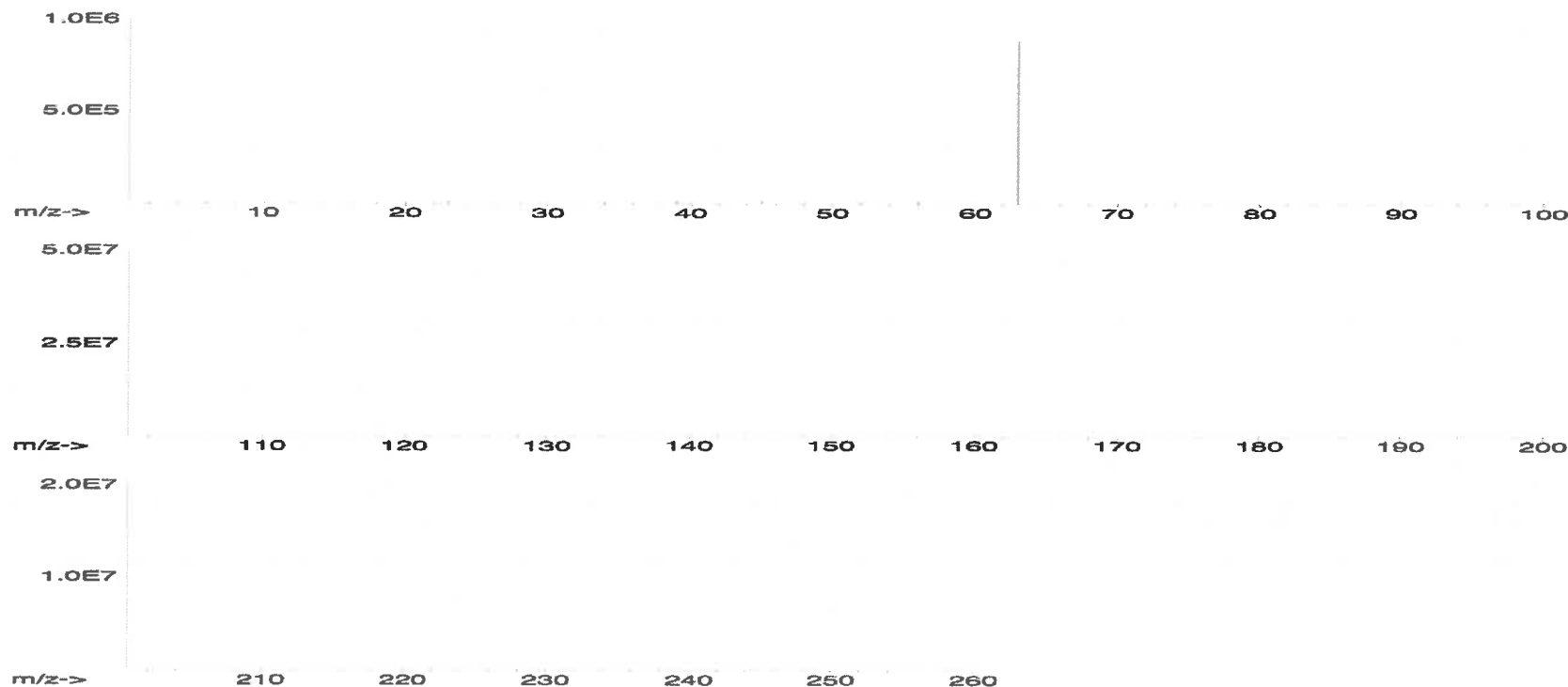
Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

Expanded

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)	(Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
1. Copper(II) nitrate trihydrate (Cu)	58129	100223	0.1000	200.0	0.084	1000	10000.1	1000.0	2.2	10031-43-3	1 mg/m3	ori-rat 794 mg/kg	3114

[1] Spectrum No.1 [33.422 sec]:58029.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	<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 Reference Material CRM

M5698 R: 10/23/23



CERTIFIED WEIGHT REPORT:

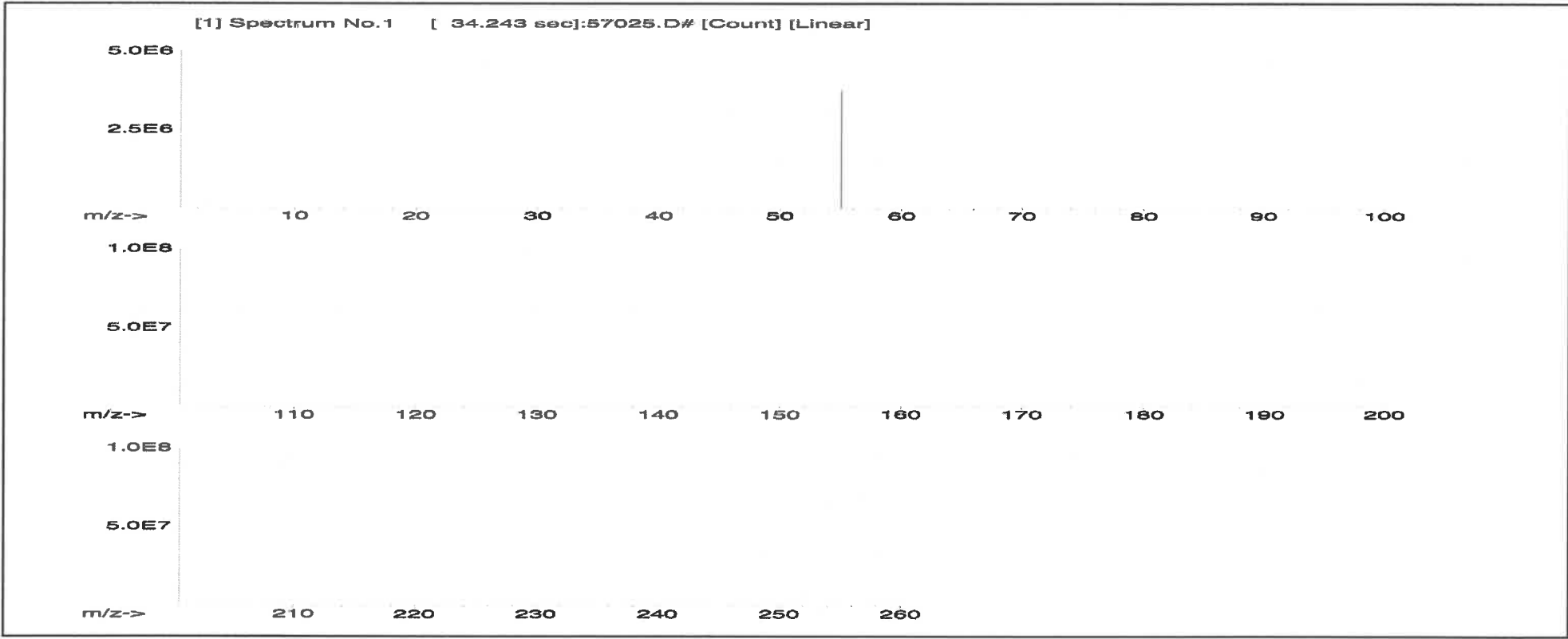
Part Number: 58025
Lot Number: 102623
Description: Manganese (Mn)

Lot # 24002546
Solvent: Nitric Acid
2.0% 60.0 (mL) Nitric Acid

Expiration Date: 102626
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: Benson Chan 102623
Reviewed By: Pedro L. Rentas 102623

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded	SDS Information			NIST
									Uncertainty +/- (µg/mL)	(Solvent Safety Info. On Attached pg.)			SRM
										CAS#	OSHA PEL (TWA)	LD50	
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

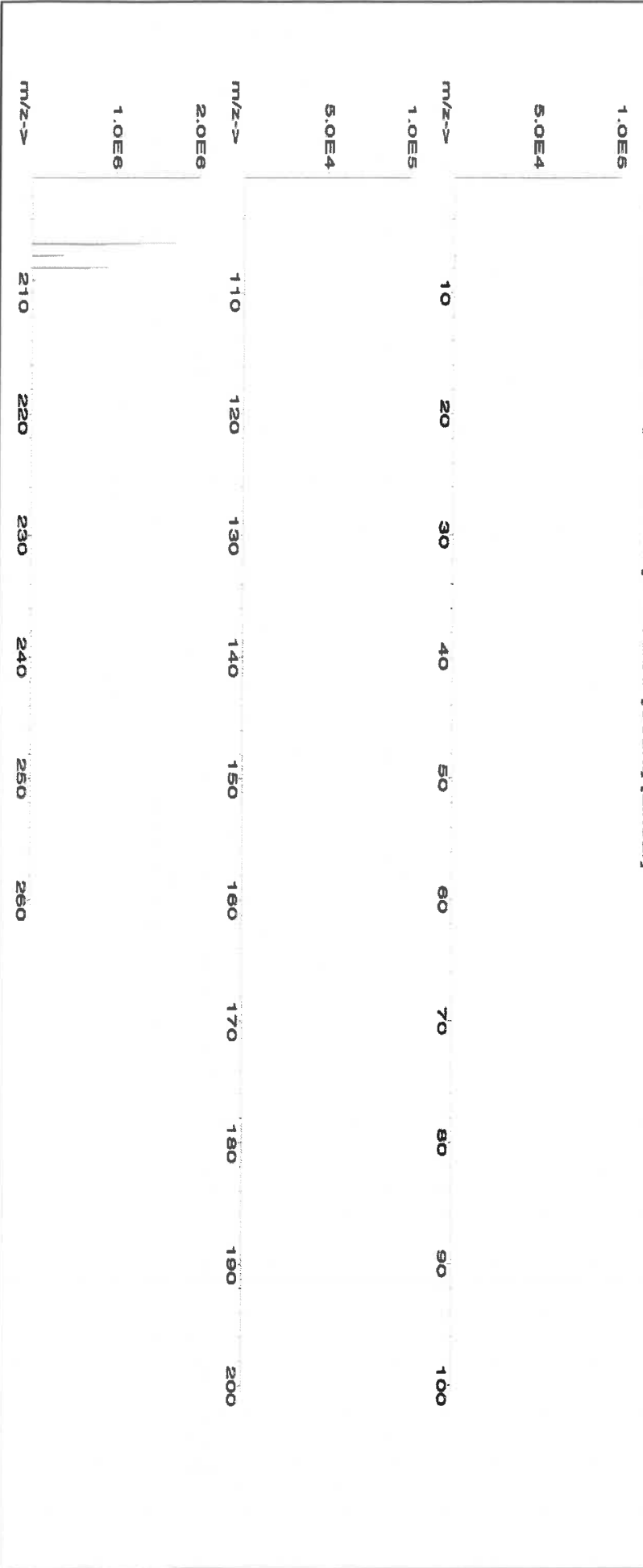
2% 60.0 (mL) Nitric Acid

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

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Lead(II) nitrate (Pb) IN029 PB0122016A1 1000 99.999 0.10 62.5 4.80071 4.80077 1000.0 2.0 10099-74-8 0.05 mg/m3 Intvms-ret 89 mg/kg 3128

[1] Spectrum No. 1 [14.144 sec]:58082.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



CERTIFIED WEIGHT REPORT:

Part Number: **57028**
Lot Number: **091223**
Description: **Nickel (NI)**

Lot # **24002546** Solvent: **Nitric Acid**

Expiration Date: **091226**

Recommended Storage: **Ambient (20 °C)**

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

NIST Test Number: **6U7B**

Volume shown below was diluted to (mL): **2000.02**

Balance Uncertainty: **5E-05**

Flask Uncertainty: **0.056**

2.0%

40.0 (mL)

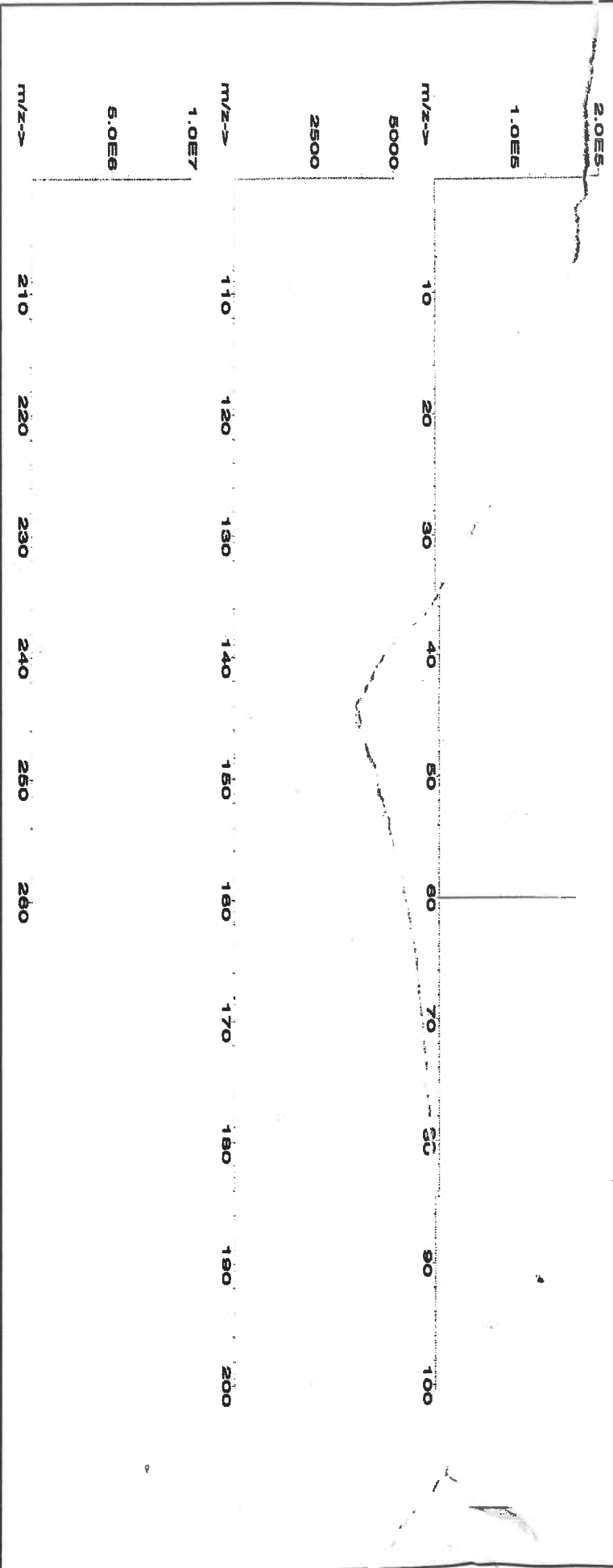
Nitric Acid

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
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1. Nickel(II) nitrate hexahydrate (NI) 58128 062023 0.1000 200.0 0.084 1000 10000.4 1000.0 2.2 13478-00-7 1 mg/m3 or-rel 1620 mg/kg 3136

[1] Spectrum No.1 [9.135 sec]:56028.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	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).

Printed: 12/29/2023. 2:56:15 PM



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



CERTIFIED WEIGHT REPORT:

Part Number: 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

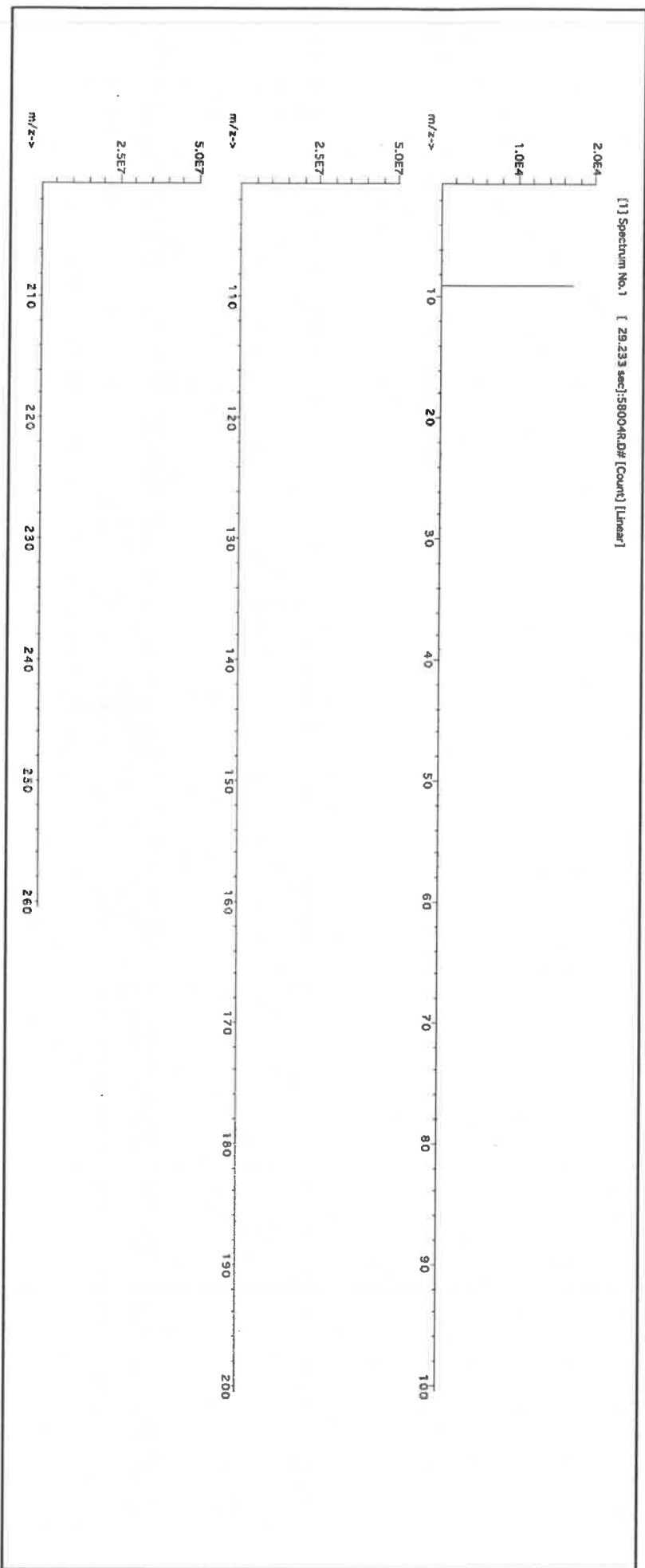
0.058 Flask Uncertainty

Formulated By:	Benson Chan	102523
Reviewed By:	Pedro L. Rentas	102523

SDS Information

Compound	Part Number	Lot	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Beryllium nitrate (Be)	58104	091423	0.1000	200.0	0.084	1000	10001.5	1000.0	2.2	13597-99-4	0.2µg/m3	intrinsc-rat 3.16mg/kg	NA
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	<0.2	Tb	<0.02	W	<0.02
Sb	<0.02	Ca	<0.2	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Tc	<0.02	U	<0.02
As	<0.02	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Rh	<0.02	Ag	<0.02	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<0.2	Th	<0.02	Yb	<0.02
Be	T	Cr	<0.02	Ga	<0.02	Fe	<0.02	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	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:

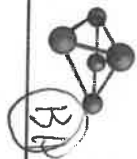
Part Number: 57050
Lot Number: 071123
Description: Tin (Sn)

Solvents: 21110221 Nitric Acid
22D0562008 Hydrochloric acid

Lot #

R-02509124

M599



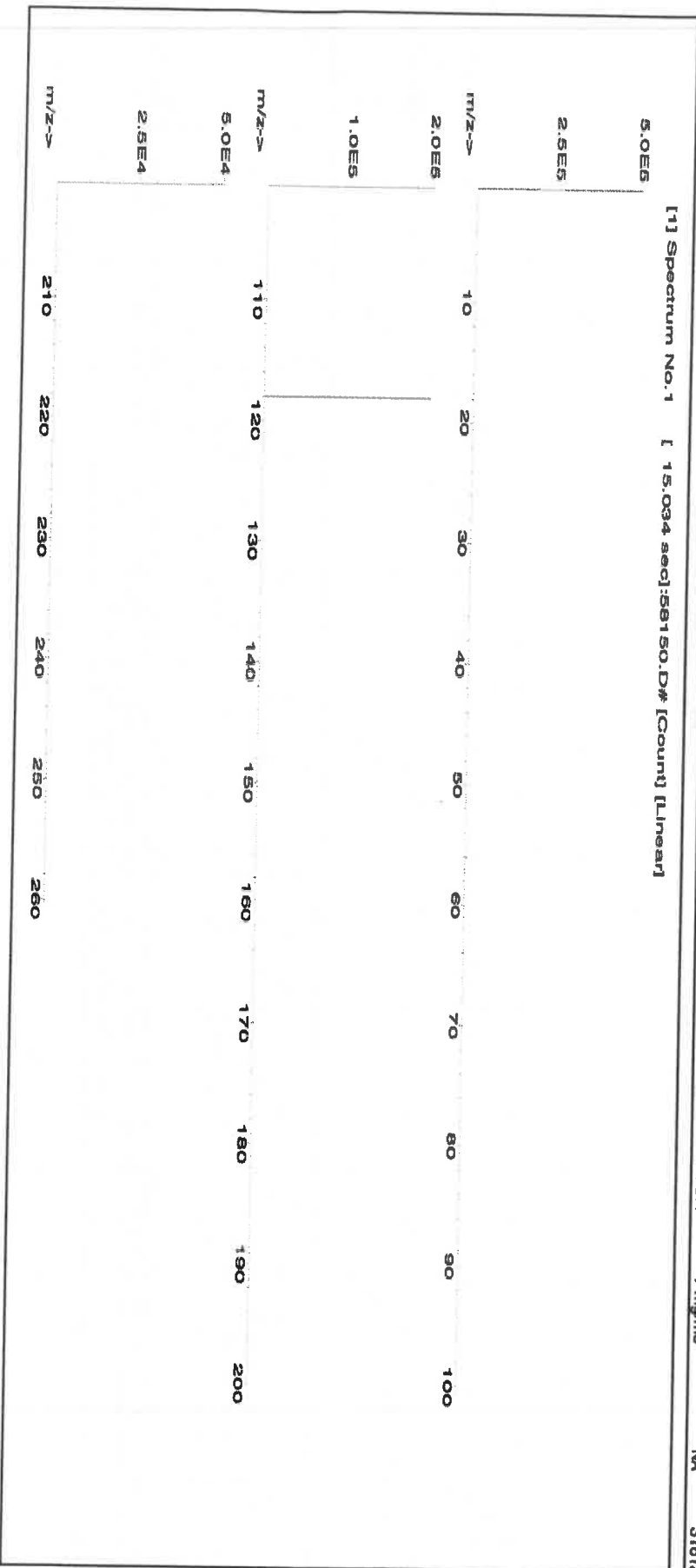
Expiration Date: 071126
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Weight shown below was diluted to (mL): 499.93
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Formulated By: Benson Chan		071123
Reviewed By: Pedro L. Rientas		071123

Compound		Lot		Nominal	Purity	Uncertainty	Assay	Target	Actual	Actual	Expanded	SDS Information		
RM#	Number	Conc. (µg/mL)	(%)	Purity (%)	(%)	Weight (g)	Weight (g)	Conc. (µg/mL)	+/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	SRM	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	Ti	<0.02	V	<0.02
Ba	<0.02	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	<0.02	Pd	<0.02	Rb	<0.02	Na	<500	Th	<0.02	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	<0.02	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	La	<0.02	Mo	<0.02	Pt	<0.02	Sm	<0.02	S	<0.02	Ta	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	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).



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)

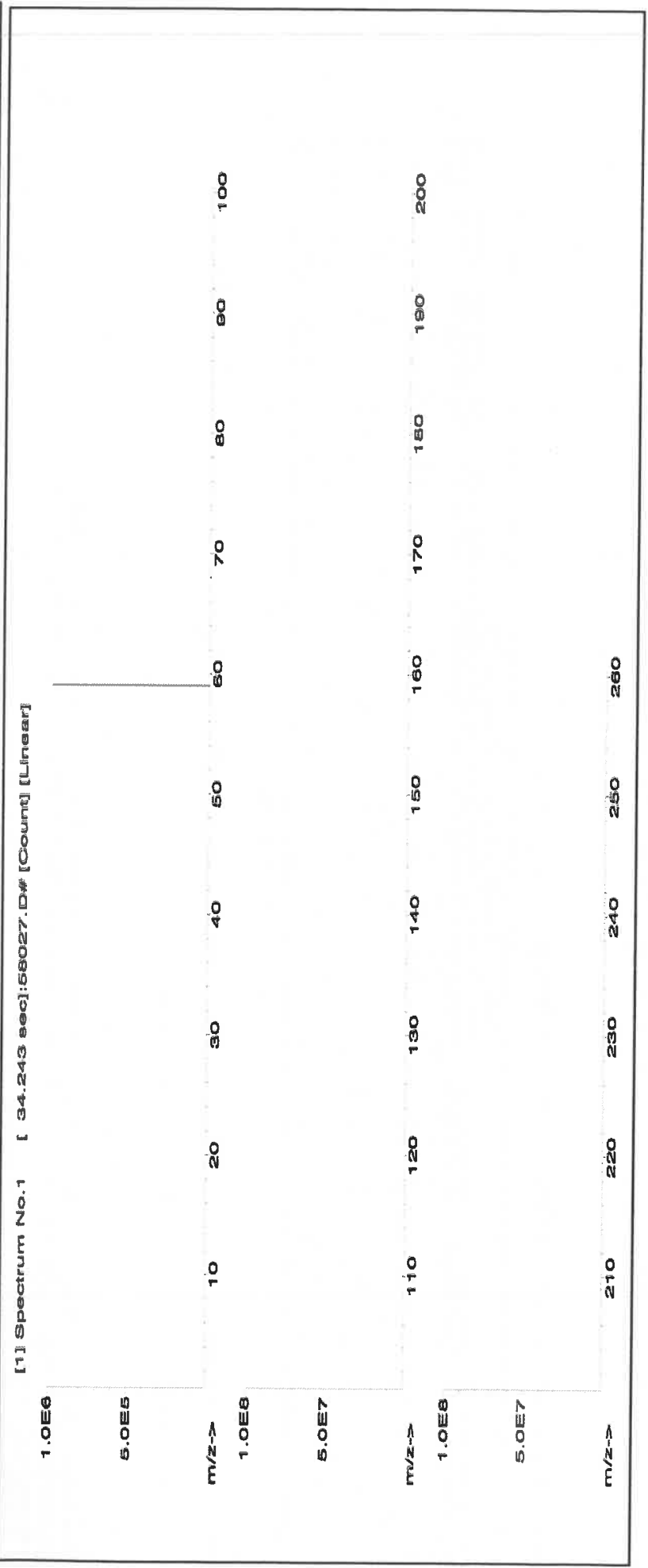
Formulated By:	Lawrence Barry
Reviewed By:	Pedro L. Rentas

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	<0.02	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:

57033
111323
Arsenic (As)

Lot #
Solvent:

24002546
Nitric Acid

2.0%

80.0

Nitric Acid

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

111326
Ambient (20 °C)
1000

NIST Test Number:
Volume shown below was diluted to (mL):

6UTB
4000.0

5E-05
Balance Uncertainty
0.06
Flask Uncertainty

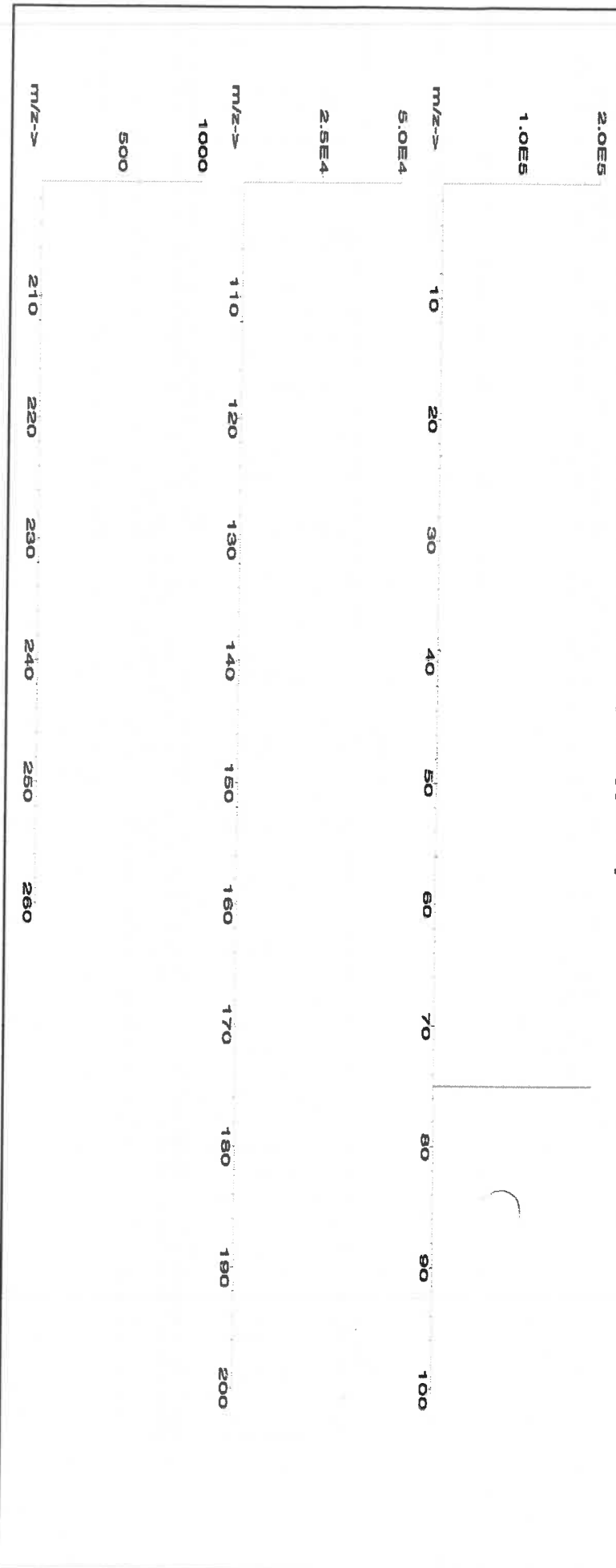
Formulated By:	Lawrence Barry	111323
Reviewed By:	Pedro L. Rendas	111323

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)	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	Tc	<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	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
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	Pr	<0.02	Sm	<0.02	S	<0.02	Sa	<0.02	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02	Ta	<0.02	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: **57005**
Lot Number: **071123**
Description: **Boron (B)**

Solvent: MKB8697V Ammonium hydroxide

Lot #

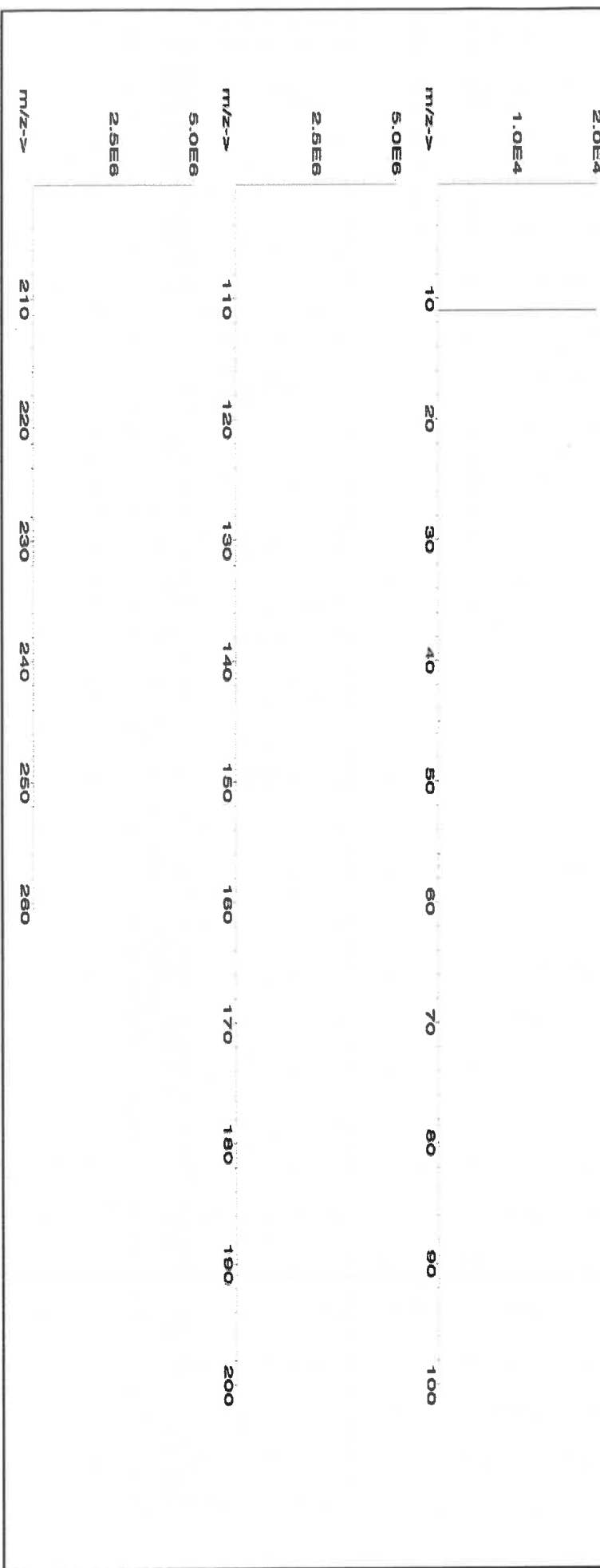
AI: 021009124 M5814

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)
1. Boric acid (B)	IN018 BV082018A1	1000	99.999	0.10	17.3	11.55772	11.56201	1000.4	2.0
								2 mg/m3	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

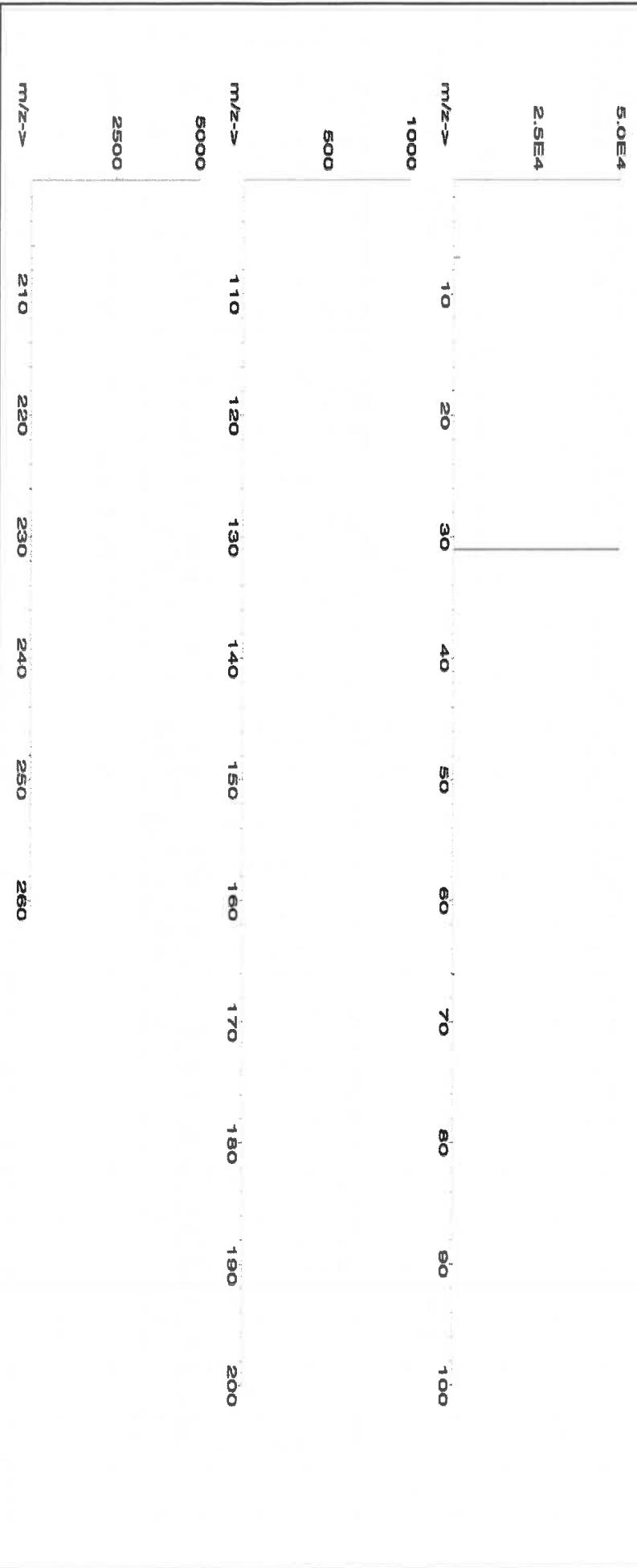
Weight shown below was diluted to (mL): 2000.02 0.058 Balance Uncertainty Flask Uncertainty

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 ($\mu\text{g/mL}$)

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	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	

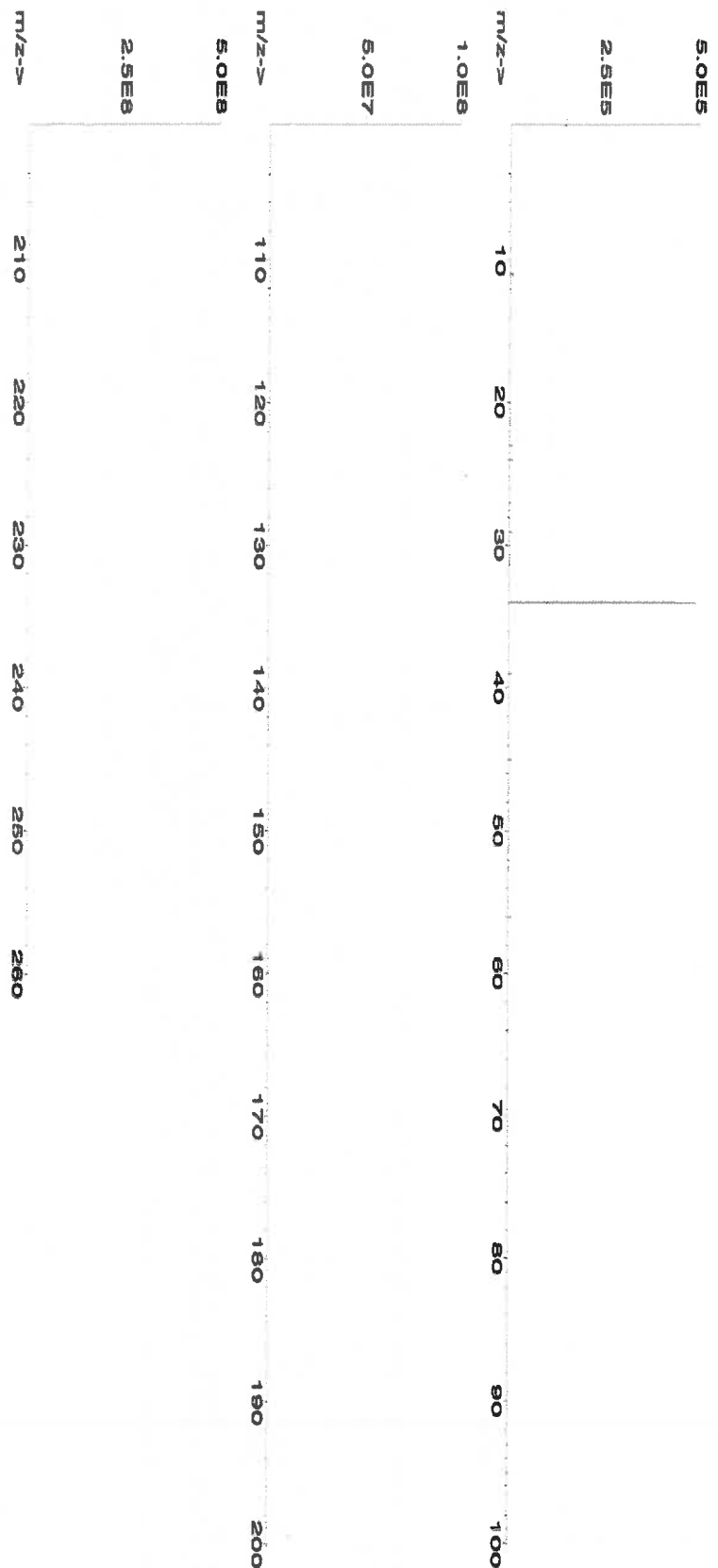
Expiration Date: 122926
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6L7B
Weight shown below was diluted to (mL): 4000.0
SE-05 Balance Uncertainty
0.06 Flask Uncertainty

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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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 0.01-0.02 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)**

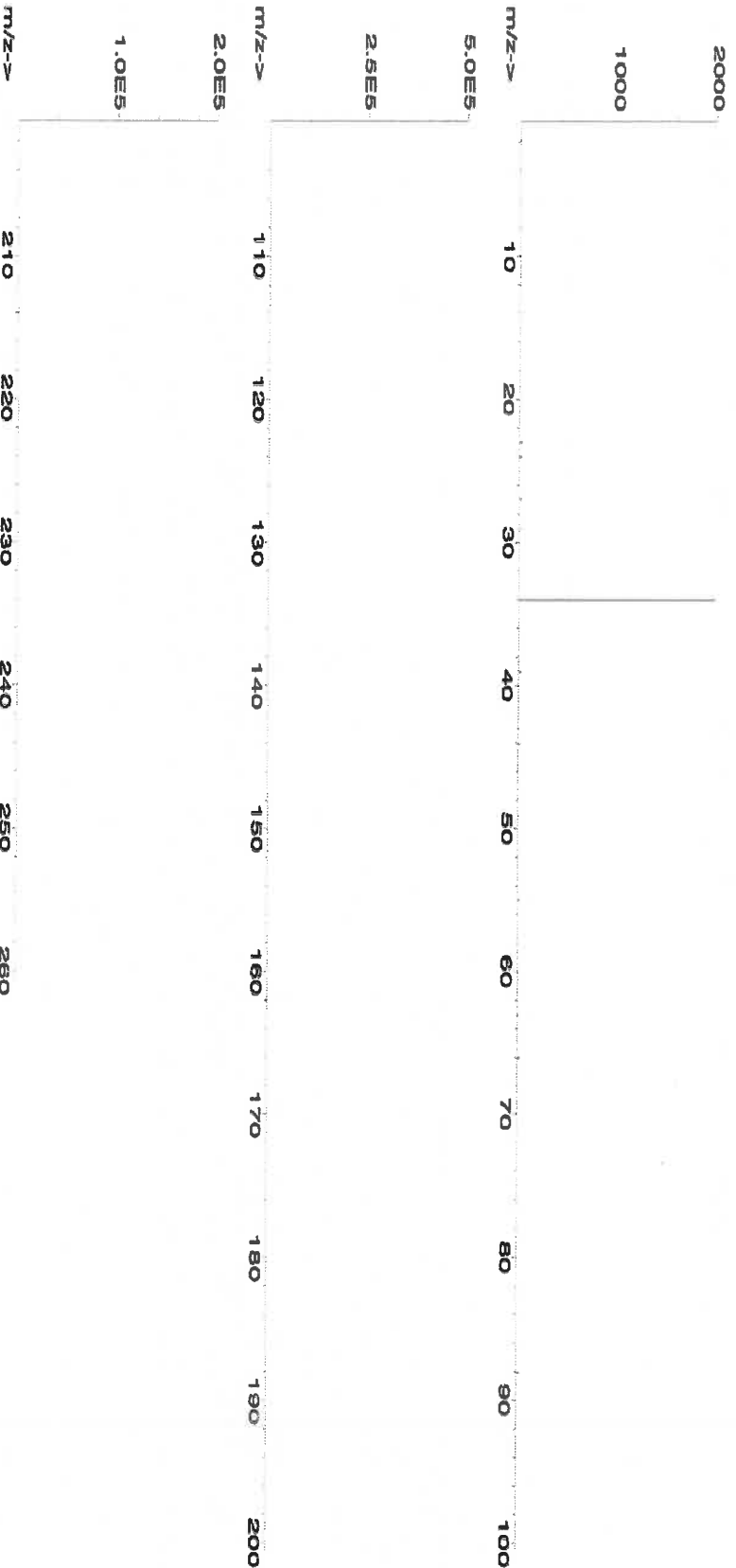
Lot #
Solvent: 071123
ASTM Type 1 Water

Formulated By:	Lawrence Barry
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	oralal 4250mg/kg	3181

[1] Spectrum No. 1 [24.004 sec]:58116.D# [Count] [Linear]





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

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

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

Physical Characterization:

(T)= Target analyte

Certified by:

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

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * 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: **57014**
Lot Number: **122023**
Description: **Silicon (Si)**

Solvent: **24002546 Nitric Acid**

Lot #

Expiration Date: **122026**

2%

40.0 (mL) Nitric Acid

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): **1999.48** 0.058 Flask Uncertainty

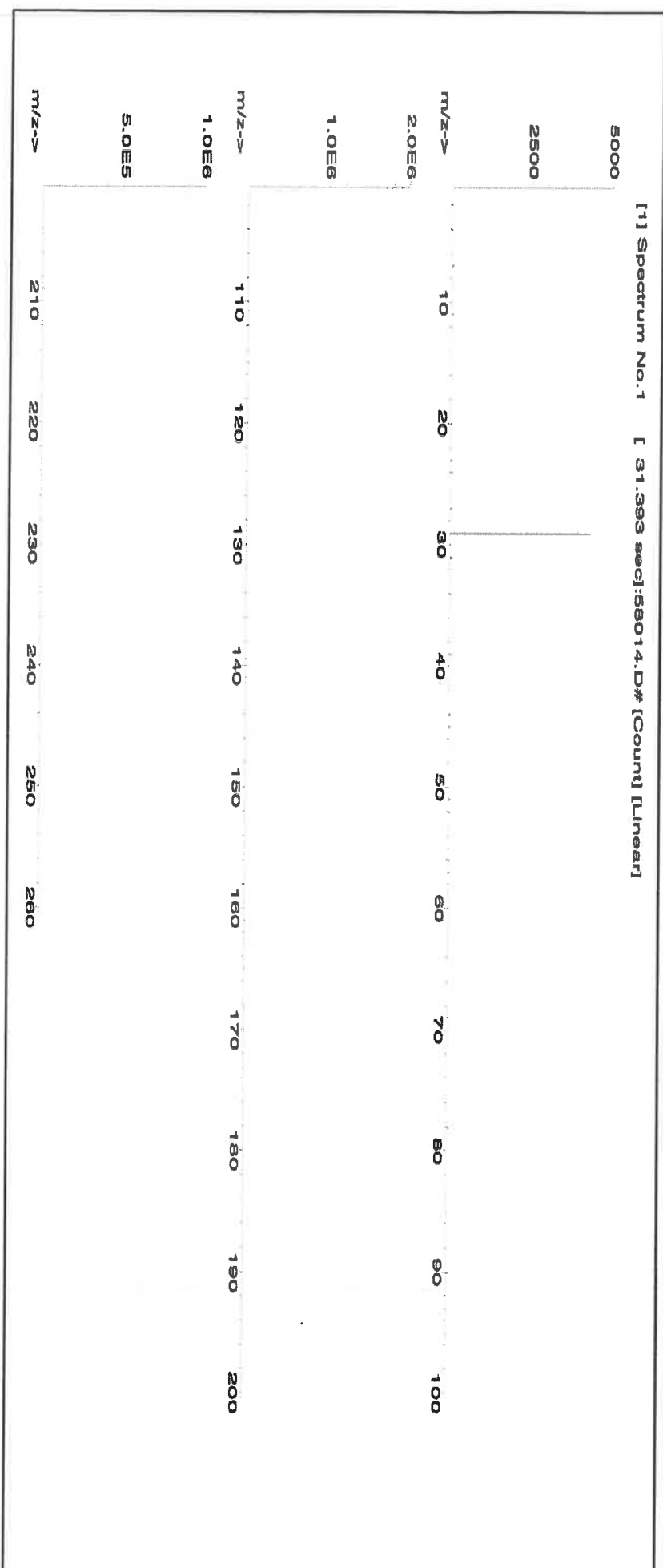
<i>Aleah O Brady</i>	
Formulated By:	Aleah O Brady
Reviewed By:	<i>Pedro L. Rentas</i>
	Pedro L. Rentas
	122023

SDS Information

Compound	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium hexafluorosilicate (Si) IN009 S1D08022A1 1000 99.999 0.10 14.4 13.8854 13.8855 1000.0 2.0 18919-19-0 2.5 mg/m3 off-mus 70 mg/kg NA

[1] Spectrum No. 1 [31.393 sec; 158014.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	T	Te	<0.02	U	<0.02
As	<0.2	Ce	<0.02	Bu	<0.02	In	<0.02	Mg	<0.01	Os	<0.02	Ru	<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	<0.02	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	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: 58030
Lot Number: 111623
Description: Zinc (Zn)

Solvent: 24002546 Nitric Acid

2% 60.0 (mL) Nitric Acid

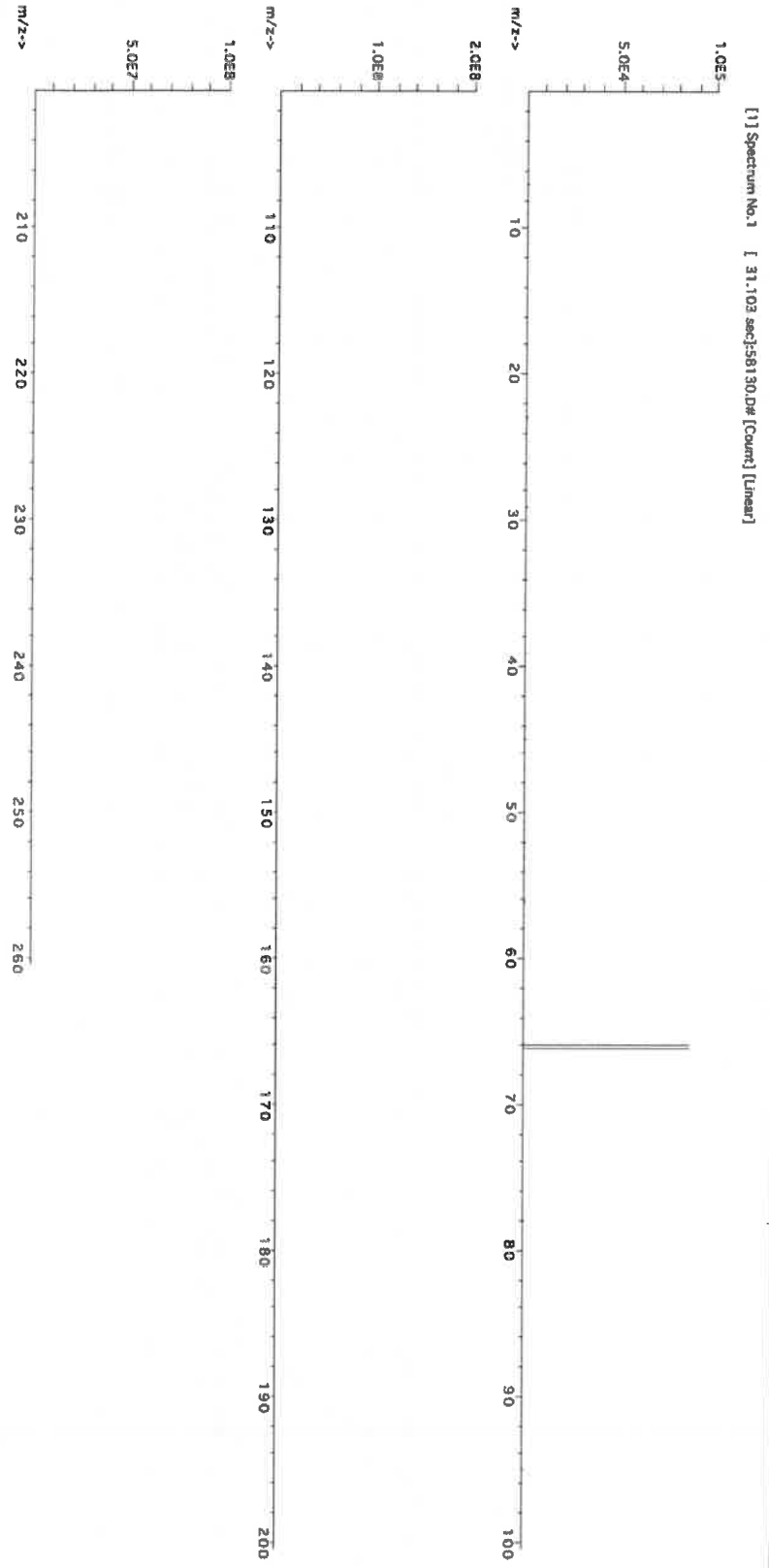
Expiration Date: 111626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB

Formulated By:	Benson Chan
Reviewed By:	Pedro L. Reintas
111623	

Weight shown below was diluted to (mL): 3000.4 0.06 Balance Uncertainty Flask Uncertainty

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)	CAS#	OSHA PEL (TWA)	LDSO	NIST SRM
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1. Zinc nitrate hexahydrate (Zn) IN016 ZNE03021A1 1000 99.999 0.10 24.3 12.3475 12.3502 1000.2 2.0 10196-16-6 1 mg/mL 3168





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * 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

Expiration Date: 091126

2% 40.0 (mL) Nitric Acid

Recommended Storage: Ambient (20 °C)

Nominal Concentration (µg/mL): 1000

NIST Test Number: 6LJB

5E-05 Balance Uncertainty

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

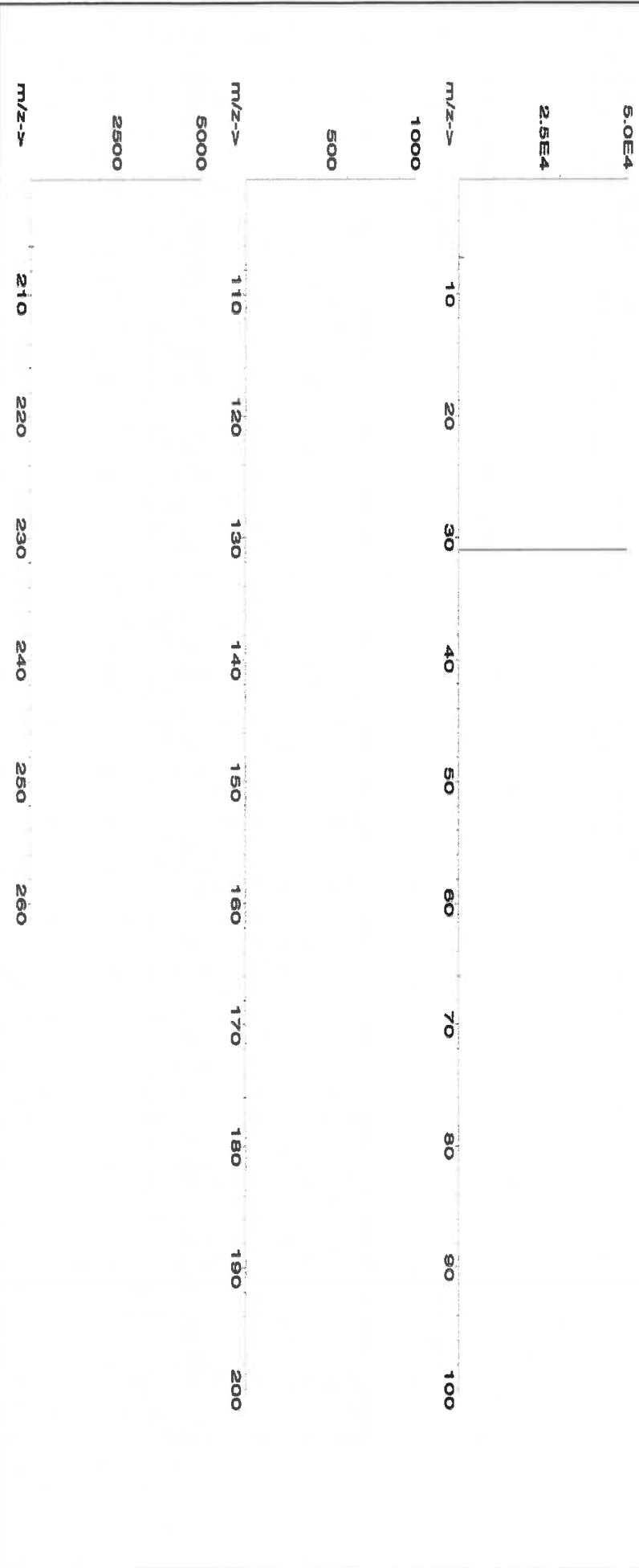
Formulated By:	Lawrence Barry
	091123
Reviewed By:	Pedro L. Rentas
	091123

Compound

RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Ammonium dihydrogen phosphate (P) IN008 PVO82019A1 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.
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- * 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).



QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
"An ISO 9001:2015 Certified Program"

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

QATS LABORATORY INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICV1, ICV5, AND ICV6)

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

APPLICATION: For use with the CLP SFAM01.0 SOW and revisions.

CAUTION: Read instructions carefully before opening bottle(s) and proceeding with the analyses.



M5528-32
M5953
3/30/23

(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) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

ICV6-0400

For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

NOTE: USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

(D) CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS

ICV1-1014		
Element	Concentration (µg/L) (after 10-fold dilution)	Concentration (µg/L) (after 50-fold dilution)
Al	2500	500
Sb	1000	200
As	1000	200
Ba	520	100
Be	510	100
Cd	510	100
Ca	10000	100
Cr	520	2000
Co	520	100
Cu	510	100
Fe	10000	100
Pb	1000	2000
Mg	6000	200
Mn	520	1200
Ni	530	100
K	9900	110
Se	1000	2000
Ag	250	200
Na	10000	50
Tl	1000	2000
V	500	210
Zn	1000	100
		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



CERTIFIED WEIGHT REPORT:

MS962 **R10614124**

Lot # 24002546 Solvent: Nitric Acid

Part Number: **57034**
Lot Number: **060624**
Description: **Selenium (Se)**

2.0% 40.0 (mL) Nitric Acid

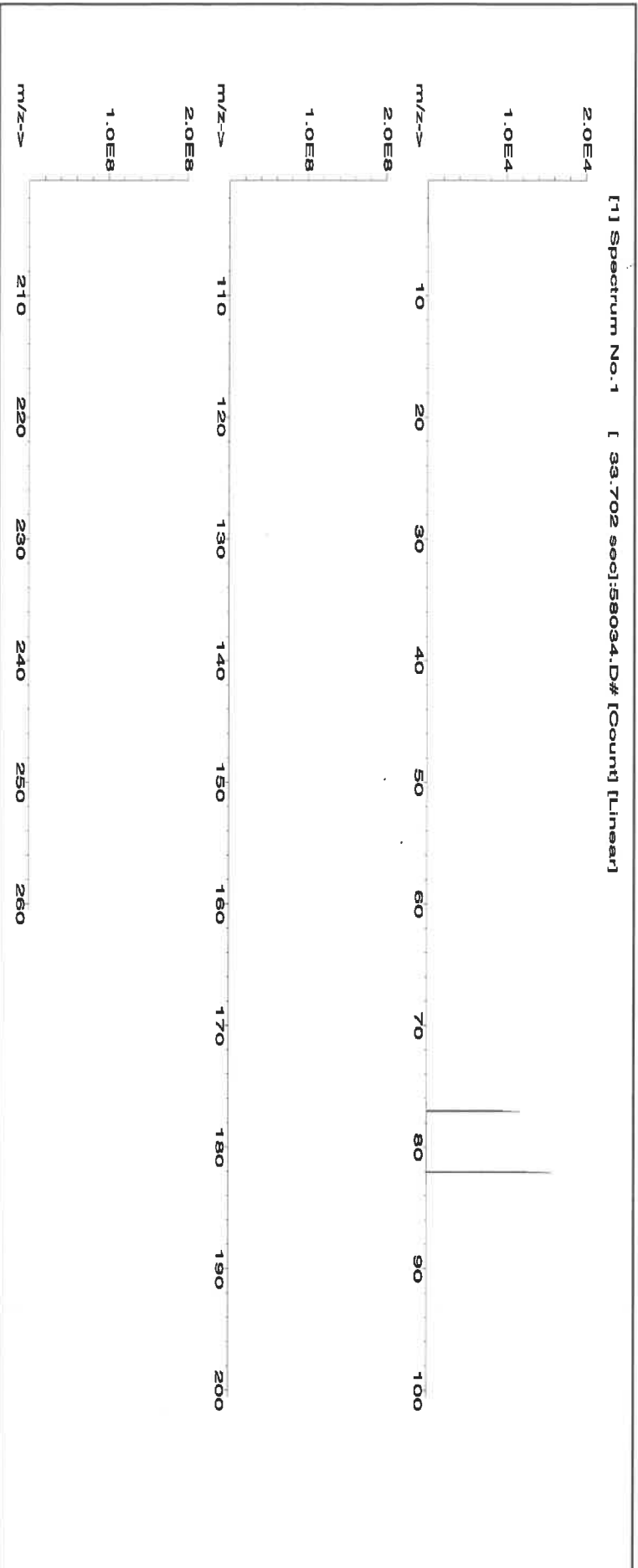
Expiration Date: 060627
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 1000
NIST Test Number: 6UTB
Volume shown below was diluted to (mL): 2000.07
SE-05 Balance Uncertainty 0.100
Flask Uncertainty

Formulated By:	Benson Chan	060624
Reviewed By:	Pedro L. Rantas	060624

SDS Information

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LDSO	NIST SRM
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1. Selenium (Se)	58134	071223	0.1000	200.0	0.084	1000	10002.5	1000.0	2.2	7782-49-2	0.2 mg/m3	or-tral 6700 mg/kg	3149
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Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

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

Al	<0.02	Cd	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pt	<0.02	Se	T	Tb	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	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	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	Yb	<0.02
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.2	Hg	<0.2	P	<0.02	Sr	<0.02	S	<0.02	Tm	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	Sn	Zn	<0.02
B	<0.02	Cu	<0.02	Au	<0.02	Pb	<0.02	Nd	<0.02	K	<0.2	Sc	<0.02		<0.02	Ti	Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
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- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Absolute Standards, Inc.
800-368-1131
www.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**

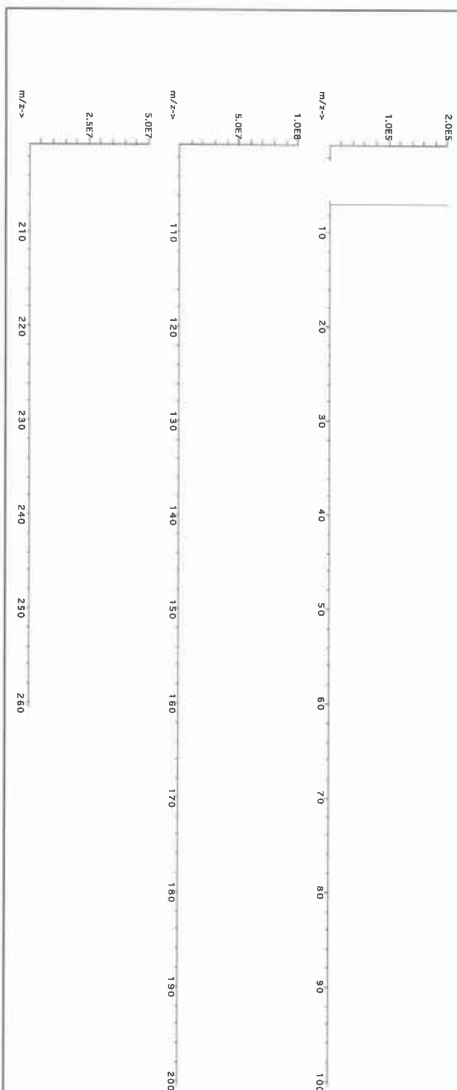
2.0% 5.0 (mL) Nitric Acid

Microvial Capable	
Formulated By:	Giovanni Esposito
Reviewed By:	Pedro L. Parias
CAS#	OSHA PEL (TWA)
LD50	
SN#	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	SN#

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	01-hat 1428 mg/kg	NA
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[1] Spectrum No. 1 [32.093 sec; 15000.00 Count; 1.00e4]





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

Trace Metals Verification by ICP-MS (µg/mL)															
Al	<0.02	Ca	<0.02	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	<0.02	Pb	<0.02	Se	<0.02
Sb	<0.02	Ce	<0.2	Er	<0.02	In	<0.02	Mg	<0.02	Nb	<0.02	Rb	<0.02	Si	<0.02
As	<0.2	Ce	<0.02	Eu	<0.02	Ir	<0.02	Mn	<0.02	Os	<0.02	Sb	<0.02	Ag	<0.02
Ba	<0.02	Cr	<0.02	Gd	<0.02	Te	<0.2	Hg	<0.2	Pd	<0.02	Sn	<0.02	Nd	<0.2
Be	<0.01	Cr	<0.02	Ga	<0.02	Ta	<0.02	K	<0.02	P	<0.02	Sm	<0.02	Sr	<0.02
Bi	<0.02	Co	<0.02	Ge	<0.02	Tb	<0.02	Mo	<0.02	Pr	<0.2	So	<0.02	S	<0.02
B	<0.02	Co	<0.02	Au	<0.02	Ti	<0.02	Nd	<0.02	K	<0.2	So	<0.02	Ta	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

[Signature]

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Certificate of Analysis

MS978, MS979



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Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com



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).

1.0 ACCREDITATION / REGISTRATION

2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution

Catalog Number: CGT1

Lot Number: T2-T1719972

Matrix: 2% (v/v) HNO₃

Value / Analyte(s): tr. HF

Starting Material: 1 000 µg/mL ea.

Starting Material: Titanium

Starting Material: 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:

$X_{CRM/RM} = (X_p / U_{CRM})$

X_p = mean of Assay Method A with

U_{CRM} = the standard uncertainty of characterization Method A

k = coverage factor = 2

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

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$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

$U_{CRM} = k \sqrt{U_{CRM}^2 + U_{lab}^2 + U_{hom}^2 + U_{stb}^2}$

4.0 TRACEABILITY TO NIST

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

4.1 Thermometer Calibration

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

4.2 Balance Calibration

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

4.3 Glassware Calibration

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

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

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an UHPA-filtered Clean Room. An UHPA-filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag	<	0.000536	M Eu	<	0.000268	O Na	<	0.032670	M Se	<	0.001204	O Zn	<	0.003267
O Al	<	0.000872	O Fe	<	0.003225	O Nb	<	0.043560	O Si	<	0.004735	O Zr	<	0.043560
M As	<	0.008586	M Ga	<	0.000268	M Nd	<	0.000268	M Sm	<	0.000268			
M Au	<	0.004577	M Gd	<	0.000268	O Ni	<	0.010890	M Sn	<	0.000986			
O B	<	0.008929	M Ge	<	0.002146	M Os	<	0.000269	O Sr	<	0.000986			
M Ba	<	0.002683	M Hf	<	0.002161	O P	<	0.054450	M Ta	<	0.010560			
M Be	<	0.005366	M Hg	<	0.003231	M Pb	<	0.001073	M Tb	<	0.000268			
M Bi	<	0.001609	M Ho	<	0.000268	M Pd	<	0.000268	M Th	<	0.001341			
O Ca	<	0.000676	M In	<	0.002683	M Pr	<	0.000268	M 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 Rh	<	0.000268	M U	<	0.000268			
O Cu	<	0.010890	O Mg	<	0.005445	I S	<	0.006976	M Y	<	0.002146			
M Dy	<	0.000268	O Mn	<	0.003267	M Sb	<	0.004900	M Yb	<	0.000536			
M Er	<	0.000268	M Mo	<	0.000774	O Sc	<	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); K₂SiO₃ - no KF if silica not present); Organic Matrices (Dry ash at 450°C 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		

HAZARDOUS INFORMATION

HF Note: This standard should not be prepared or stored in glass.

ICP-OES 323.452 nm	ICP-OES 334.941 nm	ICP-OES 336.121 nm
0.0054 / 0.00092 µg/mL	0.0038 / 0.00028 µg/mL	0.0053 / 0.00034 µg/mL

1 W, Mo, Co
1 Nb, Ta, Cr, U
1 Ce, Ar, Ni
Ru
(where X = Zr, Mo,
14N17N2, 36Ar12C,
48Ca, 196X=2
14N16O18O,
32S16O, 32S14N,
N/A

8.0 HOMOGENEITY

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

9.0 QUALITY STANDARD DOCUMENTATION

- 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.

10.1 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; <http://www.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 Kozlowski
Manager, Quality Control

TD9784

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Paul R. Gaines



Certified Reference Material CRM



45982

R: 6/11/24

CERTIFIED WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57038
031524
Strontium (Sr)

Solvent: 24002546 Nitric Acid

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

031527
Ambient (20 °C)
1000
6UTB
5E-05 Balance Uncertainty
0.100 Flask Uncertainty

Weight shown below was diluted to (mL): 2000.07

Lot #

2% 40.0 Nitric Acid
(mL)

Formulated By:	Benson Chan	031524
Reviewed By:	Pedro L. Rentas	031524

SDS Information

Expanded

Uncertainty

(Solvent Safety Info. On Attached pg.)

+/- (µg/mL)

LD50

CAS#

OSHA PEL (TWA)

Actual

Conc. (µg/mL)

Actual

Weight (g)

Target

Weight (g)

Assay

Purity (%)

Purity (%)

Nominal

Conc. (µg/mL)

Lot

Number

RM#

IN017

SR2022018A1

1000

89.997

0.10

41.2

4.85470

4.85502

1000.1

2.0

10042-76-9

NA

orl-rat >2000mg/kg

3153a

1. Strontium nitrate (Sr)

[1] Spectrum No.1 [14.495 sec]:58136.D# [Count] [Linear]

5.0E6

2.5E6

m/z-->

1.0E6

5.0E5

m/z-->

5.0E6

2.5E6

m/z-->



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
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
As	<0.2	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	<0.02	Os	<0.01	Rh	<0.02	Ag	<0.02	Ti	<0.02
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
Be	<0.01	Cr	<0.02	Ga	<0.02	Fe	<0.02	Hg	<0.2	P	<0.2	Ru	<0.02	Sr	T	Tm	<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
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
																W	<0.02
																U	<0.02
																V	<0.02
																Yb	<0.02
																Y	<0.02
																Zn	<0.02
																Zr	<0.02

(T) = Target analyte

Physical Characterization:

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

Certified by:

- * The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
- * All standard containers are meticulously cleaned prior to use.
- * Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- * Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- * All Standards should be stored with caps tight and under appropriate laboratory conditions.
- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

2024 JUN 7 10:01 AM



Certified Reference Material CRM
R: 01/03/24 M6033



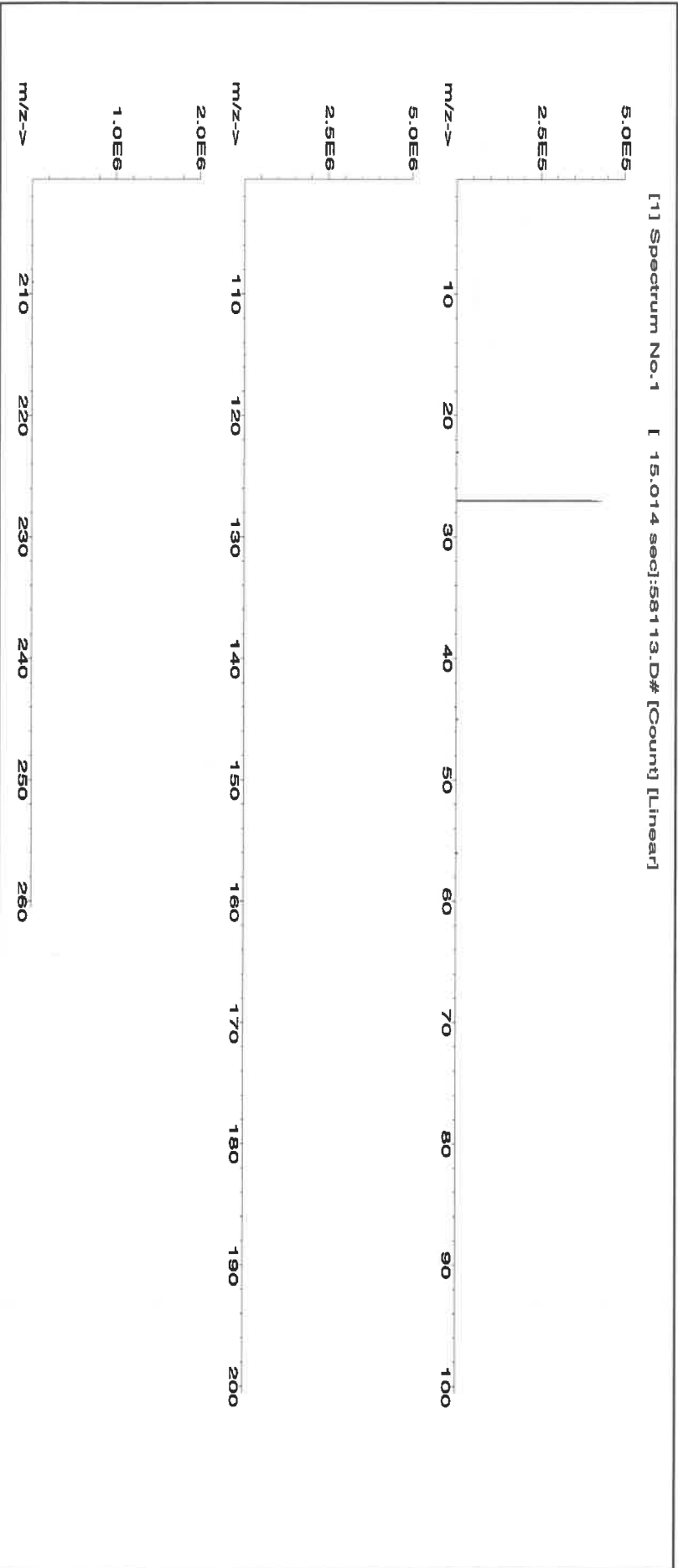
CERTIFIED WEIGHT REPORT:

Part Number: 58113
Lot Number: 011623
Description: Aluminum (Al)
Expiration Date: 011626
Recommended Storage: Ambient (20 °C)
Nominal Concentration (µg/mL): 10000
NIST Test Number: 6LUTB
Weight shown below was diluted to (mL): 2000.02
Solvent: 20510011 Nitric Acid
Lot #
2% 40.0 (mL) Nitric Acid
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

<i>Giovanni Esposito</i>	
Formulated By:	Giovanni Esposito
Reviewed By:	<i>Pedro L. Rentas</i>
	Pedro L. Rentas
	011623

Compound	RM#	Lot Number	Nominal Conc. (µg/mL)	Purity (%)	Uncertainty Purity (%)	Assay (%)	Target Weight (g)	Actual Weight (g)	Actual Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Aluminum nitrate nonahydrate (Al) IN022 ALUM12021A1 10000 99.999 0.10 7.30 273.9779 274.0078 10001.1 20.0 7784-27-2 2 mg/m³ or rat 3671 mg/kg 3101a



Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

Receive date
9/29/24
Met diag.

 avantor™



Material No.: 9530-33
Batch No.: 22F0762009
Manufactured Date: 2022-05-10
Retest Date: 2027-05-09
Revision No.: 0

M6109
M6110
M6111

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid–base titrn)	36.5 – 38.0 %	37.6 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.190
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl ₂)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO ₃)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH ₄)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	0.8 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	14.9 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.2 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis



Material No.: 9530-33
Batch No.: 22F0762009

Test	Specification	Result
Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities – Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities – Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities – Niobium (Nb)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	1.0 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Sodium (Na)	≤ 100.0 ppb	0.7 ppb
Trace Impurities – Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Tantalum (Ta)	≤ 1.0 ppb	< 0.9 ppb
Trace Impurities – Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities – Zirconium (Zr)	≤ 1.0 ppb	< 0.1 ppb

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

 **avantor™**

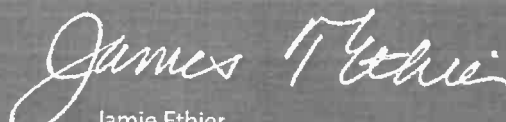


Material No.: 9530-33
Batch No.: 22F0762009

Test	Specification	Result
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For Laboratory, Research, or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC


Jamie Ethier
Vice President Global Quality

Nitric Acid 69%
CMOS

avantor™



Receive:
9/29/24
met dig

Material No.: 9606-03
Batch No.: 24B1362001
Manufactured Date: 2024-01-25
Retest Date: 2029-01-23
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO ₃)	69.0 – 70.0 %	69.6 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	< 1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO ₄)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO ₄)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities – Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities – Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	< 0.2 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

 **avantor**TM



Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	3 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	1 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

 **avantor™**

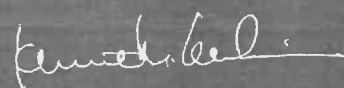


Material No.: 9606-03
Batch No.: 24B1362001

Test	Specification	Result
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For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Ken Koehnlein
Sr. Manager, Quality Assurance

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis



R → 16/13/24
Met dig

M 6121

Material No.: 9530-33
Batch No.: 0000275677
Manufactured Date: 2020/12/16
Retest Date: 2025/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.6
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.190
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	1
ACS - Free Chlorine (as Cl ₂)	<= 0.5 ppm	< 0.5
Phosphate (PO ₄)	<= 0.05 ppm	< 0.03
Sulfate (SO ₄)	<= 0.5 ppm	< 0.3
Sulfite (SO ₃)	<= 0.8 ppm	0.3
Ammonium (NH ₄)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	29.7
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33
Batch No.: 0000275677

Test	Specification	Result
Trace Impurities – Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities – Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities – Iron (Fe)	<= 15.0 ppb	< 1
Trace Impurities – Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities – Lithium (Li)	<= 1.0 ppb	0.2
Trace Impurities – Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities – Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities – Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities – Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities – Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities – Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities – Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities – Selenium (Se), For Information Only	ppb	1.0
Trace Impurities – Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities – Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities – Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities – Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities – Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities – Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities – Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities – Titanium (Ti)	<= 1.0 ppb	0.2
Trace Impurities – Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities – Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities – Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use

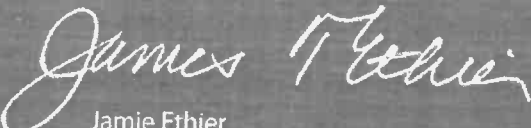
Product Information (not specifications):

Appearance (clear, fuming liquid)

Meets ACS Specifications

Country of Origin: US

Packaging Site: Phillipsburg Mfg Ctr & DC


Jamie Ethier

Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Nitric Acid 69%
CMOS

avantor™



R:- 10/22/24

M6124

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

 **avantors[™]**



Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

 **avantorsTM**



Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
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For Microelectronic Use

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC



Jamie Croak
Director Quality Operations, Bioscience Production



CERTIFIED WEIGHT REPORT:

Part Number: 58111
Lot Number: 122223
Description: Sodium (Na)

Solvent: 24002546 Nitric Acid

Lot #

<i>Aleah O Brady</i>	
Formulated By:	Aleah O Brady
	122223
<i>Pedro L Rentas</i>	
Reviewed By:	Pedro L Rentas
	122223

Expiration Date: 122226
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): 3000.4 0.06 Flask Uncertainty

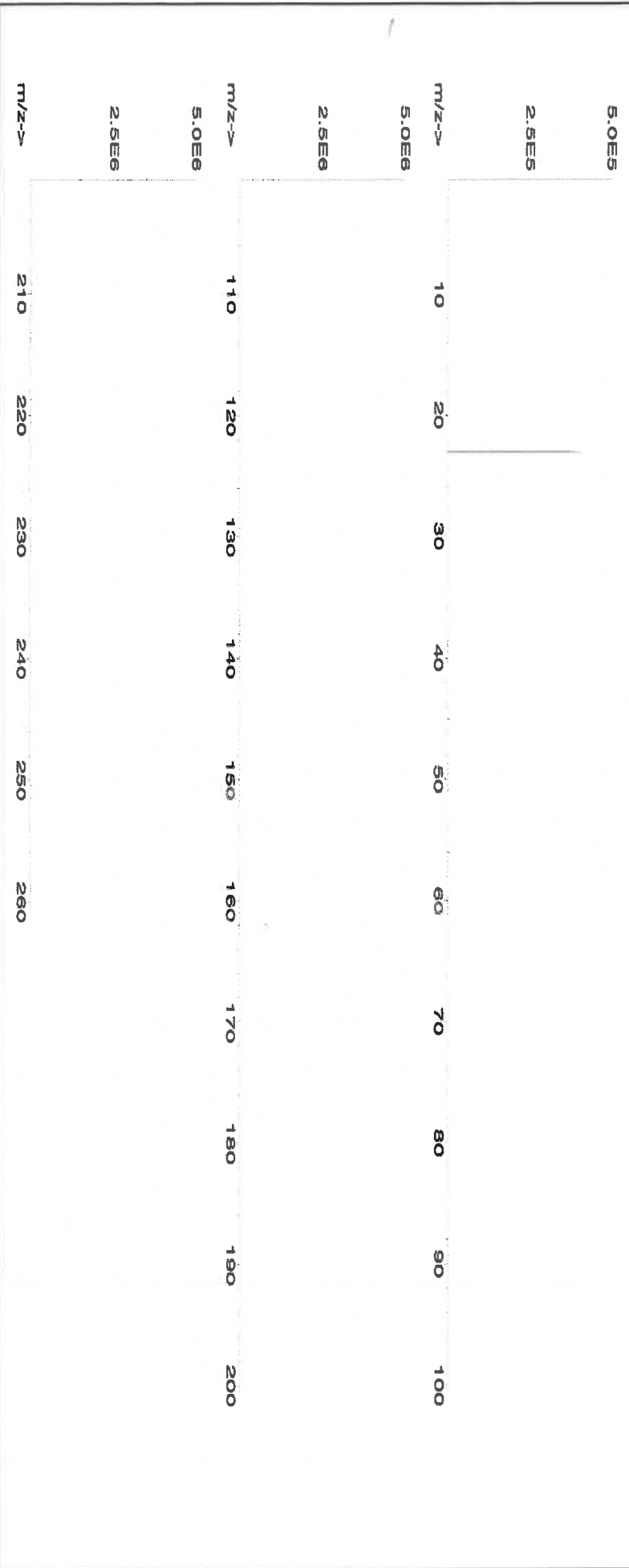
Expanded

SDS Information

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

1. Sodium nitrate (Na)	IND36 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
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[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 WEIGHT REPORT:

Part Number:
Lot Number:
Description:

57051
120523
Antimony (Sb)

Lot #
Solvent:

24002546
Nitric Acid

2.0%
60.0
Nitric Acid
(mL)

Expiration Date:

120526

Recommended Storage:

Ambient (20 °C)

Nominal Concentration (µg/mL):

1000

NIST Test Number:

6U7B

Volume shown below was diluted to (mL):

3000.41

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

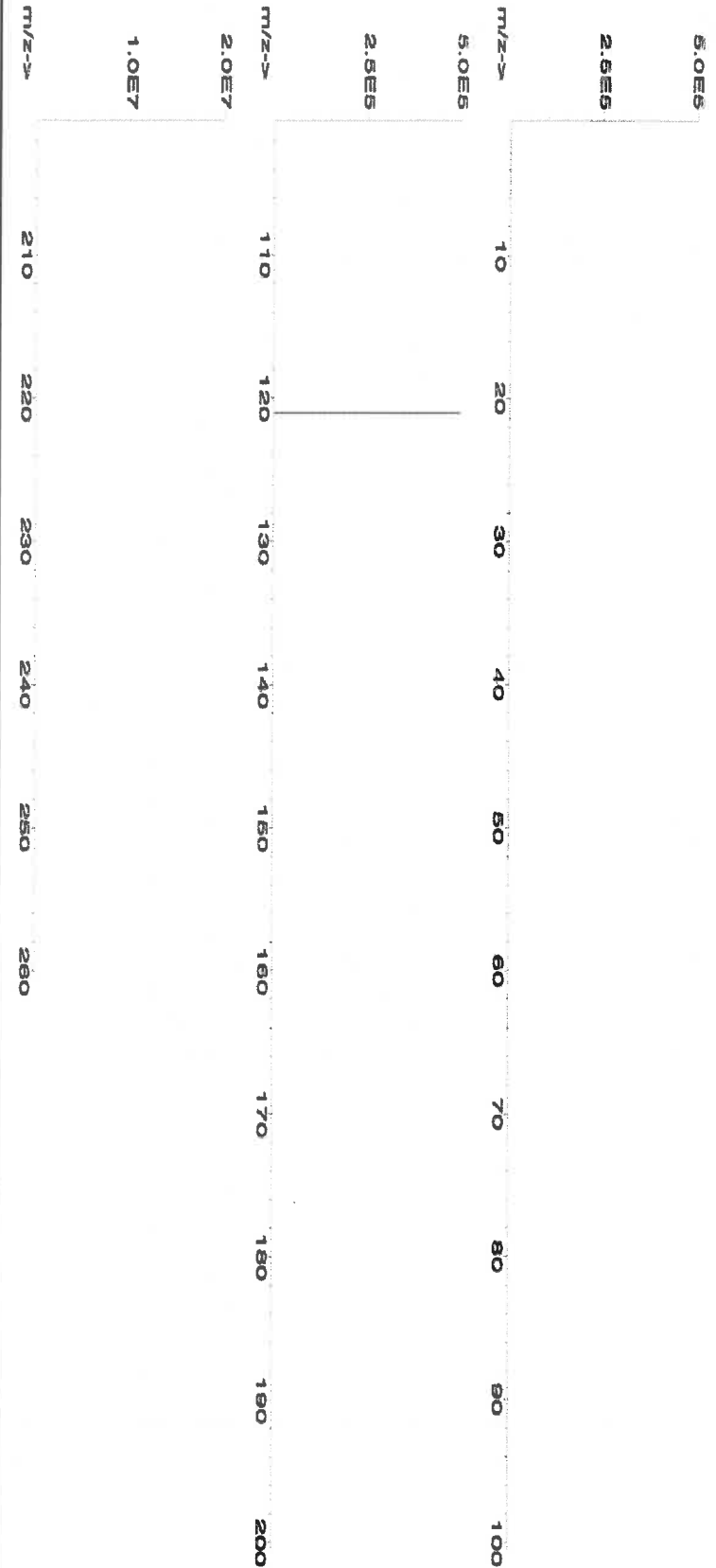
Formulated By:	Lawrence Barry	120523
Reviewed By:	Pedro L. Renteria	120523

Compound

Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty +/- (µg/mL)	CAS#	OSHA PEL (TWA)	LD50	NIST SRM
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1. Antimony (Sb) 58151 100923 0.1000 300.0 0.084 1000 10001.4 1000.0 2.1 7440-36-0 0.5 mg/m3 or-rel 7000 mg/kg 3102a

[1] Spectrum No.1 [17.964 sec]:58051.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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

Certified by:

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- * Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
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- * Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).



Certified Reference Material CRM

M6030



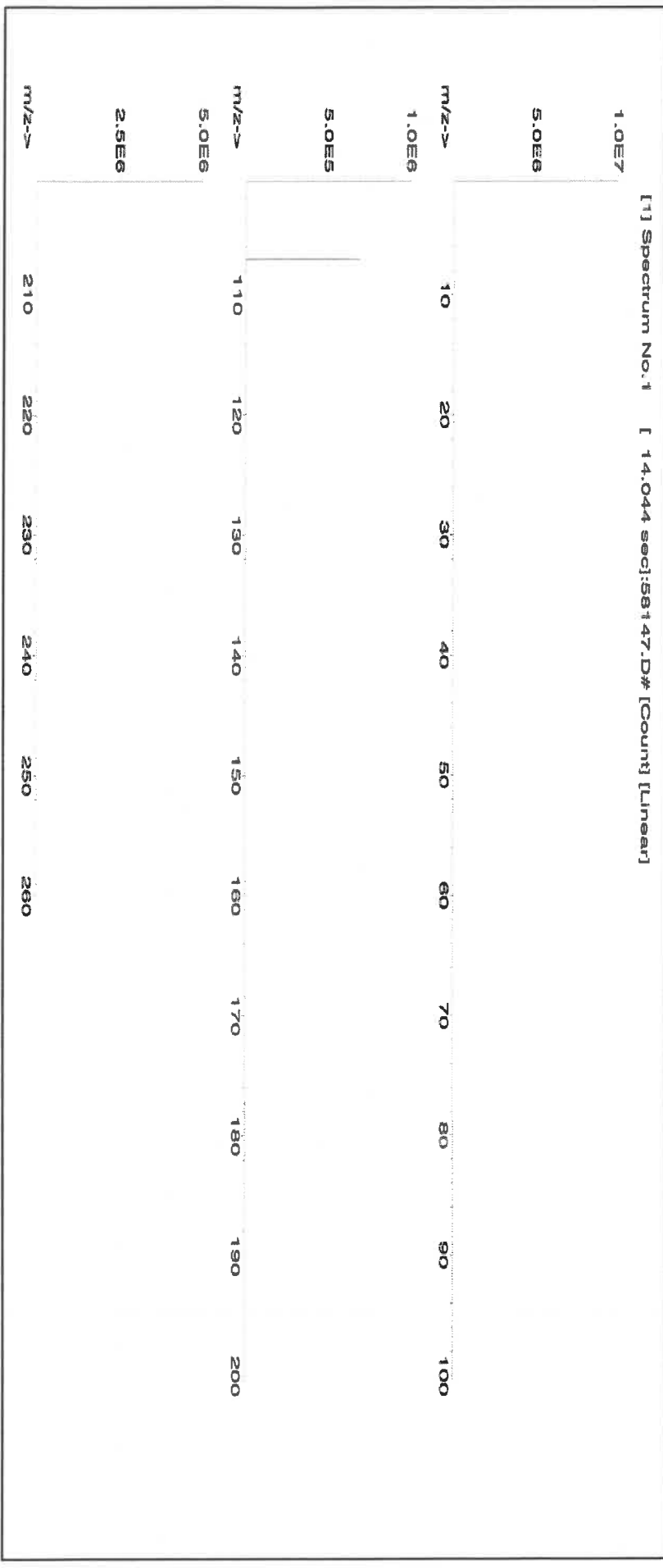
CERTIFIED WEIGHT REPORT:

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 0.058 Balance Uncertainty
2% 80.0 (mL) Nitric Acid

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





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 meghom 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: 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

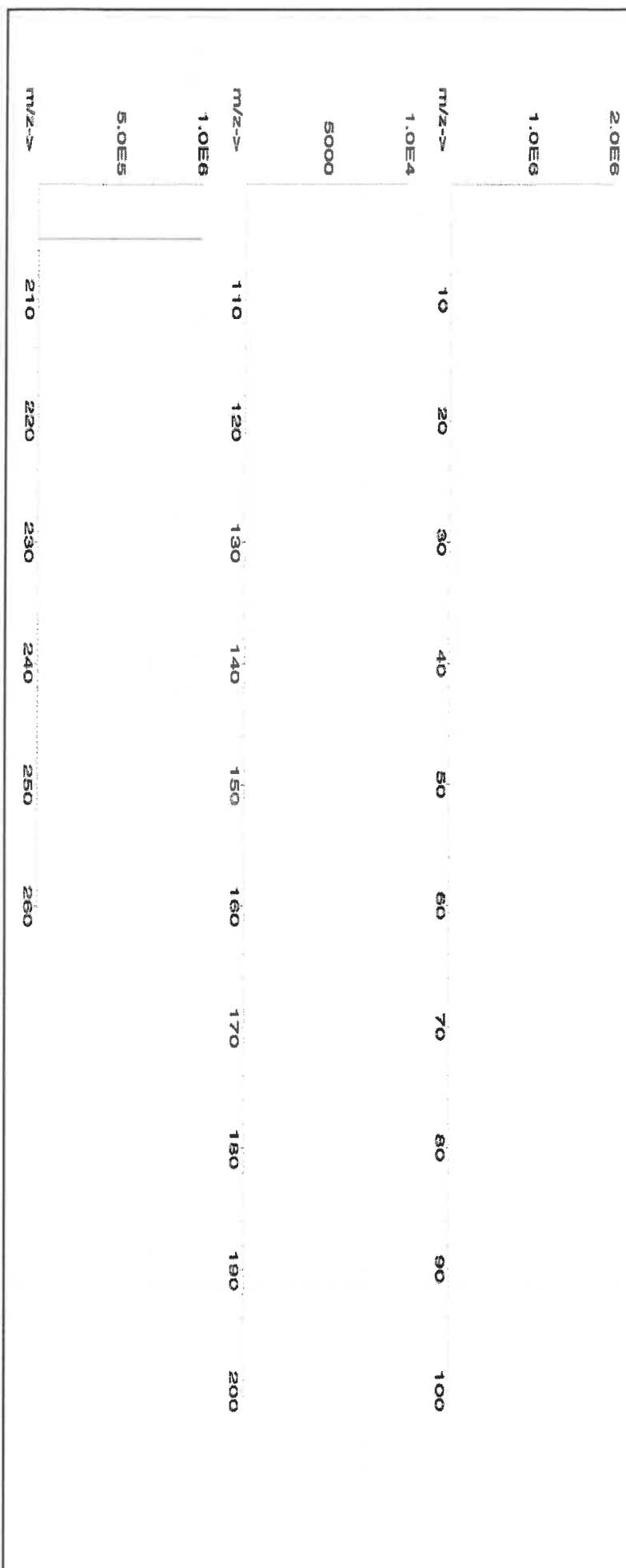
<i>Aleah O'Brady</i>	
Formulated By:	Aleah O'Brady
	062724
Reviewed By:	<i>Pedro L. Rendas</i>
	Pedro L. Rendas
	062724

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
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1. Thallium nitrate (TI) IN037 BCCF4399 1000 99.999 0.10 77.0 2.5975 2.5977 1000.1 2.0 10102-45-1 0.1 mg/m3 orl-mus 15mg/kg 3158

[1] Spectrum No.1 [14.044 sec]:57081.D# [Count] [Linear]





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

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

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

(T) = Target analyte

Physical Characterization:

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)**

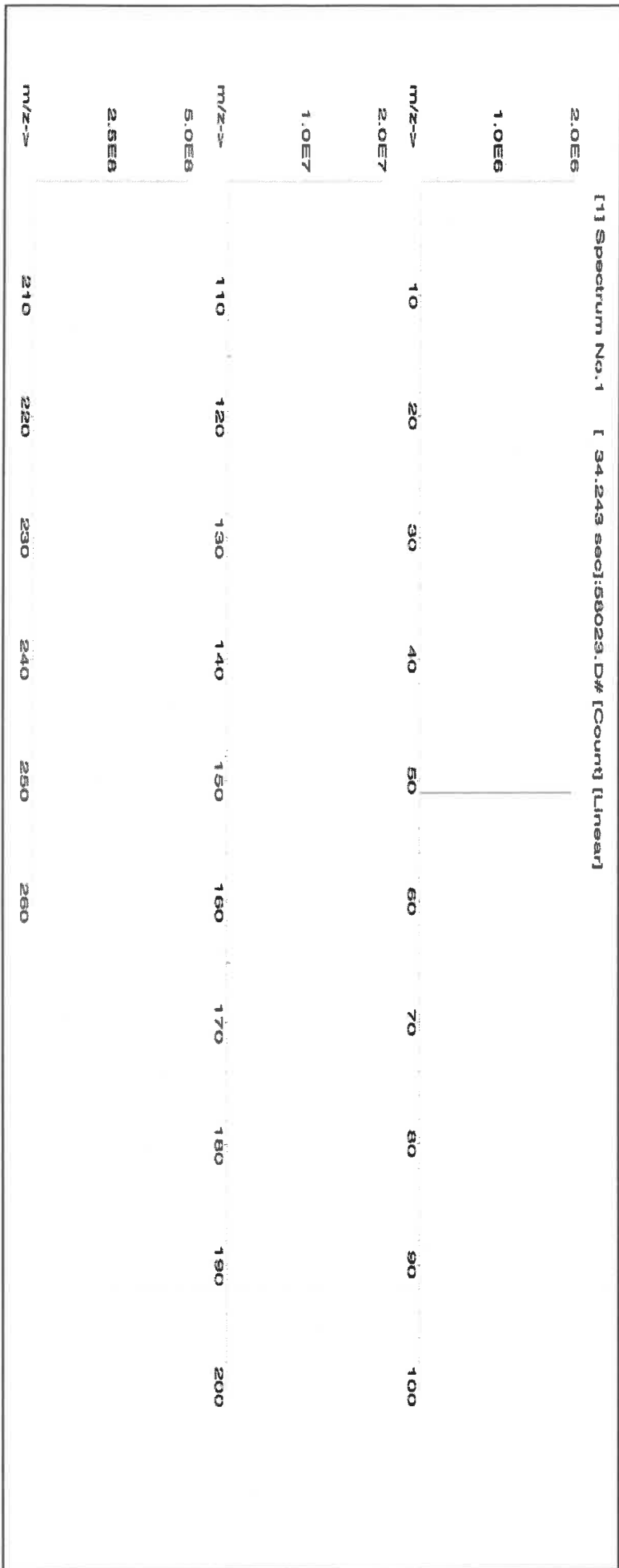
Lot # **24002546**
Solvent: **Nitric Acid**

Aleah O'Brady	
Formulated By:	Aleah O'Brady
	062424
Reviewed By:	Pedro L. Rantas
	062424

Expiration Date: **062427**
Recommended Storage: **Ambient (20 °C)**
Nominal Concentration (µg/mL): **1000**
NIST Test Number: **6UTB**

Volume shown below was diluted to (mL): **2000.3**
0.06 Balance Uncertainty
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	1000.0	2.2	7803-55-6 0.05 mg/m3 or-at 58.1mg/kg	3165





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:

P5006

COC Number: 2042106

Page 1 of 1

CLIENT INFORMATION

COMPANY: ENTACT, LLC

ADDRESS: 150 Bay Street, Suite 806

CITY: Jersey City STATE: NJ ZIP: 07302

ATTENTION: Jarod Stanfield

PHONE: 570-886-0442

FAX:

PROJECT INFORMATION

PROJECT NAME: 540 Degraw St Brooklyn, NY

PROJECT #: E9309 LOCATION: Brooklyn, NY

PROJECT MANAGER: Jarod Stanfield

E-MAIL: jstanfield@entact.com

PHONE: 570-886-0442

FAX:

BILLING INFORMATION

BILL TO: ENTACT, LLC

PO# E9309

ADDRESS: 999 Oakmont Plaza Drive, Suite 300

CITY: Westmont

STATE: IL ZIP: 60559

ATTENTION: Wendy Murray

PHONE: 800-836-8228

ANALYSIS

SPLP for VOCs	Metals	Flashpoint + PCB	VOC	SVOC + Chloride (Anions)	BOD+TSS				
1	2	3	4	5	6	7	8	9	

PRESERVATIVES

COMMENTS

<- 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	E	B	E	E	E	E					
			COMP	GRAB	DATE	TIME		1	2	3	4	5	6	7	8	9		
1.	SPLP-C4-2	Soil		X	11/25	10:00	1	X										
2.	SPLP-C4-3	Soil		X	11/25	10:00	1	X										
3.	SPLP-C5-1	Soil		X	11/25	10:00	1	X										
4.	SPLP-C5-2	Soil		X	11/25	10:00	1	X										
5.	SPLP-C5-3	Soil		X	11/25	10:00	1	X										
6.	SPLP-C6-1	Soil		X	11/25	10:00	1	X										
7.	SPLP-C6-2	Soil		X	11/25	10:00	1	X										
8.	SPLP-C6-3	Soil		X	11/25	10:00	1	X										
9.	SPLP-C10-1	Soil		X	11/25	10:00	1	X										
10.	SPLP-C10-2	Soil		X	11/25	10:00	1	X										

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER 1. Jarod Stanfield	DATE/TIME 11/26 10:17	RECEIVED BY 1020 11-26-24	Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 2.8°C ☐ Ice in Cooler?:
RELINQUISHED BY 2.	DATE/TIME	RECEIVED BY	Comments:
RELINQUISHED BY 	DATE/TIME 11-26-24	RECEIVED FOR LAB BY 3.	

Page 1 of 2

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



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CHAIN OF CUSTODY RECORD

Alliance Project Number:

P5006

COC Number: 2042106

Page 2 of 2

CLIENT INFORMATION

PROJECT INFORMATION

BILLING INFORMATION

COMPANY: ENTACT, LLC

ADDRESS: 150 Bay Street, Suite 806

CITY: Jersey City STATE: NJ ZIP: 07302

ATTENTION: Jarod Stanfield

PHONE: 570-886-0442 FAX:

PROJECT NAME: 540 Degraw St Brooklyn, NY

PROJECT #: E9309 LOCATION: Brooklyn, NY

PROJECT MANAGER: Jarod Stanfield

E-MAIL: jstanfield@entact.com

PHONE: 570-886-0442 FAX:

BILL TO: ENTACT, LLC

PO# E9309

ADDRESS: 999 Oakmont Plaza Drive, Suite 300

CITY: Westmont STATE: IL ZIP: 60559

ATTENTION: Wendy Murray PHONE: 800-936-8228

DATA TURNAROUND INFORMATION

DATA DELIVERABLE INFORMATION

FAX: 5 DAYS*

HARD COPY: DAYS*

EDD 5 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 _____

ANALYSIS

SPLP for VOCs	Metals	Flashpoint + PCB	VOC	SVOC+Chloride (Anions)	BOD+TSS			
10	11	12	13	14	15	16		

PRESERVATIVES

COMMENTS

<- 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	PRESERVATIVES									COMMENTS ←- Specify Preservatives A-HCl B-HNO3 C-H2SO4 D-NaOH E-ICE F-Other
			COMP	GRAB	DATE	TIME		E	B	E	E	E	E				
								1	2	3	4	5	6	7	8	9	
1.	SPLP-C10-3	Soil		X	11/25	13:00	1	X									
2.	SPLP-C11-1	Soil		X	11/25	13:00	1	X									
3.	SPLP-C11-2	Soil		X	11/25	13:00	1	X									
4.	SPLP-C11-3	Soil		X	11/25	13:00	1	X									
5.	SPLP-C12-1	Soil		X	11/25	13:00	1	X									
6.	SPLP-C12-2	Soil		X	11/25	13:00	1	X									
7.	SPLP-C12-3	Soil		X	11/25	13:00	1	X									
8.	TW-WTS-02	Surface Water		X	11/25	15:30	4		X	X	X	X	X				
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER 1. Jarod Stanfield	DATE/TIME 11/26 10:17	RECEIVED BY 1. [Signature] 1020 11-26-24	Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant ☐ Cooler Temp 28°C ☐ Ice in Cooler? _____
RELINQUISHED BY 2.	DATE/TIME	RECEIVED BY 2.	Comments:
RELINQUISHED BY 3. [Signature]	DATE/TIME 11-26-24	RECEIVED FOR LAB BY 3.	Page 2 of 2
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



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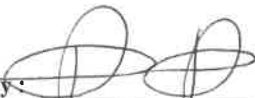
Laboratory Certification

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P5006	ENTA05	Order Date : 11/26/2024 11:21:00 AM	Project Mgr : Kiran
Client Name : ENTACT		Project Name : 540 Degraw St, Brooklyn, N	Report Type : Level 1
Client Contact : Jarod Stanfield		Receive DateTime : 11/26/2024 2:20:00 PM	EDD Type : Excel NJ
Invoice Name : ENTACT		Purchase Order :	Hard Copy Date :
Invoice Contact : Jarod Stanfield			Date Signoff : 11/26/2024 2:43:40 PM

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P5006-18	TW-WTS-02	Water	11/25/2024	15:30		VOCMS Group4	8260-Low		5 Bus. Days

Relinquished By: 

Date / Time : 11-26-24 1530

Received By: 

Date / Time : 11/26/24 15:30 Rg H 4

Storage Area : VOA Refridgerator Room